

MP3 / MP4

Three-phase power analyzers



Description

- **MP3-P** and **MP4-P** are measuring equipment models that fulfil the functions of power analyzers and earth leakage protection relay in just one unit. They also have the advantage of having measuring transformers and the earth leakage transformer incorporated into one unit.
- Communications RS 485 ModbusRTU
- Optional display LCD.
- 2 digital inputs
- 2 relay outputs
- 2 energy impulse outputs
- Conductor section with power of 120-185 mm without adaptor and 35-95 mm with adaptor
- Possibility of 2 additional relay outputs (optional)
- Possibility of 1 additional analogue output (optional)
- Compatible with the energy management software: **PowerStudio**, **PowerStudio Scada** and **PowerStudio Scada Deluxe**

Application

- It's specially designed equipment for assembly in electrical panels. It's been designed to be compatible with any automatic switch on the market.
- Earth leakage protection in the electrical panel.
- Control of instantaneous values and the recording of maximums and minimums of the measured electrical parameters.

Features

Power circuit	
Voltage	18 - 36 V cc
Maximum power consumption	200 mA
Connector	Phoenix Contact® GMVSTBR 2,5-2-ST-7,62
Voltage measurement	
Nominal voltage	690 V ca
Maximum voltage	800 V ca
Maximum impulse voltage 8/20 us	8000 V
Impedance	1 MΩ
Frequency	45 - 65 Hz
Accuracy	0.4% measurement + 0.1% FS
Category EN61010	CAT IV-600 V
Current measurement	
Nominal current	250 A ca
Maximum current	300 A ca
Maximum impulse current 1s	30 kA
Frequency	45 - 200 Hz
Accuracy	0.45% measurement + 0.05% FS
Category EN61010	CAT IV-600 V
Power measurement / energy	
Maximum power (per phase)	240 kW
Accuracy	0.95% measurement + 0.05% FS
Active energy accuracy	Class 1 (IEC62053-21)
Reactive energy accuracy	Class 2 (IEC62053-23)
Pulse output	
Type	Isolated solid-state relay
V _{CE} max	350 V
V _{CE} sat	120 mA
I _c recommended	10 mA
Insulation	3 kV - EN61010 CAT III 300 V
Maximum frequency	4 Hz
Minimum pulse width	20 ms

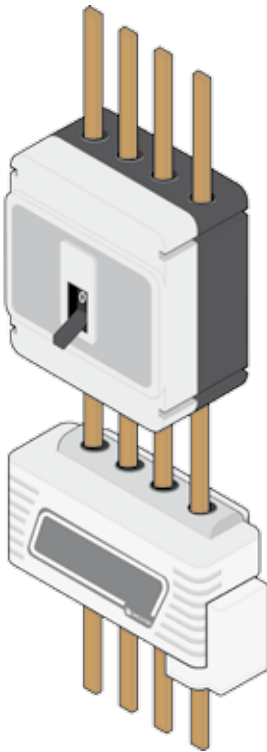
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Application

- Fully programmable alarm function for any electrical parameter measured by the unit.
- Control of active and reactive energy using impulse output.
- Incorporation of measurements and earth leakage protection in SCADA systems through its communications



Features

Digital output		
Type	Isolated solid-state relay	
U_{max}	350 V	
I_{max}	120 mA	
Insulation	2.5 kV - EN61010 CAT III 300 V	
Digital input		
U_{max}	50 V	
I_{max}	300 μ A ($U < 15V$)	
I_{max}	4 mA ($U < 24V$)	
I_{max}	15 mA ($U < 48V$)	
$V_{IH max}$	3V31	
Modbus output - RS-485		
Speed (bps)	9600, 19200, 38400	
Stop bits	1.2	
Parity	None, even, odd	
Insulation	2.5 kV - EN61010 CAT III 300 V	
Modbus output - Display		
Power Supply	5 dc, max 180 mA	
Speed (bps)	9600, 19200, 38400	
Stop bits	1.2	
Parity	None, even, odd	
Environmental specifications		
Operating temperature	-15 – 65 °C	
Storage temperature	-40 - 80 °C	
Humidity (without condensation)	5 - 95%	
Maximum operating height	2000 m	
IP protection	IP20	
Build features		
	MP3	MP4
Dimensions	209 x 91 x 132 mm	251 x 91 x 132 mm
Weight	850 g	975 g
Material	UL94-V0	
Standards		
EN -61010: Double-insulation electric shock protection, class II		

References

MP series. Direct connection analyzers and bushing bar assembly for installations on 250/400 A switches

Current	Three-phase installation	Power Supply	Inputs / outputs	Impulse output	Communications	Type	Code
250 A	3 wires	24 V cc	2	2	RS-485	MP3-250-P	M54A4300A
400 A						MP3-400-P	M54A2300A
250 A	4 wires	24 V cc	2	2	RS-485	MP4-250-P	M5494300A
400 A						MP4-400-P	M5492300A
Visual display, 96 x 96 mm in size						D-MP	M54A01
Source of power supply 24 V cc / 230 V ca						PS-MP-24 V cc	M54A02

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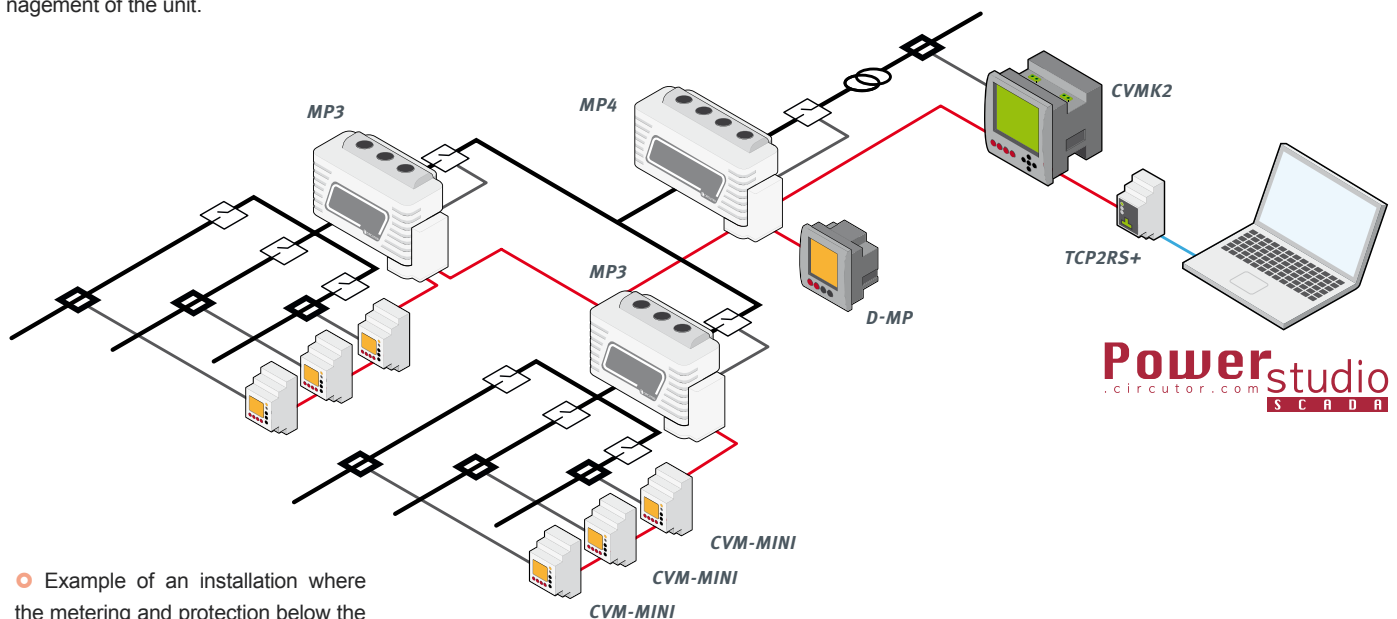
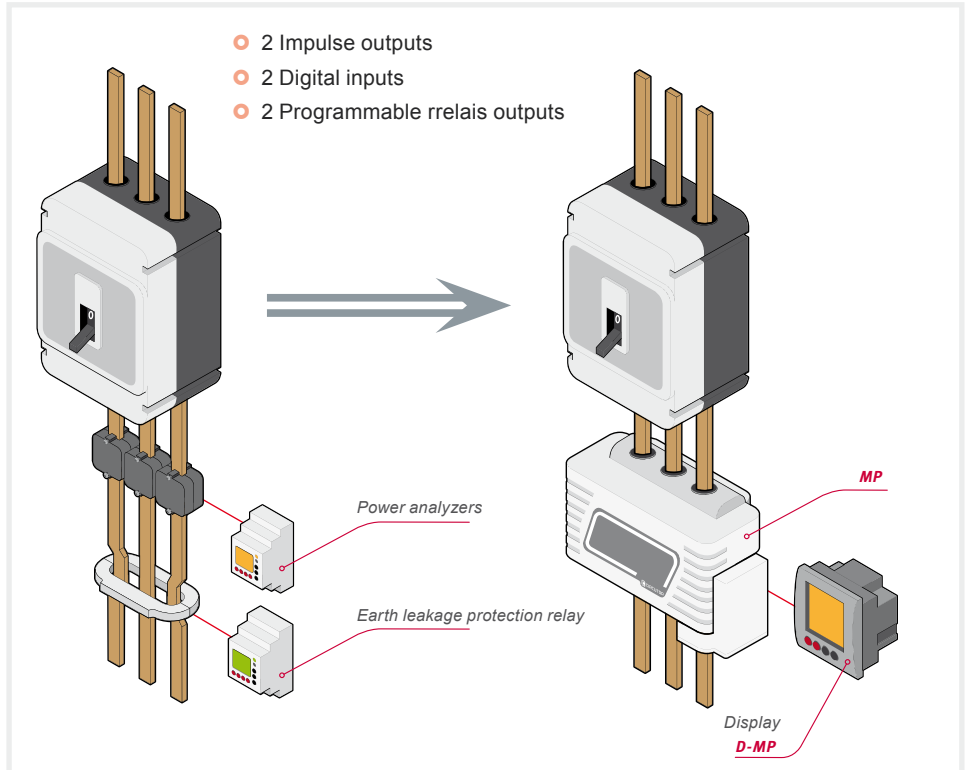
Features

- Max. 185 mm²
Min. 120 mm²
- Max. 95 mm²
Min. 35 mm²
- Max. 25 mm
- Min. 12 x 2 mm

Dimensions

MP3 250	MP4 250
125x87x132 mm	160x87x132 mm
MP3 400	MP4 400
209x91x132 mm	251x91x132 mm

The **MP** series can use its 2 RS-485 communications ports to several advantages. In addition to the optional incorporation of a **D-MP** display model for visualizing the data measured by the unit on site, it can use the other port to incorporate the unit in a **SCADA** energy management application. The **CIRCUTOR software** designed for energy management and supervision is **PowerStudio SCADA**, which enables data processing and remote management of the unit.



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○ Example of an installation where the metering and protection below the automatic switch is carried out with MP.