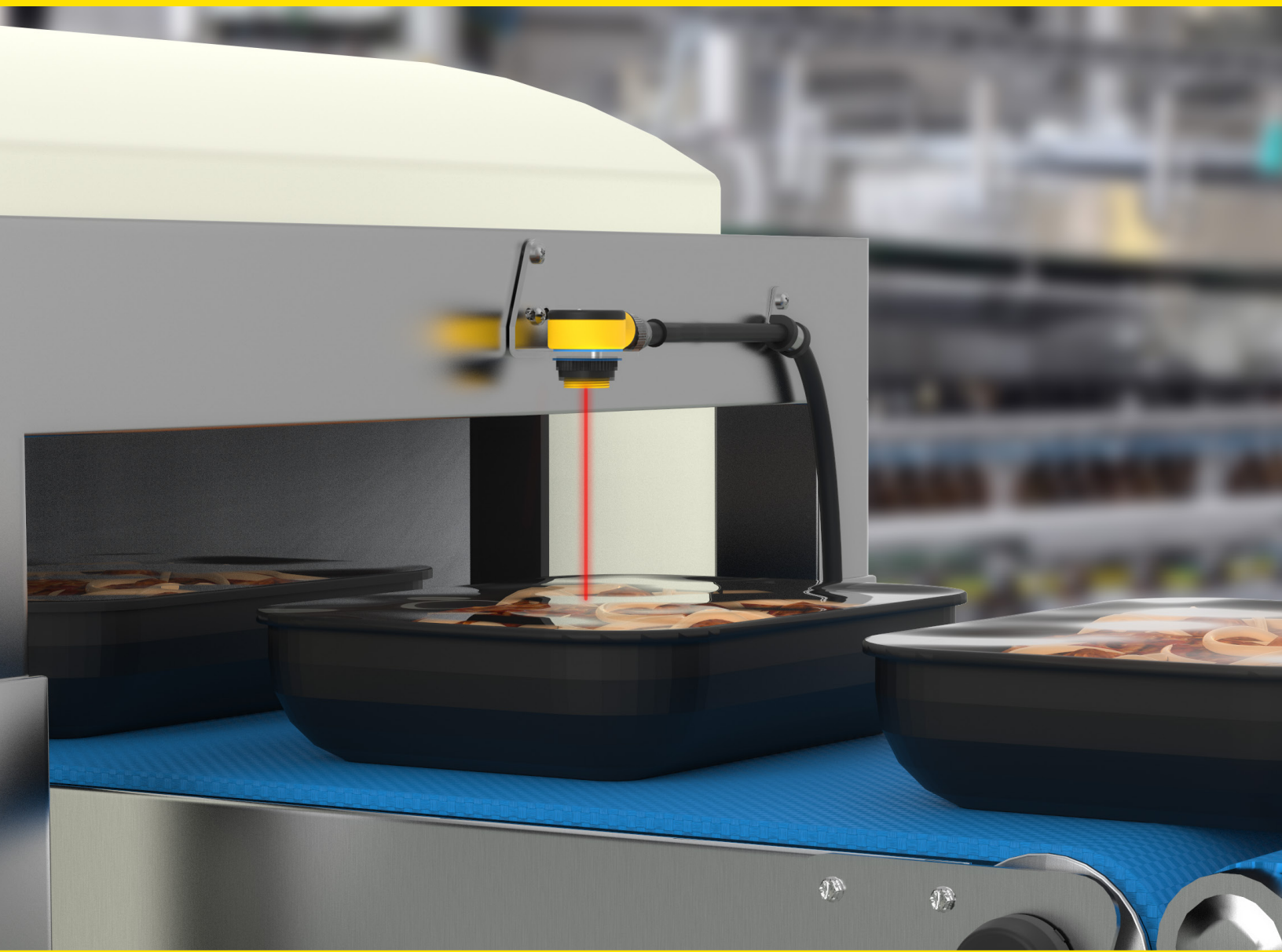


# T18-2 Washdown Sensors



## 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



## Emitter/Receiver

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

## Fixed Field

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

## Polarized Retroreflective

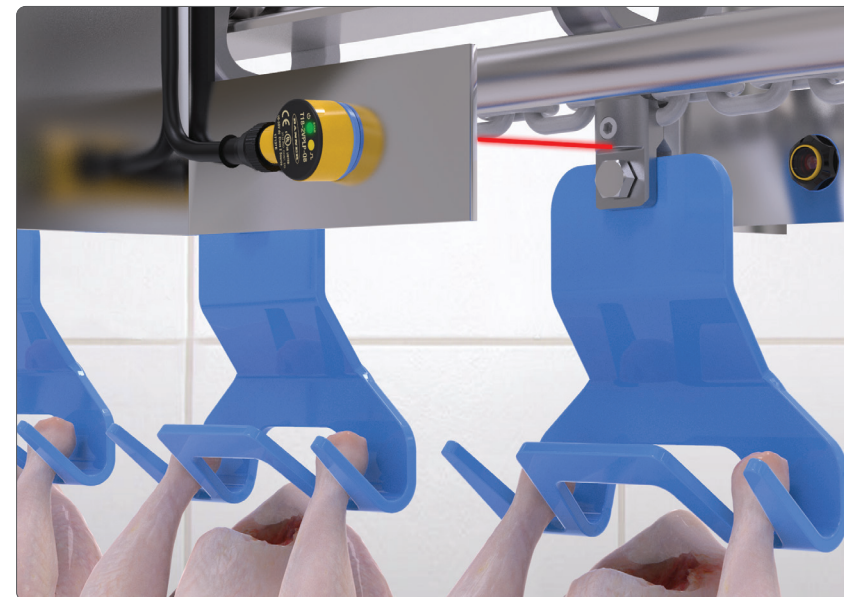
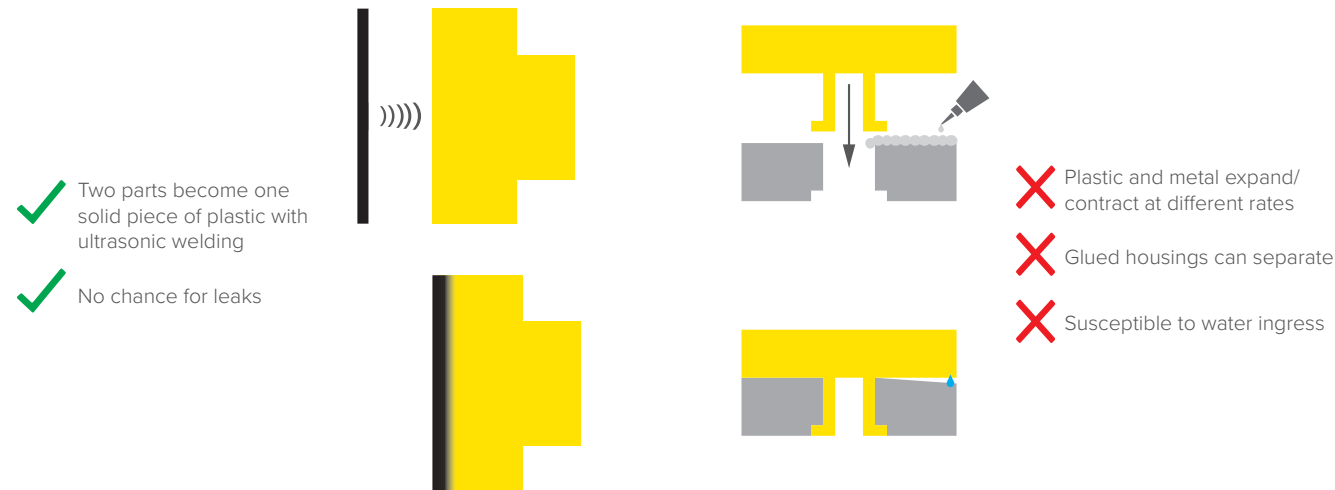
Range (m)	Output	Model*
6 m (19.7 ft) with BRT-84 reflector	Complementary NPN	<b>T18-2VNLP-Q8</b>
	Complementary PNP	<b>T18-2VPLP-Q8</b>
6 m (19.7 ft) with BRT-84 reflector, with gain adjustment potentiometer	Complementary NPN	<b>T18-2VNLP-Q8</b>
	Complementary PNP	<b>T18-2VPLP-Q8</b>

\* 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	<b>T18-2VNDL-Q8</b>
	Complementary PNP	<b>T18-2VPDL-Q8</b>
300 mm (11.8 in) with gain adjustment potentiometer	Complementary NPN	<b>T18-2VNDS-Q8</b>
	Complementary PNP	<b>T18-2VPDS-Q8</b>

### Advantage of All Plastic Housing vs. Metal



### 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')



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