



Model Number

KT-LED-24-TC-24VDC

LED temperature display for thermocouples J/K/N, with 24 V_{DC} supply voltage

Features

- Temperature display in °C or °F
- Resolution up to 0.1 °C
- Extremely bright, large LED indicator
- For thermocouples J, K, and N
- Galvanic isolation
- Polarity reversal protected
- Protection degree IP65 (front only)

Technical data

General specifications

| | |
|--------------|--------------------|
| Data storage | EEPROM |
| Programming | keypad-driven menu |

Functional safety related parameters

| | |
|--------------------------------|--------|
| MTTF _d | 1400 a |
| Mission Time (T _M) | 10 a |
| Diagnostic Coverage (DC) | 0 % |

Indicators/operating means

| | |
|--|---|
| Type | 5-digit 7-segment LED display, red |
| Display value | digit height 8 mm |
| Display interval | -999.9 ... 1999.9 |
| Decimal point | 0 to max 1 fractional digit |
| Temperature range | acc. DIN IEC 584: J (Fe-Cu-Ni): -210 ... 1200 °C K (Ni-CrNi): -200 ... 1372 °C N (NiCrSi-NiSi): -200 ... 1300 °C |
| Resolution | 0.1 °C (0.1 °F) bzw. 1 °C (1 °F) |
| Refresh cycle of the measured value output | 1 - 2 s ⁻¹ |
| Reset | manually or external |

Electrical specifications

| | | |
|-------------------|----------------|--------------------------------------|
| Operating voltage | U _B | 10 ... 30 V DC electrically isolated |
| Operating current | | max. 40 mA |

Input

| | |
|---------------------------------------|--|
| Suitable sensors | Thermocouple J, K, N, with sensor breakage monitoring |
| Signal voltage | Display latch, display hold for current measured value |
| High | 4 ... 30 V DC |
| Low | 0 ... 2 V DC |
| Counting frequency | 5 measurement per second |
| Linearity error | < 0.4 % at 20°C ambient temperature |
| Compensation (reference junction CJC) | internal or external (programmable) Junction error: ±1.0 °C typ./±3.0 °C max. |

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -20 ... 65 °C (253 ... 338 K) |
| Storage temperature | -25 ... 70 °C (248 ... 343 K) |
| Relative humidity | ≤ 85 % (non-condensing) |
| Temperature drift | 0.1 K/K _{environment} |

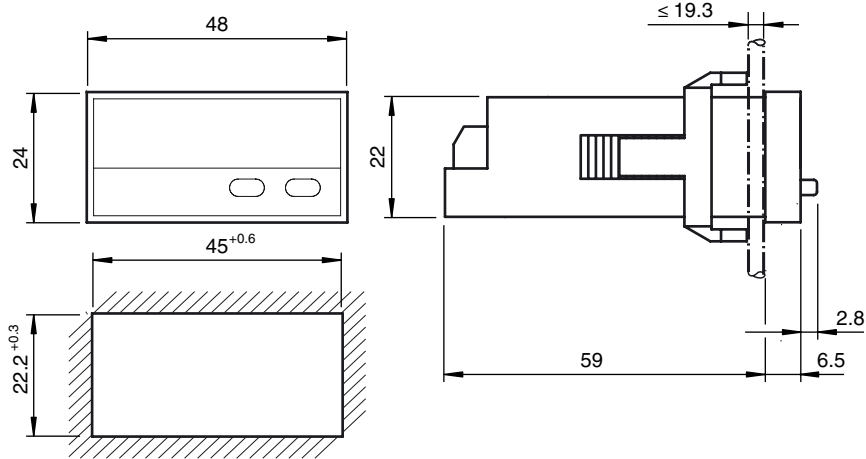
Mechanical specifications

| | |
|-------------------|-------------------------|
| Protection degree | IP65 (front) |
| Mass | approx. 45 g |
| Dimensions | 48 mm x 24 mm x 68,3 mm |

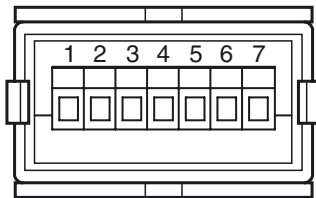
Compliance with standards and directives

| | |
|---------------------------|----------------------------|
| Directive conformity | |
| EMC Directive 2004/108/EC | EN 61000-6-2:2005 |
| Standard conformity | |
| Emitted interference | DIN EN 55011:2009, Class B |

Dimensions

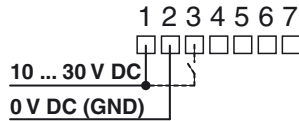


Electrical connection



Electrical connection

Connection supply Voltage / Latch input



Connections

| Pin | Function |
|-----|-----------------------------|
| 1 | 10 - 30 V DC Supply voltage |
| 2 | 0 V DC (GND) |
| 3 | Latch input |
| 4 | not connected |
| 5 | Thermocouple "+" |
| 6 | not connected |
| 7 | Thermocouple "-" |

Thermocouple Sensor

