

**NATIONAL
METER
INDUSTRIES**



CATALOG
2025



MORE INFO
www.national-meter.com

CALL US
(800) 325-6674



Technology development to offer products and comprehensive solutions to the market of electric power efficiency and electric mobility.



We create and develop new ways of managing electric power, tracing possible paths to a more efficient world.



We respond to energy needs, reducing their environmental impact. Committed to our own future.



We offer comprehensive solutions that allow for the optimisation of energy consumption.



Tailor-made and customised service. We treat your concerns as ours.

From 1973

2017.
Technology for energy efficiency.
—
1992.
Energy control technology.
—
1984.
Technology for energy saving.
—
1982.
Rational use of electric power



CIRCUTOR headquarters in Viladecavalls, Barcelona..

NATIONAL METER INDUSTRIES / CIRCUTOR Profile

For over twenty eight years, **National Meter Industries** has specialized in the design, manufacture and marketing of energy efficiency sub-metering, PQM-Metering equipment, Meter Reading Systems, kW Demand Control, Dash Board Services and Metering Reading and Billing Services for the electrical apparatus market.

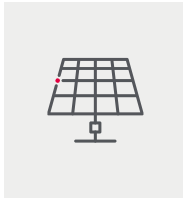
The company prides itself with assisting End-Users, Electrical Engineers, Electrical Contractors, Mechanical Contractors and Electrical Distributors in engineering and creating total solutions while meeting the scope of work with the most economical approach.

National Meter Industries, (NMI) has committed itself to follow the latest technological advances in order to offer to the customer the latest and most accurate solution in the secondary metering and control market.

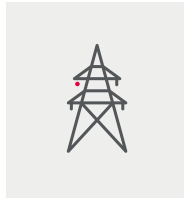
NMI along with its vendor / partner **CIRCUTOR**, of Barcelona, Spain, have global presence and recognition in offering equipment to be the Total Solution Provider in all the markets the company services.

- | NMI / CIRCUTOR holds certification in:
- | UL/UR, CSA & CUL
- | ANSI Certification
- | Quality (ISO 9001)
- | Health and Environment (ISO 14001)
- | Safety (OSHAS 18001)
- | Management System (ISO 50001)

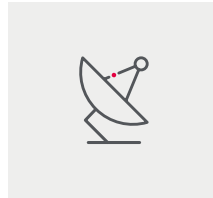
Present in all sectors



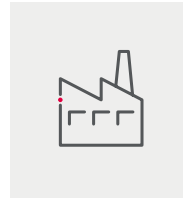
Photovoltaic facilities



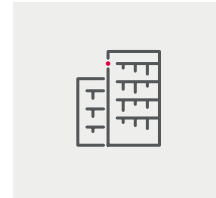
Energy distribution



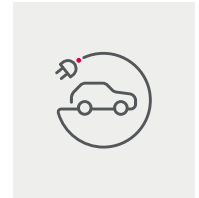
Telecommunications, Data centres and critical facilities



Industrial sector



Tertiary sector, buildings and infrastructures



Electric mobility

Innovation and development

We are committed to innovation, incorporating cutting-edge technology to continue proposing more efficient solutions in the electric sector.



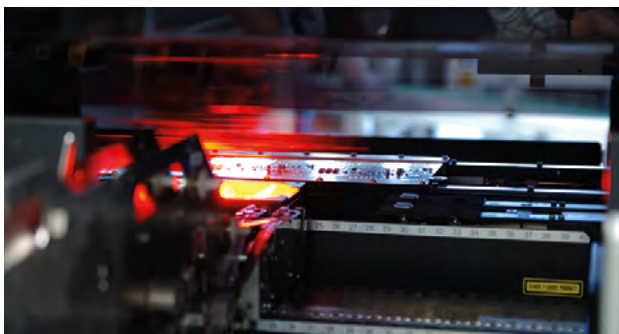
Production centres

We manufacture our own products in 6 centres located in Viladecavalls, Barcelona, Santa Perpètua, and Mexico.



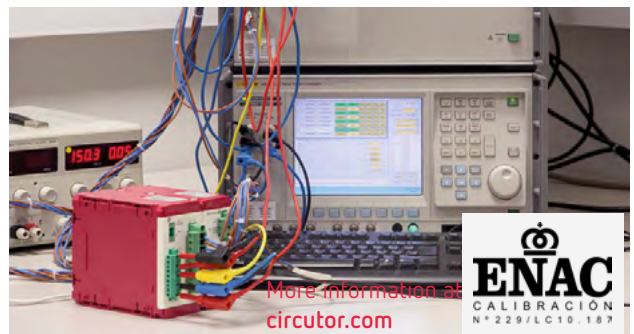
CIRCUTOR technology

Boasting an in-house R&D team made up of more than 100 engineers who work designing new products to meet market demand..



Testing laboratory

CIRCUTOR boasts in-house laboratories for compatibility testing (EMC/EMI), calibration and official metrological verification laboratory, which guarantee the highest quality.



More information at
circuitur.com



Energy Management Systems

What is energy efficiency?

Energy efficiency consists of optimising the energy resources of an electrical installation to reduce power consumption and improve productivity without affecting the usual activity, whether in buildings, industries or distribution networks.

Why is it necessary?

Because proper energy management allows you to obtain the following benefits:

- I Reduce the economic cost of operating facilities and processes, by optimising and reducing consumption (kWh, kvarh).
- I Avoiding penalties, whether for reactive energy consumption or for maximum demand.
- I Ensure the sustainability of the economic system and the preservation of the environment by reducing CO₂ emissions.
- I Optimising the performance of the facilities, avoiding unnecessary consumption and improving technical management.
- I Avoiding indirect costs due to production process failures or breakdowns (leak control and harmonic filtering).

How to apply it?

CIRCUTOR has the necessary equipment within its 4 product families:



MEASUREMENT AND CONTROL

Measurement and supervision of the main electrical parameters of the installation.



PROTECTION AND CONTROL

Protection of facilities, equipment and people.



METERING

Consumption and billing management through energy meters.



REACTIVE COMPENSATION

Power factor correction and harmonic filtering to save on energy bill.

PRODUCT RANGE

Measurement and Control	9
Fixed power analyzers	10
Measuring transformers and shunts	19
Portable power analyzers	31
Digital instruments	34
Industrial IoT and Automation	41
EMS Datalogger and SCADA Embedded	42
Software	43
Converters and gateways	45
Input and Output Centralisers	45
Protection and control	47
Residual current protection	47
Power factor correction and harmonic filtering	55
Power factor regulators	57
Low voltage power capacitors	58
Low voltage capacitor banks	62
Harmonic filters	71
Management software	73

If you are interested in Electric Mobility and/or Renewable Energies, consult the specific catalogue or contact us at info@circutor.com.

Measurement and Control

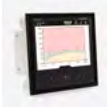
Fixed power analyzers	10
Panel mounted power analyzers	11
CVM-A Power quality analyzers, colour display, panel mounted	11
CVM-B Power analyzer, colour display, panel mounted	11
M-CVM-AB Expansion modules for CVM-A and CVM-B	11
CVM-C11 Power analyzer, panel mounted 96 x96	12
MFC-FLEX Rogowski flexible sensors for FLEX devices	12
CVM-C4 Power analyzer, panel mounted 96x96	12
DIN rail power analyzers	13
CVM-E3-MINI Power analyzer, three-phase DIN rail	13
MFC-FLEX Rogowski flexible sensors for FLEX devices	13
CVM-D50 Three-phase power analyser with DIN-rail memory	13
CVM-D41 DC Programmable DC measurement device	13
Line system	14
Line-CVM-D, Power analyzer, Line series	14
Line-M-410-R Expansion modules, Line series	14
Power quality analyzers	15
QNA 600 Advanced power quality analyzers (according Standard UNE-EN-50160 and IEC 61000-4-30)	16
Quality Analyst_Scout Cloud-Scout software	16
CVM-A Power quality analyzers, colour display, panel mounted	16
Converters and gateways	17
PowerStudio Universe, Energy management software	17
DATABOX, DataBox Cloud software	17
Measuring transformers and shunts	19
Table: Current transformers and shunts selection	19
TD/TDH rail fixing	19
TD, Current transformers narrow section	20
TD, Current transformers narrow section	21
TDH, High precision current transformer	21
TDH, High precision current transformer	22
TP, Current transformers, split core	23
TQR, Current transformers split core	24
TA210, Current transformers, winding primary	25
TA, Current transformers	25
SH, Shunts for direct current measurement	26
VT, Measurement voltage transformers	27
TSR, Current adding transformer	27
TE, Impedance elevator transformer	27
Portable power analyzers	31
MYeBOX-A, Portable power analyzer with recording of quality events and transients Calibration Certificate (IEC 61000-4-30 Ed.2) Class A	32
MYeBOX, Portable power analyzer with recording of quality events and transients in accordance with (IEC 61000-4-30 Ed.2) Class A	32
FLEX-R Flexible sensors for MYeBOX analysers	33
FLEX-RMG Flexible sensors for MYeBOX analysers	33
CPG Clamps	33
CFG, Residual current sensors (leaks)	33
Digital instruments	34
DCB Digital instrument	34
Front adapter	35
DHC-96 Digital instruments 96 x 48	35
DHC-96 CPM Digital instruments: Programmable DC measurement Central	35
Table: Measurement transducer selection	36
Converters	36
CVE/CCE/CFE Narrow section transducers	36
CV Voltage transducer	36
CC Current transducer	36
CW, Active power transducer	37
CY, Reactive power transducer	37
CF, Frequency transducers	37
CT-PT, Temperature transducer	37
TI Current transformer with converter 4 ... 20 mA	39
TC-420 Current transformers with converter 4 ... 20 mA or 0 ... 20 mA	39

Fixed power analyzers

		CVM-A1500 CVM-A1500A	CVM-B150 CVM-B100	CVM-C11	CVM-C4	CVM-E3- MINI	Line- CVM-D32	NEW CVM D50	CVM-D41DC
									
Mounting	Panel (mm)	144x144	144x144 / 96x96	96x96	96x96	OP (72x72)	OP (72x72)	OP (72x72)	–
	DIN rail (modules)	–	–	–	–	3	3	3	6
AC Measurement	Three-phase 3/4 wires	Config	Config		Config	Config			–
	Single-phase	Config	Config		Config	Config			•
	Quadrants	4	4	4	4	4	4	4	4
	Hamonics	63	50	31	–	31	40	31	–
	Phase parameters	•	•	•	•	•	•	•	•
	Maximum demand	•	•	•	–	•	•	•	–
	Tariffs	3	3	3	2	2	1	2	–
	Hours, cost, kgCO ₂	•	•	•	–	•	•	•	–
Voltage input	Direct (V)	600 V _{F-N} 1000 V _{F-F}	600 V _{F-N} 1000 V _{F-F}	300 V _{F-N} 520 V _{F-F}	300 V _{F-N} 520 V _{F-F}	300 V _{F-N} 520 V _{F-F}	300 V _{F-N} 520 V _{F-F}	300 V _{F-N} 520 V _{F-F}	1500 V _{F-N}
	Indirect (V)	Config.	Config.	Config.	Config.	Config.	Config.	Config.	–
Current Input	Direct	–	–	–	–	–	–	–	Shunt
	Indirect (ITF)	•	•	ST	•	ST	•	ST	–
	MC System (/ 250 mA)	•	•	ST	–	ST	•	ST	–
	Rogowski sensors	ST	–	ST	–	ST	–	ST	–
	SVC System (/ 333 mV)	–	–	–	–	–	–	–	–
Communications	RS-485	•	•	ST	•	ST	•	–	•
	Ethernet (TCP/IP)	•	OP	ST	–	ST	–	•	–
	WiFi	–	–	–	–	ST	–	•	–
	Web server	•	OP	–	–	ST	–	•	–
	APP	–	–	–	–	•	–	•	–
Protocols	ModBus/RTU	•	•	ST	•	ST	•	–	•
	ModBus/TCP	OP	OP	ST	–	ST	–	•	–
	XML	•	OP	–	–	–	–	–	–
	MBUS	OP	OP	–	–	–	–	–	–
	BACnet	•	•	•	–	ST	–	–	–
	LonWorks	OP	OP	–	–	–	–	–	–
Others	Display	Colour graph	Colour graph	LCD	LED	LCD	TFT RGB	–	LCD
	Expandible	•	•	–	–	–	•	–	–
Optional	Digital inputs (n.max)	2	2	2	2	1(ST)	(OP*)	–	2
	Digital outputs (n.max)	2+2relé	2+2relé	2+2relé	2+2relé	1(ST)	2(OP*)	–	2 relé
	Analogue inputs (n.max)	OP	OP	–	–	–	(OP*)	–	–
	Analogue outputs (n.max)	OP	OP	–	–	–	(OP*)	–	1
	Historical data record	•	OP	–	–	–	(OP*)	•	–
Standards	UL certificated	•	•	–	–	–	–	–	–
	Measurement in acc. with MID	•	•	–	–	•	•	•	–
	Measurement in acc with IEC 61000-4-30	ST	–	–	–	–	–	–	–
	Calibration certificate in compliance with IEC 61000-4-30	ST	–	–	–	–	–	–	–

(T) - depending on the type / (OP) - Optional

Panel mounted power analyzers



CVM-A Power quality analyzers, colour display, panel mounted

Power supply 100...240 Vac / 120...300 Vdc, 600 VPh-N / 1000 VPh-Ph measurement

Type	Code	Energy accuracy	Input current	Transistor output	Relay output	Digital inputs	Communications	Protocol	Harmonics	Certification	Memory
CVM-A1500A-ITF-485-ICT2	[2] M563110000A00	0,2S (.../5A)	.../5 A .../1 A 250 mA	2	2	2	RS-485 Ethernet	Modbus/RTU BACnet webserver (HTTP) XML HTML5	63	IEC 61000-4-30 (Class A)	1
CVM-A1500A-FLEX-485-ICT2	[2] M563510000A00	1	Rogowski	2	2	2	RS-485 Ethernet	Modbus/RTU BACnet webserver (HTTP) XML HTML5	63	IEC 61000-4-30 (Class A)	1
CVM-A1500-ITF-485-ICT2	[*] M56311.	0,2S (.../5A)	.../5 A .../1 A 250 mA	2	2	2	RS-485 Ethernet	Modbus/RTU BACnet webserver (HTTP) XML HTML5	63	-	1
CVM-A1500-FLEX-485-ICT2	[*] M56351.	1	Rogowski	2	2	2	RS-485 Ethernet	Modbus/RTU BACnet webserver (HTTP) XML HTML5	63	-	1

Four-quadrant measuring device with PowerStudio embedded. Integrated Datalogger module. Optional Modbus/TCP. 200MB Internal memory
See expansion modules and accessories (sealing gaskets) for CVM-A/CVM-B.
Precision power without connected sensors.



CVM-B Power analyzer, colour display, panel mounted

Power supply100...240 Vac / 120...300 Vdc, 600 VPh-N / 1000 VPh-Ph measurement

Type	Code	Size (mm)	Energy accuracy	Input current	Transistor output	Relay output	Digital inputs	Communications	Protocol
CVM-B150-ITF-485-ICT2	[*] M56111.	144 x 144	0,5 S (.../5A)	.../5 A .../1 A .../250 mA	2	2	2	RS-485	Modbus/RTU BACnet
CVM-B100-ITF-485-ICT2	[*] M56011.	96 x 96	0,5 S (.../5A)	.../5 A .../1 A .../250 mA	2	2	2	RS-485	Modbus/RTU BACnet

4-quadrant measuring unit. See expansion modules and accessories (Sealing gaskets) for CVM-A / CVM-B



M-CVM-AB Expansion modules for CVM-A and CVM-B

Type	Code	Transistor output	Relay output	Digital inputs	Analog output	Analog Input	Communications	Protocol	Memory
M-CVM-AB-8I-80TR	[*] M56E01.	8	-	8	-	-	-	-	-
M-CVM-AB-8I-80R	[*] M56E02.	-	8	8	-	-	-	-	-
M-CVM-AB-4AI-8AO	[*] M56E03.	-	-	-	8 (0/4 ... 20 mA)	4 (0/4 ... 20 mA)	-	-	-
M-CVM-AB-Modbus-TCP (bridge)	[*] M56E05.	-	-	-	-	-	Ethernet	Modbus/TCP (gateway to RS485)	-
M-CVM-AB-Modbus-TCP (switch)	[*] M56E0A.	-	-	-	-	-	Ethernet	Modbus/TCP (gateway to TCP)	-
M-CVM-B-DATALOGGER	[*] M56E06.	-	-	-	-	-	Ethernet	Webserver HTML5 XML	1
M-CVM-AB-MBUS	[*] M56E07.	-	-	-	-	-	M-BUS	M-BUS	-

Adapters

Type	Code	Description
IP65-AB-96	[*] M5ZZ5U.	IP 65 airtight seal for CVM-AB (96x96)
IP65-AB-144	[*] M5ZZ5V.	IP 65 airtight seal for CVM-AB (144x144)

NEW



CVM-C11 Power analyzer, panel mounted 96 x96

Type	Code	Power supply	Measuring Channels	Input current	Nr Sensors	Transistor output	Relay output	Digital inputs	Communications	Protocol	Harmonics
CVM-C11-ITF-IN-ETH-ICT2	[*] M58531.	100...270 Vac/dc	4	.../5 A .../1 A	-	2	2	2	Ethernet	Modbus/TCP BACnet	31
CVM-C11-ITF-IN-485-ICT2	[*] M58541.	100...270 Vac/dc	4	.../5 A .../1 A	-	2	2	2	RS-485	Modbus/RTU BACnet	31
CVM-C11-FLEX-IN-485-ICT2	[*] M58561.	100...270 Vac/dc	4	Rogowski	-	2	2	2	RS-485	Modbus/RTU BACnet	31
Kits											
CVM-C11-FLEX+3 MFC-FLEX-80	[*] M58562.	100...270 Vac/dc	4	Rogowski	3 x MFC-FLEX-80	2	2	2	RS-485	Modbus/RTU BACnet	31
CVM-C11-FLEX+3 MFC-FLEX-125	[*] M58563.	100...270 Vac/dc	4	Rogowski	3 x MFC-FLEX-125	2	2	2	RS-485	Modbus/RTU BACnet	31
CVM-C11-FLEX+4 MFC-FLEX-80	[*] M58564.	100...270 Vac/dc	4	Rogowski	4 x MFC-FLEX-80	2	2	2	RS-485	Modbus/RTU BACnet	31
CVM-C11-FLEX+4 MFC-FLEX-125	[*] M58565.	100...270 Vac/dc	4	Rogowski	4 x MFC-FLEX-125	2	2	2	RS-485	Modbus/RTU BACnet	31



MFC-FLEX Rogowski flexible sensors for FLEX devices

Type	Code	Measurement Range (A)	A Max.	Usefull diam.(mm)	Sensor lenght	cable Lenght(m)
MFC-FLEX-80	[*] M82111.	1000 A / 100 mV @ 50 Hz. (RMS values) 1000 A / 120 mV @ 60 Hz. (RMS values)	100000	80	250 mm	3
MFC-FLEX-125	[*] M82114.	1000 A / 100 mV @ 50 Hz. (RMS values) 1000 A / 120 mV @ 60 Hz. (RMS values)	100000	125	400 mm	3

Compatible only with FLEX type devices. Only one sensor is supplied per code The clamp limit for CVM-E3-MINI-FLEX is 2 kA, for CVM-C11-FLEX 3 kA and for CVM-A1500-FLEX 10 kA.



CVM-C4 Power analyzer, panel mounted 96x96
96x96 panel - 80...270 Vac / 80...270 Vdc power supply

Type	Code	Measuring Channels	Input current	Transistor output	Relay output	Digital inputs	Communications	Protocol
CVM-C4-ITF-485-ICT2	[C] M52706.	3	.../5 A .../1 A	2	2	2	RS-485	Modbus/RTU

4-quadrant measuring unit. Can be used to program the voltage transformer ratio



SURFACE MOUNT ENERGY METERS

Type	Power supply	Measuring Channels	Input current	Relay output	Digital inputs	Communications	Protocol	Harmonics
KCVM-C4	120/208V - 277/480V	3	.../5 A .../1 A	2	2	RS-485	Modbus/RTU	31
KCVM-C11-1	120/208V - 277/480V	4	.../5 A .../1 A	2	2	RS-485	Modbus/RTU BACnet	31
KCVM-C11-ETH	120/208V - 277/480V	4	.. /5 A .../1 A	2	2	Ethernet	Modbus/TCP BACnet	31

TABLE OF ADDITIONAL FEATURES

CVM-B, CVM-A

M	5	X	X	X	X	0	0	X	X	X	X
Code	Internal code								Delivery time		
Power supply voltage	Standard (100...270 V _{ac} / 120...300 V _{dc})								0		
	20...120 V _{dc}								F	1	
Others	Metric fork terminals 3 - CAT III 300 V								B	T	-

CVM-C4

M	5	X	X	X	X	0	0	X			
Code	Internal code								Delivery time		
Power supply voltage	Estándard (80...270 V _{ac} / dc)								0		
	18 ...36 V _{dc}								3	1	

DIN rail power analyzers



CVM-E3-MINI Power analyzer, three-phase DIN rail

Type	Code	Power supply	Input current	Transistor output	Digital inputs	Communi-cations	Protocol	Harmonics
CVM-E3-MINI-ITF-485-IC	[*] M56414.	207...253 Vac	.../5 A .../1 A	1	1	RS-485	Modbus/RTU BACnet	31
CVM-E3-MINI-FLEX-485-IC	[*] M56454.	207...253 Vac	Rogowski	1	1	RS-485	Modbus/RTU BACnet	31
CVM-E3-MINI-ITF-WiEth	[*] M56470.	90...264 Vac/Vdc	.../5 A .../1 A	-	-	Ethernet Wi-Fi	Modbus/TCP	31
CVM-E3-MINI-FLEX-WiEth	[*] M56490.	90...264 Vac/Vdc	Rogowski	-	-	Ethernet Wi-Fi	Modbus/TCP	31

"Built-in wireless communication on all WiEth models for configuration via free app (MyConfig) RS-485 models, possibility of switching power supply Consult additional benefits"



MFC-FLEX Rogowski flexible sensors for FLEX devices

Type	Code	Measurement Range (A)	A Max.	Usefull diam.(mm)	Sensor lenght	cable Lenght(m)
MFC-FLEX-80	[*] M82111.	1000 A / 100 mV @ 50 Hz. (RMS values) 1000 A / 120 mV @ 60 Hz. (RMS values)	100000	80	250 mm	3
MFC-FLEX-125	[*] M82114.	1000 A / 100 mV @ 50 Hz. (RMS values) 1000 A / 120 mV @ 60 Hz. (RMS values)	100000	125	400 mm	3

Compatible only with FLEX type devices. Only one sensor is supplied per code The clamp limit for CVM-E3-MINI-FLEX is 2 kA, for CVM-C11-FLEX 3 kA and for CVM-A1500-FLEX 10 kA.

Adapters

Type	Code	Description
Adap-Panel-D3M	[*] M5ZZF100000E3	Panel adapter CVM-E3-MINI, RGU, CBS (72 x 72)

NEW



CVM-D50 Three-phase power analyser with DIN-rail memory

Type	Code	Power supply	Input current	Communications	Protocol	Harmonics	Memory
CVM-D50-ITF	[*] M56570.	90...264 Vac/Vdc	.../5 A .../1 A	Ethernet Wi-Fi	Modbus/TCP	31	1
CVM-D50-MC	[*] M56580.	90...264 Vac/Vdc	.../250 mA	Ethernet Wi-Fi	Modbus/TCP	31	1
CVM-D50-FLEX	[*] M56590.	90...264 Vac/Vdc	Rogowski	Ethernet Wi-Fi	Modbus/TCP	31	1

It has a free configuration App (MyConfig) and WebServer for configuration, visualization and data download



CVM-D41 DC Programmable DC measurement device

Type	Code	System	Para-meters	Measu-ment Range U	Measu-ment Range I	Output relay	Digital inputs	Analog output	Power supply	Commu-nications	Protocol
Multimeter											
CVM-D41 DC mA	[*] M56638.	DC (Shunt)	V/A/kW/ kWh	1500 Vdc	50 ... 600 mV	2	2	1 (20 mA)	100...270 Vac/dc	RS-485	Modbus/RTU
CVM-D41 DC mA	[*] M566380040000	DC (Shunt)	V/A/kW/ kWh	1500 Vdc	50 ... 600 mV	2	2	1 (20 mA)	20...60 Vdc	RS-485	Modbus/RTU
CVM-D41 DC V	[*] M5663A.	DC (Shunt)	V/A/kW/ kWh	1500 Vdc	50 ... 600 mV	2	2	1 (0 ... 10V)	100...270 Vac/dc	RS-485	Modbus/RTU
CVM-D41 DC V	[*] M5663A0040000	DC (Shunt)	V/A/kW/ kWh	1500 Vdc	50 ... 600 mV	2	2	1 (0 ... 10V)	20...60 Vdc	RS-485	Modbus/RTU

TABLE OF ADDITIONAL FEATURES

CVM-E3-MINI Comunicaciones									
M	5	X	X	X	X	0	0	X	
Code						Internal code		Delivery time	+ \$
Power supply voltage		Standard 207...253 Vac				0	-		
		90...264 Vac/Vdc				D	1		

Line system



Line-CVM-D, Power analyzer, Line series

Type	Code	Measuring Channels	Input current	Transistor output	Communications	Protocol	Harmonics
Line-CVM-D32	[*] M58100.	3	.../5 A .../1 A .../250 mA	2	RS-485 Bus-Line	Modbus/RTU	40

Bus-Line: RS-485 communications system, with lateral side connector between modules



Line-M-4IO-R Expansion modules, Line series

Type	Code	Transistor output	Relay output	Digital inputs	Analog output	Analogue Input	Communications	Protocol
Input/Output Modules								
Line-M-4IO-T	[*] D73001.	4	-	4	-	-	Bus-Line	Modbus/RTU
Line-M-4IO-R	[*] D73002.	-	4	4	-	-	Bus-Line	Modbus/RTU
Line-M-8I6O	[*] D73008.	-	6	8	-	-	Bus-Line	Modbus/RTU
Line-M-4IO-A	[*] D73003.	-	-	-	4 (0/4 ... 20 mA) 4 (0/2 ... 10 Vdc)	4 (0/4 ... 20 mA)	Bus-Line	Modbus/RTU
Line-M-4IO-RV	[*] D73004.	-	4	4 (230 V)	-	-	Bus-Line	Modbus/RTU
Line-M-2OI	[C] D73006.	-	-	20	-	-	Bus-Line	Modbus/RTU
Relay I/O expansion modules, Line system								
Type	Code	Description						
Power supply								
Line-M-EXT-PS	[*] D7300A.	110-277 V ~ (P-N)/110-480 V ~ (P-P) power supply for maximum of 3 Line devices						
Modem								
Line-M-4G	[*] D7300C.	4G/GPRS Communications modem and Bus-Line to communicate with Line-EDS devices						
Ethernet converter								
Line-TCPRS1	[C] D80030.	RS-485/RS-232 to Ethernet/Wi-Fi converter (ModbusTCP/TCP/UDP) Integrated web server and mobile app (MyConfig) for configuration						
4G Modem, expansion modules, Line system								

Power quality analyzers

		NEW QNA-600 CVM-A1500A CVM-A1500		
		Class A Class A Acc. Class A		
Assembly	Panel (mm)	Rack 19"	144 x 144	144 x 144
Connection	Three-phase 3/4-wire	config.	config.	config.
	Quadrants	4	4	4
Power supply		180...300 V _{ac}	85-265V _{ca} / 120-300V _{cc} 20-120V _{cc} (OP)	85-265V _{ca} / 120-300V _{cc} 20-120V _{cc} (OP)
Parameters	Parameters per phase	●	●	●
	Power	0,5	0,2	0,2
	Active energy	0,5S	0,2S (.../5A)	0,2S (.../5A)
	Reactive energy	1	1	1
	Maximum demand	—	●	●
	Harmonics	64	63	63
	THD U / THD I	●	●	●
	Tariffs	—	3	3
	Hours, cost, kgCO ₂	—	●	●
	Events (overvoltages, gaps and interruptions)	●	●	●
Quality parameter measurements	EN50160 parameters	●	●	●
	Rapid Voltage Variations (RVC)	●	—	—
	Signal transmission over the network	●	—	—
	Voltage transients	●	●	●
	Current transients	●	—	—
	Waveform (of quality events)	●	●	●
Voltage input	Direct	500 V _{F-N} / 866 V _{F-F}	600 V _{F-N} / 1000 V _{F-F}	600 V _{F-N} / 1000 V _{F-F}
	Indirect	config	config	config
Input Current	.../5 A	●	●	●
	.../1 A	—	●	●
	.../250 mA	—	●	●
	Clamp (Rogowski)	—	ST	ST
Inputs/outputs	Digital inputs	—	2	2
	Digital outputs	—	2	2
	Relay outputs	—	2	2
Comunicaciones	RS-485	—	●	●
	TCP/IP	●	●	●
	Wi-Fi	●	—	—
	4G	●	—	—
Interface	Colour screen	OLED	●	●
Protocols	ModBus/RTU	—	●	●
	ModBus/TCP	—	OP	OP
	XML / BACnet	—	●	●
	M-BUS	—	OP	OP
	IEC 61850	●	—	—
	HTTPS / API REST	●	—	—
	LonWorks	—	OP	OP
	Web server	●	HTML5	HTML5
	FTP + SFTP	●	—	—
Expansion modules	Digital inputs/outputs	—	OP (8 + 8)	OP (8 + 8)
	Digital inputs / Relay outputs	—	OP (8 + 8)	OP (8 + 8)
	Analogue inputs/outputs	—	OP (4 + 8)	OP (4 + 8)
Normas	IEC 61000-4-30	Clase A - Edic.3	Clase A	Según clase A
	According to UL	—	Certificado	Certificado
	Measuring in accordance with MID	●	●	●
	OP - Opcional			

NEW



QNA 600 Advanced power quality analyzers (according Standard UNE-EN-50160 and IEC 61000-4-30)

Power supply 180...300 Vac, measurement 500 VF-N / 866 VF-F

Type	Code	Energy ac- curacy	Class	Power supply	Input current	Communi- cations	Protocol	Harmonics	Certification
QNA 600	[C] Q22010.	0,5s	A	180 ... 300 V ~	... / 5 A	Ethernet Wi-Fi 4G	HTTPS - NTP - SFTP - IEC61850	64	IEC 61000-4- 30 (Class A)

Accessories for QNA 600

Type	Code	Description
Pack-4bat	[] Q22003.	Replacement pack 4 QNA 600 batteries
Rack- 4U-19" 60x45x28cm	[] Q22001.	19" 4U Wall Rack Accessory for QNA 600
DobleRack	[] Q2200A.	Accessory Double Rack Mount QNA 600

NEW

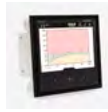


Quality Analyst_Scout Cloud-Scout software

Cloud-Scout Electrical monitoring and auditing software

Type	Code	Description
Quality Analyst_Scout	[*] W10320.	Module for the analysis and monitoring of power quality
DSO Monitor_Scout	[*] W10330.	Module for monitoring and operation of transformer substations
VAR_Scout	[*] W10340.	Module for battery performance and power factor monitoring

Module prices are annual subscription prices per connected device.
Equipment compatible with the modules: Quality Anlayst: QNA 600.



CVM-A Power quality analyzers, colour display, panel mounted

Power supply 100...240 Vac / 120...300 Vdc, 600 VPh-N / 1000 VPh-Ph measurement

Type	Code	Energy accuracy	Input current	Tran- sistor output	Relay output	Digital inputs	Communi- cations	Protocol	Harmoni- cs	Certifi- cation	Memory
CVM-A1500A-ITF-485-ICT2	[2] M563110000A00	0,2S (.../5A)	.../5 A .../1 A 250 mA	2	2	2	RS-485 Ethernet	Modbus/RTU BACnet webserver (HTTP) XML HTML5	63	IEC 61000- 4-30 (Class A)	1
CVM-A1500A-FLEX-485-ICT2	[2] M563510000A00	1	Rogowski	2	2	2	RS-485 Ethernet	Modbus/RTU BACnet webserver (HTTP) XML HTML5	63	IEC 61000- 4-30 (Class A)	1
CVM-A1500-ITF-485-ICT2	[*] M56311.	0,2S (.../5A)	.../5 A .../1 A 250 mA	2	2	2	RS-485 Ethernet	Modbus/RTU BACnet webserver (HTTP) XML HTML5	63	-	1
CVM-A1500-FLEX-485-ICT2	[*] M56351.	1	Rogowski	2	2	2	RS-485 Ethernet	Modbus/RTU BACnet webserver (HTTP) XML HTML5	63	-	1

Four-quadrant measuring device with PowerStudio embedded. Integrated Datalogger module. Optional Modbus/TCP. 200MB Internal memory
See expansion modules and accessories (sealing gaskets) for CVM-A/CVM-B.
Precision power without connected sensors.

TABLE OF ADDITIONAL FEATURES

CVM-A											
M	5	X	X	X	X	0	0	X	X	X	X
Code	Internal code						Delivery time				
Power supply voltage	Standard (100...270Vac / 120...300 Vdc						-				
	20...120 Vdc						1				
Others	Metric fork terminals 3 - CAT III 300 V						-				

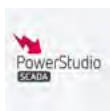
Accessories



Converters and gateways

Type	Code	Description
RS		
RS2RS	[*] D80310.	RS-232/485 Intelligent converter and amplifier (RTS control) for PC
USB		
USB-RS 485	[*] D80320.	USB to RS-485 Converter
M-BUS		
CMBUS-8	[*] D80208.	M-Bus to Modbus Converter, up to 8 Mbus slaves
CMBUS-24	[*] D80224.	M-Bus to Modbus Converter, up to 24 Mbus slaves
LoRa		
Bridge LR PSAC	[*] D80110.	LoRa to RS-485 Converter (Modbus/RTU) . AC power supply (110...264 Vac)
Bridge LR PSDC	[*] D80111.	LoRa to RS-485 Converter (Modbus/RTU) . DC power supply (9 ... 36 Vdc)
Ethernet		
TCPRS1+	[*] D80010.	RS-485 to Ethernet/Wi-Fi converter (ModbusTCP/TCP/UDP) Integrated web server and mobile app (MyConfig Wifi) for configuration
TCPRS1+PSDC	[*] D80011.	RS-485 to Ethernet/Wi-Fi converter (ModbusTCP/TCP/UDP) Integrated web server and mobile app (MyConfig Wifi) for configuration

NEW



PowerStudio Universe, Energy management software

Type	Code	Description
SCADA software		
PowerStudio SCADA Basic	[*] W20100.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. Up to 25 devices
PowerStudio SCADA Pro	[*] W20110.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. Up to 50 devices
PowerStudio SCADA Ultimate	[*] W20120.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. Up to 500 devices.
PowerStudio SCADA Enterprise	[*] W20130.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. More than 500 devices.
OPC UA Server	[*] W20200.	Allows to configure an OPC UA server in PowerStudio for any SCADA with OPC UA client to integrate the desired parameters.
PS-DataBox	[*] W20300.	Connects PowerStudio software and DataBox cloud platform



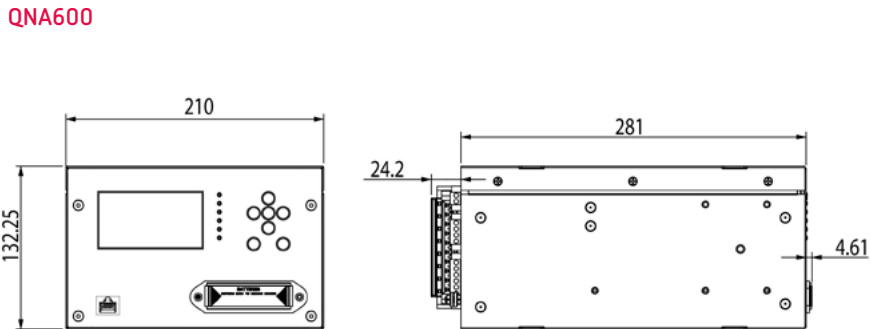
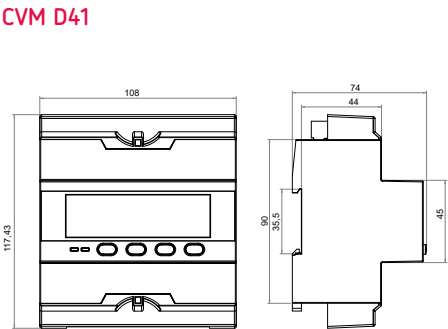
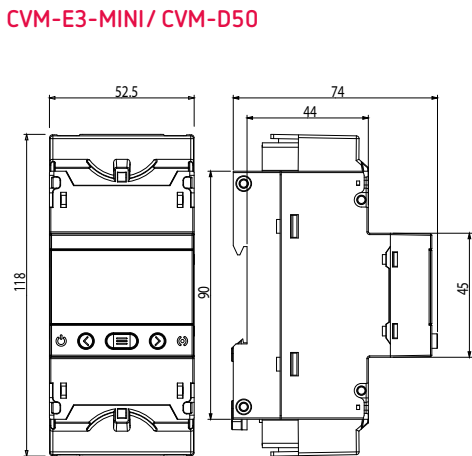
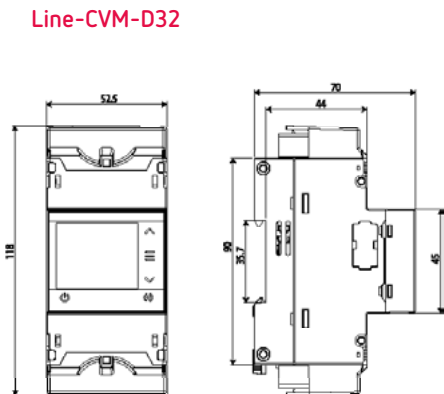
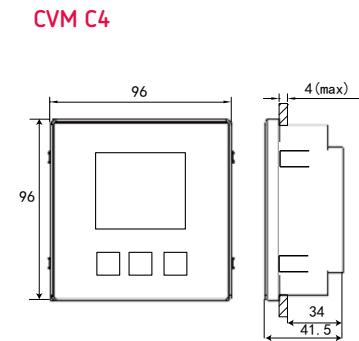
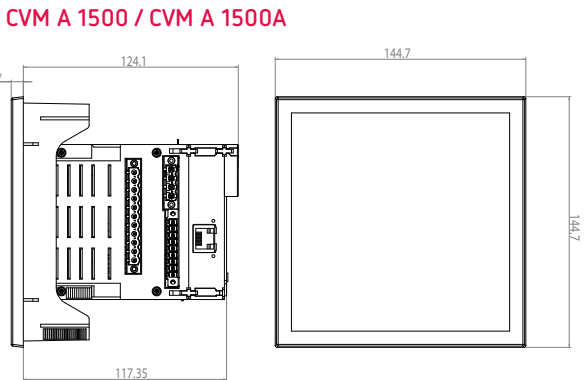
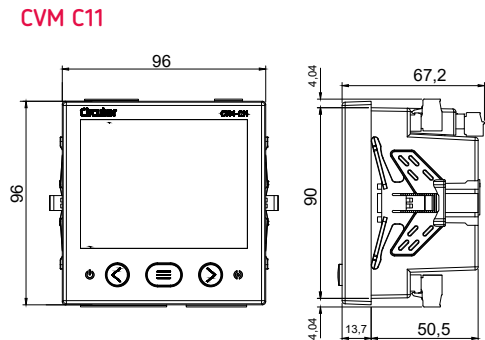
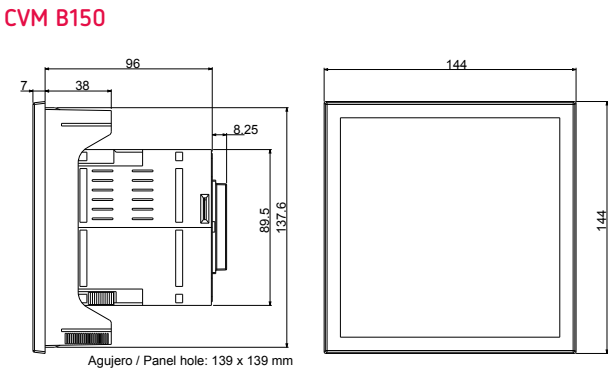
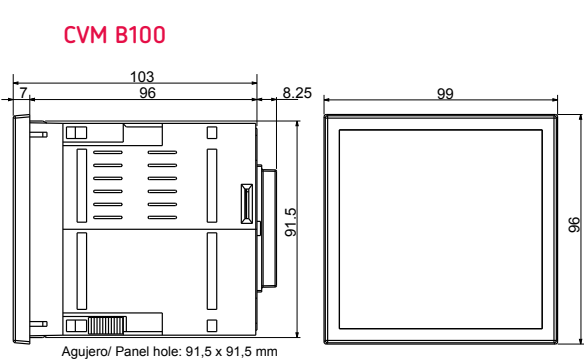
DATABOX, DataBox Cloud software

DataBox data plans

Type	Code	Description
Plan		
LitePlan_Databox	[*] W10100.	6 Readings, 6 Alarms and 6 Actuators
SmallPlan_Databox	[*] W10101.	18 Readings, 18 Alarms and 18 Actuators
MediumPlan_Databox	[*] W10102.	55 Readings, 55 Alarms and 55 Actuators
BigPlan_Databox	[*] W10103.	100 Readings, 100 Alarms and 100 Actuators
User		
BasicUser_Databox	[*] W10110.	Viewing permissions
AdvancedUser_Databox	[*] W10111.	Viewing and editing permissions for graphical configuration and reports
AnalyticsUser_Databox	[*] W10112.	Permissions to view, analyse and edit graphical configuration and reports.
ProfessionalUser_Databox	[*] W10113.	Administrator permissions. A minimum of one user per partner is required
Service		
Act-Firmware_Databox	[*] W10120.	ePick GPRS VPN over-the-air firmware upgrade
ImportVar_Databox	[*] W10121.	Variable imported and stored in the platform
ModbusIntegration_Databox	[*] W10122.	Integration of a Modbus map of a new device
Brand_databox	[*] W10123.	Visual customisation of the platform (Name, DNS and background image)
API_Databox	[*] W10124.	Extensive use of the API. 1,000 first calls free of charge. Monthly charging of 25.000 calls packages.

All codes, with the exception of W10120, W10122, and W10124, correspond to monthly subscription prices. The prices for codes W10120, W10122, are one-time purchase prices. The price of code W10124, corresponds to 25,000 calls. A reading is understood as a variable that is periodically recorded, an alarm as an expression that is continuously evaluated locally and reported, and an actuator as a pre-configured (manual or programmed) remote control action.

Dimensions



Measuring transformers and shunts

Table: Current transformers and shunts selection

		TD	TDH	TA	TP NEW	TQR	TRMC	TRM	SH
AC Measurement	For billing meters	–	–	–	–	–	•	–	–
	For measuring instruments	•	•	•	•	•	–	•	•
	Wound primary	–	–	T	–	–	T	–	–
	Passing bar	•	•	T	•	•	T	•	–
	Split-core	–	–	–	•	•	–	–	–
	Minimum range (A)	40 A	60 A	5 A	75 A	400 A	50 A	75 A	–
	Maximum range (A)	4000 A	4000 A	5000 A	5000 A	2000 A	3000 A	5000 A	–
	High accuracy	–	•	–	–	–	–	–	–
	Three-phase	–	–	–	–	–	T	–	–
DC measurement	Minimum range (A)	–	–	–	–	–	–	–	1 A
	Maximum range (A)	–	–	–	–	–	–	–	20000 A
Other parameters	Secondary output	.../5 A (*2)	.../5 A (*1)	.../5 A (*1)	.../5 A (*1)	.../5 A (*2)	.../5 A (*1)	.../5 A (*1)	.../60 mV (*3)
	in resin	OP	OP	–	–	–	•	•	–
	Sealable	•	•	–	•	–	–	–	–
	UL Certificate	–	–	T	–	–	–	–	–
	Individual certificate	OP	OP	OP	OP	OP	OP	OP	–
T - Depending on the type OP - Optional (*1) .../1 On demand (*2) .../1 A, .../250 mA on request (*3) Possibility of other outputs (secondary values)									

TD/TDH rail fixing

Type	Code	Description
DIN-FIX 50x50	[*] M75102.	DIN-FIX 50x50;Description: DIN rail fixing 50 x 50 mm (TD4, TD5, TD5.2, TD6, TD6.2)
DIN-FIX 50x84	[*] M75103.	DIN-FIX 50x84;Description: DIN rail fixing 50 x 84 mm (TD8 / TDH8 / TD10 / TDH10)
TD4-COVER	[*] M75111.	TD4 / TDH4-COVER;Description: Terminal cover/label for TD4 / TDH4 + secondary cap
TD5/TD5.2-COVER	[*] M75121.	TD5-COVER;Description: Terminal cover/label for TD5 / TDH5 / TD5.2 / TDH5.2 + secondary cap
TD6/TD6.2-COVER	[*] M75141.	TD6-COVER;Description: Terminal cover/label for TD6 / TDH6 / TD6.2 / TDH6.2 + secondary cap
TD8-COVER	[*] M75161.	TD8-COVER;Description: Terminal cover/label for TD8 / TDH8 + secondary cap
TD10-COVER	[*] M75171.	TD10-COVER;Description: Terminal cover/label for TD10 / TDH10 + secondary cap
TD12-COVER	[*] M75181.	TD12-COVER;Description: Terminal cover/label for TD12 / TDH12 + secondary cap

TD, Current transformers narrow section

Type	TD4	TD5	TD5.2
	 width x height x depth (mm) 50 x 80 x 48	 width x height x depth (mm) 58 x 84 x 53	 width x height x depth (mm) 58 x 84 x 53
ø (mm)	20		22
Flat strip(mm)	15 x 15 20 x 10 25 x 5		25 x 10 30 x 10 20 x 12
A	Class / VA 0.5 1 3 Code	Class / VA 0.5 1 3 Code	Class / VA 0.5 1 3 Code
40/5	- - 1,25 [*] M75011.		
50/5	- 1 1,5 [*] M75012.	- 0,5 1,5 [*] M75022.	
60/5	- 1,25 2,5 [*] M75013.	- 1 2,5 [*] M75023.	
75/5	- 1,5 3,75 [*] M75014.	- 1,5 3,5 [*] M75024.	
100/5	1,5 2,5 5 [*] M75015.	1,5 2,5 3,75 [*] M75025.	- - 1 [*] M750A5.
125/5	2,5 3,75 5 [*] M75016.	1,5 2,5 3,75 [*] M75026.	- 1 1,5 [*] M750A6.
150/5	3,75 5 5 [*] M75017.	1,5 2,5 3,75 [*] M75027.	1 1,5 2,5 [*] M750A7.
200/5	5 7,5 7,5 [*] M75018.	2,5 3,75 5 [*] M75028.	1,5 2,5 3,5 [*] M750A8.
250/5		2,5 3,75 5 [*] M75029.	2,5 3,5 5 [*] M750A9.
300/5			2,5 3,5 5 [*] M750AA.
400/5			2,5 3,5 5 [*] M750AB.
500/5			5 7,5 10 [*] M750AC.
600/5			5 7,5 10 [*] M750AD.

For other configurations see table of additional features

Type	TD6.2	TD6	TD8
	 width x height x depth (mm) 66 x 91 x 53	 width x height x depth (mm) 66 x 91 x 53	 width x height x depth (mm) 85 x 109 x 59
ø (mm)	25	28	43
Flat strip(mm)	25 x 12 30 x 10 20 x 20	20 x 25 30 x 15 40 x 10	50 x 30 60 x 12 13 x 45
A	Class / VA 0.5 1 3 Code	Class / VA 0.5 1 3 Code	Class / VA 0.5 1 3 Code
100/5	1 2,5 3,5 [*] M75055.		
125/5	1,5 3,5 5 [*] M75056.		
150/5	2,5 3,5 5 [*] M75057.	1 2,5 3,5 [*] M75047.	
200/5	3,5 5 5 [*] M75058.	1,5 3,5 5 [*] M75048.	
250/5	3,5 5 5 [*] M75059.	2,5 5 5 [*] M75049.	
300/5	5 7,5 7,5 [*] M7505A.	2,5 5 5 [*] M7504A.	2,5 3,5 3,5 [*] M7506A.
400/5	5 7,5 7,5 [*] M7505B.	2,5 5 5 [*] M7504B.	2,5 3,5 5 [*] M7506B.
500/5	5 7,5 10 [*] M7505C.	5 7,5 7,5 [*] M7504C.	2,5 5 5 [*] M7506C.
600/5	5 7,5 10 [*] M7505D.	5 7,5 7,5 [*] M7504D.	2,5 5 5 [*] M7506D.
750/5		5 7,5 10 [*] M7504E.	2,5 5 5 [*] M7506E.
800/5		5 7,5 10 [*] M7504F.	5 7,5 7,5 [*] M7506F.
1000/5			5 7,5 10 [*] M7506G.
1200/5			5 7,5 10 [*] M7506H.
1250/5			7,5 10 10 [*] M7506J.
1500/5			7,5 10 15 [*] M7506K.
1600/5			7,5 10 15 [*] M7506L.

For other configurations see table of additional features

TD, Current transformers narrow section

Type	TD10	TD12						
								
	width x height x depth (mm) 108 x 131 x 69	width x height x depth (mm) 134 x 151 x 69						
ø (mm)	63	50						
Flat strip(mm)	50 x 50 60 x 30 80 x 30	100 x 50						
A	Class / VA				Class / VA			
	0,5	1	3	Code	0,5	1	3	Code
600/5	2,5	5	7,5	[*] M7507D.				
750/5	2,5	5	7,5	[*] M7507E.				
800/5	2,5	5	7,5	[*] M7507F.	2,5	5	7,5	[*] M7508F.
1000/5	2,5	5	7,5	[*] M7507G.	2,5	5	7,5	[*] M7508G.
1200/5	2,5	5	7,5	[*] M7507H.	5	10	15	[*] M7508H.
1250/5	2,5	5	7,5	[*] M7507J.	5	10	15	[*] M7508J.
1500/5	5	10	15	[*] M7507K.	7,5	15	20	[*] M7508K.
1600/5	5	10	15	[*] M7507L.	7,5	15	20	[*] M7508L.
2000/5	5	10	15	[*] M7507M.	7,5	15	20	[*] M7508M.
2500/5	5	10	15	[*] M7507N.	10	20	25	[*] M7508N.
3000/5	5	10	15	[*] M7507P.	10	20	25	[*] M7508P.
4000/5					15	20	25	[*] M7508Q.

For other configurations see table of additional features

TDH, High precision current transformer

Type	TDH4				TDH5				TDH5.2			
												
	width x height x depth (mm) 50 x 80 x 48				width x height x depth (mm) 58 x 84 x 53				width x height x depth (mm) 58 x 84 x 53			
ø (mm)	20								22			
Flat strip(mm)					15 x 15 20 x 10 25 x 5				25 x 10 30 x 10 20 x 12			
A	Class / VA				Class / VA				Class / VA			
	0.2	0.2S	0.5S	Code	0.2	0.2S	0.5S	Code	0.2	0.2S	0.5S	Code
60/5	0,5	0	0,5	[*] M77013.	0,5	0	0,5	[*] M77023.				
75/5	0,75	0,5	0,75	[*] M77014.	1	0,5	1	[*] M77024.				
100/5	1	0,5	1	[*] M77015.	1,5	0,75	1,5	[*] M77025.	0,5	0	0,5	[*] M770A5.
125/5	1,5	1	1,5	[*] M77016.	1,5	0,75	1,5	[*] M77026.	0,75	0,5	0,75	[*] M770A6.
150/5	2,5	2	2,5	[*] M77017.	1,5	1	1,5	[*] M77027.	1	0,5	1	[*] M770A7.
200/5	3,5	3	3,5	[*] M77018.	2,5	2	2,5	[*] M77028.	1,5	1	1,5	[*] M770A8.
250/5					2,5	2	2,5	[*] M77029.	2	1,5	2	[*] M770A9.
300/5									1,5	1	1,5	[*] M770AA.
400/5									2,5	2	2,5	[*] M770AB.
500/5									5	2	5	[*] M770AC.
600/5									5	2	5	[*] M770AD.

For other configurations see table of additional features

TABLE OF ADDITIONAL FEATURES

TD, TDH												
M	7	X	X	X	X	0	0	X				
Code	Internal code						Delivery time					
Secondary	Standard (.../ 5 A)						0	-				
	.../ 1 A						1	1				
	.../250 mA						A	1				

Delivery time: [*] Immediate, [x] working weeks, [c] Consult

TDH, High precision current transformer

Type	TDH6.2				TDH6				TDH8			
												
	width x height x depth (mm) 66 x 91 x 53				width x height x depth (mm) 66 x 91 x 53				width x height x depth (mm) 85 x 109 x 59			
ø (mm)	25				28				43			
Flat strip(mm)	25 x 12 30 x 10 20 x 20				20 x 25 30 x 15 40 x 10				50 x 30 60 x 12 13 x 45			
A	Class / VA				Class / VA				Class / VA			
	0.2	0.2S	0.5S	Code	0.2	0.2S	0.5S	Code	0.2	0.2S	0.5S	Code
100/5	1	0,5	1	[*] M77055.								
125/5	2	1	2	[*] M77056.								
150/5	3	1,5	3	[*] M77057.	1	0,5	1	[*] M77047.				
200/5	3,5	2,5	3,5	[*] M77058.	2	1	2	[*] M77048.				
250/5	3,5	2,5	3,5	[*] M77059.	2,5	1,5	2,5	[*] M77049.				
300/5	7,5	5	7,5	[*] M7705A.	3,5	2,5	3,5	[*] M7704A.	2	1	2	[*] M7706A.
400/5	7,5	5	7,5	[*] M7705B.	3,5	2,5	3,5	[*] M7704B.	2	1	2	[*] M7706B.
500/5	7,5	5	7,5	[*] M7705C.	5	3,5	5	[*] M7704C.	3,5	2	3,5	[*] M7706C.
600/5	7,5	5	7,5	[*] M7705D.	5	3,5	5	[*] M7704D.	3,5	2	3,5	[*] M7706D.
750/5					5	3,5	5	[*] M7704E.	3,5	2	3,5	[*] M7706E.
800/5					5	3,5	5	[*] M7704F.	3,5	2	3,5	[*] M7706F.
1000/5									5	3,5	5	[*] M7706G.
1200/5									5	3,5	5	[*] M7706H.
1250/5									7,5	5	7,5	[*] M7706J.
1500/5									7,5	5	7,5	[*] M7706K.
1600/5									7,5	5	7,5	[*] M7706L.

For other configurations see table of additional features

Type	TDH10				TDH12			
								
	width x height x depth (mm) 108 x 131 x 69				width x height x depth (mm) 134 x 151 x 69			
ø (mm)	63				50			
Flat strip(mm)	50 x 50 60 x 30 80 x 30				100 x 50			
A	Class / VA				Class / VA			
	0.2	0.2S	0.5S	Code	0.2	0.2S	0.5S	Code
600/5	3,75	2,5	3,75	[*] M7707D.				
750/5	3,75	2,5	3,75	[*] M7707E.				
800/5	3,75	2,5	3,75	[*] M7707F.	2,5	0	2,5	[*] M7708F.
1000/5	3,75	2,5	3,75	[*] M7707G.	2,5	1,25	2,5	[*] M7708G.
1200/5	3,75	2,5	3,75	[*] M7707H.	5	3,5	5	[*] M7708H.
1250/5	3,75	2,5	3,75	[*] M7707J.	5	3,5	5	[*] M7708J.
1500/5	7,5	5	7,5	[*] M7707K.	7,5	5	7,5	[*] M7708K.
1600/5	7,5	5	7,5	[*] M7707L.	7,5	5	7,5	[*] M7708L.
2000/5	7,5	5	7,5	[*] M7707M.	10	7,5	10	[*] M7708M.
2500/5	7,5	5	7,5	[*] M7707N.	10	7,5	10	[*] M7708N.
3000/5	7,5	5	7,5	[*] M7707P.	15	10	15	[*] M7708P.
4000/5					20	15	20	[*] M7708Q.

For other configurations see table of additional features

NEW

TP, Current transformers, split core

Type	TP6				TP8			
								
	width x height x depth (mm) 100 x 51 x 101.8				width x height x depth (mm) 138 x 51 x 154.8			
ø (mm)	30				60			
Flat strip(mm)	30x30				60X80			
A	Class / VA				Class / VA			
	0.5	1	3	Code	0.5	1	3	Code
75/5	0	0	1	[*] M78011.				
100/5	0	0	1	[*] M78012.	0	0	1	[*] M78021.
150/5	0	0	1	[*] M78013.	0	0	1,5	[*] M78022.
200/5	0	0	2	[*] M78014.	0	0	1,5	[*] M78023.
250/5	0	1	2	[*] M78015.	0	1	2	[*] M78024.
300/5	0,5	1	2	[*] M78016.	0	1	2,5	[*] M78025.
400/5	1	2,5	4	[*] M78017.	1	1,5	3	[*] M78026.
500/5					2	5	7,5	[*] M78027.
600/5					2	5	8	[*] M78028.
700/5					2	5	8	[*] M78029.
750/5					2,5	5	10	[*] M7802A.
800/5					3	6	10	[*] M7802B.
1000/5					5	8	15	[*] M7802C.

For greater currents, use: transformer + transducer

Type	TP10				TP12			
								
	width x height x depth (mm) 158 x 51 x 193.8				width x height x depth (mm) 190 x 66 x 244.8			
ø (mm)	80							
Flat strip(mm)	80x120				80x160			
A	Class / VA				Class / VA			
	0.5	1	3	Code	0.5	1	3	Code
500/5	0	4	12	[*] M78031.				
600/5	0	5	14	[*] M78032.				
750/5	3	6	17	[*] M78033.				
800/5	3	7	18	[*] M78034.				
1000/5	5	9	20	[*] M78035.	10	15	20	[*] M78041.
1200/5	6	11	24	[*] M78036.				
1250/5	7	15	28	[*] M78037.				
1500/5	8	17	30	[*] M78038.	15	20	25	[*] M78042.
1600/5	8	17	30	[*] M78039.	15	20	25	[*] M78043.
2000/5	8	17	30	[*] M7803A.	15	20	25	[*] M78044.
2500/5	8	17	30	[*] M7803B.	15	20	25	[*] M78045.
3000/5					20	25	30	[*] M78046.
4000/5					20	25	30	[*] M78047.
5000/5					20	25	30	[*] M78048.

For greater currents, use: transformer + transducer

TABLE OF ADDITIONAL FEATURES

TP								
M	7	X	X	X	X	0	0	X
Code	Internal code						↑	Delivery time
Secondary	Standard (.../ 5 A)						0	-
	.../ 1 A						1	1

Delivery time: [*] Immediate, [x] working weeks, [c] Consult

TQR, Current transformers split core

Type	TQR-8				TQR-10			
	 width x height x depth (mm) 216 x 173 x 43.1				 width x height x depth (mm) 240 x 198.71 x 43.41			
ø (mm)	80				105			
Flat strip(mm)								
A	Class / VA				Class / VA			
	0.5	1	3	Code	0.5	1	3	Code
400/5	-	1,5	3	[*] M76037.				
500/5	1	1,5	3	[*] M76039.				
600/5	1,5	2	4	[*] M7603B.	1,5	2	4	[C] M7604B.
700/5	2	4	8	[*] M7603D.	2	4	8	[C] M7604D.
750/5	2,5	5	10	[C] M7603E.	2,5	5	10	[C] M7604E.
800/5	3	7	15	[*] M7603F.	3	7	15	[C] M7604F.
1000/5	5	8	16	[*] M7603J.	5	8	16	[C] M7604J.
1250/5	6	10	20	[*] M7603L.	6	10	20	[C] M7604L.
1500/5	6	10	20	[*] M7603M.	6	10	20	[C] M7604M.
2000/5	8	15	25	[*] M7603N.	8	15	25	[C] M7604N.

For other configurations see table of additional features

TABLE OF ADDITIONAL FEATURES

TQR									
M	7	X	X	X	X	0	0	X	X
Code		Internal code				Delivery time			
Secondary	Standard (.../ 5 A)				0	↑			
	.../ 1 A				1				
	.../250 mA				A				
	.../100 mA				7				
						Consult			
IP65 protection (cable meters) Only TQR-8					0				
	IP 65 (1 m)				1				
	IP 65 (2 m)				2				
	IP 65 (3 m)				3				
	IP 65 (4 m)				4				
	IP 65 (5 m)				5				
	IP 65 (6 m)				6				
	IP 65 (7m)				7				
	IP 65 (8 m)				8				
	IP 65 (9 m)				9				
	IP 65 (10 m)				A				

(*) A certificate is attached for every transformer

TA210, Current transformers, winding primary

Type	 width x height x depth (mm) 75 x 104.5 x 134			
Flat strip(mm)				
A	Class / VA			Code
	0.5	1	3	
5/5	15	20	30	[*] M70541.
10/5	15	20	30	[*] M70542.
15/5	15	20	30	[*] M70543.
20/5	15	20	30	[*] M70544.
25/5	15	20	30	[*] M70545.
30/5	15	20	30	[*] M70546.
40/5	15	20	30	[*] M70547.
50/5	15	20	30	[*] M70548.
60/5	15	20	30	[*] M70549.
75/5	15	20	30	[*] M7054A.
80/5	15	20	30	[1] M7054K.
100/5	15	20	30	[*] M7054B.
125/5	15	20	30	[*] M7054C.
150/5	15	20	30	[*] M7054D.
200/5	10	20	30	[*] M7054E.
250/5	15	20	30	[*] M7054F.
300/5	15	20	30	[*] M7054G.
400/5	15	20	30	[*] M7054H.

Sealable terminal cover and anchoring base included

TA			
M	7	X	X
X	X	X	X
X	X	X	X
X	X	X	X
0	0	X	
Code		Internal code	Delivery time
		↑	
Secondary		Standard (.../ 5 A)	0 -
		.../ 1 A	1 1
		.../250 mA	A 1

TA, Current transformers

Type	TA400				TA500				TA600			
 width x height x depth (mm) 95 x 165 x 59					 width x height x depth (mm) 115 x 185 x 63				 width x height x depth (mm) 124 x 192 x 62			
	100 x 20				100 x 30				125 x 60			
A	Class / VA			Code	Class / VA			Code	Class / VA			Code
	0.5	1	3		0.5	1	3		0.5	1	3	
300/5	5	10	15	[3] M7059A.								
400/5	5	10	15	[3] M70591.								
500/5	15	20	30	[3] M70592.								
600/5	15	20	30	[3] M70593.								
750/5	15	20	30	[*] M70594.								
800/5	15	20	30	[*] M70595.					15	15	-	[3] M7058B.
1000/5	15	20	30	[*] M70596.	15	20	30	[3] M705A2.	15	20	30	[*] M705B1.
1200/5	15	20	30	[*] M70597.	15	20	30	[3] M705A3.	15	20	30	[3] M705B2.
1500/5	15	30	40	[*] M70598.	15	30	40	[*] M705A4.	15	20	30	[*] M705B3.
2000/5	20	40	50	[*] M70599.	20	40	50	[*] M705A6.	15	20	30	[*] M705B5.
2500/5	20	40	50	[C] M7059B.	20	40	50	[*] M705A7.	20	30	40	[*] M705B6.
3000/5					20	45	60	[*] M705A8.	30	40	60	[*] M705B7.
3200/5									30	40	60	[3] M705BA.
4000/5					35	50	70	[*] M705A9.	35	50	70	[*] M705B8.
5000/5									40	60	80	[*] M705B9.

For other configurations see table of additional features

SH, Shunts for direct current measurement

Type	SHP		SHB		SH	
						
Accuracy	1		0.5			
Relation	Type	Code	Type	Code	Type	Code
1A/60mV			SHB 1A/60mV	[3] M71221.		
1.5A/60mV			SHB 1.5A/60mV	[3] M71222.		
2.5A/60mV			SHB 2.5A/60mV	[3] M71223.		
4A/60mV			SHB 4A/60mV	[3] M71224.		
5A/60mV			SHB 5A/60mV	[3] M71225.		
6A/60mV			SHB 6A/60mV	[3] M71226.		
10A/60mV			SHB 10A/60mV	[*] M71227.		
15A/60mV			SHB 15A/60mV	[*] M71228.		
25A/60mV			SHB 25A/60mV	[*] M71229.		
30A/60mV	SHP 30A/60mV	[3] M71211.	SHB 30A/60mV	[*] M7122A.	SH 30A/60mV	[*] M71231.
40A/60mV			SHB 40A/60mV	[*] M7122B.	SH 40A/60mV	[2] M71232.
50A/60mV	SHP 50A/60mV	[3] M71213.	SHB 50A/60mV	[*] M7122C.	SH 50A/60mV	[*] M71233.
60A/60mV	SHP 60A/60mV	[3] M71214.	SHB 60A/60mV	[*] M7122D.	SH 60A/60mV	[*] M71234.
75A/60mV	SHP 75A/60mV	[3] M71215.				
80A/60mV			SHB 80A/60mV	[*] M7122E.	SH 80A/60mV	[*] M71235.
100A/60mV	SHP 100A/60mV	[3] M71216.	SHB 100A/60mV	[*] M7122F.	SH 100A/60mV	[*] M71236.
150A/60mV	SHP 150A/60mV	[3] M71217.			SH 150A/60mV	[*] M71237.
200A/60mV	SHP 200A/60mV	[3] M71218.	SHB 200A/60mV	[2] M7122N.	SH 200A/60mV	[*] M71238.
250A/60mV					SH 250A/60mV	[*] M71239.
300A/60mV					SH 300A/60mV	[*] M7123A.
400A/60mV					SH 400A/60mV	[*] M7123B.
500A/60mV					SH 500A/60mV	[*] M7123C.
600A/60mV					SH 600A/60mV	[*] M7123D.
750A/60mV					SH 750A/60mV	[2] M7123E.
800A/60mV					SH 800A/60mV	[2] M7123F.
1000A/60mV					SH 1000A/60mV	[*] M7123G.
1200A/60mV					SH 1200A/60mV	[3] M7123H.
1500A/60mV					SH 1500A/60mV	[*] M7123J.
2000A/60mV					SH 2000A/60mV	[3] M7123K.
2500A/60mV					SH 2500A/60mV	[3] M7123L.
3000A/60mV					SH 3000A/60mV	[3] M7123M.
4000A/60mV					SH 4000A/60mV	[3] M7123N.
5000A/60mV					SH 5000A/60mV	[3] M7123P.
6000A/60mV					SH 6000A/60mV	[3] M7123Q.
7500A/60mV					SH 7500A/60mV	[3] M7123R.
8000A/60mV					SH 8000A/60mV	[C] M7123S.
10000A/60mV					SH 10000A/60mV	[C] M7123T.
12500A/60mV					SH 12500A/60mV	[C] M7123U.
15000A/60mV					SH 15000A/60mV	[C] M7123V.
18000A/60mV					SH 18000A/60mV	[C] M7123Z.
20000A/60mV					SH 20000A/60mV	[C] M7123O.

SHP: Faston connection; SHB: Insulating base socket(up to 100 A); SH: Without base

For other configurations see additional performance table.
All shunts are supplied with 1.5 m long cables with a 1.5 mm² cross-section

SHP / SHB / SH					
M	7	X	X	X	X
Code				Internal code	Delivery time
				0	-
				1	2
				7	Consult
				2	2
				3	2
				4	2
				8	Consult
				5	Consult
				9	Consult
				6	Consult



VT, Measurement voltage transformers

Type	Code	Class 0,5 Power (VA)	Class 1 Power (VA)	Relation
VT2311 230V/110V	[3] M72311.	10	25	230/110V
VT3823 380V/230V	[3] M72352.	10	25	380/230V
VT4011 400V/110V	[3] M72321.	10	25	400/110V
VT4023 400V/230V	[3] M72322.	10	25	400/230V
VT4411 440V/110V	[3] M72331.	10	25	440/110V
VT4423 440V/230V	[3] M72332.	10	25	440/230V
VT4811 480V/110V	[3] M72341.	10	25	480/110V
VT4823 480V/230V	[3] M72342.	10	25	480/230V
VT7011 700V/110V	[3] M72381.	10	25	700/110V
VT7023 700V/230V	[3] M72382.	10	25	700/230V

For three-phase networks, 3 units are required.
For other voltage ratios, please ask.



TSR, Current adding transformer

Type	Code	Input current	Class 0,5 Power (VA)	Class 1 Power (VA)	Measuring Channels
TSR-2	[*] M70701.	5 A	15	30	2
TSR-3	[*] M70702.	5 A	15	30	3
TSR-4	[*] M70703.	5 A	15	30	4
TSR-5	[*] M70704.	5 A	15	30	5

Current adding transformers must have the same primary ratio.
For three-phase networks, one transformer per phase is required.
It is fed from the same measure.
For other ratios, please ask.



TE, Impedance elevator transformer

Type	Code	Class 1 Power (VA)	Relation
TE-5/0.1	[*] M70911.	15	5 /0,1 A

It is used when the distance between the measuring equipment and the current transformer is very long. Two TE must be used, one next to the current transformer and the other next to the measuring equipment.

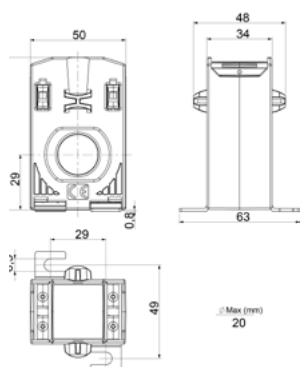
For Protection current transformers SEE SECTION Protection and Control/Protection current transformers

TABLE OF ADDITIONAL FEATURES

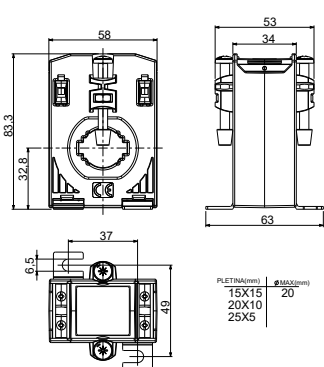
TSR				
M	7	X	X	X
				X
Code		Internal code	↑	Delivery time
Secondary	Standard (.../ 5 A)		0	-
	.../ 1 A		1	1
	.../250 mA		A	1

Dimensions

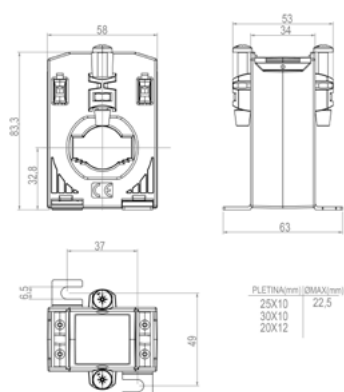
TD4 / TDH4



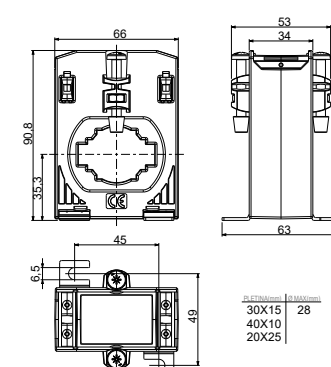
TD5 / TDH5



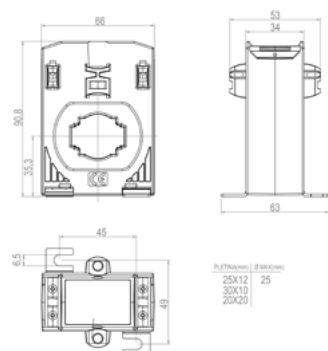
TD5.2 / TDH5.2



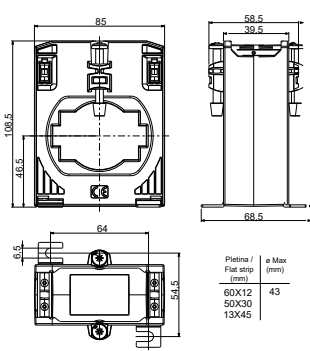
TD6 / TDH6



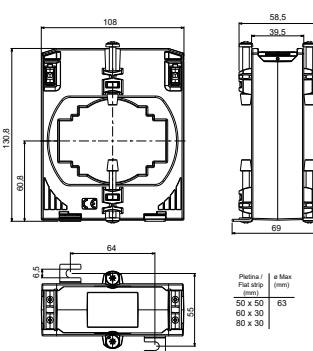
TD6.2 / TDH6.2



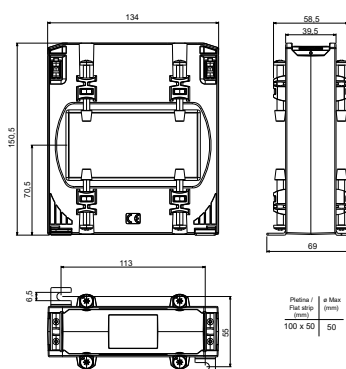
TD8 / TDH8



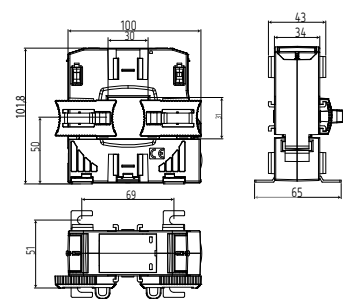
TD10 / TDH10



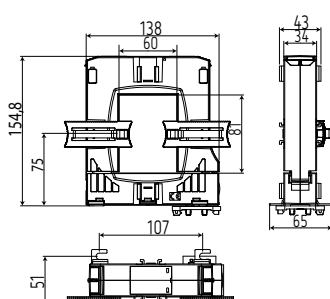
TD12 / TDH12



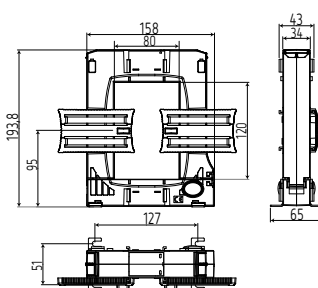
TP6



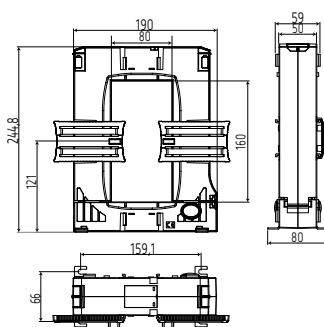
TP8



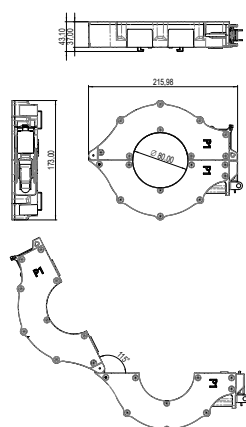
TP10



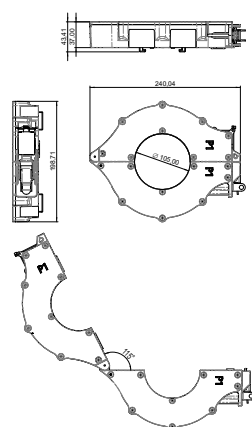
TP12

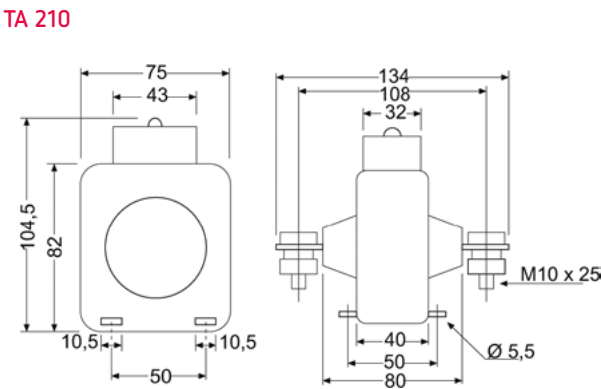
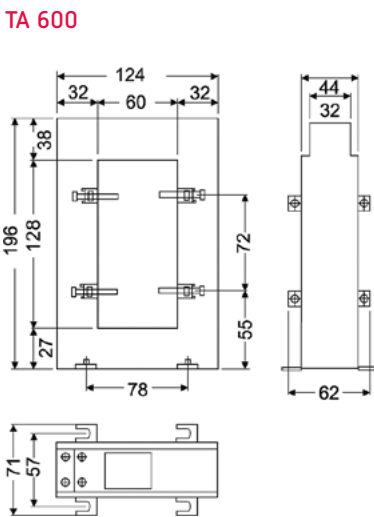
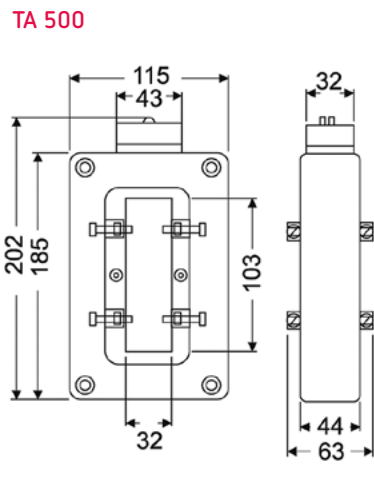
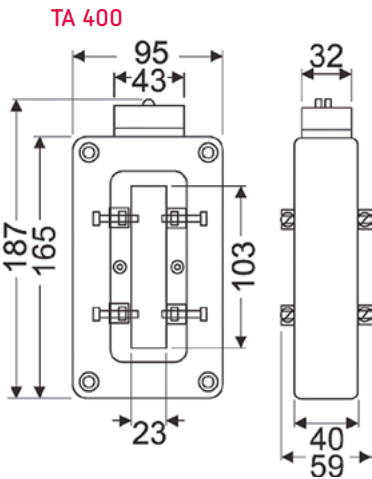


TQR-8



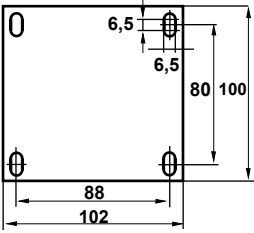
TQR-10



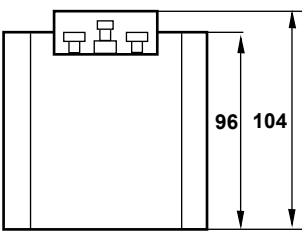
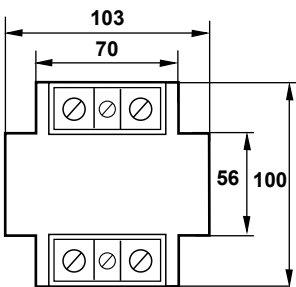


VT

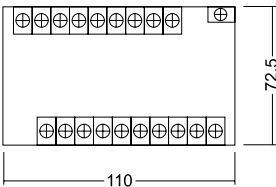
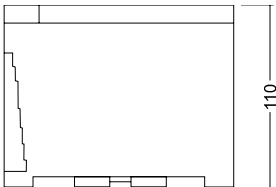
Soporte de fijación



Dimensiones en mm.

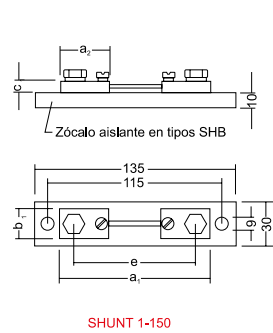


TSR

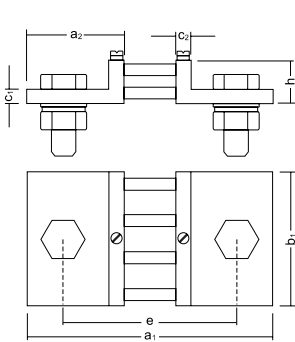


Shunts

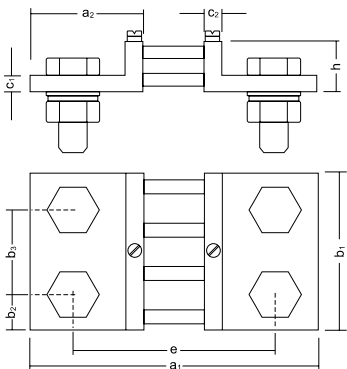
Voltage drop mV ₍₁₎	Range A ₍₁₎	Fig.	a1	a2	b1	b2	b3	c1	c2	e	h	Nº Current connections	Current connections			Voltage connections
													Hexagonal screws DIN 933	Washer DIN 125	DIN 934 nut	
60	1-1, 5-2, 5-4-6-10-15-25	1	90	28	20	-	-	8	-	78	-	2 x 1	M5 x 12	5,3	-	2 Screws M5 x 8 DIN 84 & 2 Washer 5,3 DIN 433
	30-40-60-100-150		100	33	20	-	-	8	-	80	-	2 x 1	M8 x 16	8,4	-	
	250	2	145	55	30	15	-	10	10	105	30	2 x 1	M12 x 40	13	M12	
	400-600				40	20						2 x 1	M16 x 45	17	M16	
	800		165	65	60	30	-	10	10	115	30	2 x 1	M20 x 50	21	M20	
	1500				90	21						2 x 2	M16 x 45	17	M16	
	2500				120	30						2 x 2	M20 x 50	21	M20	
150	1-1, 5-2, 5-4-6-10-15-25	1	90	25	20	-	-	8	-	78	-	2 x 1	M5 x 12	5,3	-	
	40-60-100-150		225	33	25	-	-	8	-	205	-	2 x 1	M8 x 16	8,4	-	
	250	2	270	55	30	15	-	10	10	230	50	2 x 1	M12 x 40	13	M12	
	400-600				40	20						2 x 1	M16 x 45	17	M16	
	800		290	65	70	35	-	10	10	240	60	2 x 1	M20 x 50	21	M20	



SHUNT 1-150



SHUNT 200-1000



SHUNT 1500-2500

Portable power analyzers

Table: Portable power analyzers

		MYeBOX-A	MYeBOX 1500-4G	MYeBOX 150
				
Connection	Single-phase	•	•	•
	Three-phase	•	•	•
Parameters	Voltage	•	•	•
	Current	•	•	•
	Neutral current	•	•	•
	Leakage current	•	•	–
	Neutral-earth voltage	•	•	–
	Power	•	•	•
	Energy (active and reactive)	•	•	•
	Harmonics	•	•	•
	Flicker	•	•	•
Quality parameter measurements	Events (overvoltages, gaps and interruptions)	•	•	•
	EN50160 parameters	•	•	•
	Transients	•	•	•
Inputs/outputs	Digital inputs	2	2	–
	Digital outputs	2	2	–
Other features	Memory	•	•	•
	Communications	WiFi 4G µUSB	WiFi 4G µUSB	WiFi µUSB
	Display	LCD	LCD	LCD
	Display of parameters	Display Smartphone & tablet (APP) Software + cloud	Display Smartphone & tablet (APP) Software + cloud	Display Smartphone & tablet (APP) Software + cloud
	Display of files	Smartphone & tablet (APP) Software + cloud	Smartphone & tablet (APP) Software + cloud	Smartphone & tablet (APP) Software + cloud
Standards	Measuring in accordance with IEC 61000-4-30	Class A certified	According Class A	According Class A
	T - Depending on Type			



MYeBOX-A, Portable power analyzer with recording of quality events and transients Calibration Certificate (IEC 61000-4-30 Ed.2) Class A

Certificate extended by CIRCUTOR ENAC laboratory

Type	Code	Clamp	Measuring Channels	Transistor output	Digital inputs	Communications
Portable analyzer kits with current sensors						
MYeBOX-1500-4G	[2] M844330000A00	-	5	2	2	Wi-Fi 4G
MYeBOX-1500-4G + 3 FLEX-R45	[2] M844580000A00	3 FLEX-R45	5	2	2	Wi-Fi 4G
MYeBOX-1500-4G + 4 FLEX-R45	[2] M8445C0000A00	4 FLEX-R45	5	2	2	Wi-Fi 4G
MYeBOX-1500-4G + 3 FLEX-R80	[2] M8445D0000A00	3 FLEX-R80	5	2	2	Wi-Fi 4G
MYeBOX-1500-4G + 4 FLEX-R80	[2] M8445E0000A00	4 FLEX-R80	5	2	2	Wi-Fi 4G
MYeBOX-1500-4G + 3 CPG-100	[2] M844530000A00	3 CPG-100	5	2	2	Wi-Fi 4G
MYeBOX-1500-4G + 3 CPRG-500	[2] M844550000A00	3 CPRG-500	5	2	2	Wi-Fi 4G
Analyser with built-in SD memory and Cloud Includes voltage cables, alligator clips, USB cable, fastening strap, magnetic support, battery, power supply and carrying bag. Please contact us for other clamp or clamp length combinations						



MYeBOX, Portable power analyzer with recording of quality events and transients in accordance with (IEC 61000-4-30 Ed.2) Class A

Type	Code	Clamp	Measuring Channels	Transistor output	Digital inputs	Communications
MYeBOX-150	[*] M84023.	-	4	-	-	Wi-Fi
MYeBOX-1500-4G	[*] M84433.	-	5	2	2	Wi-Fi 4G
Portable analyzer kits with current sensors						
MYeBOX-150+3 FLEX-R45	[*] M8404B.	3 FLEX-R45	4	-	-	Wi-Fi
MYeBOX-1500-4G + 3 FLEX-R45	[*] M8445B.	3 FLEX-R45	5	2	2	Wi-Fi 4G
MYeBOX-150-4 FLEX-R45	[*] M8404C.	4 FLEX-R45	4	-	-	Wi-Fi
MYeBOX-1500-4G + 4 FLEX-R45	[*] M8445C.	4 FLEX-R45	5	2	2	Wi-Fi 4G
MYeBOX-150-3 FLEX-R80	[*] M8404D.	3 FLEX-R80	4	-	-	Wi-Fi
MYeBOX-150-4 FLEX-R80	[*] M8404E.	4 FLEX-R80	4	-	-	Wi-Fi
MYeBOX-1500-4G + 4 FLEX-R80	[*] M8445E.	4 FLEX-R80	5	2	2	Wi-Fi 4G
MYeBOX-150 + 3 CPG-100	[*] M84043.	3 CPG-100	4	-	-	Wi-Fi
MYeBOX-1500-4G + 3 CPG-100	[*] M84453.	3 CPG-100	5	2	2	Wi-Fi 4G
MYeBOX-150 + 3 CPRG-500	[*] M84045.	3 CPRG-500	4	-	-	Wi-Fi
MYeBOX-1500-4G + 3 CPRG-500	[*] M84455.	3 CPRG-500	5	2	2	Wi-Fi 4G
Analyser with built-in SD memory and Cloud Includes voltage cables, alligator clips, USB cable, fastening strap, magnetic support, battery, power supply and carrying bag. Please contact us for other clamp or clamp length combinations						

Type	Code	Description
V-Wire x3	[*] M8401B.	set of 3 600 V CAT III cables
V-Wire x4	[*] M8401C.	set of 4 600 V CAT III cables
V-Wire x5	[*] M8401D.	set of 5 600 V CAT III cables
MYeBOX-BAT	[*] M84011.	MyEBOX battery
MYeBOX-PSN	[*] M8441F.	MYEBOX power cable
MYeBOX-PSN480	[*] M8441A.	MYEBOX power supply (480 V)
MYeBOX-MARKER	[*] M84014.	Markers
MYeBOX-CARRYING BAG	[*] M84015.	Carrying bag
MYeBOX-BELT	[*] M84016.	MyEBOX strap
MYeBOX-MAG SUPPORT	[*] M84017.	MyEBOX magnetic base

Type	Code	Description
VCC-1	[*] M89909.	Crocodile clamp (1 unit)
MAG-ADAP	[*] M8990H.	Voltage adapter, magnetic tip Ø 6.6 mm
MAG-ADAPx3	[*] M8990J.	Kit 3 voltage adapters, magnetic tip Ø 6.6 mm
MAG-ADAPx4	[*] M8990K.	Kit 4 voltage adapters, magnetic tip Ø 6.6 mm
MAG-ADAPx5	[*] M8990L.	Kit 5 voltage adapters, magnetic tip Ø 6.6 mm

TABLE OF ADDITIONAL FEATURES

MYeBOX												
M	8	4	0	X	X	0	0	0	0	X	X	X
Code						Internal code						Delivery time
class A calibration certificate						A						2
MYeBOX kit with rugged IP clamps for outdoor use						0			2			4

FLEX-R												
M	8	1	6	X	X	0	0	0	X	0	X	X
Code						internal code		↑		↑	↑	Delivery time
REDEL connector (PFG.M0.4GL.								2				1
AC52GZ+protection (GMA.1B.054.DG)												
Rugged IP for outdoor use										0	1	4



FLEX-R Flexible sensors for MYeBOX analysers

Type	I min (A)	Measurement Range (A)	ø (mm)	Sensor lenght	Nr Sensors	Code	Nr Sensors	Code	Nr Sensors	Code
FLEX-R45	1 10 500	10 ... 100 A /	140	45 cm	1	[*] M81611.	3	[*] M81631.	4	[*] M81641.
FLEX-R80		100 ... 1000 A /	250	80 cm	1	[*] M81612.	3	[*] M81632.	4	[*] M81642.
FLEX-R120		1000 ... 10000 A	380	120 cm	1	[*] M81613.	3	[*] M81633.	4	[*] M81643.



FLEX-RMG Flexible sensors for MYeBOX analysers

Type	I min (A)	Measurement Range (A)	ø (mm)	Sensor lenght	Nr Sensors	Code	Nr Sensors	Code	Nr Sensors	Code
FLEX-RMG70	1 10 500	10 ... 100 A /	70	22 cm	1	[*] M81911.	3	[*] M81931.	4	[*] M81941.
FLEX-RMG120		100 ... 1000 A / 1000 ... 10000 A	120	38 cm	1	[*] M81912.	3	[*] M81932.	4	[*] M81942.



CPG Clamps

Type	I min (A)	Measurement Range (A)	ø (mm)	Nr Sensors	Code	Nr Sensors	Code	Nr Sensors	Code
CPG-5	0.05	0,05 ... 5 A	20	1	[*] M810B1.	3	[*] M810C1.	4	[*] M810D1.
CPG-100		1 ... 100 A		1	[*] M810B2.	3	[*] M810C2.	4	[*] M810D2.
CPRG-500	1	1 ... 500 A	52	1	[*] M810B3.	3	[*] M810C3.	4	[*] M810D3.
CPRG-1000		1 ... 1000 A		1	[*] M810B4.	3	[*] M810C4.	4	[*] M810D4.
CPRG-200/2000	1 10	1 ... 200 A / 10 ... 2000 A	64	1	[*] M810B5.	3	[*] M810C5.	4	[*] M810D5.

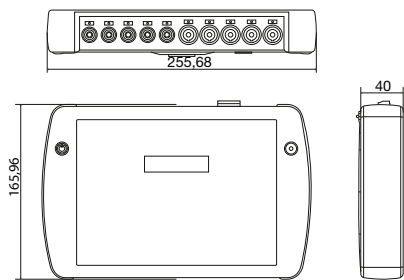


CFG, Residual current sensors (leaks)

Type	Code	Measurement Range (A)	I min	Usefull diam.(mm)	Flat strip(mm)
CFG-5	[3] M810BD.	0,01 ... 5 A	0.01	52	1 - 50 x 5 4 - 30 x 5
CFG-10	[*] M810BE.	0,005 ... 10 A	0.005	100	5 - 80 x 5 3 - 80 x 10

Dimensions

MYeBOX



Digital instruments

Table: Digital instruments selection

		DCB	DHC-96	DCP-96
				
Mounting	Pannel	72 x 72	96 x 48	96 x 96
	DIN rail	–	–	–
AC measurement	Single-phase	●	●	●
	Three-phase	–	–	●
AC measurement Parameters	Voltage	DCB-xx-Vac	DHC-96 Vac	DCP-96 Vac
	Current	DCB-xx-Aac	DHC-96 Aac	DCP-96 Aac
	Active power (W)	–	–	–
	Frequency (Hz)	DCB-xx-Vac / DCB-xx-Aac	DHC-96 Vac DHC-96 Aac	●
	Maximum demand (A)	–	–	–
DC measurement Parameters	Voltage	DCB-xx-HVdc	DHC-96 Vdc DHC-96 CPM DHC-96 CPM HS DHC-96 HVdc DHC-96 CPM 1500	
	Voltage (mV) - Indirect current mV Shunt	DCB-xx-mVdc	DHC-96 mVdc DHC-96 CPM DHC-96 CPM 1500	–
	Current	DCB-xx-Adc	DHC-96 Adc	–
	Process signal (±10 V)	DCB-xx-LVdc	DHC-96 LVdc DHC-96 Vdc	–
	Process signal (mA)	DCB-xx-mAdc	DHC-96 mAdc	
Accuracy	0,5%	●	●	●
Other options	Auxiliar output relay	DCB-72xx-20R	2	–
	Analog output	–	1	–
	Transistor input	–	2	–
	Communications port	–	RS-485 (Modbus RTU)	–
	Auxiliar power supply	80...270 Vca/Vcc 18...36 Vcc	80...270 Vca/Vcc 18...36 Vcc (OP) 20... 60 Vdc (OP)	80...270 Vca
	Frontal adapter	●	●	–
OP - Opcional / T - Depending on the type				



DCB Digital instrument

80 ... 270 Vac /Vdc power supply voltage

Type	Code	System	Measurement Range U	Measurement Range I	Output relay	Size(mm)
Voltmeters						
DCB-72 Vac	[*] M22210.	AC	480 V	–	–	72 x 72
DCB-72 Vac-20R	[*] M22212.	AC	480 V	–	2	72 x 72
DCB-72 LVdc	[*] M22220.	DC	± 10 Vdc	–	–	72 x 72
DCB-72 HVdc	[*] M22230.	DC	± 1500 Vdc	–	–	72 x 72
Ammeters						
DCB-72 Aac-20R	[*] M22252.	AC	–	.../5 A .../1 A	2	72 x 72
Process indicators						
DCB-48 mVdc	[*] M22140.	DC	200 mV	–	–	48 x 48

TABLE OF ADDITIONAL FEATURES

DCB	
Code	Internal Code
M 2 X X X X 0 0 X	
	↑ Delivery time
Auxiliary supply	Standard (80... 270 V _{ac}) 0
	18 ... 36 V _{dc} 3 -



DHC-96 Digital instruments 96 x 48

80 ... 270 Vac /Vdc power supply voltage

Type	Code	System	Parameters	Measu- rement Range U	Measu- rement Range I	Output relay	Digital inputs	Analog output	Commu- nications	Protocol
Voltmeters										
DHC-96 Vac	[*] M22318.	AC	V ~	480 V ± 10 Vdc ± 24 Vdc ± 48 Vdc	-	2	2	1 (20 mA)	RS-485	Modbus/RTU
DHC-96 Vdc	[*] M22388.	DC	V dc	± 1500 Vdc	-	2	2	1 (20 mA)	RS-485	Modbus/RTU
DHC-96 HVdc	[*] M22338.	DC	V dc	± 1500 Vdc	-	2	2	1 (20 mA)	RS-485	Modbus/RTU
Ammeters										
DHC-96 Aac	[*] M22358.	AC	A ~	-	.../5 A .../1 A	2	2	1 (20 mA)	RS-485	Modbus/RTU
DHC-96 Adc	[*] M22378.	DC	A dc	-	1 Adc 5 Adc	2	2	1 (20 mA)	RS-485	Modbus/RTU
DHC-96 mVdc	[*] M22348.	DC	V dc	-	200 mV	2	2	1 (20 mA)	RS-485	Modbus/RTU
Process indicators										
DHC-96 mAdc	[*] M22368.	DC	mA dc	-	-20... +20 mA	2	2	1 (20 mA)	RS-485	Modbus/RTU

Option of 0/2... 10 VDC outputs on demand



DHC-96 CPM Digital instruments: Programmable DC measurement Central

100... 270 Vac /Vdc power supply voltage

Type	Code	System	Parameters	Measu- rement Range U	Measu- rement Range I	Output relay	Digital inputs	Analog output	Commu- nications	Protocol
Multimeter										
DHC-96 CPM	[*] M223A8.	DC (Shunt)	V/A/kW/ kWh	± 600 Vdc	600 mV	2	2	1 (20 mA)	RS-485	Modbus/RTU
DHC-96 CPM-HS	[C] M223B8.	DC (Hall)	V/A/kW/ kWh	± 600 Vdc	4 Vdc	2	2	1 (20 mA)	RS-485	Modbus/RTU
DHC-96 CPM 1500	[*] M223C8.	DC (Shunt)	V/A/kW/ kWh	± 1500 Vdc	600 mV	2	2	1 (20 mA)	RS-485	Modbus/RTU

Option of 0/2... 10 VDC outputs on demand

Front adapter

Type	Code	Description
Adap.Frontal 72x72 -> 96x96	[*] M29914.	Frontal adapter 72x72 > 96x96
Adap.Frontal 48x48 -> 72x72	[4] M29911.	Frontal adapter 48x48 > 72x72
Adap.Frontal 48x48 -> 96x96	[4] M29912.	Frontal adapter 48x48 > 96x96
Adap.Frontal 48x96 -> 96x96	[*] M29913.	Frontal adapter 48x48 > 96x96

DHC-96						DHC-96-CPM /DHC-96 Vdc					
M	2	2	X	X	X	0	0	X			
Code	Internal Code		↑	Delivery time	+ \$	Code	Internal Code		↑	Delivery time	+ \$
Auxiliary supply	Standard (80... 270 V _{ca} /V _{cc})		0	-	-	Auxiliary supply	Standard (100... 270 V _{ca} /V _{cc})		0	-	-
	18 ... 36 V _{cc}		3	1			20 ... 60 V _{cc}		4	1	

Table: Measurement transducer selection

	Voltage (V ac)	CVE / CV-A	Active power (kW)	CW
	Voltage (V ac)	CV-D	Reactive power (kvar)	CY
	Current (A ac)	CCE / CC-A / TP-420 / TC-020 / TCB / TCM	Frequency (Hz)	CFE / CF
	Current (A dc)	CC-D	Temperature	CT-PT100

**CVE/CCE/CFE** Narrow section transducers

Narrow-profile transducers, 230 Vac, 45 ... 65Hz.

Type	Code	System	Parameters	Measure	Output type	Analog output
AC Voltage transducer						
CVE-A	[*] M25011.	-	V ~	300 Vac	2	4...20mA
CVE-A-AP	[3] M25021.	-	V ~	230 Vac	1	0...20mA
AC Current transducer						
CCE-A	[*] M25111.	-	A ~	5 A	2	4...20mA
CCE-A-AP	[*] M25121.	-	A ~	5 A	1, 3	0...20mA
Frequency transducers						
CFE	[3] M25511.	Network voltage: 50 ... 600 Vac	-	45 55 Hz	2	4...20mA
CFE-AP	[3] M25521.	Selecting Network voltage: 115 / 240 / 400 Vac	-	45 55 Hz	1	0...20mA

Specify ACCORDING TO THE CODE TABLE: 1. Code/ 2. Input range / 3. Output range / 4. Auxiliary power supply / 5. Specify the network voltage for CFE-AP. xxx-AP types external auxiliary supply not required. 4...20 mA output not possible.

For other values, see coding table on following pages

Converters

**CV** Voltage transducer

Type	Code	Parameters	Measure	Output type	Analog output
AC Voltage. Accuracy: $\pm 0,2$ % reading, 40...90 Hz					
CV-A-AP Out1	[1] M25041.	V ~	300 Vac	1	0...20mA
CV-A Out1	[1] M25031.	V ~	300 Vac	1	0...20mA
CV-A Out2	[1] M25032.	V ~	300 Vac	2	4...20mA
CV-A-RMS Out1	[1] M25051.	V ~	300 Vac	1	0...20mA
CV-A-RMS Out2	[1] M25052.	V ~	300 Vac	2	4...20mA

DC Voltage. Auxiliary supply 230 V, 40...90 Hz, Accuracy: $\pm 0,5$ % reading

CV-D Out1,3	[1] M25061.	Vdc	10 Vdc	1, 3	0...20mA
CV-D Out2	[1] M25062.	Vdc	10 Vdc	2	4...20mA

-AP type: Accuracy: $\pm 0,5$ % reading, 40...90 Hz. External auxiliary supply not required. Specify: Zero value, full scale and output type.

For other values, see coding table on following pages

**CC** Current transducer

Type	Code	Parameters	Measure	Output type	Analog output
AC Current. Accuracy: $\pm 0,2$ % reading, 40...90 Hz					
CC-A Out1	[1] M25131.	A ~	5 Aac	1	0...20mA
CC-A Out2	[*] M25132.	A ~	5 Aac	2	4...20mA
CC-A-AP	[*] M25141.	A ~	5 Aac	1	0...20mA
CC-A-RMS Out1	[1] M25151.	A ~	5 Aac	1	0...20mA
CC-A-RMS Out2	[*] M25152.	A ~	5 Aac	2	4...20mA

C.C.Current. Auxiliary supply 230 V, 40...90 Hz, Accuracy: $\pm 0,5$ % reading.

CC-D Out1	[1] M25161.	A dc	20 mA	1, 3	0...20mA
CC-D Out2	[1] M25162.	A dc	20 mA	2	4...20mA

-AP type: Accuracy: $\pm 0,5$ % reading, 40...90 Hz. External auxiliary supply not required. Specify: Zero value, full scale and output type.

For other values, see coding table on following pages



CW, Active power transducer

Type	Code	System	Parameters	Output type	Analog output
Active power. Auxiliary supply 230 V, 40...90 Hz, Accuracy: ± 0,5 % reading					
CW-M Out2	[1] M25212.	Single-phase	kW	2	4...20mA
CW-TE Out1,3	[1] M25221.	Balanced three-phase	kW	1, 3	0...20mA
CW-TE Out2	[1] M25222.	Balanced three-phase	kW	2	4...20mA
CW-TA Out1,3	[1] M25231.	Unbalanced three-phase ARON (3 wires)	kW	1, 3	0...20mA
CW-TA Out2	[1] M25232.	Unbalanced three-phase ARON (3 wires)	kW	2	4...20mA
CW-TAN Out1,3	[1] M25241.	Unbalanced three-phase (4 wires)	kW	1, 3	0...20mA

Indicate: Zero value, fullscale, type of output, Un (between phases), In and fn.
For other values, see coding table on following pages



CY, Reactive power transducer

Type	Code	System	Parameters	Output type	Analog output
Reactive power. Auxiliary supply 230 V, 40...90 Hz, Accuracy: ± 0,5 % reading					
CY-M Out1,3	[1] M25251.	Single-phase	kvar	1, 3	0...20mA
CY-M Out2	[1] M25252.	Single-phase	kvar	2	4...20mA
CY-TE Sal1,3	[1] M25261.	Balanced three-phase	kvar	1, 3	0...20mA
CY-TE Sal2	[1] M25262.	Balanced three-phase	kvar	2	4...20mA
CY-TA Out1,3	[1] M25271.	Unbalanced three-phase ARON (3 wires)	kvar	1, 3	0...20mA
CY-TA Out2	[1] M25272.	Unbalanced three-phase ARON (3 wires)	kvar	2	4...20mA
CY-TAN Sal1,3	[1] M25281.	Unbalanced three-phase (4 wires)	kvar	1, 3	0...20mA
CY-TAN Out2	[1] M25282.	Unbalanced three-phase (4 wires)	kvar	2	4...20mA

Indicate: Zero value, fullscale, type of output, Un (between phases), In and Fn.
For other values, see coding table on following pages



CF, Frequency transducers

Type	Code	Measure	Output type	Analog output
Auxiliary supply 230 V, 40...90 Hz, Accuracy: ± 0,2 % reading				
CF Out1	[3] M25531.	45 ... 55 Hz (60 ... 660 Vac)	1	0...20mA
CF Out2	[1] M25532.	45 ... 55 Hz (60 ... 660 Vac)	2	4...20mA

Indicate: Zero value, fullscale and type of output.
For other values, see coding table on following pages



CT-PT, Temperature transducer

Type	Code	Measure	Output type	Analog output
Temperature				
CT-PT100 Out1,3	[1] M25651.	According probe PT-100	1, 3	0...20mA
CT-PT100 Out2	[*] M25652.	According probe PT-100	2	4...20mA

Indicate: Zero value, fullscale and type of output.
For other values, see coding table on following pages

TABLE OF ADDITIONAL FEATURES

Narrow section transducers

M 2 X X X X 0 0 X X X X X														
Code		Internal code	↑	↑	↑	↑	↑	Delivery time						
Voltage CVE-A	Standard (300 V)	0							-					
	110 V	1							2					
	400 V	2							2					
	500 V	3							2					
	690 V	4							2					
Voltage CVE-A-AP	Standard (230 V)	0							-					
	110 V	1							2					
	400 V	2							2					
Current CCE	Standard (5 A)	0							-					
	1 A	1							2					
	10 A	4							2					
Frequency CFE	Standard (45...55 Hz)	0							-					
	55...65 Hz	1							2					
	47...53 Hz	2							2					
	45...65 Hz	3							2					
	0...100 Hz	4							2					
	380...420 Hz	5							2					
	360...440 Hz	6							2					
	340...460 Hz	7							2					
Output 2	Standard (4...20 mA)	0							-					
	0...20 mA	1							2					
CVE-A, CCE-A, CFE	0...10 V	2							2					
	2...10 V	3							2					
Output 1,3 CVE-A-AP, CCE-A-AP, CFE-AP	Standard (0...20 mA)	0							-					
	0...10 V	1							2					
Auxiliary supply	Standard (220...240 V)	0							-					
	380...400 Vca 40/60 Hz	3							2					
	18...36 Vdc	7							2					
Network voltage CFE-AP	Standard (230 V)						0	0	2					
	110 V						0	1	2					
	400 V						0	2	2					

For other values consult

Transducers

		M	2	X	X	X	X	0	0	X	X	X		
Code		Internal code												Delivery time
AC Voltage CV-A	Standard (300 V)									0				-
	110 V									1				1
	400 V									2				1
	500 V									3				1
	690 V									4				1
AC Current CC-A	Standard (5 A)									0				
	1 A									1				1
	10 A									4				1
DC Voltage CV-D	Standard (10 V)									0				
	60 mV									1				1
	1 V									2				1
	100 V									3				1
	500 V									4				1
DC Current CC-D	Standard (20 mA)									0				
	200 mA									1				1
	1 A									2				1
	10 A									3				1
Power CW, CY	300 V, .../5 A									N				1
	110 V, .../5 A									1				1
	400 V, .../5 A									2				1
	500 V, .../5 A									3				1
	600 V, .../5 A									4				1
	300 V, .../1 A									5				1
	110 V, .../1 A									6				1
	400 V, .../1 A									7				1
	500 V, .../1 A									8				1
	600 V, .../1 A									9				1
Temperature CT-PT	Standard (-200...+200 °C)									0				
	-200...+800 °C									1				1
Frequency CF	Standard (45...55 Hz)									0				
	55...65 Hz									1				1
	47...53 Hz									2				1
	57...63 Hz									3				1
	0...100 Hz									4				1
Outputs 1, 3	Standard (20 mA)									0				-
	0...1 mA									1				1
	0...10 mA									2				1
	2 V									3				1
	5 V									4				1
	0...10 V									5				1
	-20...0...20 mA									6				1
	-10...0...10 V									7				1
	-5...0...5 V									8				1
Outputs 2	Standard (4...20 mA)									0				
	2...10 V									2				1
Auxiliary supply	Standard (220...240 V)											0		-
	100...120 Vac											1		2
	380...400 Vca 40/60 Hz											3		2
	18...36 Vdc											7		2
	40...170 Vdc											9		2

For others values, consult

TI

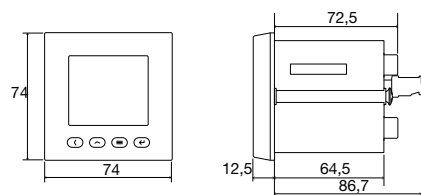
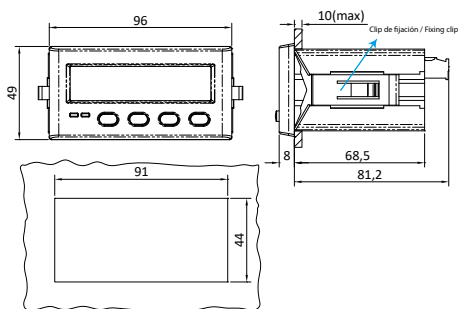
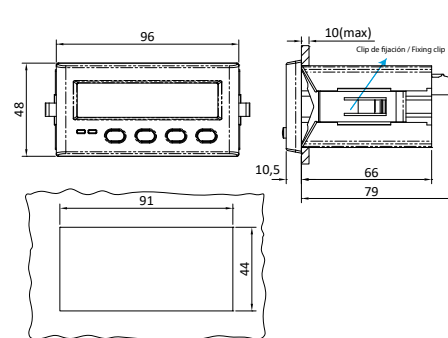
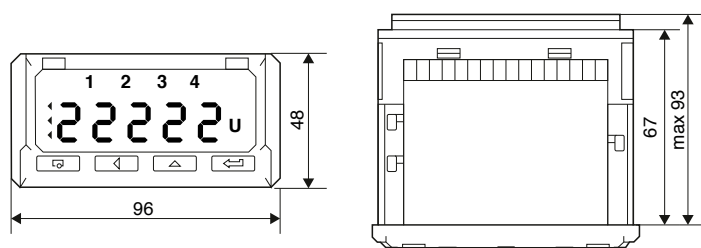
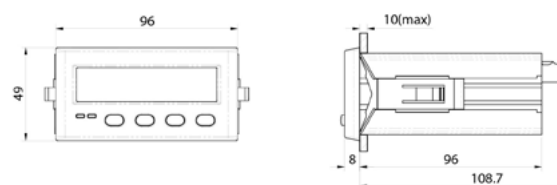
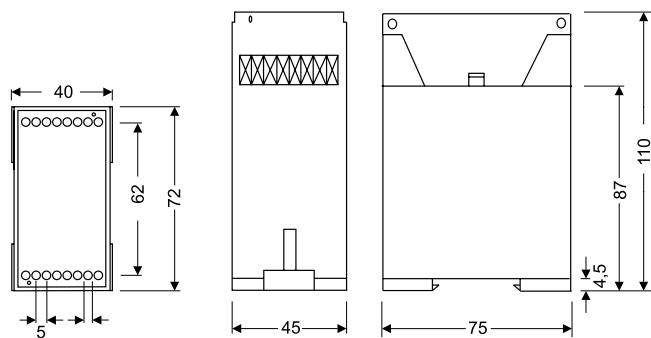
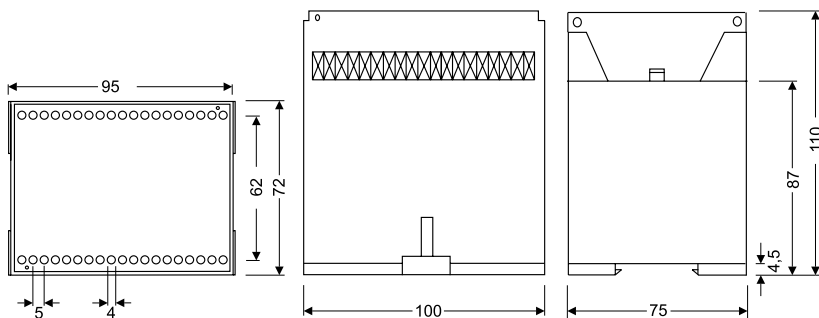
Current transformer with converter 4 ... 20 mA

Type	TI-420			TP-420		TCM-420	TCB-420	
	TI-420-35	TI-420-70	TI-420-105	TP-420-23	TP-420-58	TCM-420-25	TCB-420-35	TCB-420-70
								
ø (mm)	35	70	105	-	-	25	35	70
Flat strip(mm)	-	-	-	20 x 30	50 x 80	-	-	-
Size (mm) width xheight xdepth	100x79x33	130x110x33	170x146x33	110x89x58	145x114x50	70x87x70	166x79x33	196x110x33
	10...28 Vdc supply, Output 4...20 mA					Output internal supply 4...20 mA (230 Vac Auxiliary supply)		
A	Code	Code	Code	Code	Code	Code	Code	Code
2.5	[1] M70811.					[2] M71041.	[3] M71011.	
5	[*] M70812.			[*] M70211.		[*] M71042.	[*] M71012.	
10	[*] M70813.			[*] M70212.		[*] M71043.	[*] M71013.	
20	[*] M70814.			[*] M70213.		[*] M71044.	[*] M71014.	
50	[*] M70815.			[*] M70214.		[*] M71045.	[*] M71015.	
100	[*] M70816.	[*] M70821.		[*] M70215.	[*] M70221.	[*] M71046.	[*] M71016.	[1] M71021.
200				[*] M70216.		[*] M71047.		
250	[*] M70817.	[*] M70822.	[1] M70831.	[*] M70217.	[*] M70222.		[*] M71017.	[*] M71022.
500		[*] M70823.	[1] M70832.	[*] M70218.	[*] M70223.			[*] M71023.
750		[*] M70824.	[1] M70833.		[*] M70224.			[*] M71024.
1000			[1] M70834.					
For greater currents, use: transformer + transducer								
USD								

TC-420

Current transformers with converter 4 ... 20 mA or 0 ... 20 mA

Type	TC5-420	TC6-420	TC8-420	TC6-020	TC8-020
					
ø (mm)	20	28	44	28	44
Flat strip(mm)	25 x 5	40 x 10	60 x 12	40 x 10	60 x 12
Size (mm) width xheight xdepth	58x70x32	64x80.5x44	84.5x102x50	64x80.5x44	84.5x102x50
	Output 4...20 mA, ext. supply 7,5...36 Vdc			Output 0...20 mA	
A	Code	Code	Code	Code	Code
5	[*] M72112.				
10	[*] M72113.				
20	[*] M72114.				
50		[*] M72131.		[*] M72031.	
100				[*] M72032.	
200		[*] M72134.		[*] M72034.	
300		[*] M72136.		[*] M72036.	
500			[*] M72151.		[3] M72051.
1000			[*] M72152.		[1] M72052.
For greater currents, use: transformer + transducer					
USD					

Dimensions**DCB****DHC-96****DHC-96 CPM****DHB****DHC-96 CPM-1500****CV-A / CV-D / CC-A / CC-D / CR2 / CT-PT100 / CUP / CF****CW / CY / CPF / CCOS / CFD**

Industrial IoT and Automation

EMS Datalogger and SCADA Embedded	42
Energy manager - Line system	42
Line-EDS-PS Data collection systems. Integrates WEBSITE.....	42
Line-M-4IO-A Expansion modules, Line series	42
Line-CVM-D Power analyzer, Line series.....	42
Software	43
PowerStudio Universe, Energy management software	43
Upgrade-PowerStudio PowerStudio SCADA License Upgrade	43
Scout, Cloud-Scout software	43
Gateway for DataBox platform	44
DATABOX, DataBox Cloud software.....	44
Converters and gateways	45
Converters and gateways.....	45
Input and Output Centralisers	45
Kit Line-TCPRS1/M Impulse centralisers.....	45
LM4I-40 Impulse and contact centralisers.....	45
LM-A Centralizer of analog and digital inputs and output relays	45

EMS Datalogger and SCADA Embedded



Energy manager - Line system



Line-EDS-PS Data collection systems. Integrates WEBSITE.

Type	Code	Integrated Software	Transistor output	Generic Modbus	Communications	Protocol
Line-EDS-cloud	[*] D70050.	API's de: AZURE AWS GOOGLE DEXCELL MyCIRCUTOR SENTILO	2	●	Ethernet Wi-Fi RS-485 Bus-Line	Modbus API's web
Line-EDS-PS	[*] D70005.	PowerStudio	2	●	Ethernet Wi-Fi RS-485 Bus-Line	Modbus (Circutor + generic) XML
Line-EDS-PSS PRO	[*] D70020.	PowerStudio Scada PRO	2	●	Ethernet Wi-Fi RS-485 Bus-Line	Modbus (Circutor + generic) XML
Line-EDS-iMonitor	[*] D70021.	PowerStudio Scada PRO + iMonitor	2	●	Ethernet Wi-Fi RS-485 Bus-Line	Modbus (Circutor + generic) XML

Bus-Line: RS-485 communications system, with lateral side connector between modules



Line-M-4IO-A Expansion modules, Line series

Type	Code	Transistor output	Relay output	Digital inputs	Analog output	Analogue Input	Communications	Protocol
Input/Output Modules								
Line-M-4IO-T	[*] D73001.	4	-	4	-	-	Bus-Line	Modbus/RTU
Line-M-4IO-R	[*] D73002.	-	4	4	-	-	Bus-Line	Modbus/RTU
Line-M-8IO	[*] D73008.	-	6	8	-	-	Bus-Line	Modbus/RTU
Line-M-4IO-A	[*] D73003.	-	-	-	4 (0/4 ... 20 mA) 4 (0/2 ... 10 Vdc)	4 (0/4 ... 20 mA)	Bus-Line	Modbus/RTU
Line-M-4IO-RV	[*] D73004.	-	4	4 (230 V)	-	-	Bus-Line	Modbus/RTU
Line-M-20I	[C] D73006.	-	-	20	-	-	Bus-Line	Modbus/RTU

Analogue I/O expansion modules, Line series

Type	Code	Description
Power supply		
Line-M-EXT-PS	[*] D7300A.	110-277 V ~ (P-N)/110-480 V ~ (P-P) power supply for maximum of 3 Line devices
Modem		
Line-M-4G	[*] D7300C.	4G/GPRS Communications modem and Bus-Line to communicate with Line-EDS devices
Ethernet converter		
Line-TCPRS1	[C] D80030.	RS-485/RS-232 to Ethernet/Wi-Fi converter (ModbusTCP/TCP/UDP) Integrated web server and mobile app (MyConfig) for configuration

Line-TCPRS1: Power supply 100... 264 VAC/100... 300 VDC



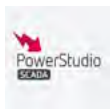
Line-CVM-D Power analyzer, Line series

Type	Code	Measuring Channels	Input current	Transistor output	Communications	Protocol	Harmonics
Line-CVM-D32	[*] M58100.	3	.../5 A .../1 A .../250 mA	2	RS-485 Bus-Line	Modbus/RTU	40

Bus-Line: RS-485 communications system, with lateral side connector between modules

Software

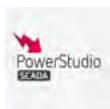
NEW



PowerStudio Universe, Energy management software

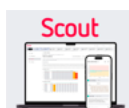
- Real-time monitoring
- Intuitive visualisation and navigation via Wave
- Efficient control via SCADA screens
- Process automation
- Incident management
- All alarms under control
- Automatic and scheduled reports
- Communication with any Modbus equipment
- Instant export to SQL database
- XML API for data extraction

Type	Code	Description
SCADA software		
PowerStudio SCADA Basic	[*] W20100.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. Up to 25 devices
PowerStudio SCADA Pro	[*] W20110.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. Up to 50 devices
PowerStudio SCADA Ultimate	[*] W20120.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. Up to 500 devices.
PowerStudio SCADA Enterprise	[*] W20130.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. More than 500 devices.
OPC UA Server	[*] W20200.	Allows to configure an OPC UA server in PowerStudio for any SCADA with OPC UA client to integrate the desired parameters.
PS-DataBox	[*] W20300.	Connects PowerStudio software and DataBox cloud platform



Upgrade-PowerStudio PowerStudio SCADA License Upgrade

Type	Code	Description
Licence update		
PSSBasic-to-PSSPro	[C] W20111.	Upgrading from PowerStudio SCADA Basic to PowerStudio SCADA Pro
PSSBasic-to-PSSUltimate	[C] W20121.	Upgrading from PowerStudio SCADA Basic to PowerStudio SCADA Ultimate
PSSPro-to-PSSUltimate	[C] W20122.	Upgrading from PowerStudio SCADA Pro to PowerStudio SCADA Ultimate



Scout, Cloud-Scout software

Cloud-Scout Electrical monitoring and auditing software

Type	Code	Description
Quality Analyst_Scout	[*] W10320.	Module for the analysis and monitoring of power quality
DSO Monitor_Scout	[*] W10330.	Module for monitoring and operation of transformer substations
VAR_Scout	[*] W10340.	Module for battery performance and power factor monitoring

Module prices are annual subscription prices per connected device.

Equipment compatible with the modules:

Quality Analyst: QNA 600.

VAR: computer C Wi-Fi, computer SMART III connected with SmartLink-VAR converter.

DSO Monitor: R-SABT.

DATABOX, DataBox Cloud software

DataBox is an Industrial IoT platform for monitoring, control and analysis for facility management:

Monitored variables

Calculation of KPIs based on measured variables

Alarm service. Generation, Warning, and Tracking

Automatic Reporting

Remote and local control and management of actions

Visualization and control of parameters via widgets and dashboards

Parameter comparisons over time or between installations

SCADA synoptic screen which allows you to view a photograph or diagram and attach variables and links to widgets, dashboards, etc.

Platform Customization/Branding (Name, DNS, and Background Image)



Type	Code	Description
Plan		
LitePlan_Databox	[*] W10100.	6 Readings, 6 Alarms and 6 Actuators
SmallPlan_Databox	[*] W10101.	18 Readings, 18 Alarms and 18 Actuators
MediumPlan_Databox	[*] W10102.	55 Readings, 55 Alarms and 55 Actuators
BigPlan_Databox	[*] W10103.	100 Readings, 100 Alarms and 100 Actuators
User		
BasicUser_Databox	[*] W10110.	Viewing permissions
AdvancedUser_Databox	[*] W10111.	Viewing and editing permissions for graphical configuration and reports
AnalyticsUser_Databox	[*] W10112.	Permissions to view, analyse and edit graphical configuration and reports.
ProfessionalUser_Databox	[*] W10113.	Administrator permissions. A minimum of one user per partner is required
Service		
Act-Firmware_Databox	[*] W10120.	ePick GPRS VPN over-the-air firmware upgrade
ImportVar_Databox	[*] W10121.	Variable imported and stored in the platform
ModbusIntegration_Databox	[*] W10122.	Integration of a Modbus map of a new device
Brand_databox	[*] W10123.	Visual customisation of the platform (Name, DNS and background image)
API_Databox	[*] W10124.	Extensive use of the API. 1,000 first calls free of charge. Monthly charging of 25.000 calls packages.

All codes, with the exception of W10120, W10122, and W10124, correspond to monthly subscription prices. The prices for codes W10120, W10122, are one-time purchase prices. The price of code W10124, corresponds to 25,000 calls. A reading is understood as a variable that is periodically recorded, an alarm as an expression that is continuously evaluated locally and reported, and an actuator as a pre-configured (manual or programmed) remote control action.

Gateway for DataBox platform

Type	Code	Description
ePick GPRS VPN	[*] D60060.	Gateway with GPRS communications via VPN network and SIM card with worldwide coverage fully configured to send data from the units connected to the RS-485 port or Ethernet to the Databox cloud platform.
ePick GPRS NET	[*] D60070.	Gateway with GPRS communications (SIM card must be provided by the user) to send data from the units connected to the RS-485 port or Ethernet to the Databox cloud platform in order to carry out energy audits and improvements related to Electrical Energy Efficiency

Converters and gateways



Converters and gateways

Type	Code	Description
RS		
RS2RS	[*] D80310.	RS-232/485 Intelligent converter and amplifier (RTS control) for PC
USB		
USB-RS 485	[*] D80320.	USB to RS-485 Converter
M-BUS		
CMBUS-8	[*] D80208.	M-Bus to Modbus Converter, up to 8 Mbus slaves
LoRa		
Bridge LR PSAC	[*] D80110.	LoRa to RS-485 Converter (Modbus/RTU) . AC power supply (110...264 Vac)
Bridge LR PSDC	[*] D80111.	LoRa to RS-485 Converter (Modbus/RTU) . DC power supply (9 ... 36 Vdc)
Ethernet		
TCPRS1+	[*] D80010.	RS-485 to Ethernet/Wi-Fi converter (ModbusTCP/TCP/UDP) Integrated web server and mobile app (MyConfig Wifi) for configuration
TCPRS1+PSDC	[*] D80011.	RS-485 to Ethernet/Wi-Fi converter (ModbusTCP/TCP/UDP) Integrated web server and mobile app (MyConfig Wifi) for configuration

Input and Output Centralisers



Kit Line-TCPRS1/M Impulse centralisers

Type	Code	Digital inputs	Communications	Protocol
Kit line-TCPRS1/M-20I	[C] D90030.	20	Ethernet WiFi	ModbusTCP TCP UDP
Kit line-TCPRS1/2xM-20I	[C] D90031.	40	Ethernet WiFi	ModbusTCP TCP UDP

NEW



LM-A-D Modules for analog and digital inputs and outputs

Type	Code	Relay output	Digital inputs	Analog output	Analogue Input	Communications	Protocol
LM-A42-D11	[*] D90420.	1	1	2	4	RS-485 Wi-Fi	Modbus RTU Modbus TCP/IP

(*) Digital inputs (logic 0 / 1) or energy impulses

NEW



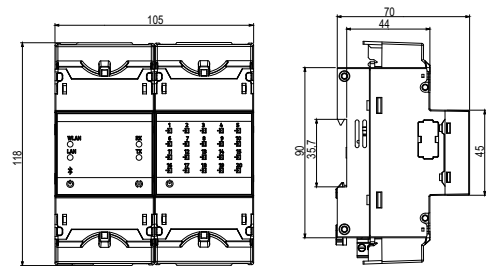
LM-D Impulse and contact centralisers

Type	Code	Relay output	Digital inputs	Communications	Protocol
LM-D44	[*] D90120.	4	4	RS-485 Wi-Fi	Modbus RTU Modbus TCP/IP

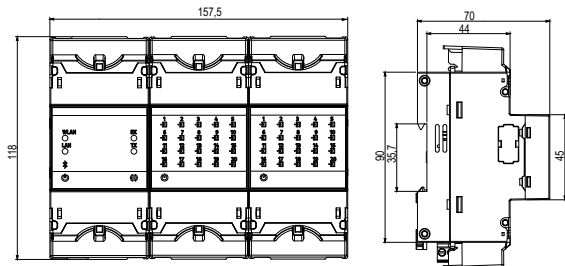
(*) Digital inputs (logic 0 / 1) or energy impulses

Dimensions

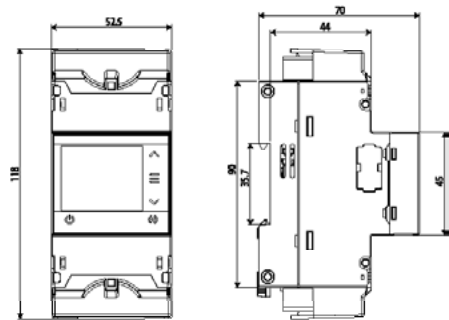
Kit Line-TCPRS1/M-20



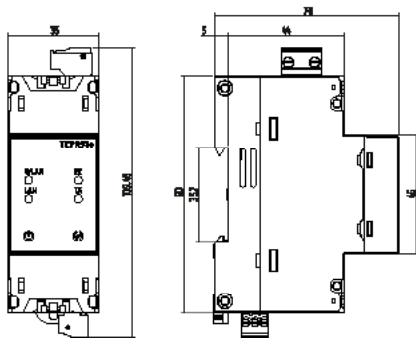
Kit Line-TCPRS1/2xM-20



Line-EDS, line-CVM-D32, line-M, Line-TCPRS1



TCPRS1+



Protection and control

Residual current protection

Selection table for Type A devices

	RG1M	RGE-R	WGBU	RGU-2	WRU-10	RGU-10A RGU-100A	CBS-40 CBS-400A
							
Installation type							
Single phase, three-phase, 3 and 4 wires	●	●	●	●	●	●	●
Features / performance							
Ultra-immunized system	●	●	●	●	●	●	●
Monitoring	–	–	–	●	●	●	●
Pre-alarm	–	●	●	●	●	●	●
Remote control	–	–	–	●	●	●	●
Technical characteristics							
Residual current type	A	A	A	A	A	A	A
Measurement channels	1	1	1	1	1	1	4
Constant current sensitivity	●	–	–	–	–	–	–
Adjustable current sensitivity	–	●	●	●	●	●	●
Fixed delay time	●	–	–	–	–	–	–
Adjustable delay time	–	●	●	●	●	●	●
Built-in current transformer	–	–	35...210	–	28	–	–
External current transformer, WGC Ø 20...500x200 mm	●	●	–	●	–	●	●
Trigger output	●	●	●	●	●	●	●
Pre-alarm output	–	●	–	●	●	●	●
Remote control input	–	–	●	●	●	●	●
RS-485 Communications	–	–	–	–	–	ST	ST
Module size	1	2	–	2	3	3	3

ST - According to type



RG1M, Residual current relays 1 module

Type	Code	IΔn (A)	N° relays	Delay	Power supply	Módulos	Mounting
RG1M - 0,03	[*] P12204.	0,03 A	1	0,02 s	230 Vac	1	DIN rail
RG1M - 0,3	[*] P12214.	0,3 A	1	0,02 s	230 Vac	1	DIN rail

Requires a WGC residual current transformer



RGE-R, Residual current relay, type A, for WGC transformer, 2 modules with visual prealarm.

Type	Code	IΔn (A)	N° relays	Delay	Power supply	Módulos	Mounting
RGE-RL	[*] P12A32.	0,03 ... 5 A	1	0,02 ... 5 s	230 Vac	2	DIN rail
RGE-R	[*] P122320040000	0,03 ... 5 A	1	0,02 ... 5 s	24...48 Vac 24...125 Vdc	2	DIN rail

Requires a WGC residual current transformer To encode other parameters, such as the auxiliary power supply voltage, see the table at the end of the section



RGU-2, Programmable residual current relay, 2 modules with display and static prealarm output

Type	Code	IΔn (A)	N° relays	Pre-alarm relay	Delay	Power supply	Módulos	Mounting
RGU2	[*] P11A61.	0,03 ... 5 A	1	●	0,1 ... 5 s, INS, SEL	120...230 Vac	2	DIN rail

Requires a WGC residual current transformer.

NEW



RGU-10, Residual current relay, type A, for ultra-immunised WGC Transformer, 3 modules with display and programmable pre-alarm output.

Type	Code	IΔn (A)	N° relays	Pre-alarm relay	Delay	Commu- nications	Protocol	Power supply	Módulos	Mounting
Possibility UL on demand										
RGU-10A	[*] P11A70.	0,03 ...30 A	2	●	0,1... 5 s, INS, SEL	-	-	110 ... 230 Vac	3	DIN rail
RGU-100A	[*] P11A71.	0,03 ...30 A	2	●	0,1... 5 s, INS, SEL	RS-485	Modbus/RTU	110 ... 230 Vac	3	DIN rail

For supply voltages other than 230 Vac, please consult us.

Type	Code	Description
Adap-Panel-D3M	[*] M5ZZF100000E3	Panel adapter CVM-E3-MINI, RGU, CBS (72 x 72)

NEW



CBS-40A/400A, 4 channels residual current relays, type A, 3 modules with display and a configurable prealarm output.

Type	Code	IΔn (A)	N° relays	Pre-alarm relay	Delay	Commu- nications	Protocol	Power supply	Módulos	Mounting
CBS-40A	[*] P12A70.	0,03 ... 30 A	4	●	0,1 ... 5 s, INS, SEL	-	-	110 ... 230 V~	3	DIN rail
CBS-400A	[*] P12A71.	0,03 ... 30 A	4	●	0,1 ... 5 s, INS, SEL	RS-485	Modbus/RTU	110 ... 230 V~	3	DIN rail

For supply voltages other than 230 Vac, please consult us.

Associated Transformers



WGC, Residual current transformer

Type	Code	Usefull diam.(mm)	In (A)	Cable (m)	weight (kg)
WGC-20-SC	[*] P10181.	20	63	0.5	0,08
WGC-30-SC	[*] P10182.	30	63	0.5	0,09
WGS-20	[*] P10131.	20	63	-	0,06
WGS-30	[*] P10132.	30	63	-	0,07
WGC-25	[*] P10151.	25	63	-	0,08
WGC-35	[*] P10152.	35	80	-	0,11
WGC-55	[*] P10153.	55	160	-	0,16
WGC-80	[*] P10154.	80	250	-	0,30
WGC-110	[*] P10155.	115	400	-	0,41
WGC-140	[*] P10156.	140	600	-	0,68
WGC-180	[*] P10157.	180	800	-	0,91
WGC-220x105	[C] P10158.	220 x 105	1250	-	3,90
WGC-350x150	[C] P10159.	350 x 150	2000	-	6,80
WGC-500x200	[C] P10160.	500 x 200	4000	-	11,00

Type	Code	Description
PA-TC/WG	[*] P19921.	DIN rail mounting accessory for WGC-25, WGC-35 and WGC-55



TP-WGC, Split-core residual current transformers

Type	Code	Usefull diam.(mm)	IΔn (A)	IΔn min.(A)	In (A)	weight (kg)
TP58 WGC	[C] P11121.	80 x 50	acc. relay > 0,3A	0.3	80	0,80
TP88 WGC	[C] P11131.	80 x 80	acc. relay > 0,3A	0.3	125	1,05
TP812 WGC	[C] P11141.	120 x 80	acc. relay > 0,3A	0.3	250	1,06
TP816 WGC	[C] P11151.	160 x 80	acc. relay > 0,3A	0.3	400	2,45

Compatible with Type A relays



WRU10, Residual current relay, type A, with built-in transformer, ultra-immunised

Type	Code	Usefull diam.(mm)	IΔn (A)	N° relays	Pre-alarm relay	Delay	Nr. reclo-sures	Power supply	Módules	Mounting
WRU-10	[*] P14035.	28	0,03 ... 30 A	1	●	0,02 ... 10 s, INS, SEL	-	230 Vac	3	DIN rail
WRU-10-HS	[C] P14036.	28	0,01 ... 0,5 A	1	●	0,02 ... 10 s, INS, SEL	30	230 Vac	3	DIN rail

To encode other parameters, such as the auxiliary power supply voltage, see the table at the end of the section.



WGBU, Transformer with built-in residual current relay, type A

Configurable residual current relay with visual pre-alarm. 230 Vac Auxiliary power supply

Type	Code	Usefull diam.(mm)	IΔn (A)	N° relays	Delay	Mounting
WGBU-35	[C] P16011.	35	0,03 ... 3 A	1	0,02...1 s	Panel background
WGBU-70	[C] P16012.	70	0,03 ... 3 A	1	0,02...1 s	Panel background
WGBU-105	[C] P16013.	105	0,03 ... 3 A	1	0,02...1 s	Panel background
WGBU-140	[C] P16014.	140	0,03 ... 3 A	1	0,02...1 s	Panel background
WGBU-210	[C] P16015.	210	0,03 ... 3 A	1	0,02...1 s	Panel background

Relay mounted at 90°. It allows to reduce the mounting space

WGBU-90-35	[C] P16021.	35	0,03 ... 3 A	1	0,02...1 s	Panel background
WGBU-90-70	[C] P16022.	70	0,03 ... 3 A	1	0,02...1 s	Panel background
WGBU-90-105	[C] P16023.	105	0,03 ... 3 A	1	0,02...1 s	Panel background
WGBU-90-140	[C] P16024.	140	0,03 ... 3 A	1	0,02...1 s	Panel background
WGBU-90-210	[C] P16025.	210	0,03 ... 3 A	1	0,02...1 s	Panel background

TABLE OF ADDITIONAL FEATURES

WRU-10									
P	1	X	X	X	X	0	0	X	Delivery time
Code						Internal code		↑	
Power		Standard (230 V _{ac})				0		-	
supply voltage		110 V _{ac}				1		1	

Selection table for Type B devices

	IDB-4	WGB-35-TB	RGU-10B	RGU-100B	CBS-400B
					
Installation type					
Single phase, three-phase, 3 and 4 wires	●	●	●	●	●
Features / performance					
Monitoring	–	–	●	●	●
Pre-alarm	–	–	●	●	●
Remote control	–	●	●	●	●
Technical characteristics					
Residual current type	B	B	B	B	B
Measurement channels	1	1	1	1	4
Fixed current sensitivity	●	●	–	–	–
Adjustable current sensitivity	–	–	●	●	●
Fixed delay time	●	●	–	–	–
Adjustable delay time	–	–	●	●	●
Built-in current transformer	●	35	–	–	–
External current transformer, WGC-TB or WGB	–	–	WGC-TB	WGB	WGB
Trigger output	–	●	●	●	●
Pre-alarm output	–	–	●	●	●
Remote control input	–	–	●	●	●
Communications	–	–	–	●	●
Module size	4	-	3	3	3



RGU-10B, Residual current relay, type B
Programmable residual current relay, 3 modules with display and configurable pre-alarm output.

Type	Code	IΔn (A)	N° relays	Pre-alarm relay	Delay	Power supply	Módules	Mounting
RGU-10B	[*] P11951.	0,1...3 A	1	●	0,1 ... 10 s	230 Vac	3	DIN rail
Requires an residual current transformer, WGC-TB type. See coding table for other options.								
Type	Code	Description						
ADP CVM-MINI/RGU10/CBS4	[*] M5ZZF1.	Panel adapter CVM MINI / RGU-10 / CBS-4 (72 x 72)						



WGC-TB, Residual current transformers for type-B relays

Type	Code	Usefull diam.(mm)	IΔn min.(A)	In (A)	weight (kg)
WGS-20-TB	[*] P11731.	20	0.1	63	0,08
WGC-25-TB	[*] P11751.	25	0.1	63	0,12
WGC-35-TB	[*] P11752.	35	0.1	80	0,11
WGC-55-TB	[*] P11753.	55	0.3	160	0,18
WGC-80-TB	[*] P11755.	80	0.5	250	0,25
WGC-110 TB	[*] P11756.	110	0.5	400	0,38
WGC-140 TB	[*] P11757.	140	0.5	600	0,48
WGC-180 TB	[*] P11758.	180	0.5	800	0,20

Only for RGU-10B type relays

TABLE OF ADDITIONAL FEATURES

RGU-10B					
P	1	X	X	X	X
Code		Internal code		X	Delivery time
				↑	
Power supply voltage	Standard (230 V _{ac})		0	-	
	110 V _{ac}		1	1	
	24...48 V _{ac} / 24...125 V _{dc}		4	1	



RGU-100B, Residual current relay, type B

Type	Code	IΔn (A)	N° relays	Pre-alarm relay	Delay	Commu-nications	Protocol	Power supply	Módules	Mounting
RGU-100B	[*] P11961.	0,03 ... 3 A	1	●	0,1 ... 5 s, INS, SEL	RS-485	Modbus/RTU	230 Vac	3	DIN rail

Associated with WGB-type residual current transformers



CBS-400B, 4 channels residual current relays, type B, 3 modules

Type	Code	IΔn (A)	N° relays	Pre-alarm relay	Delay	Commu-nications	Protocol	Power supply	Módules	Mounting
CBS-400B	[*] P12721.	0,03 ... 3 A	4	●	0,1 ... 5 s, INS, SEL	RS-485	Modbus/RTU	230 Vac	3	DIN rail

Associated with WGB-type residual current transformers



WGB, Residual current transformers for type-B relays

Type	Code	Usefull diam.(mm)	IΔn (A)	In (A)	weight (kg)
WGB-35	[C] P11B52.	35.5	0.03 ... 3 A	80	0,22
WGB-55	[*] P11B53.	55.5	0.03 ... 3 A	160	0,33
WGB-80	[*] P11B54.	80.5	0.03 ... 3 A	250	0,53
WGB-110	[*] P11B55.	110.5	0.03 ... 3 A	400	0,69
WGB-140	[C] P11B56.	140.5	0,1 ... 3 A	630	0,80

Only for relays type RGU-100B and CBS-400B

Type	Code	Description
Adap-Panel-D3M	[*] M5ZZF100000E3	Panel adapter CVM-E3-MINI, RGU, CBS (72 x 72)



WGB-35-TB, Relay Type B built-in residual current transformer

Type	Code	Usefull diam.(mm)	N° relays	Delay	Sensitivity	weight (kg)
WGB-35-TB30	[C] P16111.	35	1	INS	30 mA	0,25
WGB-35-TB300	[C] P16121.	35	1	INS	300 mA	0,27
WGB-35-TB300S	[C] P16131.	35	1	SEL	300 mA	0,25



IDB-4, Type B RCCB

Type	Code	In (A)	Poles	Sensitivity	Mounting
IDB-4 4P-40A-30 mA	[*] P17221.	40 A	4	30 mA	DIN rail
IDB-4 4P-40A-300 mA	[*] P17222.	40 A	4	300 mA	DIN rail
IDB-4 4P-63A -30 mA	[*] P17231.	63 A	4	30 mA	DIN rail
IDB-4 4P-63A -300mA	[*] P17232.	63 A	4	300 mA	DIN rail

For three-phase and single-phase networks

Residual current monitoring

	CBS-2000-AB	CBS-1600-A
Installation type and features		
	●	●
	●	●
	●	●
	●	-
	16	16
	4	-
	0,03 a 3 A	0,03 a 3 A
	0,03 a 3 A	-
	1	1
	1	1
	0,1 a 5 s	0,1 a 5 s
	0,1 a 5 s	-
	WGC	WGC
	WGB	-
	Si	Si
	6	6

NEW



CBS-1600A, 16 channel differential current control unit type A

Type	Code	IΔn (A)	Nº relays	Pre-alarm relay	Nº Input channels	Communi-cations	Power supply	Módulos	Mounting
CBS-1600A	[*] P12B01.	0,03...3 A	2	●	16 (A)	RS-485	230 V ~ (± 15%)	6	DIN rail

Associated with WGC-type residual current transformers

NEW



CBS-2000AB, 20 channel differential current control unit type A and B

Type	Code	IΔn (A)	Nº relays	Pre-alarm relay	Nº Input channels	Communi-cations	Power supply	Módulos	Mounting
CBS-2000AB	[*] P12B02.	0,03...3 A	2	●	16 (A) / 4 (B)	RS-485	230 V ~ (± 15%)	6	DIN rail

Associated with type WGC-type residual current transformers for type A channels and WGB-type for type B channels.



WGC, Residual current transformer

Type	Code	Usefull diam.(mm)	In (A)	Cable (m)	weight (kg)
WGC-20-SC	[*] P10181.	20	63	0.5	0,08
WGC-30-SC	[*] P10182.	30	63	0.5	0,09
WGS-20	[*] P10131.	20	63	-	0,06
WGS-30	[*] P10132.	30	63	-	0,07
WGC-25	[*] P10151.	25	63	-	0,08
WGC-35	[*] P10152.	35	80	-	0,11
WGC-55	[*] P10153.	55	160	-	0,16
WGC-80	[*] P10154.	80	250	-	0,30
WGC-110	[*] P10155.	115	400	-	0,41
WGC-140	[*] P10156.	140	600	-	0,68
WGC-180	[*] P10157.	180	800	-	0,91
WGC-220x105	[C] P10158.	220 x 105	1250	-	3,90
WGC-350x150	[C] P10159.	350 x 150	2000	-	6,80
WGC-500x200	[C] P10160.	500 x 200	4000	-	11,00



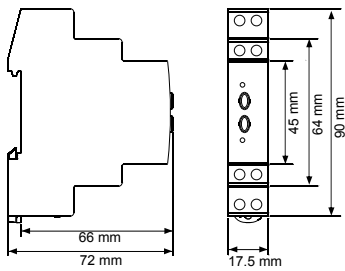
TP-WGC, Split-core residual current transformers

Type	Code	Usefull diam.(mm)	IΔn (A)	IΔn min.(A)	In (A)	weight (kg)
TP58 WGC	[C] P11121.	80 x 50	acc. relay > 0,3A	0.3	80	0,80
TP88 WGC	[C] P11131.	80 x 80	acc. relay > 0,3A	0.3	125	1,05
TP812 WGC	[C] P11141.	120 x 80	acc. relay > 0,3A	0.3	250	1,06
TP816 WGC	[C] P11151.	160 x 80	acc. relay > 0,3A	0.3	400	2,45

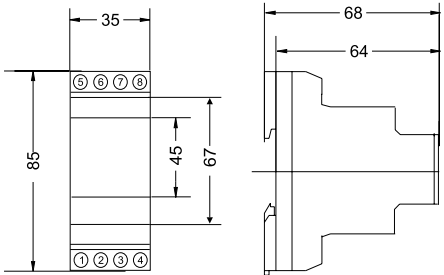
Compatible with Type A relays

Dimensions

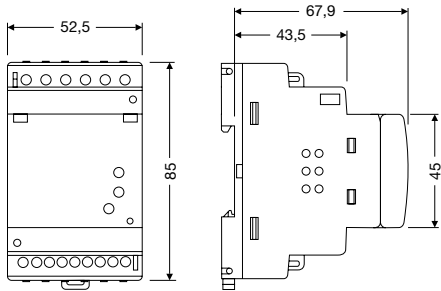
RG1M



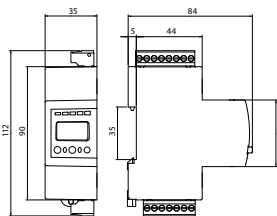
RGE



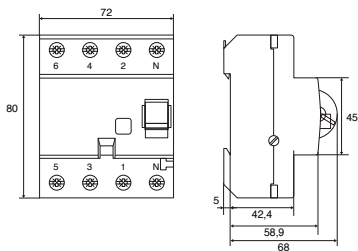
RGU-10B



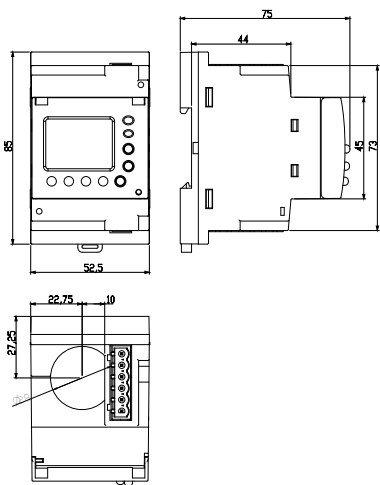
RGU-2



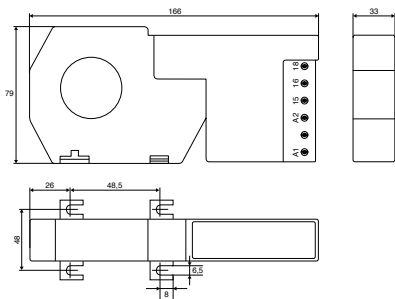
IDB-4



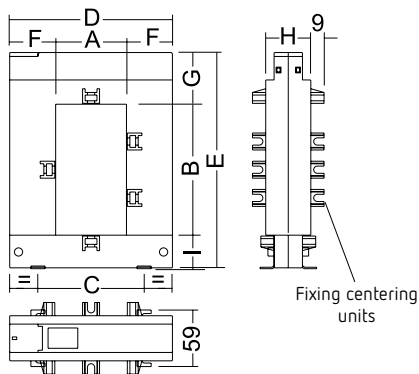
WRU-10



WGB-35-TB



TP-WGC



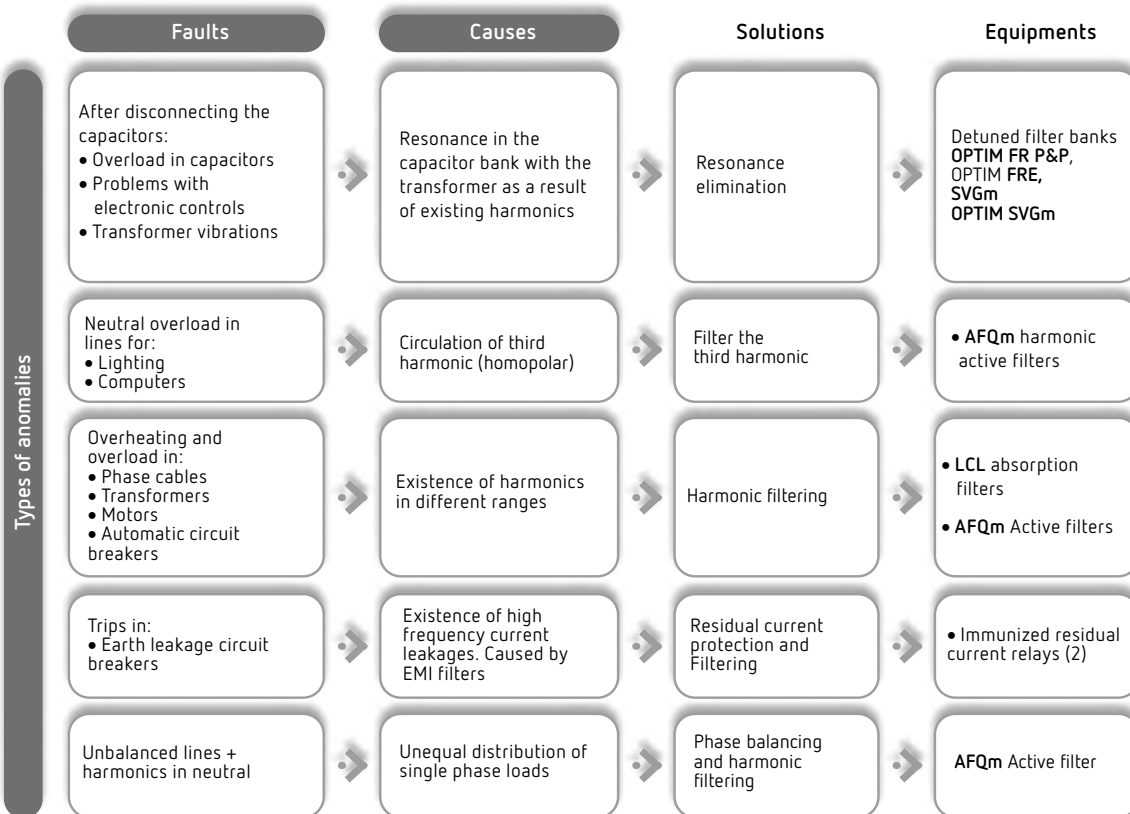
Dimensions (mm)	TP-58	TP-88	TP-812	TP-816
a	50	80	80	80
b	80	80	120	160
c	78	108	108	120
d	114	144	144	184
e	145	145	185	245
f	32	32	32	52
g	32	32	32	47
h	32	32	32	52
i	32	32	32	38

Power factor correction and harmonic filtering

Power factor correction and harmonic filtering

Table: Selection of the reactive energy compensation unit.....	56
Power factor regulators	57
Fast power factor regulator (static switching).....	57
computer C Wi-Fi Power factor controller with communications.....	57
computer SMART III Three-phase Power factor controllers. Regulation, measurement, leakage control and communications.....	57
SmartLink-VAR, RS-485 to Ethernet/WiFi converter for connecting batteries with Computer Smart to the VAR system.....	57
VAR_Scout Cloud-Scout software.....	57
computer SMART III-Fast Power factor controllers for static switching.....	57
Low voltage power capacitors	58
CLZ-FP HD 60Hz Three-phase tubular power capacitor (Heavy Duty range).....	58
RD Fast discharging resistors.....	59
CLZ-FP HD 60Hz Three-phase tubular power capacitor (Heavy Duty range).....	59
CMC B, CMC-B contactors.....	59
ELEB.....	59
CSB coils.....	59
IR Current limiting impedances.....	59
CSB Power capacitors for LV.....	60
RZ-RBZ-60Hz, Reactors III for detuned filters, 60 Hz.....	60
Low voltage capacitor banks	62
OPTIM P&P 60Hz Automatic capacitor banks, Plug & Play, 60 Hz.....	62
Table: selection capacitor banks with rejection filters, Type P=7% ($f_{res}=189$ Hz), 50 Hz.....	64
OPTIM FR P&P 60Hz Automatic capacitor banks with detuned filters (contactors switching), type P=7% ($f_{res}=227$ Hz), 60 Hz.....	65
OPTIM-SVGm-60Hz Combined automatic capacitor banks, 60 Hz.....	67
SVGm, Static Var Generator with multilevel technology, 50 / 60 Hz.....	67
Table: Selection of Static automatic capacitor banks with rejection filters.....	69
OPTIM FRE 60Hz Automatic capacitor banks with rejection filters (static contactor), 60 Hz.....	69
Harmonic filters	71
AFQs, Active multifunction filter.....	71
AFQm, Active multifunction filter, 50 / 60 Hz.....	71
LCL, Harmonic filters for power converters.....	72

GUIDE OF SELECTION FOR HARMONIC OR DISTURBANCE FILTERING EQUIPMENT



Power factor regulators



computer C Wi-Fi Power factor controller with communications

Type	Code	Power supply	Measurement Range (V)	Input current	Switching unit	Nr steps	Alarm relay	Communi-cations	Size (mm) width x height x depth
computer C6 Wi-Fi	[*] R14831.	400 Vac	400	... / 5A	Contacteur	6	●	Wi-Fi	144x144x54.85
computer C6 Wi-Fi	[*] R148310020000	230 Vac	230	... / 5A	Contacteur	6	●	Wi-Fi	144x144x54.85
computer C12 Wi-Fi	[*] R14842.	400 Vac	400	... / 5A	Contacteur	12	●	Wi-Fi	144x144x54.85
computer C12 Wi-Fi	[*] R148420020000	230 Vac	230	... / 5A	Contacteur	12	●	Wi-Fi	144x144x54.85

Compatible with Anti Reactive Surveillance System - VAR. Programming via the MyConfig app.



computer SMART III Three-phase Power factor controllers. Regulation, measurement, leakage control and communications

Type	Code	Power supply	Measurement Range (V)	Input current	Switching unit	IΔn	Nr steps	Alarm relay	Communi-cations	Size (mm) width x height x depth
computer SMART III 6	[*] R13851.	100...520 Vac	20...300	.../5A .../1A	Contacteur	yes	6	●	RS-485	144x144x71
computer SMART III 12	[*] R13862.	100...520 Vac	20...300	.../5A .../1A	Contacteur	yes	12	●	RS-485	144x144x71
computer SMART III 14	[*] R13864.	100...400 Vac	20...300	.../5A .../1A	Contacteur	yes	14	●	RS-485	144x144x71



SmartLink-VAR, RS-485 to Ethernet/WiFi converter for connecting batteries with Computer Smart to the VAR system

Type	Code	Description
SmartLink-VAR	[*] R1LVAR.	RS-485 to Ethernet/Wi-Fi converter to connect the batteries with Computer Smart to the VAR system

NEW

Scout
VAR

VAR_Scout Cloud-Scout software

Cloud-Scout Electrical monitoring and auditing software

Type	Code	Description
VAR_Scout	[*] W10340.	Module for battery performance and power factor monitoring

Module prices are annual subscription prices per connected device.

Equipment compatible with the modules:

VAR: computer C Wi-Fi, computer SMART III connected with SmartLink-VAR converter.

Fast power factor regulator (static switching)

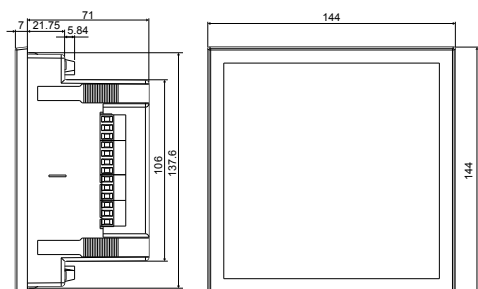


computer SMART III-Fast Power factor controllers for static switching

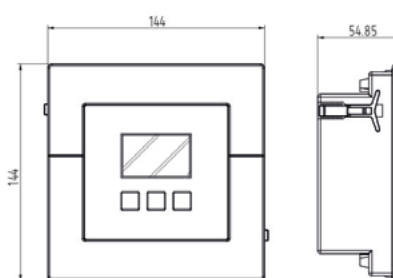
Type	Code	Power supply	Measurement Range (V)	Input current	Switching unit	IΔn	Nr steps	Alarm relay	Communi-cations	Size (mm) width x height x depth
computer SMART III F6-12Vdc	[*] R13953.	100...520 Vac	100...520	.../5A .../1A	EMB-2PH	yes	6	●	RS-485	144x144x71
computer SMART III F12-12Vdc	[*] R13964.	100...520 Vac	100...520	.../5A .../1A	EMB-2PH	yes	12	●	RS-485	144x144x71
computer SMART III Fast 6	[*] R13951.	100...520 Vac	100...520	.../5A .../1A	EMF / EMB	yes	6	●	RS-485	144x144x71
computer SMART III Fast 12	[*] R13962.	100...520 Vac	100...520	.../5A .../1A	EMF / EMB	yes	12	●	RS-485	144x144x71

Dimensions

computer Smart III / computer SMART III fast



computer C Wi-Fi



Low voltage power capacitors



CLZ-FP HD 60Hz Three-phase tubular power capacitor (Heavy Duty range)

CLZ-FPT - Capacitors with Faston terminal / CLZ-FP - Capacitors with with terminal block

Type	Code	230 V kvar	240 V kvar	Hz	dia.x height (mm)	weight (kg)	Terminal
Faston terminal, Un = 3 x 240 V / 60 Hz							
CLZ-FPT-24/2,5-60Hz-HD	[C] R2H622.	2.3	2.5	60	63,5 x 127	0,57	F
Terminal block, Un = 3 x 240 V / 60 Hz							
CLZ-FP-24/5-60Hz-HD	[C] R2H626.	4.6	5	60	85 x 175	0,85	A
CLZ-FP-24/6,25-60Hz-HD	[C] R2H627.	5.75	6.25	60	85 x 175	0,84	A
CLZ-FP-24/7,5-60Hz-HD	[C] R2H628.	6.9	7.5	60	85 x 245	0,96	A
CLZ-FP-24/10-60Hz-HD	[C] R2H62B.	9.2	10	60	85 x 245	1,06	A
CLZ-FP-24/12,5-60Hz-HD	[C] R2H62D.	11.5	12.5	60	85 x 245	1,25	A
CLZ-FP-24/15-60Hz-HD	[C] R2H62E.	13.8	15	60	100 x 245	1,51	A

All models are of the inert gas type, except for those with a 63.5 mm diameter and 136x355 mm size The dimensions (dxh) are shown for the tube only. Please consult the dimensions drawing at the end of this section for more information about the actual dimensions Terminal: maximum cross-section of type A cables: 16 mm2, type B: 25 mm2, type C: 35 mm2, F: Faston 6.3x0.8 mm and 12 A maximum current

Type	Code	400 V kvar	440 V kvar	Hz	dia.x height (mm)	weight (kg)	Terminal
Faston terminal, Un = 3 x 440 V / 60 Hz							
CLZ-FPT-44/1,25-60Hz-HD	[C] R2H641.	1	1.25	60	63,5 x 98	0,37	F
CLZ-FPT-44/2,5-60Hz-HD	[C] R2H642.	2.1	2.5	60	63,5 x 127	0,44	F
CLZ-FPT-44/5-60Hz-HD	[C] R2H646.	4.15	5	60	63,5 x 127	1,20	F
Terminal block, Un = 3 x 440 V / 60 Hz							
CLZ-FP-44/6,25-60Hz-HD	[C] R2H647.	5.2	6.25	60	85 x 175	0,67	A
CLZ-FP-44/7,5-60Hz-HD	[C] R2H648.	6.2	7.5	60	85 x 175	0,75	A
CLZ-FP-44/10-60Hz-HD	[C] R2H64B.	8.3	10	60	85 x 175	0,87	A
CLZ-FP-44/12,5-60Hz-HD	[C] R2H64D.	10.3	12.5	60	85 x 245	0,90	A
CLZ-FP-44/15-60Hz-HD	[C] R2H64E.	12.4	15	60	85 x 245	0,98	A
CLZ-FP-44/20-60Hz-HD	[C] R2H64J.	16.5	20	60	85 x 245	1,14	A
CLZ-FP-44/25-60Hz-HD	[C] R2H64L.	20.7	25	60	100 x 245	1,46	A
CLZ-FP-44/30-60Hz-HD	[C] R2H64N.	24.8	30	60	116 x 245	1,78	B
CLZ-FP-44/40-60Hz-HD	[C] R2H64R.	33.1	40	60	136 x 220	2,38	B
CLZ-FP-44/50-60Hz-HD	[C] R2H64S.	41.3	50	60	136 x 355	5,10	C

All models are of the inert gas type, except for those with a 63.5 mm diameter and 136x355 mm size The dimensions (dxh) are shown for the tube only. Please consult the dimensions drawing at the end of this section for more information about the actual dimensions Terminal: maximum cross-section of type A cables: 16 mm2, type B: 25 mm2, type C: 35 mm2, F: Faston 6.3x0.8 mm and 12 A maximum current

Type	Code	460 V kvar	480 V kvar	Hz	dia.x height (mm)	weight (kg)	Terminal
Faston terminal, Un = 3 x 480 V / 60 Hz							
CLZ-FPT-48/2,5-60Hz-HD	[C] R2H762.	2.3	2.5	60	63,5 x 127	0,47	F
CLZ-FPT-48/5-60Hz-HD	[C] R2H766.	4.6	5	60	63,5 x 175	0,62	F
CLZ-FPT-48/6,25-60Hz-HD	[C] R2H767.	5.75	6.25	60	63,5 x 175	0,90	F
CLZ-FPT-48/7,5-60Hz-HD	[C] R2H768.	6.9	7.5	60	63,5 x 175	0,61	F
Terminal block, Un = 3 x 480 V / 60 Hz							
CLZ-FP-48/10-60Hz-HD	[C] R2H66B.	9.2	10	60	85 x 175	0,85	A
CLZ-FP-48/12,5-60Hz-HD	[C] R2H66D.	11.5	12.5	60	85 x 245	0,97	A
CLZ-FP-48/15-60Hz-HD	[C] R2H66E.	13.8	15	60	85 x 245	1,07	A
CLZ-FP-48/20-60Hz-HD	[C] R2H66J.	18.4	20	60	100 x 245	1,32	A
CLZ-FP-48/25-60Hz-HD	[C] R2H66L.	23	25	60	100 x 245	1,57	B
CLZ-FP-48/30-60Hz-HD	[C] R2H66N.	27.6	30	60	116 x 245	1,86	B
CLZ-FP-48/40-60Hz-HD	[C] R2H66R.	36.75	40	60	136 x 220	2,43	B
CLZ-FP-48/50-60Hz-HD	[C] R2H66S.	46	50	60	136 x 355	5,00	C

All models are of the inert gas type, except for those with a 63.5 mm diameter and 136x355 mm size The dimensions (dxh) are shown for the tube only. Please consult the dimensions drawing at the end of this section for more information about the actual dimensions Terminal: maximum cross-section of type A cables: 16 mm2, type B: 25 mm2, type C: 35 mm2, F: Faston 6.3x0.8 mm and 12 A maximum current

Type	Code	480 V kvar	525 V kvar	Hz	dia.x height (mm)	weight (kg)	Terminal
Faston terminal, Un = 3 x 525 V / 60 Hz							
CLZ-FPT-52/2,5-60Hz-HD	[C] R2H772.	2.1	2.5	60	63,5 x 127	0,45	F
CLZ-FPT-52/5-60Hz-HD	[C] R2H776.	4.2	5	60	63,5 x 175	3,00	F
CLZ-FPT-52/7,5-60Hz-HD	[C] R2H778.	6.25	7.5	60	63,5 x 202	0,33	F
Terminal block, Un = 3 x 525 V / 60 Hz							
CLZ-FP-52/8,5-60Hz-HD	[C] R2H67A.	7.1	8.5	60	85 x 175	0,85	A
CLZ-FP-52/10-60Hz-HD	[C] R2H67B.	8.4	10	60	85 x 175	0,91	A
CLZ-FP-52/11,5-60Hz-HD	[C] R2H67C.	9.6	11.5	60	85 x 245	0,97	A
CLZ-FP-52/12,5-60Hz-HD	[C] R2H67D.	10.5	12.5	60	85 x 245	0,99	A
CLZ-FP-52/15-60Hz-HD	[C] R2H67E.	12.5	15	60	85 x 245	1,11	A
CLZ-FP-52/17-60Hz-HD	[C] R2H67I.	14.2	17	60	85 x 245	1,17	A
CLZ-FP-52/20-60Hz-HD	[C] R2H67J.	16.7	20	60	100 x 245	1,45	A
CLZ-FP-52/22,5-60Hz-HD	[C] R2H67K.	18.8	22.5	60	100 x 245	1,50	A
CLZ-FP-52/25-60Hz-HD	[C] R2H67L.	20.9	25	60	100 x 245	1,66	A
CLZ-FP-52/30-60Hz-HD	[C] R2H67N.	25	30	60	116 x 245	1,95	B
CLZ-FP-52/34-60Hz-HD	[C] R2H67P.	28.4	34	60	116 x 245	2,13	B
CLZ-FP-52/40-60Hz-HD	[C] R2H67R.	33.4	40	60	136 x 261	5,00	B

All models are of the inert gas type, except for those with a 63.5 mm diameter and 136x355 mm size The dimensions (dxh) are shown for the tube only. Please consult the dimensions drawing at the end of this section for more information about the actual dimensions Terminal: maximum cross-section of type A cables: 16 mm2, type B: 25 mm2, type C: 35 mm2, F: Faston 6.3x0.8 mm and 12 A maximum current



CLZ-FP HD 60Hz Three-phase tubular power capacitor (Heavy Duty range)

CLZ-FPT - Capacitors with Faston terminal / CLZ-FP - Capacitors with with terminal block

Type	Code	600 V kvar	Hz	dia.x height (mm)	weight (kg)	Terminal
Faston terminal, Un = 3 x 600 V / 60 Hz						
CLZ-FPT-60/5-60Hz-HD	[C] R2H786.	5	60	63,5 x 175	1,20	F
CLZ-FPT-60/7,5-60Hz-HD	[C] R2H788.	7.5	60	63,5 x 175	1,20	F
Terminal block, Un = 3 x 600 V / 60 Hz						
CLZ-FP-60/10-60Hz-HD	[C] R2H68A.	10	60	85 x 175	1,50	A
CLZ-FP-60/12,5-60Hz-HD	[C] R2H68B.	12.5	60	85 x 245	1,50	A
CLZ-FP-60/15-60Hz-HD	[C] R2H68E.	15	60	85 x 245	1,30	A
CLZ-FP-60/17,5-60Hz-HD	[C] R2H68I.	17.5	60	85 x 245	1,25	A
CLZ-FP-60/20-60Hz-HD	[C] R2H68J.	20	60	100 x 245	1,60	A
CLZ-FP-60/21-60Hz-HD	[C] R2H68K.	21	60	100 x 245	1,60	A
CLZ-FP-60/25-60Hz-HD	[C] R2H68L.	25	60	100 x 245	1,60	A
CLZ-FP-60/30-60Hz-HD	[C] R2H68N.	30	60	116 x 245	2,40	B
CLZ-FP-60/34,5-60Hz-HD	[C] R2H68P.	34.5	60	136 x 261	3,00	B

All models are of the inert gas type, except for those with a 63.5 mm diameter and 136x355 mm size The dimensions (dxh) are shown for the tube only. Please consult the dimensions drawing at the end of this section for more information about the actual dimensions Terminal: maximum cross-section of type A cables: 16 mm2, type B: 25 mm2, type C: 35 mm2, F: Faston 6.3x0.8 mm and 12 A maximum current

Type	Code	660 V kvar	690 V kvar	Hz	dia.x height (mm)	weight (kg)	Terminal
Terminal block, Un = 3 x 690 V / 60 Hz							
CLZ-FP-69/10-60Hz-HD	[C] R2H69B.	9.15	10	60	85 x 245	1,50	A
CLZ-FP-69/12,5-60Hz-HD	[C] R2H69D.	11.4	12.5	60	85 x 245	1,50	A
CLZ-FP-69/15-60Hz-HD	[C] R2H69E.	13.7	15	60	85 x 245	1,40	A
CLZ-FP-69/20-60Hz-HD	[C] R2H69J.	18.3	20	60	100 x 245	2,00	A
CLZ-FP-69/25-60Hz-HD	[C] R2H69L.	22.9	25	60	116 x 245	1,76	B
CLZ-FP-69/30-60Hz-HD	[C] R2H69N.	27.5	30	60	116 x 245	2,50	B
CLZ-FP-69/40-60Hz-HD	[C] R2H69R.	36.6	40	60	136 x 220	3,00	B
CLZ-FP-69/50-60Hz-HD	[C] R2H69S.	45.75	50	60	136 x 355	5,00	C

All models are of the inert gas type, except for those with a 63.5 mm diameter and 136x355 mm size The dimensions (dxh) are shown for the tube only. Please consult the dimensions drawing at the end of this section for more information about the actual dimensions Terminal: maximum cross-section of type A cables: 16 mm2, type B: 25 mm2, type C: 35 mm2, F: Faston 6.3x0.8 mm and 12 A maximum current



CMC B, CMC-B contactors

Type	Code	220-240V kvar	400-440-480 V kvar	500-550 V kvar	660-690 V kvar	Hz	Size (mm) width x height x depth	weight (kg)
Maximum operating power (Kvar)								
CMC 7.5 B	[C] R281A5.	5	7.5	9	11	50 / 60	44.8x72.2x71	0,28
CMC 12 B	[C] R281A6.	6.7	12.5	15	18	50 / 60	44.8x72.2x107.9	0,32
CMC 20 B	[C] R281A4.	11	20	24	30	50 / 60	54.8x72.2x107.9	0,38
CMC 32 B	[C] R281A8.	14	25	30	35	50 / 60	54.6x80x121.4	0,47
CMC 40 B	[C] R281A1.	20	30	35	40	50 / 60	54.8x80x124.5	0,60
CMC 75 B	[C] R281A9.	29	50	60	70	50 / 60	64.6x120x150	1,00
CMC 85 B	[C] R281A3.	32	60	70	80	50 / 60	64.6x120x150	0,85
CMC 150 D	[C] R281AH.	45	80	100	115	50 / 60	90x179x192	2,20

RD Fast discharging resistors

Type	Code	Impedance (Ω)	Dissipated power (w)
RD-60 2X1000	[*] R3Z220.	2 x 1000	10
RD-100 2X1000	[*] R3Z230.	2 x 1000	15



IR Current limiting impedances

Type	Code	Cable section (mm2)
IR-6	[*] R3Z310.	6
IR-10	[*] R3Z320.	10
IR-25	[*] R3Z330.	25
IR-50	[*] R3Z350.	50



ELEB

CSB coils

Type	Code	Use voltage (V)	μF
ELEB10100PCA	[1] R213A8.	230	100
ELEB10150PCA	[1] R213AE.	230	150
ELEB14055PCA	[1] R2139D.	400/440/690(*)	55
ELEB14069PCA	[1] R2139H.	400/440/690(*)	69
ELEB14082PCA	[1] R2139R.	400/440/690(*)	82

Type	Code	Use voltage (V)	μF
ELEB18027PCA	[1] R2137T.	460	27.4
ELEB18035PCA	[1] R2137A.	460	35
ELEB18050PCA	[1] R2137P.	460	50
ELEB20019PCA	[1] R2138D.	480/525/550	19.2
ELEB20038PCA	[1] R2138G.	480/525/550	38.4

(*) Wye (star) connection



CSB Power capacitors for LV

Type	Code	kvar 50 Hz	kvar 60 Hz	Size (mm) width x height x depth	weight (kg)
230 Vac					
CSB-23/10	[*] R2321C.	10	12.5	359x330x120	6,37
CSB-23/12,5	[2] R2321D.	12.5	15	360x330x120	3,30
CSB-23/15	[*] R2321E.	15	17.5	360x330x120	6,00
CSB-23/20	[*] R2321F.	20	25	360x330x120	6,80
CSB-23/25	[2] R2321G.	25	30	360x330x120	7,90
CSB-23/30	[2] R2321H.	30	35	360x330x120	8,00
CSB-23/40	[*] R2321J.	40	50	360x520x120	12,00
CSB-23/50	[*] R2321K.	50	60	360x520x120	12,00
400 Vac					
CSB-40/15	[*] R2323E.	15	17.5	360x330x120	5,76
CSB-40/20	[*] R2323F.	20	25	360x330x120	6,01
CSB-40/25	[*] R2323G.	25	30	360x330x120	5,68
CSB-40/30	[*] R2323H.	30	35	360x330x120	6,70
CSB-40/40	[*] R2323J.	40	50	360x330x120	7,70
CSB-40/50	[*] R2323K.	50	60	360x330x120	7,60
CSB-40/60	[*] R2323L.	60	70	360x520x120	10,80
CSB-40/80	[*] R2323Q.	80	95	360x520x120	12,85
CSB-40/100	[*] R2323R.	100	120	360x520x120	13,50
440 Vac					
CSB-44/15	[*] R2324E.	15	17.5	360x330x120	4,70
CSB-44/20	[*] R2324F.	20	25	360x330x120	4,90
CSB-44/25	[2] R2324G.	25	30	360x330x120	5,90
CSB-44/30	[*] R2324H.	30	35	360x330x120	5,60
CSB-44/40	[*] R2324J.	40	50	360x330x120	7,00
CSB-44/50	[*] R2324K.	50	60	360x330x120	7,80
CSB-44/60	[*] R2324L.	60	70	360x330x120	7,30
CSB-44/80	[*] R2324Q.	80	95	360x520x120	11,80
CSB-44/100	[*] R2324R.	100	120	360x520x120	12,90
460 Vac					
CSB-46/15	[2] R2325E.	15	17.5	360x330x120	6,00
CSB-46/20	[*] R2325F.	20	25	360x330x120	6,11
CSB-46/25	[2] R2325G.	25	30	360x330x120	6,90
CSB-46/30	[*] R2325H.	30	35	360x330x120	6,95
CSB-46/40	[*] R2325J.	40	50	360x330x120	7,60
CSB-46/50	[*] R2325K.	50	60	360x520x120	8,20
CSB-46/60	[*] R2325L.	60	70	360x520x120	11,40
CSB-46/80	[*] R2325Q.	80	95	360x520x120	13,00
CSB-46/100	[*] R2325R.	100	120	360x610x120	16,00

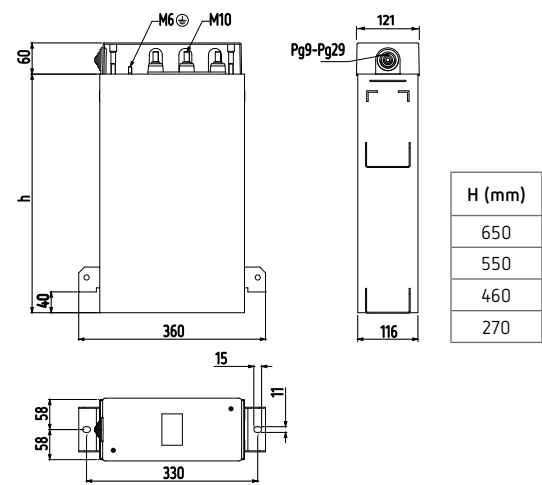


RZ-RBZ-60Hz, Reactors III for detuned filters, 60 Hz

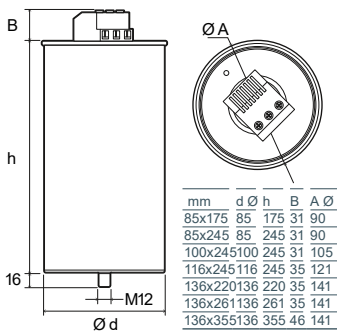
Type	Code	480 V kvar	Hz	For capacitor	In (A)	L(mH)	weight (kg)
480 Vac, 60 Hz, f resonance = 227 Hz / p= 7%							
RZ-7,5-480-60 Hz-7%	[C] P731130017000	7.5	60	CLZ-FP-52/8,5-60Hz-HD	9	6.12	4,00
RZ-10-480-60Hz-7%	[C] P731150017000	10	60	CLZ-FP-52/11,5-60Hz-HD	12	4.58	5,00
RZ-12,5-480-60 Hz-7%	[C] P731170017000	12.5	60	CLZ-FP-52/15-60Hz-HD	14	3.66	6,00
RZ-15-480-60 Hz-7%	[C] P731200017000	15	60	CLZ-FP-52/17-60Hz-HD	18	3.06	7,00
RBZ-20-480-60Hz-7%	[C] P731250017000	20	60	CLZ-FP-52/22,5-60Hz-HD	24	2.29	15,00
RBZ-25-480-60 Hz-7%	[C] P731300017000	25	60	CLZ-FP-52/30-60Hz-HD	30	1.83	18,00
RBZ-30-480-60 Hz-7%	[C] P731350017000	30	60	CLZ-FP-52/34-60Hz-HD	36	1.53	18,00
RBZ-40-480-60Hz-7%	[C] P731400017000	40	60	2 x CLZ-FP-52/22,5-60Hz-HD	48	1.15	20,00
RBZ-50-480-60 Hz-7%	[C] P731450017000	50	60	2 x CLZ-FP-52/30 -60Hz-HD	60	0.92	24,00
RBZ-60-480-60 Hz-7%	[C] P731500017000	60	60	2 x CLZ-FP-52/34-60Hz-HD	72	0.76	25,00
RBZ-80-480-60Hz-7%	[C] P731550017000	80	60	3 x CLZ-FP-52/30-60Hz-HD	96	0.58	35,00
480 Vac, 60 Hz, f resonance = 160 Hz / p= 14%							
RZ-12,5-480-60Hz-14%	[C] P731170017300	12.5	60	CLZ-FP-60/17,5-60Hz-HD	14	7.81	16,00
RZ-15-480-60Hz-14%	[C] P731200017300	15	60	CLZ-FP-60/21-60Hz-HD	18	6.52	16,00
RBZ-25-480-60Hz-14%	[C] P731300017300	25	60	CLZ-FP-60/34,5-60Hz-HD	30	3.91	26,00
RBZ-30-480-60Hz-14%	[C] P731350017300	30	60	2 x CLZ-FP-60/21-60Hz-HD	36	3.26	41,00
RBZ-50-480-60Hz-14%	[C] P731450017300	50	60	2 x CLZ-FP-60/34,5-60Hz-HD	60	1.95	51,00

Dimensions

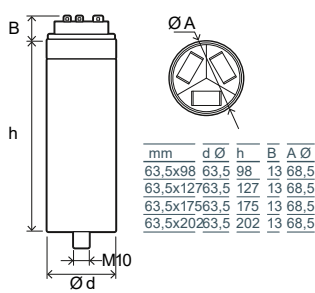
CSB / CFB



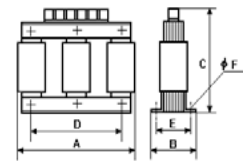
CLZ-FP



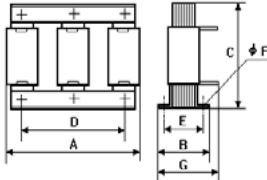
CLZ-FPT



RZ



RBZ



Type	A mm	B mm	C mm	D* mm	E* mm	F mm	G mm	kg
RZ-5-400	155	76	165	75	55	7	--	4
RZ-6,24-400	180	112	190	90	75	7	--	6
RZ-10-400	180	112	190	90	75	7	--	6,5
RZ-12,5-400	180	112	190	90	85	7	--	7
RZ-15-400	180	110	190	90	85	7	--	8
RBZ-20-400	235	125	165	150	95	7	145	14
RBZ-25-400	235	125	165	150	95	7	145	14
RBZ-30-400	255	125	200	160	95	9	150	19
RBZ-40-400	255	125	200	160	95	9	150	20
RBZ-50-400	255	145	220	160	115	9	175	25
RBZ-60-400	255	145	240	180	115	9	175	28
RBZ-80-400	305	155	255	180	115	11	190	31

Low voltage capacitor banks

Table: Selection of the reactive energy compensation unit

Multiple loads	Slow variations	Without harmonics	OPTIM P&P	
		With harmonics	SVGm / OPTIM SVGm	Inmunity to harmonics
			OPTIM FR P&P	Elimination of resonances
	Fast variations	Without harmonics	OPTIM EMK	
		With harmonics	SVGm	Inmunity to harmonics
			OPTIM FRE	Elimination of resonances



OPTIM P&P 60Hz Automatic capacitor banks, Plug & Play, 60 Hz.

Type	Code	240 V kvar	Composition	Aut.Switch (A)	Size (mm) width x height x depth	weight (kg)
OPTIM 5 P&P, automatic capacitor banks with computer SMART III regulator. Steps protections by Circuit Breaker						
OPTIM 5 P&P-25-240-60Hz	[C] R3L2F0.	25	5+2x10	3 x 125	600x740x260	36,00
OPTIM 5 P&P-43,75-240-60Hz	[C] R3L2F1.	43.75	6,25+3x12,5	3 x 160	600x740x260	43,00
OPTIM 5 P&P-56,25-240-60Hz	[C] R3L2F2.	56.25	6,25+4x12,5	3 x 200	600x740x260	46,00
OPTIM 9 P&P, automatic capacitor banks with computer SMART III regulator. Steps protection by blade fuse type NH-00.						
OPTIM 9 P&P-72,5-240-60Hz	[C] R3L3F3.	72.5	6x12,5	3 x 250	700x1350x440	86,00
OPTIM 9 P&P-87,5-240-60Hz	[C] R3L3F5.	87.5	7x12,5	3 x 400	700x1350x440	91,00
OPTIM 9 P&P-100-240-60Hz	[C] R3L3F7.	100	8x12,5	3 x 400	700x1350x440	97,00
OPTIM 9 P&P-112,5-240-60Hz	[C] R3L3F9.	112.5	9x12,5	3 x 400	700x1350x440	105,00
OPTIM 8 P&P, automatic capacitor banks with computer SMART III regulator. Steps protection by blade fuse type NH-00.						
OPTIM 8 P&P-135-240-60Hz	[C] R3L4F1.	135	15+4x30	3 x 630	1000x1750x440	135,00
OPTIM 8 P&P-165-240-60Hz	[C] R3L4F2.	165	15+5x30	3 x 630	1000x1750x440	145,00
OPTIM 8 P&P-195-240-60Hz	[C] R3L4F4.	195	15+6x30	3 x 630	1000x1750x440	155,00
OPTIM 8 P&P-210-240-60Hz	[C] R3L4F6.	210	7x30	3 x 800	1000x1750x440	160,00
OPTIM 8 P&P-240-240-60Hz	[C] R3L4F8.	240	8x30	3 x 800	1000x1750x440	170,00
OPTIM 8L P&P, automatic capacitor banks with computer SMART III regulator. Steps protection by blade fuse type NH-00.						
OPTIM 8L P&P-260-240-60Hz	[C] R3L5F4.	260	20+6x40	3 x 1000	1200x1900x650	265,00
OPTIM 8L P&P-300-240-60Hz	[C] R3L5F8.	300	20+7x40	3 x 1000	1200x1900x650	290,00
OPTIM 8L P&P-320-240-60Hz	[C] R3L5F1.	320	8x40	3 x 1250	1200x1900x650	300,00
OPTIM 14L P&P, automatic capacitor banks with computer SMART III regulator. Steps protection by blade fuse type NH-00.						
OPTIM 14L P&P-360-240-60Hz	[C] R3L6F1.	360	9x40	3 x 1250	2100x1900x650	435,00
OPTIM 14L P&P-400-240-60Hz	[C] R3L6F3.	400	10x40	3 x 1600	2100x1900x650	465,00
OPTIM 14L P&P-440-240-60Hz	[C] R3L6F5.	440	11x40	3 x 1600	2100x1900x650	485,00
OPTIM 14L P&P-480-240-60Hz	[C] R3L6F8.	480	12x40	3 x 1600	2100x1900x650	515,00

Table: selection capacitor banks with rejection filters, Type P=7% ($f_{res}=189\text{ Hz}$), 50 Hz

OPTIM FRS P&P		OPTIM FR P&P	
			
Rated voltage	440 V	440 V	
Service voltage	400 V	400 V	
Power range at rated voltage (50 Hz)	de 31,25 a 120 kvar	OPTIM FR4 P&P: 150 a 400 kvar OPTIM FR6 P&P: 400 a 600 kvar OPTIM FR8 P&P: 600 a 800 kvar OPTIM FR10 P&P: 800 a 1000 kvar OPTIM FR12 P&P: 1050 a 1200 kvar	
Contactor switching	•	•	
No. Steps (maximum)	4	4 / 6 / 8 / 10 / 12	
Enclosure	Metallic IP 21	•	
Installation (indoor)	•	•	
Assembly (floor-mounted)	•	•	
Regulator	Computer C Wi-Fi	•	
	Computer Smart III	Optional	Optional
Capacitor	Cylindrical CLZ	•	
Reactors tuned to 189 Hz (ask if you require other tuning values)	•	•	
Built-in protection	Miniature ircuit breaker per step	•	–
	APR NH-00 Fuses	–	•
Autotransformer for aux. supply	•	•	



OPTIM FR P&P 60Hz Automatic capacitor banks with detuned filters (contactors switching), type P=7% (fres=227 Hz), 60 Hz.

Type	Code	240 V kvar	Composition	Aut.Switch (A)	Size (mm) width x height x depth	weight (kg)
OPTIM FRS P&P, automatic capacitor banks with computer SMART III regulator. Steps protections by Circuit Breaker						
OPTIM FRS P&P-25-240-60Hz	[C] R54RBN.	25	2x5+10	3 x 100	800x1200x500	113,00
OPTIM FRS P&P-30-240-60Hz	[C] R54RBP.	30	3x10	3 x 125	800x1200x500	120,00
OPTIM FRS P&P-40-240-60Hz	[C] R54RBS.	40	4x10	3 x 160	800x1200x500	148,00
OPTIM FR4 P&P, automatic capacitor banks with computer SMART III regulator. Steps protection by blade fuse type NH-00.						
OPTIM FR4 P&P-37,5-240-60Hz	[C] R54SF0.	37,5	3x12,5	3 x 125	900x1900x650	225,00
OPTIM FR4 P&P-50-240-60Hz	[C] R54SF2.	50	2x12,5+25	3 x 200	900x1900x650	235,00
OPTIM FR4 P&P-62,5-240-60Hz	[C] R54SF3.	62,5	12,5+2x25	3 x 250	900x1900x650	245,00
OPTIM FR4 P&P-75-240-60Hz	[C] R54SF4.	75	3x25	3 x 250	900x1900x650	255,00
OPTIM FR4 P&P-87,5-240-60Hz	[C] R54SF5.	87,5	12,5+3x25	3 x 400	900x1900x650	265,00
OPTIM FR4 P&P-100-240-60Hz	[C] R54SF6.	100	4x25	3 x 400	900x1900x650	270,00
OPTIM FR4 P&P-140-240-60Hz	[C] R54SF8.	140	20+3x40	3 x 400	900x1900x650	325,00
OPTIM FR4 P&P-160-240-60Hz	[C] R54SF9.	160	4x40	3 x 630	900x1900x650	355,00
OPTIM FR6 P&P, automatic capacitor banks with computer SMART III regulator. Steps protection by blade fuse type NH-00.						
OPTIM FR6 P&P-180-240-60Hz	[C] R54SG3.	180	20+4x40	3 x 630	1200x1900x650	425,00
OPTIM FR6 P&P-200-240-60Hz	[C] R54SG4.	200	5x40	3 x 630	1200x1900x650	465,00
OPTIM FR6 P&P-220-240-60Hz	[C] R54SG6.	220	20+5x40	3 x 800	1200x1900x650	490,00
OPTIM FR6 P&P-240-240-60Hz	[C] R54SG7.	240	6x40	3 x 800	1200x1900x650	515,00
OPTIM FR8 P&P, automatic capacitor banks with computer SMART III regulator. Steps protection by blade fuse type NH-00.						
OPTIM FR8 P&P-280-240-60Hz	[C] R54SH1.	280	7x40	3 x 1000	1500x1900x650	580,00
OPTIM FR8 P&P-320-240-60Hz	[C] R54SH2.	320	8x40	3 x 1000	1500x1900x650	630,00
OPTIM FR10 P&P, automatic capacitor banks with computer SMART III regulator. Steps protection by blade fuse type NH-00.						
OPTIM FR10 P&P-360-240-60Hz	[C] R54SJ4.	360	9x40	3 x 1250	2100x1900x650	805,00
OPTIM FR10 P&P-400-240-60Hz	[C] R54SJ6.	400	10x40	3 x 1250	2100x1900x650	855,00
OPTIM FR12 P&P, automatic capacitor banks with computer SMART III regulator. Steps protection by blade fuse type NH-00.						
OPTIM FR12 P&P-440-240-60Hz	[C] R54SK4.	440	11x40	3 x 1600	2400x1900x650	970,00
OPTIM FR12 P&P-480-240-60Hz	[C] R54SK6.	480	12x40	3 x 1600	2400x1900x650	1.020,00

TABLE OF ADDITIONAL FEATURES

OPTIM P&P

R	3	X	X	X	X	0	0	X	X	X	
Code	Internal code							↑	↑	↑	Delivery time
Options	Standard	0									-
	Autotransformer for aux. supply	1									-
	Fan	2									-
	Polycarbonate	3									-
	Autotransf. + Fan	4									- OPTIM 3 & 5 P&P
	Autotransf. + Polycarbonate	5									- OPTIM 3 & 5 P&P
	Polycarbonate + Fan	6									-
	Autotransf. + Polycarbonate + Fan	7									- OPTIM 3 & 5 P&P
Regulator	Standard	0									-
	computer SMART III 6	S									-
	computer SMART III 12	T									-
	computer SMART III 14	Z									-
	computer SMART III 12 +SmartLink VAR	L									No OPTIM 3
Switch	without switch	0									-
	Manual switch 200 A	3									-
	Manual switch 250A	4									-
	Manual switch 400 A	5									-
	Manual switch 630 A	6									-
	Manual switch 800 A	7									-
	Manual switch 1000 A	8									-
	Manual switch 1250 A	Y									-
	Manual switch 1600 A	9									-
	Circuit breaker 63 A	A									-
	Circuit breaker 125 A	B									-
	Circuit breaker 160 A / 200 A	C									-
	Circuit breaker 250A	D									-
	Circuit breaker 400 A	E									-
	Circuit breaker 630 A	F									-
	Circuit breaker 800 A	G									-
	Circuit breaker 1000 A	H									-
	Circuit breaker 1250 A	I									-
	Circuit breaker 1600 A	J									-
	Circuit breaker 63 A + Residual current	K									-
	Circuit breaker 125 A + Residual current	L									-
	Circuit breaker 160 A + Residual current	M									-
	Circuit breaker 250 A + Residual current	N									-
	Circuit breaker 400 A + Residual current	O									-
	Circuit breaker 630 A + Residual current	P									-
	Circuit breaker 800 A + Residual current	Q									-
	Circuit breaker 1000 A + Residual current	R									-
	Circuit breaker 1250 A + Residual current	S									-
	Circuit breaker 1600 A + Residual current	T									-

OPTIM FRS P&P / OPTIM FR P&P

R	5	X	X	X	X	0	0	X	X	X	
Code	Internal code							↑	↑	↑	Delivery time
Options	Standard	0									-
	Fan	2									-
	Polycarbonate	3									-
	Polycarbonate + Fan	6									-
Regulator	Standard	0									-
	computer SMART III 6	S									-
	computer SMART III 12	T									-
	computer SMART III 14	Z									-
	computer SMART III 12 +SmartLink VAR	L									-
	without switch	0									-
Switch	Manual switch 200 A	3									-
	Manual switch 250A	4									-
	Manual switch 400 A	5									-
	Manual switch 630 A	6									-
	Manual switch 800 A	7									-
	Manual switch 1000 A	8									-
	Manual switch 1250 A	Y									-
	Manual switch 1600 A	9									-
	Circuit breaker 63 A	A									-
	Circuit breaker 125 A	B									-
	Circuit breaker 160 A / 200 A	C									-
	Circuit breaker 250A	D									-
	Circuit breaker 400 A	E									-
	Circuit breaker 630 A	F									-
	Circuit breaker 800 A	G									-
	Circuit breaker 1000 A	H									-
	Circuit breaker 1250 A	I									-
	Circuit breaker 1600 A	J									-
	Circuit breaker 63 A + Residual current	K									-
	Circuit breaker 125 A + Residual current	L									-
	Circuit breaker 160 A + Residual current	M									-
	Circuit breaker 250 A + Residual current	N									-
	Circuit breaker 400 A + Residual current	O									-
	Circuit breaker 630 A + Residual current	P									-
	Circuit breaker 800 A + Residual current	Q									-
	Circuit breaker 1000 A + Residual current	R									-
	Circuit breaker 1250 A + Residual current	S									-
	Circuit breaker 1600 A + Residual current	T									-



OPTIM-SVGm-60Hz Combined automatic capacitor banks, 60 Hz

Type	Code	480 V kvar	Composition	Frequency (Hz)	Size (mm) width x height x depth	weight (kg)
60 Hz						
OPTIM SVGm-175-480-60Hz	[C] RG26F1.	175	1 x 75 kvar + 100 kvar	60 Hz	627x1959x804	250,00
OPTIM SVGm-250-480-60Hz	[C] RG26F3.	250	2 x 75 kvar + 100 kvar	60 Hz	627x1959x804	310,00
OPTIM SVGm-325-480-60Hz	[C] RG26F5.	325	3 x 75 kvar + 100 kvar	60 Hz	627x1959x804	370,00
OPTIM SVGm-400-480-60Hz	[C] RG26F7.	400	4 x 75 kvar + 100 kvar	60 Hz	1254x1959x804	555,00
OPTIM SVGm-475-480-60Hz	[C] RG26F9.	475	5 x 75 kvar + 100 kvar	60 Hz	1254x1959x804	615,00
OPTIM SVGm-550-480-60Hz	[C] RG26FB.	550	6 x 75 kvar + 100 kvar	60 Hz	1254x1959x804	675,00
OPTIM SVGm-625-480-60Hz	[C] RG26FD.	625	7 x 75 kvar + 100 kvar	60 Hz	1254x1959x804	735,00



SVGm, Static Var Generator with multilevel technology, 50 / 60 Hz.

Type	Code	System	230 V kvar	400 V kvar	440 V kvar	480 V kvar	500 V kvar	690 V kvar	Phase current	Size (mm) width x height x depth	weight (kg)
3 wires 480 V, Wall-mounted cabinet											
SVGm-3WF-30M-480	[2] R4P3M0.	3 wires, 230...480 V	17.4	30	30	30	-	-	44	430x530x178	21,00
SVGm-3WF-075M-480	[2] R4P3M6.	3 wires, 230...480 V	43.1	75	75	75	-	-	110	439x745x288	56,00
SVGm-3WF-100M-480	[2] R4P3M2.	3 wires, 230...480 V	57.5	100	100	100	-	-	145	439x745x288	56,00
3 wires 480 V, Floor-mounted cabinet											
SVGm-3WF-100C-480	[2] R4P3F2.	3 wires, 230...480 V	57.5	100	100	100	-	-	145	608x1890x812	190,00
SVGm-3WF-200C-480	[2] R4P3F3.	3 wires, 230...480 V	115	200	200	200	-	-	290	608x1890x812	245,00
SVGm-3WF-300C-480	[2] R4P3F4.	3 wires, 230...480 V	172.5	300	300	300	-	-	435	608x1890x812	300,00
SVGm-3WF-400C-480	[2] R4P3F5.	3 wires, 230...480 V	230	400	400	400	-	-	580	608x1890x812	355,00
3 wires 690 V, Floor-mounted cabinet											
SVGm-3WF-100C-690	[3] R4P5F2.	3 wires, 500 ... 690 V	-	-	-	-	72	100	84	608x1890x812	192,00
SVGm-3WF-200C-690	[3] R4P5F3.	3 wires, 500 ... 690 V	-	-	-	-	144	200	168	608x1890x812	249,00
SVGm-3WF-300C-690	[3] R4P5F4.	3 wires, 500 ... 690 V	-	-	-	-	216	300	252	608x1890x812	306,00
SVGm-3WF-400C-690	[3] R4P5F5.	3 wires, 500 ... 690 V	-	-	-	-	288	400	336	608x1890x812	363,00
4 wires 400 V, Wall-mounted cabinet											
SVGm-4WF-020M-400	[2] R4P4MA.	4 wires, 230...400 V	12	20.7	-	-	-	-	30	430x530x178	21,00
SVGm-4WF-050M-400	[2] R4P4ML.	4 wires, 230...400 V	30	51.7	-	-	-	-	75	439x745x288	56,00
SVGm-4WF-069M-400	[2] R4P4MC.	4 wires, 230...400 V	40	69	-	-	-	-	100	439x745x288	56,00
4 wires 400 V, Floor-mounted cabinet											
SVGm-4WF-069C-400	[2] R4P4FC.	4 wires, 230...400 V	40	69	-	-	-	-	100	608x1890x812	190,00
SVGm-4WF-138C-400	[2] R4P4FD.	4 wires, 230...400 V	80	138	-	-	-	-	200	608x1890x812	245,00
SVGm-4WF-207C-400	[2] R4P4FE.	4 wires, 230...400 V	119.1	207	-	-	-	-	300	608x1890x812	300,00
SVGm-4WF-276C-400	[2] R4P4FF.	4 wires, 230...400 V	159	276	-	-	-	-	400	608x1890x812	355,00
4 wires 550 V, Floor-mounted cabinet											
SVGm-4WF-067C-550	[3] R4P6FG.	4 wires, 440 ... 550 V	-	-	53	58	-	-	70	608x1890x812	192,00
SVGm-4WF-134C-550	[3] R4P6FH.	4 wires, 440 ... 550 V	-	-	106	116	-	-	140	608x1890x812	249,00
SVGm-4WF-201C-550	[3] R4P6FJ.	4 wires, 440 ... 550 V	-	-	159	174	-	-	210	608x1890x812	306,00
SVGm-4WF-268C-550	[3] R4P6FK.	4 wires, 440 ... 550 V	-	-	212	232	-	-	280	608x1890x812	363,00
Rack module											
SVGm-3WF-100R-480	[2] R4P3R2.	3 wires, 230...480 V	57.5	100	100	100	-	-	145	482.5x263x714.5	55,00
SVGm-4WF-069R-400	[2] R4P4RC.	4 wires, 230...400 V	40	69	-	-	-	-	100	482.5x263x714.5	55,00

All equipment has built-in EMI filters

TABLE OF ADDITIONAL FEATURES

SVGm											
R	4	P	X	X	X	0	0	X	X	0	
Code			Internal code						Delivery time		
Protection degree			Standard IP-20						0		
			IP-41						5		
			IP-54						7		

Table: Selection of Static automatic capacitor banks with rejection filters

OPTIM FRE

Rated voltage	440 V
Service voltage	400 V
Power range at rated voltage (50 Hz)	OPTIM FRE4: 150 ... 400 kvar OPTIM FRE6: 400 ... 600 kvar OPTIM FRE8: 600 ... 800 kvar OPTIM FRE10: 800 ... 1000 kvar OPTIM FRE12: 1050 ... 1200 kvar
Thyristor operation	●
No. Steps (maximum)	4 / 6 / 8 / 10 / 12
Enclosure	Metallic IP 21
Installation (indoor)	●
Assembly (floor-mounted)	●
Regulator	Computer Max F-12DC Computer Smart Fast III-12DC
Capacitor	Cylindrical CLZ
Reactors tuned to 189 Hz (please ask about other tuning values)	●
Built-in protection	circuit breaker per step APR NH-00 Fuses



OPTIM FRE 60Hz Automatic capacitor banks with rejection filters (static contactor), 60 Hz.

Optional installation of a mains switch, f resonance =227 Hz

Type	Code	240 V kvar	Composition	Aut.Switch (A)	Size (mm) width x height x depth	weight (kg)
OPTIM FRES, automatic thyristor banks with computer SMART III regulator. Steps protections by Circuit Breaker						
OPTIM FRES-25-240-60Hz	[C] R64RBN.	25	2x5+10	3 x 100	800x1200x500	105,00
OPTIM FRES-30-240-60Hz	[C] R64RBP.	30	3x10	3 x 125	800x1200x500	113,00
OPTIM FRES-40-240-60Hz	[C] R64RBS.	40	4x10	3 x 160	800x1200x500	148,00
OPTIM FRE4, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.						
OPTIM FRE4-50-240-60Hz	[C] R64SF2.	50	2x12,5+25	3 x 200	900x1900x650	225,00
OPTIM FRE4-62,5-240-60Hz	[C] R64SF3.	62.5	12,5+2x25	3 x 250	900x1900x650	235,00
OPTIM FRE4-75-240-60Hz	[C] R64SF4.	75	3x25	3 x 250	900x1900x650	240,00
OPTIM FRE4-87,5-240-60Hz	[C] R64SF5.	87.5	12,5+3x25	3 x 400	900x1900x650	285,00
OPTIM FRE4-100-240-60Hz	[C] R64SF6.	100	4x25	3 x 400	900x1900x650	290,00
OPTIM FRE4-140-240-60Hz	[C] R64SF8.	140	20+3x40	3 x 400	900x1900x650	320,00
OPTIM FRE4-160-240-60Hz	[C] R64SF9.	160	4x40	3 x 630	900x1900x650	345,00
OPTIM FRE6-180-240-60Hz	[C] R64SG3.	180	20+4x40	3 x 630	1200x1900x650	420,00
OPTIM FRE6-200-240-60Hz	[C] R64SG4.	200	5x40	3 x 630	1200x1900x650	460,00
OPTIM FRE6, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.						
OPTIM FRE6-220-240-60Hz	[C] R64SG6.	220	20+5x40	3 x 800	1200x1900x650	485,00
OPTIM FRE6-240-240-60Hz	[C] R64SG7.	240	6x40	3 x 800	1200x1900x650	510,00
OPTIM FRE8, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.						
OPTIM FRE8-280-240-60Hz	[C] R64SH1.	280	7x40	3 x 1000	1500x1900x650	575,00
OPTIM FRE8-320-240-60Hz	[C] R64SH2.	320	8x40	3 x 1000	1500x1900x650	625,00
OPTIM FRE10, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.						
OPTIM FRE10-360-240-60Hz	[C] R64SJ4.	360	9x40	3 x 1250	2100x1900x650	795,00
OPTIM FRE10-400-240-60Hz	[C] R64SJ6.	400	10x40	3 x 1250	2100x1900x650	845,00
OPTIM FRE12, automatic thyristor banks with computer SMART III regulator. Steps protections by blade fuse type NH-00.						
OPTIM FRE12-440-240-60Hz	[C] R64SK4.	440	11x40	3 x 1600	2400x1900x650	955,00
OPTIM FRE12-480-240-60Hz	[C] R64SK6.	480	12x40	3 x 1600	2400x1900x650	1.005,00

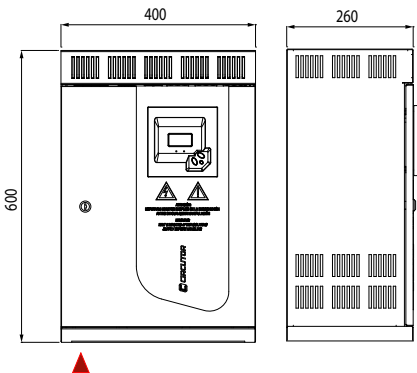
TABLE OF ADDITIONAL FEATURES

OPTIM EMK, OPTIM FRE

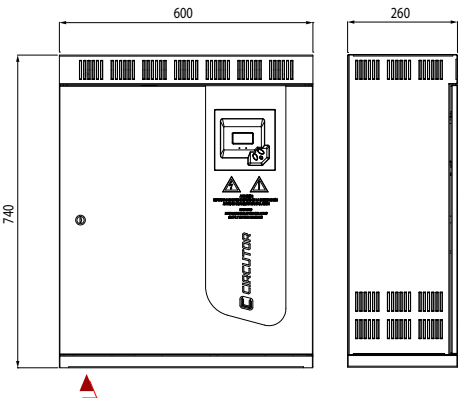
R	X	X	X	X	X	0	0	X	X	X	
Code		Internal Code		Delivery time							
Options	Standard	0		-							
	Fan	2		-							
	Polycarbonate	3		-							
	Polycarbonate + Fan	6		-							
Choose the most suitable regulator for your needs	Standard	0		-							
	computer Smart III f-12Vdc	9		-							
	computer Smart III f-12Vdc	D		-							
Switch	Without switch	0		-							
	Manual switch 200 A	3		-							
	Manual switch 250A	4		-							
	Manual switch 400 A	5		-							
	Manual switch 630 A	6		-							
	Manual switch 800 A	7		-							
	Manual switch 1000 A	8		-							
	Manual switch 1250 A	Y		-							
	Manual switch 1600 A	9		-							
	Circuit breaker 63 A	A		-							
	Circuit breaker 125 A	B		-							
	Circuit breaker 160 / 200 A	C		-							
	Circuit breaker 250A	D		-							
	Circuit breaker 400 A	E		-							
	Circuit breaker 630 A	F		-							
	Circuit breaker 800 A	G		-							
	Circuit breaker 1000 A	H		-							
	Circuit breaker 1250 A	I		-							
	Circuit breaker 1600 A	J		-							
	Circuit breaker 63 A + Residual current	K		-							
	Circuit breaker 125 A + Residual current	L		-							
	Circuit breaker 160 / 200 A + Residual current	M		-							
	Circuit breaker 250 A + Residual current	N		-							
	Circuit breaker 400 A + Residual current	O		-							
	Circuit breaker 630 A + Residual current	P		-							
	Circuit breaker 800 A + Residual current	Q		-							
	Circuit breaker 1000 A + Residual current	R		-							
	Circuit breaker 1250 A + Residual current	S		-							
	Circuit breaker 1600 A + Residual current	T		-							

Dimensions

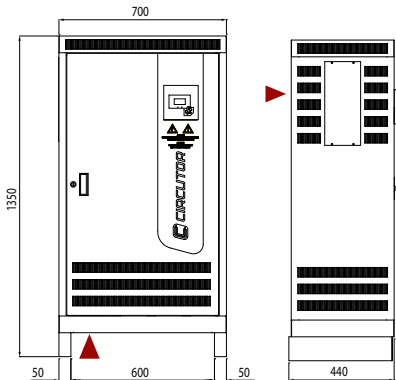
OPTIM 3 P&P



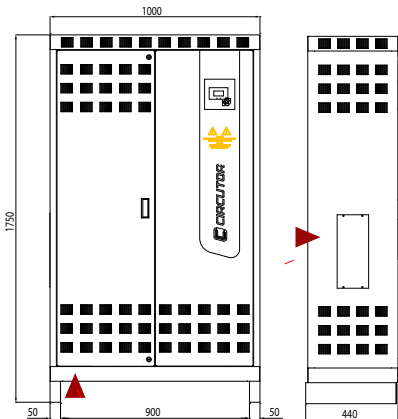
OPTIM 5 P&P



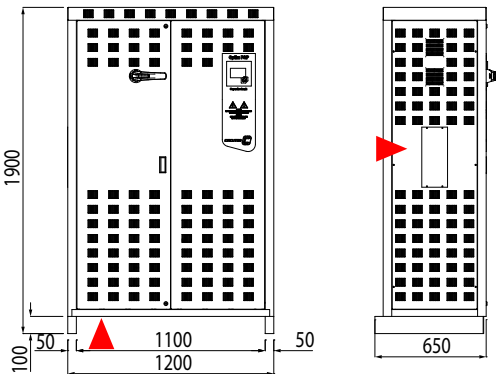
OPTIM 9 P&P



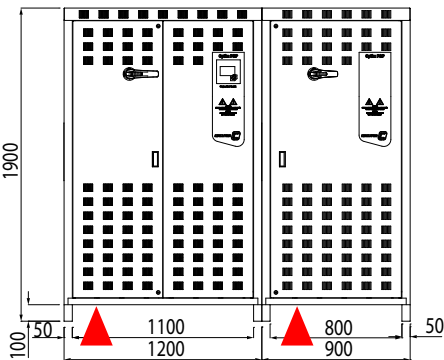
OPTIM 8



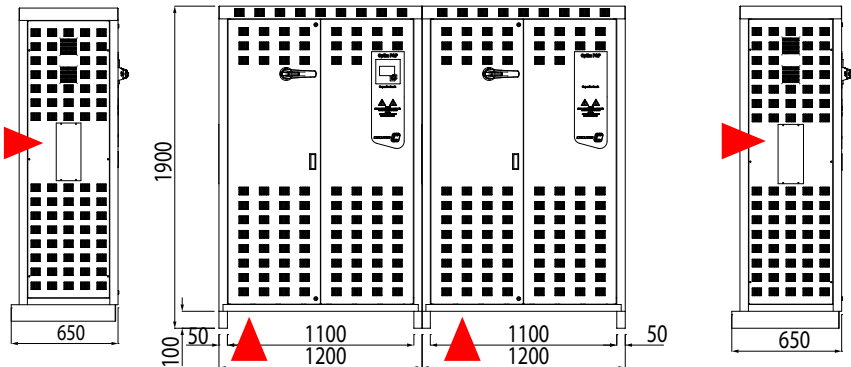
OPTIM 8L



OPTIM 14L

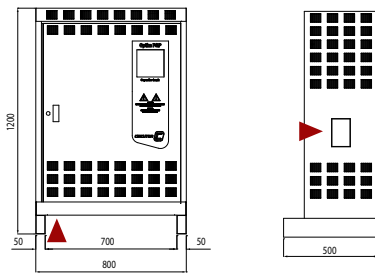


OPTIM 16L

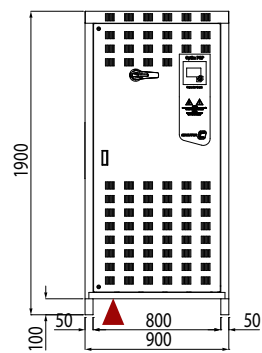


Dimensions

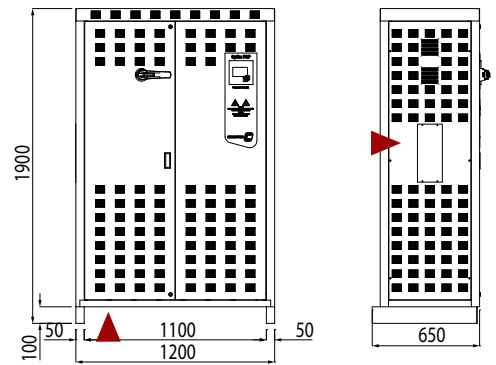
OPTIM FR5



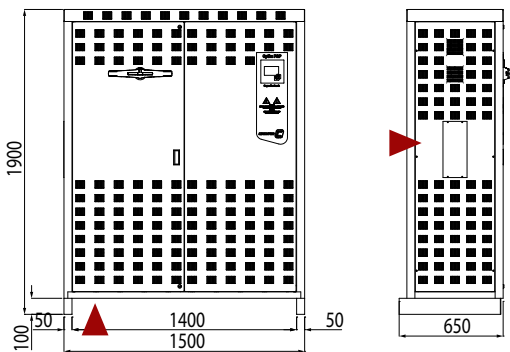
OPTIM FR4 / OPTIM FRE4



OPTIM FR6 / OPTIM FRE6



OPTIM FR8 / OPTIM FRE8



OPTIM FR10 / OPTIM FRE10

OPTIM FR10 = OPTIM FR4 + OPTIM FR6. / Width: OPTIM FR4+ OPTIM FR6+100 mm

OPTIM FR12 / OPTIM FRE12

OPTIM FR12 = 2 x OPTIM FR6. / Width= 2 x OPTIM FR6+100 mm



Harmonic filters

NEW



AFQs, Active multifunction filter

Type	Code	System	Phase current	Peak current	Max.neutral current	Size (mm) width x height x depth	weight (kg)
3 wires 480 V, Wall-mounted cabinet							
AFQs-3WF-030M	[C] R7MS0F.	3 wires, 208...480 V	30	60	-	205x490x201	13,00



AFQm, Active multifunction filter, 50 / 60 Hz
50/60 Hz - Harmonic filtering, phase balancing and power factor correction

Type	Code	System	Phase current	Peak current	Max.neutral current	Size (mm) width x height x depth	weight (kg)
3 wires 480 V, Wall-mounted cabinet							
AFQm-3WF-075M-480	[C] R7MMAF.	3 wires, 230...480 V	75	150	-	439x745x288	56,00
AFQm-3WF-100M-480	[C] R7MM2F.	3 wires, 230...480 V	100	200	-	439x745x288	56,00
3 wires 480 V, Floor-mounted cabinet							
AFQm-3WF-100C-480	[C] R7MF2F.	3 wires, 230...480 V	100	200	-	608x1890x812	192,00
AFQm-3WF-200C-480	[C] R7MF3F.	3 wires, 230...480 V	200	400	-	608x1890x812	245,00
AFQm-3WF-300C-480	[C] R7MF4F.	3 wires, 230...480 V	300	600	-	608x1890x812	192,00
AFQm-3WF-400C-480	[C] R7MF5F.	3 wires, 230...480 V	400	800	-	608x1890x812	355,00
3 wires 690 V, Floor-mounted cabinet							
AFQm-3WF-070C-690	[C] R7JF6F.	3 wires, 400...690 V	70	140	-	608x1890x812	192,00
AFQm-3WF-140C-690	[C] R7JF7F.	3 wires, 400...690 V	140	280	-	608x1890x812	249,00
AFQm-3WF-210C-690	[C] R7JF8F.	3 wires, 400...690 V	210	420	-	608x1890x812	306,00
AFQm-3WF-280C-690	[C] R7JF9F.	3 wires, 400...690 V	280	560	-	608x1890x812	363,00
4 wires 400 V, Wall-mounted cabinet							
AFQm-4WF-030M-400	[C] R7RM0F.	4 wires, 230...400 V	30	60	90	430x530x178	21,00
AFQm-4WF-075M-400	[C] R7RMAF.	4 wires, 230...400 V	75	150	225	439x745x288	56,00
AFQm-4WF-100M-400	[C] R7RM2F.	4 wires, 230...400 V	100	200	300	439x745x288	56,00
4 wires 400 V, Floor-mounted cabinet							
AFQm-4WF-100C-400	[C] R7RF2F.	4 wires, 230...400 V	100	200	300	608x1890x812	190,00
AFQm-4WF-200C-400	[C] R7RF3F.	4 wires, 230...400 V	200	400	600	608x1890x812	245,00
AFQm-4WF-300C-400	[C] R7RF4F.	4 wires, 230...400 V	300	600	900	608x1890x812	300,00
AFQm-4WF-400C-400	[C] R7RF5F.	4 wires, 230...400 V	400	800	1200	608x1890x812	355,00
4 wires 550 V, Floor-mounted cabinet							
AFQm-4WF-070C-550	[C] R7NF6F.	4 wires, 400...550 V	70	140	210	608x1890x812	192,00
AFQm-4WF-140C-550	[C] R7NF7F.	4 wires, 400...550 V	140	280	420	608x1890x812	249,00
AFQm-4WF-210C-550	[C] R7NF8F.	4 wires, 400...550 V	210	420	630	608x1890x812	306,00
AFQm-4WF-280C-550	[C] R7NF9F.	4 wires, 400...550 V	280	560	840	608x1890x812	363,00
Rack module							
AFQm-3WF-070R-690	[C] R7JR6F.	3 wires, 400...690 V	70	140	-	482.5x266x714.5	55,00
AFQm-4WF-070R-550	[C] R7NR6F.	4 wires, 400...550 V	70	140	210	482.5x266x714.5	55,00
AFQm-3WF-100R-480	[C] R7MR2F.	3 wires, 230...480 V	100	200	-	482.5x266x714.5	55,00

Please contact our technical department for networks with high THD(V) levels.
All equipment has built-in EMI filters

TABLE OF ADDITIONAL FEATURES

AFQm-xWF-xxxC										
R	7	P	X	X	X	0	0	X	X	0
Code						Internal code				Delivery time
Protection degree	Standard IP-20					0		-		
	IP-41					5		consult		
	IP-54					7		consult		



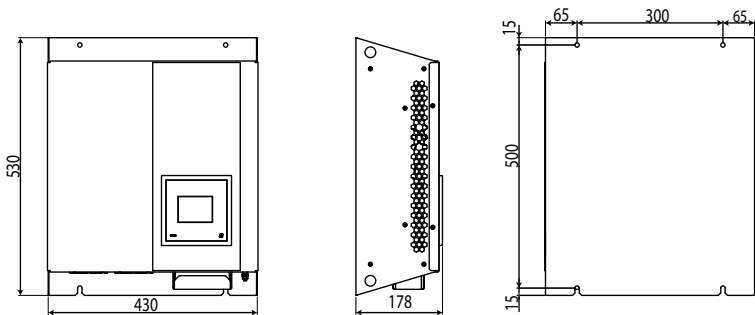
LCL, Harmonic filters for power converters

Type	Code	Q (kvar)	Load current (A)	Frequency (Hz)	Size (mm) width x height x depth	weight (kg)
460 - 480 V						
LC L36-76A-480	[4] R732140070000	22,77	76	60	650x1060x420	-
LC L36-90A-480	[4] R732150070000	26,56	90	60	800x1900x650	-
LC L36-110A-480	[4] R732160070000	30,36	110	60	800x1900x650	-
LC L36-150A-480	[4] R732170070000	45,53	150	60	800x1900x650	-
LC L36-180A-480	[4] R732180070000	53,12	180	60	800x1900x650	-
LC L36-220A-480	[4] R732190070000	60,71	220	60	800x1900x650	-
LC L36-260A-480	[4] R732200070000	68,3	260	60	800x1900x650	-
LC L36-400A-480	[4] R732220070000	121,42	400	60	1100x1900x650	612,00

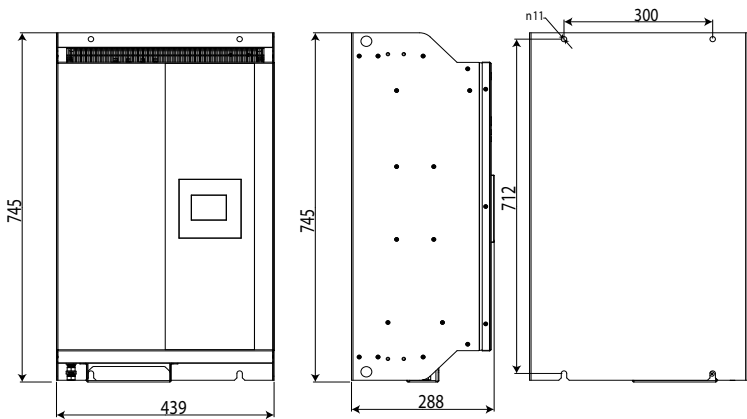
Please contact us for other current, frequency and/or voltage values Optional: Overcompensation kit

Dimensions

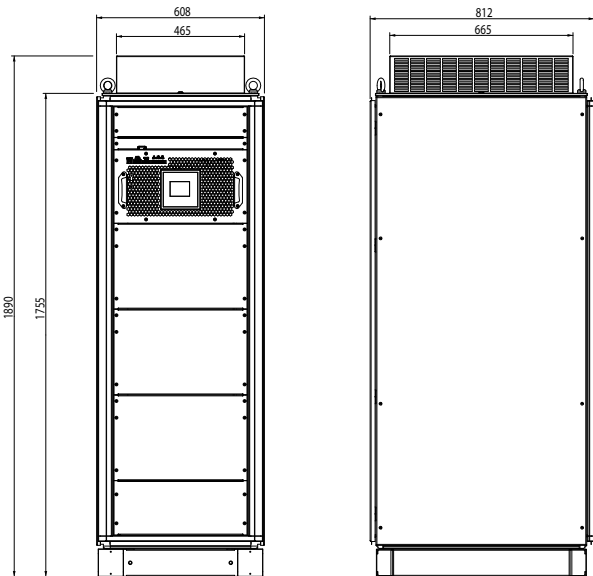
AFQm-30 / SVGm-30



AFQm-75M / SVGm-75M
AFQm-100M / SVGm-100M



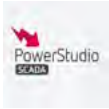
AFQm-100C // SVGm-100C
AFQm-200C / SVGm-200C
AFQm-300C / SVGm-300C
AFQm-400C / SVGm-400C



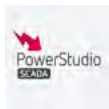
Management software

PowerStudio Universe, Energy management software

- Real-time monitoring
- Intuitive visualisation and navigation via Wave
- Efficient control via SCADA screens
- Process automation
- Incident management
- All alarms under control
- Automatic and scheduled reports
- Communication with any Modbus equipment
- Instant export to SQL database
- XML API for data extraction



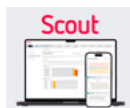
Type	Code	Description
SCADA software		
PowerStudio SCADA Basic	[*] W20100.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. Up to 25 devices
PowerStudio SCADA Pro	[*] W20110.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. Up to 50 devices
PowerStudio SCADA Ultimate	[*] W20120.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. Up to 500 devices.
PowerStudio SCADA Enterprise	[*] W20130.	SCADA software for monitoring, control and analysis of installations, with CIRCUTOR devices and third-party Modbus equipment. More than 500 devices.
OPC UA Server	[*] W20200.	Allows to configure an OPC UA server in PowerStudio for any SCADA with OPC UA client to integrate the desired parameters.
PS-DataBox	[*] W20300.	Connects PowerStudio software and DataBox cloud platform



Upgrade-PowerStudio PowerStudio SCADA License Upgrade

Type	Code	Description
Licence update		
PSSBasic-to-PSSPro	[C] W20111.	Upgrading from PowerStudio SCADA Basic to PowerStudio SCADA Pro
PSSBasic-to-PSSUltimate	[C] W20121.	Upgrading from PowerStudio SCADA Basic to PowerStudio SCADA Ultimate
PSSPro-to-PSSUltimate	[C] W20122.	Upgrading from PowerStudio SCADA Pro to PowerStudio SCADA Ultimate

NEW



Scout, Cloud-Scout software

Cloud-Scout Electrical monitoring and auditing software

Type	Code	Description
Quality Analyst_Scout	[*] W10320.	Module for the analysis and monitoring of power quality
DSO Monitor_Scout	[*] W10330.	Module for monitoring and operation of transformer substations
VAR_Scout	[*] W10340.	Module for battery performance and power factor monitoring

Module prices are annual subscription prices per connected device.

Equipment compatible with the modules:

Quality Analyst: QNA 600.

VAR: computer C Wi-Fi, computer SMART III connected with SmartLink-VAR converter.

DSO Monitor: R-SABT.

DATABOX, DataBox Cloud software

DataBox is an Industrial IoT platform for monitoring, control and analysis for facility management:

- Monitored variables
- Calculation of KPIs based on measured variables
- Alarm service. Generation, Warning, and Tracking
- Automatic Reporting
- Remote and local control and management of actions
- Visualization and control of parameters via widgets and dashboards
- Parameter comparisons over time or between installations
- SCADA synoptic screen which allows you to view a photograph or diagram and attach variables and links to widgets, dashboards, etc.
- Platform Customization/Branding (Name, DNS, and Background Image)



Type	Code	Description
Plan		
LitePlan_Databox	[*] W10100.	6 Readings, 6 Alarms and 6 Actuators
SmallPlan_Databox	[*] W10101.	18 Readings, 18 Alarms and 18 Actuators
MediumPlan_Databox	[*] W10102.	55 Readings, 55 Alarms and 55 Actuators
BigPlan_Databox	[*] W10103.	100 Readings, 100 Alarms and 100 Actuators
User		
BasicUser_Databox	[*] W10110.	Viewing permissions
AdvancedUser_Databox	[*] W10111.	Viewing and editing permissions for graphical configuration and reports
AnalyticsUser_Databox	[*] W10112.	Permissions to view, analyse and edit graphical configuration and reports.
ProfessionalUser_Databox	[*] W10113.	Administrator permissions. A minimum of one user per partner is required
Service		
Act-Firmware_Databox	[*] W10120.	ePick GPRS VPN over-the-air firmware upgrade
ImportVar_Databox	[*] W10121.	Variable imported and stored in the platform
ModbusIntegration_Databox	[*] W10122.	Integration of a Modbus map of a new device
Brand_databox	[*] W10123.	Visual customisation of the platform (Name, DNS and background image)
API_Databox	[*] W10124.	Extensive use of the API. 1,000 first calls free of charge. Monthly charging of 25.000 calls packages.

All codes, with the exception of W10120, W10122, and W10124, correspond to monthly subscription prices. The prices for codes W10120, W10122, are one-time purchase prices. The price of code W10124, corresponds to 25,000 calls. A reading is understood as a variable that is periodically recorded, an alarm as an expression that is continuously evaluated locally and reported, and an actuator as a pre-configured (manual or programmed) remote control action.



ePick Gateway for DataBox platform

Type	Code	Description
ePick GPRS VPN	[*] D60060.	Gateway with GPRS communications via VPN network and SIM card with worldwide coverage fully configured to send data from the units connected to the RS-485 port or Ethernet to the Databox cloud platform.
ePick GPRS NET	[*] D60070.	Gateway with GPRS communications (SIM card must be provided by the user) to send data from the units connected to the RS-485 port or Ethernet to the Databox cloud platform in order to carry out energy audits and improvements related to Electrical Energy Efficiency



PowerVision, Data management software for devices with memory

PowerVision, data management software for portable devices with memory

Type	Code	Description
Data management software		
PowerVisionPlus	[*] M90413.	Software for reading, downloading and processing files for devices equipped with memories (depending on type). Elaboration of graphs and tables from information. Automatic downloading for QNA Power Quality Analyzers. Other related units: AR5, AR5-L, QNA, CLP, CVM-BD M, CIR-E3 and AR6 series

NATIONAL METER INDUSTRIES

Partnering with

Circutor

Leading electrical energy efficiency company, creating innovative technological solutions for our clients, in the field of global energy transition since our foundation in 1973.

circutor.com



Contact Today

**Reliable Metering.
Proven Performance.**

Contact us to learn how NMI's precision metering solutions can enhance efficiency, reduce costs, and streamline your operations.



MORE INFO

www.national-meter.com

CALL US

(800) 325-6674