



# MP250

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Mains protection relay

## DESCRIPTION

**MP250** continuously monitors the mains parameters, in order to interrupt the parallel between the generators and the mains in case some parameters are out of limits. The digital outputs of the relay can be used to issue an opening command directly to a circuit breaker, or to issue a trip command to other controllers (genset controllers).

A secondary circuit breaker can be managed (backup circuit breaker), in case of opening failure of the main one (interface circuit breaker).

A complete set of mains protections is available. The relay features multistage protections for under and over voltages, under and over frequency as well as rate of change of frequency (ROCOF).

All protections are fully configurable, allowing the use of **MP250** in different countries with different grid codes, and providing fault ride through capability to prevent nuisance tripping.

**MP250** is fully compatible with relevant grid codes, including G59/3 and G99.

The relay displays its operating status and alarms via an LCD graphic display and led indicators. The front mounted push-buttons allows display navigation, parameters setting and alarms reset.

Parameters are accessible from either the front panel or by connection to a PC using the **BOARDPRG3** software.

## INPUT - OUTPUT AND AUXILIARY FUNCTIONS



4 Digital inputs



6 Digital outputs



AND/OR  
Logic control



16 Calendars  
and 4 timers



USB port



Event history log

- N. 4 Digital Inputs.
- N. 6 Digital outputs.

**Communication:**  
N. 1 USB Port.

## MEASURES

<b>Mains voltage</b>	L1-N, L2-N, L3-N, L1-L2, L2-L3, L3-L1. True RMS measures. Max 300Vac CAT III (L-N). Max 520Vac CAT III (L-L).
<b>Mains frequency meter</b>	Resolution = 0.1 Hz. Accuracy = $\pm 50$ ppm, $\pm 35$ ppm/ $^{\circ}$ C (typical)
<b>Power supply voltmeter</b>	Resolution = 0.1V

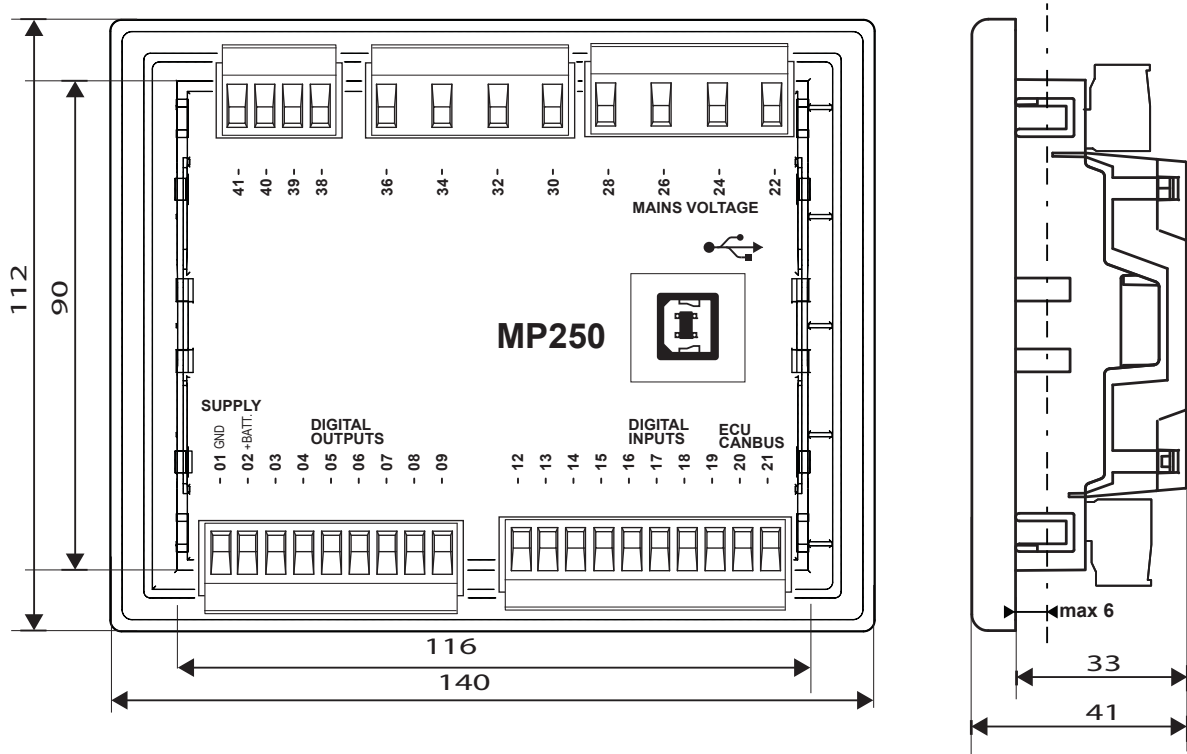
## PROTECTIONS

List of protections with relative ANSI codes

- 27 Under voltage, 5 stages.
- 27 (V+) Minimum positive sequence voltage, 1 stage.
- 59 Overvoltage, 5 stages.
- 59 (AVG) Maximum voltage with moving average in the last 10 minutes, 1 stage
- 59 (V0) Maximum zero sequence voltage, 1 stage.
- 59 (V-) Maximum negative sequence voltage, 1 stage.
- 46 Voltage unbalance, 1 stage.
- 47 Wrong phase sequence, 1 stage.
- 81O Over frequency, 2 stages.
- 81U Under frequency, 2 stages.
- 81R Rate of change of frequency, 3 stages.
- 78 Vector shift.

## TECHNICAL DATA

- > Power supply voltage: 7...32Vdc.
- > Power consumption in stand-by: less than 3 W (110mA @ 27 VDC).
- > Rated frequency: 50Hz or 60Hz
- > Operating temperature:  $-30^{\circ}$ ... $+70^{\circ}$  C.
- > Storage temperature:  $-35^{\circ}$ ... $+80^{\circ}$  C.
- > Humidity: 10-90% (non-condensing).
- > Dimensions: 141(L) x 113 (H) x 39(P) mm.
- > Panel cut-out: 118(L) x 92 (H) mm.
- > Weight: 250g
- > Protection degree: IP65 (with complimentary gasket).
- > Panel assembly with screw couplings for internal mounting.
- > LCD display 128x64 with LED backlight.
- > EMC: compliant to EN61326-1.
- > Safety: compliant to EN61010-1.



CERTIFIED MANAGEMENT SYSTEM  
ISO 9001 - ISO 14001  
BS OHSAS 18001



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