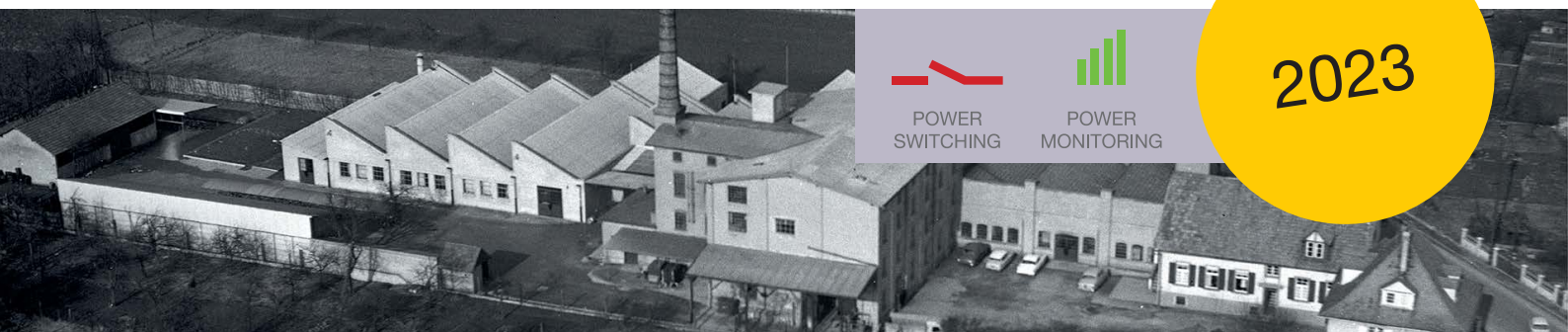


DAFTAR HARGA

Solutions for Power, Control, Safety & Energy Efficiency



POWER SWITCHING



POWER MONITORING

2023

100 years
OF SHARED ENERGY
1922 — 2022



When **energy** matters

 **socomec**
Innovative Power Solutions

Ensuring the energy performance of electrical installations, wherever it is critical

When **energy** matters



100 years
OF SHARED ENERGY
1922 — 2022



SYDOW 514

For almost 100 years, Socomec has continued to design and manufacture its core products in Europe. Notably solutions for its primary mission: the availability, control and safety of low voltage electrical networks.

As an independent manufacturer, the group is committed to constant innovation to improve the energy performance of electrical installations in infrastructures as well as industrial and commercial sites. Throughout its history, Socomec has constantly anticipated market changes by developing cutting-edge technologies, providing solutions that are adapted to customer requirements and fully in keeping with international standards. “Optimising the performance of your system throughout its life cycle” - this is the commitment carried out every day by the Socomec teams around the world, wherever your business is located.

1
independent
manufacturer

3,500 m²
of test platforms

One of the leading independent power testing labs in Europe

10%
of turnover invested in R&D

Always at the cutting-edge of technology for innovative, high quality products

110,000
on-site interventions per year

Nearly 400 experts in commissioning, technical audit, consultancy and maintenance

Your energy, our expertise



Power switching

Managing power and protecting people, equipment and installations

Active in the industrial switching market since its foundation in 1922, Socomec is today an undisputed leader in the field of low voltage switchgear, providing expert solutions that ensure:

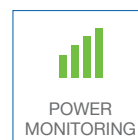
- isolation and on load breaking for the most demanding switching applications,
- continuity of the power supply to electrical facilities via manual remotely operated or automatic transfer switching equipment,
- protection of persons and assets via fusebased and other specialist solutions.

Power monitoring

Improving energy performance and monitoring installations

Socomec solutions - from current sensors to power meters and from IOT to energy management software - are driven by experts in energy performance. They meet the requirements of facility managers and operators of commercial, industrial and critical buildings to enable and facilitate:

- the measurement of energy consumption, the identification of sources of excess consumption and the generation of awareness amongst occupants as to their impact,
- the utilisation of the best available tariffs, utility bill checks and the accurate distribution of energy billing between consumer entities,
- the limitation of reactive energy and avoidance of associated tariff penalties,
- capacity management and the evolution of the electrical installation,
- improvements to power availability by monitoring and detecting insulation faults.





POWER
CONVERSION

Power conversion

Ensuring the availability and storage of high quality power

With its wide range of continuously evolving products, solutions and services, Socomec are recognised experts in the cutting-edge technologies used for ensuring the highest availability of the electrical power supply to critical facilities and buildings, including:

- static uninterruptible power supplies (UPS) for high-quality power free of distortions and interruptions occurring on the primary power supply,
- changeover of static, high availability sources for transferring the supply to an operational back-up source,
- permanent monitoring of the electrical facilities to prevent failures and reduce operating losses,
- energy storage for ensuring the proper energy mix of buildings and for stabilisation of the power grid.

Expert services

Enabling available, safe and efficient energy

Socomec is committed to delivering a wide range of value-added services to ensure the reliability and optimisation of end-users' equipment:

- prevention and service operations to lower the risks and enhance the efficiency of operations, for high-quality power free of distortions and interruptions occurring on the primary power supply,
- measurement and analysis of a wide range of electrical parameters leading to recommendations for improving the site's power quality,
- optimisation of the total cost of ownership and support for a safe transition when migrating from an old to a new generation of equipment,
- consultancy, deployment and training from the project engineering stage through to final procurement,
- performance assessment of the electrical installation throughout the life cycle of the products via analysis of data transmitted by connected devices.

✓
EXPERT
SERVICES





STIE 1059

Your partner in expert services

Socomec is committed to delivering a wide range of value-added services to ensure the reliability and optimisation of end-users' equipment during its life cycle

- Prevention and service operations to reduce risk and enhance equipment efficiency.
- Measurement and analysis of a wide range of electrical parameters leading to recommendations for power quality improvement.
- Consultancy, deployment and training from the project engineering stage to the final procurement stage.



Specialists - at your service

Our Services team comprises qualified engineers whose mission is to ensure the correct operation of your equipment. We offer a comprehensive support service package which gives you complete peace of mind: commissioning, on-site testing, preventive maintenance visits, 24-hour call out and rapid on-site repairs, original spare parts, power quality and energy efficiency audits, consultancy, design and implementation of installation modifications and updates.

Our Services team is the most reliable partner when it comes to advising you on the maintenance of Socomec equipment and providing resolution to any problems in accordance with current environmental standards and procedures.



Professional tools

Our Services team is provided with the latest essential equipment including:

- Personal Protective Equipment (protective goggles, helmet, insulated gloves, fireproof jacket, safety shoes, earplugs...),
- laptop embedded with all software required to optimise equipment performance,
- measuring equipment calibrated annually by our metrology department (multimeter, digital scope, current clamps, infra-red camera, power analyser).



Reports

An exhaustive report is generated for each intervention (including commissioning, preventive maintenance and troubleshooting) which is then automatically sent to the customer and synchronised with our systems.



Remote diagnostics

In case of any anomaly, an automatic notification is sent to a local call centre for proactive online troubleshooting.



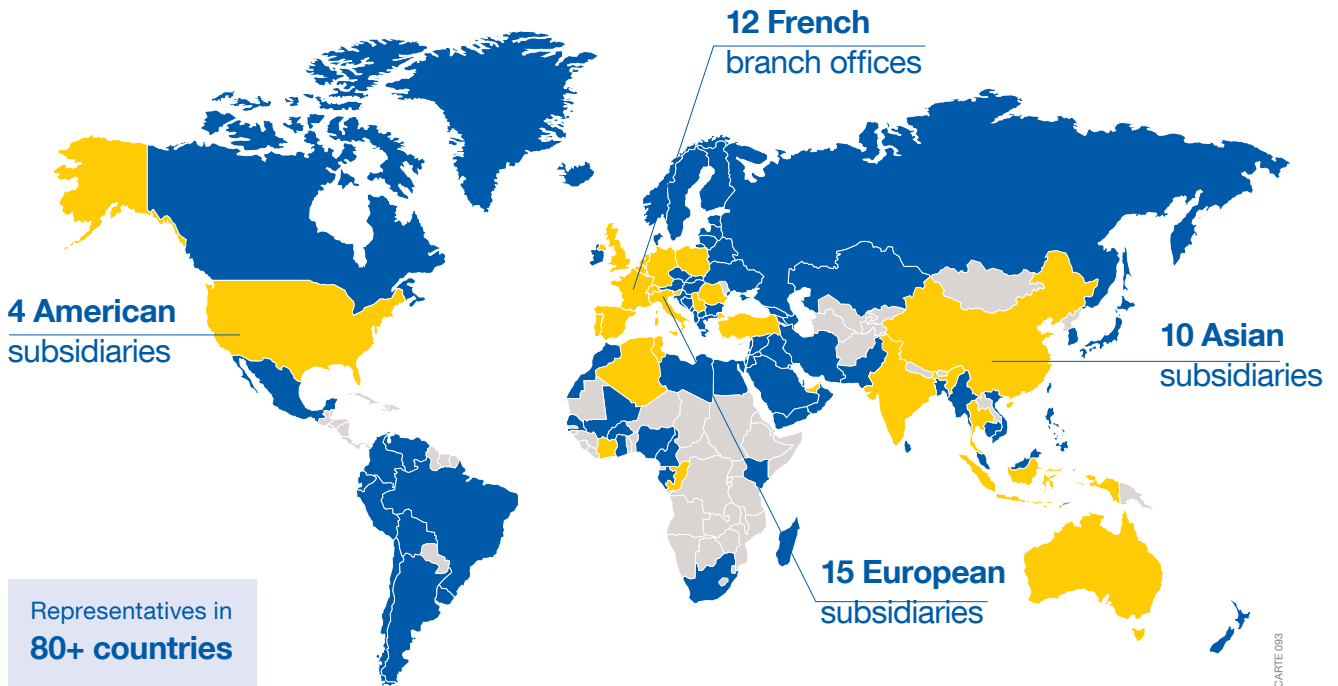
Availability of original spare parts

The various original parts and components that we stock guarantee that any faulty equipment can be rapidly brought back online, whilst maintaining its original performance and reliability.

Key figures

Nearly 400 Socomec experts - supported by 200 engineers and technicians from across our distributor network - can provide the solutions to your specific needs.

- Subsidiaries
- Distributors
- Contact us



On-site service management



110,000

service operations per year
(mainly preventive visits)

98%

Service Level Agreement
compliance rate

Technical hotline network



25+

languages spoken

3

advanced technical support centres

110,000+

incoming calls handled per year

Certified expertise



8,000

hours of technical training
undertaken every year
(product, methodology and safety)

Syarat dan Ketentuan Daftar Harga 2023



1. Harga berlaku untuk wilayah Indonesia
2. Harga belum termasuk PPN
3. Harga dapat berubah sewaktu-waktu tanpa pemberitahuan terlebih dahulu
4. Syarat dan ketentuan Socomec berlaku

Socomec Asia Pacific
Indonesia Representative Office

3rd Floor Vinilon Building Suite 2A
Jl. Raden Saleh kav 13-17
Jakarta Pusat
DKI Jakarta 13210
Email : info.apac@socomec.com
Website : <https://apac.socomec.com/en>

ID_PSM_2023pricelist

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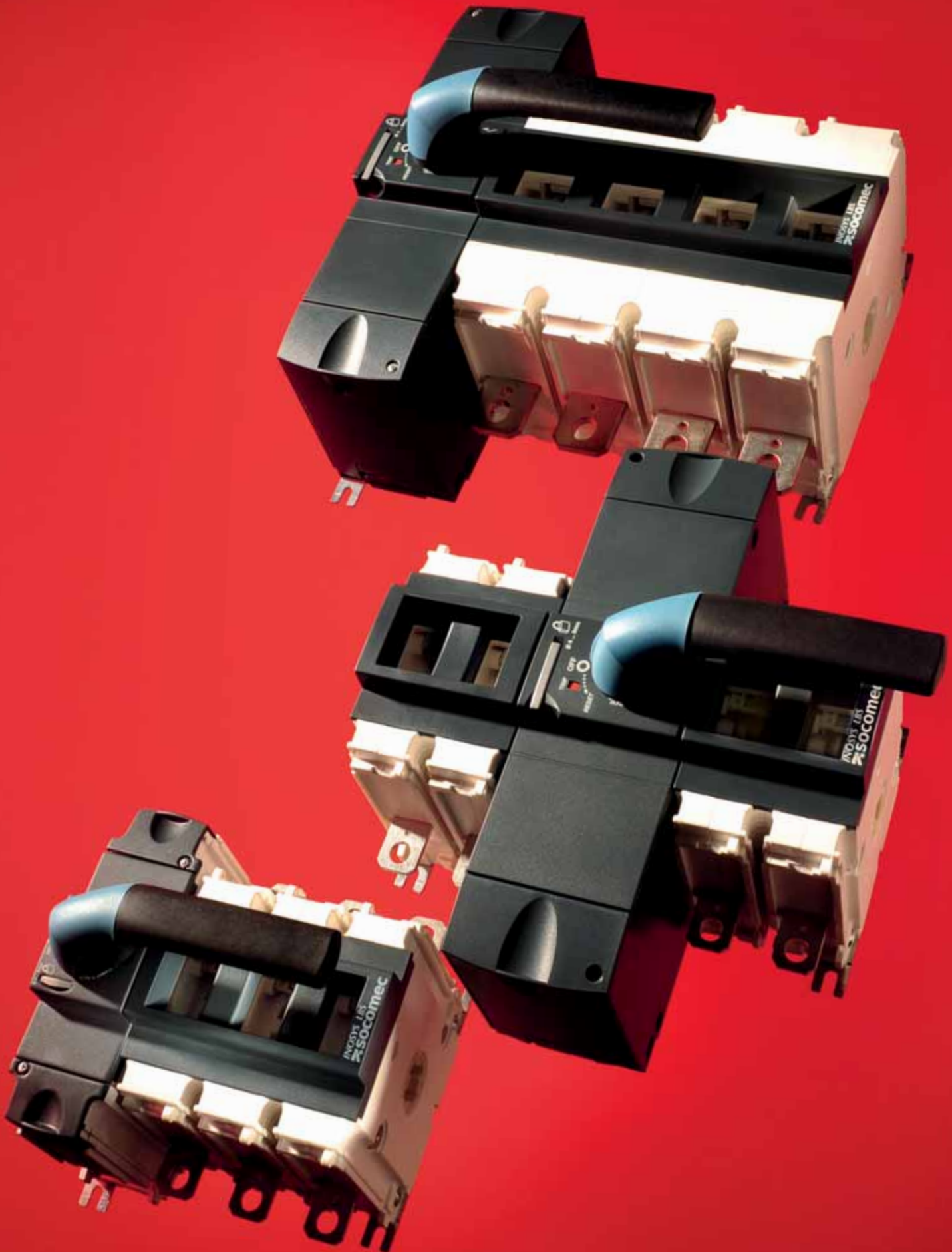
**Fuse
Protection**

170

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protection**

175

**Enclosed
Solution**




Selection guide

Load break switches

Which application?



Which function?

	Machine control		
			
	<i>SIRCO M</i> 16 to 125 A	<i>SIRCO MV</i> 100 to 160 A	
Applications			
Main switchboard	•	•	
Distribution panel	•	•	
Emergency load break	•	•	
Genset output	•	•	
Network coupling	•	•	
Local safety load break	•	•	
Machine control	•	•	
Enclosed switches	•	•	
Functions			
3/4 pole load break switch	•	•	
6/8 pole load break switch	•		
3/4 pole transfer switch (I-O-II)	•		
3/4 pole transfer switch (I-I+II-II)	•		
Characteristics			
Operation			
Manual (rotating)	•	•	
Manual toggle	•		
Motorised			
Direct operation handle			
Front	•	•	
External operation handle			
Front	•	•	
Right side	•	•	
Left side	•	•	
Indication of breaking			
Positive break indication	•	•	
Visible contacts		•	
Switch body			
Modular	•	•	

(1) Please consult us.

SIRCO M

Universal load break switches
from 16 to 125 A (3 Pole)



Load Break Switch

The solution for

- > Main incoming load break
- > Distribution load break
- > Machine control
- > Local safety load break

Strong Points

- > Total integration
- > A wide range of accessories
- > Upgradeability
- > Compliance with major certifications and approvals
- > Specific characteristics

Conformity to standards

- > IEC 60947-3



- > Other standards available



Approvals and certifications



3 pole SIRCO M
direct operation



Function

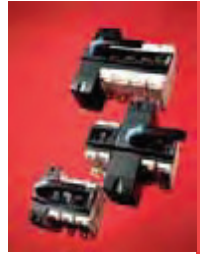
SIRCO M and **MV** are manually operated modifiable and modular multipolar load break switches. They make and break under load conditions and provide safety isolation for any low voltage circuit, particularly for machine control circuits.

References **SIRCO M**

Rating (A)	No. of Pole	Switch Body	Direct Handle Blue	Price List	External Handle Black IP55	Shaft For External Front & Side Handle 200mm	Price List	4th Pole Module	Price List	Conversion Kit for COS I-0-II	Price List	Auxiliary Contact	Price List
16 A	3 P	22003000	22995012	421.400	14711111	14070520	311.800	22001000	108.100	22096009	177.300	NO + NC 22990001	NO + NC 227.000
20 A	3 P	22003001		425.500				22001001	108.100				
25 A	3 P	22003002		429.600				22001002	108.100				
32 A	3 P	22003003		433.800				22001003	108.100				
40A	3 P	22003004		461.300				22001004	108.100				
63 A	3 P	22003006		554.900				22001006	125.900				
80 A	3 P	22003008	775.500	22001008	308.400	420.500	22001010	448.500	22096011	762.500	2NO 22990011	2NO 227.000	
100 A	3 P	22003010	1.141.700	22001011	505.500								
125 A	3 P	22003011	1.186.900										

SIRCO

Load Break Switches For Power Distribution from 125 to 5000 A (3 Pole)



Load Break Switch

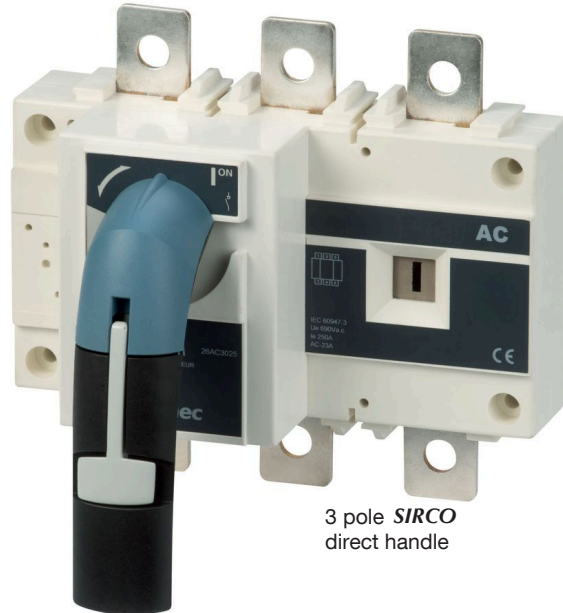
The solution for

- > Main switchboard
- > Distribution panel
- > Emergency breaking
- > Network coupling
- > Local safety breaking



Strong Points

- > Reliability and performance
- > Safety of Property and personnel
- > Simplicity
- > Easy to install



3 pole **SIRCO**
direct handle

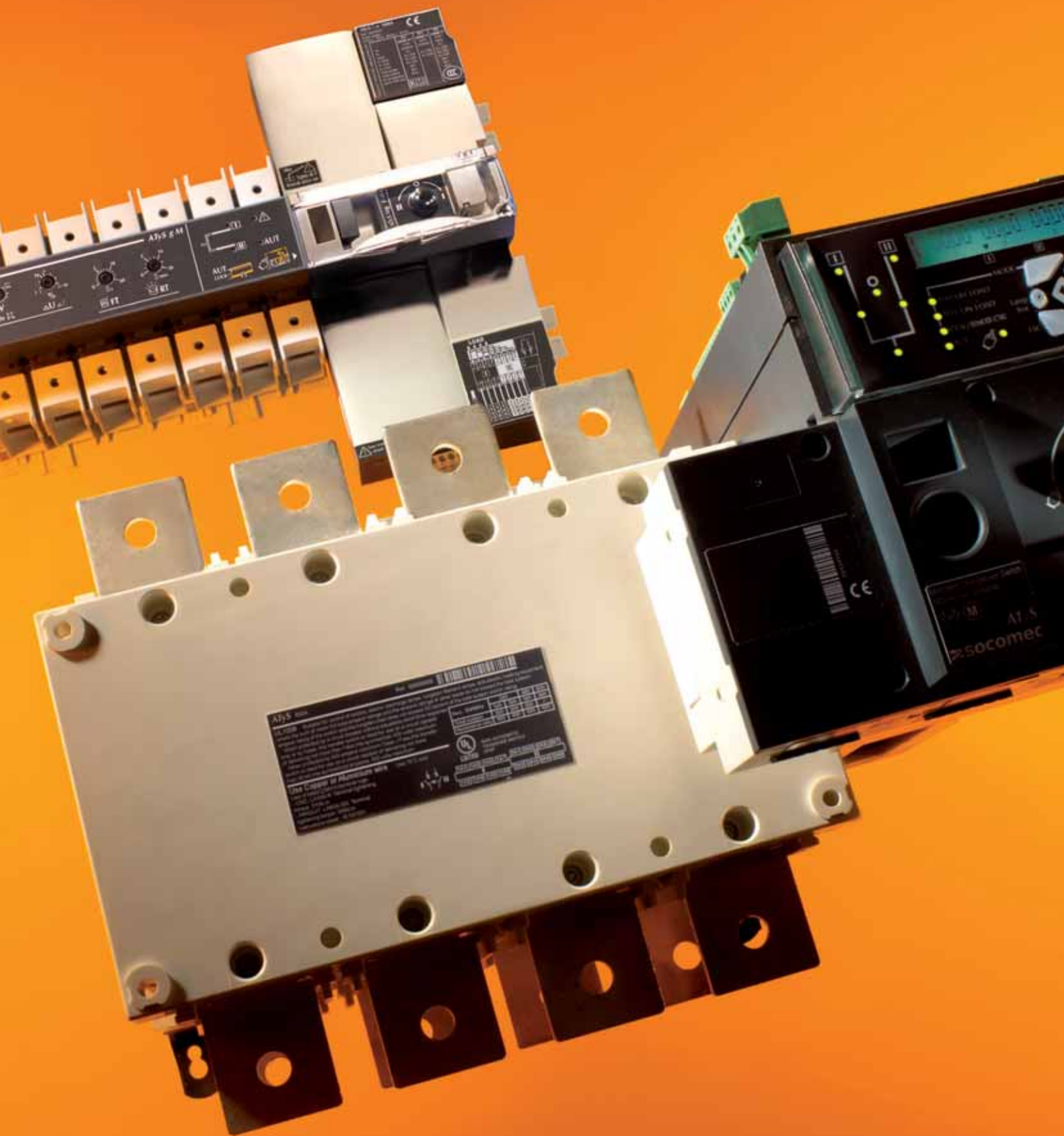
Function

SIRCO and **SIRCO AC** are manually or remotely operated multipolar load break switches. They make and break under load conditions and provide safe isolation.

SIRCO are designed for 415 VAC and DC low voltage electrical circuits. **SIRCO AC** are designed for heavy duty applications up to 690 VAC - AC 23.

References **SIRCO** (Front Operation 3 Pole)

Rating (A)	No. of Pole	Switch Body	Direct Handle	Price List SIRCO direct handle	External Handle Black	Shaft For External Handle (200mm)	Price List	Auxiliary Contact	Price List	
125 A	3P	26003014	26995042	1.224.100	14212111	14001020	585.800	1st contact NO/NC	1st contact NO/NC	
160 A		26003017		1.380.000			585.800			
200 A		26003021	26995052	1.779.000			585.800			
250 A		26003026		1.789.100			585.800			
400 A		26003041		2.184.000			585.800			
630 A		26003064		3.580.200			585.800			
800 A		26003081	11421111	14433111	14011520	1.668.000	2nd contact	2nd contact		
1000 A		26003099				10.513.700	1.668.000	26990032	NO/NC	NO/NC
1250 A		26003121				12.450.000	1.668.000			
1600 A		26003161				15.107.900	1.668.000			
2000 A		26003200				27.865.900	4.950.500			
2500 A		26003250				27997136	27993015	34.040.300	4.950.500	
3200 A		26003320	49.013.000	4.950.500						
4000 A		26003401	27997072	27997155	209.727.400	12.504.900				
5000 A		26003500			226.077.900	12.504.900				



Security and reliability for your transfer applications

An undisputed leader in the field of changeover switching, SOCOMEC is continuously innovating to ensure the continuity of electrical distribution.

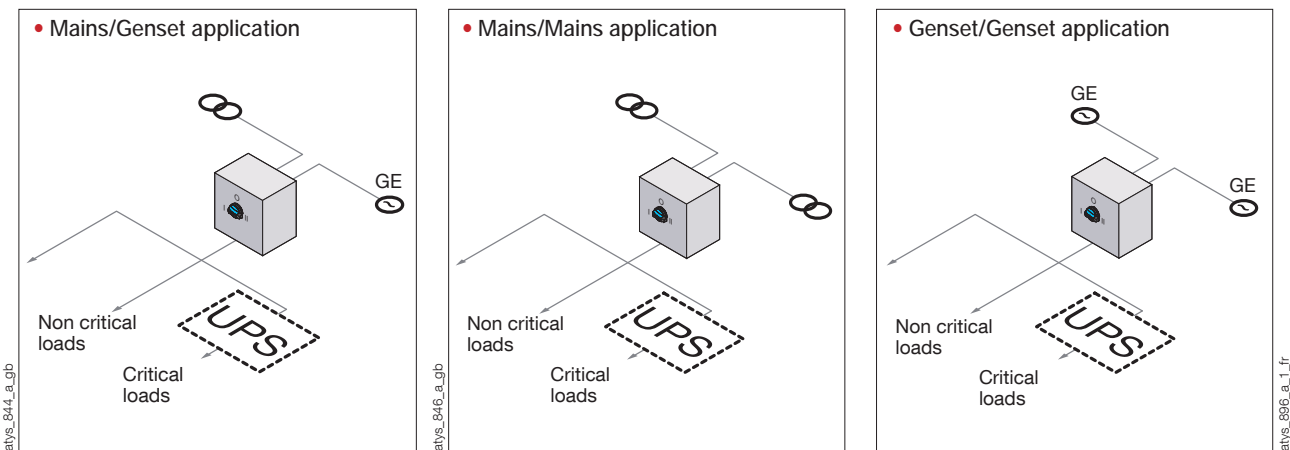
From the COMO CS manual transfer switch (25 - 100 A) to the ATyS p automatic transfer switch (up to 3200 A) and the ATyS d H remotely operated transfer switch (up to 6300 A), our range of changeover switches cover most applications as standard.

Products for all switching applications from 25 to 6300 A

SOCOMECS transfer switches can be used not only for normal/emergency source switching, but also to manage the switching of loads or for earthing/earthing solutions.

Your application	Manual changeover switches	Motorised changeover switches	Automatic changeover switches
Changeover switches (network/network - network/genset - genset/genset)	•	•	•
Bypass application	•	•	•
Other AC applications (load switching - grounding/earthing - phase switching)	•		
Photovoltaic applications	•		

Secure switching for all your transfers



Expert Services

- > Study, definition, advice, implementation, maintenance and training...
- > Our Expert Services extend to a complete offer of customised services to make your project a success.



Secure switching compliant with standard IEC 60947-6-1

The standard IEC 60947-6-1 “Low-voltage switchgear and controlgear – Multiple function equipment – Transfer Switching Equipment” is dedicated to changeover switches.

This standard applies to Transfer Switching Equipment (TSE) with interruption of the supply to the load during transfer, the rated voltage of which does not exceed 1000 VAC or 1500 VDC, be it any of the following:

- **MTSE**
According to the standard IEC 60947-6-1, MTSE (Manually operated Transfer Switching Equipment) is manually operated transfer switching equipment. As such, it requires a person to be present to operate the handle.
- **RTSE**
According to the standard IEC 60947-6-1, RTSE (Remotely operated Transfer Switching Equipment) is transfer switching equipment that is controlled remotely. As such, they require an external controller to provide them with commands.
- **ATSE**
According to the standard IEC 60947-6-1, ATSE (Automatic Transfer Switching Equipment) is transfer switching equipment that is controlled automatically. It differs from RTSE in that it has an integrated controller. As such, these devices are self-monitoring in terms of power source availability, and will start up the genset if required and switch automatically to the power source that is present.

This standard also defines categories of use, depending on the needs of the application, which may apply to the TSE:

Type of current	Utilisation category		Type of load
	Application A ⁽¹⁾	Application B ⁽²⁾	
Alternating current	AC-31A	AC-31B	Non-inductive or low-inductive loads
	AC-32A	AC-32B	Mixed resistive and inductive loads, including moderate overvoltages
	AC-33A	AC-33B	Motors or various loads including motors, resistive loads and loads comprising up to 30% incandescent lamps

(1) Application A: Frequent switching.

(2) Application B: Infrequent switching.


Selection guide

Manually operated Transfer Switching Equipment

How many poles?



What type of operations?

		
	COMO CS 25 to 100 A	

Number of poles

3 P	•	
4 P	•	

Switch operation

I-0-II	•	
I-I+II-II	•	
Bypass	•	

Indication of breaking

Positive break indication	•	
---------------------------	---	--

Operating handle

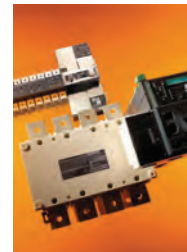
Front direct/external operation	•	
Door mountable switch	•	

(1) Depending on the version. From 125 to 3200 A for SIRCOVER I-0-II; from 125 to 1800 A for SIRCOVER I-I+II-II and from 125 to 1600 A for SIRCOVER Bypass.

COMO CS

Manual Cam Transfer Switches

from 25 to 100 A



Changeover Switch

The solution for

- > Industry (Machine Control)

Strong Points

- > Simple Installation
- > Quick Mounting
- > Effective in All Circumstances

Conformity to standards

- > IEC 60947-3



- > UL 60947-4-1



*cULus under certification



COMO CS - Door mounting
I-II 3 P 25 A

Function

COMO CS are manually operated multi-pole transfer switches. They provide switching, source inversion and changeover under load for two voltage power circuits, as well as safety isolation.

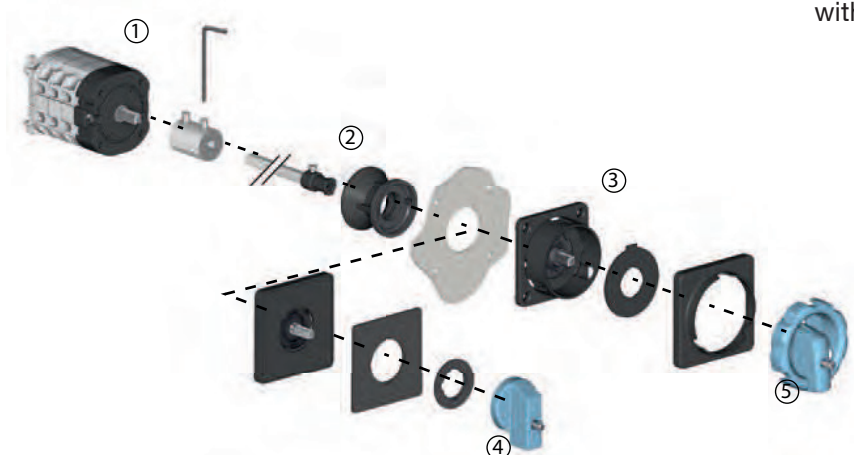
Advantages

Simple installation

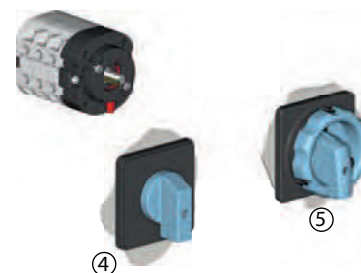
The "quick fix" allows significant time saving in fixing the handle to the device. The devices sold in enclosed version are ready for installation.

Configurations

Installing the external handle Direct handle



Direct handle assembly with the "quick fix" device



Functional diagram (for further details see the installation instructions supplied with the product).

- | | | |
|--------------------|---------------------------|-----------------------|
| 1. Shaft extension | 3. Signalling plate | 5. Padlockable handle |
| 2. Shaft guide | 4. Non padlockable handle | |

References

COMO CS

Backplate mounting with direct quickfixing handles or external handles

Rating (A)	No. of Poles	Switching Type	Switch Body Rear Mounting - excl. handle	Price List	Padlockable Direct Quick Fixing Handle	Non-Padlockable Direct Quick Fixing Handle	Padlockable External Handle c/w shaft (2)	Padlockable External Handle c/w shaft
25 A	3 P	I-II	43203002	673.900	Blue/Black 43593042 119.300 Red/Yellow 43593043 196.900	Blue/Black 43593022 119.300	Blue/Black 43591042 196.900	Blue/Black 43592022 196.900
	4 P	I-II	43204002	893.700				
	3 P	I-0-II	43303002	705.900				
	4 P	I-0-II	43304002	920.400				
	3 P	Bypass I-0-II	43503002	1.073.000				
	4 P	Bypass I-0-II	43504002	1.397.200				
40A	3 P	I-II	43203004	954.000				
	4 P	I-II	43204004	1.154.300				
	3 P	I-0-II	43303004	983.900				
	4 P	I-0-II	43304004	1.196.800				
	3 P	Bypass I-0-II	43503004	1.507.300				
	4 P	Bypass I-0-II	43504004	1.860.200				
63A	3 P	I-II	43203006	1.430.800				
	4 P	I-II	43204006	1.640.000				
	3 P	I-0-II	43303006	1.473.700				
	4 P	I-0-II	43304006	1.707.600				
	3 P	Bypass I-0-II	43503006	2.227.300				
	4 P	Bypass I-0-II	43504006	2.594.000				
100A	3 P	I-II	43203010	2.056.900				
	4 P	I-II	43204010	2.303.400				
	3 P	I-0-II	43303010	2.150.800				
	4 P	I-0-II	43304010	2.400.900				
	3 P	Bypass I-0-II	43503010	3.273.200				
	4 P	Bypass I-0-II	43504010	3.624.500				

(1) Mounting on DIN rail and backplate from 25 to 40 A and mounting on backplate for ratings from 63 to 100 A.(2) Delivered with shaft and plate for front external control.

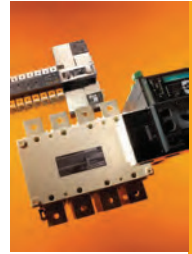
Door mounting with direct quickfixing handles

Rating (A)	No. of Poles	Switching Type	Switch Body Door Mounting	Price List	Padlockable Direct Quick Fixing Handle	Non-Padlockable Direct Quick Fixing Handle
25 A	3 P	I-II	43203102	996.5	Blue/Black 43593042 119.300 Red/Yellow 43593043 196.900	Blue/Black 43593022 119.3
	4 P	I-II	43204102	1.211.000		
	3 P	I-0-II	43303102	1.030.100		
	4 P	I-0-II	43304102	1.246.600		
	3 P	Bypass I-0-II	43503102	1.397.200		
	4 P	Bypass I-0-II	43504102	1.723.400		
40A	3 P	I-II	43203104	1.273.300		
	4 P	I-II	43204104	1.487.800		
	3 P	I-0-II	43303104	1.321.100		
	4 P	I-0-II	43304104	1.521.400		
	3 P	Bypass I-0-II	43503104	1.826.200		
	4 P	Bypass I-0-II	43504104	2.181.200		
63A	3 P	I-II	43203106	1.826.200		
	4 P	I-II	43204106	2.056.900		
	3 P	I-0-II	43303106	1.874.400		
	4 P	I-0-II	43304106	2.104.700		
	3 P	Bypass I-0-II	43503106	2.643.800		
	4 P	Bypass I-0-II	43504106	2.996.700		
100A	3 P	I-II	43203110	2.477.000		
	4 P	I-II	43204110	2.704.100		
	3 P	I-0-II	43303110	2.553.500		
	4 P	I-0-II	43304110	2.794.400		
	3 P	Bypass I-0-II	43503110	3.668.600		
	4 P	Bypass I-0-II	43504110	4.041.000		

SIRCO VM1

Manual Changeover Switches

from 63 to 125 A (4 Pole)



Changeover Switch

The solution for

- > Energy production
- > Critical buildings



Strong Points

- > Safe isolation
- > Modular product

Conformity to standards

- > IEC 60947-3



SIRCO VM1
I-0-II 4P 100A

Function

SIRCO VM1 are 3 or 4 pole modular manual transfer switches with visible breaking. They provide on-load transfer between two sources for any low voltage power circuit, as well as safety isolation. Other applications include source inversion (e.g. to change the direction of a motor) or grounding/earthing.

References

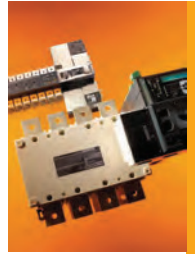
SIRCO VM1

Rating (A)	No. Of Pole	Switch Body	Handle	Price List	External Handle	Shaft For External Handle	Price List
63 A	4 P	44304006	44395012	3.533.300	14132113	14020820	971.600
80 A		44304008	44395012	3.970.700			
100 A		44304010	44395012	4.231.400			
125 A		44304012	44395012	4.350.100			

SIRCOVER

Manual Changeover Switches

from 125 to 3200 A (4 Pole)



Changeover Switch

The solution for

- > Manufacturing
- > Power distribution

Strong Points

- > Complete Range
- > Easy to Connect
- > Stable Positions
- > On-Load Switching

Conformity to standards

- > IEC 60947-6-1
- > IEC 60947-3
- > GB/T 14048-11

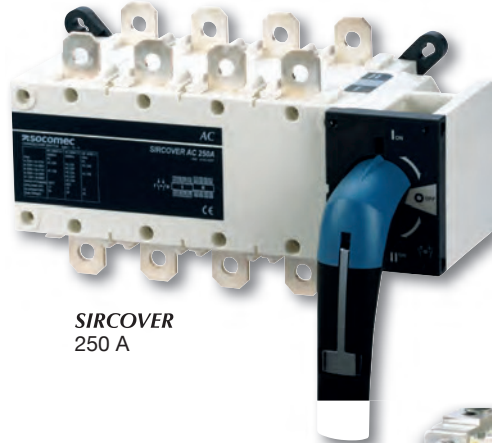


Approvals and certifications⁽¹⁾



BUREAU
VERITAS

(1) Product references on request.



SIRCOVER
250 A



SIRCOVER Bypass
500 A

References

SIRCOVER

Rating (A)	No. Of Pole	Switch Body	Direct Handle	Price List SIRCOVER direct handle	External Handle	Shaft For External Handle (320mm)	Price List	Auxiliary Contact	Price List
125 A	4 P	41AC4013	41995012	4.473.300	14212113	14001032	1.027.700	1st/2nd NO/NC contact 41090021	1st/2nd NO/NC contact 457.400
160 A		41AC4016		5.162.900					
200 A		41AC4020		6.576.100					
250 A		41AC4025		7.062.600					
400 A		41AC4040		9.986.900					
630 A		41AC4063		11.218.700					
800 A		41AC4080		19.302.600					
1250 A	11321111	41AC4120	29.688.900	14433113	14011532	3.129.900			
1600 A		41AC4160	46.693.800						
2000 A	27997042	41AC4200	76.751.900	14538113	27993018	5.507.000	1st and 2nd NO/NC	Contact Included	
2500 A		41AC4250	82.921.400						
3200 A		41AC4320	116.283.400						

Selection guide

Remotely operated and Automatic Transfer Switching Equipment

ATyS

Which type of power supply?



Which application?

RTSE (Remotely operated)				
40 to 125 A	40 to 160 A	125 to 3200 A	4000 to 6300 A	
<i>ATyS S</i>	<i>ATyS d S</i>	<i>ATyS d M</i>	<i>ATyS r</i>	<i>ATyS d H</i>

Type of power supply

Power supply 12, 24 or 48 VDC	•				
Single power supply 230 VAC	•			•	
Dual power supply 230 VAC		•	•		•

Connection of remote control interface

D10					
D20					

Application

Mains/Mains	• (1)	• (1)	• (1)	• (1)	• (1)
Mains/Genset	• (1)	• (1)	• (1)	• (1)	• (1)
Genset/Genset	• (1)	• (1)	• (1)	• (1)	• (1)

Configuration

Configuration using potentiometers and dip switches					
Configuration using display and keyboard					
Voltage and frequency auto-configuration					

Functions

Contact for product availability				•	
Fixed function inputs/outputs (defined by the factory)	•	•	•	•	•
Configurable inputs/outputs					
Voltage and frequency checks					
Phase rotation check					
Unbalanced phase check					
LED indication of source availability					
LED position indication					
Programming of genset startup					
Genset connected on switch II	•	•	•	•	•
Genset connected on switch I	•	•	•	•	•
Test On Load					
Test Off Load					
Load shedding					
Display and measurement of powers and energy (when utilising CTs)					

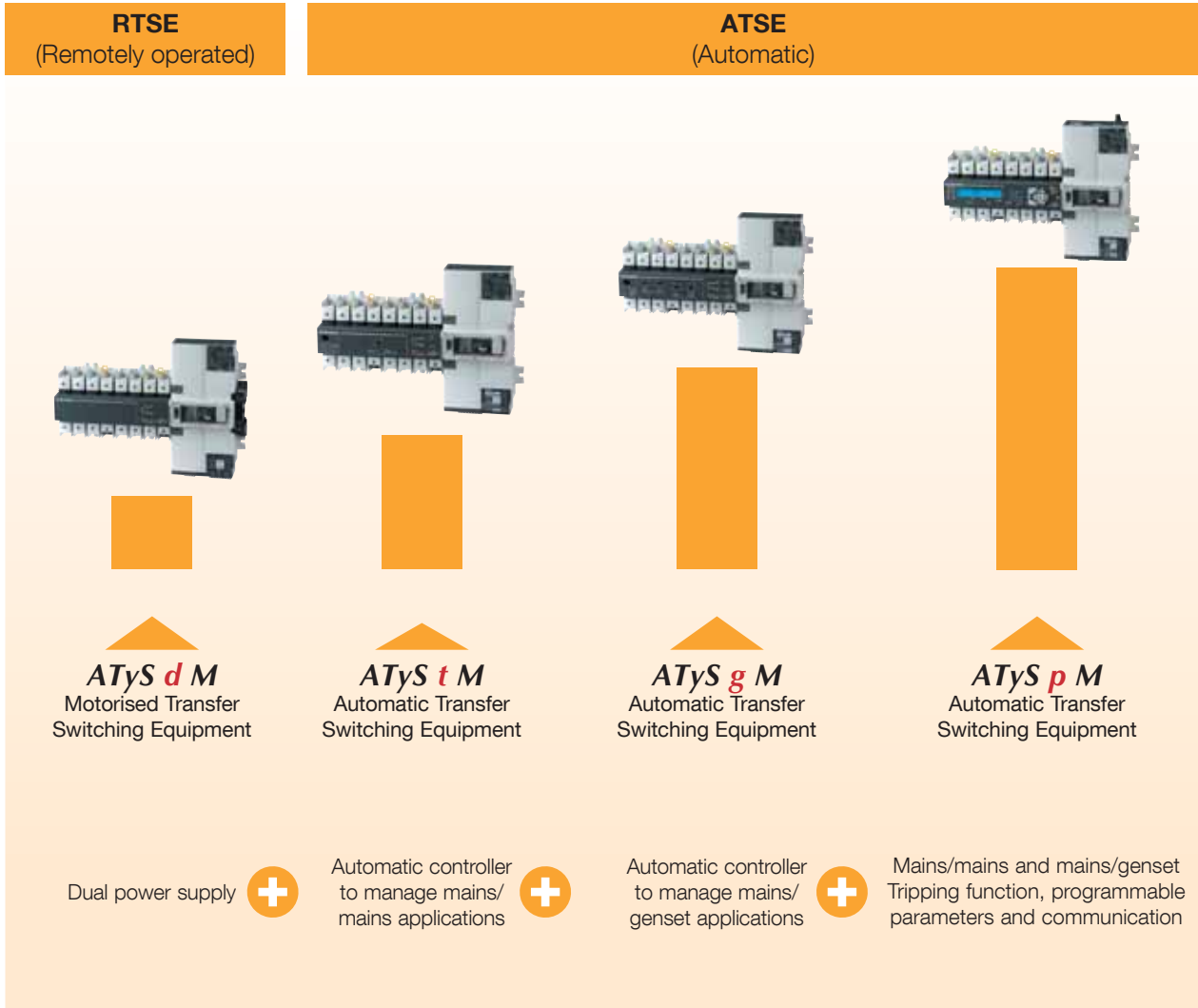
Supervision

Programming of genset startup					
RS485 communication					
Ethernet communication					
Websserver via Ethernet module					
Data logging					

(1) With an external controller.
 (2) Only on two pole versions.
 (3) Only available on the version with COM.
 (4) Configurable output.

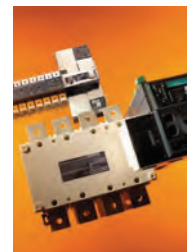
The *ATyS M* range: safe and reliable solutions

A complete range of automatic and remotely operated transfer switches from 40 to 160 A



ATyS d M

Remotely operated Transfer Switching Equipment
from 40 to 160 A



Modular Changeover Switch

Function

ATyS d M are single-phase or three-phase transfer switches that are remotely controlled using volt-free contacts from an external controller. They are modular products with positive break indication. They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

new



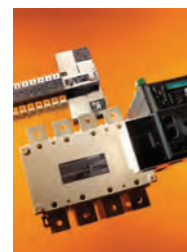
ATyS d M
I-0-II 4P

References

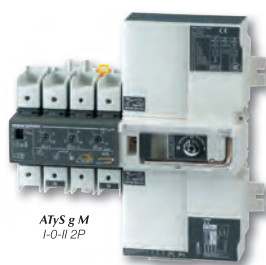
Rating (A)	No. of Pole	ATyS d M Ref. Number	Price List	Bridging Bars	Price List	Voltage sensing and power supply tap	Terminal Shrouds
40	2P	93232004	8.854.800	2P 13092006	657.500	2pcs of 13994006 684.600	2pcs of 22944016 213.500
	4P	93234004	9.319.300				
63	2P	93232006	9.961.300				
	4P	93234006	10.486.500				
80	2P	93232008	10.515.100				
	4P	93234008	11.069.400				
100	2P	93232010	12.474.100	4P 13094006	1.958.500	2pcs of 13994006 684.600	2pcs of 22944016 213.500
	4P	93234010	13.124.600				
125	2P	93232012	14.168.400				
	4P	93234012	14.914.100				
160	2P	93232016	16.933.700	13092016	1.135.100	2pcs of 13994006 684.600	2pcs of 22944016 213.500
	4P	93234016	17.821.300	13094016	3.005.900		

ATyS t M - ATyS g M

Remotely operated Transfer Switching Equipment
from 40 to 160 A



Modular Changeover Switch



ATyS g M
I-0-II 2P



ATyS t M
I-0-II 4P

References ATyS t M

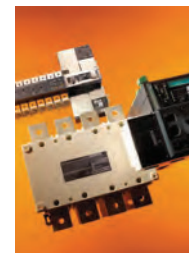
Rating (A)	No. of Pole	ATyS t M Ref. Number	Price List	Bridging Bars	Price List	Voltage sensing and power supply tap
40	4P	93444004	10.357.700	4P 13094006	1.958.500	2pcs of 13994006 684.600
63		93444006	11.650.700			
80		93444008	12.297.700			
100		93444010	14.583.400			
125		93444012	16.569.400			
160		93444016	19.802.300			

References ATyS g M

Rating (A)	No. of pole	ATyS g M Ref. Number	Price List	Bridging Bars	Price List	Voltage sensing and power supply tap	Terminal Shrouds
40	2P	93532004	11.299.900	2P 13092006	657.500	2pcs of 13994006 684.600	2pcs of 22944016 213.500
	4P	93544004	11.654.100				
63	2P	93532006	12.716.200				
	4P	93544006	13.107.600				
80	2P	93532008	13.422.800	4P 13094006	1.958.500		
	4P	93544008	13.832.700				
100	2P	93532010	15.917.000				
	4P	93544010	16.408.500				
125	2P	93532012	17.711.500				
	4P	93544012	18.641.700				
160	2P	93532016	21.162.900	13092016	1.135.100		
	4P	93544016	22.276.000	13094016	3.005.900		

ATyS p M

Remotely operated Transfer Switching Equipment
from 40 to 160 A



Modular Changeover Switch

The solution for

- High-rise buildings
- Data centres
- Healthcare buildings
- Banks and insurance companies
- Transport (airports, tunnels, etc.)



new



ATyS p M
1-0-II 4P

Function

ATyS p M are single-phase or three-phase automatic transfer switches with positive break indication. Function include ATyS t M and ATyS g M capability, with additional programmable parameters and a triggering function. A product model with communication is available. They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

References ATyS p M

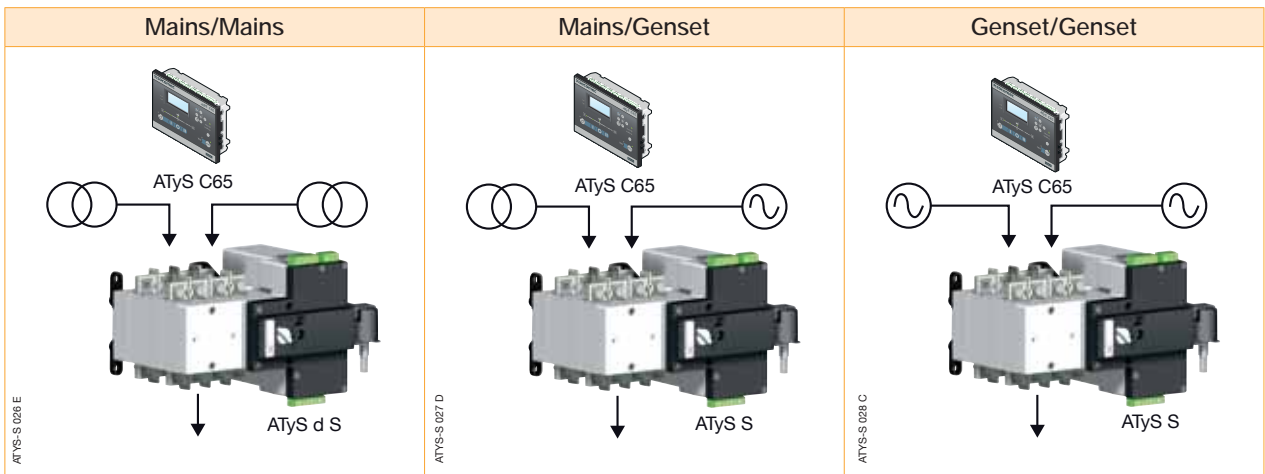
Rating (A)	No. of Pole	ATyS p M Ref. Number	Price List	Bridging Bars	Price List	Voltage sensing and power supply tap	Remote interface
40	4P	93644004	21.264.600	4P 13094006	1.958.500	2 pcs of 13994006 684.600	D10 95992010 2.753.300 D20 95992020 4.446.200
63		93644006	22.340.200				
80		93644008	24.998.800				
100		93644010	27.423.400				
125		93644012	29.583.800				
160		93644016	35.268.700	13094016	3.005.900		

The *ATyS S* range: a robust solution

A range of transfer switches from 40 to 125 A

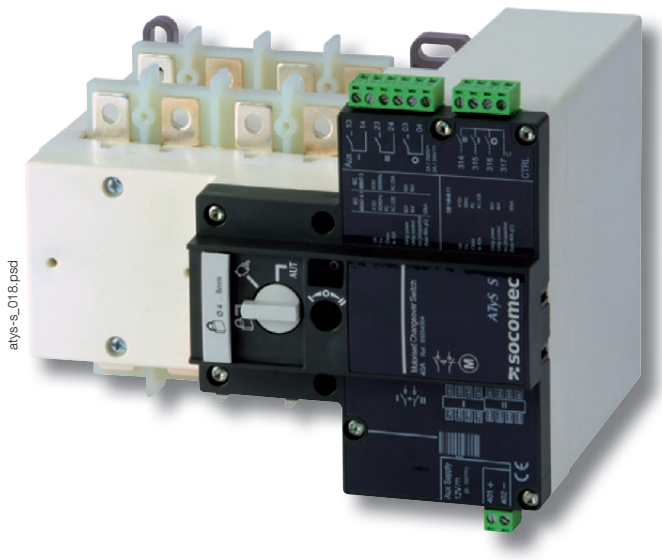


Three application types



ATyS S - ATyS d S

Remotely operated Transfer Switching Equipment
from 40 to 125 A



atys-s_018.psd

Function

ATyS S products are 4 pole remotely operated transfer switches with positive break indication. They enable the on-load transfer of two three-phase supplies via remote volt-free contacts, from either an external automatic controller, using pulse logic, or a switch. They are intended for use in low voltage power supply systems where a brief interruption of the load supply is acceptable during transfer.

In addition to the functions offered by the ATyS S, the **ATyS d S: Dual power supply**, incorporates supply redundancy without the need for additional wiring. This is obtained by integrating a double supply (2 independent supplies) directly within the product.

References

ATyS S

Rating (A)	No. Of Poles	Power Supply	ATyS S Ref. Number	Price List	Terminal Shrouds	Terminal Shrouds
40 A	4P	230 VAC	95034004	5.323.200	Source side 2 pieces 95944012 Load side 2 pieces 95949012	496.600
63 A			95034006	6.011.300		
80 A			95034008	6.312.400		
100 A			95034010	7.289.500		
125 A			95034012	9.346.400		

ATyS d S

Rating (A)	No. Of Poles	Power Supply	ATyS d S Ref. Number	Price List	Terminal Shrouds	Terminal Shrouds
40 A	4P	2 x 230 VAC	95134004	5.830.400	Source side 2 pieces 95944012 Load side 2 pieces 95949012	496.600
63 A			95134006	6.537.800		
80 A			95134008	7.218.600		
100 A			95134010	8.096.500		
125 A			95134012	10.229.500		

The solution for

- > Genset < 90 kVA
- > Heating systems
- > Climate control
- > Ventilation systems
- > Telecommunications



Strong points

- > Extensive power supply range
- > Safety and reliability
- > Easy integration
- > Simplified maintenance
- > ATyS d S: Dual power supply

Conformity to standards

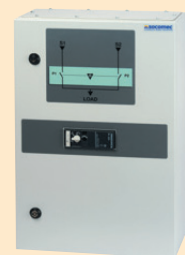
- > IEC 60947-6-1
- > IEC 60947-3
- > GB/T 14048-11



Approvals and certifications



Enclosed ATyS S



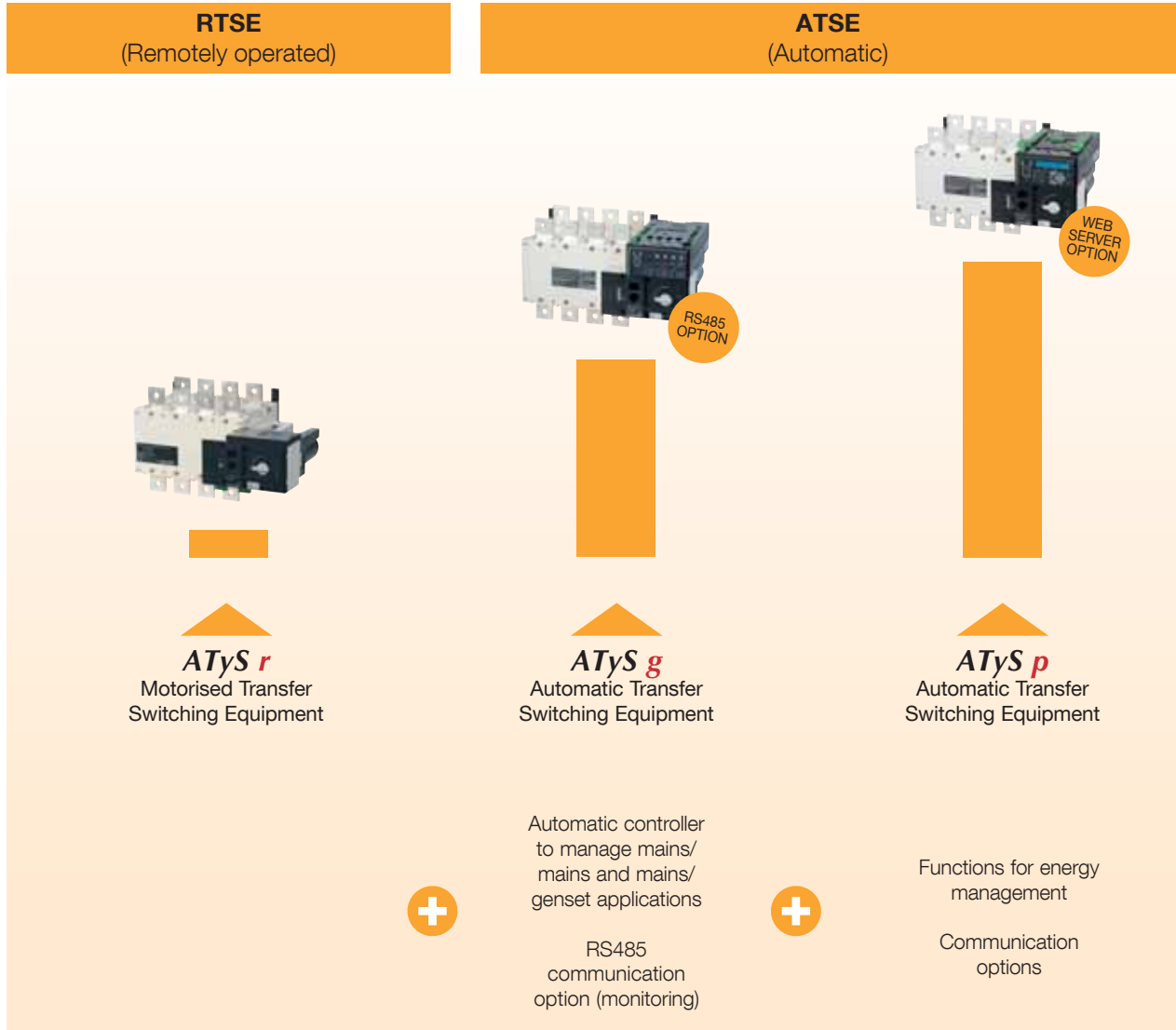
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See "Enclosed transfer switches".

The *ATyS* range: intuitive, reliable and robust solutions

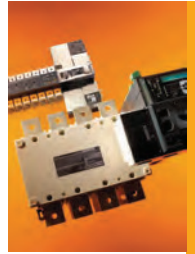
A complete range of automatic and remotely operated transfer switches from 125 to 3200 A

To meet the increasing demands of its users, the ATyS range is constantly evolving to offer new functions. Three product versions are available to find the right solution perfectly adapted to your application.



ATyS r

Motorised Changeover Switches from 125 to 3200 A (4 Pole)



Changeover Switch

The solution for

- > Applications With an External ATS/AMF Controller
- > Building Management Systems (BMS)



Strong Points

- > Watchdog Relay to Check Product Availability
- > Integrated Aux. Contact
- > Extended Power Supply Range
- > ATyS d : Integrated Dual Power Supply

Conformity to standards

- > IEC 60947-6-1
- > IEC 60947-3
- > GB/T 14048-11



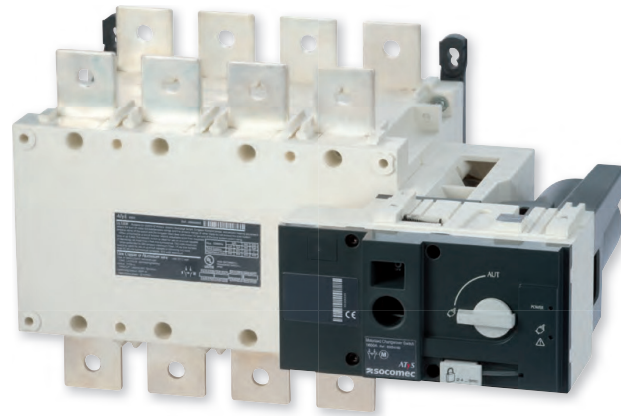
Approvals and Certifications



Enclosed RTSE



*See "Enclosed Transfer Switches"



Function

ATyS r are 3 or 4 Pole remotely operated motorised transfer switches with positive break indication.

They enable the on-load transfer of two three-phase power supplies via remote volt-free contacts, from either an external automatic controller, using pulse logic, or a switch.

They are intended for use in low voltage power system where interruption of the load supply is acceptable during transfer.

- > The ATyS r are compatible with our ATyS C30 external controllers (for mains/ mains and mains/ genset application) and ATyS C40 Controllers (for genset/genset applications).

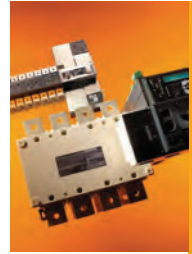
References

Rating (A)	No. Of Poles	ATyS r Ref. Number	Price List	Terminal Shrouds	Price List
125 A	4P	95234012	18.072.300	4P 26944014	525.000
160 A		95234016	20.898.600		
200 A		95234020	24.170.200		
250 A		95234025	27.434.800	4P 26944021	580.000
315 A		95234031	32.440.300		
400 A		95234040	33.766.700		
500 A		95234050	45.519.700		
630 A		95234063	47.275.000	4P 26944051	851.200
800 A		95234080	59.570.400		
1000 A		95234100	72.821.300		
1250 A		95234120	81.043.700		
1600 A		95234160	103.556.100		
2000 A		95234200	141.893.900		
2500 A		95234250	155.334.700		
3200 A		95234320	197.129.100		

ATyS g

Automatic Changeover Switch

from 125 to 3200 A



Changeover Switch

The solution for

- > Transformer/generator applications.

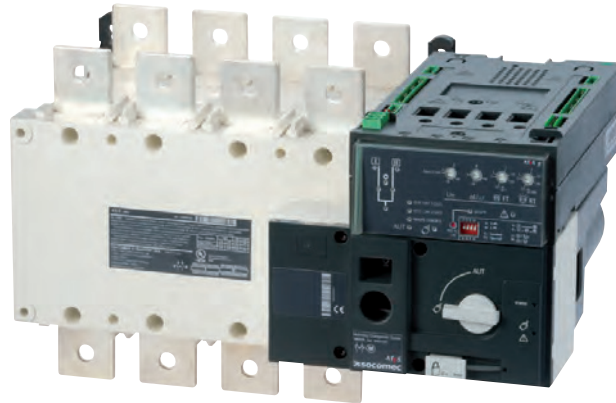


Strong points

- > Rapid commissioning.
- > Functions adapted to transformer/transformer applications.
- > Generator test functions.

Conformity to standards

- > IEC 60947-6-1
- > IEC 60947-3



Function

ATyS g is a range of three-phase automatic changeover switches with positive break indication. They incorporate all the functions offered by the ATyS d, as well as functions intended for transformer/generator applications. In automatic mode they enable the monitoring of, and the on load changeover switching between, two power supply sources, in accordance with the parameters configured via four potentiometers and four DIP switches. They are intended for use in low voltage power systems where interruption of the load supply is acceptable during transfer.

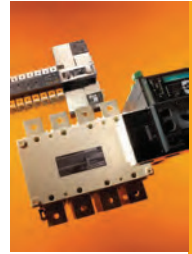
References

Rating (A)	No. of poles	ATyS g Ref. Number	Price List	Terminal Shrouds	Price List
125 A	4P	95534012	26.195.500	4P 26944014	525.000
160 A		95534016	29.021.800		
200 A		95534020	32.291.400		
250 A		95534025	35.554.000	4P 26944021	580.000
315 A		95534031	40.563.600		
400 A		95534040	41.889.900		
500 A		95534050	53.642.500	4P 26944051	851.200
630 A		95534063	55.397.900		
800 A		95534080	67.694.800		
1000 A		95534100	80.946.200		
1250 A		95534120	89.166.600		
1600 A		95534160	111.678.900		
2000 A		95534200	150.017.100		
2500 A		95534250	163.455.900		
3200 A		95534320	205.251.900		

ATyS p

Automatic Changeover Switch

from 125 to 3200 A



Changeover Switch

The solution for

- > Applications requiring power management and communication.

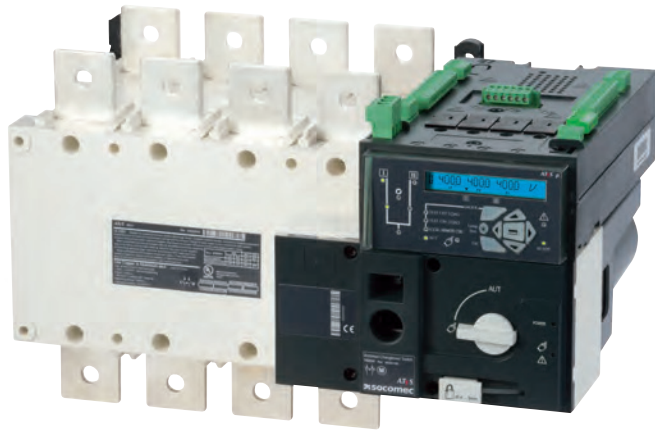


Strong points

- > Optional communication modules
- > Recording of events
- > Configuration software
- > Power measurements
- > Possibility to set periodic genset startup

Conformity to standards

- > IEC 60947-6-1
- > IEC 60947-3



ATyS p is a range of three-phase automatic changeover switches with positive break indication. They incorporate all the functions offered by the ATyS p, as well as functions designed for power management and enabling communication. In automatic mode they enable the monitoring of, and the on load changeover switching between, two power supply sources, in accordance with the parameters configured via pushbuttons and an LCD screen. They are intended for use in low voltage power systems where interruption of the load supply is acceptable during transfer.

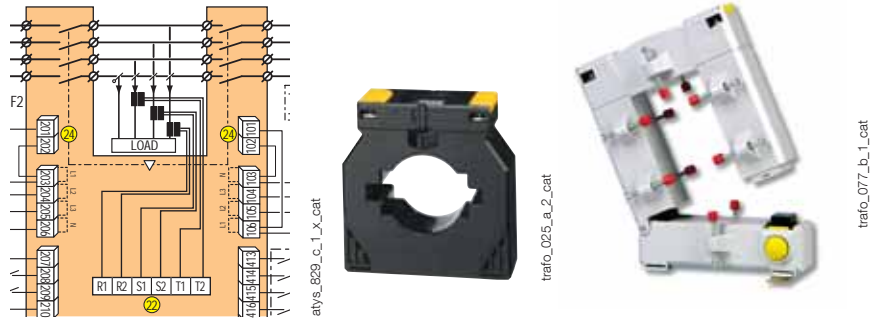
References

Rating (A)	No. of poles	ATyS p Ref. Number	Price List	Terminal Shrouds	Price List
125 A	4P	95734012	31.777.300	4P 26944014	525.000
160 A		95734016	34.605.700		
200 A		95734020	37.875.200		
250 A		95734025	41.137.900	4P 26944021	580.000
315 A		95734031	46.143.800		
400 A		95734040	47.473.800		
500 A		95734050	59.226.300		
630 A		95734063	60.980.100	4P 26944051	851.200
800 A		95734080	73.277.100		
1000 A		95734100	86.528.000		
1250 A		95734120	94.750.400		
1600 A		95734160	117.261.100		
2000 A		95734200	155.599.000		
2500 A		95734250	169.038.100		
3200 A		95734320	210.835.800		

Current transformer

Use - for ATyS p only

Used with ATyS p units, these current transformers enable information to be obtained on the load current.




Plug-in optional modules

Use - for ATyS g and ATyS p


Number of modules per device

ATyS g: Compatible with RS485 JBUS/MODBUS module only. One module maximum can be installed (can be fitted in any slot).


ATyS p: A maximum of four modules can be fitted. With Ethernet communication module installation, only 2 additional modules can be fitted.

- 


RS485 JBUS / MODBUS® communication

 - RS485 link with JBUS / MODBUS® protocol (speed up to 38400 bauds).
- 


2 inputs - 2 outputs

 - 2 inputs and 2 outputs (programmable) on each module.
- 


Ethernet communication

 - Ethernet link with MODBUS/TCP or JBUS/MODBUS RTU over TCP.
 - Embedded Ethernet Webserver software.
- 

Ethernet communication with RS485 JBUS/MODBUS gateway

 - Ethernet link with MODBUS/TCP or JBUS/MODBUS RTU over TCP.
 - Connect 1 to 247 RS485 JBUS/MODBUS slaves.
 - Embedded Ethernet Webserver software.
- 

Analogue outputs

 - Allocate outputs to: 3I, In, 3V, 3U, F, ± ΣP, ± ΣQ, ΣS.
- 

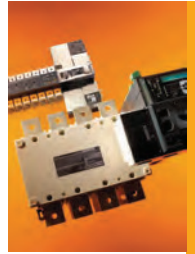
Pulse outputs

 - 2 configurable pulse outputs (type, weight and duration) on ±kWh, ±kvarh and kVAh.

Description of accessories	Suitable for	Reference Number	Price List
RS485 MODBUS communication	ATyS g & p	48250092	1.039.000
2 inputs/ 2 outputs	ATyS p	48250094	1.039.000
Ethernet communication (embedded Ethernet webserver software)	ATyS p	48250203	5.718.600
Ethernet communication + RS485 JBUS/MODBUS gateway (embedded Ethernet webserver software)	ATyS p	48250204	5.718.600
Analogue outputs	ATyS p	48250093	3.225.400
Pulse outputs	ATyS p	48250090	1.198.900

ATyS d H

Remotely operated Transfer Switching Equipment
from 4000 to 6300 A



Changeover Switch

The solution for

- > Data centre
- > Telecommunications
- > Industries



Strong points

- > Ready for installation in the enclosure of your choice
- > High-performance switching
- > Safe on-load transfer: I-0-II

Conformity to standards

- > IEC 60947-6-1
- > GB/T 14048-11



Approvals and certifications



Enclosed solution

- > Please contact your SOCOMEC office

External automatic controller

- > The ATyS d H is an RTSE which is compatible with most building management systems. It may also be supplied as an ATSE by including an ATyS C20/C30/ C40 controller with a door mounted external display.



Function

The ATyS d H is a three-phase transfer switch, 3 and 4 poles, designed for low voltage highpower applications that require high-performance and fast reliable switching. The open transitiontransfer is performed on-load in line with IEC 60947-6-1 and GB 14048-11 standards(Class PC) with minimal power supply interruption to the load during transfer.The ATyS d H is remote transfer switching equipment (RTSE) with an integrated dual powersupply (DPS) the accepts remote orders through volt-free contacts.

Advantages

Ready for installation in the enclosure of your choicer

The ATyS d H has been designed to facilitate installation as it is available as a fixed or completely with drawable type of transferswitch. It is composed of two switches that are mounted one above the other with easily accessible power connections located at the rear. Furthermore the ATyS d H does not need any external bridging bars as the load side is connected within the product. This enables to save time during installation.

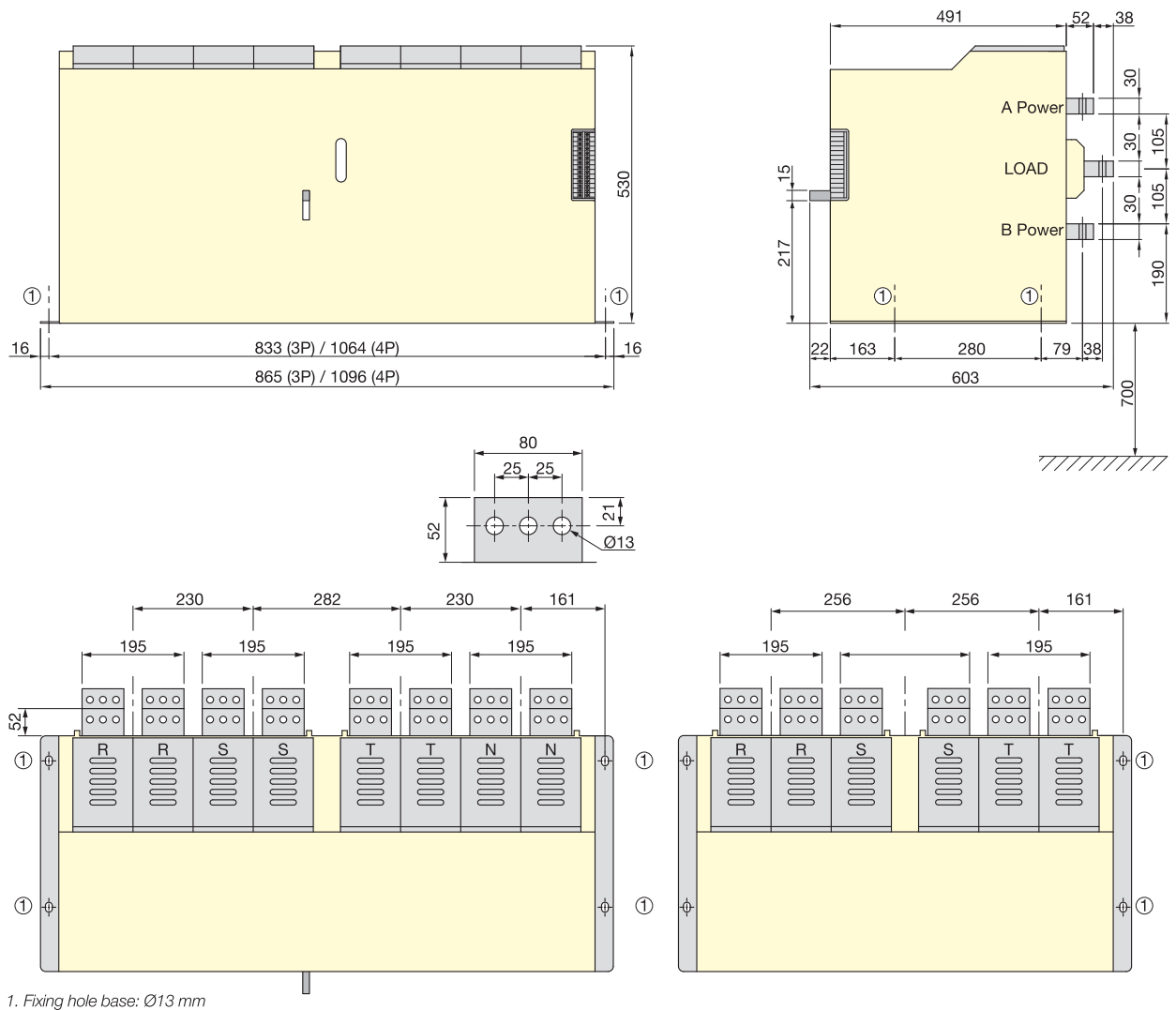
High-performance switching

The ATyS d H offers high withstand shortcircuit current ratings of 143 kA I_{cw} (making) and 65 kA for 0.1sec (withstand). Further to its high short circuit withstand, the ATyS d H performance in terms of loadswitching capacity is AC-33iB (6 x cos Ø 0.5) without derating.

Safe on-load transfer: I-0-II

The ATyS d H includes two mechanically interlocked switches to ensure fast switching whilst providing a neutral (Off - 0) position. This ensures that the main and alternative power supplies do not overlap.

Dimension



References

Rating (A)	Type	No. Of Poles	ATyS d H Ref. Number	Price List	Control Relay	Price List
4000 A	Fixed	3P	95333400	509.789.800	ATyS C55	
		4P	95334400	599.412.100		
5000 A	Fixed	3P	95333500	915.141.700	16000055	12.015.300
		4P	95334500	1.156.689.000		
5000 A	Fixed	3P	95333630	1.130.805.800	ATyS C65	
		4P	95334630	1.432.748.000		

ATyS C25

ATS Controller
simple functions



ATyS C25

The solution for

- > ATS panels
- > Compact transfer enclosures
- > Basic ATS controls



Strong points

- > Self-supplied from sensing circuit
- > Integrated AC Double Power Supply
- > RS485 Communications
- > Multiple mounting options

Conformity to standards

- > IEC 61010-2-201
- > IEC 60947-6-1
- > GB/T 14048.11 Annex C



Compatible with



ATyS r
Transfer Switching Equipment

Function

ATyS C25 is an entry level ATSE controller with communications. It can be used to pilot a remotely operated transfer switch, such as ATyS r, ATyS S and ATyS d M, as well as contactors type transfer switches, for circuit breaker type transfer switches see ATyS C55 and ATyS C65. ATyS C25 ensure the automatic or remotely controlled transfer from one source to another with fixed timers and thresholds.

Advantages

Flexible space saving

The ATyS C25 controller can be mounted on either a DIN rail or to the panel door, offering flexibility and optimising space.

Cost-effective

The ATyS C25 has an integrated DPS, for supplying the motorisation of the switch, and can be door mounted, therefore there's no need for an external DPS or display, reducing installation time and costs.

Fast commissioning & testing

- 8 dip-switches allow very fast commissioning, even offline.
- All main functions such as remote position control, mode selection, lamp test and genset test on load are available on the front of the product allowing quick and easy operation.
- Remote product information is available through RS485 Modbus communication.

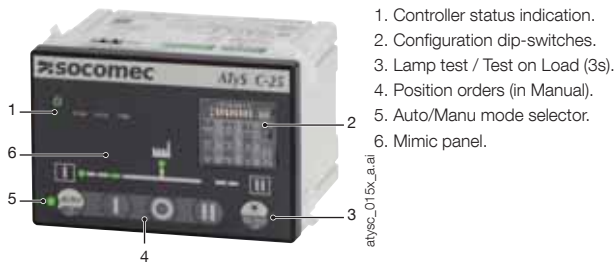
General characteristics

- Self-powered from sensing.
- Voltage supply range (184 - 300 VAC).
- DC aux power supply (for optional use).
- Main/Main or Main/Genset networks.
- Fixed I/Os.
- RS485 Modbus communication.
- Voltage sensing on all phases.
- Three-phase + Neutral & Single-phase + Neutral networks.
- Phase rotation checking.
- Door or DIN rail mounting.

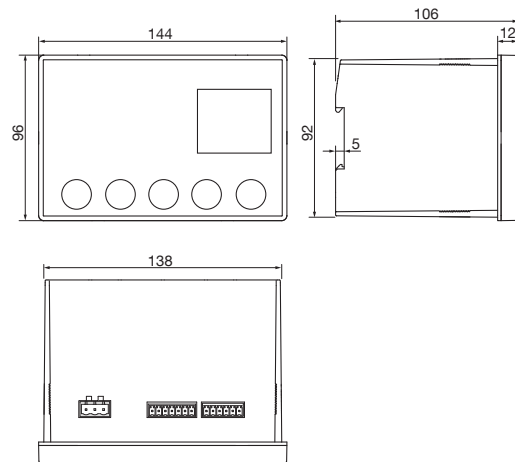
References

Description	Ref. Number	Price List
ATyS C25 - ATS Controller	16000025	6.148.600
ATyS r - Remotely operated Transfer Switching Equipment	9523 xxxx	

Front panel



Dimensions (mm)



Characteristics

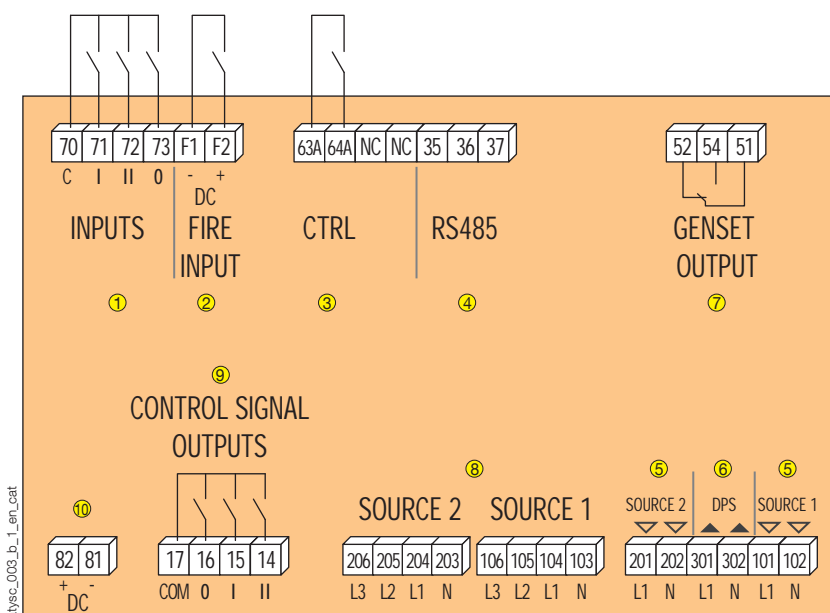
Electrical characteristics	
AC operating limits	184 ⁽¹⁾ - 300 VAC
Optional DC supply	10-30 VDC
Frequency limits	45 - 65 Hz
Power consumption	< 10 W
Inputs	5 - fixed (auto inhibit & DC fire input, position indication I-0-II)
Outputs	4 - fixed (position control I-0-II & genset start)
Impulse withstand	6/4 kV ⁽²⁾
Overvoltage category	CAT 3
Mechanical characteristics	
Weight	845 gr
Door cutout	138 x 92 mm
Operating temperature	-25 ... +70°C
Communications	
Interface type	RS485. 2 to 3 half duplex wires
Protocol	MODBUS RTU
Baudrate	2400-38400

Measurement characteristics	
Nominal voltage DIP 1 (1PH+N / 3P+N)	230 / 400 VAC
Nominal frequency (fixed)	50 Hz
Voltage threshold settings DIP 4	10% / 20% of Nominal voltage
Frequency threshold settings DIP 4	5% / 10% of nominal frequency
Voltage and frequency Hysteresis (fixed)	20% of $\Delta U/\Delta F$
Other settings	
ODT dead-band timer DIP 5	0 / 2 s
FT Source 1 and 2 fail timer DIP 6	3 / 10s
RT Source 1 and 2 return timer DIP 7&8	0 (3s) / 3 / 10 / 30 min
Source priority DIP 2	Priority source 1 / No priority
Position Output signal DIP 3	Impulse / Maintained

(1) 200 VAC in contactor mode.

(2) 6 kV tested between phases of a different source and 4 kV tested between phases of a the same source.

Terminals



1. Switch position inputs
2. DC fire input (forces 0 & inhibit)
3. Control inputs
4. RS485 communication
5. DPS input (source 1 and 2)
6. DPS output to motor
7. Genset NO/NC output
8. Voltage sensing S1 & S2
9. Control outputs to transfer device
10. DC aux power supply (for optional use)

atysc_003_b_1_en_cat

atysc_001_lb_1_x_cat

ATyS C35

ATS Controller
digital functions

new



ATyS C35

Function

ATyS C35 is an ATS controller with a display screen and communication functionality. It is specifically designed to pilot Socomec remotely operated transfer switches, such as ATyS r, ATyS S and ATyS dM, and can also function with other brands using switch based, contactor based or circuit breaker based remote transfer switches.

ATyS C35 ensures the automatic or remote transfer in open transition from one source to another with programmable thresholds and timers. This controller also displays the information that it collects from the network and switch both on screen as well as on the LED synoptic, enabling users to keep track of the installation status.

Advantages

Flexible space saving

The ATyS C35 controller can be mounted on either a DIN rail or to the panel door, offering flexibility and optimising space.

Cost-effective

The ATyS C35 has an integrated DPS, for supplying the motorisation of the switch, and can be door mounted, therefore there's no need for an external DPS or display, reducing installation time and costs.

Flexible configuration options

- Programmable thresholds and timers.
- 3 programmable inputs.
- Functional with PC, CB or CC.

Display and communications

- Displays voltages, frequencies and phase angle.
- Timer counters displayed on screen.
- RS485 Modbus communications for monitoring and programming.

General characteristics

- Self-powered from sensing.
- Voltage supply range (184 - 300 VAC).
- DC aux power supply (for optional use).
- Main/Main or Main/Genset networks.
- Programmable inputs.
- RS485 Modbus communication.
- Voltage sensing on all phases.
- Three-phase + Neutral & Single-phase + Neutral networks.
- Phase rotation checking.
- Door or DIN rail mounting.

The solution for

- > ATS panels
- > Compact transfer enclosures
- > Simple ATS controls



Strong points

- > Self-supplied from sensing circuit
- > Integrated AC Double Power Supply
- > RS485 Communications
- > Multiple mounting options
- > LCD Display

Conformity to standards

- > IEC 61010-2-201
- > IEC 60947-6-1
- > GB/T 14048.11 Annex C



Compatible with



ATyS r
Transfer Switching Equipment

References

Description	Ref. Number	Price List
ATyS C35 - ATS Controller	16000035	8.917.100
ATyS r - Remotely operated Transfer Switching Equipment	9523 xxxx	

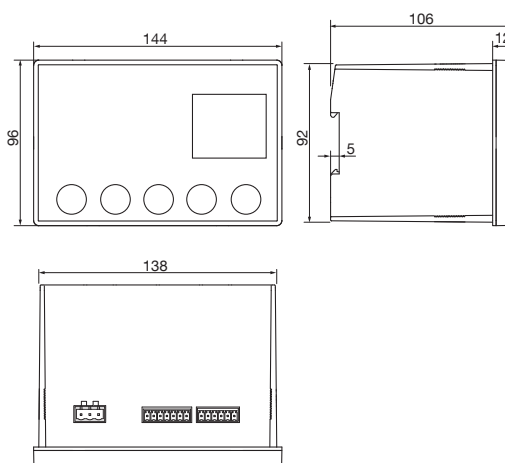
Front panel



1. Controller status indication.
2. Configuration dip-switches.
3. Dashboards / Test on Load (3s).
4. Position orders (in Manual).
5. Auto/Manu mode selector.
6. Mimic panel.

atysc_0xxx_8.ai

Dimensions (mm)



atysc_001_lb_1_x_catal

Characteristics

Electrical characteristics	
AC operating limits	184 ⁽¹⁾ - 300 VAC
Optional DC supply	10-30 VDC
Frequency limits	45 - 65 Hz
Power consumption	< 10 W
Inputs	4 fixed 3 programmable
Outputs	4 fixed - 1 programmable ⁽³⁾
External DPS max current (240 VAC)	6A AC1 - 1.5A AC15
Impulse withstand	6/4 kV ⁽²⁾
Overvoltage category	CAT 3

Mechanical characteristics

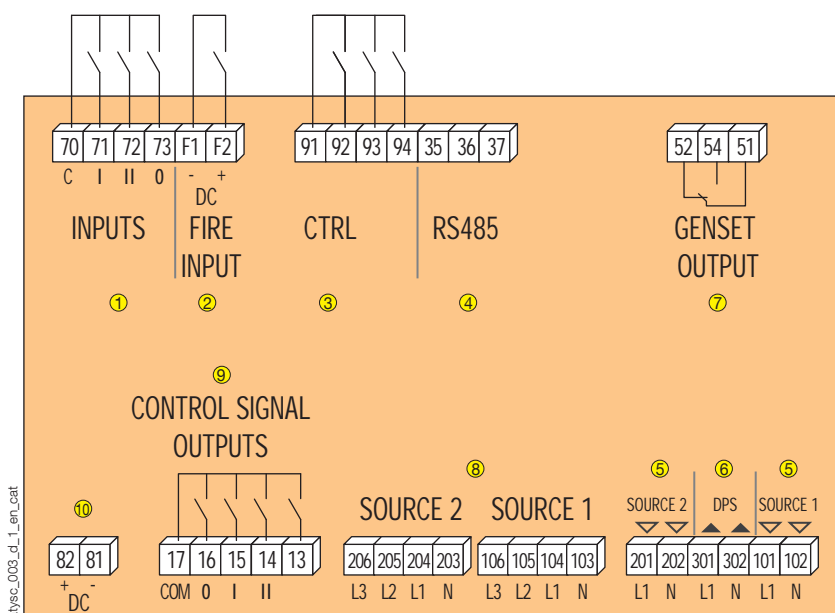
Weight	845 gr
Door cutout	138 x 92 mm
Operating temperature	-25 ... +70°C
Communications	
Interface type	RS485. 2 to 3 half duplex wires
Protocol	MODBUS RTU
Baud rate	2400-38400

(1) 200 VAC in contactor mode.

(2) 6 kV tested between phases of a different source and 4 kV tested between phases of a the same source.

(3) Only in main-main mode.

Terminals



1. Switch position inputs
2. DC fire input (forces 0 & inhibit)
3. Control inputs
4. RS485 communication
5. DPS input (source 1 and 2)
6. DPS output to motor
7. Genset NO/NC output
8. Voltage sensing S1 & S2
9. Control outputs to transfer device
10. DC aux power supply (for optional use)

atysc_003_d_1_en_cat

ATyS C55

ATS Controller
smart functions



ATyS C55

The solution for

- > Commercial buildings
- > Applications:
 - Genset/Genset
 - Network/Genset
 - Network/Network
 - External/portable systems



Strong points

- > Smart commissioning
- > Intuitive use
- > Hi-resolution LCD screen

Conformity to standards

- > IEC 61010-2-201
- > IEC 60947-6-1
- > GB/T 14048.11 Annex C



Communication gateways



DIRIS Digiware M-70 & D-70

Compatible with



ATyS r
Transfer Switching
Equipment

Double power supply
DPS Optional for use
with ATyS r, breakers
and contactors without
integrated DPS

Function

ATyS C55 is a complete ATSE controller that can be used to pilot a remotely operated transfer switch of any technology: motorised switches (e.g. ATyS r, ATyS S or ATyS d M), circuit breakers or contactors. ATyS C55 ensure the automatic or remotely controlled transfer from one source to another, with configurable timers and thresholds, for any combination of sources: 2 transformers, 1 transformer and 1 genset or 2 gensets.

Advantages

Fast commissioning

On initial power up, the ATyS C55's smart wizard will guide the operator through the commissioning process.

Versatile

The ATyS C55 is compatible with contactors, breakers and switches. It can also work for all type of 2-source applications combining mains and gensets.

Clear visualisation and operation

- High-resolution LCD screen with clear defined messages.
- Real-time pop-ups to show timers, alarms, faults and information alerts.
- Quick and easy access to main functions through the front face with direct key input.
- Complete configuration can be achieved through the front face or via software (EasyConfig).

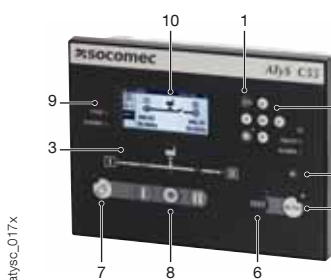
General characteristics

- Self-powered from sensing.
- Wide voltage range (88-576VAC).
- 24 VDC aux power supply (for optional use).
- 2 latching relays.
- Smart commissioning wizard.
- IP65 degree of protection with gasket (accessory).
- 1000 Alarms and Events.
- 6 fully configurable I/O.
- Genset scheduler.
- Door or back plate mounting.
- Main/Main, Main/Genset and Genset/Genset applications.
- Easyconfig configuration software.
- RS485 Modbus communication.
- Ethernet, SNMP, BACnet using DIRIS M-70 gateways. Includes Webserver.
- A DIRIS Digiware D-70 gateway can be utilised as a remote display for multiple ATyS C55/C65 controllers; the D-70 also provides Ethernet, SNMP & BACnet connectivity.

References

Description	Ref. Number	Price List
ATyS C55 - ATS Controller	16000055	12.301.300

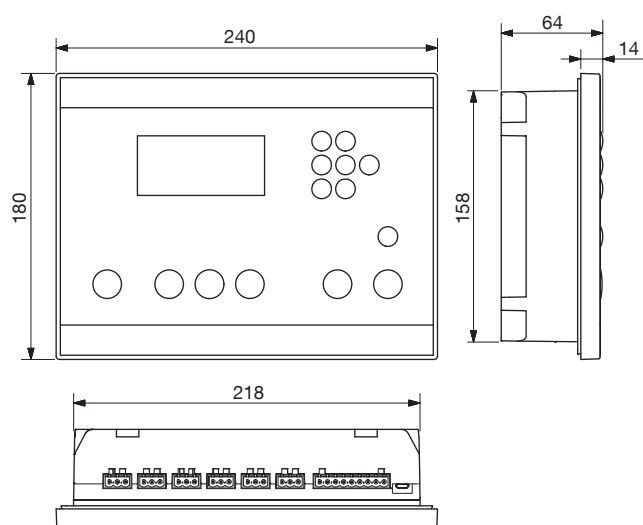
Front panel



atyasc_017x

1. Dashboard displays.
2. Navigation keypad.
3. Mimic LED indication.
4. Lamp test button / LED info.
5. AUTO mode select.
6. TEST button.
7. CONTROL mode select.
8. Position orders (only in CONTROL mode).
9. Inhibit and communication indication.
10. Hi-res LCD screen.

Dimensions (mm)



atyasc_006_a_1_x_cat.ai

Characteristics

Electrical characteristics

AC operating limits	110 - 480 VAC ±20%
Optional DC supply	24 VDC
Frequency limits	45 - 65 Hz
Power consumption	< 10 W
Inputs	6, fully programmable
Outputs	6, fully programmable
Output relays	8 A AC15
EMC classification	Class A and B
Impulse withstand	8/6 kV ⁽¹⁾
Overvoltage category	CAT 3

(1) 8 kV tested between phases of a different source and 6 kV tested between phases of a the same source.

Mechanical characteristics

Weight	1080 gr
Door cutout	220 x 160 mm
Protection degree	IP65 with optional gasket
Operating temperature	-30 ... +70 °C

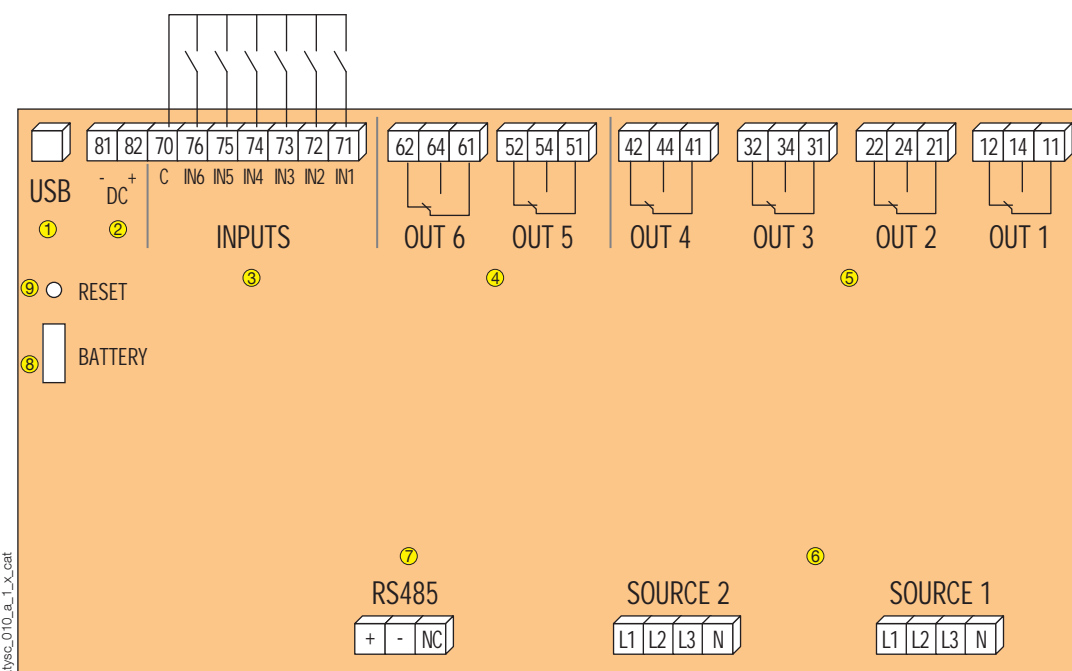
Communications

Interface type	RS485. 2 to 3 half duplex wires
Protocol	MODBUS RTU
Baudrate	programmable 1200 - 115200 bps

Display

Screen resolution	350 x 160 pixels
Event recorder	1000 events

Terminals



atyasc_010_a_1_x_cat

1. Configuration USB
2. 24 VDC aux power supply (for optional use)
3. 6 x inputs
4. 2 x latching relay outputs
5. 4 x relay outputs
6. Source sensing (110-480 ±20%)
7. RS485 communication
8. Replaceable RTC battery
9. Hard reset button

ATyS C65

ATS Controller

connected functions



ATyS C65

Function

ATyS C65 is an advanced ATSE controller offering all the functions of the ATyS C55 with the addition of current, power & energy monitoring, increased I/O capacity and functions, load shedding, lift control function, energy backup, increased number of events and alarms (measurement and combination alarms) and DIRIS Digiware module compatibility.

Advantages

Fast commissioning

On initial power up, the ATyS C65's smart wizard will guide the operator through the commissioning process.

User customisable

Front face LEDs, Load shedding, Genset schedulers and the lift control signal are just a few of the many customisable features available on ATyS C65.

Intuitive operation

- The high-resolution LCD screen provides several dashboards enabling easy monitoring of all parameters, including power and energy consumption of the loads.
- The integrated energy backup provides transitional power to the product enabling status indication (switch position, timer status, fault notifications) and communication to remain active with no supply present.
- Quick and easy access to main functions through the front face with direct key input.
- Complete configuration can be achieved through the front face or via software (EasyConfig).

General characteristics

- Self-powered from sensing.
- Wide voltage range (88 - 576 VAC).
- 24 VDC aux power supply (for optional use).
- 2 latching relays.
- Digiware IO-10: I/O extension up to 30 inputs and 18 outputs.
- Power & Energy metering with /1 A or /5 A current transformers.
- Energy backup.
- IP65 degree of protection (panel gasket included).
- 3000 Alarms and Events.
- Multiple fully configurable timers, thresholds and I/O.
- Easyconfig configuration software.
- Shock resistant IK08+.
- Digiware compatible (replaces U module).
- Ethernet, SNMP, BACnet using DIRIS M-70 gateway. Includes Webserver.
- A DIRIS Digiware D-70 gateway can be used as a remote display for multiple ATyS C55/C65 controllers; the D-70 also provides Ethernet, SNMP & BACnet connectivity.

The solution for

- > Life safety
- > Critical applications
- > Transfer panels with ACB



Strong points

- > Advanced I/O functions
- > Power monitoring
- > Energy backup

Conformity to standards

- > IEC 61010-2-201
- > IEC 60947-6-1
- > GB/T 14048.11 Annex C



Communication gateways



DIRIS Digiware M-70 & D-70

Compatible with



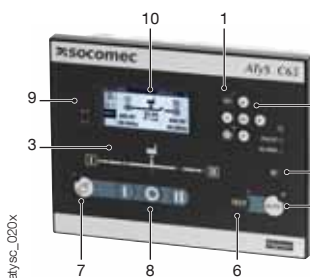
ATyS r
Transfer Switching
Equipment

Double power supply
DPS Optional for use
with ATyS r, breakers
and contactors without
integrated DPS

References

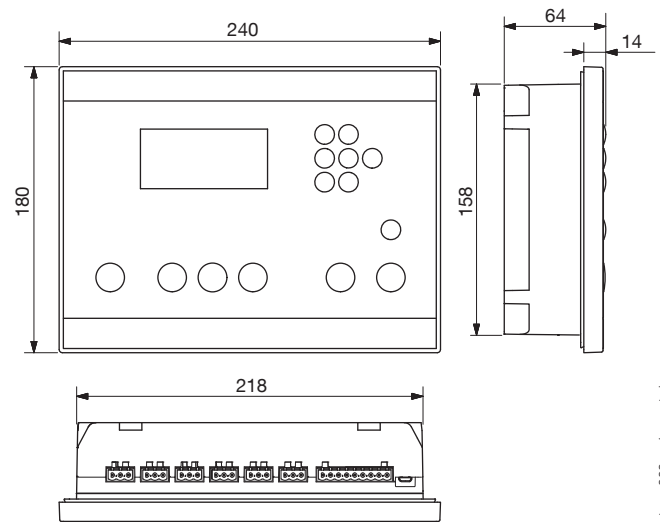
Description	Ref. Number	Price List
ATyS C65 - ATS Controller	16000065	18.449.900

Front panel



1. Dashboard displays.
2. Navigation keypad.
3. Mimic LED indication.
4. Lamp test button / LED info.
5. AUTO mode select.
6. TEST button.
7. CONTROL mode select.
8. Position orders (only in CONTROL mode).
9. Customisable LED.
10. Hi-res LCD screen.

Dimensions (mm)

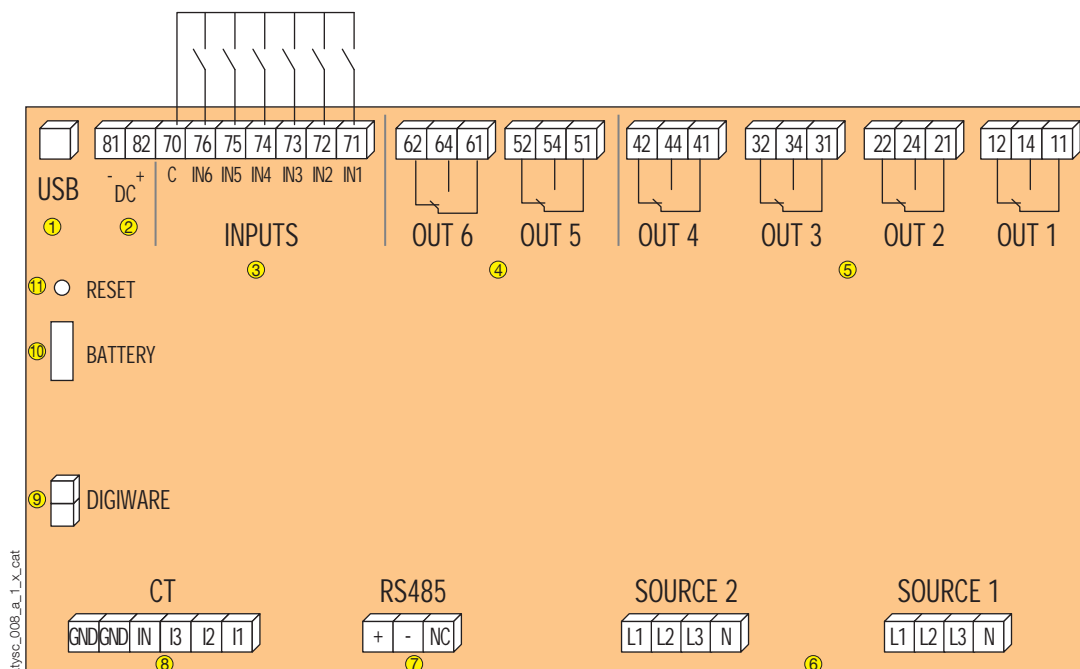


Characteristics

Electrical characteristics		Mechanical characteristics	
AC operating limits	110 - 480 VAC ±20%	Weight	1080 gr
Optional DC supply	24 VDC	Door cutout	220 x 160 mm
Frequency limits	45 - 65 Hz	Protection degree	IP65
Power consumption	< 10 W	Operating temperature	-30 ... +70 °C
Current transformers	1 or 5A	Communications	
Measurement type	true RMS (TRMS)	Interface type	RS485. 2 to 3 half duplex wires
Inputs	6, fully programmable	Protocol	MODBUS RTU
Outputs	6, fully programmable	Baudrate	programmable 1200 - 115200 bps
Output relays	8 A AC15	Digiware bus	RJ45 cable
I/O Extension (IO10)	up to 30 inputs and 18 outputs	Display	
EMC classification	class A and B	Screen resolution	350 x 160 pixels
Impulse withstand	8/6 kV ⁽¹⁾	Event recorder	3000 events
Overtoltage category	CAT 3	Energy backup	up to 30 seconds

(1) 8 kV tested between phases of a different source and 6 kV tested between phases of a the same source.

Terminals



1. Configuration USB
2. 24 VDC aux power supply (for optional use)
3. 6 x inputs
4. 2 x latching relay outputs
5. 4 x relay outputs
6. Source sensing (110 - 480 ±20%)
7. RS485 communication
8. Current transformers (1 or 5 A)
9. Digiware RJ45 connectors
10. Replaceable RTC battery
11. Hard reset button



DIRIS A-40

Multifunction measuring unit - PMD

measurement, monitoring and event analysis with smart sensors - door mounting



DIRIS A-40

The solution for

- > Industry
- > Building
- > Infrastructure



Strong points

- > Assisted configuration
- > Connected to the Cloud
- > Compliant with IEC 61557-12
- > Smart sensors

Integrated technologies



For more information see our website
www.socomec.com

Conformity to standards

- > IEC 61557-12
- > UL E257746
- > EN 50160



Function

The DIRIS A-40 is a panel-mounted power monitoring device (PMD). It is designed for measuring, monitoring and reporting electrical energy.

The DIRIS A-40 offers a range of functions for measuring voltage, current, power, energy and quality.

It allows the analysis of a single-phase or three-phase load.

Advantages

Assisted configuration

The configuration wizard guides the user step by step. It also detects and corrects configuration errors. This cuts the commissioning time in half and always delivers a reliable result.

Connected to the Cloud

The range comprises IoT ready connected products that enable data to be exported automatically for remote operation without any limit on time, distance and time in storage.

Smart sensors

Three current sensor formats (solid-core TE, split-core TR/ITR and Rogowski coil TF) allow integration of the DIRIS A-40 into new and existing electrical installations.

Compliant with IEC 61557-12

Reference standard for PMDs (Performance metering & monitoring devices), IEC 61557-12 standard guarantees performance levels and satisfactory performance from the PMDs under the environmental conditions typical of industrial and tertiary applications.

Functions

Multi-measurement

- Currents
 - I1, I2, I3, In, Isystem
- Voltages & frequency
 - V1, V2, V3, VN, Vsystem, U12, U23, U31, Usystem, f
- Powers
 - P1, P2, P3, ΣP, Q1, Q2, Q3, ΣQ, S1, S2, S3, ΣS
 - Predictive powers ΣP, ΣQ, ΣS
- Power factor
 - PF1, PF2, PF3, ΣPF
- Cos φ & tangent φ
 - Instantaneous values per phase

Metering

- Active energy: +/- kWh
- Reactive energy: +/- kvarh
- Apparent power: kVAh
- Multi-tariff (8 max.)
- Hour Meter

Quality

- Voltage Unbalance
 - Vdir, Vinv, Vhom, Udir, Uinv, Unba, Vnba, Vnb, Unb
- Current unbalance
 - Idir, linv, Ihom, Inba, Inb
- Total harmonic distortion
 - Currents THDi1, THDi2, THDi3, THDIN, TDDI
 - Phase-to-neutral voltage THDv1, THDv2, THDv3
 - Phase-to-phase voltage THDu12, THDu23, THDu31
- Individual harmonics up to 63rd
 - Currents: HI1, HI2, HI3, HIn
 - Phase-to-neutral voltage: HV1, HV2, HV3
 - Phase-to-phase voltage: HU12, HU23, HU31
- Kfactor & Crest factor
- Events according to EN 50160
 - Voltage dips, outages, interruptions, swells
- Waveform capture
 - Automatic waveform captures when event occurs, and manual recording of the waveform
 - Available through communication

Monitoring of protection

- Auxiliary contact monitoring
- Report and alarm on trips
- Number of operations

Load curves and historical records (max. 130 days)

- Active, reactive and apparent power
- Currents, voltages and frequency

Alarms

- Alarms for all electrical values, events and input status changes, possibility of logical combination
- Time-stamping of events

Communication

- DIRIS A-40 RS485 Modbus as standard
- DIRIS A-40 Ethernet Modbus
- DIRIS A-40 PROFIBUS DPV1

Inputs

- 3 digital inputs
 - Power supplied from DIRIS A-40 or an external source
 - Function: logic status, status of circuit breaker, counting of pulses or synchronization multifund metering
- 2 logical outputs
 - Function: Command, energy pulse output, load shedding, alarm

Functions

Monitoring

- Real-time measurement of electrical values.
- View data as graphs or tables.
- Power quality analysis of the utility supply and of loads.



Metering

- Measurement of active, reactive and apparent energies.
- Historical record of measurements.
- Graphic display on monthly, weekly, daily or hourly basis.

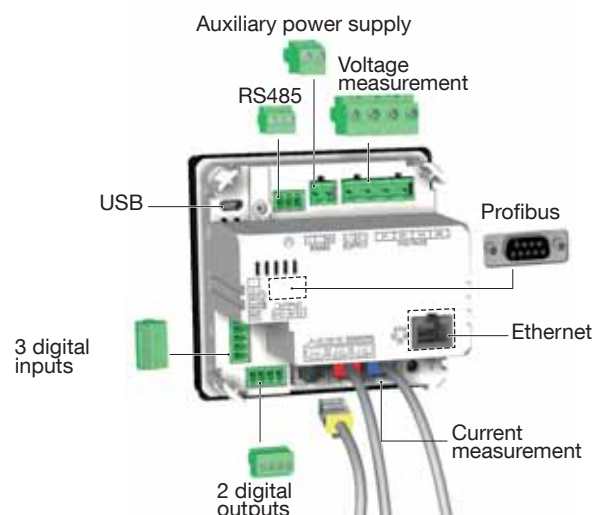


Alarming

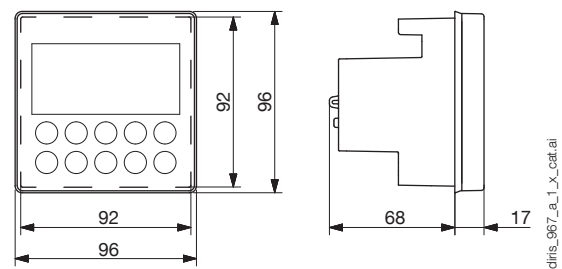
- Display of alarms.
- History of alarms.



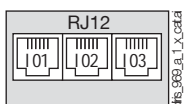
Terminals



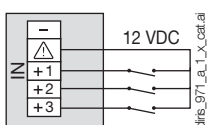
Dimensions (mm)



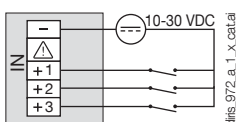
Current measurement



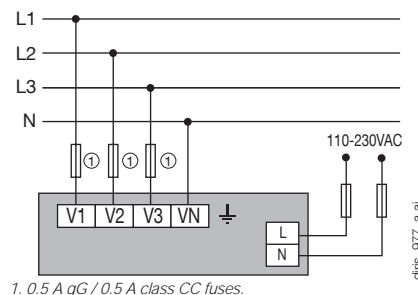
3 inputs supplied by the product



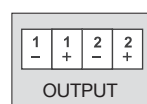
3 inputs with external power supply



Voltage connections inc auxiliary power supply



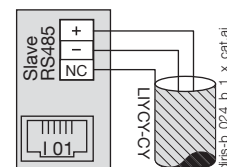
2 outputs



Earth



RS485



DIRIS A-40

Multifunction measuring unit - PMD

measurement, monitoring and event analysis with smart sensors - door mounting

Connections

Associated current sensors

Various types of current sensors can be connected to the DIRIS A-40: solid-core (TE), split-core (TR/iTR) or Rogowski (TF). This range of sensors is suitable for all types of new or existing installations. A quick RJ12 connection makes wiring easy and reliable and prevents wiring errors. The DIRIS A-40 automatically recognizes the sensor size and type. This guarantees the overall accuracy of the DIRIS A-40 + current sensor measurement chain. For more information: see "TE, TR/iTR, TF sensors" pages.

TE solid current sensors



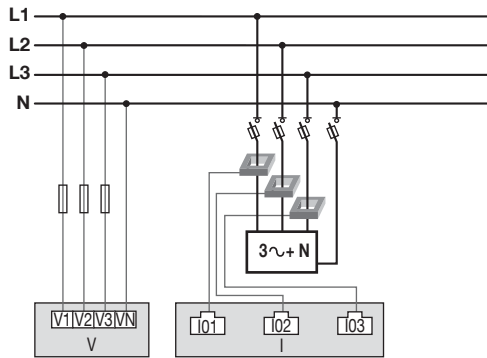
TE / TR/iTR / TF current sensors



Network and connection examples

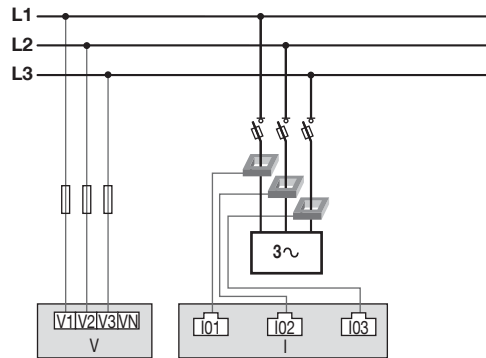
Three-phase + Neutral

3P+N - 3 CT (1 three-phase load + calculated Neutral)



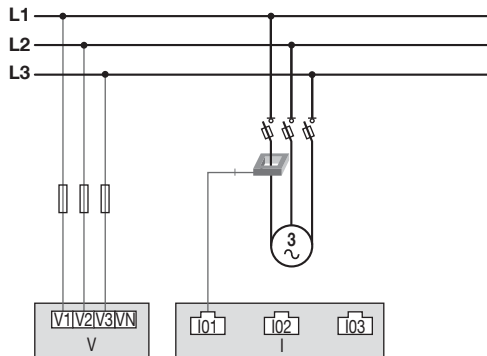
Three-phase

3P - 3CT (1 three-phase load)



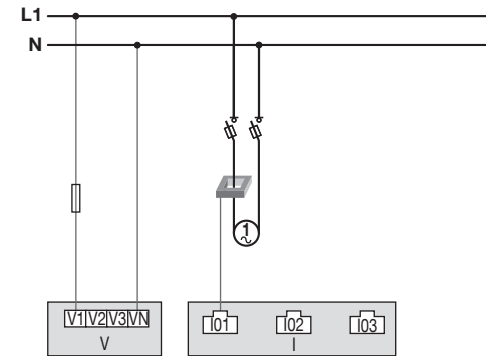
Three-phase

3P - 1CT (1 balanced three-phase load)

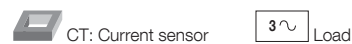


Single-phase

1P+N - 1CT (1 single-phase load)



1. 0.5 A gG / 0.5 A class CC fuses.
If self-supplied, a fuse must always be added to the Neutral.



DIRIS A-40 characteristics

Electrical characteristics

Auxiliary power supply	
Alternative voltage	110/400 VAC or 120/300 VDC - Cat III
Frequency	50/60 Hz
Power consumption	5VA AC / 1,5VA DC (48250500) 8VA AC / 2,5VA DC (48250501 & 48250502)
Connection	Removable spring-cage terminal block, 2x 2 positions, 0.5 - 2.5 mm ² solid cable or 0.25 - 1.5 mm ² stranded cable with end piece

Measurement characteristics

Power and energy measurement	
Accuracy	Class 0.2 DIRIS A-40 only
Active energy and active power	Class 0.5 with TE, TF or ITR sensors Class 1 with TR sensors
Accuracy of reactive energy	Class 2 with TE, TR / ITR or TF sensors

Power factor measurement	
Accuracy	Class 0.5 with TE, TF or ITR sensors Class 1 with TR sensors

Voltage measurement	
Characteristics of the network measured	50-300VAC (Ph/N) - 87-520VAC (Ph/Ph) - CAT III
Frequency range	45 to 65Hz
Frequency accuracy	Class 0.02
Network type	Single-phase/ Two-phase / Two-phase with neutral / Three-phase / Three-phase with neutral
Measurement by voltage transformer	Primary: 400 000 VAC Secondary: 60, 100, 110, 173, 190 VAC
Input consumption	≤ 0,1 VA
Accuracy of voltage measurement	Class 0.2

Current measurement	
Number of current inputs	3
Associated current sensors	Solid TE, split-core TR/iTR, flexible TF current sensors
Accuracy	0.2 DIRIS A-40 class only Class 0.5 with TE, TF or ITR sensors Class 1 with TR sensors
Connection	Specific Socomec cable with RJ12 connectors

Input characteristics

Number	3
Type / Power supply	Optocoupler with internal (12 VDC ± 10%) or external supply (12-24 VDC ± 20%) polarisation
Input function	Logic status, status of circuit breaker, synchronization topography, multifluid pulse metering
Connection	Removable screw terminal block, 5 positions, stranded or solid 0.14 - 1.5 mm ² cable

Output characteristics

Number	2
Type	Optocoupler 30 Vd.c. max 20mA max - SELV
Output function	Command, energy pulse output, load shedding, alarm
Connection	Removable screw terminal block, 4 positions, stranded or solid 0.14 - 1.5 mm ² cable

Communication characteristics

DIRIS A-40 RS485	
Link	RS485
Connection type	2 to 3 half duplex wires
Protocol	Modbus RTU
Baud rate	1200 to 115 200 baud
USB	Configuration of DIRIS A-40

References

Description	Ref Number	Price List
DIRIS A-40 RS485 Modbus - 3 inputs/ 2 inputs	48250500	8.000.300
DIRIS A-40 Ethernet Modbus TCP or BACnet IP - Webserver - RS485 Modbus - 3 inputs/ 2 inputs	48250501	12.664.600

DIRIS A-30/A-41

Multifunction measuring unit - PMD

measurement and advanced monitoring - door mounting



DIRIS A-30

The solution for

- > Industry
- > Building
- > Infrastructures



Strong points

- > User-friendly operation
- > Detects wiring errors
- > Customisable
- > Compliant with IEC 61557-12

Compliance with standards

- > IEC 61557-12
- > IEC 62053-22 class 0.5 S
- > IEC 62053-23 class 2
- > UL



Function

The DIRIS A-30 and A-41 are power monitoring devices that provide the user with all of the measurements needed to complete energy efficiency projects and to assure the monitoring of electrical distribution.

All the information can be used and analysed remotely using energy efficiency software packages.

Advantages

User-friendly operation

With its large backlit multiple-display screen with 6 hot keys, the DIRIS A-30 is easy to use.

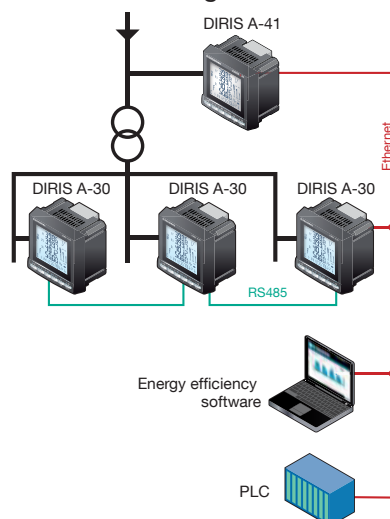
Detects wiring errors

The DIRIS A-30 is provided with a correction function for TC wiring errors.

Customisable

The DIRIS A-30 can be equipped with additional modules that give the user flexibility throughout the service life of the product. Communication modules and additional digital or analogue inputs/outputs can be used to increase its range of functionality.

Functional diagram



Compliant with IEC 61557-12

Reference standard for PMDs (Performance metering & monitoring devices), IEC 61557-12 guarantees performance levels and satisfactory performance from the PMDs under the environmental conditions typical of industrial and tertiary applications.

Functions

Multi-measurement

- Currents
 - instantaneous: I1, I2, I3, In, Isystem
 - average/max average: I1, I2, I3, In
- Voltages & frequency
 - instantaneous: V1, V2, V3, U12, U23, U31, F, Vsystem, Ussystem
 - average/max average: V1, V2, V3, U12, U23, U31, F
- Powers
 - instantaneous: 3P, ΣP, 3Q, ΣQ, 3S, ΣS
 - max average: ΣP, ΣQ, ΣS
 - predictive: (ΣP), (ΣQ), (ΣS)
- Power factors
 - instantaneous: 3PF, ΣPF
 - average/max average: ΣPF

- Kfactor
- Temperatures⁽¹⁾
 - internal
 - external via 3 PT100 probes

Metering

- Active energy: +/- kWh
- Reactive energy: +/- kvarh
- Effective power: kWah
- Hours: ⌚

Harmonic analysis

- Level of harmonic distortion
 - Currents: thd I1, thd I2, thd I3, thd In
 - Phase-to-neutral voltage: thd V1, thd V2, thd V3
 - Phase-to-phase voltage: thd U12, thd U23, thd U31

- Individual harmonics up to 63rd
 - Currents: HI1, HI2, HI3, HIn
 - Phase-to-neutral voltage: HV1, HV2, HV3,
 - Phase-to-phase voltages: HU12, HU23, HU31

Load curve⁽¹⁾

- Active & reactive power: ΣP+/-; ΣQ+/-
- Voltages & frequency: V1, V2, V3, U12, U23, U31, F

Events⁽¹⁾

- Alarms on all electrical parameters.

Communications⁽¹⁾

- RS485 (Modbus)
- Ethernet (Modbus/TCP or Modbus RTU)
- Ethernet with RS485 Modbus RTU gateway over TCP
- Profibus DP Sub-D9

Inputs/ Outputs⁽¹⁾

- Pulse counting
- Checking / control of equipment
- Alarm report
- Pulse report

Analogue output

- Analogue 0/4- 20 mA

⁽¹⁾ Available as an option (see following pages).

Front panel



1. Backlit LCD display
2. Pushbutton for currents and for connection correction function
3. Pushbutton for voltages and frequency..
4. Pushbutton for active, reactive and effective powers and for power factor.
5. Pushbutton for maximum and average values for currents and power levels.
6. Pushbutton for harmonics.
7. Pushbutton for electrical energy meters, timers and impulse counters

Plug-in modules

DIRIS® A-30



DIRIS® A-41*



* With current measurement module for Neutral as standard.



Pulse outputs

2 configurable pulse outputs (type, weight and run) on \pm kWh, \pm kvarh and kVAh.



MODBUS® communication

RS485 link with MODBUS® protocol (speed up to 38400 baud).



PROFIBUS® DP communication

SUB-D9 link with PROFIBUS® DP protocol (speed up to 12 Mbaud).



Analogue outputs

You can connect a maximum of 2 modules, i.e. 4 analogue outputs.

2 outputs can be allocated to:

3I, In, 3V, 3U, F, \pm Σ P, \pm Σ Q, Σ S, Σ PFL/C, Isys, Vsys, Usys, Ppred, Qpred, Spred, T°C internal, T°C 1, T°C 2, T°C3 and to 30 VDC power supply.



2 inputs - 2 outputs

You can connect a maximum of 3 modules, i.e. 6 inputs / 6 outputs.

2 outputs can be allocated to:

- monitoring: 3I, In, 3V, 3U, F, \pm Σ P, \pm Σ Q, Σ S, Σ PFL/C, THD 3I, THD In, THD 3V, THD 3U, Ppred, Qpred, Spred, T°C internal, T°C 1, T°C2, T°C3 and of time counter,
- remote control,
- timed remote control,
- 2 inputs for pulse counting.



Storage capability

- Memory function up to max. 62 days for P+, P-, Q+, Q- with a TOP for internal or external synchronisation of 5, 8, 10, 15, 20, 30 and 60 minutes.
- Memory function for the last 10 timed and dated alarms.
- Memory function for the last min and max instantaneous values for 3U, 3V, 3I, In, F, Σ P \pm , Σ Q \pm , Σ S, THD 3U, THD 3V, THD, 3U, THD, 3V, THD, 3I, THD In.
- Memory function of average values 3U, 3V et F as a function of synchronisation (maximum 60 days).



Ethernet communication

- Ethernet link with MODBUS/TCP or MODBUS RTU over TCP.



Ethernet communication with RS485 MODBUS gateway

- Ethernet link with MODBUS/TCP or MODBUS RTU over TCP.
- Connect 1 to 247 RS485 MODBUS slaves.

DIRIS A-30/A-41

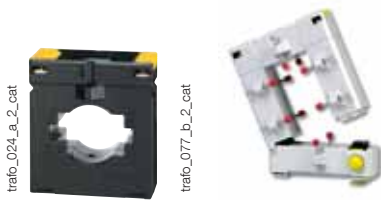
Multifunction measuring unit - PMD

measurement and advanced monitoring - door mounting

Accessories

Current transformer

See "Current transformers" pages.

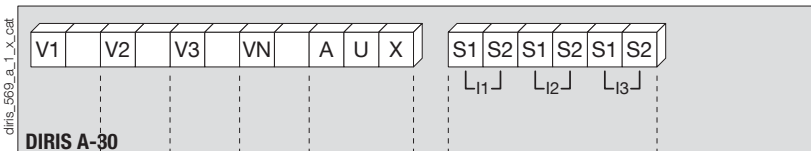


IP65 protection



Terminals

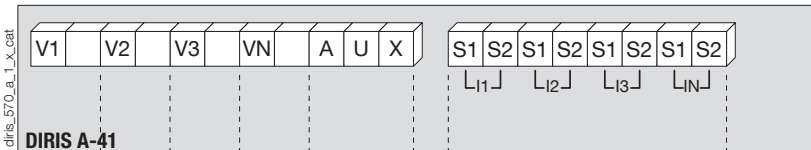
DIRIS A-30



S1 - S2: current inputs

AUX: auxiliary power supplies U_s
V1 - V2 - V3 - VN: voltage inputs

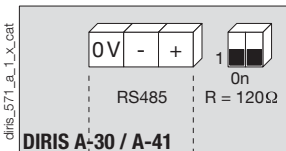
DIRIS A-41



S1 - S2: current inputs

AUX: auxiliary power supplies U_s
V1 - V2 - V3 - VN: voltage inputs

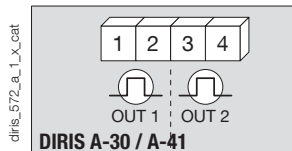
Communication module



RS485 link.

R = 120 Ω : internal resistance for the RS485 link.

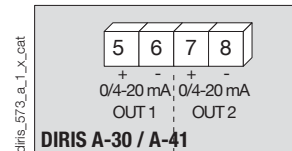
Pulse output module



1 - 2: pulse output n°1.

3 - 4: relay output n°2.

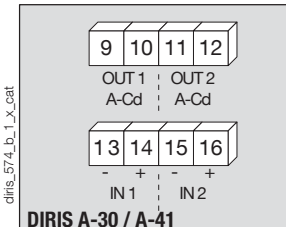
Analogue output module



5 - 6: analogue output n°1.

7 - 8: analogue output n°2.

2 input / 2 output module



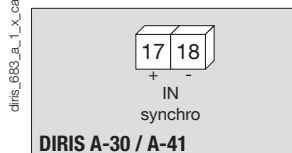
9 - 10: relay output n°1.

11 - 12: relay output n°2.

13 - 14: optical input n°1.

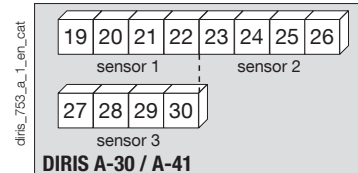
15 - 16: optical input n°2.

Memory module



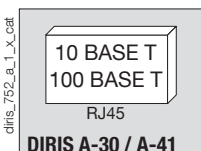
17 - 18: synchronisation input.

Temperature module

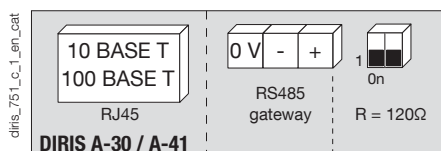


Probe 1	Probe 2	Probe 3
19: red	23: red	27: red
20: red	24: red	28: red
21: white	25: white	29: white
22: white	26: white	30: white

Ethernet module



Ethernet module + RS485 MODBUS gateway



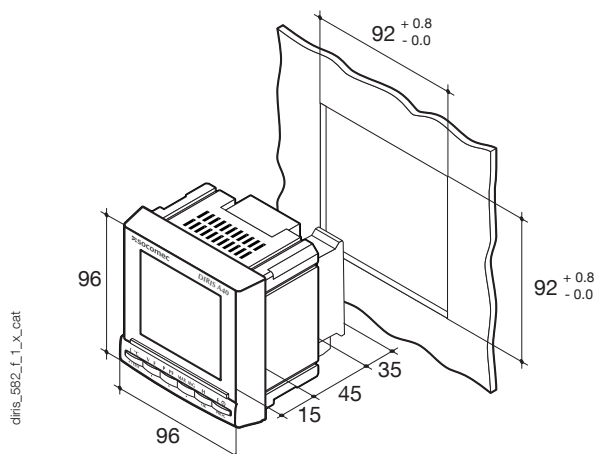
Electrical characteristics

Measurement of currents on insulated inputs (TRMS)	
Via CT primary	9,999 A
Via CT secondary	1 or 5 A
Measurement range	0 ... 11 kA
Input consumption	≤ 0,1 VA
Measurement updating period	1 s
Accuracy	0.2%
Permanent overload	6 A
Intermittent overload	10 I _n for 1 s
Voltage measurements (TRMS)	
Direct measurement between phases	50 to 1039 VAC
Direct measurement between phase and neutral	28 to 600 VAC
VT primary measurement	500,000 VAC
VT secondary measurement	60, 100, 110, 173, 190 VAC
Frequency	50 / 60 Hz
Input consumption	≤ 0,1 VA
Measurement updating period	1 s
Accuracy	0.2%
Current - voltage product	
Limitation for TC 1 A	10,000,000
Limitation for TC 5 A	10,000,000
Power measurement	
Measurement updating period	1 s
Accuracy	0.5%
Power factor measurement	
Measurement updating period	1 s
Accuracy	0.5%
Frequency measurement	
Measurement range	45 ... 65 Hz
Measurement updating period	1 s
Accuracy	0.1%
Energy accuracy	
Active (according to IEC 62053-22)	Class 0.5 S
Reactive (according to IEC 62053-23)	Class 2
Auxiliary power supply	
Alternative voltage	110 ... 400 VAC
AC tolerance	± 10 %
Direct current	120 ... 350 VDC / 12 ... 48 VDC
DC tolerance	± 20 % / - 6 ... + 20 %
Frequency	50 / 60 Hz
Power consumption	≤ 10 VA

Module 2 inputs - 2 outputs: outputs (alarms / control)	
Number of relays	2 ⁽¹⁾
Type	250 VAC - 5 A - 1150 VA
Module 2 inputs - 2 outputs: optical coupler inputs	
Number	2 ⁽¹⁾
Power supply	10 ... 30 VDC
Minimum width of signal	10 ms
Minimum length between 2 pulses	18 ms
Type	Optical couplers
Pulse output module	
Number of relays	2
Type	100 VDC - 0.5 A - 10 VA
Max. number of manoeuvres	≤ 10 ⁸
Analogue output module	
Number of outputs	2 ⁽²⁾
Type	Insulated
Scale	0 / 4 ... 20 mA
Load resistance	600 Ω
Maximum current	30 mA
MODBUS communication module	
Link	RS485
Type	2 to 3 half duplex wires
Protocol	MODBUS [®] RTU
MODBUS [®] speed	4800 to 38400 baud
PROFIBUS DP communication module	
Link	SUB-D9
Protocol	PROFIBUS [®] DP
PROFIBUS [®] speed	9.8 kbaud ... 12 Mbaud
Ethernet communication module	
Connection technology	RJ45
Baud rate	10 base T / 100 base T
Protocol	MODBUS TCP or MODBUS RTU on TCP
Temperature module (inputs)	
Type	PT100
Connection	2, 3 or 4 wires
Dynamic	- 20°C ... 150°C
Accuracy	± 1 digit
Maximum length	300 cm
Operating conditions	
Operating temperature range	-10 to +55°C
Storage temperature	-20 to 85°C
Relative humidity	95%

(1) Max. 3 modules / DIRIS.
(2) Max. 2 modules / DIRIS.

Case



Type	Panel mounting
Dimensions W x H x D	96 x 96 x 60 mm
Case degree of protection	IP30
Front degree of protection	IP52
Display type	Backlit LCD display
Type of terminal strips	Fixed or detachable
Section of connection for voltages and other terminals	0,2 ... 2.5 mm ²
Section of connection for currents	0.5 ... 6 mm ²
Weight	400 g

DIRIS A-30/A-41

Multifunction measuring unit - PMD

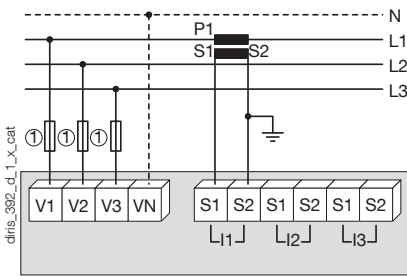
measurement and advanced monitoring - door mounting

Connections

Balanced low-voltage network for DIRIS A-30

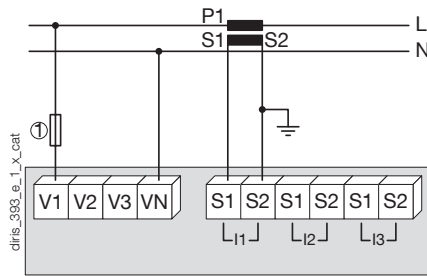
Recommendation: When disconnecting the DIRIS, the secondary of each current transformer must be short-circuited. This operation can be carried out automatically by a SOCOMEC PTI, which can be found in the SOCOMEC catalogue: please consult us. In TNC mode, it is advisable to connect the DIRIS A-30/A-41 to earth using the functional earth module.

3/4 wires with 1 CT



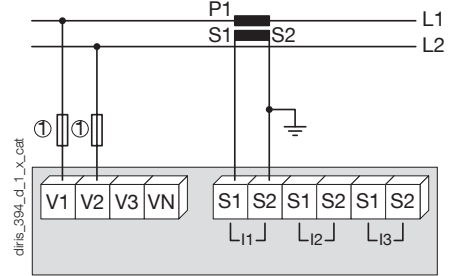
The use of 1 TC reduces by 0.5% the accuracy of the phases, the current for which is worked out by vector calculation.
1. 0.5 A gG / 0.5 A class CC fuses.

Single-phase



1. 0.5 A gG / 0.5 A class CC fuses.

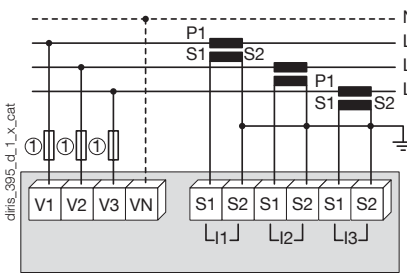
Two-phase



1. 0.5 A gG / 0.5 A class CC fuses.

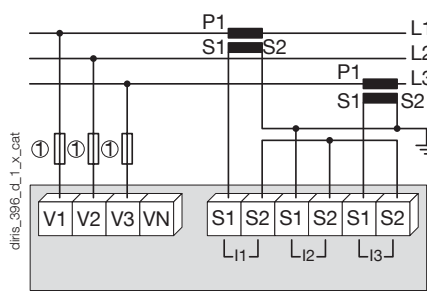
Balanced low-voltage network for DIRIS A-30

3/4 wires with 3 CTs



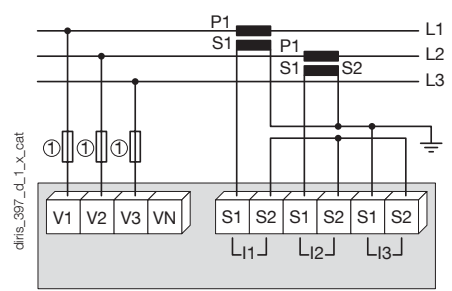
1. 0.5 A gG / 0.5 A class CC fuses.

3 wires with 2 CTs



The use of 2 TC reduces by 0.5% the accuracy of the phase, the current for which is worked out by vector calculation.
1. 0.5 A gG / 0.5 A class CC fuses.

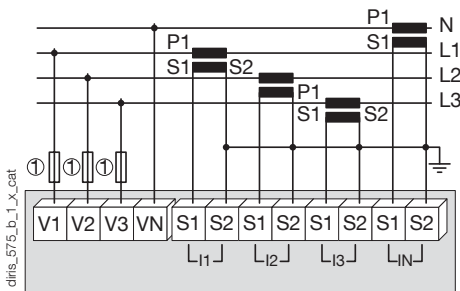
3 wires with 2 CTs



The use of 2 TC reduces by 0.5% the accuracy of the phase, the current for which is worked out by vector calculation.
1. 0.5 A gG / 0.5 A class CC fuses.

Balanced low-voltage network for DIRIS A-41

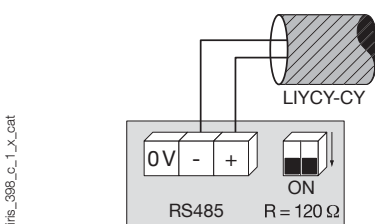
4 wires with 4 CTs



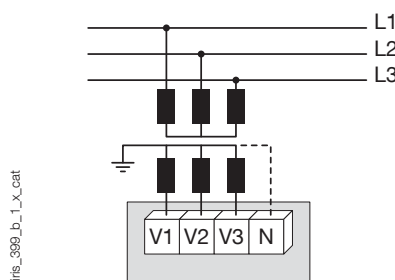
1. 0.5 A gG / 0.5 A class CC fuses.

Additional information

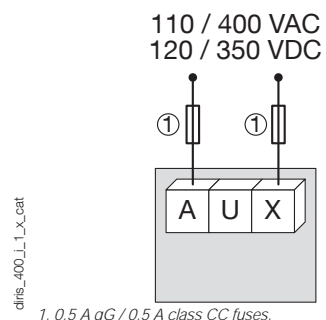
Communication via RS485 link



Connection of potential transformer for HV networks



AC and DC auxiliary power supply



1. 0.5 A gG / 0.5 A class CC fuses.

References

Basic Device Aux. Power Supply U _s	Diris A-30 No. Reference	Price List	Diris A-410 with CT on the neutral No. Reference	Price List
110 ... 400 VAC / 120 ... 350 VDC	48250403	6.340.500	48250404	6.340.500
12 ... 48 VDC	48250405	9.048.200	48250406	9.048.200

Option Plug-in modules ⁽¹⁾	No. Reference	Price List
Pulse Outputs	48250090	1.257.300
RS485 MODBUS [®] communication	48250092	1.089.700
PROFIBUS [®] DP communication	48250205	5.584.600
Analogue outputs	48250093	3.382.800
2 inputs - 2 outputs	48250094	1.089.700
Storage capability	48250097	1.718.300
Ethernet communication ⁽²⁾	48250203	5.997.600
Ethernet communication + RS485 gateway ⁽²⁾	48250204	5.997.600
Temperature inputs	48250206	3.327.100

(1) Ease of integration of additional function (maximum 4 slots on A-30 and 3 on A-41).

(2) Dimensions: 2 slots

Description of accessories	To be Ordered in multiples of	No. Reference	Price List
IP65 protection	1	48250090	1.257.300
Integration kit for 144 x 96 mm cutout	1	48250092	1.089.700
Fuse holders to protect voltage inputs (type RM) 3 pole	4	48250205	5.584.600
Fuse holders to protect the aux. power supply (type RM) 1 pole + neutral	6	48250093	3.382.800
Fuses type gG 10x38 0.5 A fuses	10	48250094	1.089.700
Range of current transformers	1	48250097	1.718.300
Ferrite for use with communication modules	1	48250203	5.997.600
PT100 temperature probe, M6 screw type	1	48250204	5.997.600
PT100 temperature probe, M6 lug type	1	48250206	3.327.100

Expert Services

- > Study, definition, advice, implementation, maintenance and training... Our experts "Expert Services" offer complete support for the success of your project.



DIRIS A-20

Multifunction measuring unit - PMD
measurement and monitoring - door mounting



DIRIS A-20

diris_061_front.eps

The solution for

- > Industry
- > Infrastructure
- > Building



Strong points

- > User-friendly operation
- > Compliant with IEC 61557-12
- > Detects wiring errors
- > Customisable

Compliance with standards

- > IEC 61557-12
- > IEC 62053-22 class 0.5S
- > IEC 62053-23 class 2
- > UL



Related software

- > To use Socomec PMDs effectively, we can offer you several dedicated software tools. See "Easy Config System" pages.

Function

DIRIS A-20 units are performance metering and monitoring devices that provide the user with all of the measurements needed to complete energy efficient projects successfully and to provide assured monitoring of electrical distribution.

All of this information can be used and analysed remotely with the help of energy efficiency software programs.

Advantages

User-friendly operation

With its large backlit multiple-display screen with 4 hot keys, the DIRIS A-20 is easy to use.

Compliant with IEC 61557-12

Reference standard for PMDs (Performance metering & monitoring devices), IEC 61557-12 guarantees performance levels and satisfactory performance from the PMDs under the environmental conditions typical of industrial and tertiary applications.

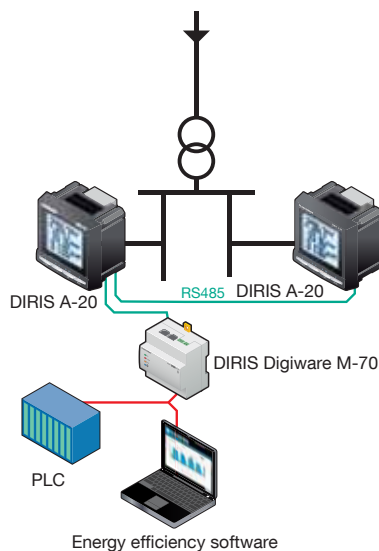
Detects wiring errors

The DIRIS A-20 is equipped with an error correction function for CT connection.

Customisable

Additional communication and input/output modules can extend the basic functional scope of this product. Equipped with additional modules, the DIRIS A-20 can provide the user with flexibility and expandability throughout the service life of the product.

Functional diagram



DIRIS_576_L1_en_cat

Functions

Multi-measurement

- Currents
 - instantaneous: I1, I2, I3, In
 - maximum average: I1, I2, I3, In
- Voltages & frequency
 - instantaneous: V1, V2, V3, U12, U23, U31, F
- Powers
 - instantaneous: 3P, ΣP, 3Q, ΣQ, 3S, ΣS
 - maximum average: ΣP, ΣQ, ΣS
- Power factors
 - instantaneous: 3PF, ΣPF

Metering

- Active energy: +/- kWh
- Reactive energy: +/- kvarh
- Hours: ⌚

Harmonic analysis

- Total harmonic distortion (rank 51)
 - Currents: thd I1, thd I2, thd I3
 - Phase-to-neutral voltage: thd V1, thd V2, thd V3
 - Phase-to-phase voltage: thd U12, thd U23, thd U31

Events

Alarms on all electrical parameters

Communications⁽¹⁾

RS485 with MODBUS protocol

Output

- Equipment control
- Alarm report
- Pulse report

Input

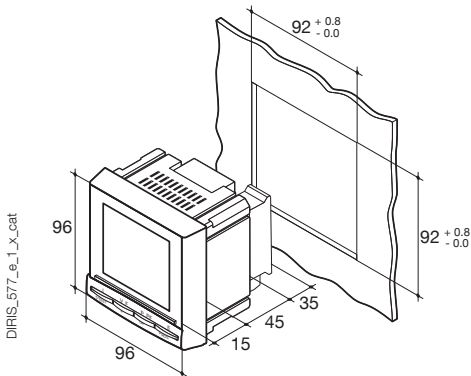
- Information report from a dry external contact
- (1) Available as an option (see the following pages).

Front panel



1. Backlit LCD display
2. Pushbutton for currents (instantaneous and maximum), THD currents and the connection correction function.
3. Pushbutton for voltages, frequency and THD voltages.
4. Pushbutton for power (instantaneous and maximum), active, reactive and effective, power factor.
5. Pushbutton for energy sources and timer counter.

Case



Type	Plug-in
Dimensions W x H x D	96 x 96 x 60 mm
Case degree of protection	IP30
Front degree of protection	IP52
Display type	Backlit LCD
Type of terminal strips	Fixed or removable
Section for connection of voltages and other terminals	0.2 ... 2.5 mm ²
Section for connection of currents	0.5 ... 6 mm ²
Weight	400 g

Plug-in optional modules

DIRIS® A-20



1 output

- 1 output that can be configured for:
- pulses: configurable (type, weight, duration) to kWh or kVarh.
 - Monitoring: 3I, In, 3V, 3U, F, ΣP, ΣQ, ΣS, ΣPFL/C, THD 3I, THD 3V, THD 3U and timer meter.
 - Equipment control



Communication

RS485 link with MODBUS protocol (speed up to 38 400 baud).



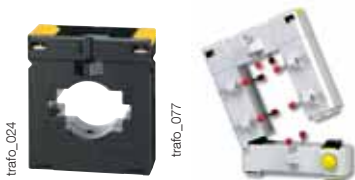
3 inputs , 1 output

- 3 inputs can be configured into:
- Information report from an external contact.
- 1 output that can be configured for:
- pulses: configurable (type, weight, duration) to kWh or kVarh.
 - Monitoring: 3I, In, 3V, 3U, F, ΣP, ΣQ, ΣS, ΣPFL/C, THD 3I, THD 3V, THD 3U and timer meter.
 - Equipment control

Accessories

Current transformer

See "Current transformers" pages.



IP65 protection



DIRIS A-20

Multifunction measuring unit - PMD

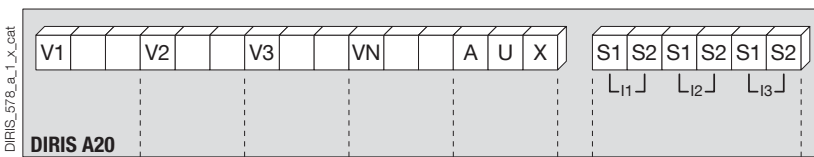
measurement and monitoring - door mounting

Electrical characteristics

Current measurement (TRMS)	
Via CT primary	9 999 A
Via CT secondary	5 A
Measurement range	0 ... 11 kA
Input consumption	0.6 VA
Measurement updating period	1 s
Accuracy	0.2%
Permanent overload	6 A
Intermittent overload	10 I _n over 1 sec
Voltage measurements (TRMS)	
Direct measurement between phases	50 ... 500 VAC
Direct measurement between phase and neutral	28 ... 289 VAC
Input consumption	≤ 0.1 VA
Measurement updating period	1 s
Accuracy	0.2%
Power measurement	
Measurement updating period	1 s
Accuracy	0.5%
Power factor measurement	
Measurement updating period	1 s
Accuracy	0.5%
Frequency measurement	
Measurement range	45 ... 65 Hz
Measurement updating period	1 s
Accuracy	0.1%

Energy accuracy	
Active (according to IEC 62053-22)	Class 0.5 S
Reactive (in acc. with CEI 62053-23)	Class 2
Auxiliary power supply	
Alternative voltage	110 ... 400 VAC
AC tolerance	± 10%
DC voltage	120 ... 289 VDC
DC tolerance	± 20%
Frequency	50 / 60 Hz
Power consumption	10 VA
Pulse or alarm output	
Number	1
Type	100 VDC - 0,5 A - 10 VA
Max. number of manoeuvres	≤ 10 ⁸
Inputs	
Number	3
Power supply	10 ... 30 VDC
Minimum width of signal	10 ms
Minimum length between 2 pulses	18 ms
Type	Optical couplers
Communication	
Link	RS485
Type	2 to 3 half duplex wires
Protocol	MODBUS® in RTU mode
MODBUS® speed	1400 ... 38400 baud
Operating conditions	
Operating temperature range	- 10 ... + 55°C
Storage temperature	- 20 ... + 85°C
Relative humidity	95%

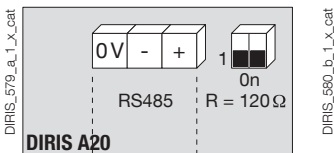
Terminals



S1 - S2: current inputs.

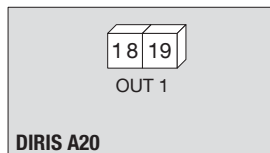
AUX: auxiliary power supply U_s.
V1, V2, V3 & VN: voltage inputs.

Module communication



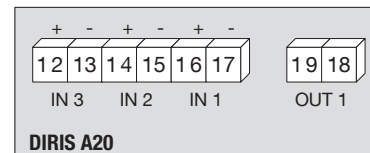
RS485 link.
R = 120 Ω: internal resistance for the RS485 link.

Output or alarm module



18 - 19: output n°1

Module with 3 inputs, 1 output



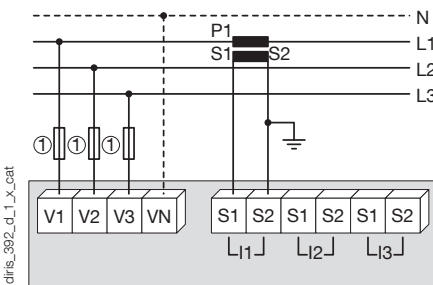
Connection

Low voltage balanced network

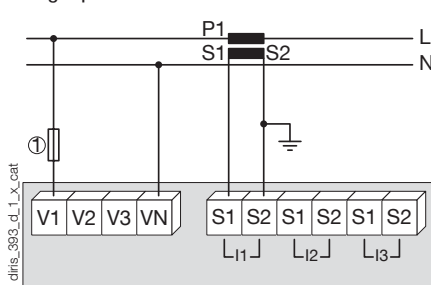
Recommendation

- For IT earthing systems, it is recommended that the CT secondary is not connected to earth.
- When disconnecting the DIRIS, the secondary of each current transformer must be short-circuited. This operation can be carried out automatically by a SOCOMEC PTI, which can be found in the SOCOMEC catalogue: please consult us.

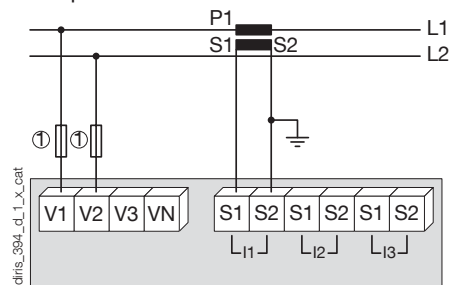
3/4 wires with 1 CT



Single-phase



Two-phase



The 1CT solution reduces by 0.5% the accuracy of the phase for which the current is deduced by a vector calculation.

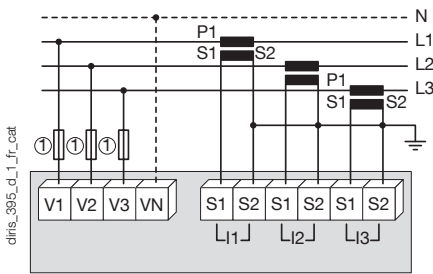
1. 0.5 A gG / 0.5 A class CC fuses.

1. 0.5 A gG / 0.5 A class CC fuses.

1. 0.5 A gG / 0.5 A class CC fuses.

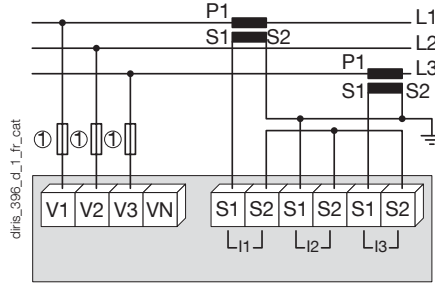
Low voltage unbalanced network

3/4 wires with 3 CTs



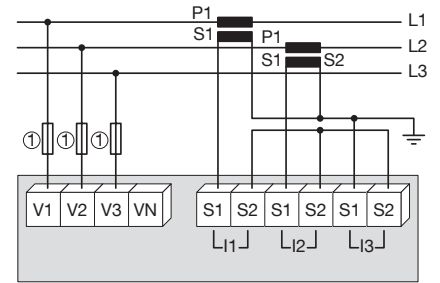
1. 0.5 A gG / 0.5 A class CC fuses.

3 wires with 2 CTs



The 2CT solution reduces by 0.5% the accuracy of the phase for which the current is deduced by a vector calculation.
1. 0.5 A gG / 0.5 A class CC fuses.

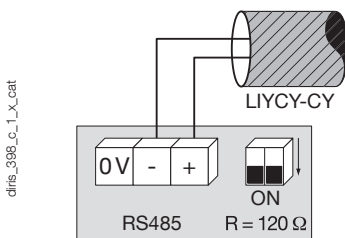
3 wires with 2 CTs



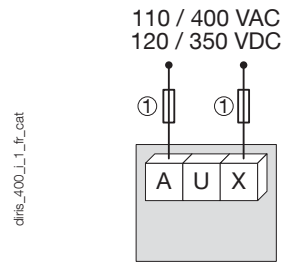
The 2CT solution reduces by 0.5% the accuracy of the phase for which the current is deduced by a vector calculation.
1. 0.5 A gG / 0.5 A class CC fuses.

Additional information

Communication via RS485 link



AC and DC auxiliary power supply



1. 0.5 A gG / 0.5 A class CC fuses.

References

Basic Device Aux. Power Supply U _s	Diris A-20 No. Reference	Price List
110 ... 400 VAC / 120 ... 350 VDC	48250402	3.828.900

Options Plug-in modules	No. Reference	Price List
On/Off output.	48250080	927.900
RS485 MODBUS® communication	48250082	786.600
3 inputs, 1 output	48250083	2.813.500

Accessories Description of accessories	To Be Ordered In Multiples Of	No. Reference	Price List
Protection IP 65	1	48250089	537.900
Integration kit for 144 x 96 mm cutout	1	48250092	1.089.700

Expert Services

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DIRIS A-10

Multifunction meters - PMD

measuring and monitoring - modular format



DIRIS A-10

diris_978_front.psd

The solution for

- > Industry
- > Infrastructures
- > Tertiary



Strong points

- > Easy to use
- > Integrated temperature sensor
- > Detects wiring errors
- > Compliant with IEC 61557-12

Conformity to standards

- > IEC 61557-12
- > IEC 62053-22 class 0.5S
- > IEC 62053-23 class 2
- > UL



Associated with current transformers



See "Current transformers".

Function

The DIRIS A-10 is a modular multifunction meter for measuring electrical values in low voltage networks with connection to current transformers.

It allows all electrical parameters to be displayed and utilised for communication and/or output functions.

Advantages

Easy to use

Five direct access pushbuttons enable all measurements to be clearly viewed on its backlit LCD display.

Integrated temperature sensor

It allows variations in temperature to be detected.

Detects wiring errors

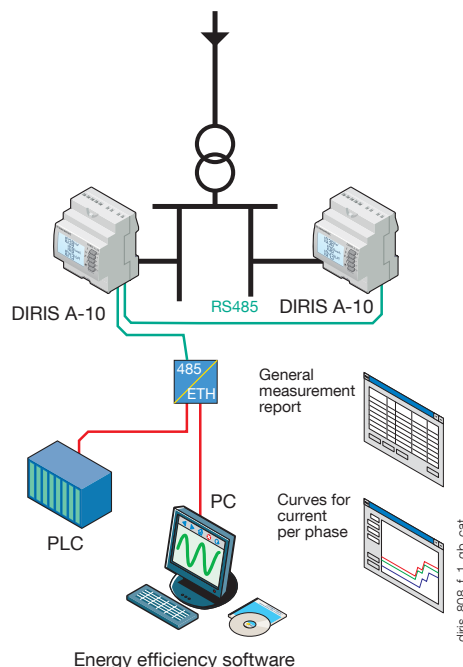
An integrated test function can be utilised to detect incorrect wiring and to automatically correct CT installation errors.

Compliant with IEC 61557-12

IEC 61557-12 is a high-level standard for all PMDs (Performance Monitoring Devices) that are designed to measure and monitor electrical parameters in distribution networks.

Compliance with IEC 61557-12 ensures a high level of equipment performance, in terms of metrology, and the mechanical and environmental aspects (EMC, temperature, etc.).

Principle diagram



diris_909_L1_glb_cat

Functions

Multi-measurement

- Currents
 - instantaneous: I1, I2, I3, In
 - maximum average: I1, I2, I3, In
- Voltages & frequency
 - instantaneous: V1, V2, V3, U12, U23, U31, F
- Power
 - instantaneous: 3P, ΣP, 3Q, ΣQ, 3S, ΣS
 - maximum average: ΣP, ΣQ, ΣS
- Power factors
 - instantaneous: 3PF, ΣPF

Metering

- Active energy: +/- kWh
- Reactive energy: +/- kVarh
- Hours: ⌚

Harmonic analysis

- Total harmonic distortion (level 51)
 - Currents: thd I1, thd I2, thd I3
 - Phase-to-neutral voltage: thd V1, thd V2, thd V3
 - Phase-to-phase voltage: thd U12, thd U23, thd U31

Dual tariff function

Selection of one out of 2 billing tariffs

Events

Alarms on all electrical values

Communications⁽¹⁾

RS485 with MODBUS protocol

Input

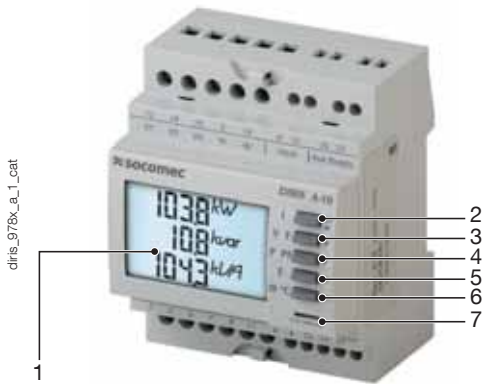
- Tariff selection
- Remote device status

Output

- Remote command of device
- Alarm report
- Pulse report

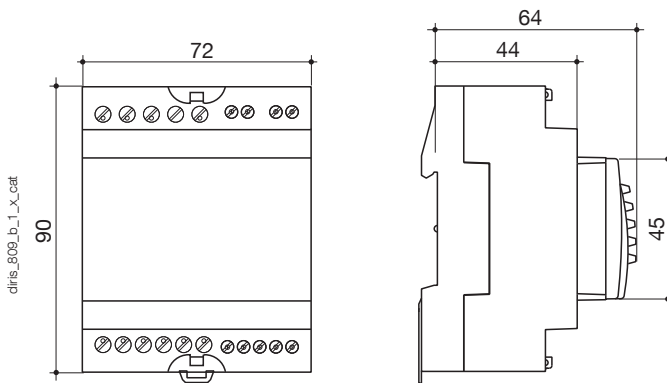
⁽¹⁾ Available on specific version (see the following pages).

Front panel



1. Backlit LCD display.
2. Direct access key for currents (instant and maximum), current THD and test function.
3. Direct access key for voltages, frequency and voltage THD.
4. Direct access key for active, reactive and apparent power (instantaneous and max. values) and power factor.
5. Direct access key for energies.
6. Pushbutton for hour meter, temperature and programming menu access.
7. Metrological LED.

Case



Type	modular
Number of modules	4
Dimensions W x H x D	72 x 90 x 64 mm
Case degree of protection	IP 30
Front degree of protection	IP 52
Display type	backlit LCD display
Voltage and current connection cross-section	4 mm ²
Connection cross-section for AUX supply, input, output and comms.	2.5 mm ²
Weight	205 g (4825 0010) - 215 g (4825 0011)

Electrical characteristics

Current measurement (TRMS)	
Via CT primary	9 999 A
Via CT secondary	5 A
Measurement range	0 ... 11 kA
Input consumption	0.6 VA
Measurement updating period	1 s
Accuracy	0.2 %
Permanent overload	6 A
Intermittent overload	10 I _n for 1 s
Voltage measurements (TRMS)	
Direct measurement between phases	50 ... 500 VAC
Direct measurement between phase and neutral	28 ... 289 VAC
Input consumption	≤ 0.1 VA
Measurement updating period	1 s
Accuracy	0.2 %
Power measurement	
Measurement updating period	1 s
Accuracy	0.5 %
Power factor measurement	
Measurement updating period	1 s
Accuracy	0.5 %
Frequency measurement	
Measurement range	45 ... 65 Hz
Measurement updating period	1 s
Accuracy	0.1 %

Energy accuracy	
Active (according to IEC 62053-22)	Class 0.5 S
Reactive (according to IEC 62053-23)	Class 2
Auxiliary power supply	
Alternating voltage	110 ... 277 VAC
AC tolerance	± 15 %
Frequency	50 / 60 Hz
Consumption	< 3 VA
Digital output (pulses)	
Number	1
Optocoupler type (IEC 62053-31)	Class A and B (10 ... 30 VDC, 27mA)
Input (tariff)	
Number	1
Type	0 VAC: T1 / 200-277 VAC: T2
Communication	
Link	RS485
Type	2 ... 3 half duplex wires
Protocol	MODBUS RTU
MODBUS® speed	2400 ... 38400 bauds
Operating conditions	
Operating temperature	- 10 ... + 55 °C
Storage temperature	- 20 ... + 70 °C
Relative humidity	85 %

DIRIS A-10

Multifunction meters - PMD

measuring and monitoring - modular format

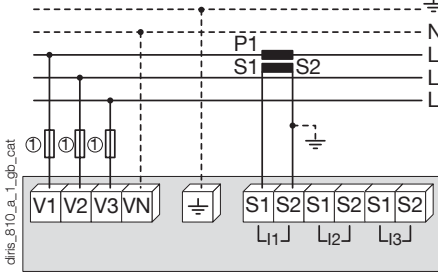
Connection

Recommendation:

- For IT earthing systems, it is recommended that the CT secondary is not connected to earth.
- When disconnecting the DIRIS, the secondary of each current transformer must be short-circuited. This operation can be carried out automatically by a SOCOMEC PTI, an accessory which is included in this catalogue. Please consult us.
- It is recommended that the earthing point for the DIRIS A-10 and the current transformer secondaries are not earthed at the same time.

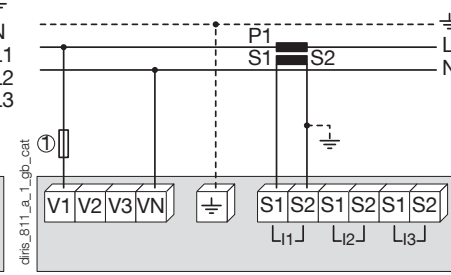
Low voltage balanced network

3/4 wires with 1 CT



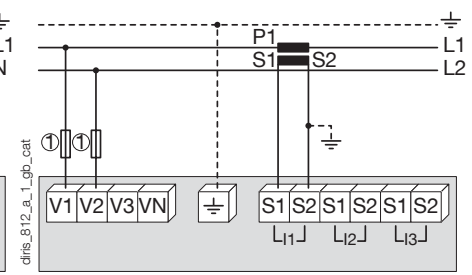
1. Fuses 0.5 A gG / 0.5 A class CC.

Single-phase



1. Fuses 0.5 A gG / 0.5 A class CC.

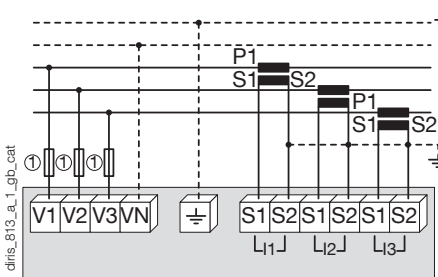
Two-phase



1. Fuses 0.5 A gG / 0.5 A class CC.

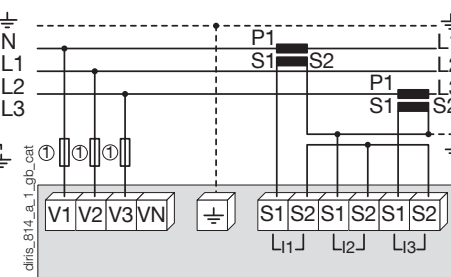
Low voltage unbalanced network

3/4 wires with 3 CTs



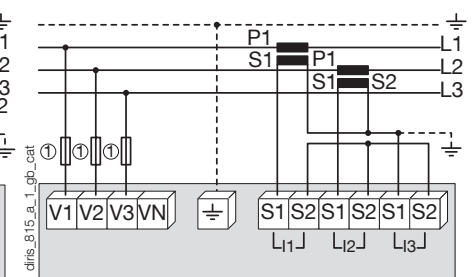
1. Fuses 0.5 A gG / 0.5 A class CC.

3 wires with 2 CTs



Use of 2 CTs reduces by 0.5% the accuracy of the phases, the current of which is worked out by vector calculation.
1. Fuses 0.5 A gG / 0.5 A class CC.

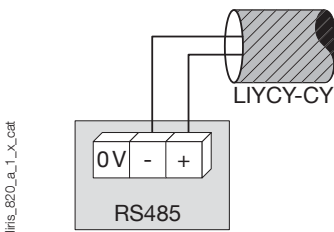
3 wires with 2 CTs



Use of 2 CTs reduces by 0.5% the accuracy of the phases, the current of which is worked out by vector calculation.
1. Fuses 0.5 A gG / 0.5 A class CC.

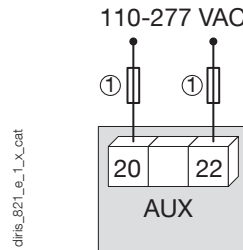
Additional information

Communication via RS485 link



diris_b20_a_1_x_cat

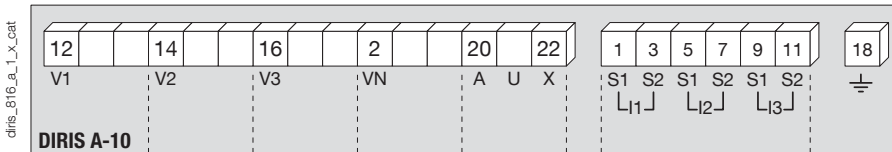
AC auxiliary power supply



diris_b21_e_1_x_cat

1. Fuses 0.5 A gG / 0.5 A class CC.

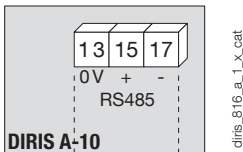
Terminals



AUX: auxiliary power supply U_s .
V1, V2, V3 & VN: voltage inputs.

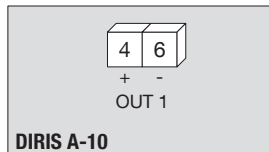
S1 - S2: current inputs.

Communication terminals



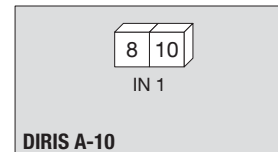
RS485 link.

Pulse or alarm output terminals



4 - 6: output n°1

Input terminals



8 - 10: input n°1

References

Basic Device	Diris A-10 No. Reference	Price List
Diris A-10	48250400	4.447.300
Diris A-10 with RS485 MODBUS Communication	48250401	4.681.300

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MULTIS M-18

DIGITAL MULTIFUNCTION POWER METER

three phases – via CT up to 9999A dimensions 96 * 96 mm

new



MULTIS M-18

Function

The MULTIS M-18 is a panel mounted digital meter displaying multi-measurement and energy values directly on its large backlit LCD display. It is designed for utilisation on three-phase or single-phase networks with connection via CT and is suitable for applications of up to 9999A. The product can be configured by the user via the keypad and the display.

Advantages

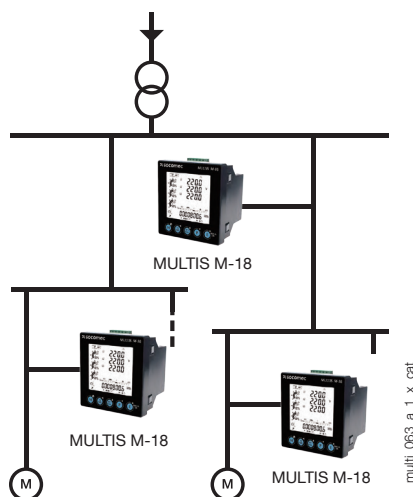
Easy to use

Thanks to its large backlit LCD display and its multiple viewing screens with direct pushbutton access, MULTIS M-18 provide clear readings and are easy to use. They directly display a number of multi-measurement and metering values.

Advanced functionalities

The MULTIS M-18 offers input/output functions as standard and has a RS485 MODBUS communication output.

Principle diagram



The solution for

- > Industry
- > Infrastructure



Strong points

- > Large backlit LCD display
- > Direct display of multi-measurement and metering values
- > RS485 MODBUS communication
- > Input/Output for control/command

Conformity to standards

- > IEC 62053-22 class 0.5S
- > IEC 62053-23 class 2



Functions

Multi-measurement

- Currents
 - instantaneous: I1, I2, I3, In
- Voltages & Frequency
 - instantaneous: V1, V2, V3, U12, U23, U31, F
- Power
 - instantaneous: 3P, ΣP, 3Q, ΣQ, 3S, ΣS
- Power factors
 - instantaneous: 3PF, ΣPF

Metering

- Active energy: ± kWh
- Reactive energy: ± kvarh

Harmonic analysis

- Current: THD I1, THD I2, THD I3
- Voltage: THD V1, THD V2, THD V3
- Rate 2-31 harmonic analysis of Current and Voltage

Communication⁽¹⁾

RS485 with MODBUS protocol

Outputs

- Remote command of device

Inputs

- Remote status device

MULTIS M-18

DIGITAL MULTIFUNCTION POWER METER

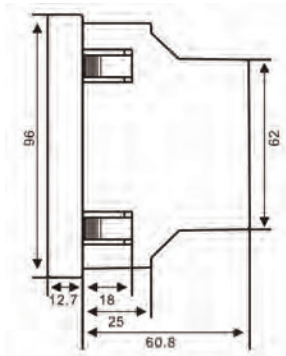
three phases – via CT up to 9999A dimensions 96 * 96 mm

Front panel



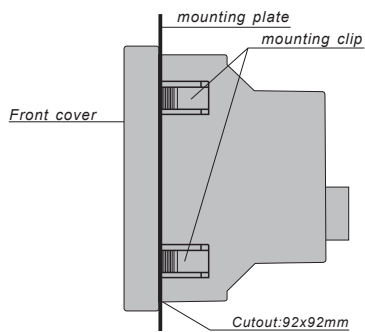
- M: Direct access key for each phase power factor, voltage, energies
- VI THD: Direct access key for voltage, current
- PF F: Direct display power factor, frequency
- P: Direct display active power, reactive power and apparent power
- E: Direct display active energy(total/+/-), reactive energy(total/+/-),

Case



Type	panel mounting
Dimensions W * H * D	96 x 96 x 60.8 mm

Mounting



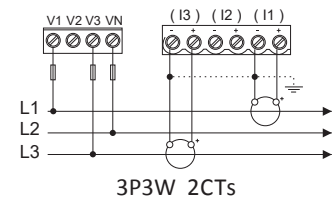
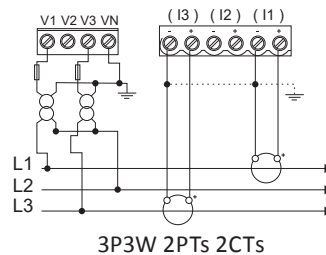
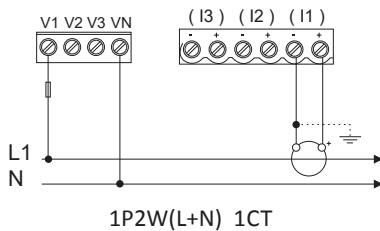
Type	panel mounting
cut-out size	92 x 92 mm
Front degree of protection	51 (indoor)
Insulation class voltage	II
Terminal block type	plug-in
Voltage and other connection cross-section	0.2 ... 2.5 mm ²
Current connection cross-section	1.5 ... 2.5 mm ²
Max tightening torque	0.4 Nm
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Installation category	CAT III

Electrical characteristics

Current measurement (TRMS)	
Via CT primary	9 999 A
Via CT secondary	5/1 A
Input consumption	0.6 VA
Accuracy	0.2%
Permanent overload	6 A
Intermittent overload	20In for 0.01s
Voltage measurement (TRMS)	
Direct measurement between phase	50 ... 600 VAC
Direct measurement between phase and neutral	50 ... 345 VAC
Input consumption	≤ 0.1 VA
Accuracy	0.2%
Permanent overload	120%In
Power measurement	
Accuracy	0.5%
Power factor measurement	
Accuracy	0.5%
Frequency measurement	
Measurement range	45 ... 65 Hz
Accuracy	0.2 %

Energy accuracy	
Active (according to IEC 62053–22)	Class 0.5S
Reactive (according to IEC 62053–23)	Class 2
Auxiliary power supply	
AC tolerance	85 ... 275 VAC
DC tolerance	120 ... 380 VDC
Frequency	50 / 60 Hz
Consumption	<2W/10 VA
Inputs	
Number	2
Type	Phototransistors
Outputs	
Number	2
Type	250 VAC/30 VDC 5 A
Communication	
Link	RS485
Type	2...3 half duplex wimmres
Protocol	MODBUS RTU
MODBUS® speed	2400 ... 38400 bauds
Operating conditions	
Operating temperature	- 25 ... + 55 °C
Storage temperature	- 40 ... + 70 °C
Relative humidity	95 %
Altitude	2000 m

Wires (low-voltage)

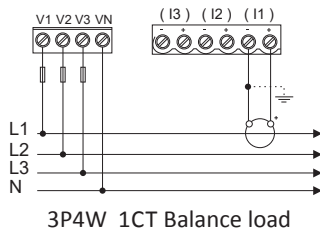


MULTIS M-18

DIGITAL MULTIFUNCTION POWER METER

three phases – via CT up to 9999A dimensions 96 * 96 mm

Wires (high-voltage)



Reference

Basic Device	Multis M-18 No. Reference	Price List
Multis M-18	192J9060	3.278.400

Expert Services

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MULTIS L50

Digital panel meter

three-phases - via CT up to 6000 A dimensions 96 x 96 mm



MULTIS L50

The solution for

- > Industry
- > Infrastructure



Strong points

- > Large backlit LCD display
- > Direct display of multimeasurement and metering values
- > RS485 MODBUS communication
- > Inputs/Output for control/command or pulses

Conformity to standards

- > IEC 62053-21 class 1
- > IEC 62053-23 class 2



Function

The MULTIS L50 is a panel mounted digital meter displaying multi-measurement and energy values directly on its large backlit LCD display. It is designed for utilisation on three-phase or single-phase networks with connection via CT and is suitable for applications of up to 6000 A. The product can be configured by the user via the keypad and the display.

Advantages

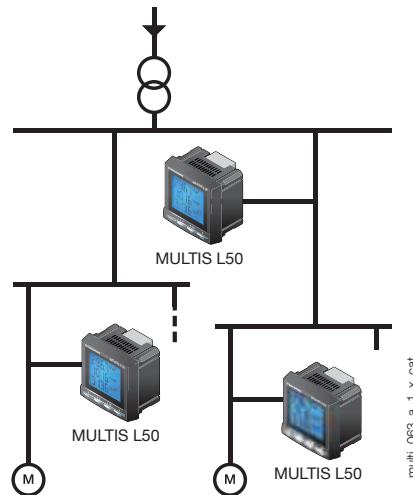
Easy to use

Thanks to its large backlit LCD display and its multiple viewing screens with direct pushbutton access, MULTIS L50 provide clear readings and are easy to use. They directly display a number of multi-measurement and metering values.

Advanced functionalities

The MULTIS L50 offers input/output functions as standard and has a pulse output or RS485 MODBUS communication output.

Principle diagram



Functions

Multi-measurement

- Currents
 - instantaneous: I1, I2, I3, In
 - maximum average: I1, I2, I3, In
- Voltages & frequency
 - instantaneous: V1, V2, V3, U12, U23, U31, F
- Power
 - instantaneous: 3P, ΣP, 3Q, ΣQ, 3S, ΣS
 - maximum average: ΣP, ΣQ, ΣS
 - unbalance: U unb
- Power factors
 - instantaneous: 3PF, Σ

Metering

- Active energy: ± kWh
- Reactive energy: ± kvarh
- Hours: ⌚

Harmonic analysis

- Total harmonic distortion (level 51)
 - Currents: thd I1, thd I2, thd I3
 - Phase-to-neutral voltage: thd V1, thd V2, thd V3
 - Phase-to-phase voltage: thd U12, thd U23, thd U31

Communications⁽¹⁾

RS485 with MODBUS protocol

Output

- Remote command of device
- Pulse report

Inputs

- Remote status device

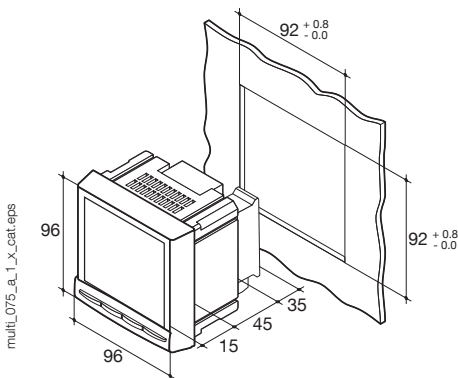
(1) Available as an option (see the following pages).

Front panel



1. Backlit LCD display.
2. Direct access key for currents (instantaneous and max. values), current THD.
3. Direct access key for voltages, frequency and voltage THD.
4. Pushbutton for active, reactive, and apparent power (instantaneous and max. values) and power factor.
5. Direct access key for energies, hour meter and programming menu.

Case



Type	panel mounting
Dimensions W x H x D	96 x 96 x 60 mm
Case degree of protection	IP30
Front degree of protection	IP52
Display type	backlit LCD display
Terminal block type	fixed or plug-in
Voltage and other connection cross-section	0.2 ... 2.5 mm ²
Current connection cross-section	0.5 ... 6 mm ²
Weight	400 g

Plug-in modules

MULTIS L50



1 Output

- 1 output assignable to:
- Pulses: configurable (type, weight, duration) in kWh or kvarh.
 - Remote command of device.



Communication

RS485 link with JBUS / MODBUS protocol (speed up to 38400 bauds)



3 inputs, 1 output

- 3 inputs assignable to:
- Remote status device.
- 1 output assignable to:
- Pulses: configurable (type, weight, duration) in kWh or kvarh.
 - Remote command of device.

Accessories

Current transformers



IP65 protection



Panel mounting kit for a 144 x 96 mm cut-out



MULTIS L50

Digital panel meter

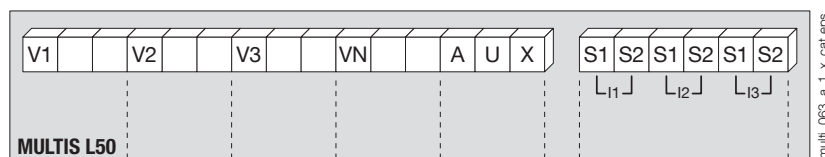
three-phases - via CT up to 6000 A dimensions 96 x 96 mm

Electrical characteristics

Current measurement (TRMS)	
Via CT primary	9 999 A
Via CT secondary	5 A
Measurement range	0 ... 11 kA
Input consumption	0.6 VA
Measurement updating period	1 s
Accuracy	1%
Permanent overload	6 A
Intermittent overload	10 I _n for 1 s
Voltage measurements (TRMS)	
Direct measurement between phases	50 ... 500 VAC
Direct measurement between phase and neutral	28 ... 289 VAC
Input consumption	≤ 0.1 VA
Measurement updating period	1 s
Accuracy	1%
Permanent overload	800 VAC
Power measurement	
Measurement updating period	1 s
Accuracy	1%
Power factor measurement	
Measurement updating period	1 s
Accuracy	1%
Frequency measurement	
Measurement range	45 ... 65 Hz
Measurement updating period	1 s
Accuracy	0.1 %

Energy accuracy	
Active (according to IEC 62053-21)	Class 1
Reactive (according to IEC 62053-23)	Class 2
Auxiliary power supply	
Alternating voltage	110 ... 250 VAC
AC tolerance	± 10 %
Direct voltage	120 ... 250 VDC
DC tolerance	± 10%
Frequency	50 / 60 Hz
Consumption	10 VA
Pulse or alarm output	
Number	1
Type	100 VDC - 0.5 A - 10 VA
Max. number of operations	≤ 10 ⁸
Inputs	
Number	3
Power supply	10 ... 30 VDC
Minimum signal width	10 ms
Minimum duration between 2 pulses	18 ms
Type	Phototransistors
Communication	
Link	RS485
Type	2 ... 3 half duplex wires
Protocol	MODBUS RTU
MODBUS® speed	1400 ... 38400 bauds
Operating conditions	
Operating temperature	- 10 ... + 55 °C
Storage temperature	- 20 ... + 85 °C
Relative humidity	95 %

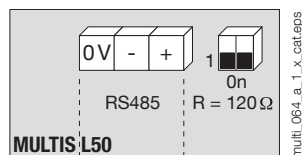
Terminals



S1 - S2: current inputs.

AUX: auxiliary power supply U_s.
V1, V2, V3 & VN: voltage inputs.

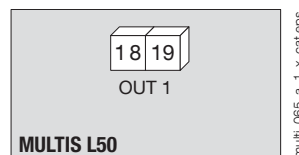
Communication module



RS485 link.

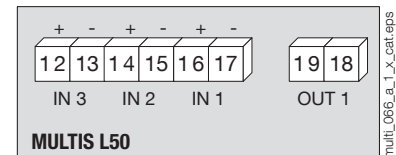
R = 120 Ω: selectable internal resistance for RS485 end of line termination.

Output or alarm module



18 - 19: output n°1

3 inputs, 1 output module



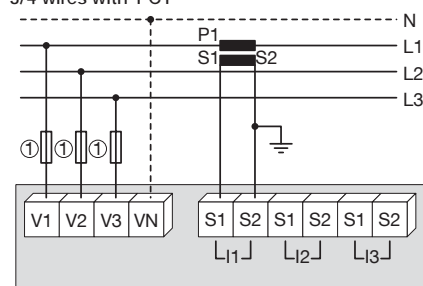
Connection

Recommendation:

- For IT earthing systems, it is recommended that the CT secondary is not connected to earth.
- When disconnecting the DIRIS, the secondary of each current transformer must be short-circuited. This operation can be carried out automatically by a SOCOMEC PTI, an accessory which is included in this catalogue. Please consult us.

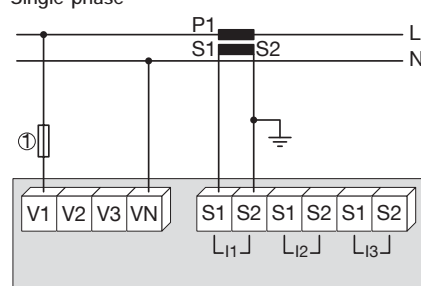
Low voltage balanced network

3/4 wires with 1 CT



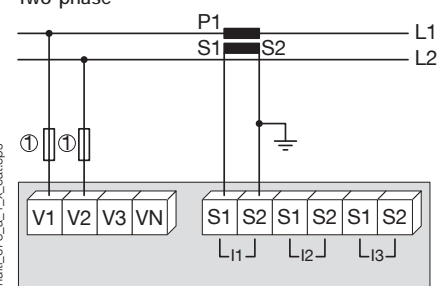
Use of 1 CT reduces by 0.5% the accuracy of the phases, the current of which is worked out by vector calculation.
1. Fuses 0.5 A gG / 0.5 A class CC.

Single-phase



1. Fuses 0.5 A gG / 0.5 A class CC.

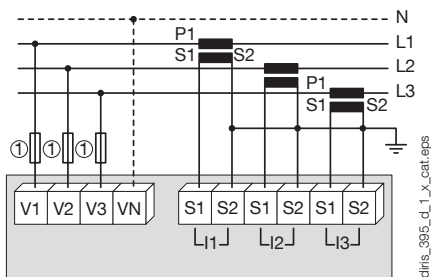
Two-phase



1. Fuses 0.5 A gG / 0.5 A class CC.

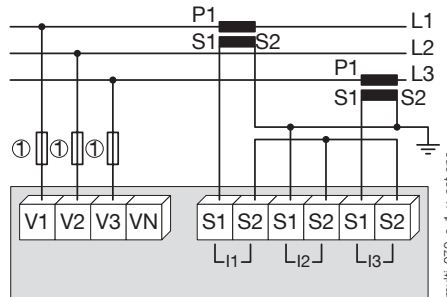
Low voltage unbalanced network

3/4 wires with 3 CTs



1. Fuses 0.5 A gG / 0.5 A class CC.

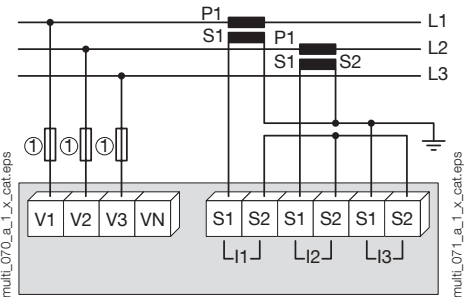
3 wires with 2 CTs



Use of 2 CTs reduces by 0.5% the accuracy of the phases, the current of which is worked out by vector calculation.

1. Fuses 0.5 A gG / 0.5 A class CC.

3 wires with 2 CTs

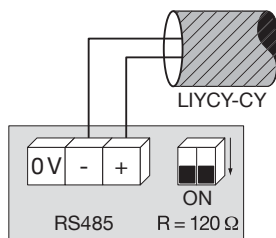


Use of 2 CTs reduces by 0.5% the accuracy of the phases, the current of which is worked out by vector calculation.

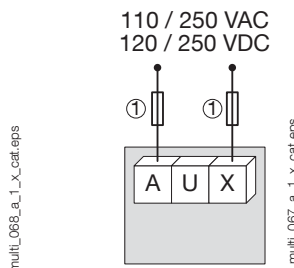
1. Fuses 0.5 A gG / 0.5 A class CC.

Additional information

Communication via RS485 link



AC & DC auxiliary power supply



1. Fuses 0.5 A gG / 0.5 A class CC.

References

Basic Device	Multis L50 No. Reference	Price List
Multis L50	192J9130	2.760.800
Options Plug-in modules	No. Reference	Price List
On/Off output.	48250080	927.900
RS485 MODBUS® communication	48250082	786.600
3 inputs, 1 output	48250083	2.813.500

Expert Services

> Study, definition, advice, implementation, maintenance and training... Our experts "Expert Services" offer complete support for the success of your project.












Selection guide

Active energy meters and pulse concentrators

COUNTIS E

Which type
of network?

Which load
current?

Network - Input current	Single-phase Direct up to 40 A			Single-phase Direct up to 80 A				Three-phase Direct up to 80 A	
									
Active energy meters: <i>COUNTIS E</i>	<i>E00/E02</i>	<i>E03/E04</i>	<i>E05/E06</i>	<i>E11/E12</i>	<i>E13/E14</i>	<i>E15/E16</i>	<i>E17/E18</i>	<i>E21/E22</i>	<i>E23/E24</i>

Main specifications

MID: EN 50470 module B + D certification	• (E02)	• (E04)	• (E06)	• (E12)	• (E14)	• (E16)	• (E18)	• (E22)	• (E24)
RS485 Modbus		•			•				•
M-Bus			•			•			
Ethernet Modbus TCP/RTU							•		
Width	1 module	1 module	1 module	2 modules	2 modules	2 modules	2 modules	4 modules	4 modules
Input voltage	230 VAC	230 VAC	230 VAC	230 VAC	230 VAC	230 VAC	230 VAC	230 ... 400 VAC	230 ... 400 VAC

Functions



Total/partial energy kWh	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•
Active power / Reactive power	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•
Dual tariff for kWh		•	•	•	•	•	•	•	•
Total/partial energy kvarh	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•
kVA		via COM	via COM		•	•	•	•	•
Load curve									
Measurement (I, V, P, Q, S, F and PF)	•	•	•	•	•	•	•	•	•
CT connection indication									
Birectional (energy consumption and production)	•	•	•	•	•	•	•	•	•
Integrated web server							•		
Compatibility with Webview		•			•		•		•

Accuracy

Active energy (IEC 62053-21)	class 1	class 1	class 1	class 1	class 1	class 1	class 1	class 1	class 1
Reactive energy (according to IEC 62053-23)	class 2	class 2	class 2	class 2	class 2	class 2	class 2	class 2	class 2
Active energy (EN 50470)	class B (E02)	class B (E04)	class B (E06)	class B (E12)	class B (E14)	class B (E16)	class B (E18)	class B (E22)	class B (E24)

Characteristics

Metrological LED	•	•	•	•	•	•	•	•	•
Pulse output	100 Wh	100 Wh	100 Wh	100 Wh	100 Wh	100 Wh		100 Wh	100 Wh
Sealing cover (MID version only)	• (E02)	• (E04)	• (E06)	• (E12)	• (E14)	• (E16)	• (E18)	• (E22)	• (E24)
Phase/neutral inversion protection									

		
Pulse concentrator	<i>COUNTIS ECi2</i>	<i>COUNTIS ECi3</i>
Case	4 modules	4 modules
Logical inputs	7	7
Analogue inputs		2
ON/OFF output (alarm)	1	1
Partial, total, daily, weekly or monthly kWh or other types of data (liters, m ³ ...)	•	•
Load curve from 8 to 30 minutes	•	•
RS485 Modbus	•	•



Three-phase Direct up to 80 A		Three-phase Direct up to 100 A			Three-phase CT 1/5 A				Three-phase CT/5 A	
<i>E25/E26</i>	<i>E27/E28</i>	<i>E30/E31/E32</i>	<i>E33/E34</i>	<i>E35/E36</i>	<i>E41/E42</i>	<i>E43/E44</i>	<i>E45/E46</i>	<i>E47/E48</i>	<i>E50</i>	<i>E53</i>
• (E26)	• (E28)	• (E32)	• (E34)	• (E36)	• (E42)	• (E44)	• (E46)	• (E48)		
			•			•				•
•				•			•			
	•							•		
4 modules	4 modules	7 modules	7 modules	7 modules	4 modules	4 modules	4 modules	4 modules	96x96	96x96
230 ... 400 VAC	230 ... 400 VAC	230 ... 400 VAC	230 ... 400 VAC	230 ... 400 VAC	230 ... 400 VAC	230 ... 400 VAC	230 ... 400 VAC	230 ... 400 VAC	86 ... 520 VAC	86 ... 520 VAC
•/•	•/•	•/• (E31)	•/via COM (E34)	•/via COM (E36)	•/•	•/•	•/•	•/•	•/•	•/•
•/•	•/•	•/-	•/via COM	•/via COM	•/•	•/•	•/•	•/•	•/•	•/•
•	•	• (E31/E32)	up to 4 via com	up to 4 via com	•	up to 4 via com	up to 4 via com	up to 4 via com	•	•
•/•	•/•		via COM	via COM	•/•	•/•	•/•	•/•	•	•
•	•		via COM	via COM	•	•	•	•	•	•
			via COM	via COM		via COM	via COM	via COM		
•	•		via COM	via COM	•	•	•	•	•	•
					•	•	•	•	•	•
•	•		• (E33)	• (E35)	•	•	•	•		
	•							•		
	•		•			•		•		•
class 1	class 1	class 1	class 1	class 1	class 1	class 1	class 1	class 1	class 1	class 1
class 2	class 2				class 2	class 2	class 2	class 2	class 2	class 2
class B (E26)	class B (E28)	class B (E32)	class B (E34)	class B (E36)	class C (E42)	class C (E44)	class C (E46)	class C (E48)		
•	•	•	•	•	•	•	•	•		
100 Wh	100 Wh				configurable	configurable	configurable	configurable		
• (E26)	• (E28)	• (E32)	• (E34)	• (E36)	• (E42)	• (E44)	• (E46)	• (E48)		
		•	•	•				•	•	•

COUNTIS E0X

Active energy meters
Single phase - direct 40 A



The solution for

- > Industry
- > Marinas
- > Shopping centres
- > Data center
- > Camping
- > EV Chargers



Strong Points

- > Compactness
- > Output (pulses)
- > MID certified B+D module
- > RS485 (MODBUS) and M-Bus communication
- > Multi-measurement
- > Bi-directional metering

Conformity to standards

- > IEC 62053-21 class 1
- > IEC 62053-23 class 2
- > IEC 62053-31
- > IEC 62052-11
- > EN 50470-1
- > EN 50470-3



Function

The **COUNTIS E0x** is a modular energy meter displaying energies (kWh and kVArh) and other measurements directly on its backlit LCD display, allowing direct connection up to 40 A. Countis E02, E04 and E06 are also MID-certified.

Models	Model-related specifications
Countis E00	Pulse output
Countis E03	Dual tariff + Pulse output + RS485 MODBUS communication
Countis E04	Dual tariff + Pulse output + RS485 MODBUS communication + MID

References

Description	Type	No. Reference	Price List
Direct 40 A	COUNTIS E00	48503058	1.369.400
Direct 40 A - Dual tariff + RS485 MODBUS communication	COUNTIS E03	48503039	1.851.700
Direct 40 A - Dual tariff + RS485 MODBUS communication + MID	COUNTIS E04	48503040	2.131.400

COUNTIS E1X

Active energy meters
Single-phase - direct 80 A



The solution for

- > Marinas
- > Shopping centers
- > Data centers
- > Industry
- > EV Chargers

Strong Points

- > Compactness
- > Multi-measurement
- > Bi-directional metering
- > RS485 (MODBUS), M-Bus communication, Ethernet or Pulse outputs
- > Multiple communication channels
- > MID certified B+D module

Conformity to standards

- > IEC 62053-21
Class 1
- > IEC 62053-23
Class 2
- > IEC 62053-31
- > IEC 62052-11
- > EN 50470-1
- > EN 50470-3



Function

The **COUNTIS E1x** is a modular energy meter displaying the energies (kWh, kVAh and kVA) and other measurements directly on its backlit LCD display. It is designed for single phase load metering and is used for direct connections of up to 80 A.

Common characteristics :

- > Measurement accuracy 1%.
- > Displayed on backlit screen.
- > Multi-measurement available on display.
- > Compact Dimensions

References

Description	Type	No.Reference	Price List
Direct 80 A + Dual tariff	COUNTIS E11	48503060	4.083.700
Direct 80 A + Dual tariff + MID	COUNTIS E12	48503061	4.274.500
Direct 80 A + Dual tariff + MODBUS communication via RS485	COUNTIS E13	48503043	4.270.700
Direct 80 A + Dual tariff + MODBUS communication via RS485 + MID	COUNTIS E14	48503044	5.101.300
Direct 80 A + Dual tariff + Communication via Ethernet Modbus TCP	COUNTIS E17	48503047	5.770.500
Direct 80 A + Dual tariff + Communication via Ethernet Modbus TCP MID	COUNTIS E18	48503048	6.635.200

COUNTIS E2X

Active energy meters

Three-phase - direct 80 A



The solution for

- > Infrastructure
- > Shopping centers
- > Data centers
- > Industry
- > EV Chargers

Strong Points

- > RS485 (MODBUS), M-Bus, Ethernet or Pulse outputs
- > Multi-tariff
- > MID certified B+D module
- > Multi-measurement on display
- > Bi-directional metering

Conformity to standards

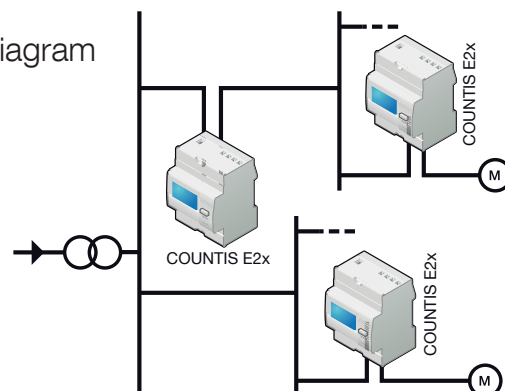
- > IEC 62053-21 Class 1
- > IEC 62053-23 Class 2
- > IEC 62053-31
- > IEC 62052-11
- > EN 50470-1
- > EN 50470-3



Function

The **COUNTIS E2x** is a modular energy meter displaying the energies (kWh, kVAh and kVA) and other measurements directly on its backlit LCD display. It is designed for three phase networks and allows a direct connections of up to 80 A.

Functional diagram



References

Description	Type	No. Reference	Price List
Direct 80 A + Dual tariff	COUNTIS E21	48503062	4.562.100
Direct 80 A + Dual tariff + MODBUS communication via RS485	COUNTIS E23	48503050	6.145.200
Direct 80 A + Dual tariff + Communication via Ethernet Modbus TCP	COUNTIS E27	48503054	7.989.100
Direct 80 A + Dual tariff + Communication via Ethernet Modbus TCP MID	COUNTIS E28	48503055	9.186.700

COUNTIS E3X

Active energy meters
Three-phase - direct 100 A



The solution for

- > Infrastructure
- > Industry
- > Data center

Strong Points

- > RS485 (MODBUS), M-Bus, Ethernet or Pulse outputs
- > Detection of connection errors
- > MID certified B+D module
- > Bi-directional metering
- > Multi-measurement and load curve

Conformity to standards

- > IEC 62053-21
Class 1
- > IEC 62053-31
- > IEC 62052-11
- > EN 50470-1
- > EN 50470-3



Function

The **COUNTIS E3x** is a modular energy meter displaying the energy and power consumed (kWh and kW) directly on its backlit LCD display. It is designed for threephase load metering and is used for direct connections of up to 100 A. COUNTIS E32, E34 and E36 are MID certified.

References

Description	Type	No. Reference	Price List
Direct 80 A	COUNTIS E30	48503005	6.119.600
Direct 80 A + Dual tariff	COUNTIS E31	48503006	6.584.100
Direct 80 A + Dual tariff + MID	COUNTIS E32	48503007	7.570.900
Direct 80 A + Dual tariff + MODBUS communication via RS485 ⁽¹⁾	COUNTIS E33	48503012	7.599.800
Direct 80 A + Dual tariff + MODBUS communication via RS485 + MID ⁽¹⁾	COUNTIS E34	48503013	9.083.700

COUNTIS E4X

Active energy meters

Three-phase - via CT up to 12000 A



The solution for

- > Infrastructure
- > Industry
- > Data center

Strong Points

- > RS485 (MODBUS), M-Bus, Ethernet or Pulse outputs
- > Detection of connection errors
- > MID certified B+D module
- > Bi-directional metering
- > Multi-measurement and load curve

Conformity to standards

- > IEC 62053-21
Class 1
- > IEC 62053-23
Class 2
- > IEC 62053-31
- > IEC 62052-11
- > EN 50470-1
- > EN 50470-3



Function

The **COUNTIS E4x** is a modular electrical energy meter displaying the energies (kWh, kVAh and kVA) and other measurements directly on its backlit LCD display. It is designed for three-phase load metering with connection via CT and is suitable for applications of up to 12000 A. COUNTIS E42, E44, E46 and E48 are MID certified.

References

Description	Type	No. Reference	Price List
Via CT + Dual tariff	COUNTIS E41	48503063	4.726.100
Via CT + Dual tariff + MID	COUNTIS E42	48503064	6.971.100
Via CT + Dual tariff + MODBUS communication via RS485 ⁽¹⁾	COUNTIS E43	48503065	5.277.600
Via CT + Dual tariff + MODBUS communication via RS485 + MID ⁽¹⁾	COUNTIS E44	48503066	6.195.500
Via CT + Dual tariff + M-Bus communication ⁽¹⁾	COUNTIS E45	48503067	8.030.100
Via CT + Dual tariff + M-Bus communication + MID ⁽¹⁾	COUNTIS E46	48503068	9.085.400

⁽¹⁾ 4 tariffs through RS485 communication

COUNTIS E5x

Active energy meters for electrical distribution

three-phase – connect to current transformers up to 6000 A – door-mounted



COUNTIS E53 - up to 6000 A (via CT)

The solution for

- > Data centre
- > Building
- > Industrial process



Strong points

- > RS485 (MODBUS) communication or pulse outputs
- > Detection of connection errors
- > Large backlit screen
- > Multi-power monitoring and meter readings on-screen
- > Socomec monitoring ecosystem: user software, remote displays

Compliance with standards

- > IEC 62053-23 Class 2
- > IEC 62053-22 Class 0.5S
- > IEC 61557-12



Measurement index

- > 210

Related software

- > We offer a range of specially designed application tools, to help you make the most of your Socomec metering and monitoring devices.

Associated current transformers



See "Current transformers".

Function

The COUNTIS E5x is an active and reactive plug-in electrical energy meter intended for three-phase networks. It accommodates CT wiring up to 6000 A.

The COUNTIS E5x is fully integrated into the SOCOMEC monitoring ecosystem (Webview, screens, gateways, configuration software, etc.).

The user can configure the CT connection by using the keyboard and the display.

Advantages

RS485 (MODBUS) communication or pulse outputs

As an easy way to centralise your consumption readings, the COUNTIS E5x is equipped with either a pulse output or an RS485 MODBUS communication output.

Detection of connection errors

The COUNTIS E5x is protected against phase/neutral inversion and has an integrated test mode to detect wiring errors. Any installation errors can be corrected without having to re-arrange the wiring.

Easy to install and commission – reduces costs and ensures the proper functioning of the devices.

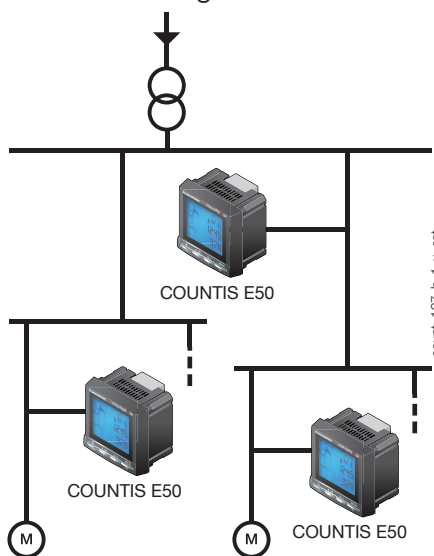
Large backlit screen

With its multi-display screen and hotkeys, the COUNTIS E5x is easy to use. It shows you your consumption and a wide range of electrical readings: I, U, V, S, FP, etc.

Multi-power monitoring and meter readings on-screen

- Multi-power monitoring:
Currents: realtime: I1, I2, I3
Voltages: realtime: V1, V2, V3, U12, U23, U31, F
Power: realtime 3P, 3Q, 3S, average, maximum: 3P
Power factor: realtime: 3PF

Functional diagram



- Metering:
Active power: \pm kWh
Reactive power: \pm kvarh
Apparent power: kVAh

Socomec monitoring ecosystem: user software, remote displays

Inherent compatibility with energy management systems and Socomec gateways (Webview, screens, gateways, etc.).

General characteristics

- Measurement accuracy: 0.5%.
- Large backlit screen.
- Shows multi-measurement and meter readings on-screen.
- Connection guaranteed.

Description	Type	No. Reference	Price List
Pulse output	COUNTIS E50	48503010	5.596.500
RS485 MODBUS communication ⁽¹⁾ Management software for COUNTIS	COUNTIS E53	48503011	5.880.600

⁽¹⁾ 4 tariffs through RS485 communication

COUNTIS ECix

Multi-utility Pulse Concentrator



The solution for

- > Infrastructure
- > Data center

Strong Points

- > Compact
- > Detection of connection errors
- > Advanced multi-measurement

Conformity to standards

- > IEC 62053-21 Class 1
- > IEC 62053-31
- > IEC 62053-11



Function

The **COUNTIS ECix** is a multi-utility pulse concentrator which communicates via an RS485 link using MODBUS protocol. It enables pulses from water, gas, compressed air, electricity meters and, for the COUNTIS ECi3, the output of analogue sensors (light, temperature, wind etc.) to be registered and stored. All data, ie. total and partial meters and load curves (available for all logical and analogue inputs) can be centralised via RS485 communication using MODBUS protocol.

References

Description	Type	No. Reference	Price List
230 / 400 VAC	COUNTIS ECi2	48530000	6.971.100
230 / 400 VAC + 2 analogue inputs	COUNTIS ECi3	48530001	8.086.200

Description of accessories	Type	No. Reference	Price List
Panel mounting kit	COUNTIS ECi2	192J8015	437.000
	COUNTIS ECi3	192J8015	437.000



COUNTIS M03

Energy meters

Single-phase - direct 45 A



COUNTIS M03

Applications

The solution for

- > Colleges and universities
- > Infrastructures
- > Data centers
- > Shopping centers



Strong points

- > Compact
- > RS485 communication (MODBUS)

Conformity to standards

- > IEC 62052-11
- > IEC 62053-21
- > IEC 62053-23



Overview

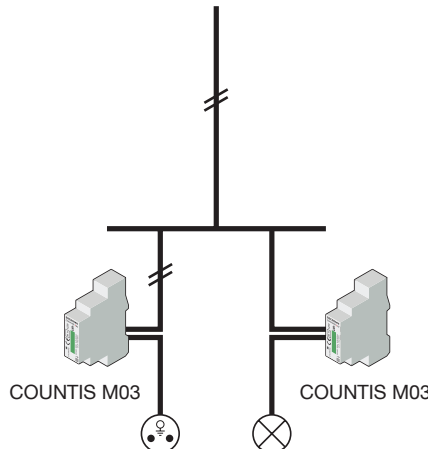
The SOCOMEC COUNTIS M03 Meter is an energy meter designed for single-phase metering and direct connection to 45 A.

With multifunction monitoring and compact size in one module, it supports RS485 communication and is suited to domestic and commercial power distribution systems.

Functions

COUNTIS M03 is a modular electrical energy meter which can display active energy (kWh) and other data on an LCD screen.

The meter is intended to record single-phase load energy, with direct connection to 45 A.



General Characteristics

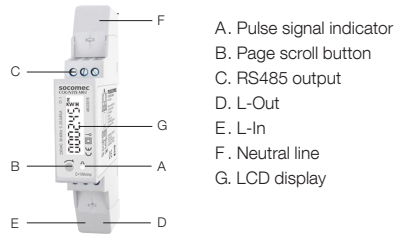
- Compact design
- Measurement accuracy: 1 %
- LCD display

Advantages

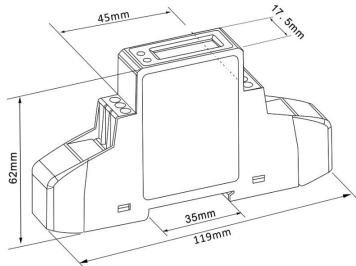
- Compact size, one module.
- RS485 communication (MODBUS).
- Energy values can be remotely transmitted via the communication output to a (PC/BMS/etc.) system for billing analysis, energy saving or energy cost management.

Model	Key functions
M03	MODBUS RS485 communication + 2 pulses output

Panel



Dimensions

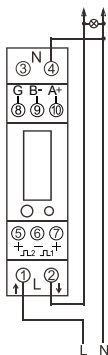


COUNTIS M03	
Type	Modular
No. of modules	1
Dimensions Width x Height x Depth	17.5 x 119 x 62 mm
Case protection rating	IP 20
Panel protection rating	IP 51
Type of display	LCD Backlight
Rigid cable connection section	2,5-10 mm ²
Flexible cable connection section	2,5-10 mm ²
Weight	100 g

Electrical characteristics

COUNTIS M03	
Communication	RS485
Interface	2 wires or 3 half duplex wires
Type	MODBUS [®] RTU
MODBUS speed	1200/2400/4800/9600bps

Connection



Features and technical parameters

Features

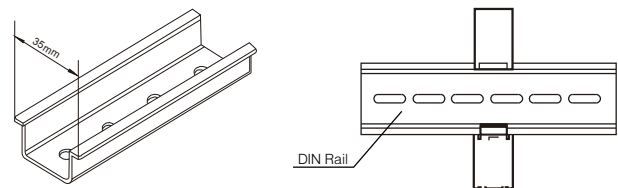
- The meter can calculate the current and active power demand and the maximum demand value
- Standard DIN-RAIL mounting (conforms to German industry standard)
- Direct connection up to 45A current, only 18 mm wide
- RS485 communication supported, protocol: Modbus-RTU
- White backlit LCD screen may be read easily even in low light
- Multi-parameter monitoring: I, V, P, Q, S and P F, etc.
- 2 channels of pulse output (the first can be set)
- Protection rating: IP51 (Interior energy meters)

Technical Parameters

Item	Specification
Standard:	IEC62052-11, IEC62053-21
Rated voltage	230V±20%
Rated current:	5(45) A
Pulse constant:	1: Adjustable; 2: 1Wh/imp
Frequency:	50 / 60 Hz
Accuracy rating:	1.0
Display:	LCD 5+1 = 99999.9 kW
Operating temperature:	-25 ~ +55 °C
Power consumption:	≤ 2W/10VA
Average humidity:	≤ 90 %
Maximum humidity:	≤ 95 %
Startup current:	0.004 Ib
Installation Category:	CAT II
Class of pollution:	2

Mounting instructions

1. Select a 35 mm standard rail (length as required), and secure to the chosen position for mounting.
2. Push the clips down one tooth
3. Fit the meter into the rail, then push the clips up a tooth to mount the meter onto the rail.
4. Connect as shown in the wiring diagram.
5. After connecting, seal the wiring cover with lead seals.



Reference

Description	Type	No. Reference	Price List
1P 45A direct - with Modbus communication via RS485	COUNTIS M03	48C03018	1.278.800



COUNTIS M13

Energy meters

Single-phase - direct 100 A



COUNTIS M13

Applications

Overview

The SOCOMEC COUNTIS M13 Meter is an energy meter designed for single-phase metering and direct connection to 100 A.

With multifunction monitoring and compact size in two modules, it supports RS485 communication and is suited to domestic and commercial power distribution systems.

Functions

COUNTIS M13 is a modular electrical energy meter which can display active energy(kWh) and other data on an LCD screen.

The meter is intended to record single-phase load energy, with direct connection to 100 A.

General Characteristics

- Compact design
- Measurement accuracy: 1%
- LCD display

Advantages

- Compact size, two modules.
- RS485 communication (MODBUS).
- Energy values can be remotely transmitted via the communication output to a (PC/BMS/etc.) system for billing analysis, energy saving or energy cost management.

Model	Key functions
M13	MODBUS RS485 communication

The solution for

- > High Rise Building
- > Infrastructure
- > Data centers
- > Shopping centers

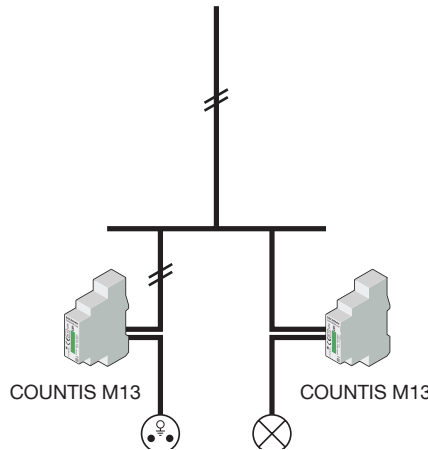


Strong points

- > Compact
- > RS485 communication
- > (MODBUS)

Conformity to standards

- > IEC 62052-11
- > IEC 62053-21
- > IEC 62053-23

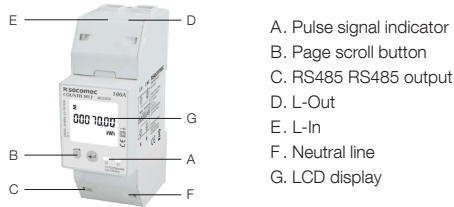


COUNTIS M13

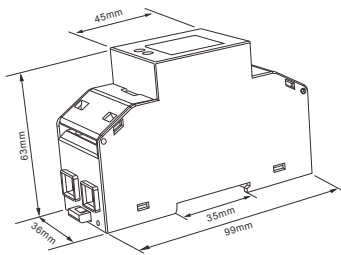
Energy meters

Single-phase - direct 100 A

Panel



Dimensions

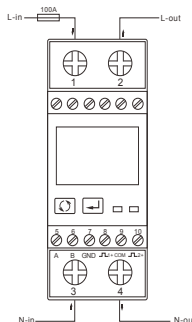


	COUNTIS M13
Type	Modular
No. of modules	2
Dimensions Width x Height x Depth	36 x 99 x 63 mm
Case protection rating	IP 20
Panel protection rating	IP 51
Type of display	LCD Backlight
Rigid cable connection section	4-25 mm ²
Flexible cable connection section	4-25 mm ²
Weight	200 g

Electrical characteristics

	COUNTIS M13
Communication	RS485
Interface	2 wires or 3 half duplex wires
Type	MODBUS® RTU
MODBUS speed	1200/2400/4800/9600bps

Connection



Features and technical parameters

Features

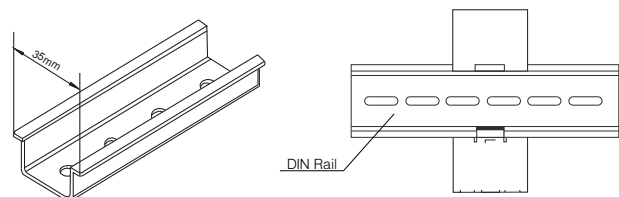
- The meter can calculate the current and active power demand and the maximum demand value
- Standard DIN-RAIL mounting (conforms to German industry standard)
- Direct connection up to 100A current, only 36 mm wide
- RS485 communication supported, protocol: Modbus-RTU
- White backlit LCD screen may be read easily even in low light
- Multi-parameter monitoring: I, V, P, Q, S and P F, etc.
- 2 channels of pulse output (the first can be set)
- Protection rating: IP51 (Interior energy meters)

Technical Parameters

Item	Specification
Standard:	IEC62052-11, IEC62053-21
Rated voltage:	230V±20%
Rated current:	10(100) A
Pulse constant:	1: Adjustable; 2: 1Wh/imp
Frequency:	50 / 60 Hz
Accuracy rating:	1.0
Display:	LCD 6+1 = 999999 kW
Operating temperature:	-25 ~ +55 °C
Power consumption:	≤ 2W/10VA
Average humidity:	≤ 90 %
Maximum humidity:	≤ 95 %
Startup current:	0.004 lb
Installation Category:	CAT II
Class of pollution:	2

Mounting instructions

1. Select a 35 mm standard rail (length as required), and secure to the chosen position for mounting.
2. Push the clips down one tooth.
3. Fit. 3, fit the meter into the rail, then push the clips up a tooth to mount the meter onto the rail.
4. Connect as shown in the wiring diagram.
5. After connecting, seal the wiring cover with lead seals.



References

Description	Type	No. Reference	Price List
1P 100A direct - with Modbus communication via RS485	COUNTIS M13	48C03019	1.363.800



COUNTIS M33

Energy meters

Three-phase - direct 100 A



COUNTIS M33

Applications

Overview

COUNTIS M33 is a three Phase four-wire energy meter can be directly connected to 100A current. Used for accumulating active and reactive power and storing this data in tables in memory, monitor demand and total harmonic distortion.

Functions

COUNTIS M33 is a modular active electrical energy meter which can directly display both total active (kWh) and reactive energy (kvarh) on a backlit LCD screen. This series of products is intended for three phase load metering for direct connections to 100 A.

General Characteristics

- Compact design
- Measurement accuracy: 1 %
- Backlit LCD display

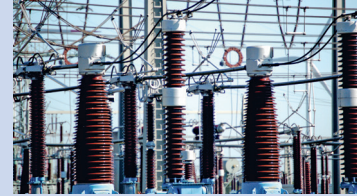
Advantages

- RS485 communication (MODBUS) or pulse output.
- To enable remote transmission of energy consumption, the COUNTIS M33 offers pulse output and RS485 communication output featuring the Modbus protocol.
- In addition, for the remote transmission function, COUNTIS M33 with RS485 products can be configured remotely and collect multiple electrical parameters.
- Multi-parameter measurement and load curves.
- Multiple electrical parameters (I, U, V, P, Q, S, PF).

Model	Key functions
M33	RS485 MODBUS communication +2pulse outputs

The solution for

- > Industry
- > Public buildings
- > High Rise Building

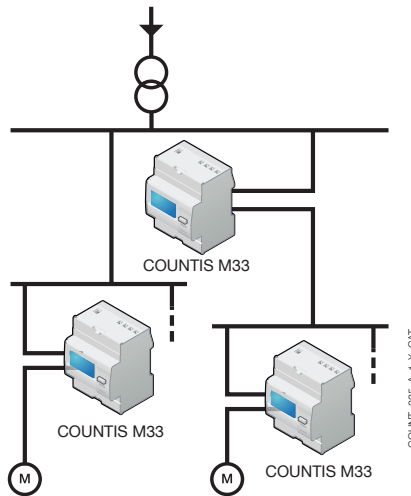


Strong points

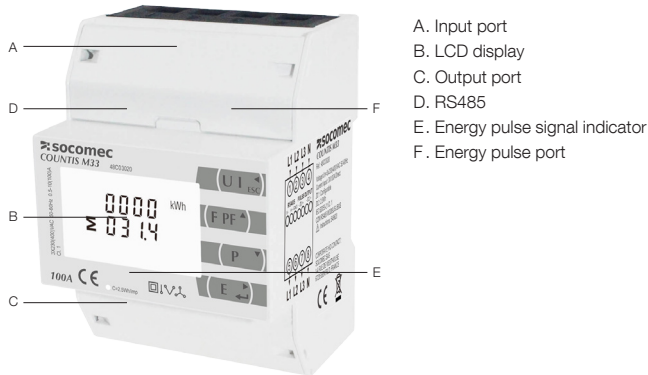
- > RS485 communication (MODBUS) and pulse output
- > Multi-parameter measurement and load acquisition

Conformity to standards

- > IEC 62052-11
- > IEC 62053-21
- > IEC 62053-23



Front panel

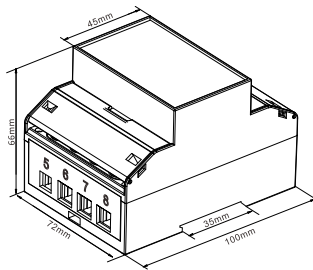


Features and technical parameters

Features

- Measure three-phase active and reactive energy, analyse power quality and load conditions
- Standard DIN-RAIL mounting (conforms to German industry standard)
- Direct input of 100 A current
- RS485 communication supported, protocol: Modbus-RTU
- Demand and maximum demand, total harmonic distortion
- LCD backlit for easy power readings in low light
- Multi-parameter monitoring: I, V, P, Q, S and P F, etc.
- Protection rating: IP51 (Interior energy meters)

Dimensions



Type	Modular
No. of modules	4
Dimensions Width x Height x Depth	72 x 100 x 66 mm
Case protection rating	IP20
Panel protection rating	IP51
Type of display	Backlit LCD display
Rigid cable connection section	4-25 mm ²
Flexible cable connection section	4-25 mm ²

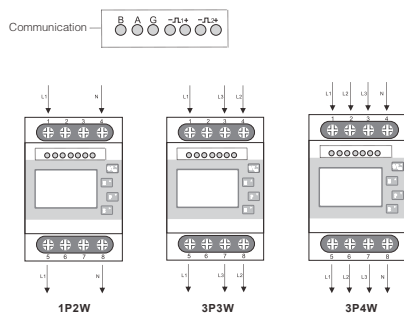
Technical parameters

Item	Specification
Standard:	IEC 62052-11, IEC62053-21
Rated voltage:	3 x 230/400V±20%
Nominal (maximum) current:	10(100)A
Pulse constant:	1: Adjustable; 2: 2.5Wh/imp
Frequency:	50 / 60 Hz
Accuracy rating:	1.0
Display:	LCD
Operating temperature:	-25 ~ +50°C
Storage temperature:	-40 ~ +70°C
Power consumption:	<2W/10VA
Operating humidity:	≤90%
Start current:	0.004Ib

Electrical characteristics

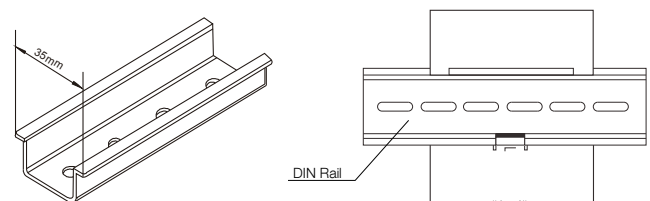
Communication	
Interface	RS485
Type	2 wires or 3 half duplex wires
Protocol	MODBUS RTU
MODBUS [®] speed	2400-38400bps

Connection



Mounting instructions

1. Select a 35 mm standard rail (length as required), and secure to the chosen position for mounting.
2. Push the clips down one tooth.
3. Fit the meter into the rail, then push the clips up a tooth to mount the meter onto the rail.



References

Description	Type	No. Reference	Price List
3P 100A direct - with Modbus communication via RS485	COUNTIS M33	48C03020	2.765.200



COUNTIS M43

Energy meters

Three-phase - up to 6000 A via CT



COUNTIS M43

Applications

Overview

SOCOME C COUNTIS M43 Meter is a three-phase four-wire rail-mounted energy meter, able to measure both active and reactive energy via CT connection. It has one RS485 communication.

Functions

The COUNTIS M43 utilizes a modular design, with both active and reactive energy value (kWh, kvarh) directly displayed on a backlit LCD monitor. This series of meters works in three-phase electricity networks via CT input.

General Characteristics

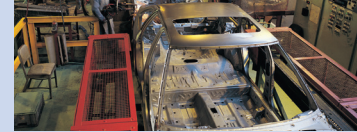
- Compact design
- Measurement accuracy: 0.5%
- LCD display

Advantages

- To enable remote transmission of energy consumption, the COUNTIS M43 series of products offers pulse output and RS485 communication output (using MODBUS).
- In addition, for the remote transmission function, COUNTIS M43 with RS485 products can be configured remotely and collect multiple electrical parameters via communication.

The solution for

- > Industry
- > Public buildings
- > High Rise Building

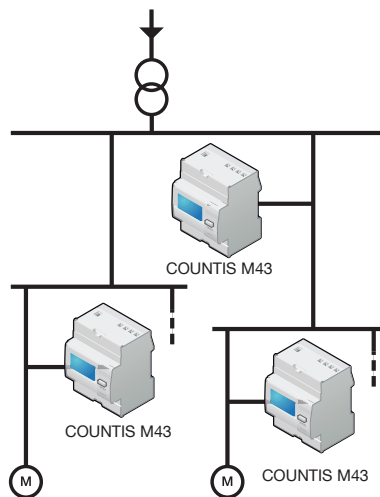


Strong points

- > RS485 communication (MODBUS) and pulse output
- > Multi-parameter measurement

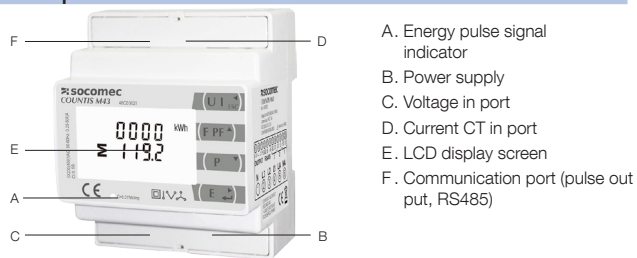
Conformity to standards

- > IEC 62052-11
- > IEC 62053-22
- > IEC 62053-23

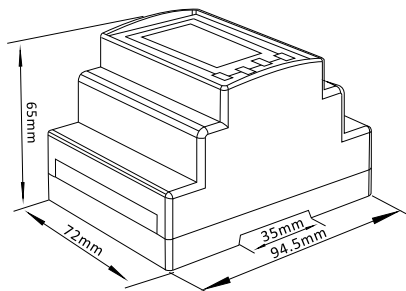


Model	Key functions
M43	RS485 MODBUS communication + 2 pulse outputs

Front panel



Dimensions

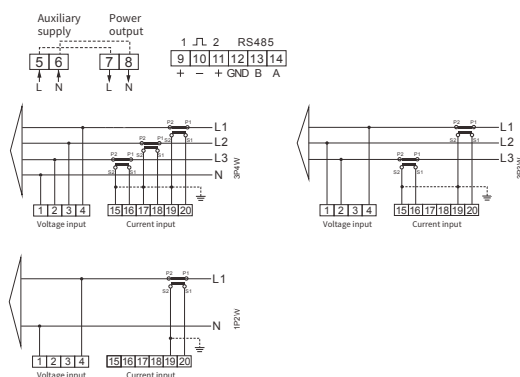


Type	Modular
Quantity	4
Dimensions Width x Height x Depth	72 x 94.5 x 65 mm
Case protection rating	IP20
Panel protection rating	IP51
Type of display	LCD
Rigid cable connection section	0.5-2.5 mm ²
Flexible cable connection section	0.5-2.5 mm ²

Electrical characteristics

Communication	
Interface	RS485
Type	2 wires or 3 half duplex wires
Protocol	MODBUS RTU
MODBUS [®] speed	2400-38400bps

Connection



Features and technical parameters

Features

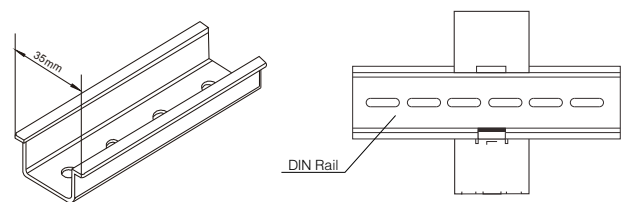
- Measure three-phase active and reactive energy, analyse power quality and load conditions
- Standard DIN-RAIL mounting (conforms to German industry standard)
- CT input, supports 3×1.5(6)A
- RS485 communication supported, protocol: Modbus-RTU
- Demand and maximum demand, total harmonic distortion
- LCD backlit for easy power readings in low light
- Multi-parameter monitoring: I, V, P, Q, S and P F, etc.
- Protection rating: IP51 (Interior energy meters)

Technical Parameters

Item	Specification
Standard:	IEC 62052-11, IEC62053-22
Rated voltage:	3 x 230/400V±20%
Nominal (maximum) current:	5(6)A
Pulse constant:	1: Adjustable; 2: 0.3Wh/imp
Frequency:	50 / 60 Hz
Accuracy rating:	0.5S
Display:	LCD
Operating temperature:	- 25 ~ +55°C
Storage temperature:	- 40 ~ +70°C
Power consumption:	< 2W/10VA
Average humidity:	≤ 90%
Startup current:	0.002In

Mounting instructions

1. Select a 35 mm standard rail (length as required), and secure to the chosen position for mounting.
2. Fit the meter into the rail and pull the spring clips down.
3. Let the clips go to mount the meter onto the rail.
4. Connect as shown in the wiring diagram
5. Once connected, screw on the cover.



References

Description	Type	No. Reference	Price List
3P CT input - with Modbus communication via RS485	COUNTIS M43	48C03021	2.466.500

Integrated technologies

Groundbreaking technologies for greater simplicity and performance



PreciSense

Products that are setting new standards in measurement accuracy

The PreciSense technology ensures 100% reliable accuracy across the global measurement chain.

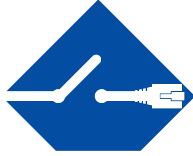
Be guaranteed of the accuracy of your measurements:

- for the global measurement chain,
- for reliable measurements,
- for relevant corrective actions.

PreciSense offers the best accuracy on the market regardless of the type of current sensors used (solid core, split core, flexible or embedded in the DIRIS Digiware S module).



Discover the video



VirtualMonitor

The simple and cost-saving solution for monitoring your protective devices

The VirtualMonitor technology enables an advanced monitoring of protective devices at all levels within the electrical installation.

Virtual Monitor:

- detects the position and status of the protective device,
- detects if the breaker has tripped,
- counts the number of operations and trips.

VirtualMonitor technology monitors the status of protective devices:

- On your entire electrical installation (without additional space).
- Remotely and in real-time.
- Without additional hardware or wiring (without adding auxiliary contacts).



Discover the video



AutoCorrect

Software elimination of wiring errors

The AutoCorrect technology ensures that the measurement is properly wired at all times, thus avoiding on-site interventions.

AutoCorrect ensures the operation of the proper measuring system thanks to simple and rapid detection of wiring errors:

- automatic wiring control (voltage/current phase association),
- correction of errors with a single click,
- feature available off-load.

Error correction's are carried out without any physical modification to the wiring.



Discover the video



PreciSense, VirtualMonitor and AutoCorrect technologies are embedded in Socomec's power monitoring solutions.

Power metering and monitoring system for AC electrical installations

- DIRIS Digiware S with its 3 integrated sensors and DIRIS Digiware I associated with iTR sensors.



Multifunction meters

- DIRIS A-40 with iTR sensors.






Selection guide

Power monitoring system AC DIRIS Digiware AC

Build your own AC system

System interface, displays and gateways
(24 VDC)


or

or


DIRIS Digiware D display
DIRIS Digiware M gateway
DIRIS Digiware C RS485 interface




Voltage acquisition module

DIRIS Digiware U

Current acquisition module with integrated sensors

DIRIS Digiware S

Current acquisition modules

DIRIS Digiware I-3x 3 inputs
DIRIS Digiware I-4x 4 inputs
DIRIS Digiware I-6x 6 inputs

Current sensors





TE Solid
TR/iTR Split-core
TF Flexible

Digital and analogue input/output modules

DIRIS Digiware IO





Find the best DIRIS Digiware configuration!





The Socomec Meter Selector is your digital assistant, helping you find the best DIRIS Digiware configuration for your power monitoring projects, and all in just a few clicks!

- Fill in information regarding your project.
- Download the system diagram and bill of material.
- All your projects are archived in your personal account.

Control and power supply interface

Application	Centralisation and display of data				Data centralisation	Repeater
						
DIRIS Digiware	<i>D-50</i>	<i>D-70</i>	<i>M-50</i>	<i>M-70</i>	<i>C-31</i>	<i>C-32</i>
Function						
Centralising measurement points	•	•	•	•	•	
High-resolution LCD display (configuration, selection and visualisation display of circuits)	•	•				
Repeater						•
Power supply						
24 VDC	•	•	•	•	•	•
Communication						
RS485 Modbus	Input/Output	Input/Output	Input/Output	Input/Output	Output	
Digiware bus	•	•	•	•	•	•
Bluetooth	•	•	•	•		
Ethernet	Modbus TCP BACnet IP SNMP	Modbus TCP BACnet IP SNMP	Modbus TCP BACnet IP SNMP	Modbus TCP BACnet IP SNMP		
Embedded web server	WEB-CONFIG	WEBVIEW-M	WEB-CONFIG	WEBVIEW-M		

Voltage acquisition module








Application	Metering	Analysis
		
DIRIS Digiware U	<i>U-10</i>	<i>U-30</i>
Multi-measurement		
U12, U23, U31, V1, V2, V3, f	•	•
U system, V system		•
Ph/N unbalance		•
Ph/Ph unbalance		•
Quality analysis		
THDv1, THDv2, THDv3, THDu12, THDu23, THDu31		•
Crest factors V1, V2, V3, U12, U23, U31		•
Individual harmonics U & V (up to 63rd)		•
Voltage dips, interruptions and swells (EN50160)		•
Alarms		
On threshold		•
History		
Average values		•
Format		
Width/number of modules	18 mm / 1	18 mm / 1

Selection guide



Power monitoring system AC

DIRIS Digiware AC

Current acquisition modules








Application	Metering		Analysis	Monitoring	Analysis	Metering	
							
DIRIS Digiware I	I-30	I-31	I-35	I-43	I-45	I-60	I-61
Number of current inputs	3	3	3	4	4	6	6
Metering							
± kWh, ± kvarh, kVAh	•	•	•	•	•	•	•
Load curves		•	•		•		•
Multi-tariff		•	•		•		•
Multi-measurement							
I1, I2, I3, In, ΣP, ΣQ, ΣS, ΣPF	•	•	•	•	•	•	•
P, Q, S, PF per phase		•	•	•	•		•
Predictive power			•		•		
Current unbalance (Inba, Idir, Iinv, Ihom, Inb)			•		•		
Phi, cos Phi, tan Phi			•		•		
Quality							
THDi1, THDi2, THDi3, THDin			•	•	•		
Individual harmonics I (up to 63rd)			•		•		
Crest factors I1, I2, I3, In			•		•		
Overcurrents			•		•		
Alarms							
On threshold			•		•		
Inputs/outputs				2/2	2/2		
History							
Average values			•		•		
Format							
Width/number of modules	18 mm / 1	18 mm / 1	18 mm / 1	27 mm / 1.5	27 mm / 1.5	36 mm / 2	36 mm / 2

Current acquisition module with integrated sensors

Application	Metering	Analysis
		
DIRIS Digiware S	S-130	S-135
Number of current inputs	3	3
Basic current I_b	10 A	10 A
Maximum current I_{max}	63 A	63 A
Load type accepted	1P + N 2P / 2P + N 3P / 3P + N	1P + N 2P / 2P + N 3P / 3P + N
Metering		
± kWh, ± kvarh, kVAh	•	•
Multi-tariff (max 8)		•
Load curves		•
Multi-measurement		
$I_1, I_2, I_3, I_n, \Sigma P, \Sigma Q, \Sigma S, \Sigma PF$	•	•
P, Q, S, PF per phase		•
Predictive power		•
Current unbalance ($I_{nba}, I_{nb}, I_{dir}, I_{linv}, I_{hom}$)		•
Phi, cos Phi, tan Phi		•
Quality		
THDi1, THDi2, THDi3, THDin		•
Individual harmonics I (up to 63rd)		•
Crest factors U, V, I		•
K factor		•
Overcurrents		•
Alarms		
Thresholds and combinations		•
Load level		•
Wiring errors		•
Protective device		•
Trends		
Average values		•
Format		
Width	54 mm	54 mm





Current sensors

Suitable for new installations
match the pitch of protective devices

	Solid-core current sensors						
							
	<i>TE-18</i>	<i>TE-25</i>	<i>TE-35</i>	<i>TE-45</i>	<i>TE-55</i>	<i>TE-55</i>	<i>TE-90</i>
Nominal current I_n (A)	5 ... 20	25 ... 63	40 ... 160	63 ... 250	160 ... 630	400 ... 1000	600 ... 2000
Real range covered (A)	0.1 ... 24	0.5 ... 75.6	0.8 ... 192	1.26 ... 300	3.2 ... 756	8 ... 1200	12 ... 2400
Aperture (mm)	Ø 8.4	Ø 8.4	13.5 x 13.5	21 x 21	31 x 31	41 x 41	64 x 64
Dimensions (mm)	28 x 20 x 45	28 x 20 x 45	25 x 32.5 x 65	35 x 32.5 x 71	45 x 32.5 x 86	55 x 32.5 x 100	90 x 126 x 24.6
Connection	RJ12	RJ12	RJ12	RJ12	RJ12	RJ12	RJ12








For currents above 2000 A, the 5A / RJ12 adapter provides compatibility with 1A or 5A secondary CTs.

Suitable for existing installations



	Split-core current sensors			
				
	<i>TR/iTR-10</i>	<i>TR/iTR-14</i>	<i>TR/iTR-21</i>	<i>TR/iTR-32</i>
Nominal current I_n (A)	25 ... 63	40 ... 160	63 ... 250	160 ... 600
Real range covered (A)	0.5 ... 90	0.64 ... 120	1.26 ... 200	4 ... 720
Aperture (mm)	Ø 10	Ø 14	Ø 21	Ø 32
Dimensions (mm)	26 x 44 x 28	29 x 67 x 28	37 x 65 x 43	53 x 86 x 47
Connection	RJ12	RJ12	RJ12	RJ12

For currents above 600 A, the 5A / RJ12 adapter provides compatibility with 1A or 5A secondary CTs.

Suitable for existing installations
with space constraints or
with high currents

	Flexible current sensors						
							
	<i>TF-40</i>	<i>TF-55</i>	<i>TF-80</i>	<i>TF-120</i>	<i>TF-200</i>	<i>TF-300</i>	<i>TF-600</i>
Nominal current I_n (A)	140 ... 400	150 ... 600	150 ... 600	400 ... 2000	600 ... 4000	1600 ... 6000	1600 ... 6000
Real range covered (A)	2 ... 480	3 ... 720	3 ... 720	8 ... 2400	12 ... 4800	32 ... 7200	32 ... 7200
Aperture (mm)	Ø 40	Ø 55	Ø 80	Ø 120	Ø 200	Ø 300	Ø 600
Connection	RJ12	RJ12	RJ12	RJ12	RJ12	RJ12	RJ12

Input/output modules

Application	Metering / monitoring / control	
		
DIRIS Digiware IO	IO-10	IO-20
Number of digital inputs/outputs	4/2	
Number of analogue inputs	2	
Format		
Width/number of modules	18 mm / 1	18 mm / 1

DIRIS Digiware D

Multi-point display and communication gateway
for the DIRIS Digiware system



Configuration
with Easy Config System.



diris-dw_161

DIRIS Digiware D-50/D-70
Centralisation and display of data

The solution for

- > Data centre
- > Healthcare
- > Energy
- > Industry



Strong points

- > Plug & Play
- > Multi-circuit
- > Embedded webserver
- > Advanced connectivity
- > Cybersecurity
- > Email notifications

Compliance with standards

- > IEC 62974-1
(Energy server)



- > IEC 62443
(Cybersecurity)



- > UL 61010
Guide FTRZ/PICQ
File E257746



- > FCC
- > IC

Create your project

- > Find the best DIRIS Digiware configuration:
www.meter-selector.com



Function

With DIRIS Digiware D-50 and D-70 remote displays, you can show data locally from DIRIS Digiware modules and centralise 24 VDC power and communication at a single point. The D-50 and D-70 displays also act as the Ethernet gateway for all the devices connected on the Digiware or RS485 bus, and have an embedded web server to configure the network parameters and remotely display measurement data.

Advantages

Plug & Play

- Direct Digiware and RS485-to-Ethernet gateway.
- Automatic detection of connected devices.
- Easy setup.
- Safety Extra-Low Voltage 24 VDC power supply.

Multi-circuit

Display measurement data from up to 196 circuits on the same screen.
10 capacitive hotkeys to easily select circuits and browse/view simple data.

Embedded webserver

A WEB-CONFIG is embedded in the D-50 display to configure the communication architecture.

WEBVIEW-M is embedded in the D-70 display to view measurements and consumption remotely and licence-free.

Advanced connectivity

- Ethernet output for communication using multiple protocols: Modbus TCP, BACnet IP and SNMP v1, v2, v3 (encrypted) to suit any metering and power monitoring application.
- Options include configuring as an RS485 slave to communicate measurement data to a second PLC.

Displays D-50 and D-70 also feature:

- bluetooth connectivity for gathering and viewing data from environmental sensors;
- added memory for connected devices;
- automated export of data to the FTP(S) server;
- email notifications if there is an alarm on one of the connected devices (SMTPS);
- automated updates on all the system devices via SNMP.

Cybersecurity

D-50 and D-70 displays include advanced cybersecurity features in compliance with IEC 62443 standards, to protect the transmission of data and reduce the risk of cyberattacks:





- customised security policy (blocking or restricting certain protocols and services);
- HTTPS secured navigation using TLS/SSL certificates;
- push data transfer (FTPS, SMTPS);
- firewalls and whitelist protocols to guard against denial-of-service attacks.

Email notifications

D-50 and D-70 displays can send email notifications in case of an alarm.

General characteristics

- 96 x 96 mm format with 10 hotkeys.
- 24 VDC power supply
- Modbus RTU/TCP, BACnet IP, SNMP v1, v2, v3 & Traps, HTTPS, FTPS, SMTPS, SNMP, DHCP
- Displays up to 32 devices (max. 196 circuits)
- Free embedded web-based software VFR

Application	Control and power supply interface			
				
DIRIS Digiware	D-50	D-70	D-50 Bluetooth	D-70 Bluetooth
Digiware input	•	•	•	•
RS485 input	•	•	•	•
RS485 output	•	•	•	•
Ethernet output	Modbus BACnet IP SNMP v1, v2, v3	Modbus BACnet IP SNMP v1, v2, v3	Modbus BACnet IP SNMP v1, v2, v3	Modbus BACnet IP SNMP v1, v2, v3
Bluetooth			•	•
Webserver	WEB-CONFIG	WEBVIEW-M	WEB-CONFIG	WEBVIEW-M

Functions



WEBVIEW-M

Embedded web server in the DIRIS Digiware D-70 display

WEBVIEW-M allows the display and remote monitoring of all the electric parameters measured by up to 32 devices. They are displayed in the form of overview screens, graphs or tables for clear and user-friendly analysis.

Access to WEBVIEW is made by a web browser on a PC or tablet and offers multiple features such as the automatic export of data via FTPS or e-mail notification in the presence of alarms (SMTPS).

The Photoview application is available via the WEBVIEW interface embedded in the DIRIS Digiware D-70 display. It allows the display of electrical quantities on a customised background picture such as a cabinet, a wiring diagram or the map of a site.

Accessories

DIN rail mounting kit

The accessory allows you to install the DIRIS Digiware D-50/D-70 display on a DIN rail.

This kit is not included with the displays and must be ordered separately.



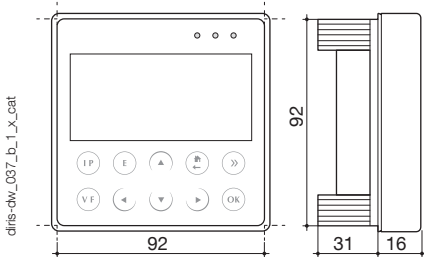
DIRIS Digiware D

Multipoint display and communication gateway

for the DIRIS Digiware system

Dimensions (mm)

DIRIS Digiware D-50/D-70



Configuration

Equipment consumption

Product	Power delivered (W)	Power consumed (W)
Power supply		
P15 100-240 VAC / 24 VDC	15	
P30 100-240 VAC / 24 VDC	20	
Cables		
50 metre package		1.5
System interfaces		
DIRIS Digiware D-50/D-70		2.5
DIRIS Digiware C-31		0.8
Module voltage		
DIRIS Digiware U-xx		0.72
DIRIS Digiware U-3xdc		0.6
Current modules		
DIRIS Digiware I-3x		0.52
DIRIS Digiware I-4x		1.125
DIRIS Digiware I-6x		0.7
DIRIS Digiware I-3xdc (+ 3 DC current sensors)		2
DIRIS Digiware S-xx		0.35
Input/output modules		
DIRIS Digiware IO-10/IO-20		0.5
Repeater		
DIRIS Digiware C-32		1.5

Calculation rules for the max. number of products on the Digiware Bus

The total power consumed by the equipment connected to the Digiware Bus must not exceed the power from the 24 VDC supply.

The power supply must not exceed 20 W/70 °C or 27 W/40 °C.

Size with P15 power supply (ref: 4829 0120) delivering 15 W

For example, it is possible to use

- 1 DIRIS Digiware D-50 display (2.5 W)
- 1 DIRIS Digiware voltage module U-xx (0.72 W)
- 50 metres of cable (1.5 W)

and

- 19 DIRIS Digiware current modules I-3x (19 x 0.52 = 9.9 W)
- ⇒ **Total power = 14.845 W**

or

- 9 DIRIS Digiware current modules I-4x (9 x 1.125 = 10.125 W)
- ⇒ **Total power = 14.345 W.**

Size with a 24 VDC power supply delivering a maximum of 20 W

(Power supply P30 ref: 4729 0603)

For example, it is possible to use

- 1 DIRIS Digiware D-50 display (2.5 W)
- 1 DIRIS Digiware voltage module U-xx (0.72 W)
- 50 metres of cable (1.5 W)

and

- 29 DIRIS Digiware current modules I-3x (29 x 0.52 = 15.1 W)
- ⇒ **Total power = 19.82 W**

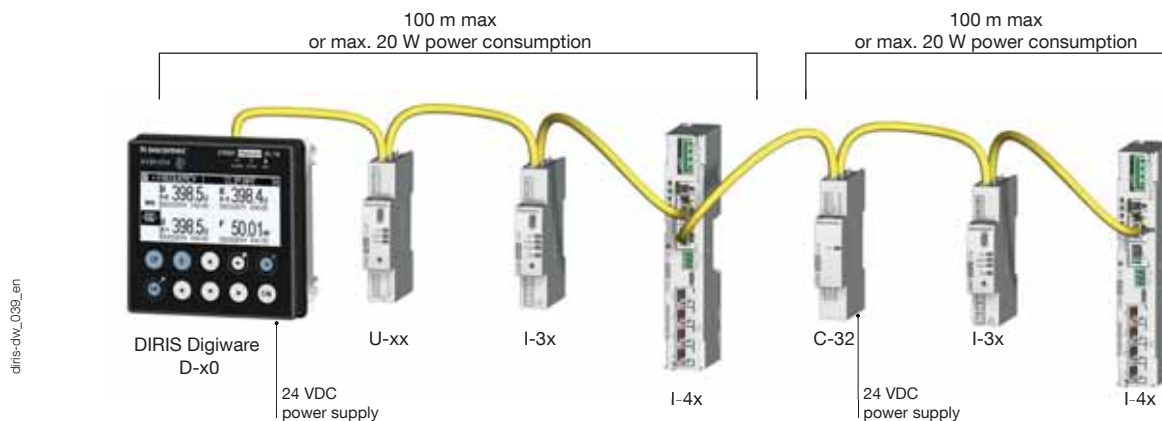
or

- 13 DIRIS Digiware current modules I-4x (13 x 1.125 = 14.625 W)
- ⇒ **Total power = 19.345 W.**

Repeater

Whenever the power consumption is higher than 20 W or the distance is greater than 100 m, a DIRIS Digiware C-32 repeater is required.

In a DIRIS Digiware system, a maximum of 2 repeaters may be used.



diris-dw_039_en

References

DIRIS Digiware D		Reference	Price List
D-50	Multipoint display, Ethernet & RS485 output + WEB-CONFIG	48290204	6.633.300
D-70	Multipoint display, Ethernet & RS485 output + WEBVIEW M	48290203	25.658.700

Power supply		Reference	Price List
P15	Power Supply 100-240 VAC/24 VDC 15W	48290120	1.866.200
P30	Power Supply 100-240 VAC/24 VDC 30W	47290603	3.732.800

Digiware connection cables		Reference	Price List
RJ45 cables for Digiware Bus	Length 0.06 m	48290189	76.300
	Length 0.10 m	48290181	76.300
	Length 0.20 m	48290188	100.500
	Length 0.50 m	48290182	119.500
	Length 1 m	48290183	152.700
	Length 2 m	48290184	239.300
	Length 5 m	48290186	636.000
	Length 10 m	48290187	1.037.900
50 m reel + 100 connectors		48290185	7.881.300
Termination for Digiware Bus (supplied with interfaces D)		48290180	55.400
USB configuration cable		48290050	136.900

Expert Services



To constantly ensure a functional, accurate and reliable energy monitoring system, Socomec offers a wide range of services:

- Integration of units
 - System audits
 - Commissioning
 - Staff training
- What's more, ideal for ISO 50001 sites (regular checks):
- Verification of 3% measurement consistency
 - Verification of 0.2% measurement precision

DIRIS Digiware C-31

Control and power supply interface



DIRIS Digiware C-31
Centralisation



Configuration
with Easy Config System.

Function

For applications without a local display, the DIRIS Digiware C-31 interface centralises all your system data and provides all this information to external software or a PLC via RS485. The DIRIS Digiware C-31 interface is supplied with 24 VDC.

Advantages

Compact

Centralise your measurement data on a single module without a local screen, for a complete system:

- Single auxiliary 24 VDC power supply
- A single RS485 communication

24 VDC Safety Extra Low Voltage power supply

- No dangerous voltage
- The power supply feeds the entire system through the Digiware bus

The solution for

- > Data centre
- > Healthcare
- > Energy
- > Industry



Strong points

- > Compact
- > 24 VDC Safety Extra-Low Voltage power supply

Compliance with standards

- > IEC 61557-12



- > UL 61010
Guide FTRZ/PICQ
File E257746

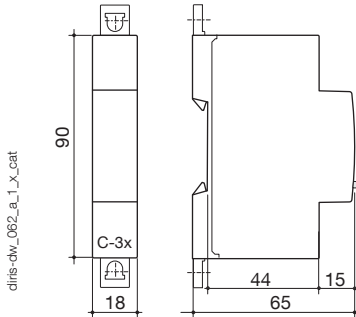


Create your project

- > Find the best DIRIS Digiware configuration:
www.meter-selector.com



Dimensions (mm)



Configuration

Equipment consumption

Product	Power delivered (W)	Power consumed (W)
Power supply		
P15 100-240 VAC / 24 VDC	15	
P30 100-240 VAC / 24 VDC	20	
Cables		
50 metre package		1.5
System interfaces		
DIRIS Digiware D-50/D-70		2.5
DIRIS Digiware C-31		0.8
Module voltage		
DIRIS Digiware U-xx		0.72
DIRIS Digiware U-3xdc		0.6
Current modules		
DIRIS Digiware I-3x		0.52
DIRIS Digiware I-4x		1.125
DIRIS Digiware I-6x		0.7
DIRIS Digiware I-3xdc (+ 3 DC current sensors)		2
DIRIS Digiware S-xx		0.35
Input/output modules		
DIRIS Digiware IO-10/IO-20		0.5
Repeater		
DIRIS Digiware C-32		1.5

Calculation rules for the max. number of products on the Digiware Bus

The total power consumed by the equipment connected to the Digiware Bus must not exceed the power from the 24 VDC supply.

The power supply must not exceed 20 W/70 °C or 27 W/40 °C.

Size with P15 power supply (ref: 4829 0120) delivering 15 W

For example, it is possible to use

- 1 DIRIS Digiware D-50 display (2.5 W)
- 1 DIRIS Digiware voltage module U-xx (0.72 W)
- 50 metres of cable (1.5 W)

and

- 19 DIRIS Digiware current modules I-3x (19 x 0.52 = 9.9 W)
- ⇒ **Total power = 14.845 W**

or

- 9 DIRIS Digiware current modules I-4x (9 x 1.125 = 10.125 W)
- ⇒ **Total power = 14.345 W.**

Size with a 24 VDC power supply delivering a maximum of 20 W

(Power supply P30 ref: 4729 0603)

For example, it is possible to use

- 1 DIRIS Digiware D-50 display (2.5 W)
- 1 DIRIS Digiware voltage module U-xx (0.72 W)
- 50 metres of cable (1.5 W)

and

- 29 DIRIS Digiware current modules I-3x (29 x 0.52 = 15.1 W)
- ⇒ **Total power = 19.82 W**

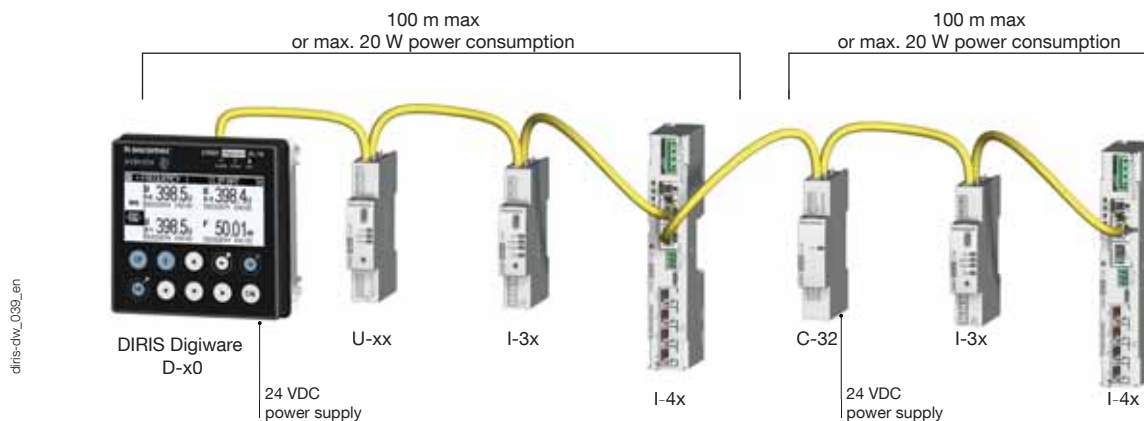
or

- 13 DIRIS Digiware current modules I-4x (13 x 1.125 = 14.625 W)
- ⇒ **Total power = 19.345 W.**

Repeater

Whenever the power consumption is higher than 20 W or the distance is greater than 100 m, a DIRIS Digiware C-32 repeater is required.

In a DIRIS Digiware system, a maximum of 2 repeaters may be used.



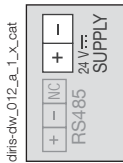
DIRIS Digiware C-31

Control and power supply interface

Connections

DIRIS Digiware C-31

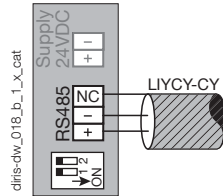
Power supply



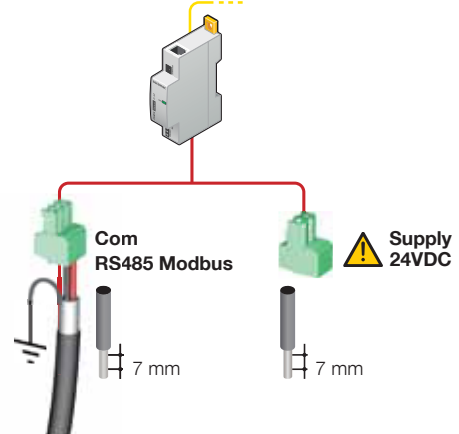
Digiware bus



Communication

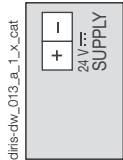


DIRIS Digiware C-31

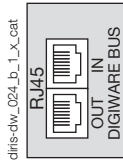


DIRIS Digiware C-32

Power supply



Digiware bus



Technical characteristics

Electrical characteristics

Input voltage	24 VDC \pm 20% - 20 W max
Connection	Removable screw terminal block, 2 positions, stranded or solid 0.2-2.5 mm ² cable
P15 power supply	Technical characteristics: 100-240 VAC/ 24 VDC - 0.63 A - 15 W Modular format - Dimensions (H x L): 90 x 36 mm

Communication specifications

Digiware Bus	
Function	Connection between DIRIS Digiware modules
Cable type	Specific SOCOMEC cable with RJ45 connections
RS485	
Connection type	2 to 3 half duplex wires
Protocol	Modbus RTU
Baudrate	9600 to 115200 bauds
Function	Data configuration and reading
Location	Single-point on DIRIS Digiware C

Mechanical features

Casing type	DIN-rail mounting module and base
Casing protection index	IP20 / IK06
Front panel protection index	IP40 on the nose in modular assembly / IK06

Environmental specifications

Ambient operating temperature	-10 to +70 °C
Storage temperature	-25 to +70 °C
Operating humidity	55 °C / 97% HR
Operating altitude	< 2000 m

References

DIRIS Digiware C		Reference	Price List
C-31	System Interface - no display, RS485 output	48290101	2.410.500
C-32	Repeater	48290103	2.711.900

Expert Services



EXPERT
SERVICES

To constantly ensure a functional, accurate and reliable energy monitoring system, Socomec offers a wide range of services:

- Integration of units
- System audits
- Commissioning
- Staff training

What's more, ideal for ISO 50001 sites (regular checks):

- Verification of 3% measurement consistency
- Verification of 0.2% measurement precision

DIRIS Digiware M

Multi-protocol communication gateways
for the DIRIS Digiware system



DIRIS Digiware M-50 - M-70 gateway

Function

The DIRIS Digiware M-50 and M-70 communication gateways are the access point for the DIRIS Digiware system, centralising the 24 VDC power supply and communication in one single point.

The M-50 and M-70 act as the Ethernet gateway for all the devices connected on the Digiware or RS485 bus, and integrate a web server to configure the network parameters and to remotely display measurement data.

The M-50 and M-70 gateways offer a wide range of functionalities, including:

- Bluetooth connectivity to collect data from environmental sensors,
- memory extension for connected devices,
- automatic export of logged consumption and data to an FTP(S) server,
- notification emails if there is an alarm on one of the connected devices (SMTPS),
- automatic time synchronisation of all connected devices via SNTP.

Advantages

Plug & Play

- Direct Digiware and RS485 to Ethernet gateway.
- Automatic detection of connected devices.
- Easy setup.
- Safety Extra Low Voltage 24 VDC power supply.

Advanced connectivity

- Ethernet output for communication using multiple protocols: Modbus TCP, BACnet IP and SNMP v1, v2, v3 (encrypted) to suit any metering and power monitoring application.
- Possible to configure as RS485 slave to communicate measurement data to a second PLC, for example.

Embedded web server

A WEB-CONFIG is embedded in the M-50 gateway to configure the communication architecture.

WEBVIEW-M is embedded in the M-70 gateway and available without license fees to visualise measurements and consumption remotely.

General characteristics

- 24 VDC power supply.
- Modbus RTU/TCP, BACnet IP, SNMP v1, v2, v3 & Traps, HTTPS, FTPS, SMTPS, SNTP, DHCP.
- Up to 32 devices (max. 196 circuits) displayed.
- Free embedded web-based software.

The solution for

- > Data centre
- > Building
- > Industrial process



Strong points

- > Plug & Play
- > Advanced connectivity
- > Embedded web server
- > Cyber security
- > Email notifications



RJ45 (Digiware bus) cables are available.

Compliance with standards

- > IEC 62974-1 (Energy Server)
- > IEC 62443 (Cyber security)



- > UL 61010 Guide FTRZ/PICQ File E257746



- > FCC
- > IC



Create your project

- > Find the best DIRIS Digiware configuration: www.meter-selector.com



Application	Multi-protocol communication gateway	
		
DIRIS Digiware M	M-50	M-70
Digiware bus input	•	•
RS485	Input/output ⁽¹⁾	Input/output ⁽¹⁾
Ethernet output	•	•
Compatible protocols	Modbus RTU Modbus TCP BACnet IP SNMP v1, v2, v3, Traps	Modbus RTU Modbus TCP BACnet IP SNMP v1, v2, v3, Traps
Bluetooth	•	•
FTP(S) (automatic data export)	•	•
SMTP(S) (email notifications in case of alarm)	•	•
SNTP (time synchronisation)	•	•
Web Server	WEB-CONFIG	WEBVIEW-M

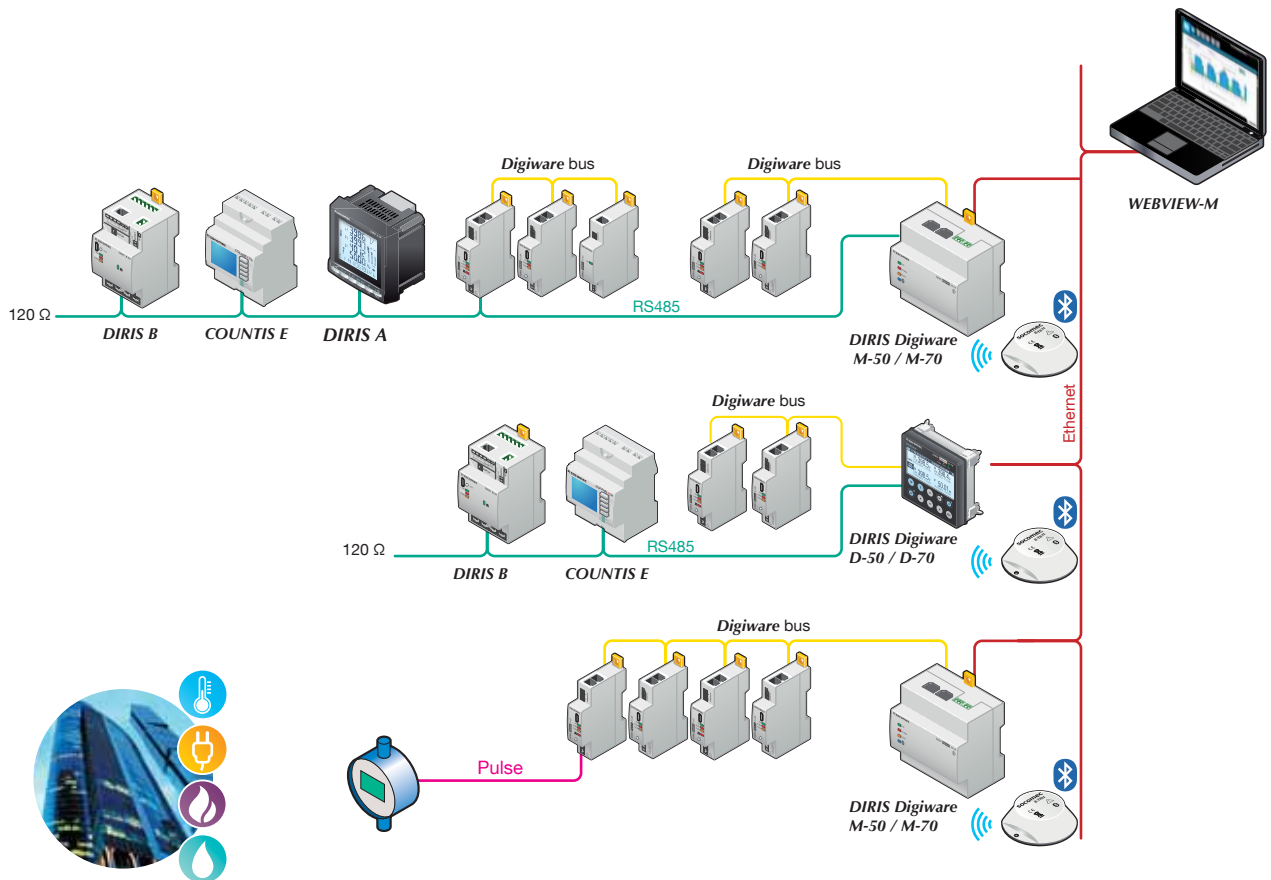
(1) The gateways can be configured as Modbus master (RS485 input) or slave (RS485 output).

Architecture

MEASURE

COLLECT

VISUALISE



DIRIS Digiware M

Multi-protocol communication gateways
for the DIRIS Digiware system

Embedded webserver

WEB-CONFIG (M-50)

The M-50 gateway includes a WEB-CONFIG allowing you to:

- configure the device hierarchy and data access,
- block or restrict access to certain peripherals, protocols or services.

WEBVIEW-M (M-70)

In addition to the WEB-CONFIG, the M-70 gateway allows a remote visualisation of data on the embedded WEBVIEW-M software, available without licence fees.

- Real-time measurements.
- On-going and terminated alarms.
- Consumption curves and load curves per load or usage.
- Photoview: displays electrical parameters on a customised background such as a site map, an electrical diagram or a panel picture to provide an overview of your electrical installation.

Data storage

These gateways extend the memory of connected devices so you can log a year's worth of measurements, load curves and consumption curves.



Configuration

Device consumption

Device	Power supplied (W)
Power supply	
P15 100-240 VAC / 24 VDC	15
P30 100-240 VAC / 24 VDC	20
Device	Power consumed (W)
Cables	
50-metre package	1.5
System interfaces	
DIRIS Digiware C-31	0.8
DIRIS Digiware D-50/D-70	2.5
DIRIS Digiware M-50/M-70	2.5
Voltage module	
DIRIS Digiware U-xx	0.72
DIRIS Digiware U-3xdc	0.6
Current modules	
DIRIS Digiware I-3x	0.52
DIRIS Digiware I-4x	1.125
DIRIS Digiware I-6x	0.7
DIRIS Digiware I-3xdc (+ 3 DC current sensors)	2
DIRIS Digiware S-xx	0.35
Input/output modules	
DIRIS Digiware IO-10/IO-20	0.5
Repeater	
DIRIS Digiware C-32	1.5

Calculation rules for the max. number of devices on the Digiware bus

The total power consumed by the devices connected to the Digiware bus must not exceed the power from the 24 VDC supply.

The power supply must not exceed 20 W / 70°C or 27 W / 40°C.

Size with P15 power supply (ref. 4829 0120) delivering 15 W

For example, it is possible to use

- 1 DIRIS Digiware M-50 gateway (2.5 W)
- 1 DIRIS Digiware voltage module U-xx (0.72 W)
- 50 metres of cable (1.5 W)

and

- 29 DIRIS Digiware current modules S-xx ($29 \times 0.35 = 10.15$ W)
⇒ **Total power = 14.87 W**

or

- 9 DIRIS Digiware current modules I-4x ($9 \times 1.125 = 10.125$ W)
⇒ **Total power = 14.845 W.**

Size with a 24 VDC power supply delivering a maximum of 20 W (P30 ref. 4729 0603)

Possible options include:

- 1 DIRIS Digiware M-50 gateway (2.5 W)
- 1 DIRIS Digiware voltage module U-xx (0.72 W)
- 50 metres of cable (1.5 W)

and

- 29 DIRIS Digiware current modules I-3x ($30 \times 0.52 = 15.08$ W)
⇒ **Total power = 19.8 W**

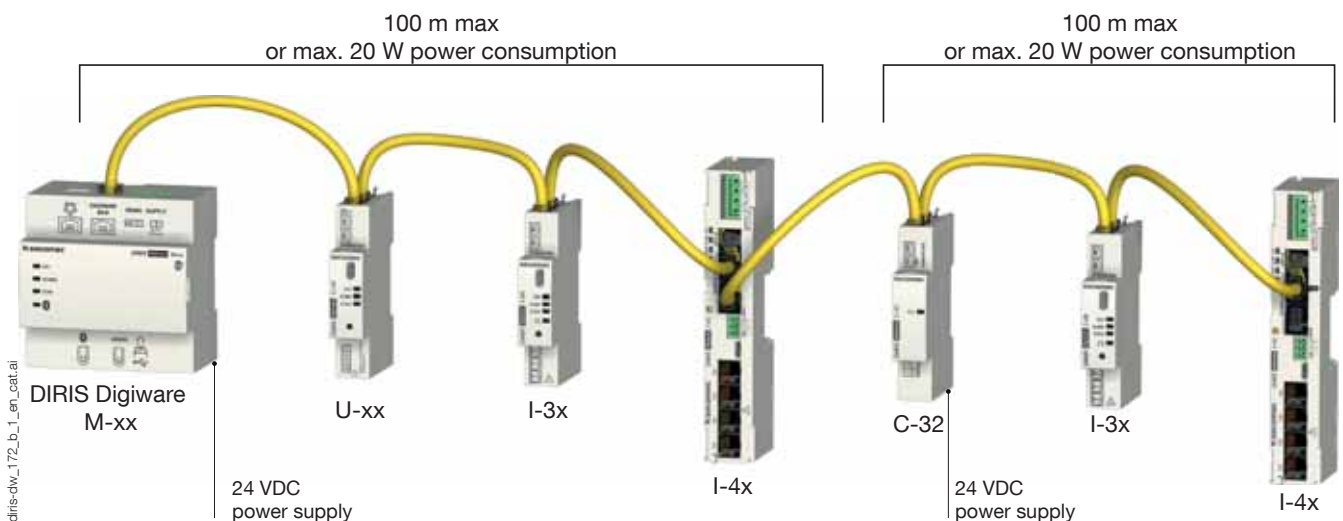
or

- 14 DIRIS Digiware current modules I-4x ($13 \times 1.125 = 15.72$)
⇒ **Total power = 19.345 W.**

Repeater

With power consumptions higher than 20 W or distances greater than 100 m, a DIRIS Digiware C-32 repeater is required.

In a DIRIS Digiware system, a maximum of 2 repeaters may be used.



References

DIRIS Digiware M		Reference	Price List
M-50	Multi-protocol Ethernet gateway	48290219	7.711.200
M-70	Multi-protocol Ethernet gateway with embedded WEBVIEW M Webservice	48290220	36.240.000

Power supply		Reference	Price List
P15	Power Supply 100-240 VAC/24 VDC 15W	48290120	1.866.200
P30	Power Supply 100-240 VAC/24 VDC 30W	47290603	3.732.800

Digiware connection cables		Reference	Price List
RJ45 cables for Digiware Bus	Length 0.06 m	48290189	76.300
	Length 0.10 m	48290181	76.300
	Length 0.20 m	48290188	100.500
	Length 0.50 m	48290182	119.500
	Length 1 m	48290183	152.700
	Length 2 m	48290184	239.300
	Length 5 m	48290186	636.000
	Length 10 m	48290187	1.037.900
50 m reel + 100 connectors		48290185	7.881.300
Termination for Digiware Bus (supplied with interfaces D)		48290180	55.400
USB configuration cable		48290050	136.900

Expert Services

Need help to integrate this system in your network?

No problem for our "Expert Services" team. They will fully integrate all your SOCOMEC devices, **audit** your system, **commission** selected equipment and **train** your staff on its use.

For further information, please contact your nearest SOCOMEC branch.

DIRIS Digiware Uac

Voltage acquisition module



diris-dw_005_a_cat

DIRIS Digiware U-10ac/U-20ac/ U-30ac



Configuration
with Easy Config System.

Function

The DIRIS Digiware Uac module measures voltage for the entire system. This pools together all voltage measurements.

The Digiware RJ45 Bus allows you to pass voltage measurements as well as power supply and communication to all connected products.

Advantages

- 1 single voltage measurement point for the entire system.
- Single point of protection for voltage measuring.
- A complete, dedicated solution:
 - metering,
 - monitoring voltage,
 - quality analysis of the supplied voltage.
- No hazardous voltage on cabinet doors.
- Adapted to all types of network: single-phase, three-phase.

The solution for

- > Industry
- > Building
- > Infrastructure
- > Data center



Strong points

- > 1 single voltage measurement point for the entire system
- > Plug & Play
- > Compact



RJ45 (Digiware Bus) cables are available.

Conformity to standards

- > IEC 61557-12



- > ISO 14025





- > UL



Create your project

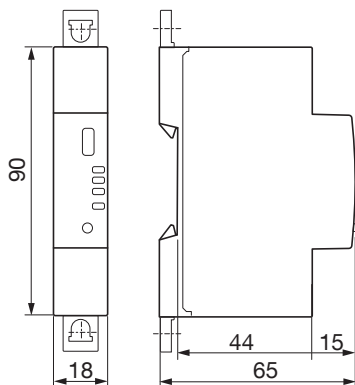
- > Find the best DIRIS Digiware configuration:
www.meter-selector.com



Application	Voltage measurement module	
	Metering	Analysis
		
	U-10ac	U-30ac
DIRIS Digiware Uac		
Multi-measurement		
U12, U23, U31, V1, V2, V3, f	•	•
U system, V system		•
Ph/N unbalance		•
Ph/Ph unbalance		•
Quality analysis		
THDv1, THDv2, THDv3, THDu12, THDu23, THDu31		•
Individual harmonics U & V (up to 63rd)		•
Voltage dips, swells and interruptions (EN 50160)		•
Alarms		
On threshold		•
History of average values		
45 days (max)		•
Format		
Width/number of modules	18 mm / 1	18 mm / 1

Dimensions (mm)

DIRIS Digiware Uac



Specifications

Measuring characteristics

Voltage measurement - DIRIS Digiware Uac

Characteristics of the network measured	50-300 VAC (Ph/N) - 87-520 VAC (Ph/Ph) - CAT III
Frequency range	45 ... 65 Hz
Frequency accuracy	Class 0.02
Network type	Single-phase/ Two-phase / Two-phase with neutral / Three-phase / Three-phase with neutral
Measurement by voltage transformer	Primary: 400 000 VAC Secondary: 60, 100, 110, 173, 190 VAC
Input consumption	≤ 0.1 VA
Permanent overload	300 VAC Ph/N
Accuracy of voltage measurement	Class 0.2
Connection	Removable screw terminal block, 4 positions, stranded or solid 0.2 ... 2.5 mm ² cable

Communication specifications

USB

Protocol	Modbus RTU on USB
Function	Configuration of DIRIS Digiware U and I modules
Location	On each DIRIS Digiware U and I measurement module
Connection	Type B micro USB connector

References

Digiware connection cables	Reference
RJ45 cables for Digiware Bus	
Length 0.06 m	4829 0189
Length 0.10 m	4829 0181
Length 0.20 m	4829 0188
Length 0.50 m	4829 0182
Length 1 m	4829 0183
Length 2 m	4829 0184
Length 3 m	4829 0190
Length 5 m	4829 0186
Length 10 m	4829 0187
Reel 50 m + 100 connectors	4829 0185
Replacement reference: Digiware bus terminating resistor (supplied with C and D devices)	4829 0180
USB configuration cable	4829 0050

DIRIS Digiware U	Reference	Price List
U-10ac	Voltage input - metering	48290105 3.013.700
U-30ac	Voltage input - analysis	48290102 4.340.700

Accessories	To be ordered in multiples of	Reference
Fuse holder to protect voltage inputs (type RM) 3 pole + neutral	3	5701 0019
gG 10x38 0.5 A fuses	10	6012 0000

DIRIS Digiware S

Current acquisition module with integrated sensors



DIRIS Digiware S



Configuration with Easy Config System.

Function

DIRIS Digiware S current acquisition modules have 3 integrated current sensors for the measurement of electrical circuits up to 63 A.

Positioned directly above or below the protective devices, they are associated with the DIRIS Digiware U voltage measurement module to measure consumption, and to monitor the electrical installation and the quality of the power supply.

Advantages

Plug & Play

- Save wiring time: the current sensors are integrated in the module.
- Quick RJ45 connection between modules.
- Positioning possible upstream or downstream of the protective device.

Multi-circuit

Multiple DIRIS Digiware S modules can be used within the measurement system enabling the monitoring of a large number of loads.

Compact

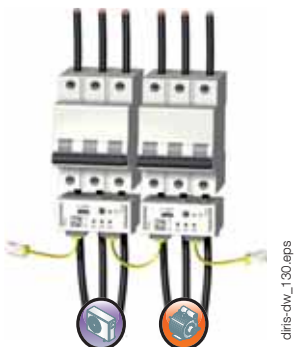
- A measurement module offering the best compactness/performance ratio of the market.
- Matches the pitch of the protective device.

Accurate

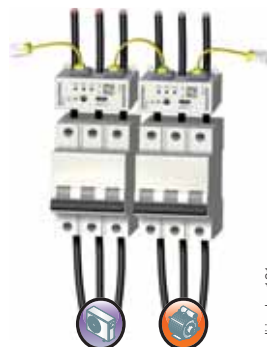
- Class 0.5 for active energy in accordance with the IEC 61557-12 standard, allowing accurate measurements over a wide range of currents.

Functional diagram

Downstream



Upstream



The DIRIS Digiware S measurement module can be mounted upstream or downstream of the protective device solving issues of space constraints.

The solution for

Distribution boards in:

- > Data center
- > Building
- > Industry



Strong points

- > Plug & Play
- > Multi-circuit
- > Compact



RJ45 (Digiware Bus) cables are available.

Integrated technologies



PreciSense



AutoCorrect



VirtualMonitor

For more information see our website www.socomec.com

Compliance with standards

- > IEC 61557-12





- > ISO 14025



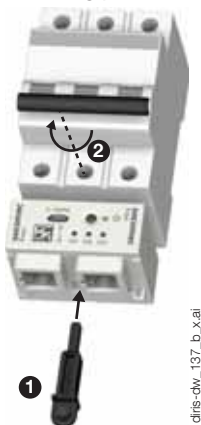
- > UL 257746



Application	Current measurement module with integrated sensors	
	Metering	Analysis
		
DIRIS Digiware S	S-130	S-135
Number of current inputs	3	3
Basic current I_b	10 A	10 A
Maximum current I_{max}	63 A	63 A
Load type accepted	1P + N 2P / 2P + N 3P / 3P + N	1P + N 2P / 2P + N 3P / 3P + N
Metering		
\pm kWh, \pm kvarh, kVAh	•	•
Multi-tariff (max 8)		•
Load curves		•
Multi-measurement		
$I_1, I_2, I_3, I_n, \Sigma P, \Sigma Q, \Sigma S, \Sigma PF$	•	•
P, Q, S, PF per phase		•
Predictive power		•
Current unbalance ($I_{nba}, I_{nb}, I_{dir}, I_{inv}, I_{hom}$)		•
Phi, cos Phi, tan Phi		•
Quality		
THDi1, THDi2, THDi3, THDin		•
Individual harmonics I (up to 63rd)		•
Crest factors U, V, I		•
K factor		•
Overcurrents		•
Alarms		
Thresholds and combinations		•
Wiring errors		•
Protective device	•	•
Trends		
Average values		•
Format		
Width	54 mm	54 mm

Mounting accessories

Temporary MCB insert
(for use during panel assembly)



diris-dw_137_b_x.ai

DIN rail and back plate mounting



diris-dw_138_b_x.ai

Cable tie tether



diris-dw_139_b_x.ai

Technical characteristics

Measurement characteristics

Measurement of current	
Number of current inputs	3
Associated current sensors	Integrated in the product
Basic current I _b	10 A
Maximum current I _{max}	63 A
Current measurement accuracy	Class 0.5 IEC 61557-12

Measurement of energy	
Accuracy of active energy	Class 0.5 IEC 61557-12
Accuracy of reactive energy	Class 1 IEC 61557-12

Mechanical characteristics

Casing type	DIN rail or back plate mounting
Casing protection index	IP20/IK08
Weight	63 g
Module power consumption	0.35 VA

Communication specifications

Digiware BUS	
Function	Connection between DIRIS Digiware S, U, I modules and system interfaces
Cable type	Specific Socomec cable with RJ45 connections
USB	
Protocol	MODBUS RTU on USB
Function	Configuration of DIRIS Digiware modules
Location	On each DIRIS Digiware module
Connection	Type B micro USB connector

Environmental specifications

Ambient operating temperature	-10 ... +55°C
Storage temperature	-25 ... +70°C
Operating humidity	40°C/95% RH
Operating altitude	< 2000 m

References

DIRIS Digiware S		Reference	Price List
S-130	Metering - 3 integrated current inputs	48290160	6.448.200
S-135	Analysis - 3 integrated current inputs	48290161	9.175.500

Accessories		Reference	Price List
DIN Rail and back plate mounting clip (x 10)		48290195	466.000
Temporary MCB insert (x 10)		48290196	466.000

Digiware connection cables		Reference
RJ45 cables for Digiware Bus	Length 0.06 m ⁽¹⁾	4829 0189
	Length 0.10 m	4829 0181
	Length 0.20 m	4829 0188
	Length 0.50 m	4829 0182
	Length 1 m	4829 0183
	Length 2 m	4829 0184
	Length 3 m	4829 0190
	Length 5 m	4829 0186
	Length 10 m	4829 0187
	50 m reel + 100 connectors	4829 0185
Termination for Digiware Bus (supplied with interfaces C and D)		4829 0180
USB configuration cable		4829 0050

(1) The RJ45 6 cm cables can be used on 3-pole or 4-pole protective devices.

Expert Services

Require integration onto your network?

No problem for our "Expert Services" team. They will fully integrate all your SOCOMEC devices, audit your system, commission selected equipment and train your staff on its use.

For further information, please contact your nearest SOCOMEC branch.

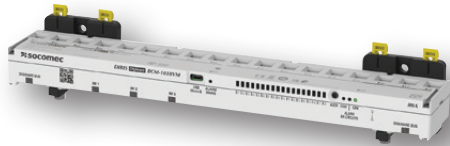
DIRIS Digiware BCM

Multi-circuit current acquisition module with integrated sensors for power distribution units (PDU) for 18 or 21 circuits



DIRIS Digiware BCM 21 circuits

diris-dw_202.eps



DIRIS Digiware BCM 18 circuits

diris-dw_203.eps

The solution for

- > Data centre



Strong points

- > 3x quicker to install than standard solutions
- > 2x quicker to configure than standard solutions
- > Minimal footprint
- > Maximum reliability

Conformity to standards

- > IEC 61557-12



- > UL 61010 Guide FTRZ/PICQ File E257746*



- > ANSI C12.20

*for DIRIS Digiware BCM-21xx models only.

Integrated technologies



For more information see our website www.socomec.com

Expert services

Need help to integrate this system in your network?

No problem for our "Expert Services" team. They will fully integrate all your SOCOMEC devices, **audit** your system, **commission** selected equipment and **train** your staff on its use.

For further information, please contact your nearest SOCOMEC branch.

Function

The **DIRIS Digiware BCM** is a multi-circuit current measurement module with 18 or 21 integrated sensors and allows the monitoring of all types of power distribution units (PDUs). These modules are also equipped with three RJ12 channels allowing them to be connected to TE/TR/ITR/TF current sensors using RJ12 cables and various ΔIC differential toroids.

Advantages

3x quicker to install than standard solutions

- The integrated current sensors do not require any wiring; they are directly integrated in the module.
- Quick RJ45 connection between modules.
- RJ12 connection for external current sensors.
- Integrated AutoCorrect technology that provides automatic wiring control and an error correction feature available off-load.

2x quicker to configure than standard solutions

Easy Config System Software - free of charge – enables the configuration of multiple identical panels with a "duplication" function and also provides time-saving configuration templates enabling the initial design to be adapted with ease.

Minimal footprint






- No additional CT leads required - and therefore less cabling required.
- VirtualMonitor technology indicating the status of the protection elements eliminates the need to install auxiliary contacts.
- Connection to TE/TR/ITR/TF current sensors and ΔIC differential toroids to mutualize power consumption and residual current monitoring.

Maximum reliability

- A robust protective plastic cover safeguards the electronic components and reduces the risk of breakage. By not simply being an exposed PCB, the unit can, therefore, be handled manually.
- PreciSense technology ensures accurate and reliable measurements over a wide measurement range: class 0.5 accuracy for active energy according to IEC 61557-12 and ANSI C12.20 standards.
- Integrated VirtualMonitor technology to access the monitoring of protective devices across the entire electrical installation, both remotely and in real-time.

General characteristics

- 18/21 integrated current sensors.
- Measures up to 120 A.
- Configurable as 18/21 single-phase circuits or 6/7 three-phase circuits.

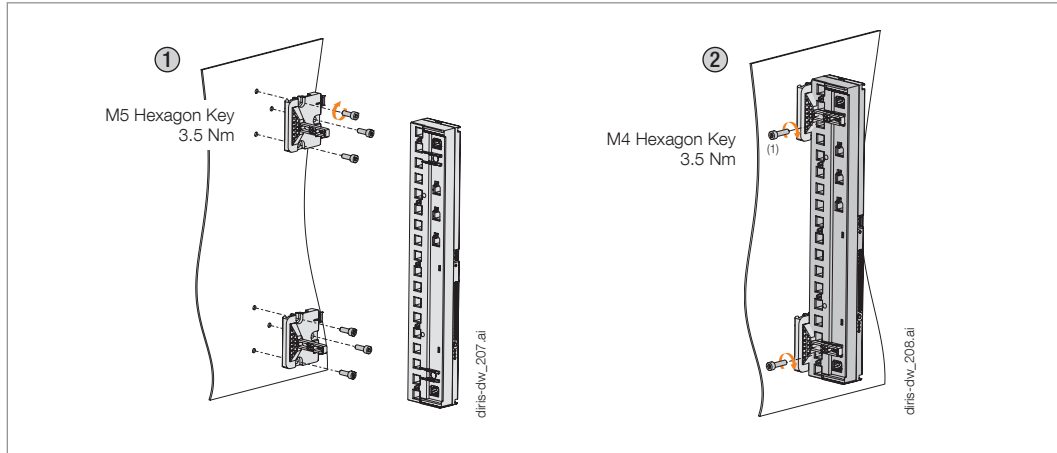
DIRIS Digiware BCM	BCM-1818	BCM-1818VM	BCM-2119	BCM-2119VM	BCM-2125	BCM-2125VM
						
Number of current inputs	18 + 3x RJ12	18 + 3x RJ12	21 + 3x RJ12	21 + 3x RJ12	21 + 3x RJ12	21 + 3x RJ12
Nominal current In / Maximum current I _{max}	32...63A/80A	32...63A/80A	32...63A/80A	32...63A/80A	40...100A/120A	40...100A/120A
Load type accepted	1P+N 2P 2P+N 3P 3P+N	1P+N 2P 2P+N 3P 3P+N	1P+N 2P 2P+N 3P 3P+N	1P+N 2P 2P+N 3P 3P+N	1P+N 2P 2P+N 3P 3P+N	1P+N 2P 2P+N 3P 3P+N
Metering						
± kWh, ± kvarh, kVAh	•	•	•	•	•	•
Multi-tariff (max 8)	•	•	•	•	•	•
Load curves / demand profiles	•	•	•	•	•	•
Multi-measurement						
I ₁ , I ₂ , I ₃ , I _n , ΣP, ΣQ, ΣS, ΣPF	•	•	•	•	•	•
P, Q, S, PF per phase	•	•	•	•	•	•
Predictive power	•	•	•	•	•	•
Current unbalance (I _{nba} , I _{dir} , I _{inv} , I _{hom} , I _{nb})	•	•	•	•	•	•
Phi, cos Phi, tan Phi	•	•	•	•	•	•
Power Quality						
THDi1, THDi2, THDi3, THD _{In} , THD _{Isys}	•	•	•	•	•	•
Individual harmonics I (up to rank 63)	•	•	•	•	•	•
Crest Factor I ₁ , I ₂ , I ₃	•	•	•	•	•	•
Overcurrent	•	•	•	•	•	•
Alarms						
Thresholds	•	•	•	•	•	•
Load levels	•	•	•	•	•	•
System alarms	•	•	•	•	•	•
Protection alarms	•	•	•	•	•	•
Protection counters	•	•	•	•	•	•
Boolean combination of alarms	•	•	•	•	•	•
Trends						
Average values	•	•	•	•	•	•
Advanced features						
VirtualMonitor technology	•	•	•	•	•	•
AutoCorrect technology	•	•	•	•	•	•
Earth leakage monitoring	•	•	•	•	•	•
Format						
Pitch	18 mm	18 mm	19 mm / ¾in	19 mm / ¾in	25 mm / 1in	25 mm / 1in
Width	324 mm	324 mm	400 mm	400 mm	533.5 mm	533.5 mm

DIRIS Digiware BCM

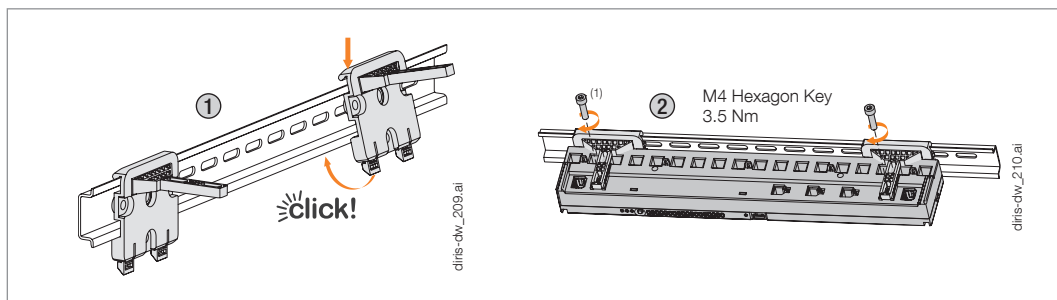
Multi-circuit current acquisition module with integrated sensors for power distribution units (PDU) for 18 or 21 circuits

Mounting accessories

Back plate mounting



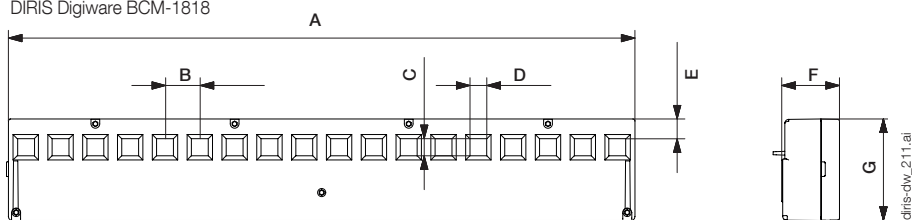
DIN rail mounting



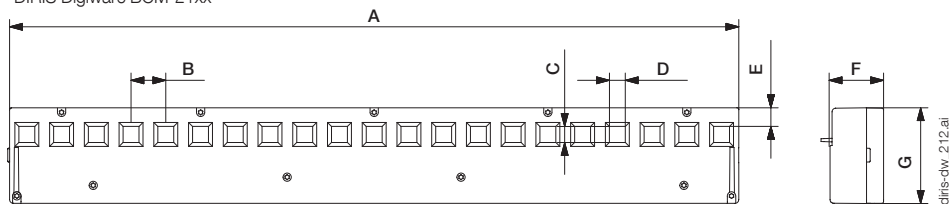
(1) 2x mounting brackets along with 2 x CHC M5 x 20 screws are included with the DIRIS Digiware BCM modules.

Dimensions (in/mm)

DIRIS Digiware BCM-1818



DIRIS Digiware BCM-21xx

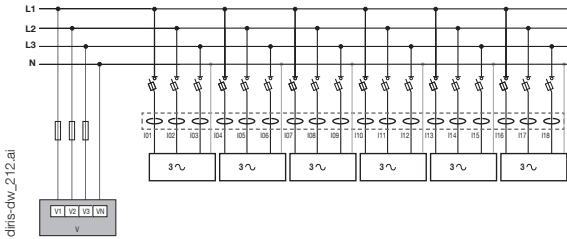


Modèle	A		B		C		D		E		F		G	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
DIRIS Digiware BCM-1818 / 1818VM	17.76	324	0.71	18	0.35	8,8	0.34	8,6	0.40	10,2	1.14	29	2.09	53
DIRIS Digiware BCM-2119 / 2119VM	15.75	400	0.75	19	0.35	8,8	0.34	8,6	0.39	10	1.18	30	2.09	53
DIRIS Digiware BCM-2125 / 2125VM	20.98	533,5	0.98	25	0.55	14	0.54	13,6	0.75	19	1.26	32	2.68	68

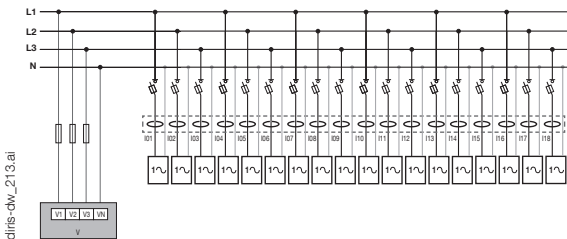
Connections

DIRIS Digiware BCM-1818

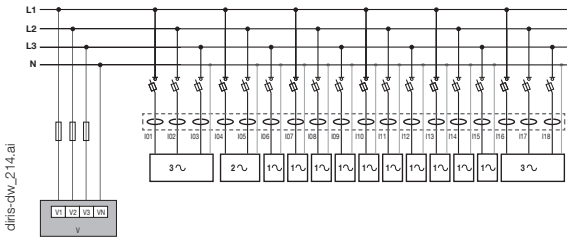
3P+N - 3 CT (x6)



1P + N (x18)

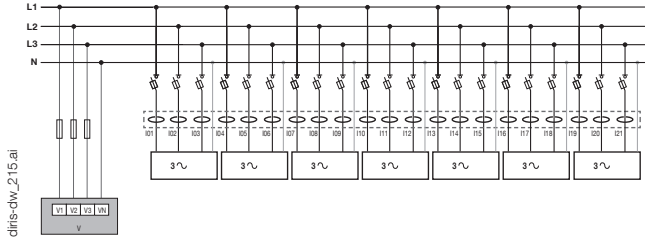


Multi-load types configuration

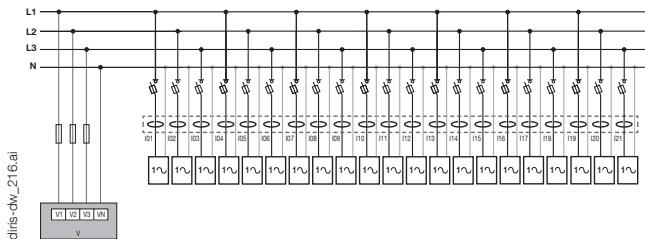


DIRIS Digiware BCM-21xx

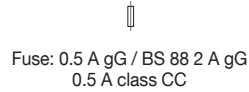
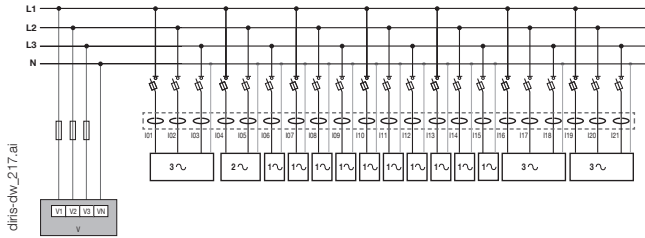
3P+N - 3 CT (x7)



1P + N (x21)



Multi-load types configuration



DIRIS Digiware BCM

Multi-circuit current acquisition module with integrated sensors for power distribution units (PDU) for 18 or 21 circuits

Technical characteristics

Measurement characteristics			
DIRIS Digiware BCM	DIRIS Digiware BCM-1818	DIRIS Digiware BCM-2119	DIRIS Digiware BCM-2125
Number of integrated current inputs	18	21	21
Accuracy of current measurement (integrated current inputs)	Class 0.5	Class 0.5	Class 0.5
Nominal current I ⁿ (integrated current inputs)	32 ... 63 A	32 ... 63 A	40 ... 100 A
Maximum current I ^{max} (integrated current inputs)	80 A	80 A	120 A
Number of RJ12 current inputs	3	3	3
Associated current sensors (RJ12 current inputs)	Solid-core TE, split-core TR/ITR, flexible TF current sensors		
Accuracy of current measurement (RJ12 current inputs)	Class 0.2 DIRIS Digiware module alone Class 0.5 with TE, ITR or TF sensors Class 1 with TR sensors		
Connection (RJ12 current inputs)	Socomec RJ12 cables		
Measurement of energy (integrated and RJ12 current inputs)			
Accuracy of active energy	Class 0.5 IEC 61557-12		
Accuracy of reactive energy	Class 2 IEC 61557-12		
Mechanical characteristics			
Mounting	DIN rail or back plate mounting		
Casing protection	index IP20 / IK08		
Weight	BCM-1818: 475g / BCM-2119: 565 g / BCM-2125: 995 g		
Module power consumption	1.25 VA		
Communication specifications			
Digiware bus			
Function	Connection between DIRIS Digiware units		
Cable type	Specific Socomec cable with RJ45 connection		
USB			
Protocol	Modbus RTU over USB		
Function	Configuration of gateway and connected PMDs/meters		
Location	On each DIRIS Digiware module		
Connection	Type B micro connector		
Environmental specifications			
Ambient operating temperature	-10 ... +55°C		
Storage temperature	-40 ... +70°C		
Operating humidity	40°C / 95% RH		
Operating altitude	< 2000 m		

References

DIRIS Digiware		Reference
BCM-1818	18 current inputs (18 mm pitch)	4829 0165
BCM-1818VM	18 current inputs (18 mm pitch) + Virtual Monitor	4829 0166
BCM-2119	21 current inputs (19 mm / 3/4in pitch)	4829 0167
BCM-2119VM	21 current inputs (19 mm / 3/4in pitch) + Virtual Monitor	4829 0168
BCM-2125	21 current inputs (25 mm / 1in pitch)	4829 0169
BCM-2125VM	21 current inputs (25 mm / 1in pitch) + Virtual Monitor	4829 0170
Digiware connection cables		Reference
RJ45 cables for Digiware bus	Length 0.06 m	4829 0189
	Length 0.10 m	4829 0181
	Length 0.20 m	4829 0188
	Length 0.50 m	4829 0182
	Length 1 m	4829 0183
	Length 2 m	4829 0184
	Length 3 m	4829 0190
	Length 5 m	4829 0186
	Length 10 m	4829 0187
	50 m reel + 100 connectors	4829 0185
USB configuration cable		4829 0050
Accessories ⁽¹⁾		
BCM-1818/2119 DIN RAIL ACCESSORY		4829 0197
BCM-2125 DIN RAIL ACCESSORY		4829 0198

⁽¹⁾ Included with the DIRIS Digiware BCM modules.

Consult us for price

DIRIS Digiware *lac*

Current acquisition modules



DIRIS Digiware I-3x



DIRIS Digiware I-4x



DIRIS Digiware I-6x



Configuration
with Easy Config System.

Function

DIRIS Digiware *lac* modules measure consumption and monitor the system at the closest point to the loads. The flexibility of these modules allows you to allocate the loads to be measured or monitored through independent current inputs.

For example:

- 1 three-phase load,
- 3 single-phase loads.

The RJ45 and RJ12 connections allow you to connect modules very quickly and to automatically configure connected current sensors:

- communication address,
- load type,
- sensor type and ratio,
- automatic rating and verification of current travel direction.

Wiring errors are also prevented and installation is simplified.

Advantages

- RJ45 and RJ12 rapid connection.
- Available with 3, 4 or 6 inputs.
- Single-output or multi-output for maximum optimisation of the number of products.
- Compact format: 1 or 2 modules sized for integration at the closest point to the loads.
- A complete, dedicated solution:
 - metering,
 - monitoring,
 - quality analysis.
- Compliant with standard IEC 61557-12, guaranteeing the quality and accuracy of the system:
 - class 0.5 for the 2 - 120% rated current global measurement chain I_n (with TE/ iTR/TF current sensors).

The solution for

- > Industry
- > Building
- > Infrastructure
- > Data center



Strong points

- > Multi-circuit
- > Plug and Play
- > Compact
- > High-precision measurement chain

Integrated technologies



PreciSense



AutoCorrect



VirtualMonitor

For more information see our website
www.socomec.com

Conformity to standards

- > IEC 61557-12



- > ISO 14025



- > UL



Create your project

- > Find the best DIRIS Digiware configuration:
www.meter-selector.com



Application	Current measurement modules						
	Metering		Analysis	Monitoring	Analysis	Metering	
DIRIS Digiware lac	I-30	I-31	I-35	I-43	I-45	I-60	I-61
Number of current inputs	3	3	3	4	4	6	6
Metering							
± kWh, ± kvarh, kVAh	•	•	•	•	•	•	•
Load curves		•	•		•		•
Multi-tariff		•	•		•		•
Multi-measurement							
I1, I2, I3, In, ΣP, ΣQ, ΣS, ΣPF	•	•	•	•	•	•	•
P, Q, S, PF per phase		•	•	•	•		•
Predictive power			•		•		
Current unbalance (Inba, Idir, linv, Ihom, Inb)			•		•		
Phi, cos Phi, tan Phi			•		•		
Quality							
THDi1, THDi2, THDi3, THDin			•	•	•		
Individual harmonics I (up to 63rd)			•		•		
Overcurrents			•		•		
Alarms							
On threshold		○	•		•		○
Inputs/outputs				2/2	2/2		
History of average values							
45 days (max)			•		•		
Format							
Width/number of modules	18 mm / 1	18 mm / 1	18 mm / 1	27 mm / 1.5	27 mm / 1.5	36 mm / 2	36 mm / 2

○ : only for total power (P,Q,S).

Accessories

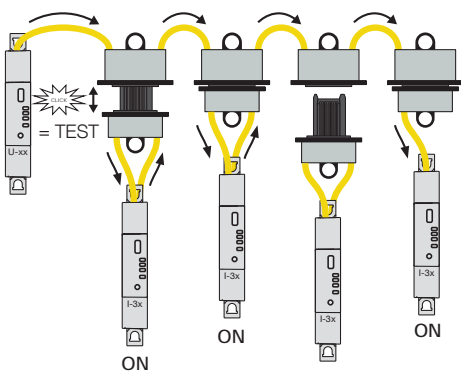
Digiware plug-in connector

With the Digiware plug-in connector you can disconnect a DIRIS Digiware module from the Bus while ensuring the DIRIS Digiware system continues to run downstream.

This accessory is particularly useful in applications with retractable drawers or critical applications such as in data centres.



diris-o_025.eps



diris-o_026.at

Specifications

Measuring characteristics

Current measurement - DIRIS Digiware Iac	
Number of current inputs	I-3x: 3 / I-45: 4 / I-6x: 6
Associated current sensors	Solid TE, split-core TR / iTR, flexible TF current sensors
Accuracy of current measurement	0,2 DIRIS Digiware class only Class 0.5 with TE, iTR or TF sensors Class 1 with TR sensors
Connection	Specific Socomec cable with RJ12 connectors

Inputs - DIRIS Digiware I-45ac	
Number of inputs	2
Type/ Power supply	Non-insulated input, internal polarisation 12 VDC max, 1mA
Input functions	Logic status, pulse meter, multi-tariff
Connection	Removable screw terminal block, stranded or solid 0.14-1.5 mm ² cable

Outputs - DIRIS Digiware I-45ac	
Number of outputs	2
Relay type	230 VAC ±15 % - 1 A 30 VDC - 3 A
Function	Configurable alarm (current, power, etc.) when threshold is exceeded or remote controlled status
Connection	Removable screw terminal block, stranded or solid 0.2-2.5 mm ² cable

Communication specifications

USB	
Protocol	Modbus RTU on USB
Function	Configuration of DIRIS Digiware U and I modules
Location	On each DIRIS Digiware U and I measurement module
Connection	Type B micro USB connector

References

DIRIS Digiware I		Reference	Price List
I-30	Metering - 3 current inputs	48290110	3.646.100
I-31	Metering + Load curve - 3 current inputs	48290111	4.826.100
I-35	Analysis - 3 current inputs	48290130	5.914.200
I-43	Monitoring - 2 inputs/2 outputs - 4 current inputs	48290129	5.914.200
I-45	Analysis - 2 inputs/2 outputs - 4 current inputs	48290131	5.914.200
I-60	Metering - 6 current inputs	48290112	6.789.600
I-61	Metering + Load curve - 6 current inputs	48290113	6.789.600

Accessories	Reference
Digiware x 5 plug-in connector	4829 0605

Digiware connection cables		Reference
RJ45 cables for Digiware Bus	Length 0.06 m	4829 0189
	Length 0.10 m	4829 0181
	Length 0.20 m	4829 0188
	Length 0.50 m	4829 0182
	Length 1 m	4829 0183
	Length 2 m	4829 0184
	Length 3 m	4829 0190
	Length 5 m	4829 0186
	Length 10 m	4829 0187
	Reel 50 m + 100 connectors	4829 0185
Digiware bus terminating resistor (supplied with C and D devices)		4829 0180
USB configuration cable		4829 0050

(1) DIRIS D-30 display characteristics see "DIRIS B" pages.

Expert Services

Require integration onto your network?

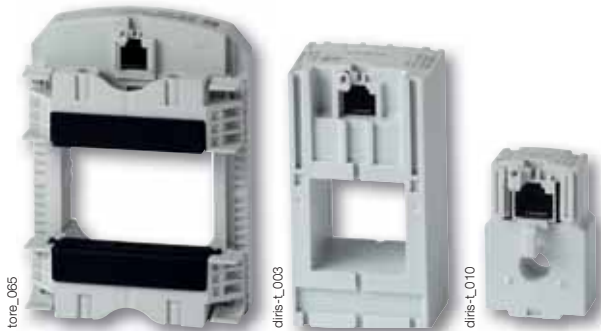
No problem for our "Expert Services" team. They will fully integrate all your SOCOMEC devices, **audit** your system, **commission** selected equipment and **train** your staff on its use.

For further information, please contact your nearest SOCOMEC branch.

TE sensors

Solid current sensors

used with DIRIS Digiware, DIRIS A-40 and DIRIS B



TE solid sensors

The solution for

- > Industry
- > Building
- > Infrastructure
- > Data center



Strong points

- > Plug & Play
- > Accuracy as per standard IEC 61557-12
- > Installation

Conformity to standards

- > IEC 61557-12



- > ISO 14025



- > UL



Create your project

- > Find the best DIRIS Digiware configuration:
www.meter-selector.com



Function

TE smart current sensors measure the load currents of an electrical system and send the data to meters and measurement hubs via an RJ12 plug-and-play output. Thanks to a wide measurement range, TE current sensors cover the full current range of 5 to 2000 A, with 7 references. TE solid current sensors can be connected to DIRIS Digiware, DIRIS A-40 and DIRIS B via a rapid RJ12 connection.

Numerous accessories are available to aid the installation of sensors in any type of cabinet.

Advantages

Plug & Play

- A rapid RJ12 connection makes wiring easy and reliable and prevents wiring errors. This also allows automatic detection of the sensor type and size/transformation ratio.
- The sensors can be installed in both directions.

Installation

- The TE solid sensor range is specially designed for new installations, and has the same pitch as the most common protective devices.

Accuracy as per standard IEC 61557-12

- Class 0.5 for the global measuring chain (measurement hub + TE current sensors) from 2 to 120% of the nominal current I_n .

Mounting

Linear assembly with the protective devices
TE-25 / TE-35 / TE-45 / TE-55 / TE-90



DIN rail mounted



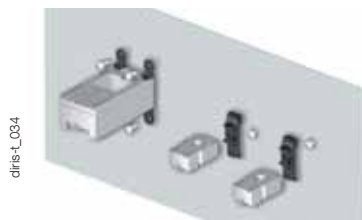
TE-90 clamps



Staggered assembly
TE-18 / TE-35 / TE-45 / TE-55



Back-plate mounting



Cable mounting



Bar mounting



Connections

TE / TR / ITR / TF current sensors







TE sensors

Solid current sensors

used with DIRIS Digiware, DIRIS A-40 and DIRIS B

Mounting accessories

Mounting accessories delivered with TE sensors:

Switch mounting		TE-18	TE-25	TE-35 TE-45 TE-55	TE-90
	DIN rail and back-plate	1 pc			2 pcs
	DIN rail		2 pcs	2 pcs	
	Back-plate		4 pcs	4 pcs	6 pcs
	Busbar			2 pcs	

Compatible accessories

Adapter for CT with 5A secondary

diris-t_041_a_1_cat



- With this adapter you can use a current transformer with a 1 A or 5 A output on DIRIS Digiware I, DIRIS B and DIRIS A-40. For use with 5 A CTs (measurement up to 10 000 A) or 1 A CTs (measurement up to 2000 A). The dimensions are the same as the TE-18.

Coupling link

diris-t_020_a_1_cat



- Associated with the TE range, this accessory is for inter-connecting the sensors when linear or staggered mounted.



Sealable cover

diris-t_046_a_1_cat

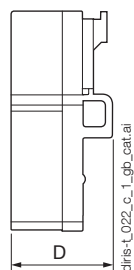
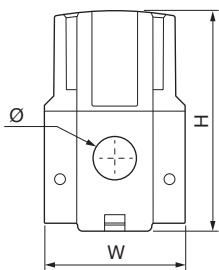


- Using a sealable cover guarantees the immunity of the sensor connection on TE/TR/iTR/TF current sensors.

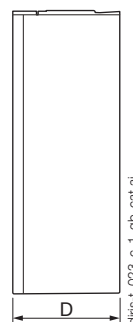
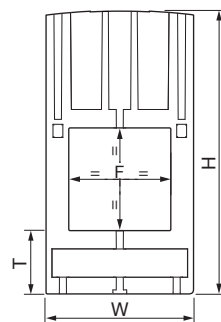
Dimensions (mm)

TE - Solid current sensors

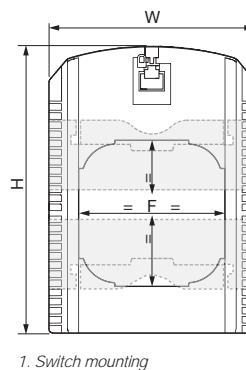
TE-18



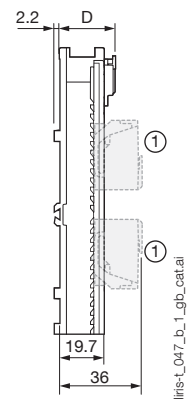
TE-25 / TE-35 / TE-45 / TE-55



TE-90



1. Switch mounting



Model	Nominal current range (A)	Real range covered (A)	Pitch (mm)	H x W x D (mm)	F (mm)	T (mm)
TE-18	5 ... 20 / 25 ... 63	0.1 ... 24 / 0.5 ... 75	18	45 x 28 x 20	8.6	-
TE-25	40 ... 160	0.8 ... 192	25	65 x 25 x 32.5	13.5 x 13.5	17.5
TE-35	63 ... 250	1.26 ... 300	35	71 x 35 x 32.5	21 x 21	17.5
TE-45	160 ... 630	3.2 ... 756	45	86 x 45 x 32.5	31 x 31	19.5
TE-55	400 ... 1000	8 ... 1200	55	100 x 55 x 32.5	41 x 41	21.5
TE-90	600 ... 2000	12 ... 2400	90	126 x 90 x 24.6	64 x 64	-

Specifications

TE - Solid current sensors							
Model	TE-18	TE-18	TE-25	TE-35	TE-45	TE-55	TE-90
Nominal current range I _n (A)	5 ... 20	25 ... 63	40 ... 160	63 ... 250	160 ... 630	400 ... 1000	600 ... 2000
Real range covered (A)	0.1 ... 24	0.5 ... 75	0.8 ... 192	1.26 ... 300	3.2 ... 756	8 ... 1200	12 ... 2400
Max. current (A)	24	75.6	192	300	756	1200	2400
Weight (g)	24	24	69	89	140	187	163
Max. voltage (phase/neutral)	300 V					600 V	
Rated withstand voltage	3 kV						
Frequency	50/60 Hz						
Intermittent overload	10 x I _n over 1 sec						
Measurement category	CAT III						
Protection degree	IP30 / IK06						
Operating temperature	-10 ... +70°C						
Storage temperature	-25 ... +85°C						
Relative humidity	95% RH non-condensing						
Altitude	< 2000 m						
Connection	Socomec RJ12 cable						

References

Model	Nominal current range (A)	Real range covered (A)	Pitch (mm)	Reference	Price List
TE-18	5 ... 20	0.1 ... 24	18	48290500	443.800
TE-18	25 ... 63	0.5 ... 75	18	48290501	507.900
TE-25	40 ... 160	0.8 ... 192	25	48290502	636.000
TE-35	63 ... 250	1.26 ... 300	35	48290503	700.100
TE-45	160 ... 630	3.2 ... 756	45	48290504	887.200
TE-55	400 ... 1000	8 ... 1200	55	48290505	1.079.400
TE-90	600 ... 2000	12 ... 2400	90	48290506	1.992.800

Accessories	Reference	Price List
Coupling link (20 linear assembly parts and 10 staggered assembly)	48290598	480.000
5A CT adapter (max primary current 2000A/1A or 10000A/5A)	48290599	676.000
Sealable caps (20 pieces)	48290600	421.500

RJ12 connection cables	Cable length (m)									
	0,1	0,2	0,3	0,5	1	2	3	5	10	50 m reel + 50 connector
Number of cables	Reference / Price List									
1	-	-	-	-	-	-	-	48290602 348.500	48290603 636.000	48290601 4.107.000
3	48290580 189.100	48290581 200.900	48290582 228.600	48290595 251.200	48290583 320.400	48290584 471.500	48290606 660.200	-	-	-
4	-	-	-	48290596 337.800	48290588 424.400	48290589 627.300	-	-	-	-
6	48290590 388.000	48290591 410.600	48290592 447.000	48290597 504.300	48290593 646.300	48290594 942.600	-	-	-	-

TR/iTR sensors

Split-core AC current sensors

used with DIRIS Digiware, DIRIS A-40 and DIRIS B



TR Split-core current sensors

Function

The split-core current sensors in the TR and iTR ranges enable the current of an electrical installation to be measured. Used with power monitoring device DIRIS Digiware, DIRIS A-40, DIRIS B, they make it possible to perform measurements between 25 and 600 A, with guaranteed accuracy. The RJ12 connection provides quick connections, and the integrated intelligence prevents any configuration errors.

The sensors in the iTR range revolutionise the world of measurement and provide access to VirtualMonitor status monitoring technologies and to AutoCorrect automatic configuration.

Advantages of the TR and iTR ranges

Smart sensors

- Sensors with an extended operational range.
- Automatic detection of rating.
- Secured disconnection of load.
- Quick connection via RJ12 and identification of cable by colour code.

Accurate

- Measurement precision guaranteed in acc. with standard IEC 61557-12 : class 0.5 (iTR) or 1 (TR) for the global measuring chain from 2 to 120% of In.

Unique advantages of the iTR range

VirtualMonitor technology

VirtualMonitor provides monitoring of protective devices:

- Across the entire electrical installation.
- Remotely and in real-time.
- Without additional hardware or wiring (no auxiliary contacts needed).

AutoCorrect technology

AutoCorrect guarantees that your measurement system is working correctly:

- Automatic wiring control (current voltage phase association).
- Correction of errors.
- Feature available off load.

The solution for

- > Retrofit applications
- > Industry
- > Building
- > Infrastructure
- > Data centers



Strong points

- > Smart sensors
- > PreciSense technology: Accurate
- > Easy installation and configuration

Integrated technologies⁽¹⁾



⁽¹⁾ AutoCorrect and VirtualMonitor are only available with iTR sensors.

For more information see our website www.socomec.com

Compliance with standards

- > IEC 61557-12



- > ISO 14025



- > UL



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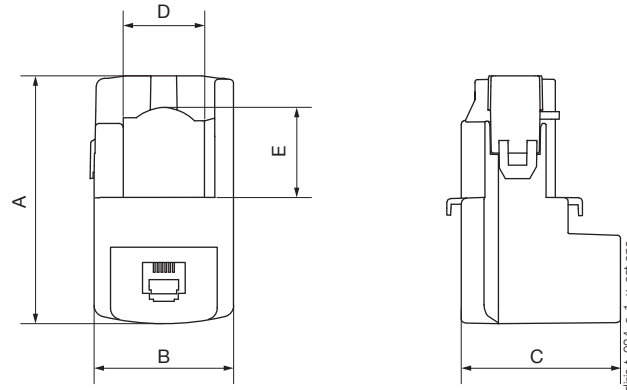
Installation

Cable mounting



Dimensions (mm)

TR-10 / TR-14 / TR-21 / TR-32



Model	Nominal current range (A)	Real range covered (A)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Ø (mm)
TR/iTR-10	25 ... 63	0.5 ... 75.6	44	26	28	-	-	10
TR/iTR-14	40 ... 160	0.8 ... 192	67	29	28	14	15	14
TR/iTR-21	63 ... 250	1.26 ... 300	65	37	43	21	23	21
TR/iTR-32	160 ... 600	3.2 ... 720	86	53	47	32	33	32

Technical characteristics

Model	TR-10	iTR-10	TR-14	iTR-14	TR-21	iTR-21	TR-32	iTR-32
Nominal current range I_n (A)	25 ... 63		40 ... 160		63 ... 250		160 ... 600	
Real range covered (A)	0.5 ... 75.6		0.8 ... 192		1.26 ... 300		3.2 ... 720	
Max. current (A)	75.6		192		300		720	
Weight (g)	74		117		211		311	
Max. voltage (phase/neutral)	300 V							
Rated withstand voltage	3 kV							
Frequency	50/60 Hz							
Intermittent overload	10 x I_n for 1 s							
Measurement category	CAT III							
Global class used with Diris Digiware/A-40/B-10/B-30	Class 1	Class 0.5	Class 1	Class 0.5	Class 1	Class 0.5	Class 1	Class 0.5
Protection degree	IP20 / IK07							
Operating temperature range	-10 to +70°C						-10°...+55°C	
Storage temperature range	-25 to +85°C							
Relative humidity	95% RH non-condensing							
Altitude	< 2000 m							
Connection	Socomec RJ12 cable							

References

Model	Nominal current range (A)	Real range covered (A)	Ø (mm)	Reference	Price List	Model	Nominal current range (A)	Real range covered (A)	Ø (mm)	Reference	Price List
TR-10	25 ... 63	0.5 ... 75	10	48290555	1.422.300	iTR-10	25 ... 63	0.5 ... 75	10	48290655	1.638.400
TR-14	40 ... 160	0.8 ... 192	14	48290556	1.422.300	iTR-14	40 ... 160	0.8 ... 192	14	48290656	1.638.400
TR-21	63 ... 250	1.26 ... 300	21	48290557	1.535.600	iTR-21	63 ... 250	1.26 ... 300	21	48290657	1.764.300
TR-32	160 ... 600	3.2 ... 720	32	48290558	1.998.200	iTR-32	160 ... 600	3.2 ... 720	32	48290658	2.299.800

RJ12 connection cables	Cable length (m)									
	0,1	0,2	0,3	0,5	1	2	3	5	10	50 m reel + 50 connector
Number of cables	Reference / Price List									
1	-	-	-	-	-	-	-	48290602 348.500	48290603 636.000	48290601 4.107.000
3	48290580 189.100	48290581 200.900	48290582 228.600	48290595 251.200	48290583 320.400	48290584 471.500	48290606 660.200	-	-	-
4	-	-	-	48290596 337.800	48290588 424.400	48290589 627.300	-	-	-	-
6	48290590 388.000	48290591 410.600	48290592 447.000	48290597 504.300	48290593 646.300	48290594 942.600	-	-	-	-

TF sensors

Flexible TF current sensors

used with DIRIS Digiware, DIRIS A-40 and DIRIS B



TF Flexible current sensors

The solution for

- > Industry
- > Building
- > Infrastructure
- > Data centers



Strong points

- > Plug & Play
- > Accuracy according to IEC 61557-12
- > Safe locking mechanism
- > Installation
- > Simplified installation

Integrated technologies



PreciSense

For more information see our website
www.socomec.com

Compliance with standards

- > IEC 61557-12



- > ISO 14025



- > UL



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METER SELECTOR
DIGITAL TOOL AVAILABLE

Function

TF flexible current sensors measure the load currents of an electrical circuit and send the data to meters and Power Monitoring Devices or current modules via an RJ12 plug-and-play connection. Thanks to a wide measurement range, TF current sensors cover a wide current range from 100 to 6000 A, with only 7 references. TF flexible current sensors can be used with DIRIS Digiware I modules, DIRIS A-40 and DIRIS B.

Advantages

Plug & Play

- A rapid RJ12 connection makes wiring easy and reliable and prevents wiring errors. This also allows automatic detection of the sensor type and rating.
- The sensors can be installed in both directions.

Accuracy according to IEC 61557-12

- Class 0.5 for the global measuring chain (PMD + TF current sensors) from 2 to 120% of the nominal current I_n .
- Accuracy is guaranteed regardless of the position of the conductor in the loop.

Safe locking mechanism⁽¹⁾

- The locking system prevents the loop from opening, guaranteeing continuous functioning and accuracy even under harsh conditions.

Installation

- The TF flexible sensor range is specially designed for existing installations with strict integration constraints or with high-intensity currents.

Simplified installation

- The Rogowski integrator is directly integrated to the RJ12⁽¹⁾ cable enabling a quick and compact integration (no DIN rail assembly required) inside electrical panels.
- The integrator is self supplied by the PMD through the RJ12 cable and does not need any external power supply.

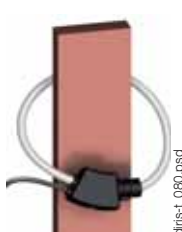
⁽¹⁾ Except for TF-55.

Installation

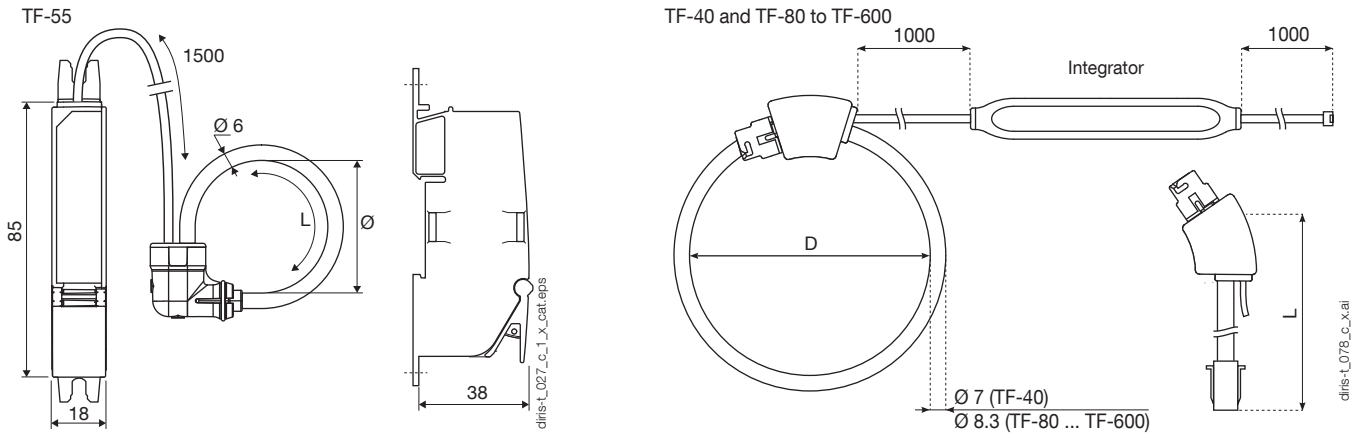
Cable mounting



Bar mounting



Dimensions (mm)



Model	Nominal current range (A)	Real range covered (A)	D = Ø loop (mm)	L = Loop length (mm)
TF-40	100 ... 400	2 ... 480	40	126
TF-55	150 ... 600	3 ... 720	55	173
TF-80	150 ... 600	3 ... 720	80	251
TF-120	400 ... 2000	8 ... 2400	120	377
TF-200	600 ... 4000	12 ... 4800	200	628
TF-300	1600 ... 6000	32 ... 7200	300	942
TF-600	1600 ... 6000	32 ... 7200	600	1885

Integrator dimensions: 128 x 19 x 15 mm

Technical characteristics

Model	TF-40	TF-55	TF-80	TF-120	TF-200	TF-300	TF-600
Nominal current range I _n (A)	100 ... 400	150 ... 600	150 ... 600	400 ... 2000	600 ... 4000	1600 ... 6000	1600 ... 6000
Real range covered (A)	2 ... 480	3 ... 720	3 ... 720	8 ... 2400	12 ... 4800	32 ... 7200	32 ... 7200
Weight (g)	114	114	130	142	164	193	274
Max. voltage (phase/neutral)	600 V						
Rated withstand voltage	3.6 kV						
Accuracy class	0.5 in association with DIRIS Digiware I, DIRIS A-40, DIRIS B based on IEC 61557-12						
Frequency	50 / 60 Hz						
Intermittent overload	10 x I _n for 1 s						
Measurement category	CAT III						
Protection degree	IP30 / IK07						
Operating temperature	-10 to +70°C						
Storage temperature	-25 to +85°C						
Relative humidity	95% RH non-condensing						
Altitude	< 2000 m						
Connection	Socomec cable or equivalent RJ12 straight, twisted pair, unshielded, 600 V, -10 ... +70 °C						

References

Model	Nominal current range (A)	Real range covered (A)	D = Ø loop (mm)	L = Loop length (mm)	Reference	Price List
TF-40	100 ... 400	2 ... 480	40	126	48290573	Consult us
TF-55	150 ... 600	3 ... 720	55	173	48290570	Consult us
TF-80	150 ... 600	3 ... 720	80	251	48290574	5.209.500
TF-120	400 ... 2000	8 ... 2400	120	377	48290575	6.140.400
TF-200	600 ... 4000	12 ... 4800	200	628	48290576	6.720.400
TF-300	1600 ... 6000	32 ... 7200	300	942	48290577	6.805.400
TF-600	1600 ... 6000	32 ... 7200	600	1885	48290578	7.456.200

Accessories	Reference	Price List
Female/female connector for extension of the RJ12 connection between PMD and TF sensor	48290670	312.100

RJ12 connection cables	Cable length (m)									
	0,1	0,2	0,3	0,5	1	2	3	5	10	50 m reel + 50 connector
Number of cables	Reference / Price List									
1	-	-	-	-	-	-	-	48290602 348.500	48290603 636.000	48290601 4.107.000
3	48290580 189.100	48290581 200.900	48290582 228.600	48290595 251.200	48290583 320.400	48290584 471.500	48290606 660.200	-	-	-
4	-	-	-	48290596 337.800	48290588 424.400	48290589 627.300	-	-	-	-
6	48290590 388.000	48290591 410.600	48290592 447.000	48290597 504.300	48290593 646.300	48290594 942.600	-	-	-	-

DIRIS Digiware R-60

Residual Current Monitoring module



diris-dw_173_front

DIRIS Digiware R-60



Configuration with
Easy Config System software.

Function

DIRIS Digiware R-60 modules combine residual current monitoring (RCM) with power metering and monitoring functions, for any combination of 1-phase, 2-phase or 3-phase circuits used in TN-S and TT earthing systems.

With six RJ12 channels, they can be connected to a mix of Δ IC residual CTs and TE/TR/ITR/TF current sensors via RJ12 cables enabling quick connection and avoiding wiring errors.

Advantages

2 in 1

One DIRIS Digiware R-60 module can be connected to residual CTs and traditional TE/TR/ITR/TF current sensors to pool residual current and power monitoring.

Multi-circuit

One DIRIS Digiware R-60 module can monitor the residual current on up to 6 circuits.

The Digiware modular concept allows several R-60 modules to be added within a single system, making it easy to implement RCM for a large number of outgoing circuits instead of the main incomer only.

Plug & Play solution

The Digiware concept and the RJ45 bus allow:

- easy connection of R-60 modules to an existing DIRIS Digiware system,
- optimal scalability by adding additional modules when needed.

The connection to current sensors is quick and error-free thanks to colour coded RJ12 cables.

Smart alarming

DIRIS Digiware R-60 provides the most advanced RCM alarm features for preventive notifications:

- before the residual current device (RCD) trips,
- before leakage currents become hazardous for people and assets,
- if the RCD is defective.

The combination with Virtual Monitor technology specifies if the RCD has tripped on an overload or a high residual current.

Patented innovation

Thanks to an automatic learning sequence, launched for a chosen duration representative of the normal operation of the electrical installation, 6 dynamic residual current (I_{Δ}) thresholds are automatically set. This facilitates the determination of the maximum residual current not to be exceeded for each outgoing circuit.

The solution for

- > Industries
- > Data centres



Strong points

- > 2 in 1
- > Multi-circuit
- > Plug & play solution
- > Smart alarming
- > Patented innovation

Compliance with standards

- > IEC 62020
- > IEC 61557-12



- > ISO 14025

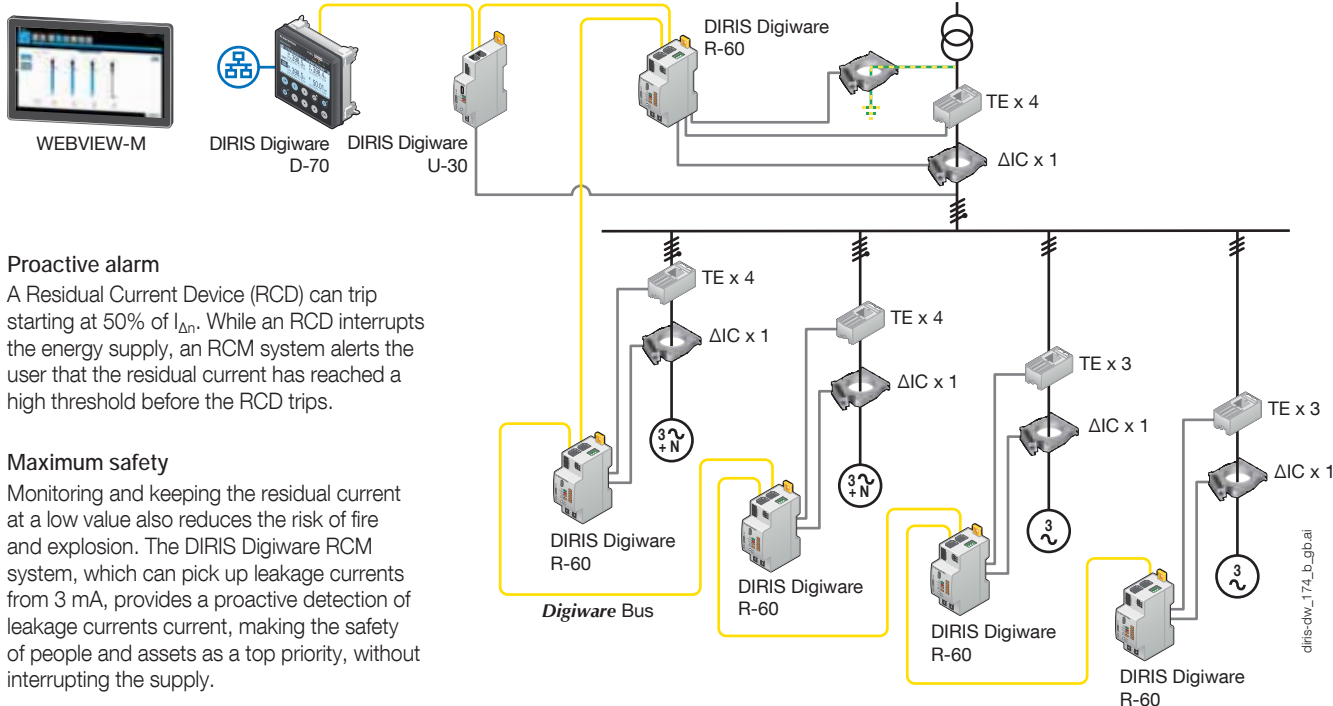


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Applications



Proactive alarm

A Residual Current Device (RCD) can trip starting at 50% of $I_{\Delta n}$. While an RCD interrupts the energy supply, an RCM system alerts the user that the residual current has reached a high threshold before the RCD trips.

Maximum safety

Monitoring and keeping the residual current at a low value also reduces the risk of fire and explosion. The DIRIS Digiware RCM system, which can pick up leakage currents from 3 mA, provides a proactive detection of leakage currents current, making the safety of people and assets as a top priority, without interrupting the supply.

Protective earthing (PE) conductor

Adding a residual CT on the upstream PE conductor is essential to ensure the proper connection to earth.


It is also the easiest and cheapest way to measure the upstream residual current reliably.

Compliance with installation standards

Many local electrical codes require an insulation resistance measurement as part of the Periodic Inspection and Testing. This operation is costly as it must be done on all outgoing circuits and intrusive as the main protective device must be opened.

According to IEC 60364-6 installation standards and many national transpositions, periodic insulation resistance testing is not necessary if permanently monitored by an RCM solution such as the DIRIS Digiware RCM system.

Measurements

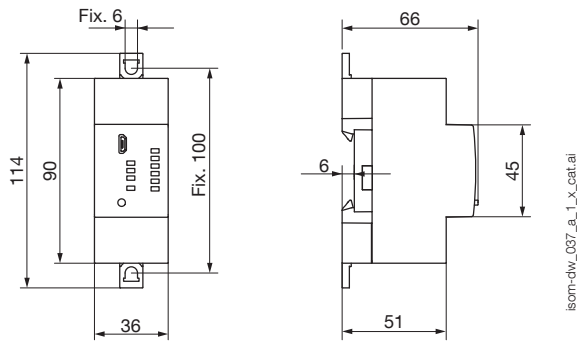
	
DIRIS Digiware R-60	
Residual Current Monitoring	
I_{Δ}	•
I_{PE}	•
Metering	
+/- kWh, +/- kvarh, kVAh	•
Multi-tariff (max 8)	•
Load curves	•
Multi-measurement	
$I_1, I_2, I_3, I_n, \Sigma P, \Sigma Q, \Sigma S, \Sigma PF$	•
P, Q, S, PF per phase	•
Alarms	
Dynamic I_{Δ} and I_{PE} thresholds	•
Overloaded neutral conductor	•
Protective device (opening, Trip, defective RCD)	•
I_{Δ} and I_{PE} comparisons	•
Trends	
I_{Δ}	•
I_{PE}	•
Load curves	•

Front face

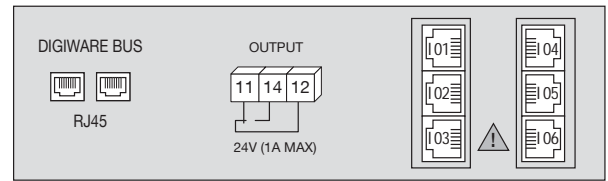


1. USB port for configuration.
2. ON LED. Lights when the device is active.
3. ALARM LED for system alarms (CT disconnected, etc.)
4. COM LED. Flashes when the communication bus is active.
5. RCM FAULT. Lights if there is an RCM alarm on any of the channel 1 through 6.
6. TEST / RESET button. Starts the auto test (long press) and resets alarms (short press). Used during auto-discovery process for the resolution of address conflicts.
7. Individual LED alarm signals for each channel 1 to 6.

Dimensions (mm)



Terminals and wiring



DIGIWARE BUS: RJ45 bus to connect to other Digiware modules

11 - 12 - 14: alarm relay output
I01 - I02 - I03 - I04 - I05 - I06: RJ12 connection of residual CTs (via the T-10 adaptor) and current sensors

Technical characteristics

Measurement characteristics	
RCM type	Type A according to IEC 62020
Number of RJ12 channels	6
Residual CTs connection	RJ12 cables via Digiware T-10 adaptor
Current sensors connection	RJ12 cables
Current measurement accuracy	Class 0.5 according to IEC 61557-12
Active energy accuracy	Class 0.5 according to IEC 61557-12
Reactive energy accuracy	Class 1 according to IEC 61557-12
Digital output characteristics	
Number of contacts	1
Contact type	Changeover switch
Nominal voltage	24 VAC / 24 VDC
Max current	1 A
Default mode	Normally open
Mechanical characteristics	
Mounting type	DIN rail or back plate
Casing protection index	IP20
Weight	103 g

Electrical characteristics	
Auxiliary power supply	24 VDC with Digiware bus
R-60 consumption	0.5 W
Communication characteristics	
Digiware bus	
Function	Connection between Digiware modules
Cable type	Specific Socomec RJ45 cable
USB	
Protocol	Modbus RTU on USB
Function	Configuration of DIRIS Digiware modules
Cable type	Type B micro USB connector
Environmental characteristics	
Operating temperature	-10 ... +55°C
Storage temperature	-25 ... +70°C
Operating humidity	55°C / 97% RH
Operating altitude	< 2000 m

References

DIRIS Digiware	Reference	Price List
R-60 Diris Digiware	48290114	Consult us
T-10 RJ12 adaptor Diris Digiware	48290620	Consult us

RJ12 connection cables	Cable length (m)									
	0,1	0,2	0,3	0,5	1	2	3	5	10	50 m reel + 50 connector
Number of cables	Reference / Price List									
1	-	-	-	-	-	-	-	48290602 348.500	48290603 636.000	48290601 4.107.000
3	48290580 189.100	48290581 200.900	48290582 228.600	48290595 251.200	48290583 320.400	48290584 471.500	48290606 660.200	-	-	-
4	-	-	-	48290596 337.800	48290588 424.400	48290589 627.300	-	-	-	-
6	48290590 388.000	48290591 410.600	48290592 447.000	48290597 504.300	48290593 646.300	48290594 942.600	-	-	-	-

Expert Services

Require integration onto your network?

No problem for our "Expert Services" team. They will fully integrate all your SOCOMEC devices, **audit** your system, **commission** selected equipment and **train** your staff on its use.

For further information, please contact your nearest SOCOMEC branch.

DIRIS Digiware IO

Digital and analogue input/output modules



DIRIS Digiware IO-10
4 digital inputs/2 digital outputs

DIRIS Digiware IO-20
2 analogue inputs



Configuration
with Easy Config System.

Function

DIRIS Digiware IO modules enrich the measurement system with multiple features:

- DIRIS Digiware IO-10 modules have 4 digital inputs and 2 digital outputs. The 4 digital inputs can be used to monitor the status of third-party devices (position of protective devices, trip counter) or to collect pulses from multi-fluid meters. The 2 digital outputs allow the remote control of third-party equipment signal. Alarms can be configured and assigned to the digital outputs.

- Thanks to their 2 analogue inputs, DIRIS Digiware IO-20 modules can collect data from analogue sensors (pressure, humidity, temperature...).

All the information reported by the IO-10 and IO-20 modules can be viewed on DIRIS Digiware D-xx displays and on Webview, the web server embedded in DIRIS G gateways and in the DIRIS Digiware D-70 display unit.

Advantages

Plug & Play

The IO modules can be easily added anywhere within the measurement system thanks to a quick RJ45 connection.

Multifunction

The combination of voltage measuring modules, current measuring modules, and input/output modules makes DIRIS Digiware a complete and versatile system.

Integrated

All the reported information is accessible from the displays, from WEBVIEW or any other centralised management software.

Compact

The modular format allows the quick connection of a large number of IO-10 and IO-20 modules.

The solution for

- > Industry
- > Building
- > Data center



Strong points

- > Plug & Play
- > Multifunction
- > Integrated
- > Compact

Compliance with standards

- > IEC 61557-12
- > IEC 61010



- > ISO 14025



- > UL

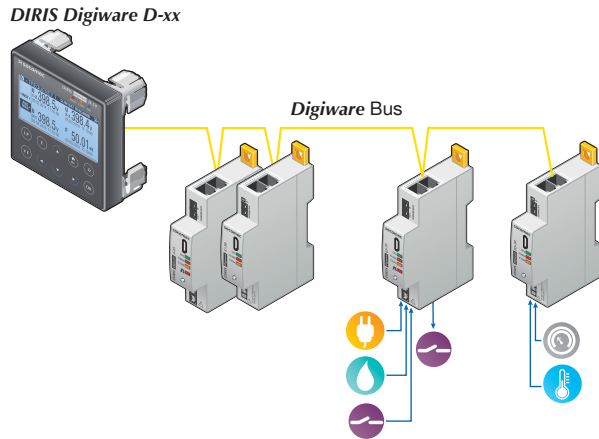


Create your project

- > Find the best DIRIS Digiware configuration:
www.meter-selector.com



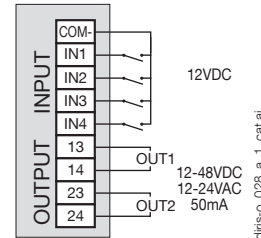
Application diagram



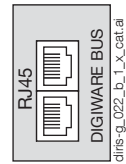
Connections

DIRIS Digiware IO-10

Digital inputs/outputs

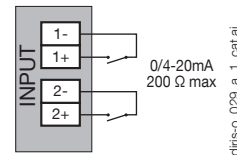


Digiware Bus

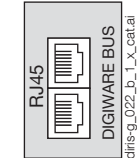


DIRIS Digiware IO-20

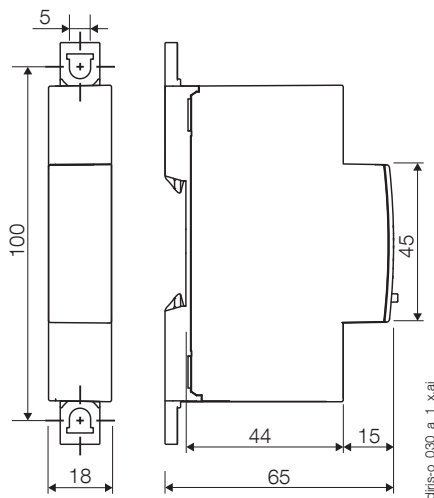
Analogue inputs



Digiware Bus



Dimensions (mm)



Technical characteristics

Measuring characteristics

Digital inputs/outputs- DIRIS Digiware IO-10

Number of inputs	4
Type/power supply	Insulated input, internal polarisation 12 VDC max., 3 mA
Input function	- Status of third-party devices - Monitoring of protective devices (ON/OFF, Trip) - Pulse counter
Number of outputs	2
Type	Insulated output, 48 VDC max., 50 mA and 24 VAC max.
Output function	- Remote control of devices - Alarm signal linked to the inputs (exceeding threshold, status...)
Input/output connection	Removable screw terminal block, 9 positions (5 dedicated to inputs, 4 dedicated to outputs) Stranded or solid 0.14 to 1.5 mm ² cable

Analogue inputs - DIRIS Digiware IO-20

Number of inputs	2
Type/power supply	0/4-20 mA, 200 Ω max
Accuracy	0.5% full scale
Function	Connection of analogue sensors (pressure, humidity, temperature...) with choice of interpolation (linear or quadratic)
Input connection	Removable screw terminal block 2x2 positions, Stranded or solid 0.14 to 1.5 mm ² cable

References

Digiware connection cables		Reference
RJ45 cables for Digiware Bus	Length 0.06 m	4829 0189
	Length 0.10 m	4829 0181
	Length 0.20 m	4829 0188
	Length 0.50 m	4829 0182
	Length 1 m	4829 0183
	Length 2 m	4829 0184
	Length 3 m	4829 0190
	Length 5 m	4829 0186
	Length 10 m	4829 0187
	Reel 50 m + 100 connectors	4829 0185
Termination for Digiware Bus (supplied with interfaces C and D)		4829 0180
USB configuration cable		4829 0050

DIRIS Digiware		Reference	Price List
IO-10	4 digital inputs/2 outputs module	48290140	3.722.100
IO-20	2 analogue input module	48290145	5.094.600

DIRIS B

Multifunction measuring unit - PMD

measurement, monitoring and event analysis with smart sensors - modular format



diris_b_038.eps



Function

The DIRIS B is a power monitoring device in a modular format that communicates via RS485. The 4 RJ12 independent current inputs of the device allow it to manage several types and number of circuits: for example, 4 single-phase loads or 1 three-phase load + 1 single-phase load.

The DIRIS B is connected to current sensors (RJ12 connection) that are suitable for all types of installation: solid TE, split-core TR/ITR, and flexible TF current sensors.

Advantages

Plug & Play

A rapid RJ12 connection makes wiring easy and reliable and prevents wiring errors. Automatically addressing and configuring the product (communication address, load type, type and ratio of current sensor) allow you to simplify implementation and to save time.

Class 0.5 in accordance with IEC 61557-12

- Class 0.2 for the meter alone.
- Class 0.5 from 2% to 120% of nominal current for the global measurement chain (associated with TE/ITR/TF current sensors).

Multi-circuit

- 4 current measurement inputs allow you to configure multiple circuits in order to optimise the number of measurement devices per installation.

Communication

- The DIRIS B can be connected to:
 - a remote DIRIS D-30 screen for displaying measurement and metering data,
 - DIRIS Digiware M-50/M-70 gateways for centralisation and communication of data via Ethernet. DIRIS Digiware M-70 embeds WEBVIEW-M, a webserver for remote visualisation of measurement data,
 - optional modules for more communication options including a second RS485 port or PROFIBUS DP protocol. Digital or Analog input/output, as well as temperature input modules can also be connected.

The solution for

- > Industry
- > Building
- > Infrastructure
- > Local authority



Strong points

- > Plug & Play
- > Global accuracy class 0.5 in accordance with IEC 61557-12
- > Multi-circuit
- > Communication

Integrated technologies





For more information see our website www.socomec.com

Conformity to standards

- > UL E257746
- > IEC 61557-12
- > EN 50160
- > ISO 14025



Application	Local metering	Local analysis
		
DIRIS B	B-10 RS485	B-30 RS485
Number of current inputs	4	4
Metering		
± kWh, ± kvarh, kVAh	•	•
Load curves		•
Multi-tariff	•	•
Multi-measurement		
U12, U23, U31, V1, V2, V3, f	•	•
U system, V system	•	•
I1, I2, I3, In, ΣP, ΣQ, ΣS, ΣPF	•	•
P, Q, S, PF per phase	•	•
Predictive power	•	•
Ph/N unbalance	•	•
Ph/Ph unbalance	•	•
Current unbalance (Inba, Idir, linv, lhom, lnb)	•	•
Phi, cos Phi, tan Phi	•	•
Quality analysis		
THDv1, THDv2, THDv3, THDu12, THDu23, THDu31	•	•
THDi1, THDi2, THDi3, THDin	•	•
Individual harmonics U & V (up to 63 rd)		•
Individual harmonics I (up to 63 rd)		•
Crest factor I1, I2, I3, In		•
Crest factor V1, V2, V3, U12, U23, U31		•
Voltage dips, interruptions, swells (EN 50160)		•
Overcurrents		•
Alarms		
On threshold		•
Inputs/outputs		•
History of average values		
45 days (max)		•
Communication		
RS485 Modbus	•	•
2 inputs (status/pulse)	•	•

Accessories

DIRIS B sealing cover

- Prevents access to the cabling of the monitoring device.



USB configuration cable (2 m)

- Advanced configuration of DIRIS B gateways can be achieved using the EASY CONFIG software via Ethernet or direct USB connection.

DIRIS B

Multifunction measuring unit - PMD

measurement, monitoring and event analysis with smart sensors - modular format

DIRIS D-30 display

DIRIS D-30

Connection



diris-d_001_a_1_cat



diris-d_004_b_1_x_cat

DIRIS D-30

DIRIS B

Optional modules

DIRIS O



diris-b_001_a

Optional module

DIRIS B



Optional modules (4 max.)*

- Digital inputs/outputs
- Analogue inputs/outputs
- Temperature inputs
- Communication protocols

* maximum 4 optional modules with maximum 1 temperature module and 1 communication module (Modbus, PROFIBUS).



diris-o_019_a

DIRIS O-iod

- 2 digital inputs centralises the metering pulses or the input status changes of the auxiliary contacts.
- 2 digital outputs can be connected to configurable alarms warning of exceeded thresholds (power, current, etc.) or can be piloted remotely.



diris-o_018_a

DIRIS O-ioa

- 2 inputs (4-20 mA) centralise analogue sensors (pressure, humidity, temperature, etc.)
- 2 outputs (4-20 mA) report the measurements (power, currents, etc.) to PLCs.



diris-o_020_a

DIRIS O-it

- 3 temperature inputs to be connected to PT100 or PT1000 sensors.
- Ambient air temperature.



diris-o_024_a

DIRIS O-m

- Provides a second RS485 Modbus communication port to the DIRIS B for simultaneous sending of information via RS485 to two supervision stations.



diris-o_023_a

DIRIS O-p

- Adds a PROFIBUS DPV1 communication port to the DIRIS B.

References

DIRIS B monitoring devices		Reference	Price List
DIRIS B-10	RS485 - Modbus - 230 VAC	48290010	4.107.000
DIRIS B-30	RS485 - Modbus - 230 VAC	48290000	12.057.400
DIRIS O optional modules		Reference	Price List
DIRIS O-iod	2 digital inputs / 2 digital outputs	48290030	3.616.500
DIRIS O-ioa	2 analogue inputs/2 analogue outputs 4-20 mA	48290031	4.826.100
DIRIS O-it	3 temperature inputs PT 100 / PT 1000	48290032	4.826.100
DIRIS O-m	RS485 Modbus communication	48290033	4.826.100
DIRIS O-p	PROFIBUS communication	48290034	10.853.000
Accessories		Reference	Price List
DIRIS D-30 - Single-point display		48290200	3.616.500
RJ9 cable for DIRIS D-30 display - 1.5 m		48290280	109.200
RJ9 cable for DIRIS D-30 display - 3 m		48290281	164.500
DIRIS B sealing cover for I/O terminals		48290049	707.900
USB configuration cable		48290050	136.900

DIRIS Q800

Electrical network analyser

quality analysis of electrical energy and power grids



DIRIS Q800

The solution for

- > Industry
- > Infrastructure
- > Healthcare buildings
- > Data centers



Strong points

- > Large colour touchscreen
- > High performance and accuracy
- > Regulatory compliance
- > Multiple communication channels

Compliance with standards

- > IEC 61000-4-30 :2015 Ed.3 class A
- > IEC 62586-1
- > IEC 62586-2
- > IEC 62053-22
- > IEC 62053-24
- > EN 50160



Function

The **DIRIS Q800** is a multifunction network analyser for all energy efficiency projects. It helps to actively ensure the electrical system runs continuously and at optimised rates.

As such, with this system you can:

- Improve the efficiency of your facility.
- Reduce production losses.
- Optimise running costs.
- Reduce maintenance costs.

To achieve these objectives, the DIRIS Q800 does the following:

- Measures electrical parameters and status (via auxiliary contacts).
- Analyses the quality of energy according to class A IEC 61000-4-30:2015 Ed.3.
- Measures differential current.
- GPS synchronisation.
- Sends an email in the event of an alarm.

Advantages

Large colour touchscreen

The 192 x 144 mm color touchscreen is tactile, easy to operate and provides intuitive navigation.

Regulatory compliance

By its compliance with IEC 61000-4-30:2015 Ed.3 Class A for all electrical parameters and IEC 62586-2, you have the assurance of a certified and high quality product.

Multiple communication channels

With its multiple communication options, the DIRIS Q800 can be integrated into any type of communication infrastructure:

- 1 rear Ethernet port for permanent cable connection.
- 1 front Ethernet for local diagnostics.
- 1 Wifi port.
- 1 RS485 port.
- 1 USB port.
- GPS synchronisation.
- Built-in Webserver.
- Protocols: HTTP, HTTPS, FTP, NTP, MODBUS, PQDIF, SMTP.

Functions

Measurements

- Measures across 4 quadrants
- Voltage by phase, current by phase, frequency.
- Neutral current, differential current.
- Neutral/earth voltage.
- Active, reactive and apparent power.
- Cos phi and power factor.
- THD and spectral analysis up to the 63rd for current and voltage.
- Flicker (Pst, Plt).
- Voltage and current unbalance.
- Remote control signals.
- Current and Power Demand: average and maximum (timestamped)

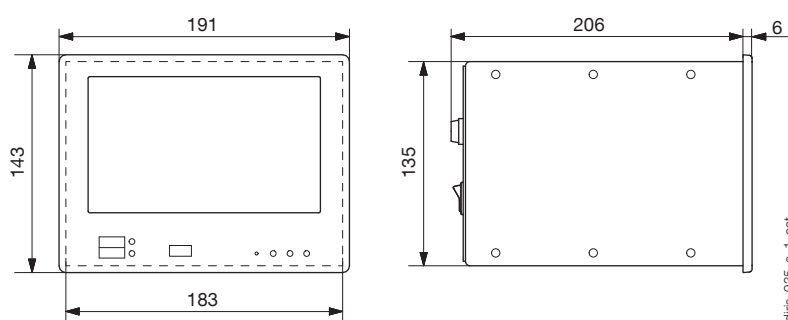
Logging

- EN 50160 events ½ period (10 ms): voltage dips, voltage cutouts, voltage surges.
- Current events 1/2 period (10 ms): inrush
- Data exported automatically via FTP.
- EN 50160 reports with CBEMA / ITIC curves for PQ events.
- Transients (20 micro seconds).

Inputs/outputs

- 4 digital inputs.
- 4 digital outputs.
- 4 analogue outputs.

Dimensions (mm)



Dimensions

Cutout	192 x 144 DIN / 186 x 138 mm
Front panel (W x H)	191 x 143 mm
Enclosures (W x H x D)	183 x 135 x 190 mm
Weight	1400 g

Specifications

Auxiliary power supply	
Voltage range	100 ... 240 VAC / 65 ... 250 VDC
Frequency	50/60 Hz
Power consumption	Max. 15 VA
Backup battery	Li-ion 2500 mAh (>15 min autonomy)
Measurement inputs	
Direct voltage measurement input	P-N: max 580 V RMS CAT III L-L: max 1000 V RMS CAT III
U4 direct voltage measurement input	Max 580 V RMS CAT II
Voltage input crest factor	2
Current inputs	Max 7 A RMS
Current input consumption	0.04 VA
Current input crest factor	3
Voltage input impedance	> 6 MΩ
Frequency range	42.5 to 57.5 Hz/51 to 69 Hz
Voltage reference channel	U1N/U12
Sampling	51.2 kHz @50 Hz
Accuracy	
Three-phase voltage	± 0.1%
4 th voltage (neutral/earth)	± 0.2%
Currents	± 0.2%
Power	± 0.2%
Frequency	± 10 mHz
Harmonics	Class 1 IEC/EN 61000-4-7
Active energy	Class 0.2S IEC/EN 62053-22
Reactive energy	Class 1 IEC/EN 62053-24

Communication	
Ethernet ports	2 Auto MDIX RJ45 10/100 Base Ethernet
RS485 opto-insulated port (slave)	0.5 UL 4800 to 115200 bps
Passive WIFI antenna	RP-SMA female
Active GPS antenna	SMA female
Protocols	HTTP, HTTPS, FTP, SFTP, NTP, NMEA, Modbus RTU/TCP, SMTP
USB port	USB 2.0
Environmental conditions	
Operating temperature (max. range)	-25 ... +55°C
Storage temperature	-25 ... +75°C
Humidity	Max. 95 %
Max. altitude	2000 m
Standards and safety	
Product conformity	IEC/EN 62586-1, IEC/EN 62586-2
Safety	EN 61010-2-030
Degree of pollution	2 (EN 61010-1)
Degree of protection	IP40 front, IP20 rear
Directive	RED §3.1a Health EN 62311 :2008 RED § 3.1b EMC

References

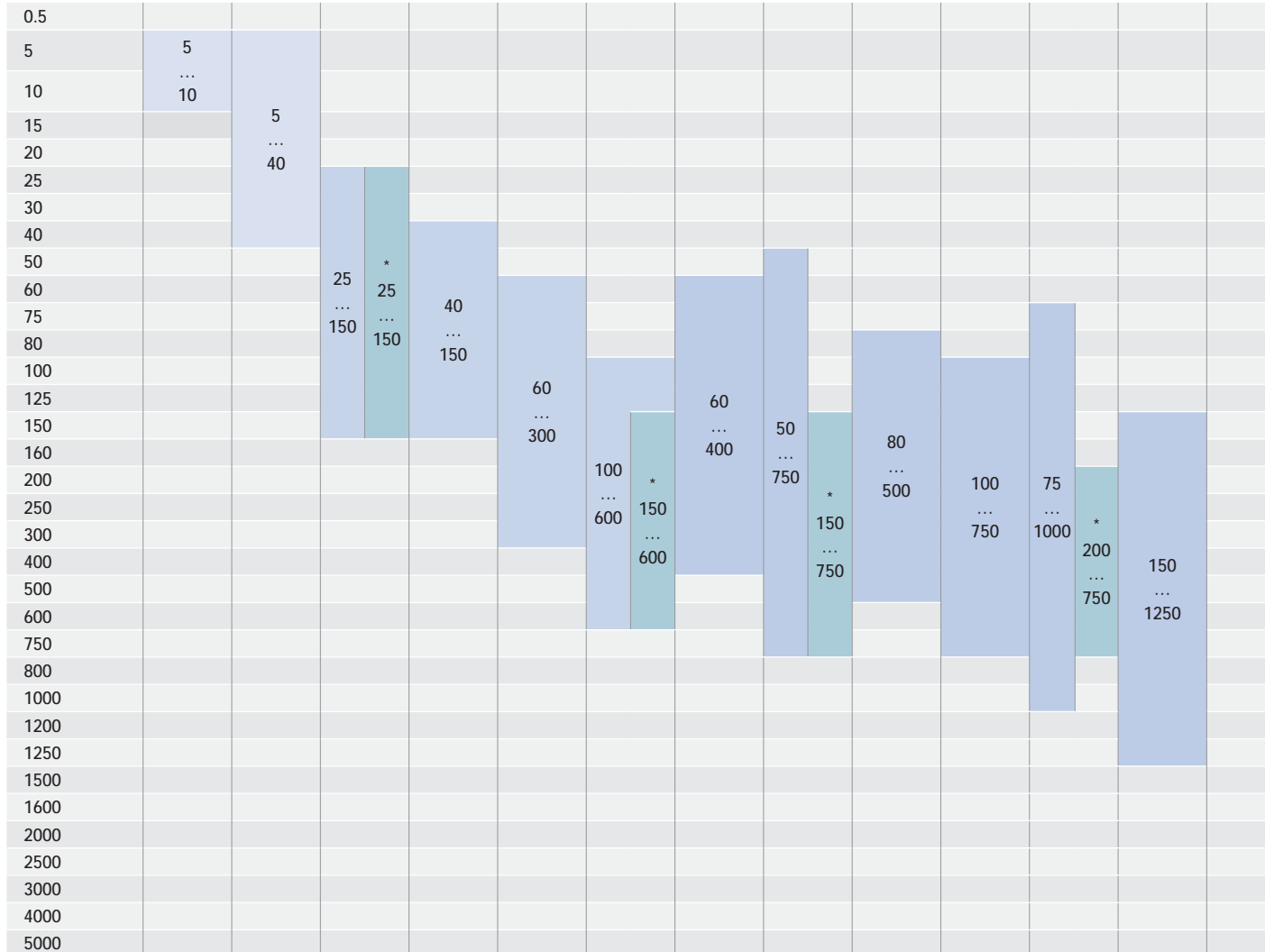
DIRIS Q800	Reference	Price List
DIRIS Q800 100...230 VAC / 65...250 VDC	48260100	Consult us

Selection guide

Current transformers

Type	TRB 60	TRB 70	TRB 135	TCA 14	TCA 21	TCA 22	TCB 17-20	TCB 26-30	TCB 28-30	TCB 26-40	TCB 32-40	TCB 44-50
Format	Wound primary			Cable			Cable – busbar					
Class	0.5	0.5	0.5	1	0.5/1	1	1	0.5/1	0.5/1	1	0.5/1	0.5/1
Version 0.2s			(1)			(2)		T2CB 26-30			T2CB 32-40	

Rating (A)



Dimensions

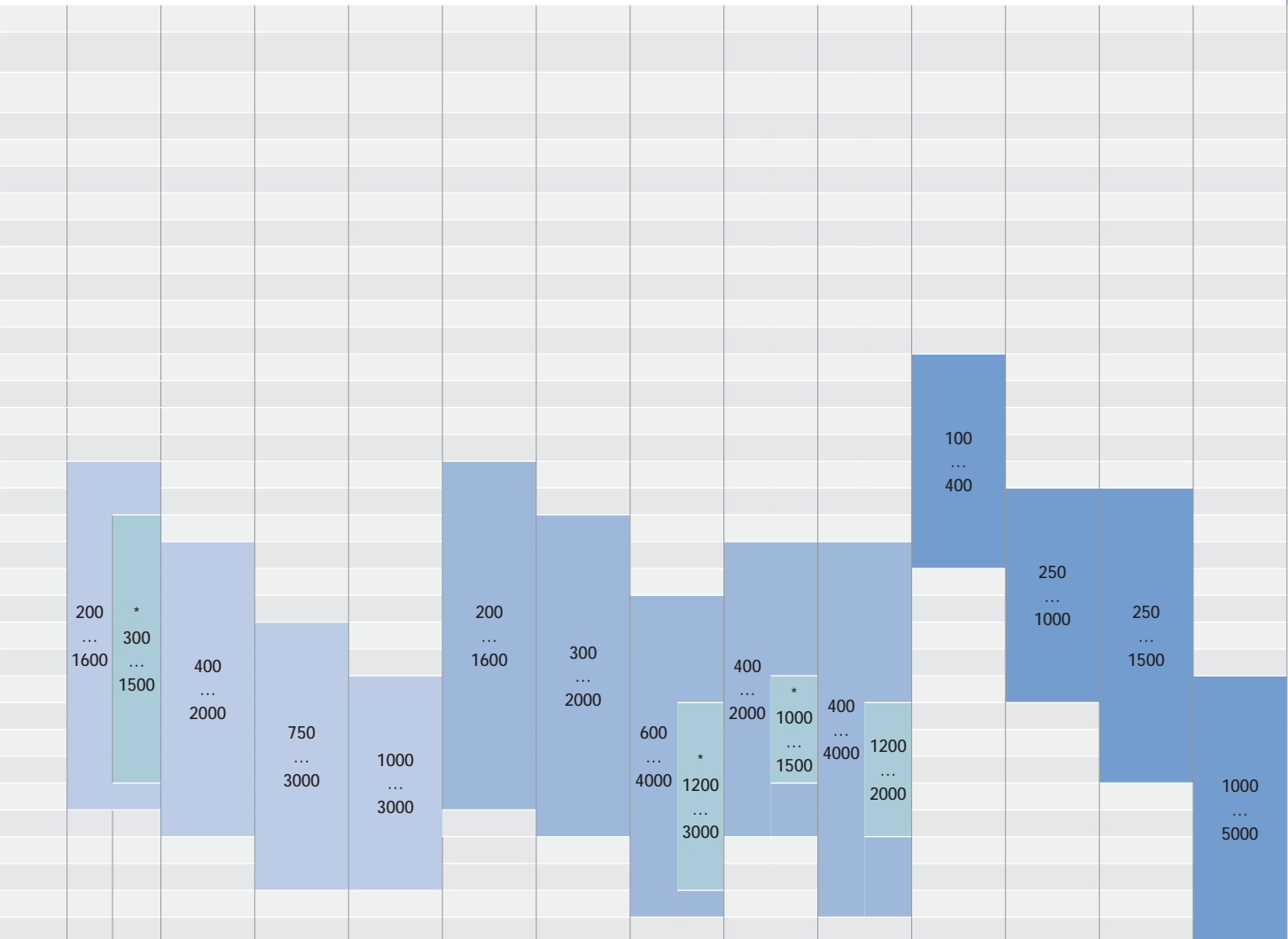
Height	75.5	85.5	85	65	65	65	65	61	70	75.5	88.5	98.5
Width	61	71	135	45	45	49.5	49.5	75.5	49.9	61	71	86
Depth	35	45	60	30	30	35	50	48	68	48	58	58
Cable (Ø mm)				14	21	22.5	17.5	26	28	26	32	44
Busbar 1							20x5	30x10	30x10	32x18	40x10	50x12
Busbar 2								20x10 (x2)		40x12	30x5 (x2)	40x10 (x2)
Busbar 3												

* Class 1.

(1) See T2RB 115 for a 0.2S wound primary version. Dimensions differ from TRB 135.

(2) See T2CA 225 for a 0.2S closed-loop cable version. Dimensions differ from TCA 22.

TCB 44-63	TCB 55-80	TCD 85-100	TCB 100-125	TBA 60	TBA 80	TBA 100	TBA 103	TBA 127	T0 23	T0 58	T0 812	T0 816
Cable – busbar				Busbar					Split-core			
0.5	0.5	0.5	0.5	0.5/1	0.5	0.5	0.5	0.5	1/3	0.5/1	0.5/1	0.5
T2CB 44-63						T2BA 100	T2BA 103	T2BA 127				



105.5	123.5	184.8	184.8	129	117	167	150	175	106	158	198	243
96	120	172	172	88	96	129	99	100	93	125	155	195
58	58	52	52	48	68	78	58	55	58	58	58	79
44	55	85	100									
63x10	80x10	100x10	123x30	60x30	84x34	100x55	103x41	128x38	33x23	85x55	125x85	165x85
50x10 (x2)	60x30 60x10 (x2)	80x10 (x3)	100x10 (x3)									

Current transformers

Measurement devices

from 5 to 5000 A



The solution for

- > Industry
- > Office buildings



Strong points

- > An adapted accuracy class
- > A wide range of ratings and dimensions
- > Quick and easy to mount

Conformity to standards

- > IEC 61869-2
- > IEC 61439-1



Available on request

SOCOMECC also offer customised solutions:

- > 1 A secondary
- > Double or triple primary ratio
- > Voltage transformer
- > Summation CTs

Function

SOCOMECC current transformers deliver to the secondary a standard current proportional to the primary current and adapted to the rating of the associated device. They are equipped as standard with removable terminal covers and double terminals allowing the secondary to be short-circuited without any risk.

They are mounted using two screw-on metal brackets or, in certain cases, by a clip-on DIN-rail fastener. The connections are made by screws or by fast-on terminals.

- Accuracy class: 0.2s — 0.5 or 1.
- Dielectric quality: 3 kV — 50 Hz — 1 min.
- Operating frequency: 50 — 60 Hz.
- Permanent overload: 1.2 In.
- Insulation class: E (120 °C).

Advantages

An adapted accuracy class

In order to get the best of your DIRIS multifunction meters and COUNTIS energy meters, we can provide current transformers with the following accuracy classes: 0.2s; 0.5; 1 or 3.

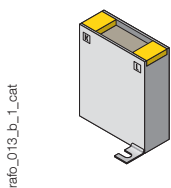
A wide range of ratings and dimensions

Your measurement process can be optimised whatever your needs in terms of ratings, space requirements, conductor sizing or accuracy class. A wide range of combinations are available in our standard range with specific versions available on request (other ratios, tropicalisation and specific frequency, class or burden).

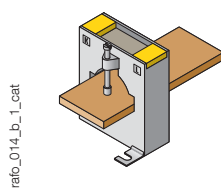
Quick and easy to mount

Our current transformers are adapted to any type of mounting: edgewise or flat mounting, DIN-rail or back-plate mounting. Implementation is easy and rapid.

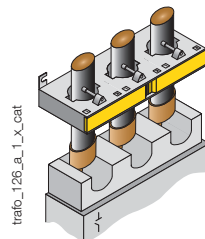
Composition of the range



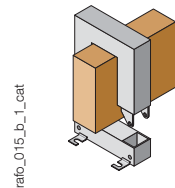
Primary wound moulded case CT



Bar or cable-through CT



Bar or cable-through three-phase CT



Bar-through split-core CT

Primary wound moulded case CT

References

Primary	Secondary ⁽¹⁾	TRB 60		TRB 70		T2RB 115		TRB 135	
		Class 0.5	Reference	Class 0.5	Reference	Class 0.2s	Reference	Class 0.5	Reference
5 A	5 A	2.5 VA	192T 0505	10 VA	192T 0521				
10 A	5 A	2.5 VA	192T 0510	10 VA	192T 0522				
15 A	5 A			10 VA	192T 0523				
20 A	5 A			10 VA	192T 0524				
25 A	5 A			10 VA	192T 0525	7.5 VA	192U 0402	10 VA	192T 0603
30 A	5 A			5 VA	192T 0530	7.5 VA	192U 0403	10 VA	192T 0607
40 A	5 A			5 VA	192T 0541	7.5 VA	192U 0404	10 VA	192T 0604
50 A	5 A			5 VA	192T 0551	7.5 VA	192U 0405	10 VA	192T 0605
60 A	5 A					7.5 VA	192U 0406	10 VA	192T 0606
75 A	5 A					7.5 VA	192U 0407	10 VA	192T 0608
80 A	5 A					7.5 VA	192U 0408	10 VA	192T 0609
100 A	5 A							10 VA	192T 0610
125 A	5 A					7.5 VA	192U 0412	10 VA	192T 0612
150 A	5 A					7.5 VA	192U 0415	10 VA	192T 0615

(1) Secondary 1 A: on request.

Accessories

Accessories	TRB 60 Reference	TRB 70 Reference	TRB 135 Reference
DIN-rail mounting	192T 0003	192T 0005 ⁽¹⁾	
Sealable cover	192T 0105	192T 0103	192T 0101 ⁽²⁾

(1) For 40 and 50 A ratings, use reference 192T 0008.

(2) For 125 and 150 A ratings, use reference 192T 0103.

CT Plug-in transducer (CEA-VA)

Power supply	Output	TRB 60 Reference	TRB 70 Reference
Self-supplied	0-20 mA / 0-10 VDC	192Y 0015	192Y 0025 ⁽¹⁾
230 VAC	0-20 mA / 0-10 VDC	192Y 0215	192Y 0225 ⁽¹⁾
24 VDC	0-20 mA / 0-10 VDC	192Y 0115	192Y 0125 ⁽¹⁾

(1) Not available for 40 and 50 A ratings.

CT Plug-in transducer (CEA-VA4)

Power supply	Output	TRB 60 Reference	TRB 70 Reference
230 VAC	4-20 mA / 0-10 VDC	192T 0255	192Y 0265 ⁽¹⁾
24 VDC	4-20 mA / 0-10 VDC	192Y 0155	192Y 0165 ⁽¹⁾

(1) Not available for 40 and 50 A ratings.

Consult us for price

Certificate of performance

Each class 0.2s current transformer is supplied with an individual certificate of performance, attesting to its accuracy.

Cable-through CT

References

Primary	Secondary ⁽¹⁾	TCA 14		TCA 21		TCA 22		T2CA 225		
		Class 1	Reference	Class 1	Class 0.5	Reference	Class 1	Reference	Class 0.2s	Reference
40 A	5 A	1	192T 1404							
50 A	5 A	1	192T 1405							
60 A	5 A	1.5	192T 1406	1 VA		192T 2006				
75 A	5 A	1.5	192T 1407	1.5 VA		192T 2007				
80 A	5 A			1.5 VA		192T 2008				
100 A	5 A	2.5	192T 1410		1.5 VA	192T 2010	1 VA	192T 2022		
125 A	5 A	2.5	192T 1412		1.5 VA	192T 2012				
150 A	5 A	2.5	192T 1415		1.5 VA	192T 2015	1.5 VA	192T 2023	1.5 VA	192U 2215
200 A	5 A				2.5 VA	192T 2020	2.5 VA	192T 2024	2.5 VA	192U 2220
250 A	5 A				2.5 VA	192T 2016	3.75 VA	192T 2025	5 VA	192U 2225
300 A	5 A				2.5 VA	192T 2017	3.75 VA	192T 2030	5 VA	192U 2230
400 A	5 A						5 VA	192T 2034	5 VA	192U 2240
500 A	5 A						5 VA	192T 2035 ⁽²⁾	10 VA	192U 2250
600 A	5 A						5 VA	192T 2036 ⁽²⁾	10 VA	192U 2260

(1) Secondary 1 A: on request.

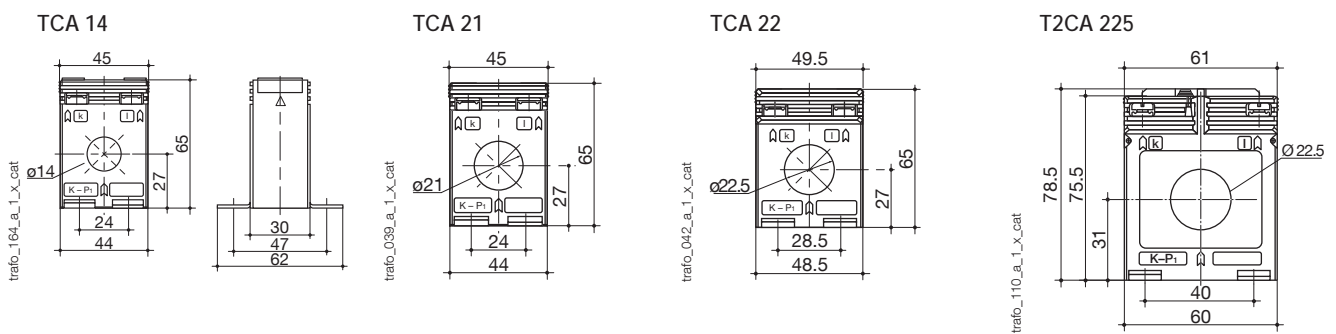
(2) Dimensions of T2CA 225

Accessories

Accessories	TCA 14 Reference	TCA 21 Reference	TCA 22 Reference	T2CA 225 Reference
DIN-rail mounting	192T 0006	192T 0006	192T 0007	192T 0003
Guide tube Ø 8.5 mm ⁽¹⁾		192T 0020		
Guide tube Ø 12.5 mm ⁽¹⁾		192T 0021	192T 0023	
Guide tube Ø 16.5 mm ⁽¹⁾			192T 0024	
Sealable cover				192T 0105

(1) For centralising cables within the CT aperture.

Dimensions (mm)



Cable-through CT	TCA 14	TCA 21	TCA 22 ⁽¹⁾	T2CA 225
Ø cable (mm)	14	21	22.5	22.5
H x W x D (mm)	65 x 45 x 30	65 x 45 x 30	65 x 49.5 x 35	78.5 x 61 x 35
DIN-rail mounting	yes	yes	yes	yes

(1) Dimensions are different for 600 A: 78.5x61x35.

Consult us for price

Current transformers

Measurement devices

from 5 to 5000 A

Bar or cable-through CT

References

Primary	Secondary ⁽¹⁾	TCB 17-20		TCB 26-30		T2CB 26-30		TCB 28-30			
		Class 1	Reference	Class 0.5	Class 1	Reference	Class 0.2s	Reference	Class 0.5	Class 1	Reference
50 A	5 A				1 VA	192T 2305					
60 A	5 A	1 VA	192T 2106		1 VA	192T 2306					
75 A	5 A	1 VA	192T 2107		1.5 VA	192T 2307					
80 A	5 A	1.25 VA	192T 2108		1.5 VA	192T 2308				1.25 VA	192T 2408
100 A	5 A	1.5 VA	192T 2110	1.5 VA		192T 2310				1.5 VA	192T 2410
125 A	5 A	1.5 VA	192T 2112	1.5 VA		192T 2312				2.5 VA	192T 2412
150 A	5 A	2.5 VA	192T 2115	1.5 VA		192T 2315	1.5 VA	192U 2315		2.5 VA	192T 2415
160 A	5 A	2.5 VA	192T 2116								
200 A	5 A	2.5 VA	192T 2120	2.5 VA		192T 2320	2.5 VA	192U 2320	2.5 VA		192T 2420
250 A	5 A	5 VA	192T 2125	5 VA		192T 2325	2.5 VA	192U 2325	2.5 VA		192T 2425
300 A	5 A	5 VA	192T 2130	5 VA		192T 2330	5 VA	192U 2330	2.5 VA		192T 2430
400 A	5 A	5 VA	192T 2140	5 VA		192T 2340	5 VA	192U 2340	5 VA		192T 2440
500 A	5 A			5 VA		192T 2350	5 VA	192U 2350	5 VA		192T 2450
600 A	5 A			5 VA		192T 2360	5 VA	192U 2360			
750 A	5 A			5 VA		192T 2375	5 VA	192U 2375			

(1) Secondary 1 A: on request.

Primary	Secondary ⁽¹⁾	TCB 26-40		TCB 32-40		T2CB 32-40		
		Class 1	Reference	Class 0.5	Class 1	Reference	Class 0.2s	Reference
75 A	5 A				1.5 VA	192T 4007		
100 A	5 A	1.5 VA	192T 3210	1.5 VA		192T 4010		
125 A	5 A	2.5 VA	192T 3212	1.5 VA		192T 4012		
150 A	5 A	2.5 VA	192T 3215	2.5 VA		192T 4015		
160 A	5 A	2.5 VA	192T 3216					
200 A	5 A	2.5 VA	192T 3220	5 VA		192T 4020	2.5 VA	192U 4020
250 A	5 A	2.5 VA	192T 3225	5 VA		192T 4025	5 VA	192U 4025
300 A	5 A	5 VA	192T 3230	10 VA		192T 4030	5 VA	192U 4030
400 A	5 A	5 VA	192T 3240	10 VA		192T 4040	5 VA	192U 4040
500 A	5 A	5 VA	192T 3250	10 VA		192T 4050	5 VA	192U 4050
600 A	5 A	5 VA	192T 3260	10 VA		192T 4060	5 VA	192U 4060
750 A	5 A	10 VA	192T 3275	10 VA		192T 4075	5 VA	192U 4075
800 A	5 A			10 VA		192T 4080		
1000 A	5 A			10 VA		192T 4090		

(1) Secondary 1 A: on request.

Accessories

Accessories	TCB 17-20 Reference	TCB 26-30 Reference	TCB 26-40 Reference	TCB 32-40 Reference
DIN-rail mounting	192T 0007	192T 0003	192T 0003	192T 0005
Sealable cover		192T 0105	192T 0105	192T 0103

CT Plug-in transducer (CEA-VA)

Power supply	Output	TCB 26-30 Reference	TCB 26-40 Reference	TCB 32-40 Reference
Self-supplied	0-20 mA / 0-10 VDC	192Y 0015	192Y 0015	192Y 0035
230 VAC	0-20 mA / 0-10 VDC	192Y 0215	192Y 0215	192Y 0235
24 VDC	0-20 mA / 0-10 VDC	192Y 0115	192Y 0115	192Y 0135

CT Plug-in transducer (CEA-VA4)

Power supply	Output	TCB 26-30 Reference	TCB 26-40 Reference	TCB 32-40 Reference
230 VAC	4-20 mA / 0-10 VDC	192T 0255	192T 0255	192Y 0275
24 VDC	4-20 mA / 0-10 VDC	192Y 0155	192Y 0155	192Y 0175

Consult us for price

References

Primary	Secondary ⁽¹⁾	TCB 44-50		TCB 44-63		T2CB 44-63	
		Class 0.5	Reference	Class 0.5	Reference	Class 0.2s	Reference
150 A	5 A	1.5 VA	192T 5015				
200 A	5 A	2.5 VA	192T 5020	1.5 VA	192T 6420		
250 A	5 A	5 VA	192T 5025	1.5 VA	192T 6425		
300 A	5 A	5 VA	192T 5030	2.5 VA	192T 6430	5 VA	192U 6430
400 A	5 A	10 VA	192T 5040	5 VA	192T 6440	5 VA	192U 6440
500 A	5 A	10 VA	192T 5050	10 VA	192T 6450	10 VA	192U 6450
600 A	5 A	10 VA	192T 5060	10 VA	192T 6460	10 VA	192U 6460
750 A	5 A	10 VA	192T 5075	10 VA	192T 6475	10 VA	192U 6475
800 A	5 A	15 VA	192T 5080	10 VA	192T 6480		
1000 A	5 A	15 VA	192T 5090	15 VA	192T 6490	10 VA	192U 6490
1200 A	5 A	15 VA	192T 5092	15 VA	192T 6492	10 VA	192U 6492
1250 A	5 A	15 VA	192T 5095	15 VA	192T 6493	10 VA	192U 6493
1500 A	5 A			15 VA	192T 6495	10 VA	192U 6495
1600 A	5 A			15 VA	192T 6494		

(1) Secondary 1 A: on request.

Primary	Secondary ⁽¹⁾	TCB 55-80		TCB 85-100		TCB 100-125	
		Class 0.5	Reference	Class 0.5	Reference	Class 0.5	Reference
400 A	5 A	2.5 VA	192T 8140				
500 A	5 A	5 VA	192T 8150				
600 A	5 A	5 VA	192T 8160				
750 A	5 A	10 VA	192T 8175	2.5 VA	192T 9675		
800 A	5 A	10 VA	192T 8180	5 VA	192T 9680		
1000 A	5 A	15 VA	192T 8190	10 VA	192T 9690	5 VA	192T 9590
1200 A	5 A	15 VA	192T 8192	10 VA	192T 9692		
1250 A	5 A	15 VA	192T 8193	15 VA	192T 9693	10 VA	192T 9593
1500 A	5 A	15 VA	192T 8195	15 VA	192T 9695	15 VA	192T 9595
1600 A	5 A	15 VA	192T 8194	15 VA	192T 9694		
2000 A	5 A	15 VA	192T 8196	30 VA	192T 9696	30 VA	192T 9596
2500 A	5 A			30 VA	192T 9697	30 VA	192T 9597
3000 A	5 A			30 VA	192T 9698	30 VA	192T 9598

(1) Secondary 1 A: on request.

Accessories

Accessories	TCB 44-50 Reference	TCB 44-63 Reference	TCB 55-80 Reference	TCB 85-100 Reference	TCB 100-125 Reference
Sealable cover	192T 0102	192T 0102	192T 0102	192T 0106	192T 0106

CT Plug-in transducer (CEA-VA)

Power supply	Output	TCB 44-50 Reference	TCB 44-63 Reference	TCB 55-80 Reference
Self-supplied	0-20 mA / 0-10 VDC		192Y 0045	192Y 0045
230 VAC	0-20 mA / 0-10 VDC		192Y 0245	192Y 0245
24 VDC	0-20 mA / 0-10 VDC		192Y 0145	192Y 0145

CT Plug-in transducer (CEA-VA4)

Input	Output	TCB 44-50 Reference	TCB 44-63 Reference	TCB 55-80 Reference
230 VAC	4-20 mA / 0-10 VDC		192Y 0285	192Y 0285
24 VDC	4-20 mA / 0-10 VDC		192Y 0185	192Y 0185

Consult us for price

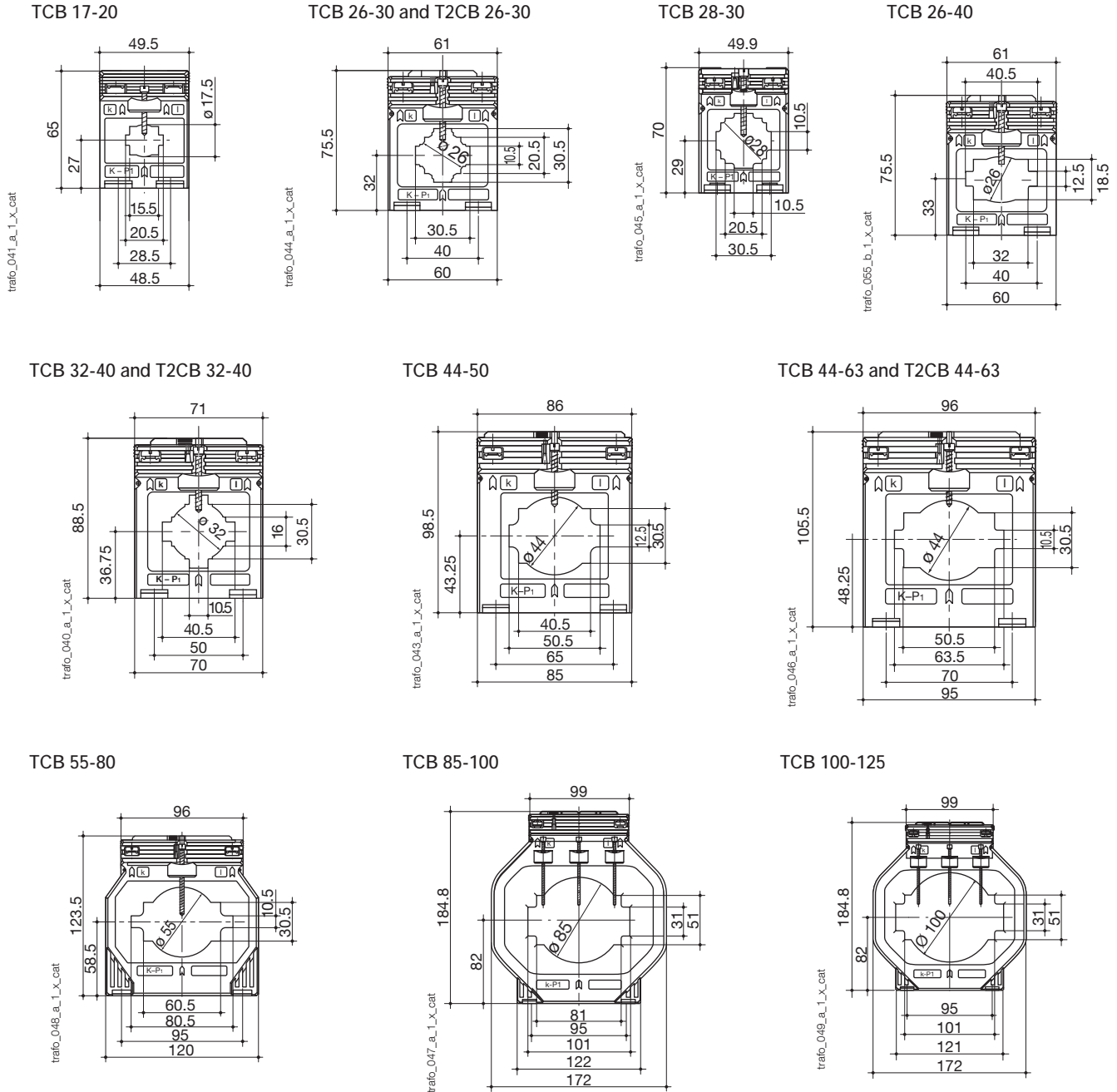
Current transformers

Measurement devices

from 5 to 5000 A

Bar or cable-through CT (continued)

Dimensions (mm)



Bar or cable-through CT	TCB 17-20	TCB 26-30	T2CB 26-30	TCB 26-40	TCB 28-30	TCB 32-40	T2CB 32-40
Bar (mm)	20 x 5 (x 1)	30 x 10 (x 1) / 20 x 10 (x 1...2)	30 x 10 (x 1) / 20 x 10 (x 1...2)	40 x 12 (x 1) / 32 x 18 (x 1)	30 x 10 (x 1)	40 x 10 (x 1) / 30 x 5 (x 1...2)	40 x 10 (x 1) / 30 x 5 (x 1...2)
ϕ cable (mm)	17.5	26	26	26	28	32	32
H x W x D (mm)	65 x 49.5 x 50	75.5 x 61 x 48	75.5 x 61 x 48	75.5 x 61 x 48	70 x 49.9 x 68	88.5 x 71 x 58	88.5 x 71 x 58
DIN-rail mounting	yes	yes	yes	yes		yes	yes

Bar or cable-through CT	TCB 44-50	TCB 44-63	T2CB 44-63	TCB 55-80	TCB 85-100	TCB 100-125
Bar (mm)	50 x 12 (x 1) / 40 x 10 (x 1...2)	63 x 10 (x 1) / 50 x 10 (x 1...2)	63 x 10 (x 1) / 50 x 10 (x 1...2)	80 x 10 (x 1) / 60 x 30 (x 1) / 60 x 10 (x 1...2)	100 x 10 (x 1...2) / 80 x 10 (x 1...3)	123 x 30 (x 1) / 100 x 10 (x 1...3)
ϕ cable (mm)	44	44	44	55	85	100
H x W x D (mm)	98.5 x 86 x 58	105.5 x 96 x 58	105.5 x 96 x 58	123.5 x 120 x 58	184.5 x 172 x 52	184.5 x 172 x 52

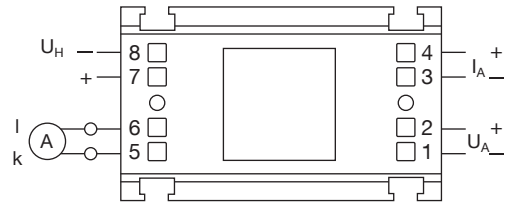
Associated transducers



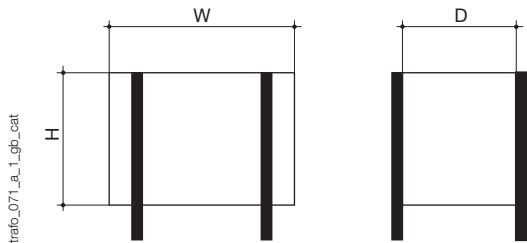
trafo_074

Transducer to be associated with adapted current transformers:

- Class 0.5
- Input: 1 or 5 A
- Output:
 - 0-20 mA, 0-10 V (model CEA-VA),
 - 4-20 mA, 0-10 V (model CEA-VA4),
- Self-supplied or auxiliary power supply 24 VDC or 230 VAC.
- 3 sizes according to the CT: type 1, 2 or 3.



trafo_060_a_1_x_cat



trafo_071_a_1_gb_cat

Dimensions (mm)

Converter	For CT	Height (mm)	Width (mm)	Depth (mm)
Type 1	TCB 26-30	50.5	60	32.5
Type 1	TCB 26-40	50.5	60	32.5
Type 2	TCB 32-40	50	70	43
Type 3	TCB 44-63	50.5	95	43
Type 3	TCB 55-80	50.5	95	43

Current transformers

Measurement devices

from 5 to 5000 A

Bar-through CT

References

Primary	Secondary	TBA 60			TBA 80		TBA 100		T2BA 100	
		Class 0.5	Class 1	Reference	Class 0.5	Reference	Class 0.5	Reference	Class 0.2s	Reference
200 A	5 A		2.5 VA	192T 7020						
250 A	5 A	2.5 VA		192T 7025						
300 A	5 A	2.5 VA		192T 7030	2.5 VA	192T 7530				
400 A	5 A	5 VA		192T 7040	5 VA	192T 7540				
500 A	5 A	5 VA		192T 7050	5 VA	192T 7550				
600 A	5 A	10 VA		192T 7060	5 VA	192T 7560	5 VA	192T 8060		
750 A	5 A	10 VA		192T 7075	5 VA	192T 7575	5 VA	192T 8075		
800 A	5 A	10 VA		192T 7080	10 VA	192T 7580	5 VA	192T 8080		
1000 A	5 A	15 VA		192T 7090	15 VA	192T 7590	5 VA	192T 8090		
1200 A	5 A	15 VA		192T 7092	15 VA	192T 7592	10 VA	192T 8092	5 VA	192U 8092
1250 A	5 A	15 VA		192T 7093	15 VA	192T 7593	10 VA	192T 8093	5 VA	192U 8093
1500 A	5 A	15 VA		192T 7095	15 VA	192T 7595	15 VA	192T 8095	5 VA	192U 8095
1600 A	5 A	15 VA		192T 7094	15 VA	192T 7594	15 VA	192T 8094		
2000 A	5 A				15 VA	192T 7596	15 VA	192T 8096	5 VA	192U 8096
2500 A	5 A						30 VA	192T 8097	10 VA	192U 8097
3000 A	5 A						30 VA	192T 8098 ⁽¹⁾	10 VA	192U 8098
4000 A	5 A						30 VA	-		

(1) Dimensions are different for TBA 100 with 3000 and 4000 A primary.

Primary	Secondary	TBA 103		T2BA 103		TBA 127		T2BA 127	
		Class 0.5	Reference	Class 0.2s	Reference	Class 0.5	Reference	Class 0.2s	Reference
400 A	5 A	2.5 VA	192T 9340			2.5 VA	192T 9740		
500 A	5 A	2.5 VA	192T 9350			2.5 VA	192T 9750		
600 A	5 A	2.5 VA	192T 9360			2.5 VA	192T 9760		
750 A	5 A	2.5 VA	192T 9375			2.5 VA	192T 9775		
800 A	5 A	5 VA	192T 9380			5 VA	192T 9780		
1000 A	5 A	10 VA	192T 9390	5 VA	192U 9390	10 VA	192T 9790		
1200 A	5 A	10 VA	192T 9392	5 VA	192U 9392	10 VA	192T 9792	5 VA	192U 9792
1250 A	5 A	10 VA	192T 9393	5 VA	192U 9393	10 VA	192T 9793	5 VA	192U 9793
1500 A	5 A	15 VA	192T 9395	5 VA	192U 9395	15 VA	192T 9795	5 VA	192U 9795
1600 A	5 A	10 VA	192T 9394			15 VA	192T 9794		
2000 A	5 A	15 VA	192T 9396			15 VA	192T 9796	5 VA	192U 9796
2500 A	5 A					15 VA	192T 9797		
3000 A	5 A					25 VA	182T 9798 ⁽¹⁾		
4000 A	5 A					30 VA	182T 9799 ⁽¹⁾		

(1) Replacement model TRA 127 for this rating.

Accessories

Accessories	TBA 60 Reference	TBA 80 Reference	TBA 100 Reference	T2BA 100 Reference	TBA 103 Reference	T2BA 103 Reference	TBA 127 Reference	T2BA 127 Reference
Sealable cover	192T 0102		192T 0102	192T 0102			192T 0102	192T 0102

CT Plug-in transducer (CEA-VA)

Power supply	Output	TBA 100 Reference
Self-supplied	0-20 mA / 0-10 VDC	192Y 0045
230 VAC	0-20 mA / 0-10 VDC	192Y 0245
24 VDC	0-20 mA / 0-10 VDC	192Y 0145

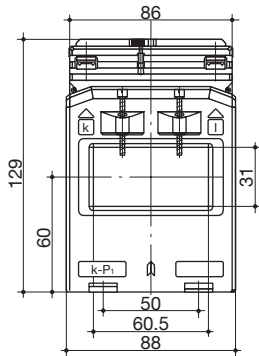
CT Plug-in transducer (CEA-VA4)

Power supply	Output	TBA 100 Reference
230 VAC	4-20 mA / 0-10 VDC	192Y 0285
24 VDC	4-20 mA / 0-10 VDC	192Y 0185

Consult us for price

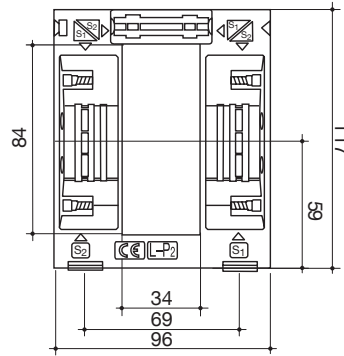
Dimensions (mm)

TBA 60



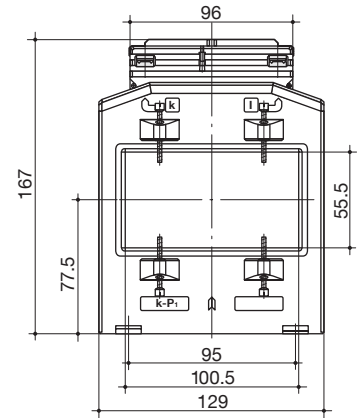
trafo_050_a_1_x_cat

TBA 80
300 to 2000 A



trafo_059_a_1_x_cat

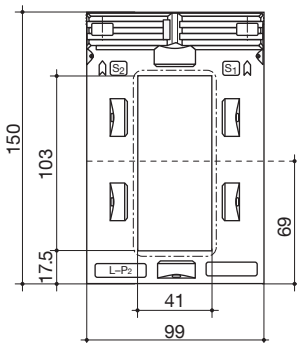
TBA 100 600 to 2500 A⁽¹⁾
T2BA 100 1200 to 3000 A



trafo_082_a_1_x_cat

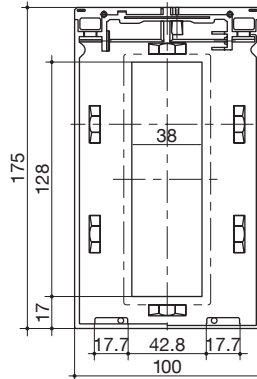
(1) TBA 100, 3000 and 4000 A: 214 x 129 x 78 mm.

TBA 103 and T2BA 103



trafo_054_a_1_x_cat

TBA 127 and T2BA 127



trafo_052_a_1_x_cat

Bar-through CT	TBA 60	TBA 80	TBA 100	T2BA 100	TBA 103	T2BA 103	TBA 127	T2BA 127
Bar (mm)	60 x 30	84 x 34	100 x 55	100 x 55	103 x 41	103 x 41	128 x 38	128 x 38
H x W x D (mm)	129 x 88 x 78	117 x 96 x 68	167 x 129 x 78 ⁽¹⁾	167 x 129 x 78	150 x 99 x 58	150 x 99 x 58	175 x 100 x 55	175 x 100 x 55

(1) TBA 100, 3000 and 4000 A: 214 x 129 x 78 mm.

Current transformers

Measurement devices

from 5 to 5000 A

Three-phase bar or cable-through CT

References

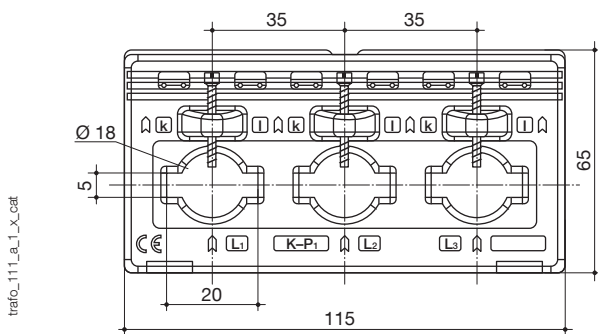
Primary	Secondary ⁽¹⁾	TCB3 18-20		TCB3 22-30	
		Class 1	Reference	Class 1	Reference
3 x 100 A	3 x 5 A	1 VA	192T 3310		
3 x 150 A	3 x 5 A	1.25 VA	192T 3315		
3 x 200 A	3 x 5 A	1.5 VA	192T 3320		
3 x 250 A	3 x 5 A	2.5 VA	192T 3325	2.5 VA	192T 3425
3 x 300 A	3 x 5 A			3.75 VA	192T 3430
3 x 400 A	3 x 5 A			5 VA	192T 3440
3 x 500 A	3 x 5 A			5 VA	192T 3450
3 x 600 A	3 x 5 A			5 VA	192T 3460

(1) Secondary 1 A: on request.

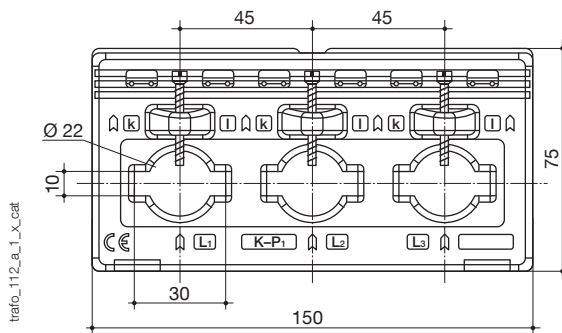
Consult us for price

Dimensions (mm)

TCB3 18-20



TCB3 22-30



Three-phase bar or cable-through CT	TCB3 18-20	TCB3 22-30
Ø cable (mm)	18	22
Bar-through	20 x 5	30 x 10
H x W x D (mm)	115 x 65 x 37	150 x 75 x 37
DIN-rail mounting	no	no

References

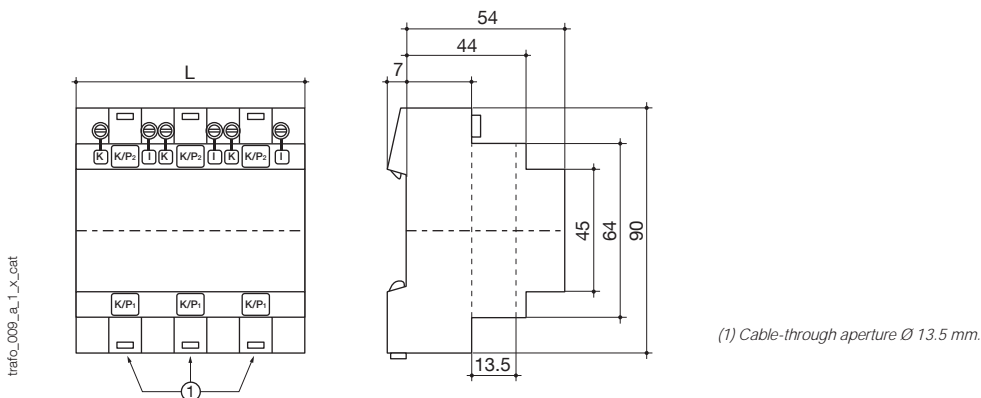
Primary	Secondary ⁽¹⁾	TCA 13 – 3P	
		Class 1	Reference
3 x 50 A	5 A	1 VA	192T 1905
3 x 60 A	5 A	1.25 VA	192T 1906
3 x 75 A	5 A	1.5 VA	192T 1907
3 x 80 A	5 A	1.5 VA	192T 1908
3 x 100 A	5 A	2.5 VA	192T 1910
3 x 125 A	5 A	2.5 VA	192T 1912
3 x 150 A	5 A	2.5 VA	192T 1915
3 x 160 A	5 A	2.5 VA	192T 1916

(1) Secondary 1 A: on request.

Consult us for price

Dimensions (mm)

TCA 13 – 3P



Number of modules	Front degree of protection	Terminal degree of protection	L (mm)	Mounting
6	IP65	IP20	105	35 mm DIN-rail

Current transformers

Measurement devices

from 5 to 5000 A

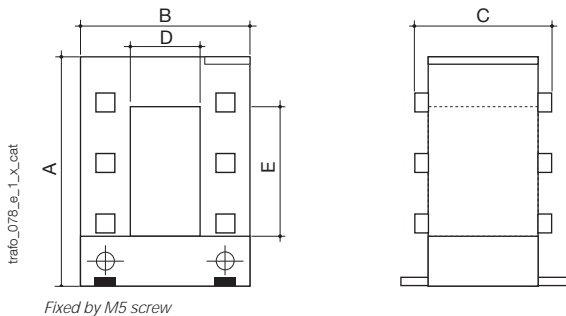
Split-core CT

References

Primary	Secondary	TO 23			TO 58			TO 812			TO 816	
		Class 1	Class 3	Reference	Class 0.5	Class 1	Reference	Class 0.5	Class 1	Reference	Class 0.5	Reference
100 A	5 A		1.25 VA	192T 4601								
150 A	5 A		1.5 VA	192T 4602								
200 A	5 A		2.5 VA	192T 4603								
250 A	5 A	1.5 VA		192T 4604		1.5 VA	192T 4625		1.5 VA	192T 4725		
300 A	5 A	3.75 VA		192T 4605		2.5 VA	192T 4630		2.5 VA	192T 4730		
400 A	5 A	5 VA		192T 4606	1 VA		192T 4640		2.5 VA	192T 4740		
500 A	5 A				2.5 VA		192T 4650	2.5 VA		192T 4750		
600 A	5 A				2.5 VA		192T 4660	2.5 VA		192T 4760		
750 A	5 A				2.5 VA		192T 4675	2.5 VA		192T 4775		
800 A	5 A				2.5 VA		192T 4680	2.5 VA		192T 4780		
1000 A	5 A				5 VA		192T 4610	5 VA		192T 4710	10 VA	192T 4810
1250 A	5 A							7.5 VA		192T 4712	10 VA	192T 4812
1500 A	5 A							7.5 VA		192T 4715	10 VA	192T 4815
1600 A	5 A										10 VA	192T 4814
2000 A	5 A										10 VA	192T 4820
2500 A	5 A										10 VA	192T 4825
3000 A	5 A										15 VA	192T 4830
4000 A	5 A										15 VA	192T 4840
5000 A	5 A										15 VA	192T 4850

Consult us for price

Dimensions (mm)



Fixed by M5 screw

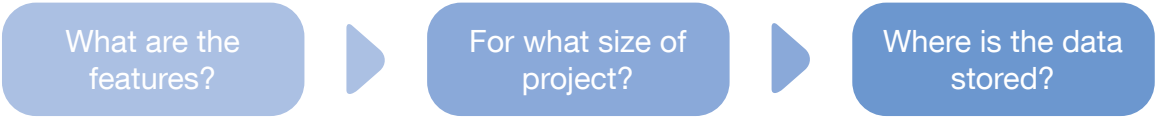
Dimensions (mm)



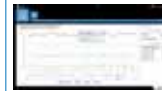
Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
TO 23	106	93	58	23	33
TO 58	158	125	58	55	85
TO 812	198	155	58	85	125
TO 816	243	195	79	85	165

Split-core CT	TO 23	TO 58	TO 812	TO 816
H x W x D (mm)	106 x 93 x 58	158 x 125 x 58	198 x 155 x 58	243 x 195 x 75

Selection guide

Software solutions for energy monitoring and analysis



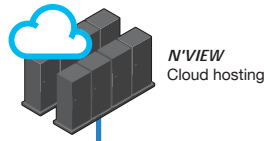
	WEBVIEW-S	WEBVIEW-M	WEBVIEW-L
			
Hosting of the application ⁽¹⁾	DIRIS A-40 Ethernet	DIRIS Digiware M-70 /D-70	DATALOG H80/H81
Data collection			
Maximum number of connected measurement devices	1	32	100 (WEBVIEW-L100) 200 (WEBVIEW-L200)
Interfacing to third-party applications			via connector
Export of data in CSV format	•	•	•
Real time monitoring			
U/V voltages and currents I	•	•	•
Powers P, Q, S, Power factor	•	•	•
Quality monitoring THDi, THDu, THDv, K factor, Harmonic analysis up to 63 rd	•	•	•
Energy metering Ea+, Ea-, Er+, Er-, Es	•	•	•
Pulse counting	•	•	•
Input/Output monitoring	•	•	•
Measurement history U, V, I, P, Q, S,	•	•	•
Energy analysis			
Energy consumption analysis	•	•	•
Multi-parameter analysis			•
Alarm management			
Product alarms	•	•	•
Alarms history	•	•	•
Transmission of alarms	e-mail	e-mail	e-mail
Reporting management			
Customisable user interface		Photoview	Photoview
Hierarchy management		•	•
Conformity to standards			
Energy Server Standard - IEC 62974-1		•	•

(1) For more information on the hardware please refer to the appropriate catalogue pages.
 (2) N'VIEW is a software solution intended for energy management purposes only.

Architecture

Level 4

Cloud hosting



Level 3

Long-distance communication network (WAN)



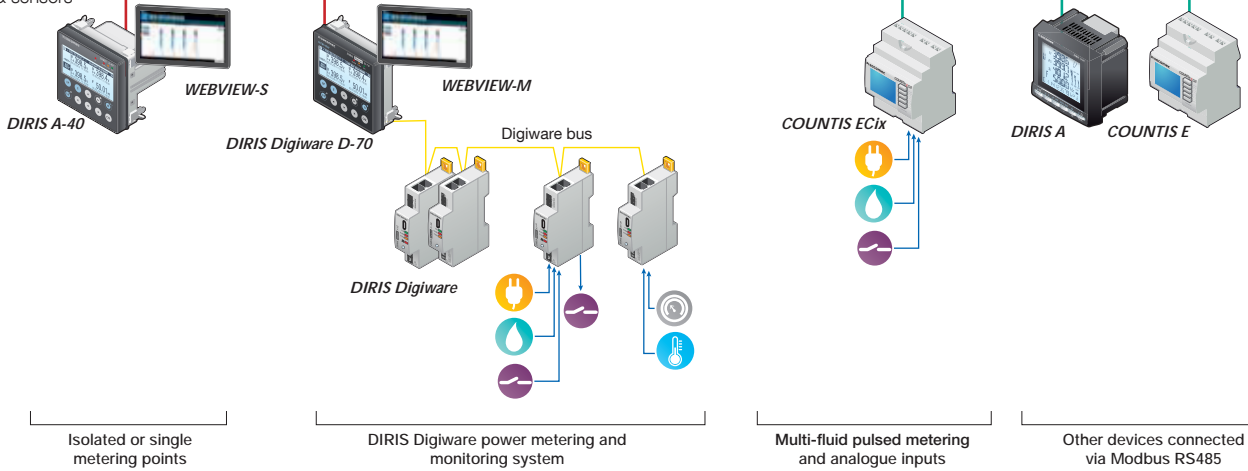
Level 2

Local communication network (LAN)



Level 1

PMD & sensors



SOFT_L302_C_GB

Expert Services

Require integration onto your network?

No problem for our Expert Services team. They work out all the details of the measurement schedule, the complete integration of all devices in your energy management system, the configuration of your software application, the training of your teams and details of operational support. For further information, please contact your nearest Socomec office.

WEBVIEW

Embedded software for power monitoring and energy management



scft_076

The solution for

- > Industry
- > Building
- > Infrastructure
- > Local authority



Strong points

- > Plug & Play
- > Easy to use
- > Various functions

Compliance with standards

- > IEC 62974-1⁽¹⁾



(1) Energy Server standard applicable to WEBVIEW-M and L versions embedded in DIRIS Digiware M-70/D-70 and DATALOG H80.

Function

WEBVIEW is a web based software embedded in DIRIS A-40 power monitoring devices, DIRIS Digiware D-70 displays, DIRIS Digiware M-70 communication gateways and DATALOG H80/H81 dataloggers delivering real-time monitoring of all measurements from up to 200 devices and displaying the breakdown of energy consumptions.

Uncover the causes of electrical disturbances and anticipate maintenance requirements thanks to historical records of multiple electrical parameters.

Pre-set alarms defined by the user can be sent by e-mail. Users can access WEBVIEW via a web browser on a PC or a tablet.

Strong points

Plug & Play

Quickly configure WEBVIEW thanks to the automatic detection of Socomec devices. Create geographical and electrical hierarchies to reflect your installation and your processes.

Easy to use

WEBVIEW centralises measurements from all downstream devices via a single clear and user friendly interface. The ergonomics of each screen allow users to easily and quickly analyse the parameters and the behaviour of the installation.

Various functions

Very easy to configure and to use, WEBVIEW offers a wide range of features including real-time monitoring, alarm management and notification by e-mail, multi-utility analysis (electricity, water, gas), power parameter logging and allocation of consumption by end-use and location.

Characteristics

Type	Hosting	Functions	Number of measurement devices
WEBVIEW-S	DIRIS A-40	Monitor, Alarm, Analyse	1
WEBVIEW-M	DIRIS Digiware M-70	Monitor, Alarm, Analyse, Photoview	32
	DIRIS Digiware D-70	Monitor, Alarm, Analyse, Photoview	32
WEBVIEW-L	DATALOG H80/H81	Monitor, Alarm, Analyse, Photoview	100/200

Functions

Monitor

- Automatic detection of connected devices.
- Summary of the parameters measured for the electrical network and loads.
- Display of voltage, current, power, power factor, total harmonic distortion (THD) and harmonics per rank.
- Display of average/instantaneous values with min/max limits depending on the devices.
- Total and partial energy consumption per load.
- Input/output status.
- Synchronisation of device clocks.
- Graphical or table representation.



soft_076.eps

Alarm

- Alarms for overloads, events and input status changes.
- Display of alarms history.
- Sorting by type, nature, criticality or state.
- Alarms displayed on the main page.
- Alarm notification by e-mail (SMTP).



soft_074.eps

Analyse

- Historical measurements and consumption.
- Historical records of multiple electrical parameters.
- Breakdown of consumption by location, by end-use and by utility type (water, gas, electricity...).
- Export of consumption data in a CSV format.



soft_075.eps

Photoview

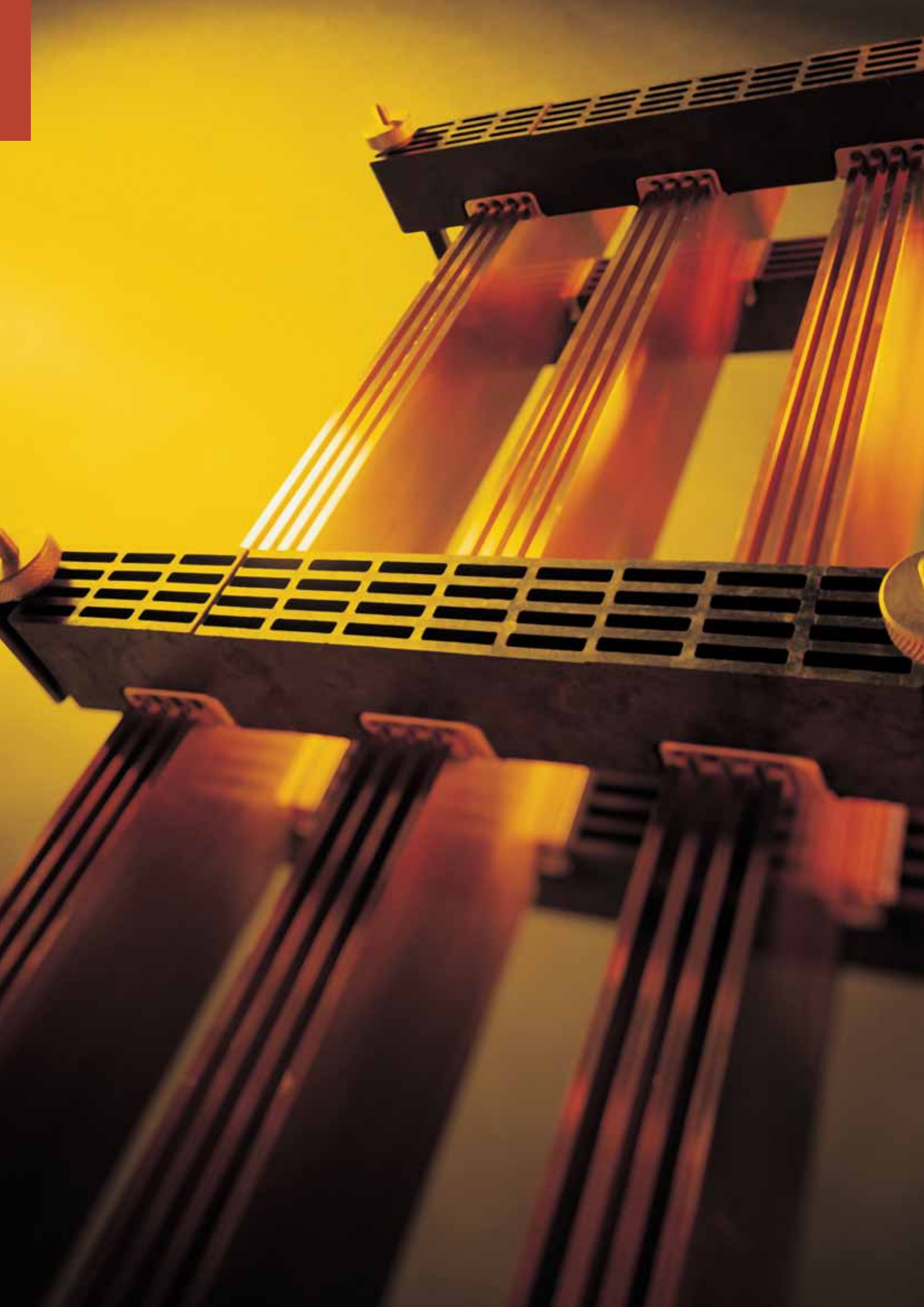
- Photoview: customised dashboard of the WEBVIEW environment via the upload of graphical files (building plans, electrical circuit diagrams, production processes...)
- Real time monitoring via drag and drop of parameters on the background pictures (measurement points, alarms, text...).
- Display of the mapping of the measurement plan by cascading of several images.



soft_064.eps

References

Type	Host device	Reference	Price List
WEBVIEW - S	DIRIS A-40	48250501	12.664.600
WEBVIEW - M	DIRIS Digiware D-70	48290203	25.658.700
WEBVIEW - L 100	DATALOG H80	48540020	107.960.800
	DATALOG H81 (3G NETWORK)	48540021	118.754.900
WEBVIEW - L 200	DATALOG H80	48540030	134.954.100
	DATALOG H81 (3G NETWORK)	48540031	149.948.500



Busbar supports

Busbars



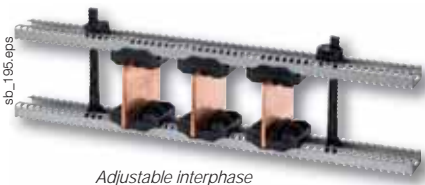
sb_214.psd

Fixed interphase, SB C 15



sb_103.eps

Insulators



sb_195.eps

Adjustable interphase



sb_084.eps

Stair type support

The solution for

- > Electrical distribution



Conformity with standards

- > IEC 61439-1
- > IEC 60865-1



Approvals and certifications ⁽¹⁾

- > ASEFA/LCIE



⁽¹⁾ Product part numbers on request.

Function

SOCOMEK insulating busbar supports enable the fixing and holding in place of copper or aluminium busbars or busbar systems during a short-circuit.

Characteristics

Insulators

- Polyester without halogen.
- UL94 VO self-extinguishing.
- Colour red RAL 3002.
- Operating temperature from -40 °C to +130 °C.
- Deformation under load temperature (ASTM D643): > 200 °C.
- Dielectric constant (ASTM D150): 4/5.
- Arc resistance (ASTM D495): > 180 s.
- Water absorption (ASTM D570): < 0.3%.

Busbar supports

- High dielectric strength.
- High mechanical resistance.
- Amagnetism of assembly parts.
- High resistance to damp heat (supplied "tropicalised").

Stair type supports

- Thermoplastic material.
- VO self-extinguishing.
- Insulating voltage: 1000 V.

Software tool for size selection



Strong points

- > Easy to install and use
- > Manages changes depending on environmental conditions

Function

Mechanical System is a multi-language software used for sizing busbar systems. It defines the configuration of the busbar system, including bar section and distance between supports, according to the required electrical characteristics of the panel in compliance with standard IEC 61439-1.

Advantages

Easy to install and use

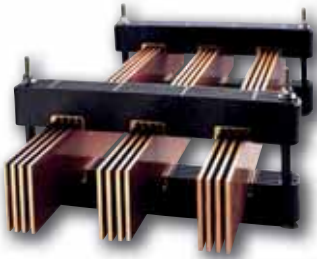
The Mechanical System software is available for download from www.socomec.com. Once installed, the software can be used offline. It runs on Windows.

Manages changes depending on environmental conditions

Mechanical System allows you to perfectly adapt the copper section according to the environmental conditions of your panel and installation.

Busbar supports

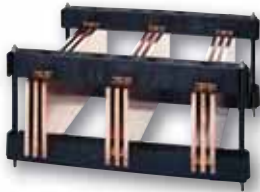
Edgewise mounting with fixed interphase



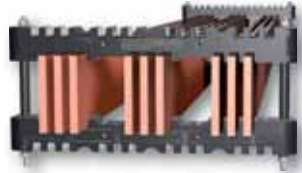
SBC 20



SB C 10



SB C 30



SB C 15

The solution for

- > Electrical distribution



Conformity with standards

- > IEC 61439-1
- > IEC 60865-1



Strong points

- > Insulating materials
- > Durability
- > Easy to use
- > Extensive range

Function

With SOCOMEC's insulating **bar supports** you can:

- mount and attach the busbars inside the electrical panel,
- cope with the forces experienced by the busbars during a short circuit.

Advantages

Insulating materials

- Our range of SB C edgewise mounting bar supports is made using thermoplastic. This very resistant material (reinforced fibreglass) is insulating so there are no risks in terms of clearance and creepage distances.

Durability

- Most bar supports have an M8 screw connection which provides outstanding robustness to the entire busbar structure.

Easy to use

- Only one type of spacer kit is required for the whole range of edgewise mounting busbar supports (SB C) with fixed interphase.

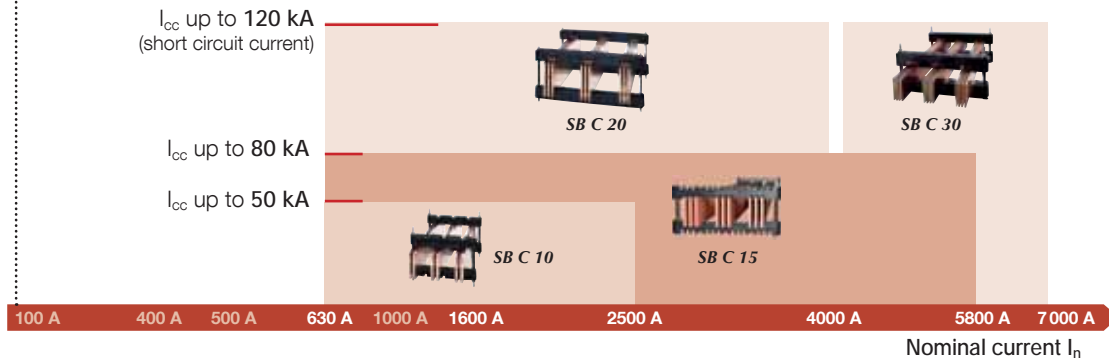
Extensive range

- Our range of bar supports allows you to assemble busbars with up to 120 kA of short-circuit current.

Selection guide

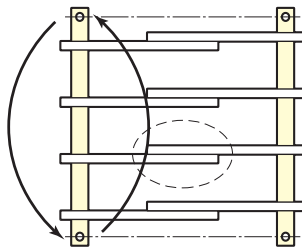
Edgewise mounting

- Busbar supports with fixed interphase



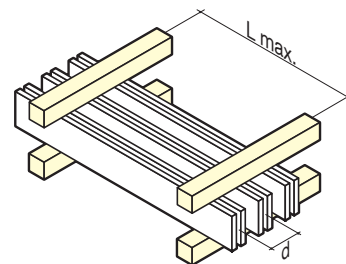
What you need to know

Bars joined by reversing a support
Compatible with SB C 10 and SB C 20



sb_045_b_1_x_cat.eps

Respecting the maximum distance between two supports ensures that the busbar supports are able to withstand the given short circuit current values. At these limits, distortion of the copper bars may occur. These deformations are permitted by standard IEC 61439-1 so long as they adhere to the insulation distances.



sb_021_b_1_x_cat.eps

Busbar supports

Edgewise mounting with fixed interphase

References

Support only

Use

To assemble a complete busbar support, please observe the multiple order quantity and order 1 spacer set

Type of busbar support	No. of poles	Number of busbars per phase	Thickness	Interphase	Interfixed	Available for order in multiples of	Support only Reference	Price List	
SB C 10	3 P	1 ... 2	5	75	250	2	50246300	439.600	
		1	10						
	4 P	1 ... 2	5	60			50246500	452.100	
		1		65					
	3 P	1	10	75			50246400	452.100	
		2		90					
4 P	1 ... 2	110		50246600	Consult us				
4 P	1 ... 3	90							
SB C 15	3 P	1 ... 3		5	110	350	1	50248300	2.282.000
	4 P								
SB C 20	3 P	1 ... 4	5	90	50248400	2.475.400			
	4 P			110					
	3 P	1 ... 3	10	90	50247300	1.840.400			
	4 P			90					
SB C 30	3 P	1 ... 3	10	185	525	50245300	2.448.700		
	4 P			130					
							50245500	2.693.600	

Spacer kit for support

Use

The spacer kit comprises 2 threaded rods, 2 insulating spacers cut to length according to bar height and 4 nuts.

Bar height (mm)	Available for order in multiples of	Reference	Price List
25	1	50202025	189.800
30		50202030	189.800
32		50202032	Consult us
40		50202040	189.800
50		50202050	189.800
60		50202060	230.700
63		50202063	230.700
80		50202080	230.700
100		50202100	230.700
125		50202125	294.200
160		50202160	294.200
200		50202200	294.200



access_437.psd

Accessories

Adjustable interfixed profiles

Use

Adjustable interfixed profiles allow you to install the busbar supports at a variable depth. For high-load busbars, we recommend the use of adjustable reinforced floating profiles.

Type of busbar support	For depth Min./max. (mm)	Pack qty	Reference
SB C 10 2 x 5 / 1 x 10	575 / 675	1	5024 9050
SB C 10 1 x 10 / 2 x 10	575 / 775		5024 9051
SB C 15			5024 9052
SB C 20			5024 9054
SB C 30			



sb_2_15.psd

Adjustable reinforced floating profiles

Use

With adjustable reinforced floating profiles, you can install busbar supports in varying depths in the case of high-load busbars (from 100 kg/ml).

Type of busbar support	For depth Min./max. (mm)	Available for order in multiples of	Reference
SB C 15	575 / 775	1	5024 9053
SB C 20			5024 9055
SB C 30			



sb_218.psd

Holding rod for SB C 15

Use

With the holding rods for SB C 15, you can install the support on a standard mounting profile in the case of high-load busbars (from 100 kg/ml).

Material: Stainless steel threaded rod.

Bar height (mm)	Available for order in multiples of	Reference
32	1	5020 1040
40		5020 1060
50		5020 1101
60		
80		5020 1125
100		
125		
160		



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Consult us for price

Busbar supports

Edgewise mounting with fixed interphase

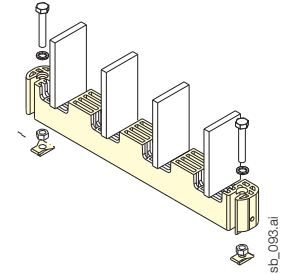
Accessories (continued)

Bar holder

Use

The heels hold the busbars upright.

Type of busbar support	Number of bars	No. of poles	Available for order in multiples of	Reference
SBC 10	2 x 5 / 1 x 10	3	1	5024 9031
	2 x 5 / 1 x 10	4		5024 9041
	1 x 10 / 2 x 10	3		5024 9034
	1 x 10 / 2 x 10	4		5024 9044
SBC 15	1 to 3 x 10	3		5024 9032
	1 to 3 x 10	4		5024 9042
SBC 20	1 to 4 x 5 / 1 to 2 x 10	3		5024 9032
	1 to 4 x 5 / 1 to 2 x 10	4		5024 9042
SBC 30	1 to 3 x 10	3 / 4		5024 9033

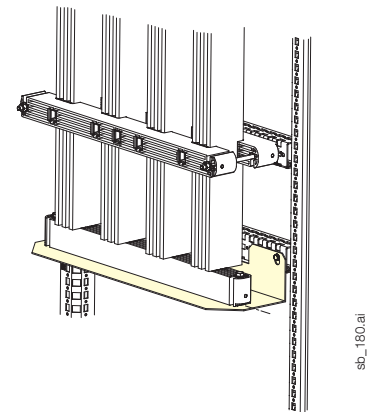


Installation corner piece

Use

Allows the holding heel to be placed on a support.

For cabinet Depth (mm)	To be ordered in multiples of	Reference
Min. 400	1	5024 9000
Min. 600	1	5024 9001



Consult us for price

Busbar supports

Unipolar flat-mounted



sb_104.eps

Hexagonal insulators



SB 205-206

sb_117.eps



SB 3

sb_118.eps



SB 1 - SB 2

sb_108.eps

The solution for

- > Electrical distribution



Conformity with standards

- > IEC 61439-1
- > IEC 60865-1



Strong points

- > Insulating materials
- > Durability
- > Adaptability

sb_136.eps

Function

With SOCOMEC's insulating **bar supports** you can:

- mount and attach the busbars inside the electrical panel,
- cope with the forces experienced by the busbars during a short circuit.

Advantages

Insulating materials

Our range of SB P flat busbar supports with fixed interphase is made from insulating materials. This material poses no risks in terms of clearance and creepage distances.

Durability

Most bar supports have an M8 screw connection which provides outstanding robustness to the entire busbar structure.

Adaptability

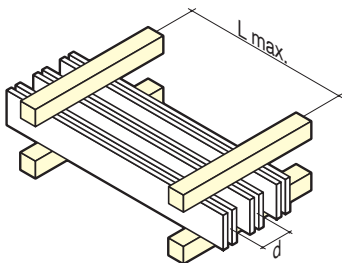
The distance between the bar support attachment points is compatible with all commercially available enclosures.

Selection guide

Flat mounting



What you need to know



sb_021_b_l_x_catsps

Adhering to the maximum distance between two supports ensures that the busbar supports are able to withstand the given short circuit current values. At these limits, distortion of the copper bars may occur. These deformations are permitted by standard IEC 61439-1 so long as they adhere to the insulation distances.

Busbar supports

Unipolar flat-mounted

References

Hexagonal insulator

Height H (mm)	Thread M	Available for order in multiples of	Female-female Reference	Male-female Reference	Male-male Reference
16	M4	10	-	5038 1604	5039 1604
16	M5	10	-	5038 1605	5039 1605
20	M4	10	5031 2004	-	-
20	M6	10	5031 2006	-	-
25	M5	10	-	5038 2505	5039 2505
25	M6	10	5031 2506	5038 2506	5039 2506
30	M6	10	5031 3006	-	-
30	M8	10	5031 3008	-	-
35	M6	10	5031 3506	-	-
35	M8	10	5031 3508	5038 3508	5039 3508
35	M10	10	5031 3510	5038 3510	5039 3510
40	M8	10	5031 4008	-	-
40	M10	10	5031 4010	-	-
45	M8	10	5031 4508	-	-
45	M10	10	5031 4510	-	-
50	M8	10	5031 5008	5038 5008	5039 5008
50	M10	10	5031 5010	5038 5010	5039 5010
50	M12	10	5031 5012	-	-
60	M10	10	5031 6010	5038 6010	5039 6010
65	M10	10	5031 6510	-	-
70	M12	10	5031 7012	-	-

Support type SB

Support type	Insulation voltage (VAC)	Number of bars	Bar width (mm)	Available for order in multiples of	Reference
SB 1	690	1	20-25	6	5021 0110
SB 2	690	1	32-40	6	5022 0110
SB 3 without screws	690	1 ... 2	32-63	6	5023 0111
SB 3 pre-assembled	690	1 ... 2	32-63	6	5023 0110
SB 205	1000	1 ... 3	100	6	5022 5110
SB 306	1000	1 ... 3	160	6	5023 6110

Accessories

Grub screw

Length (mm)	Thread	To be ordered in multiples of	Reference
20	M6	20	5032 2006
20	M8	20	5032 2008
25	M6	20	5032 2506
25	M8	20	5032 2508
30	M6	20	5032 3006
30	M8	20	5032 3008
40	M8	20	5032 4008
40	M10	20	5032 4010
50	M12	20	5032 5012



sb_121_eps

Consult us for price



Fuse solutions: undeniable advantages over circuit breakers

SOCOMEC has always promoted the benefits of fuses for both personal and equipment safety. In fact, fuse protection offers serious benefits compared to the circuit breaker in a large number of applications.

Fuse switches guarantee reliable breaking and protection, from the distribution of power to protection of the motor. Key benefits at a glance:

- **Highly limited short circuits**

The thermal and mechanical effects generated during a short circuit can be considerable. The speed of a fuse's break capacity ensures a much better limitation of the fault current than circuit breaker solutions (see Fig. 1).

- **High breaking capacity**

Our fuses have a 100 kA breaking capacity (or more); so you don't have to worry about the short-circuit current when choosing the product for you.

- **Easy selection**

Discrimination between upstream and downstream fuses of the same type is guaranteed as long as the upstream fuse rating is 1.6 times or more higher than the downstream fuse. This feature guarantees a seamless supply of energy (see the example in Fig. 2).

- **Confined breaking**

During a short-circuit, the generated energy is absorbed by the silica and remains contained in the body of the fuse, avoiding the spread of the arc or even the projection of incandescent materials.

- **Double breaking**

Our switch disconnectors break the circuit upstream and downstream of the fuse, allowing it to be replaced safely.

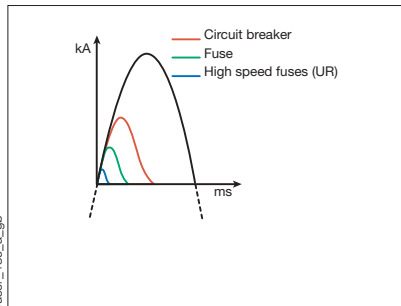


Fig. 1: Limiting the current

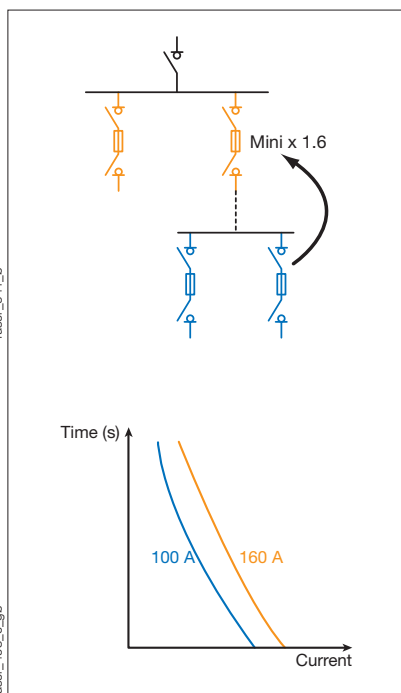


Fig. 2: Example of total selectivity



Good to know

- Controlled with the high/low voltage transformer sensor, triggering fuse switch disconnectors are the best way to ensure cut-off and general protection functions.
- Protecting your system with ultra-rapid (uR) fuses is the only way to effectively protect the semiconductors used in electronic equipment (variable speed drives, etc.) against short circuits.

Photovoltaic applications

SOCOMEC offers solutions for fuse load break switches and fuse disconnect switches.

Contact us

Technical specifications

All the information you need about how to control your electrical system is just one click away!



www.socomec.com/application-guide-scp_en

Selection guide

Fuse protection



Industry					
FUSERBLOC Front/side control 25 to 1250 A	FUSERBLOC Direct control 25 to 400 A <i>Consult us</i>	FUSOMAT SIDERMAT combination 250 to 1800 A <i>Consult us</i>	RM - RMS 32 to 125 A	Fuse bases 160 to 2500 A	gG and AM NFC/DIN 0.16 to 1250 A

Applications

Transformer output			•			•
Section connectors				•	•	•
Cabinet entrance	•	•	•			•
Wiring						•
Motor circuits	•	•	•			•
Semi-conductor protection				•	•	
Photovoltaic installations						

Device operation

Manual	•	•	•			
Via tripping			•			

Location of manual handle

Front		•	•			
Side		•	up to 1250 A			
Via a panel		up to 32 A				

Location of external handle

Front	•		•			
Right side	•		up to 1250 A			
Left side	Contact us					
Central	Contact us					

Breaking

Fully visible	•	•	•			
Visible			•			

Fuses

NFC/DIN	• / •	• / •	- / •	• / -	- / •	•
BS	see the UK catalogue	see the UK catalogue				•
UL	see UL catalogue	see UL catalogue				•
Other						

Consult us for price



Effective protection for your electrical installation

All electrical installations, particularly those which incorporate sensitive loads, must be appropriately monitored and/or protected against indirect contact, earth leakage currents, short circuits and voltage surges.

To secure your installation against these various risks, we offer a range of protection devices which have been grouped under the heading "Electronic protection":

- **RESYS earth leakage relays**

See our selection guide, "Differential protection".

With many years of experience in the industry and an extensive knowledge of installation standards, SOCOMEC delivers much more than high-performance products. Our services include:

- auditing your low-voltage installation
- defining protection requirements
- seamless product integration into your electrical distribution system
- system commissioning
- training on the use of, and the standards applicable to, the system
- turnkey monitoring solutions.

Contact us now and let us provide you with a solution for your installation.

Important!

Sound knowledge of your electrical network is essential in ensuring the successful outcome of your project.

Your choice of electronic protection devices and their location on your installation depends on:

- the type of supply source,
- the length of the conductors,
- the type and nature of the electrical loads connected to the network.

Expert Services

We will help you design your protection solution, guaranteeing perfect integration of the products in your installation.

For further information, please contact your nearest SOCOMEC branch.

Differential protection: a RESYS solution for each application



APPL1268 A

Motor feeder application.



SITE 538 A

Industrial site application.



APPL1146 A

Local battery application.

Earth leakage relays fulfil two key functions:

- **Protection against indirect contact** in the following earthing schemes:
 - TT (mandatory)
 - TNS and IT on second fault (with long conductor lengths)
 - IT (with multiple earthing points in an LV network).
- **Prevention/signalling** for TNS or TT earthing arrangements.

In both cases, you need to identify the type of load present on your network to choose the most suitable differential relay.

There are three types of relay:

- **Type AC** for loads that may cause a pure sinusoidal AC earth leakage current
- **Type A** for loads that may generate an AC and/or a pulsing DC earth leakage current
- **Type B** for loads that may generate a DC earth leakage current (including protection types AC & A)

You can combine SOCOMEC toroids and earth leakage relays to suit the needs of each application:

- Interference from variable speed drives, dimmers, etc. through their TRMS measurement: RESYS relay type A or B
- Presence of pulsing components: RESYS relay type A
- Presence of DC circuits: RESYS relay type B.

Due to the mixture of components and loads in industrial applications type AC differential relays do not cover all the necessary requirements, therefore SOCOMEC proposes type A and B differential relays.

What you need to know

To identify the different categories of load present in your installation, visit our website www.socomec.com/en/resys

Selection Guide

Differential protection

Which requirement?



Which application?

Applications	Motor load break	
		
Model	RESYS M40	RESYS P40
Characteristics		
Type of protection DDR	A type	A type
Tripping threshold	30 mA ... 30 A	30 mA ... 30 A
Time setting	0 ... 10 s	0 ... 10 s
Automatic reclosing function		
Pre-alarm function	•	•
Output contact	2	2
Case	DIN modular	Panel mounting
Dimensions (mm)	44	48x48
Accessories		
Core balance transformers		
Circular closed toroids ΔIC	•	•
Split-core balance transformer ΔIP-R	•	•
Rectangular closed toroids WR	•	•

Consult us for price

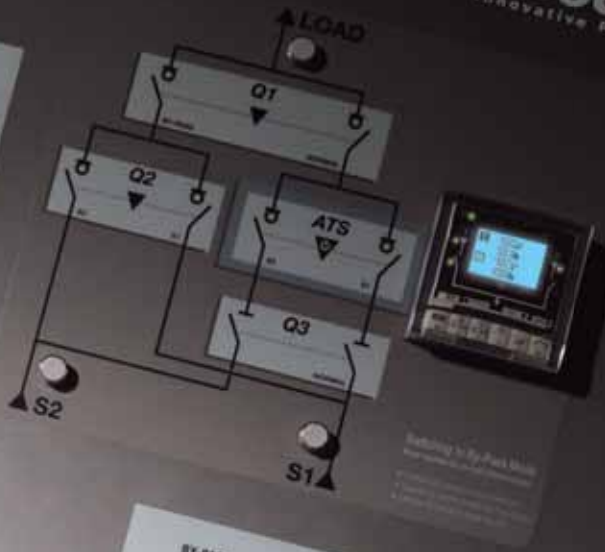


Which type of protection?

	Isolated sites
	
	RESYS M40R
	A type
	30 mA ... 30 A
	0 ... 10s
	•
	2
	Modular
	44
	•
	•
	•

By-Pass Double Line

socomec
Innovative Power Solutions



Enclosed Products and Equipment to suit all your applications

The specialist in load breaking, switching, protection, metering and measurement, SOCOMEC designs and produces **standard and tailored integrated solutions.**

With our dual expertise (in products and solutions) we can offer you the electrical equipment you need for your systems, all under a **manufacturer's guarantee.**



The result of the long accumulation of extensive experience, our **standard integrated solutions** bring you:

- **Fast implementation backed up** by a review of system limitations
- **Ease-of-use, without any risk of non-compliance errors**

Our solutions guarantee:

- **The safety and protection of people and goods**
- **Continuity of use**
- **Compliance with standards on products, assemblies and installations**

What you need to know!

SOCOMEK has an entire department at your service, dedicated to the design and production of specialist equipment.

This department is here to support you throughout your projects, including:

- Building specifications
- Budgets
- Planning
- Design and production
- Qualification and certification
- Support during installation and startup
- Training

Draw on our expertise and contact your local SOCOMEC branch.

Enclosed switches



SITE 301 A

Enclosed switches incorporate load-break switches with or without fuses, developed, qualified and certified for industrial electrical distribution and service sector networks.

They support the load-breaking, isolation and lockout of the mains power for all types of loads and can also be used as a general switch for equipment in various applications.

Safety enclosures



SITE 558 A

Safety enclosures are designed to be installed near a motor or a machine to **separate them from the power supply.** This includes manually operated, **padlockable load-break switches**, in the OFF position with a **visible and reliable display** of the switchgear's open position.

During preventive maintenance or inspection work, these enclosures ensure operator **safety against the accidental startup of electrical machines.**

For use in an explosive atmosphere (dust), use our ATEX model to prevent any explosion during the unit's opening/closing phases, which generate electrical arcs.

Enclosed Products and Equipment to suit all your applications

Enclosed Transfer Switch



Switching enclosures ensure the availability of electrical power in critical facilities (high-rises, public buildings, hospitals, IT or telecommunications centres, airports, industrial sites, etc.), operated manually or automatically to switch between a normal power source and a backup source (genset or auxiliary transformer) to cover in the event of failure.

For sites that require a power availability rate close to 100%, our **ATyS Bypass** solution offers dual redundancy during normal operation, service and maintenance work. With its capacity to resume Normal/Bypass channels, the ATyS Bypass solution allows the continued, seamless and safe use of your systems.

Solutions for medical premises



The availability of a reliable electrical power supply is vital to ensure continuity of care. There is no excuse today for power failures that can lead to life-or-death situations. Medical IT unearthing system cabinets ensure the availability of electrical power in medical centres (in accordance with standard IEC 60364-7-710).

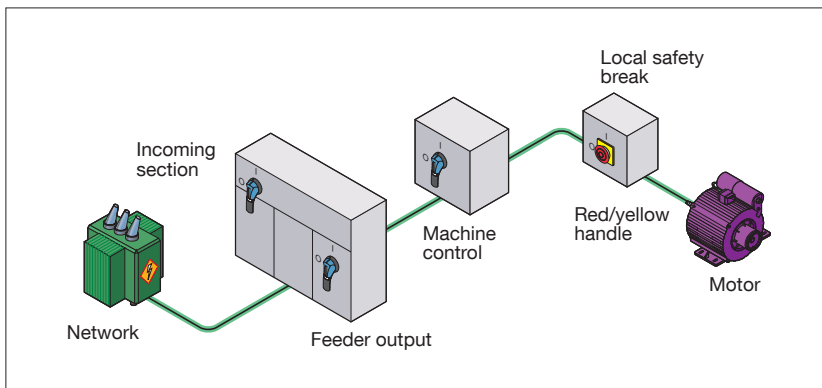
The SOCOMEC medical IT cabinet range comes in three models and provides the solution for all your medical centre needs, with manufacturer's guarantee.

Enclosed switches

Enclosed load break switches and fuse combination load break switches

Switchgear systems are an essential part of your electrical system. Installed at every level of the distribution, they allow you to secure and isolate parts of the network or electrical equipment.

SOCOMEK load break switches in power distribution and machine control applications



The solution for

- > Processing industry
- > Infrastructure
- > OEM

The advantages

- > Increased flexibility
- > Maintenance safety
- > Adaptable to every environment

A manufacturer's expertise

- > Active in the electrical switchgear market since 1922, Socomec is both a global leader and an undisputed benchmark reference.
- > Our enclosed solutions, with or without fuse protection, are suitable for a wide variety of commercial and industrial power distribution operating environments and applications. From 20 to 1600 A, to IEC or UL standards, we now have one of the widest ranges on the market.

Business sectors



- Processing industry**
- Cement plant - Quarries
 - Steel plant
 - Food processing industries



- OEM**
- HVAC - heating, ventilation and air-conditioning
 - Lifting



- Infrastructure**
- Airports - Tunnels - Motorways
 - Water treatment

Which product for which business?

Enclosure	Insulated		Metallic	
	Polycarbonate	Polyester	Painted sheet metal	Stainless steel
Rating	20 to 125 A	160 to 630 A	20 to 1600 A	32 to 100 A
Application				
Cement plant		++	+++	
Steel plant		++	+++	
Food processing	+	++		+++
Tunnels	+++	++	+	
Water treatment	++	+++		
HVAC	+++	++		
Lifting	+	++	+++	

The benefits of our range

Enclosed switches equipped with Socomec load break switches or fuse combination load break switches provide emergency breaking, breaking for mechanical maintenance, local safety isolation and fuse protection for any low voltage circuit.



Increased flexibility for more productivity

Controlling the power as close as possible to consumers makes operation and maintenance easy, autonomous and safe. This allows you to optimise the equipment's operating times.



Maintenance safety

Breaking close to the load means the system can reliably identify which circuits need to be disconnected.

On-load breaking and isolating, as well as the clear indication of the load break switch's position and the triple lock of the operating handle (in the open position) allows non-qualified persons to reliably and easily shutdown and isolate a supply circuit.

The locking of access (live or non current-carrying) to the enclosure's internal equipment can be managed to suit all kinds of safety procedures.



A solution to suit any environment

Available in 4 materials, the Socomec enclosed switch range can withstand most environmental constraints; protection against water and dust (IP), mechanical impact (IK) or corrosion.






Selection guide

Enclosed switches

Which application?





In which operating environment?

Electrical feature	Load break switches				
	Insulated		Metallic		
Enclosure					
Model	COMO 20 to 125 A	SIRCO 160 to 630 A	SIRCO M 20 to 100 A	SIRCO 160 to 1600 A	SIRCO M 32 to 100 A
Application					
Local breaking	•	•	•	•	•
Circuit protection					
Environmental risks					
Corrosion	+++	+++	+	+	+++
Chemical	++	++	+	+	+++
Mechanical impact	+	++	+++	+++	+++
Electrical characteristics					
Rated current: AC-22A, 400 V	20 ... 125 A	160 ... 630 A	20 ... 100 A	160 ... 1600 A	32 ... 100 A
Motor power AC-22A, 400 VAC (kW)	7.5 ... 45	80 ... 280	9 ... 45	80 ... 710	15 ... 45
Number of poles	3 / 4 / 6 / 8 P	3 / 4 P	3 / 4 P	3 / 4 P	3 / 4 P
Enclosure characteristics					
Material					
Polycarbonate	•				
Polyester		•			
Painted sheet metal			•	•	
Stainless steel					•
Protection degree	IP 65	IP 65	IP 65	IP 65	IP 65
Connection characteristics					
High-Low	•	•	•	•	
Low-Low	•	•	•	< 630 A	•
Minimum recommended connection section (mm ²)	1.5	50	1.5	50	1.5
Max. connection cross section (mm ²)	50	2 x 300	70	6 x 185	70

Which electrical feature ?

Which connection?

Fuse combination load break switches	
Insulated	Metallic
	
<i>FUSERBLOC</i> 50 to 160 A	<i>FUSERBLOC</i> 32 to 800 A
•	•
•	•
+++	+
++	+
++	+++
50 ... 160 A	32 ... 800 A
25 ... 80	15 ... 450
3 / 4 P	3 / 4 P
•	•
•	•
IP 55	IP 65
•	•
•	< 630 A
6	2.5
2 x 300	4 x 185

Enclosed Load Break Switches

Como

from 20 to 125 A



The solution for

- > Compact design
- > IP 65
- > Safety of operations
- > Wide range

Conformity to standards

- > IEC 60947-3
- > EN 60947-3
(please consult us)



Available at your local distributor



20 A, 3/4 poles, IEC
Polycarbonate



32, 63, 80, 100 A, 3/4/6/8 poles, IEC
Polycarbonate

Function

COMO are load break switches that will make and break on load and provide isolation for any low voltage electrical circuit. COMO are now available in enclosed version incorporating three, four, six and eight-pole manually operated load break switches.

The new enclosed COMO provide protection against contact with live parts as well as environmental factors such as dust, water and other hazards.

Advantages

Compact design
IP 65

Safety of operations
Wide range

References

Reference Number	Enclosure size	No. of poles	Reference Number (with grey/blue handle)	Price List
20 A	0	3	2115 3301	260.000
32 A	1	3	2115 3303	350.000
		4	2115 4303	427.000
40 A	1	3	2115 3304	395.000
		4	2115 4304	707.000
63 A	2	3	2115 3306	973.000
		4	2115 4306	1.215.000
80 A	2	3	2115 3308	1.371.000
		4	2115 4308	1.715.000
100 A	2	3	2115 3309	1.943.000
		4	2115 4309	2.429.000
125 A	3	3	2115 3312	3.302.000
		4	2115 4312	3.434.000

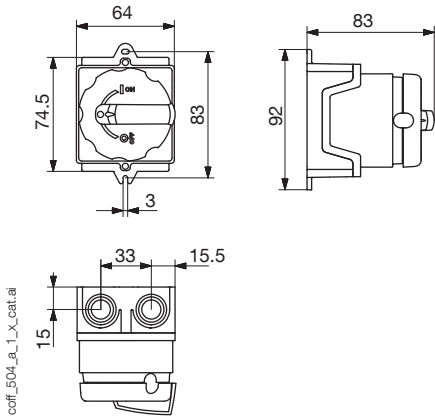
Enclosed switches

Load break switches

20 to 1600 A

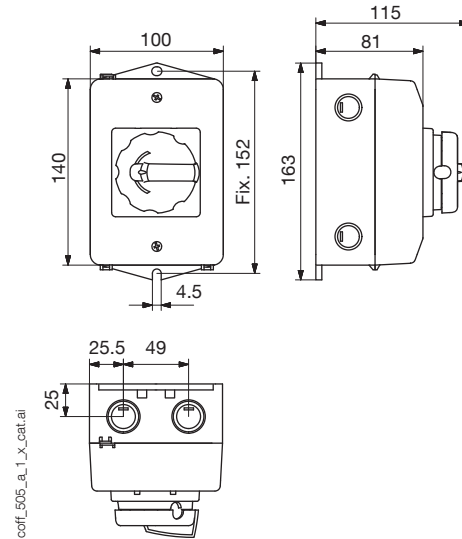
COMO dimensions

Size CPC 0



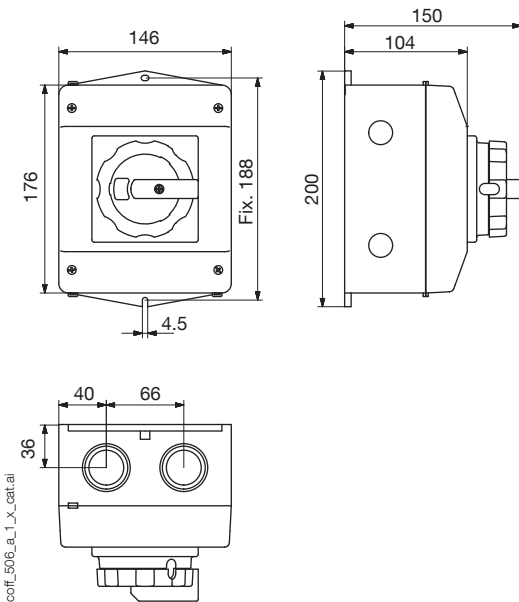
- 2x M25 cable knockouts (top and bottom)

Size CPC 1



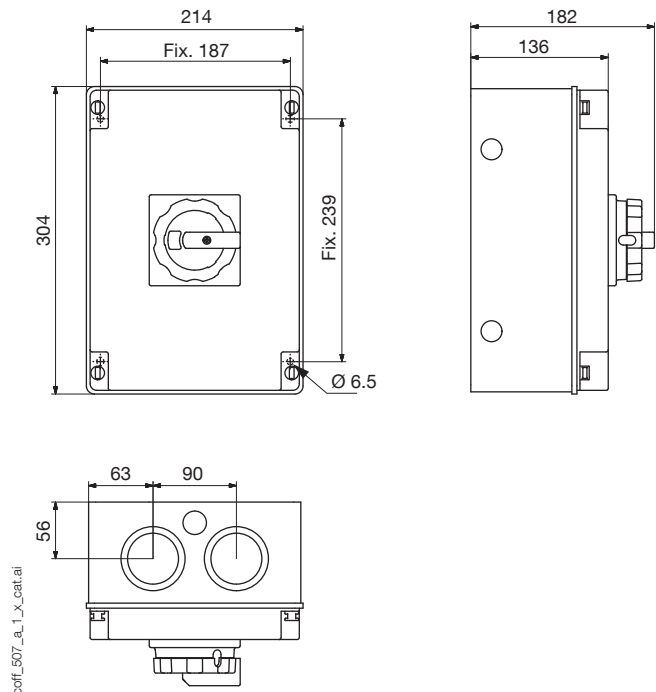
- 2x M20 cable knockouts (on each side)
- 2x M25 cable knockouts (top and bottom)
- 2 pre-drilled holes to expel water

Size CPC 2



- 2x M20 cable knockouts (on each side)
- 2x M32/M40 cable knockouts (top and bottom)
- 2 pre-drilled holes to expel water

Size CPC 3



- 2x M20 cable knockouts (on each side)
- 2x M50/M63 cable knockouts (top and bottom)
- 2 pre-drilled holes to expel water

Socomec: our innovations supporting your energy performance

1 independent manufacturer

3,600 employees
worldwide

10 % of sales revenue
dedicated to R&D

400 experts
dedicated to service provision

Your power management expert



POWER
SWITCHING



POWER
MONITORING



POWER
CONVERSION



ENERGY
STORAGE



EXPERT
SERVICES

The specialist for critical applications

- Control, command of LV facilities
- Safety of persons and assets
- Measurement of electrical parameters
- Energy management
- Energy quality
- Energy availability
- Energy storage
- Prevention and repairs
- Measurement and analysis
- Optimisation
- Consultancy, commissioning and training

A worldwide presence

12 production sites

- France (x3)
- Italy (x2)
- Tunisia
- India
- China (x2)
- USA (x3)

28 subsidiaries and commercial locations

- Algeria • Australia • Belgium • China • Canada
- Dubai (United Arab Emirates) • France • Germany
- India • Indonesia • Italy • Ivory Coast • Netherlands
- Poland • Portugal • Romania • Serbia • Singapore
- Slovenia • South Africa • Spain • Switzerland
- Thailand • Tunisia • Turkey • UK • USA

80 countries

where our brand is distributed

HEAD OFFICE

SOCOMECC GROUP

SAS SOCOMECC capital 10 607 040 €
R.C.S. Strasbourg B 548 500 149
B.P. 60010 - 1, rue de Westhouse
F-67235 Benfeld Cedex
Tel. +33 3 88 57 41 41 - Fax +33 3 88 57 78 78
info.scp.isd@socomecc.com

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100 years
OF SHARED ENERGY
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Innovative Power Solutions