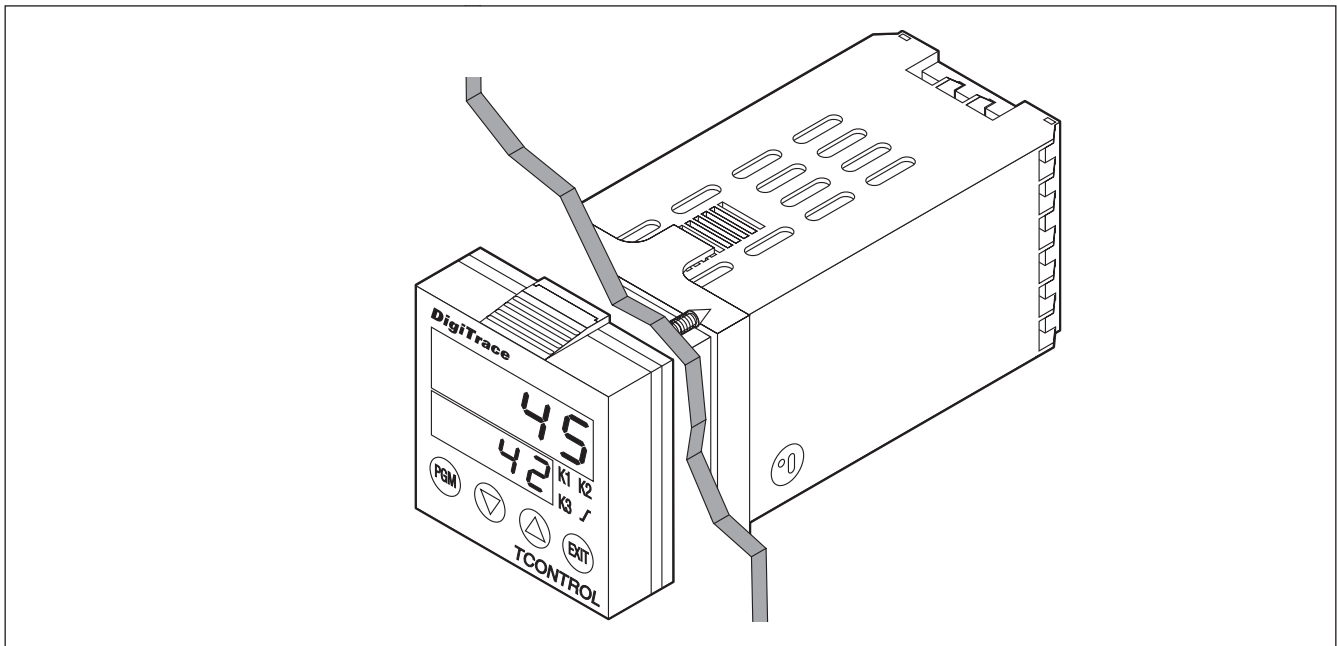


Single-circuit electronic controller

The DigiTrace TCONTROL-CONT-02 microprocessor based electronic controller provides accurate control and monitoring for individual trace-heating circuits. The compact panel mounted temperature controller has two 4-digit 7 segment displays for process value (red) and set point (green). During programming the displays are providing comments and visual aid to simplify set-up.

All configuration is done via the 4 front panel touch keys. The unit is factory configured as an ON/OFF controller suitable for most trace-heating applications. Other type of control algorithm such as Proportional control (P) and PID can be selected by simply changing the configuration code. Upon arrival the controller is configured for PT100 input (3 wire) with three output relays from which one

is used as the controller output and the others for alarm. Solid state outputs can be controlled via one of the logic outputs. The PT100 resistance sensor and the connection cable are monitored for break and short circuit. In the event of a fault the output switches to a defined state (ON or OFF) depending on the users preference.



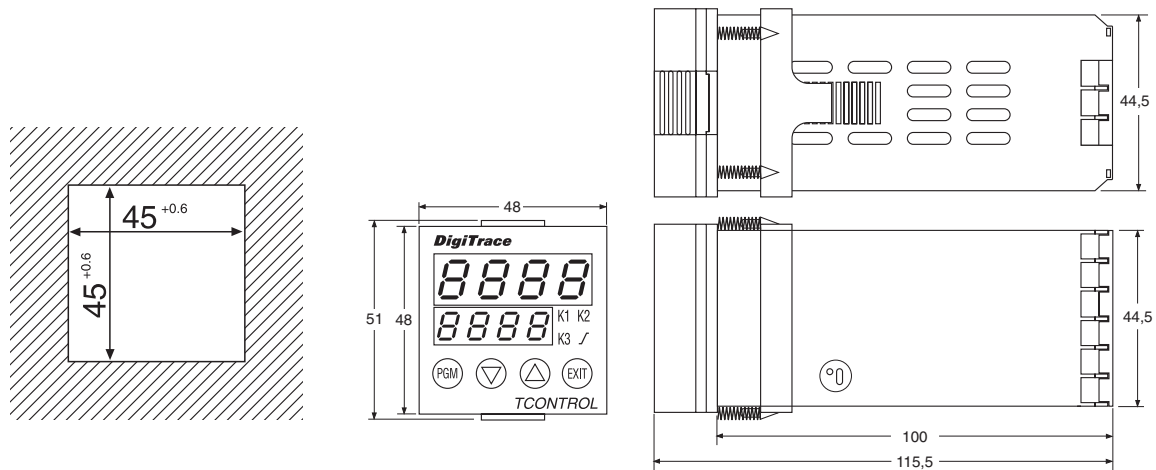
General

| | |
|-----------------------|--|
| Area of use | Ordinary area (indoors, panel mounted) |
| Supply voltage | 110 to 240 V, +10% / -15%, 50/60 Hz |
| Power consumption | 6 VA |
| Electrical connection | Screw terminals (1.5 mm ²) |
| Data back-up | Non volatile memory; no data loss on power outage |
| Display | 2 temperature displays; actual value (red) and set point (green); 4 keys for setting changes LED for status indication |

Enclosure

| | |
|-------------------------------|---------------------------|
| Protection | Front IP65, rear IP20 |
| Ambient operating temperature | 0°C to +55°C |
| Ambient storage temperature | -40°C to +70°C |
| Relative humidity | 75% max., no condensation |
| Casing material | ABS |

Dimensions (in mm)



Inputs and Outputs

| | |
|--------|---|
| Input | Pt 100, Pt 1000, 0/4...20 mA, 0/2...10 V, common thermocouples |
| Output | 3 Mechanical, single pole contacts, rated 3 A at 250 VAC, life >5 x 10 ⁵ cycles. The relays are default configured as (K1) control relay, (K2) low temperature alarm, (K3) high temperature alarm. |

| | |
|---------------|---|
| Alarms | High, low, band and sensor break / sensor short |
|---------------|---|

Parameters and factory settings

| Parameter | Factory settings |
|-------------------|---|
| Control modes | On/Off (selectable PID with auto tuning) |
| Control set point | 5°C (selectable -199.9°C to 999.9°C) |
| Hysteresis | 2°C (selectable 0°C to 999.9°C) |
| Band alarm | ±3°C (selectable -199.9°C to 999.9°C) |
| Input | Pt 100, 3 wire (selectable; see list above) |
| Display format | XXXX (Selectable: XXX.X, XX.XX) |

| | |
|--|--|
| Electromagnetic compatibility (EMC) | Conform to EN 50 082-2 (heavy industrial) and EN 50 081-1 (light industrial) |
|--|--|

| | |
|-----------------|---------------------------------|
| Mounting | Panel mount (through the panel) |
|-----------------|---------------------------------|

Accessory selection table

Select the appropriate accessories based on the specifics of the application. More details about the accessories can be found in the accessories section of this databook.

| Input sensors | Ordinary area | Hazardous area |
|---|--|---|
| Pt 100, 3 wire (Note 1) | <ul style="list-style-type: none"> • MONI-PT100-NH • JB-SB-26 | <ul style="list-style-type: none"> • MONI-PT100-EXE (Note 2) • JB-SB-26 |
| Pt 100 with 4...20 mA transmitter (Ex i) (Note 3) | <ul style="list-style-type: none"> • TCONTROL-CONT-02 • MONI-RMC-PS24 • MONI-PT100-4/20MA • JB-SB-26 | <ul style="list-style-type: none"> • TCONTROL-CONT-02 (Note 4) • TCONTROL-ISOL-01 (Note 4) • MONI-RMC-PS24 (Note 4) • MONI-PT100-4/20MA • JB-SB-26 |

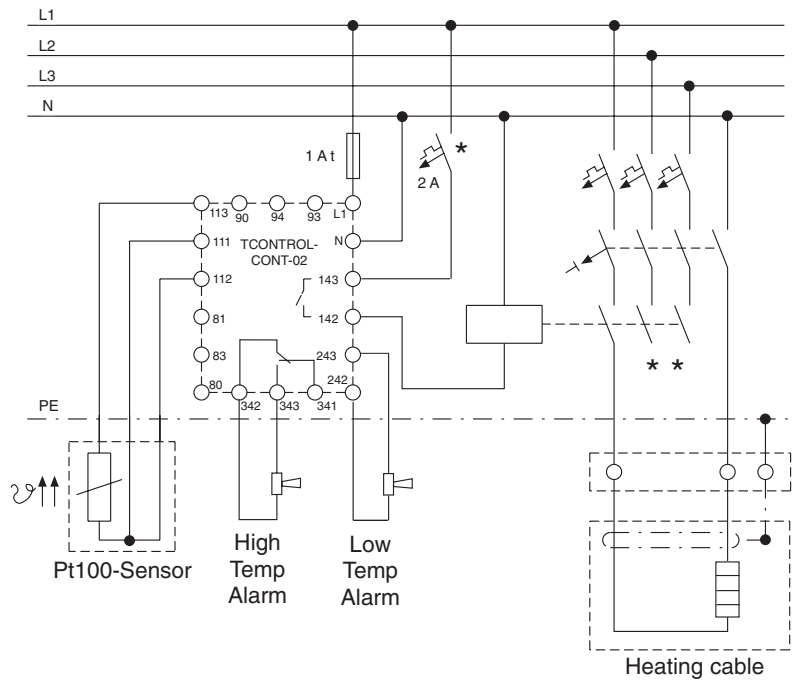
Note 1: Sensor can be extended with a 3-wire shielded cable of max 20 Ohms per conductor (max. 150 m with a 1.5 mm² cable).
 The sensor cable should be shielded if it is laid in cable ducts or in the vicinity of high-voltage carrying cables. The shield of the extension cable should be grounded at the controller end only.

Note 2: The MONI-PT100-EXE temperature sensor can be directly connected to the TCONTROL-CONT-02. There is no need to use current limiting devices such as zener barriers or isolators.

Note 3: For connection details see TCONTROL-ISOL-01 in accessories section.

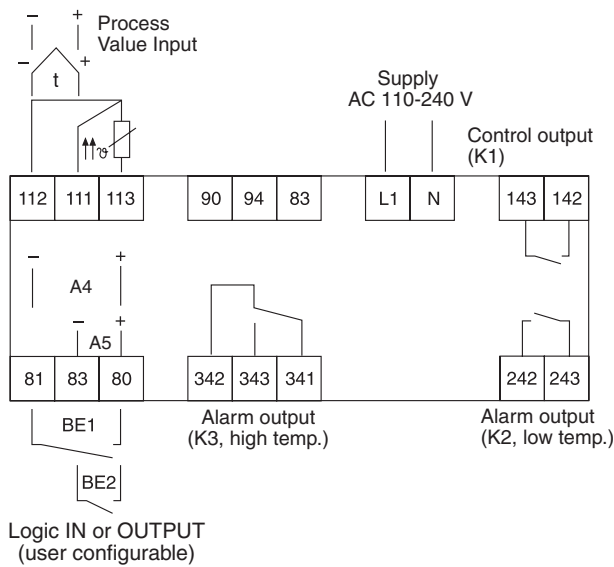
Note 4: Installed in ordinary area.

Wiring diagram



* Two- or four-pole electrical protection by circuit-breaker may be needed for local circumstances, standards and regulations.
 ** Depending on the application, one- or three-pole circuit-breakers or contactors may be used.

Connection details



| Ordering details | Part description | PN | Weight |
|---|------------------------|------------|--------|
| Temperature controller | TCONTROL-CONT-02 | 330714-000 | 0.4 kg |
| Isolator | TCONTROL-ISOL-01 | 670021-000 | 0.1 kg |
| 24 Vdc Power supply | MONI-RMC-PS24 | 972049-000 | 0.7 kg |
| Temperature sensors | | | |
| Pt 100, ordinary area | MONI-PT100-NH | 140910-000 | 0.2 kg |
| Pt 100, hazardous area (EEx e) | MONI-PT100-EXE | 967094-000 | 0.6 kg |
| Pt 100 with 4-20 mA transmitter, hazardous area (EEx i) | MONI-PT100-4/20MA | 704058-000 | 0.6 kg |
| Pt 100, hazardous area sensor without enclosure | MONI-PT-100-EXE-SENSOR | 529022-000 | 0.2 kg |
| Support bracket for sensor | JB-SB-26 | 338265-000 | 0.2 kg |