

### APPLICATIONS

The MP 204 is an electronic motor protector designed for the protection of an asynchronous motor or a pump. The MP 204 cannot be used in installations where a frequency converter is installed.

The MP 204 operates with two sets of limits:

- a set of warning limits and
- a set of trip limits.

If one or more of the warning limits are exceeded, the motor will continue to run, but the warnings will appear in the MP 204 display.

Some values only have a warning limit.

The warning can also be read out with the GRUNDFOS R100 remote control.

If one of the trip limits is exceeded, the trip relay will stop the motor. At the same time, the signal relay is operating to indicate that the limit has been exceeded.

The MP 204 can be used as a stand-alone motor protector.

The MP 204 can be monitored via a Grundfos GENibus.

The MP 204 protects the motor primarily by measuring the motor current by means of a true RMS measurement.

The MP 204 is designed for single-and three-phase motors. In single-phase motors, the starting and run capacitors are also measured. Cosφ is measured in both single-and three-phase systems.

### CONSTRUCTION FEATURES

The MP 204 offers these benefits:

- suitable for both single-and three-phase motors
- dry-running protection
- overload protection
- very high accuracy
- made for submersible pumps

The many monitoring options of the MP 204

The MP 204 monitors the following parameters:

- insulation resistance before start-up
- temperature (Tempcon, Pt sensor and PTC/thermal switch)
- overload/underload
- overvoltage/undervoltage
- phase sequence
- phase failure
- power factor
- power consumption
- harmonic distortion
- operating hours and number of starts



### Technical data

Enclosure class	IP20
Ambient temperature	-20 °C to +60 °C
Relative air humidity	99 %
Voltage range	100-480 VAC
Current range	3-999 A
Frequency	50 to 60 Hz
IEC trip class	1-45
Special Grundfos trip class	0.1 to 30 s
Voltage variation	- 25 % / + 15 % of rated voltage
Approvals	EN 60947, EN 60335, UL/CSA 508
Marking	CE, cUL, C-tick
Consumption	Max. 5 W
Plastic type	Black PC/ABS

Electrical Data	Measuring range	Accuracy	Resolution
Current without external current transformers	3-120 A	± 1 %	0.1 A
Current with external current transformers	120-999 A	± 1 %	1 A
Phase-to-phase voltage	80-610 VAC	± 1 %	1 V
Frequency	47-63 Hz	± 1 %	0.5 Hz
Power	0-1 MW	± 2 %	1 W
Power factor	0 - 0.99	± 2 %	0.01
Energy consumption	0-4 x 10 <sup>9</sup> kWh	± 5 %	1 kWh