

PRODUCT-INFO



Measuring - Controlling - Regulating
All from the same source

UNIVERSAL TEMPERATURE REGULATOR MRF-2 | MRH-2

with integrated high-pressure monitoring
and pendulum protection



Universal temperature regulator MRF-2 | MRH-2

Functions



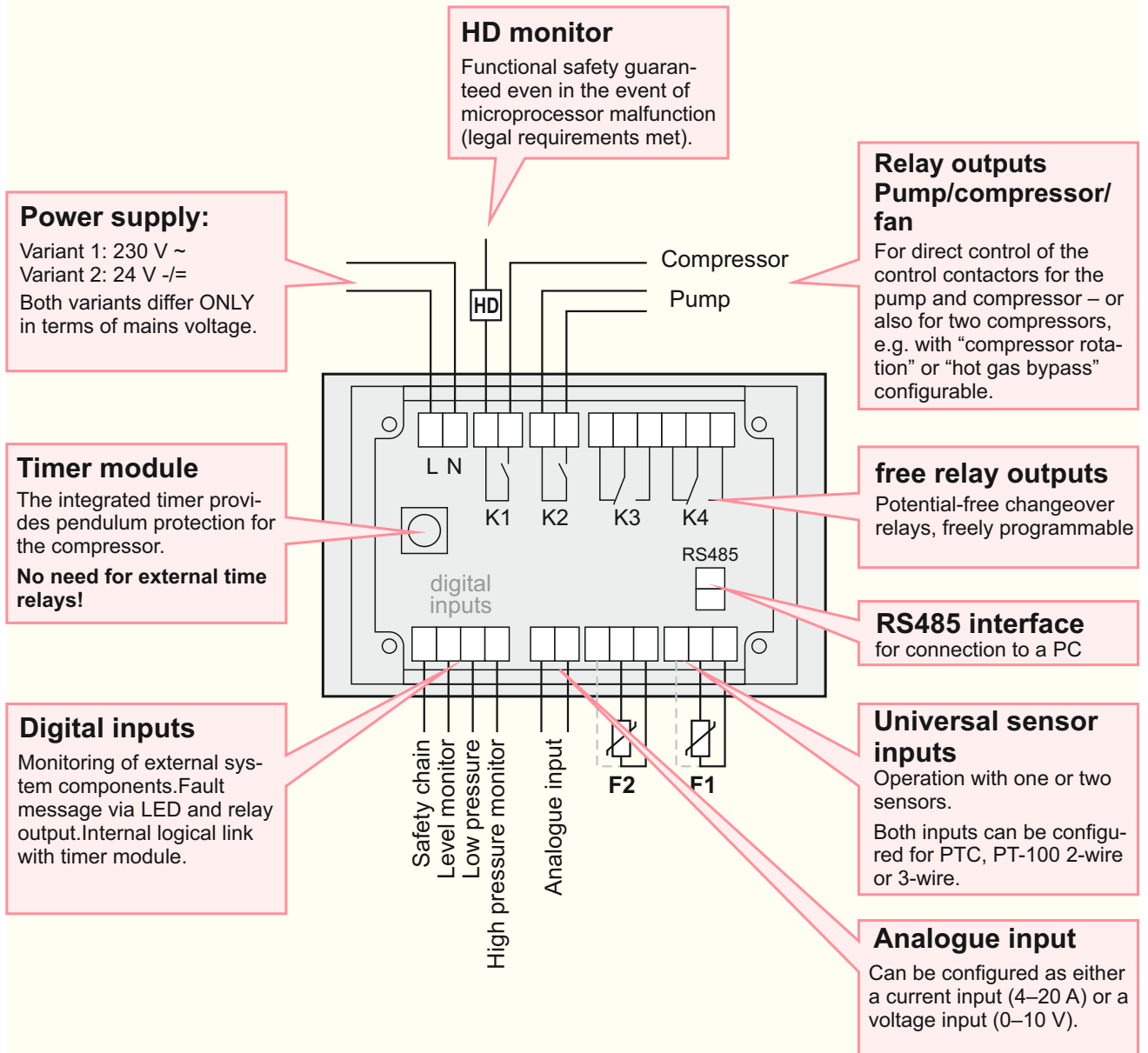
- Up to 3 configurable sensor inputs (PTC, PT-100 2/3-wire, PT 1000 parameterisable)
- Up to 5 digital inputs (can also be used as fault signal inputs)
- With integrated high-pressure monitoring
- With integrated pendulum protection
- With temperature alarm

- Up to 5 freely programmable relay outputs for controlling pumps and compressors,
- 2-point, 3-point or PID control behaviour can be parameterised.
- 2 separately adjustable PID functions
- PID control cyclical or continuous via analogue output
- Can also be configured for connecting two compressors with "compressor rotation" and "power distribution"
- Various modes for hot gas bypass control (also with control inversion)
- Logically linkable control functions
- Up to 2 potential-free changeover contacts for alarm or control functions.
- Up to 3 sensor inputs for differential temperature control (room temperature control).
- Sensor inputs can be optionally parameterised for connection of KTY, PT-100 2/3-wire or PT 1000 sensors or deactivated.
- Optionally with analogue inputs/outputs (0..10V or 4..20 mA)
- Setpoint specification via analogue input
- Up to 5 digital inputs
- Configurable for low pressure monitoring, level monitoring or for connection to the safety chain (motor protection switch), etc.
- Signalling via LED and/or relay contact.
- Internal logical link with timer module
- Integrated timer as pendulum protection for connected compressors. **No need for external time relays!**
- High pressure monitoring with special circuit technology. Functional reliability guaranteed even in the event of microprocessor malfunction. (Complies with legal requirements.)
- 2 independent temperature alarms for monitoring predefined temperatures. (Fault message via LED and/or relay contact).
- RS-485 interface.

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Feature overview

... 2-point, ...3-point or ...PID-controlled!!!!



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Technical data

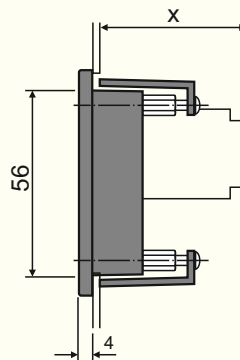
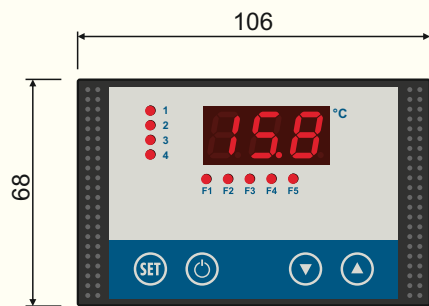
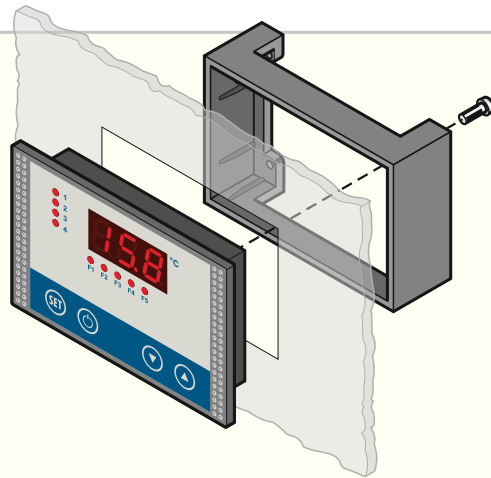


Operating voltage	230 V or 24 V AC/DC
Relay contacts	see connection diagrams
max. Schaltstrom	5, 7, 10 or 12 AAC1
Max. switching current	250 V
Display	3- or 4-digit LED display, 13 mm digit height
Display range	
- 3 digits	-99 .. 999
- 4 digits	-999 .. 9999
Number of sensor inputs	1 to 3
Compatible sensors	KTY 81-110 KTY 81-210 PT 100 PT 1000 WE-BUS
Interface RS-485	
Measuring range	
- KTY 81-110	-50° .. +150°C
- KTY 81-210	-50° .. +150°C
- PT 100	-99° .. +400°C
- PT 1000	-99° .. +400°C
Digital inputs	up to 5
Temperature alarms	2 (independent of each other)
Control behaviour	Two-point / three-point controller / PID clocked
Hysteresis	0.1 K to 99.9 K freely adjustable
MRF-2 housing (front panel installation)	- Front dimensions 106 x 68 mm - Panel cut-out 87 x 56 mm
MRH-2 housing (rear panel installation)	- Front dimensions 106 x 68 mm - Panel cut-out see sketch
Installation conditions installation device	- Installation depth max. 45 mm
Protection class	
- Front of housing	IP 64
- Rear	IP 20
Electrical safety	Overvoltage category III, pollution degree I
Connection	Plug-in screw terminals for cables up to 2.5 mm ²
Ambient temperature	
- Operating temperature	0° to +50°C
- Storage temperature	-20° to +70°C
- Max. humidity	75% (no condensation)
Degree of contamination	Conductive contaminants must not be allowed to enter the interior of the enclosure.
Overvoltage category	Categorie II

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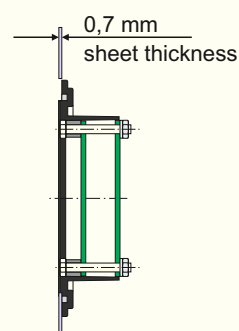
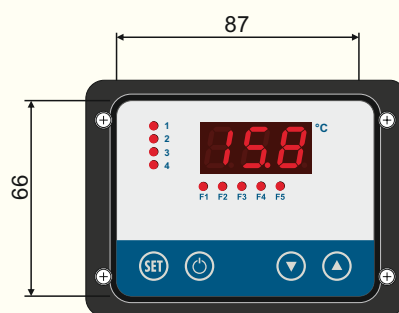
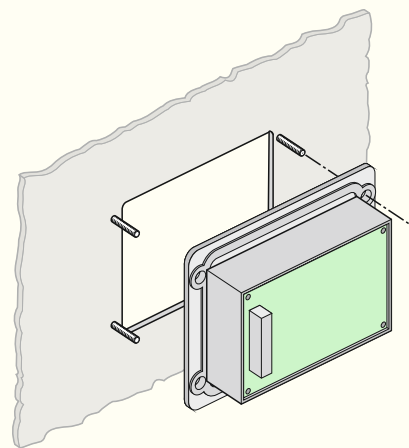
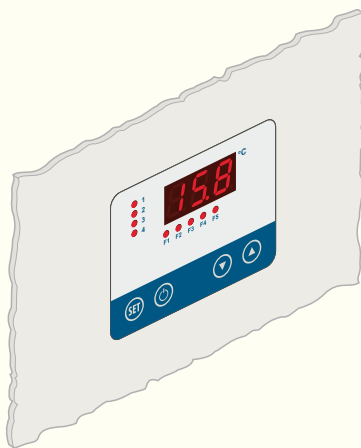
Dimensions

MRF-2



Optional:
Splash guard cover

MRH-2

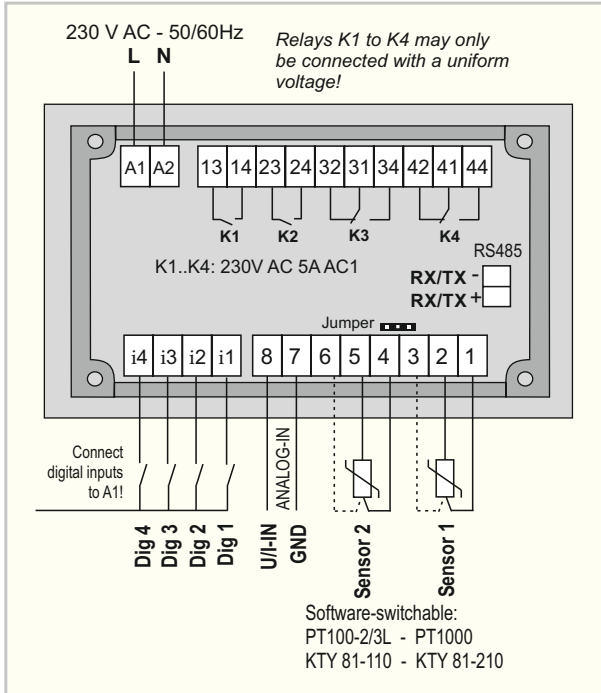


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Models (MOD-Bus on request)

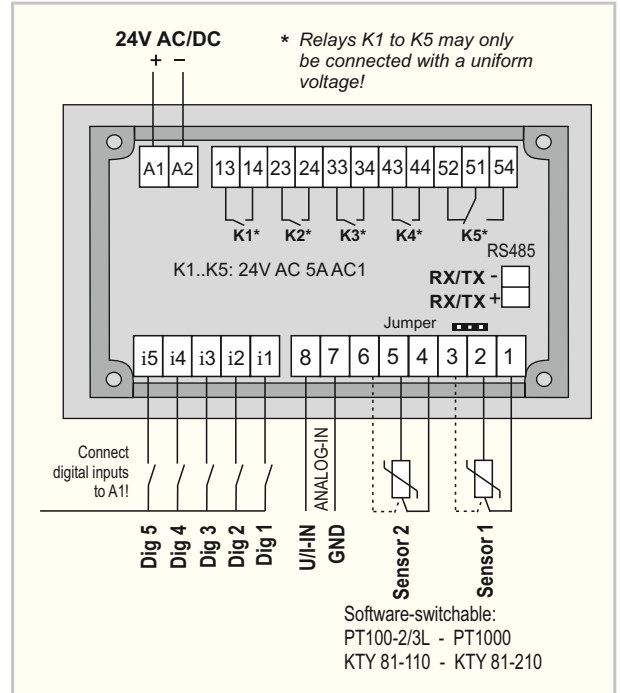
MRF-2-001-A MRH-2-001-A

230 V



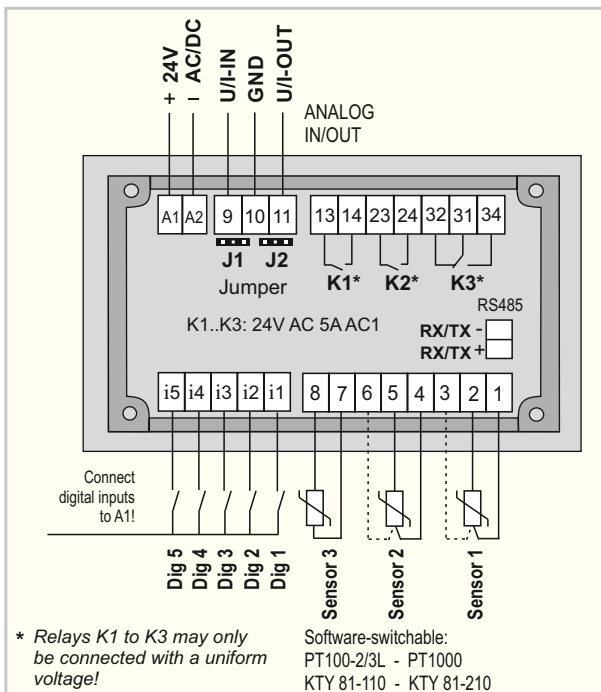
MRF-2-002-F MRH-2-002-F

24 V



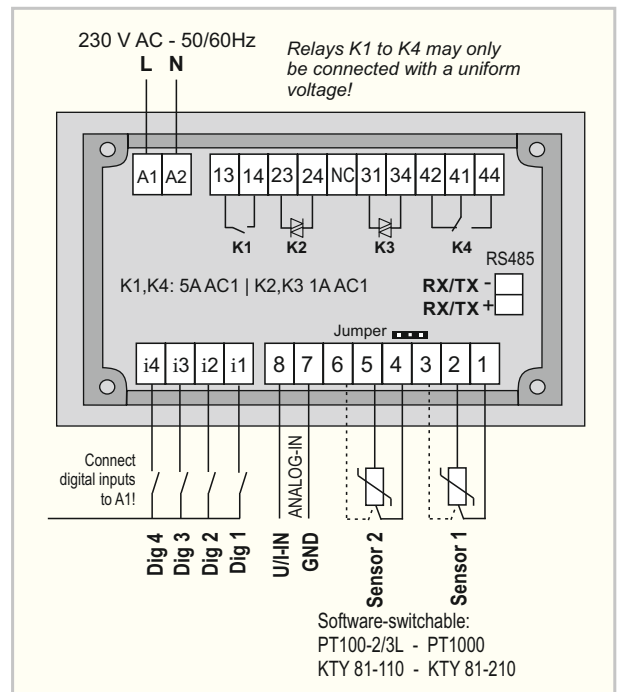
MRF-2-003-F MRH-2-003-F

24 V



MRF-2-004-A MRH-2-004-A

230 V

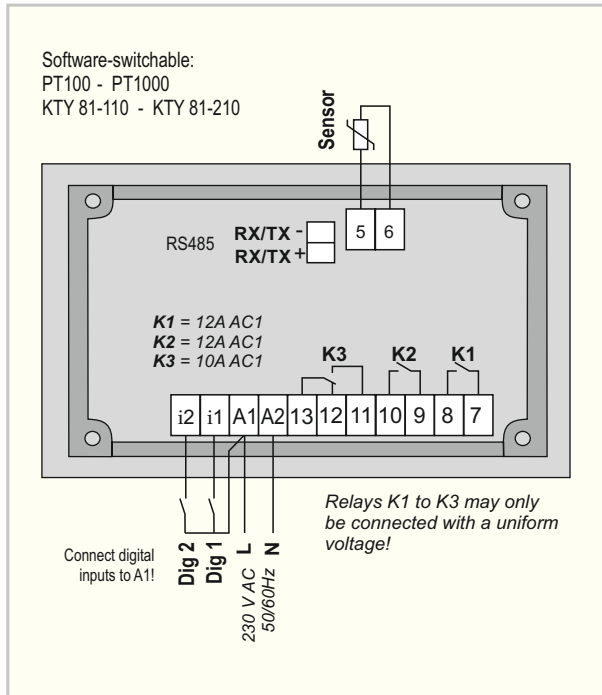


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Models

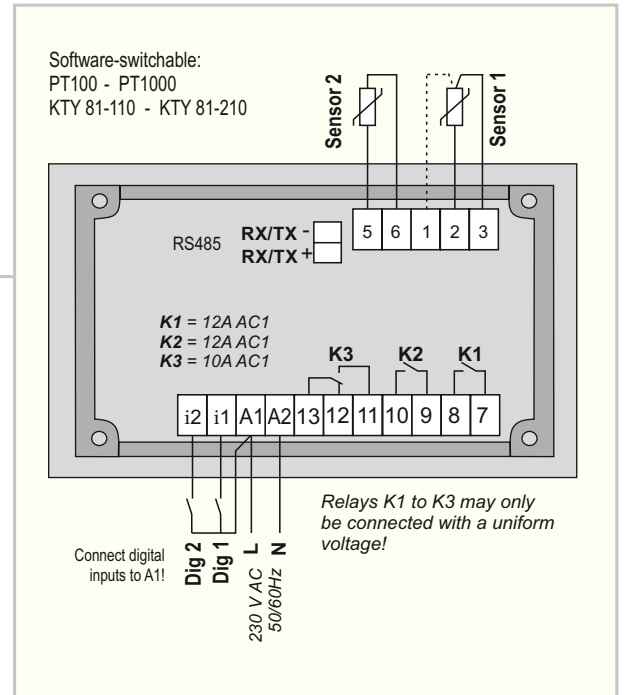
MRF-2-007-A
MRH-2-007-A

230 V



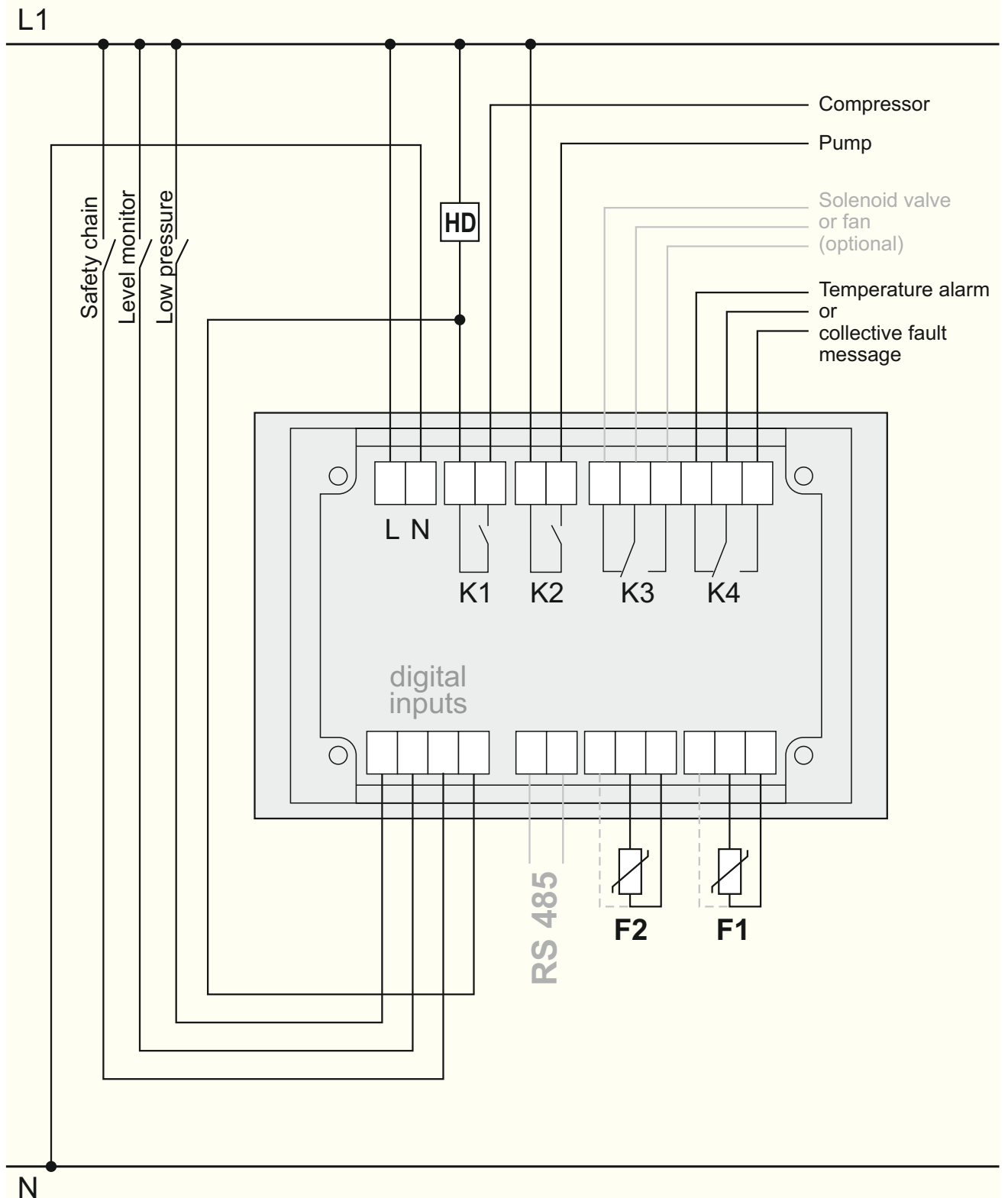
MRF-2-008-A
MRH-2-008-A

230 V



Application example 1

Standard compressor control (with or without hot gas bypass)



Application example 2

Compressor changer

