# T-GAGE®
# M18T Sensors
## Powerful Temperature Sensing Made Easy

### Compact sensor for reliable detection of changes as small as 3° C

### Temperature sensing for a wide variety of industries

- ▸ Hot product detection
- ▸ Flame process verification
- ▸ Hot glue detection and monitoring
- ▸ Heat seal monitoring
- ▸ Cold product detection
- ▸ Roller monitoring
- ▸ Ejection verification
- ▸ Process equipment and fixture monitoring
- ▸ Gearbox monitoring

### Rugged, easy-to-use sensor in a choice of models

- ▸ 18 mm stainless steel threaded barrel
- ▸ A choice of "Three Distance to Spot Ratios" for different target sizes and distances
  - • General-purpose sensing: 8:1
  - • Food packaging: 6:1
  - • Narrow-field-of view for smaller targets: 14:1
- ▸ Discrete (bipolar NPN/PNP) and analog (0-10V or 4 to 20 mA) models
- ▸ Static and dynamic TEACH-mode programming
- ▸ Fast 25 millisecond response time
- ▸ Leakproof design—IP67; NEMA 6 rated
- ▸ 2 m or 9 m attached cable, or Euro-style quick-disconnect

### Advanced Monitor Software
- ▸ Shows threshold adjustment
- ▸ Provides real-time information display through a PC

## Robust, Non-Contact Sensor for Monitoring Temperature Changes

The T-GAGE® M18T is a passive, non-contacting temperature-based device that combines the ease-of-use of a photoelectric with the brain power of a more sophisticated sensor. Using a thermopile device to reliably detect objects that are hotter or colder than the ambient condition, the M18T is used to verify and inspect control processes.

- ▸ Detects temperature difference between object and surroundings
- ▸ Monitors user defined window using analog or discrete outputs
- ▸ Senses temperatures from 0° to 300° C
- ▸ Sensitive to temperature contrasts of 3° C or more
- ▸ Works even if target object is not moving
- ▸ Requires no emitter, controller or external amplifier
- ▸ Features easy-to-use TEACH-mode programming; no potentiometer adjustments
- ▸ Fully encapsulated electronics for harsh sensing environments
- ▸ Available in 3 models for different target sizes and distances

⚠ The T-GAGE M18T sensor is not intended for absolute temperature measurement or for safety-related fire detection use.

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## BANNER®
### more sensors, more solutions

# T-GAGE® M18T Models

| Model | Cable* | D:S Ratio | Sensing Face | Supply Voltage | Length (L) | Output | Data Sheet |
|---|---|---|---|---|---|---|---|
| M18TB8 | 2 m | 8:1 | Integrated lens (general purpose) | 10-30V dc | 81.2 mm | Bipolar (NPN/PNP) | 120632 |
| M18TB8Q | 5-pin Euro QD | | | | 91.3 mm | | |
| M18TB6E | 2 m | 6:1 | Enclosed plastic face (for food industry use) | | 81.7 mm | | |
| M18TB6EQ | 5-pin Euro QD | | | | 91.8 mm | | |
| M18TB14 | 2 m | 14:1 | Germanium lens (narrow field of view) | | 86.5 mm | | |
| M18TB14Q | 5-pin Euro QD | | | | 96.6 mm | | |
| M18TUP8 | 2 m | 8:1 | Integrated lens (general purpose) | 12-30V dc | 81.2 mm | 0-10V dc Analog plus 1 PNP Alarm | 123698 |
| M18TUP8Q | 5-pin Euro QD | | | | 91.3 mm | | |
| M18TUP6E | 2 m | 6:1 | Enclosed plastic face (for food industry use) | | 81.7 mm | | |
| M18TUP6EQ | 5-pin Euro QD | | | | 91.8 mm | | |
| M18TUP14 | 2 m | 14:1 | Germanium lens (narrow field of view) | | 86.5 mm | | |
| M18TUP14Q | 5-pin Euro QD | | | | 96.6 mm | | |
| M18TIP8 | 2 m | 8:1 | Integrated lens (general purpose) | 12-30V dc | 81.2 mm | 4-20 mA Analog plus 1 PNP Alarm | 123698 |
| M18TIP8Q | 5-pin Euro QD | | | | 91.3 mm | | |
| M18TIP6E | 2 m | 6:1 | Enclosed plastic face (for food industry use) | | 81.7 mm | | |
| M18TIP6EQ | 5-pin Euro QD | | | | 91.8 mm | | |
| M18TIP14 | 2 m | 14:1 | Germanium lens (narrow field of view) | | 86.5 mm | | |
| M18TIP14Q | 5-pin Euro QD | | | | 96.6 mm | | |

\* For 9 m cable, add suffix **W/30** to the 2 m model number (example, **M18TB8 W/30**).
A model with a QD requires an accessory mating cordset.

## Dimensions



ø 18.0 mm

## Quick-Disconnect (QD) Cordsets

| Style | Model | Length |
|---|---|---|
| 5-pin Euro-Style straight, with shield | MQDEC2-506 | 2 m |
| | MQDEC2-515 | 5 m |
| | MQDEC2-530 | 9 m |
| 5-pin Euro-Style right-angle, with shield | MQDEC2-506RA | 2 m |
| | MQDEC2-515RA | 5 m |
| | MQDEC2-530RA | 9 m |
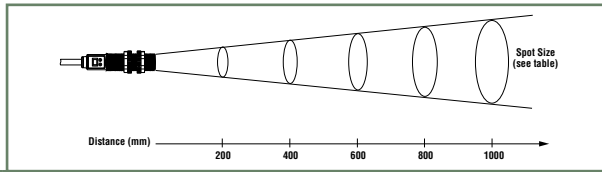
## Sensing Field of View



| Sensor D:S Ratio | Distance From Sensor Face Versus Spot Size | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | Distance (mm) |
| 6:1 | 17 | 33 | 50 | 67 | 83 | 100 | 117 | 133 | 150 | 167 | Spot Size (mm) |
| 8:1 | 13 | 25 | 38 | 50 | 63 | 75 | 88 | 100 | 113 | 125 | |
| 14:1 | 7 | 14 | 21 | 29 | 36 | 43 | 50 | 57 | 64 | 71 | |

## Brackets

| Model | Description |
|---|---|
| SMB18A | • Right-angle mounting bracket with a curved slot for versatile orientation<br>• 12-gauge stainless steel, 18 mm sensor mounting hole<br>• Clearance for M4 (#8) hardware |
| SMB18UR | • 2-piece swivel bracket<br>• 300 series stainless steel, 18 mm sensor mounting hole<br>• Stainless steel swivel locking hardware included |
| SMB18SF | • 18 mm swivel bracket with M18 x 1 internal thread<br>• Black thermoplastic polyester<br>• Stainless steel swivel locking hardware included |

## Additional Accessories

| Model | Description |
|---|---|
| APC-18 Air-Purge Collar | • Prevents water, dust and other airborne contaminants from collecting on the sensor lens<br>• Helps cool sensors affected by ambient heat in sensing environment |
| LAT1812 Laser Alignment Tool | • Includes one SMB1812 bracket and M12 laser emitter<br>• Enables easy sensor alignment at long distances<br>• Provides a precise laser spot for aiming sensor |
| DPB1 Portable Programming Box | • Visual status indicators<br>• Remote TEACH button<br>• Serial communication link for PC interface.<br>• Optional 115V ac power supply available (SP-DPB1) |
| P/N 63210 RJ11 to DB9 Interface Cable | • DPB1 to PC serial cable |

**NOTE:** Take advantage of the full capabilities of the T-GAGE by using the following items:
• Advance Monitor Software
• DPB1 Portable Demo Box with SP-DPB1 115V ac power supply/battery eliminator
• DPB1 to PC interface cable

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