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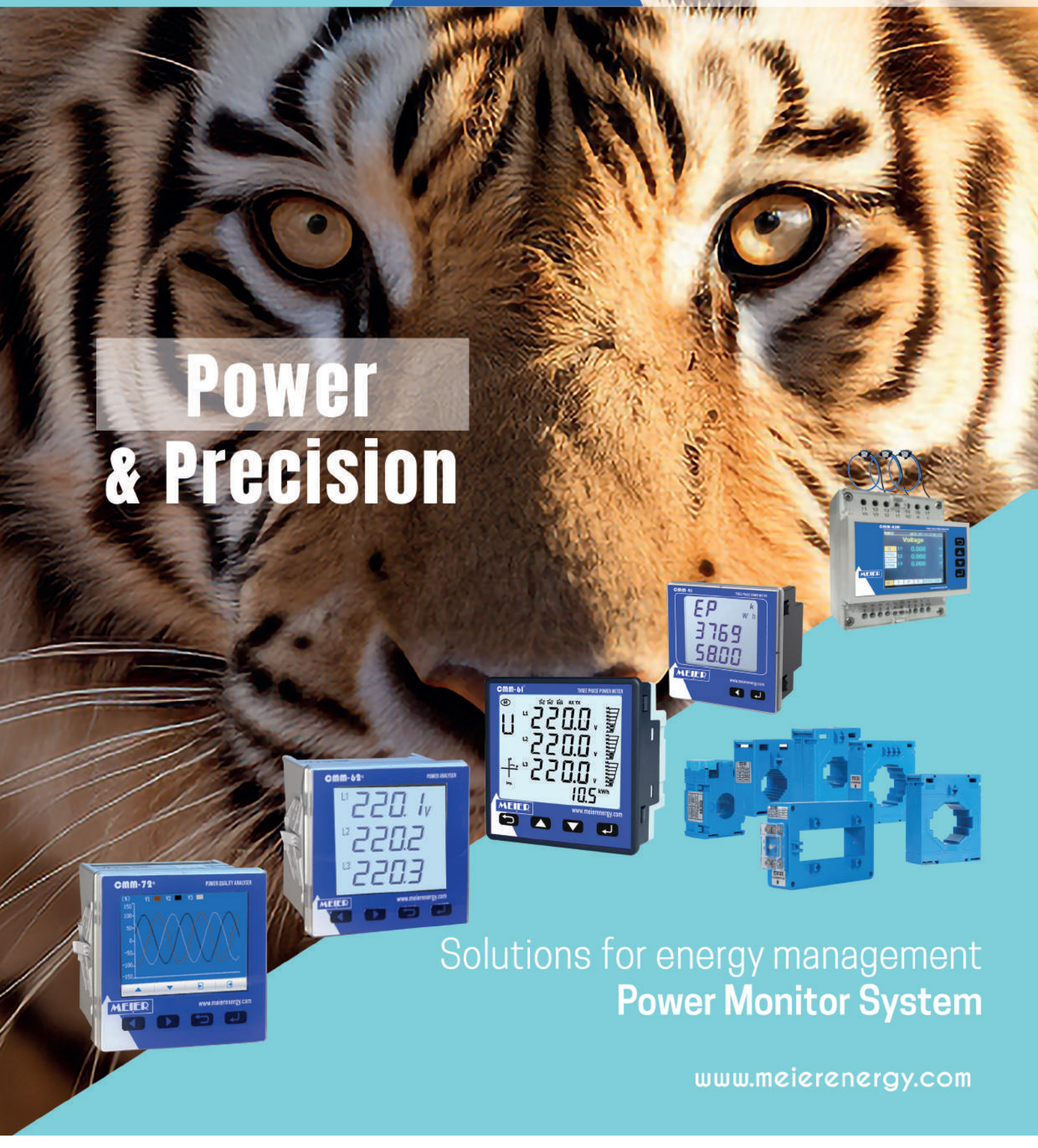
The future is Electric

Power & Precision



Solutions for energy management

Power Monitor System

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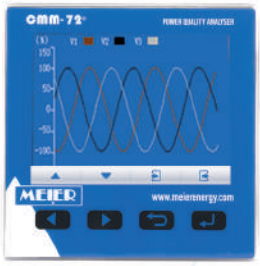
Power Quality Analyzer CMM-72



CMM-72

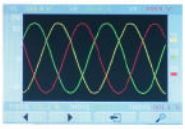
Measurements:
- V / A / P / Q / S / PF/DPF/ F Fundamental and RMS values
- Maximum Demand
- Max./Min. Values
- Load Profile

Data Log
- Demand record
- Max./Min.value record
- Off-limit record
- SOE record

Power quality:
- THDU, THDI
- Up to the 63rd harmonic
- Sequential components
- Unbalance
- Crest factor and K factor
- Phasor diagram

Energy measurement:
- Bi-directional energy
- Reactive energy in 4 quadrants
- Energy by tariff
- Fundamental energy

Inputs/Outputs
- 1 Energy pulse
- 1 RS485 Modbus communication port
- 2 Digital Inputs
- 2 Relay Outputs
- Internal Clock
- Other modules in option



The **CMM72** power quality analyzer measures all electrical parameters of the installation in Low and Medium voltage. It represents the state of the art in electrical measurement. Its advanced features for power quality analysis and metering can be used for all types of energy management and electrical installation monitoring applications. The device includes a large high-resolution color LCD screen and capacitive touch buttons which offers an IP64 protection degree on the front panel of the cabinet, allowing installation in the most severe operating conditions. The instrument has two slots for inserting extension modules, which allow expanding the functionality of the instrument.

Modbus PROFIBUS BACnet M-Bus

Extension Modules for CMM-72

Multi-functional power meter CMM-62

The multifunction power meter **CMM62** can measure all parameters of the electrical network in addition to energy in bidirectional mode. It features an RS485-Modbus communication port and a pulse output for energy measurement. Designed to be mounted on the front of cabinets, it adopts an ultra-slim design and is easy to install. As an advanced digital measuring device, it can be used in electrical installation monitoring and supervision systems as well as electrical energy management systems.
With its IP54 front protection rating, it is suitable for the most demanding environments (mines, quarries, food industry, etc.).

Features :

Measurements :
- V / A / P / Q / S / PF/DPF/ F Fundamental and RMS values
- Maximum Demand
- Max./Min. Values

Energy measurement :
- Bi-directional energy
- Reactive energy in 4 quadrants
- Energy by tariff (13 last months)

Power quality :
- THDU, THDI
- Up to the 51st harmonic
- Sequential components
- Unbalance
- Crest factor and K factor

Inputs/Outputs :
- 1 Energy pulse
- 1 RS485 Modbus communication port
- 2 Digital Inputs
- 2 Relay Outputs
- Internal Clock

Multi-functional power meter CMM-61

Features :

Measurements :
- V / A / P / Q / S /PF/ DPF/ F
- Maximum Demand
- Max./Min. Values

Energy measurement :
- Bi-directional energy
- Reactive energy in 4 quadrants
- Energy by tariff

Power quality :
- THDU, THDI
- Up to the 51st harmonic (CMM-61h only)
- Unbalance

Inputs/Outputs :
- 1 Energy pulse
- 1 RS485 Modbus communication port
- 2 Digital Inputs
- 1 Relay Output
- Internal Clock (without battery)

The multifunctional power meter **CMM61** can measure all parameters of the electrical network in addition to bidirectional energy. Designed to be mounted on the front of cabinets, it adopts an ultra- slim design both on the front and back (total thickness less than 40 mm).

The device is available in two versions: A classic version, **CMM-61C**, equipped with current measurement inputs up to 5A, and the **CMM61-R** model, which is equipped with current measurement inputs suitable for flexible current sensors (Rogowski coils).

The **CMM-61R** is therefore the ideal solution for energy management system implementation projects in existing installations that cannot tolerate power interruptions.

SMALL SIZE POWER METER

The power meter **CMM41** can measure all parameters of the electrical network in addition to bidirectional energy. Designed to be mounted on the front of cabinets, it adopts small dimensions: 72x72 mm

CMM-41

Modbus Communication · 0.5S Energy accuracy · 4 tariffs 4 tariffs · Pulse output · Dimensions 96x96

Measurements:
- V / A / P / Q / S / PF/ F
- Maximum Demand
- Max./Min. Values

Power quality:
- Unbalance

Energy measurement:
- Bi-directional energy
- Reactive energy in 4 quadrants

Inputs/Outputs
- 1 Energy pulse
- 1 RS485 Modbus communication port

MULTI-FUNCTIONAL POWER METER

CMM-R6D

Modbus Communication · 0.5S Energy accuracy · Pulse output · Optional Modules · Harmonics · DIN rail mounted

Measurements:
- V / A / P / Q / S / PF/DPF/ F
- Maximum Demand
- Max./Min. Values

Power quality:
- THDU, THDI
- Up to the 31st harmonic
- Sequential components
- Unbalance
- Crest factor and K factor

Energy measurement:
- Bi-directional energy
- Reactive energy in 4 quadrants
- Energy by tariff
- Fundamental Energy

Inputs/Outputs
- 1 Energy pulse
- 1 RS485 Modbus communication port
- 1 PT100 Temperature Input
- 1 Leakage current Input
- Internal Clock

EMR-IO (Extension module)
- 4 Digital Inputs + 2 Relay Outputs

The multifunction power meter **CMM-R6D** can measure all parameters of the electrical network in addition to energy in bidirectional mode. It can be equipped with a 4 Inputs / 2 Outputs module for control and monitoring of field equipment, in addition to a built-in ground leakage current measurement input, and a PT100 temperature measurement input. The device includes a power measurement function for the backup source, which can be triggered by an external signal.

POWER METER AND RECORDER

Modbus Communication · 0.5S Energy accuracy · Harmonics · 3 tariffs 3 tariffs · DIN Rail · Rogowski coils · 32 GB · M-Visu M-Visu compliant · 1 Output

CMM-R5M

Measurements:
- V / A / P / Q / S / PF/ F
- Maximum Demand (current and active power)

Power quality:
- THDU, THDI
- Up to the 25th harmonic

Energy measurement:
- Bi-directional energy
- Reactive energy in 4 quadrants
- Energy by tariff (3 tariffs)

Special features
- 1 SD memory (32 GB)
- 1 RS485 Modbus communication port
- 1 Relay Output
- Rogowski coils current inputs
- Internal Clock

The **CMM-R5M** power meter can measure all parameters of the electrical network in addition to bidirectional energy. Designed to be mounted on DIN Rail, It includes 3 current measurement inputs for flexible sensors (Rogowski coils) and a standard 32 GB SD memory.
Data is recorded in CSV format and can be easily accessed using Excel or **M-Visu** free software.

ENERGY METERS- DPM RANGE

DPM energy meters are intended for accurate measurement of energy in single-phase or three-phase networks 4 wires (3L+N).

The DPM-2M and DPM-4M meters allow direct current measurement up to 63A (40A for DPM-1P), while the DPM-4C meter allows indirect measurement of current, via a current transformer (x/1A or x/5A).

The DPM-2M and DPM-4M meters are certified MID and can be used for energy billing.

All these energy meters have an RS485-Modbus communication port and a pulse energy metering output.

DPM-1P

Modbus Interface · DIN Rail Mounted · Pulse output · 18mm width

Measurements:
- V / A / P / Q / S / PF/ F
- Direct current input : 40A

Communication :
- RS-485 interface
- Modbus RTU Protocol

Energy measurement:
- Bi-directional energy
- Reactive energy in 4 quadrants

Accuracy:
- Class 1 (IEC-62053-21)

Wiring :
- 1P2W

Voltage :
- 230 VAC

DPM-2M

Modbus Interface · DIN Rail Mounted · Pulse output · 36mm width

Measurements:
- V / A / P / Q / S / PF/ F
- Direct current input : 63A
- Energy by tariff (2MF model)

Communication :
- RS-485 interface
- Modbus RTU Protocol

Energy measurement:
- Bi-directional energy
- Reactive energy in 4 quadrants

Accuracy:
- Class B (EN-50470)
- MID Certified

Wiring :
- 1P2W

Voltage :
- 230 VAC

DPM-4M

Modbus Interface · DIN Rail Mounted · Pulse output · 72mm width

Measurements:
- V / A / P / Q / S / PF/ F
- Direct current input : 63A
- Energy by tariff (4MF model)

Communication :
- RS-485 interface
- Modbus RTU Protocol

Energy measurement:
- Bi-directional energy
- Reactive energy in 4 quadrants

Accuracy:
- Class B (EN-50470)
- MID Certified

Wiring :
- 3P4W

Voltage :
- 3x230 / 400 VAC

DPM-4C

Modbus Interface · DIN Rail Mounted · Pulse output · 72mm width

Measurements:
- V / A / P / Q / S / PF/ F
- Via CT (/1A or /5A)

Communication :
- RS-485 interface
- Modbus RTU Protocol

Energy measurement:
- Bi-directional energy
- Reactive energy in 4 quadrants

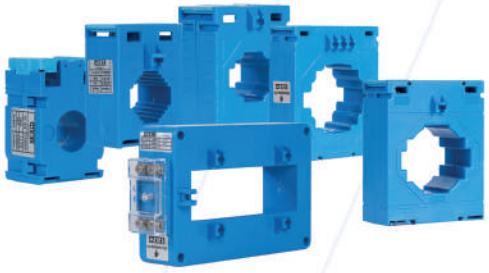
Accuracy:
- Class 0.5 (IEC-62053-21)

Wiring :
- 3P4W

Voltage :
- 3x230 / 400 VAC

Window-type current transformers

Window-type current transformers for bars and cables, with sealable terminal cover, suitable for primary currents from 40A to 4000A AC; available in 1A or 5A AC secondary current; and accuracy classes 0.1, 0.2S, 0.2, 0.5S, 0.5 or Class 1.0



Fixing accessories :

Metal feet (in standard)

DIN rail mounting clip (option)

CTMD20

Rated current (x/5A): 40- 50-60-80- 100 & 125A
Accuracy Class: 1 or 0.5
Primary conductor: φ 20mm

CTMB30

Rated current (x/5A): 150-200-250-400-500 & 600A
Accuracy Class: 1 or 0.5
Primary conductor: 30x10mm or φ 26mm

CTMB40

Rated current (x/5A): 400-500-600 & 800A
Accuracy Class: 0.2S, 0.2, 0.5S, 0.5, or 1
Primary conductor: 40x10mm or φ 30mm

CTMB60

Rated current (x/5A): 800-1000 & 1250A
Accuracy Class: 0.1, 0.2S, 0.2, 0.5S, 0.5 or 1
Primary conductor: 60x10mm or φ 51mm

CTMB80

Rated current (x/5A): 1000-1250 & 1600A
Accuracy Class: 0.2S, 0.2, 0.5S, 0.5 or 1
Primary conductor: 80x10mm or φ 65mm

CTMK125

Rated current (x/5A): 1200-1600-2000-2500-3200 & 4000A
Accuracy Class: 0.1, 0.2S, 0.2, 0.5S, 0.5 or 1
Primary conductor: 120x35mm

Ratio	Serie	Reference	Accuracy Class		
			3.0	1.0	0.5
40/5	CTMD20	CTMD20-40/5	1	-	-
50/5		CTMD20-50/5	1	-	-
60/5		CTMD20-60/5	1	1	-
80/5		CTMD20-80/5	-	1.5	-
100/5		CTMD20-100/5	-	1.5	1.5
125/5		CTMD20-125/5	-	2.5	1.5

Ratio	Serie	Reference	Accuracy Class			
			5.0	3.0	1.0	0.5
150/5	CTMB30	CTMB30-150/5	-	-	2.5	2.5
200/5		CTMB30-200/5	-	-	2.5	2.5
250/5		CTMB30-250/5	-	-	2.5	2.5
400/5		CTMB30-400/5	-	-	3.75	2.5
500/5		CTMB30-500/5	-	-	3.75	2.5
600/5		CTMB30-600/5	-	-	3.75	2.5

Ratio	Serie	Reference	Accuracy Class				
			1.0	0.5	0.5s	0.2	0.2s
400/5	CTMB40	CTMB40-400/5	5/10	5/10	5	-	-
500/5		CTMB40-500/5	5/10	5/10	5	5	-
600/5		CTMB40-600/5	5/10	5/10	7.5	7.5	7.5
800/5		CTMB40-800/5	10	10	10	10	7.5

Ratio	Serie	Reference	Accuracy Class					
			1.0	0.5	0.5s	0.2	0.2s	0.1
800/5	CTMB60	CTMB60-800/5	10	10/15	10	10	5	-
1000/5		CTMB60-1000/5	15	15	15	15	10	-
1250/5		CTMB60-1250/5	15	15	15	15	15	15

Ratio	Serie	Reference	Accuracy Class					
			1.0	0.5	0.5s	0.2	0.2s	0.1
1000/5	CTMB80	CTMB80-1000/5	15	15	15	10	7.5	-
1250/5		CTMB80-1250/5	15	15	15	15	7.5	7.5
1600/5		CTMB80-1600/5	15/30	15/30	15	15	15	15

Ratio	Serie	Reference	Accuracy Class					
			1.0	0.5	0.5s	0.2	0.2s	0.1
1200/5	CTMK125	CTMK125-1200/5	15	15	10	10	-	-
1600/5		CTMK125-1600/5	30	25	25	15	7.5	5
2000/5		CTMK125-2000/5	30	30	30	30	30	30
2500/5		CTMK125-2500/5	30	30	30	30	30	30
3200/5		CTMK125-3200/5	30	30	30	30	30	30
4000/5		CTMK125-4000/5	30	30	30	30	30	30

Split Core current transformers

Split core current transformers, closed by side clips (CTS range) or by screws and nuts (CTK range) and suitable for primary currents from 100A to 5000A AC; available in accuracy classes Class 3, 1 or 0.5.

CTS24

Ø : 24mm
Rated current (x/5A) : 100 - 150 - 200A
Class : 1 ou 3

CTK58

Rated current (x/5A) : 250-300-400-600 - 800-1000-1250-1600A
Class : 3, 1 ou 0,5
Primary conductor: 50x80mm ou Ø : 50mm

CTK88

Rated current (x/5A) : 250-300-400-600 - 800-1000-1250-1600A
Class : 1 ou 0,5
Primary conductor : 80x80mm ou Ø : 80mm

CTK812

Rated current (x/5A) : 400-500-600-800-1000 - 1250-1600-2000-2500 - 3000A
Class : 3, 1 ou 0,5
Primary conductor : 80x120mm ou Ø : 80mm

CTK816

Rated current (x/5A) : 1000-1250-1600-2000 - 2500- 3000-4000-5000A
Class : 1 ou 0,5
Primary conductor : 80x160mm ou Ø : 80mm

Opening(mm)	Serie	Reference(A)	Accuracy Class	Power(VA)
24 x 24	CTS24-100/5	100/5A	3	1
	CTS24-150/5	150/5A	3	1
	CTS24-200/5	200/5A	3	1

Opening(mm)	Serie	Reference(A)	Accuracy Class	Power(VA)
50 x 80	CTK58-250/5	250/5A	3	2.5
	CTK58-300/5	300/5A	3	2.5
	CTK58-400/5	400/5A	3	2.5
	CTK58-600/5	600/5A	1	5
	CTK58-800/5	800/5A	1	5
	CTK58-1000/5	1000/5A	1	5
	CTK58-1250/5	1250/5A	1	5
	CTK58-1600/5	1600/5A	0.5	10

Opening(mm)	Serie	Reference(A)	Accuracy Class	Power(VA)
80 x 80	CTK88-400/5	400/5A	1	2.5
	CTK88-500/5	500/5A	1	2.5
	CTK88-600/5	600/5A	1	2.5
	CTK88-800/5	800/5A	1	10
	CTK88-1000/5	1000/5A	1	10
	CTK88-1200/5	1200/5A	1	10
	CTK88-1250/5	1250/5A	1	10
	CTK88-1600/5	1600/5A	0.5	10
	CTK88-2000/5	2000/5A	0.5	10

Opening(mm)	Serie	Reference(A)	Accuracy Class	Power(VA)
80 x 120	CTK812-400/5	400/5A	3	2.5
	CTK812-500/5	500/A	1	2.5
	CTK812-600/5	600/5A	1	5
	CTK812-800/5	800/5A	1	10
	CTK812-1000/5	1000/5A	1	10
	CTK812-1250/5	1250/5A	0,5	10
	CTK812-1600/5	1600/5A	0,5	10
	CTK812-2000/5	2000/5A	0,5	15
	CTK812-2500/5	2500/5A	0,5	15
	CTK812-3000/5	3000/5A	0,5	30

Opening(mm)	Serie	Reference(A)	Accuracy Class	Power(VA)
80 x 160	CTK816-1000/5	1000/5A	1	10
	CTK816-1250/5	1250/5A	1	10
	CTK816-1600/5	1600/5A	0,5	15
	CTK816-2000/5	2000/5A	0,5	15
	CTK816-2500/5	2500/5A	0,5	15
	CTK816-3000/5	3000/5A	0,5	30
	CTK816-4000/5	4000/5A	0,5	30
	CTK816-5000/5	5000/5A	0,5	30

Flexible Rogowski coils

RCM-100B
RCM-150B
RCM-200B

Ø8 screw type flexible Rogowski coil

Read Accuracy: 0.5%class (Vertically centered position)
Linearity: ±0.2% maximum of the measured value (1%~100%)
Phase error: <0.5°(45Hz~65Hz)
Applicable voltage range: 1000V CATIII, 600V CATIV
Flame retardant UL 94 V-0 rated
Operating temperature: -30℃ to 80℃

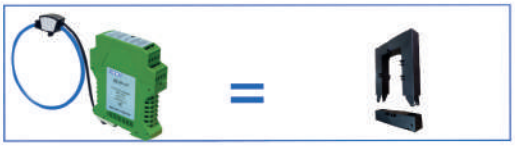
Characteristics	RCM-100	RCM-150	RCM-200
Reference Rated current	10- 1000A	30- 3000A	60- 6000A
Window Size (mm)	100	150	200
Coil length (mm)	395	525	665
Coil section (mm)	8	8	8
Coil Resistance (Ω)	260 (+/-10)	320 (+/-10)	390 (+/-10)
Lead length (m) *	2	2	2

(*) Other lead lengths on demand

1A output integrator for Rogowski coils:

Single phase or Three phase DIN-RAIL 1A Output integrator for the use of Rogowski coils with standard measuring devices with /1A or /5A current measurement input. Converts mV output signal of Rogowski coils to 0-1A signal.

- High read accuracy 0.5%
- Compact DIN-RAIL construction
- High bandwidth for measurement 30 to 5kHz
- Output 1A rms
- Power supply : 12 VDC



RCMI-01

Single phase integrator

RCMI-01-100: 1x 1000A/1A (compatible with RCM-100B)
RCMI-01-150: 1x 3000A/1A (compatible with RCM-150B)
RCMI-01-200: 1x 6000A/1A (compatible with RCM-200B)

RCMI-03

Three-phase integrator

RCMI-03-100: 3x 1000A/1A (compatible with RCM-100B)
RCMI-03-150: 3x 3000A/1A (compatible with RCM-150B)
RCMI-03-200: 3x 6000A/1A (compatible with RCM-200B)

2 in 1 solution for measuring the voltage on busbar without inerrup or drilling. It also allows easy and centered fixation of the flexible Rogowski coils of the RCM range

RCM-VP

Insulated voltage measuring terminal for copper
Busbar thickness : 5 - 15mm
Cable length: 3 meters
Rated voltage: 230 to 600 VAC

Communication Gateway

GR42-TCP-WIFI

DIN rail mount RS485 to Ethernet communication gateway.
Ethernet communication via RJ45 or WIFI port
Two-way transparent transmission between RS485 and WIFI/Ethernet
Ethernet: 10/100 Mpbs, MDI/MDIX
Wifi: 802.11b/g/n (2.412 GHz - 2.484 GHz)
RS-485: 300 bps to 230,4 kbps
Power supply: 5 to 36 VDC (220 VAC adapter included)

Features:

To download the complete e-catalog

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