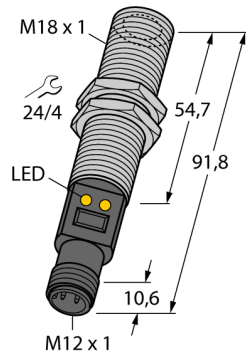# temperature sensors
# infrared sensor
# M18TUP6EQ
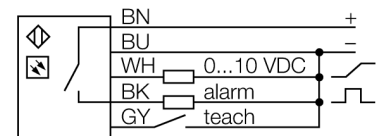
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- **connection via M12 x 1 connector**
- **D:S ratio 6:1**
- **Operating voltage 12…30 VDC**
- **Measuring range adjustable via teach-in**
- **Analog output 0…10 V**
- **PNP Alarm output switches at 10 V**
- **Temperature range 0 … +300 °C**

## Wiring Diagram



| Type code | M18TUP6EQ |
|---|---|
| Ident no. | 3074920 |

| **Operating mode** | Infrared sensor |
|---|---|
| Ambient temperature | -20…+70 °C |
| Temperature range | $\geq 0…\leq 300$ °C |
| Switching point accuracy | ± 0.5 °C |

| **Operating voltage** | 12… 30VDC |
|---|---|
| Short-circuit protection | yes/ cyclic |
| Reverse polarity protection | yes |
| Output function | NO contact, PNP/Analog output |
| Voltage output | 0…10VDC |
| Readiness delay | ≤ 1.5 s |

| **Construction** | cylindrical/threaded, M18T |
|---|---|
| Dimensions | 91.8 mm |
| Housing material | Stainless steel, V2A (1.4301) |
| Connection | Flange connector, M12 x 1 |
| Protection class | IP67 |

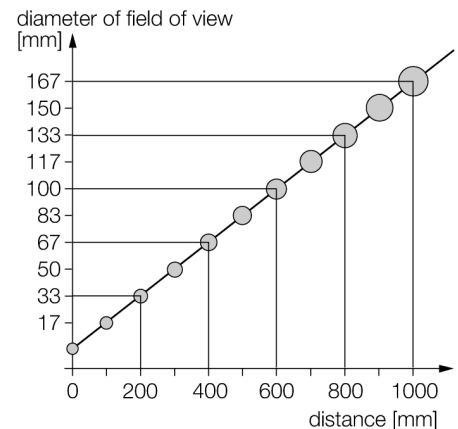| **Power-on indication** | LED green |
|---|---|
| Switching state | LED yellow |

## Functional principle

Temperature sensors are used in applications where temperatures for control and optimisation of processes must be captured and monitored. The sensor operates only as a receiver. The thermal radiation of an object within a wave length range of 8 to 14 µm is transformed into an electrical signal via a thermopile and then further processed to become an output signal. Here the D:S (distance: spot) ratio is very important because it specifies the diameter of the spot at a defined distance. The sensor is optimally aligned, if the spot is completely covered by the object, whose temperature is to be monitored.
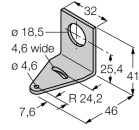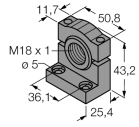
## D:S ratio

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## Accessories

| Type code | Ident no. | Description | |
|---|---|---|---|
| SMB18A | 3033200 | Mounting bracket, rectangular, stainless steel, for sensors with 18mm thread | |
| SMB18SF | 3052519 | Mounting bracket, PBT black, for sensors with 18 mm thread, rotatable | |
| SMB18UR | 3052517 | Mounting bracket, for wall mounting, stainless steel 300, 2-piece, rotatable, 18 mm bore hole, srew set included | |
| LAT1812 | 3074262 | Laser alignment aid, visible red, contains M12 laser emitter (laser class 2) and mounting bracket SMB1812, for sensors with 18 mm thread, 10 … 30 VDC supply necessary | |

## Wiring accessories

| Type code | Ident no. | Description | |
|---|---|---|---|
| WKC4.5T-2/TEL | 6625028 | Connection cable, female M12, angled, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com | |
| RKC4.5T-2/TEL | 6625016 | Connection cable, female M12, straight, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com | |

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