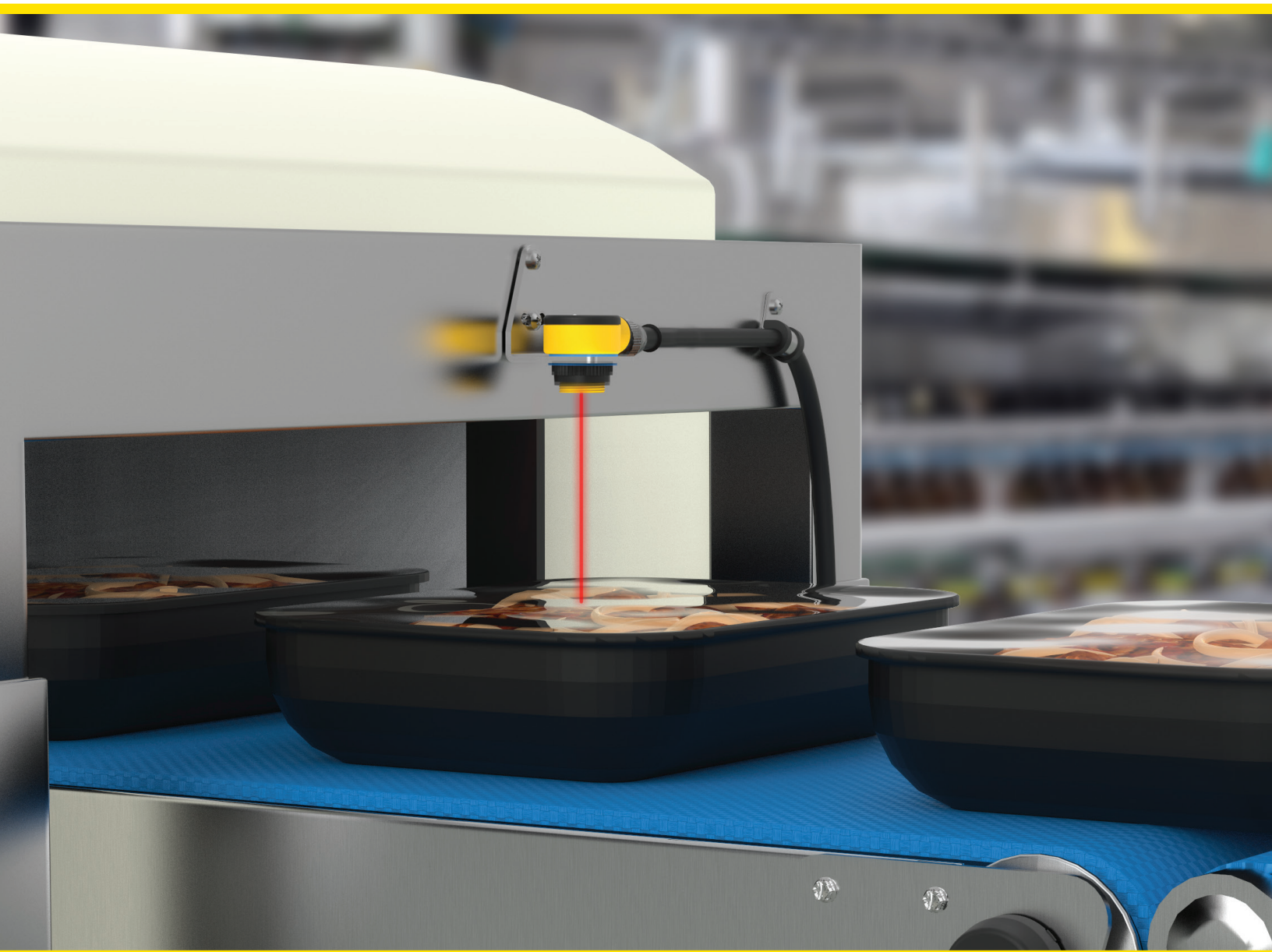


T18-2 Series



Washdown Sensors for Harsh Environments

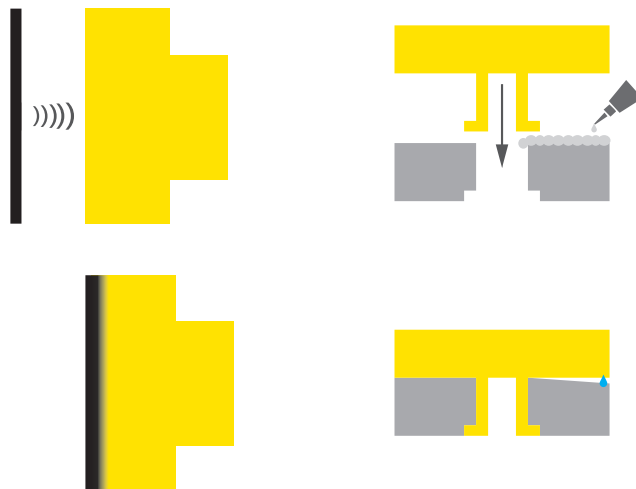
- IP69K epoxy encapsulated for maximum reliability in wet, thermal shock environments
- ECOLAB™ certified FDA grade plastic housing
- Ultrasonically welded joints for superior sealing and durability
- Improved hygienic design for easier cleaning

Next Generation of Washdown Sensors



Advantage of All Plastic Housing vs. Metal

- ✓ Two parts become one solid piece of plastic with ultrasonic welding
- ✓ No chance for leaks



- ✗ Plastic and metal expand/contract at different rates
- ✗ Glued housings can separate
- ✗ Susceptible to water ingress

Emitter/Receiver

| Type | Range (m) | Output | Model* |
|----------|---|-------------------|---------------------|
| Emitter | 25 m (82 ft) | None | T18-2NAEL-Q8 |
| | 25 m (82 ft) with beam inhibit | | T18-2NAEJ-Q8 |
| | 25 m (82 ft) with LED adjustment potentiometer | | T18-2NAES-Q8 |
| Receiver | 25 m (82 ft) | Complementary NPN | T18-2VNRL-Q8 |
| | | Complementary PNP | T18-2VPRL-Q8 |
| | 25 m (82 ft) with gain adjustment potentiometer | Complementary NPN | T18-2VNRS-Q8 |
| | | Complementary PNP | T18-2VPRS-Q8 |

Fixed Field

| Range (m) | Output | Visible Red Emitter Models* | Infrared Emitter Models* |
|-----------|-------------------|-----------------------------|--------------------------|
| 30 mm | Complementary NPN | T18-2VNFF30-Q8 | T18-2VNFF30IR-Q8 |
| | Complementary PNP | T18-2VPFF30-Q8 | T18-2VPFF30IR-Q8 |
| 50 mm | Complementary NPN | T18-2VNFF50-Q8 | T18-2VNFF50IR-Q8 |
| | Complementary PNP | T18-2VPFF50-Q8 | T18-2VPFF50IR-Q8 |
| 75 mm | Complementary NPN | T18-2VNFF75-Q8 | T18-2VNFF75IR-Q8 |
| | Complementary PNP | T18-2VPFF75-Q8 | T18-2VPFF75IR-Q8 |
| 100 mm | Complementary NPN | T18-2VNFF100-Q8 | T18-2VNFF100IR-Q8 |
| | Complementary PNP | T18-2VPFF100-Q8 | T18-2VPFF100IR-Q8 |
| 150 mm | Complementary NPN | T18-2VNFF150-Q8 | T18-2VNFF150IR-Q8 |
| | Complementary PNP | T18-2VPFF150-Q8 | T18-2VPFF150IR-Q8 |
| 200 mm | Complementary NPN | T18-2VNFF200-Q8 | T18-2VNFF200IR-Q8 |
| | Complementary PNP | T18-2VPFF200-Q8 | T18-2VPFF200IR-Q8 |

Polarized Retroreflective

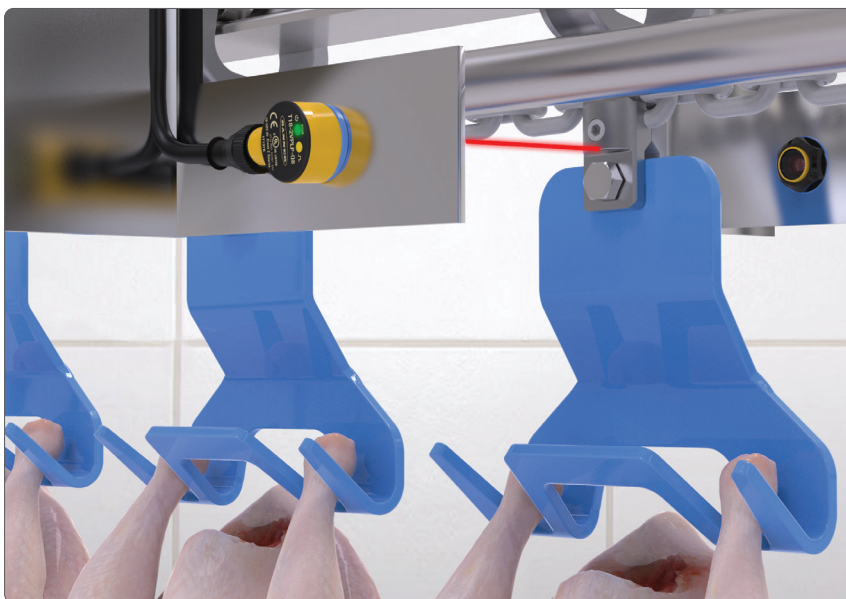
| Range (m) | Output | Model* |
|---|-------------------|---------------------|
| 6 m (19.7 ft) with BRT-84 reflector | Complementary NPN | T18-2VNLP-Q8 |
| | Complementary PNP | T18-2VPLP-Q8 |
| 6 m (19.7 ft) with BRT-84 reflector, with gain adjustment potentiometer | Complementary NPN | T18-2VNLP-Q8 |
| | Complementary PNP | T18-2VPLP-Q8 |

* Integral 4-pin M12/Euro-style quick disconnect models are listed.

- To order the 2 m (6 ft) cable model, replace the suffix "-Q8" with "-2M"
- To order the 9 m (30 ft) cable model, replace the suffix "-Q8" with "-9M"

Diffuse

| Range (m) | Output | Model* |
|---|-------------------|---------------------|
| 750 mm (29.5 in) with adjustment | Complementary NPN | T18-2VNDL-Q8 |
| | Complementary PNP | T18-2VPDL-Q8 |
| 300 mm (11.8 in) with gain adjustment potentiometer | Complementary NPN | T18-2VNDS-Q8 |
| | Complementary PNP | T18-2VPDS-Q8 |



Challenge

- 1500 psi high pressure water washdown
- Harsh chemicals used in cleaning can deteriorate certain materials over time
- Temperature cycling; sensors are cleaned with 80 °C water and returned to cool environment creating condensation in the sensor
- Temperature cycling causes expansion and contraction of materials

Solution

- IP67/IP69K rating with ultrasonically welded joints to prevent water ingress
- FDA approved housing passed ECOLAB™ submersion testing for 28 days in a range of chemicals
- Fully epoxy potted to eliminate internal air gaps that allow condensation
- Plastic materials, that expand and contract at the same rate and are ultrasonically welded, will not weaken due to temperature cycling

Specifications



Supply Voltage

10 V dc to 30 V dc for ambient temperature $\leq 55^\circ\text{C}$
 10 V dc to 24 V dc for ambient temperature $> 55^\circ\text{C}$

Construction

PBT Polyester: Housing, M12 QD, cover, indicator cover
 and gain pot driver
 PMMA Acrylic: Indicator light pipes

Indicators

Two LEDs (1 green, 1 amber)
 Green Solid: Indicates power applied and sensor ready
 Green flashing: Indicates marginal sensing signal
 Amber solid: Indicates Pin-4 (black wire) conducting

Environmental Rating

IEC IP67 per IEC60529
 IEC IP68 per IEC60529
 IEC IP69K per DIN 40050-9

Operating Conditions

Temperature: -40 to $+70^\circ\text{C}$

Certifications



Accessories



SMB18A



SMBAMS22P
 add -SS to model number
 for stainless steel models



SMB18FA



ACC-T18-2-GSK-FDA-10
 sold in packs of 10



BRT-2X2



BRT-84



4-Pin Euro-Style
 Straight connector models
 listed; for right-angle
 models, add **RA** to the
 end of model number
 (example, **MQDC-406RA**)

MQDC-406
 2 m (6.5')
MQDC-415
 5 m (15')
MQDC-430
 9 m (30')



**4-pin M12 Euro-Style
 Washdown IP69K**
 Straight stainless steel
 connector models
 listed

MQDC-WDSS-0406
 2 m (6.5')
MQDC-WDSS-0415
 5 m (15')
MQDC-WDSS-0430
 9 m (30')



Banner Engineering Corp.

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