

Alarm Unit Type M3118

- ✓ 2 alarm contacts
- ✓ Input signals for current & voltage or temperature
- ✓ Signal output (current or voltage)
- ✓ Universal supply 20...253VAC/DC
- ✓ Modbus (optional)
- ✓ USB – logger (optional)
- ✓ Optical alarm contact
- ✓ Rail mounting 35mm



Technical description

The alarm unit M3118 is used to check or control any type of signal current or voltage. It converts the input signal to an internal standard signal of for example 0 to 100.0%. In this range two alarm contacts can be set independently. The 4-digit measuring value, as well as the status of the alarm contacts, is shown on an easy to read LCD-Display.

All settings as alarm values, hysteresis, range and operating mode of the floating contacts can be set with a link cable, connected to a personal computer or a laptop.

Both limit values can also be changed directly on the device using push buttons.

A typical application would be to measure and monitor pressure in a process vessel. The pressure transmitter converts the pressure of 1 to 10 bar to a current signal of 4 to 20mA. The M3118 monitors under and overpressure in the vessel. It converts the 4... 20mA signal current to 1.00bar...10.00bar. The alarm contacts can be set between 1bar and 10bar. With these floating alarm contacts, overpressure valves, compressors, etc. are driven directly.

Optionally, a galvanic isolated output signal of 0...20mA or 4...20mA is available.

The alarm unit M3118 uses a universal supply from 20 to 253VAC/DC.

Technical data

| | |
|----------------------------|--|
| Input signal: | M3118-AR: 0/4...20mA; 0...1/10V, other values in these ranges are free programmable M3118-TR: Platinum-/Nickelsensors, 2- or 3-wire connection 100Ω, 200 Ω, 500Ω or 1000Ω at 0°C (DIN 43 760) Other input signals on request |
| Input load / impedance: | Current signal = 51Ω ; voltage signal = 1MΩ |
| 2-Wire transmitter supply: | 24VDC, max. 25mA |
| Display: | LCD-Display, 4-digit, 15mm height, color adjustable |
| Display range: | -9999...9999, optional -99999...99999 |
| Accuracy: | ±0.1% at 23°C ambient temperature |
| Reproducibility: | ±0.1% |
| Temperature coefficient: | Zero drift: 30ppM/°C typical Gain drift: 25ppM/°C typical |
| Long-term stability: | ±0.1% |
| Working temperature range: | -5°C to +45°C |
| Maximum humidity: | 95%, non-condensing |
| Range adjustment: | Programmable by PC / laptop with programming unit |
| Zero-/Gain adjustment: | Programmable by PC / laptop or directly on the device with small keys |
| Limit contacts: | Two floating change-over contacts may be adjusted over the full range. Each can be defined as normally open or normally closed contact in the menu via the keys. |
| Status: | on easy to read LCD-Display |
| Hysteresis: | Adjustable, factory settings is ±5 digit |
| Contacts rating: | 1A with resistiv load / 230VAC |
| Max. contact load: | 100'000 operations at max. load |
| Max. contact lifecycle: | 10'000'000 operations mechanically, without load |
| Display unit: | on easy to read LCD-Display, 8 units programmable |
| Option signal output: | 0/4...20mA, galvanically isolated |
| Max. load: | 500Ω |
| Output impedance: | >1MΩ typical |
| Power supply: | 20 to 253VAC or DC |
| Power supply load: | 4.5W to 7.0W at 230VAC |
| CE-conformity: | Fulfilled |
| Terminals: | Plug-in screw terminals |
| Mounting: | 35mm mounting rail, EN50022-35 |
| Weight: | 200g |
| Warranty: | 2 years |
| Options: | <ul style="list-style-type: none">- USB programming unit, with cable and software- Other, user-specific in- and output signals- USB-logger- Modbus (without I-Output)- 5-digit LCD-display |

Terminals

| | | | | | |
|---|---------------------------|---|----------------------------------|----|----------------------------------|
| 1 | Supply voltage: AC~/DC(+) | 5 | Signal output: + | 9 | Alarm contact 1: normally open |
| 2 | Supply voltage: AC~/DC(-) | 6 | Signal output: - | 10 | Alarm contact 2: change over |
| 3 | Supply voltage: PE | 7 | Alarm contact 1: change over | 11 | Alarm contact 2: normally closed |
| 4 | Signal output: PE | 8 | Alarm contact 1: normally closed | 12 | Alarm contact 2: normally open |

M3118-AR:

| | | | | | |
|----|------------------|----|------------------------|----|--------------------------------|
| 13 | Signal input: PE | 15 | Signal input current + | 17 | 2-Wire transmitter supply +24V |
| 14 | Signal input - | 16 | Signal input voltage + | 18 | 2-Wire transmitter supply PE |

M3118-TR:

| | | | | | |
|----|------------------------|----|------------------------------|----|------|
| 19 | Signal input: sensor + | 21 | Signal input: sensor sense - | 23 | n.c. |
| 20 | Signal input: sensor - | 22 | Signal input: sensor PE | 24 | n.c. |

For Modbus versions:

| | | | | | |
|---|--------------------|---|------------------|---|------------------|
| 4 | Modbus RS485 – GND | 5 | Modbus RS485 – A | 6 | Modbus RS485 – B |
|---|--------------------|---|------------------|---|------------------|

Ordering examples

Example 1:

- M3118-ARS (A = input signals for current/voltage; R = alarm contacts; S = signal output)
- Input: 4...20mA
- Display: 50.0%...100.0%
- Alarm contacts preset to contact 1 = 55.0% and contact 2 = 85.0%; hysteresis ± 2 digit
- Signal output: 50.0%...100.0% = 0...20mA

Example 2:

- M3118-AR (A = input signals for current/voltage; R = alarm contacts)
- Input: 0...10VDC
- Display: 25.00rpm...75.00rpm
- Alarm contacts preset to contact 1 = 30.0rpm and contact 2 = 50.0rpm; hysteresis ± 2 digit

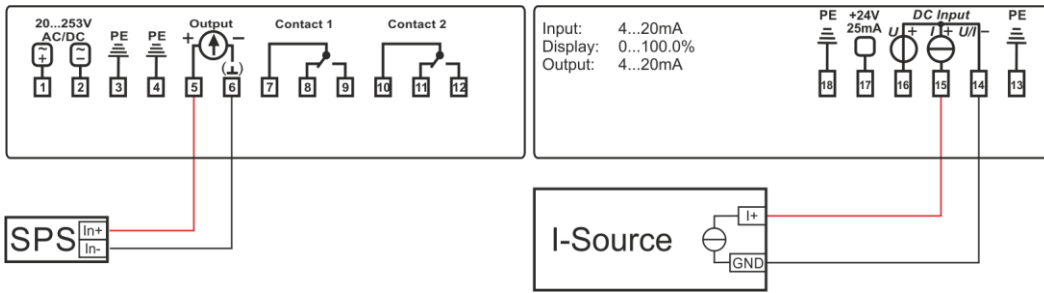
Example 3:

- M3118-TRS (A = input signals for current/voltage; R = alarm contacts; S = signal output)
- Pt-100 sensor, standard range of -50.0°C...300.0°C
- Alarm contacts preset to contact 1 = 50.0°C and contact 2 = 100.0°C; hysteresis ± 2 digit
- Signal output: 25.0°C...125.0°C = 4...20mA

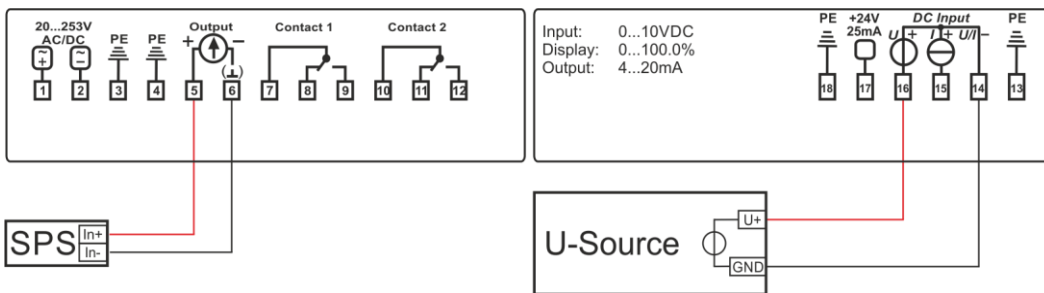
The M3118-AR respectively the M3118-TR is combinable with the S (signal output) option, if needed.

Wiring

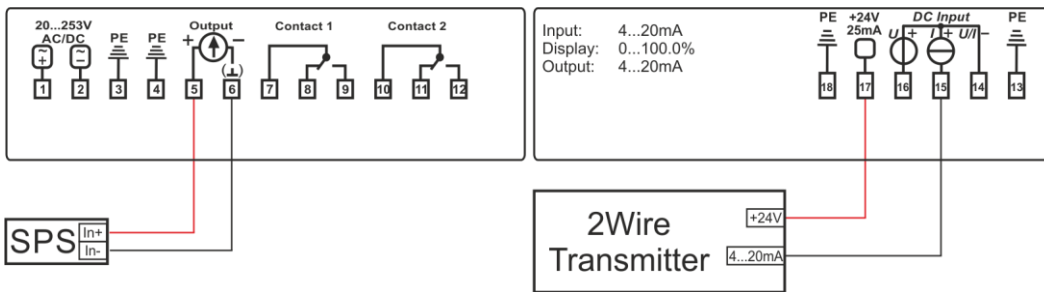
Current input:



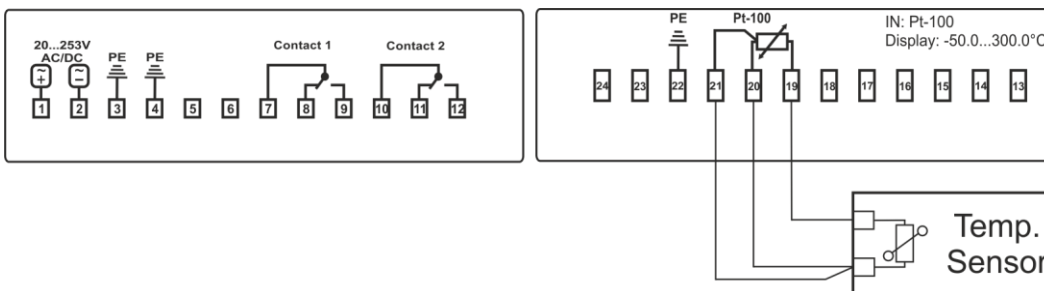
Voltage input:



2-Wire input:



Temperature input:



Dimensions / Cut out dimensions

