T30U Series

Right-Angle, Long-Range Ultrasonic Sensors

- Dual-discrete models for ON/OFF switching or pump-level control
- Resists harsh environments with rugged IP67 (NEMA 6) housing and fully encapsulated electronics
- Chemically resistant models with a Telfon® coating
- Push-button and remote TEACH-mode programming with an external switch, computer or controller for added security and convenience

T30U, 12-24 V DC

Range	Frequency	Connection	Response Time	Discrete Output(s)	Analog Output	Models*
150 mm to 1 m	228 kHz	2 m 5-pin Euro QD 2 m 5-pin Euro QD	48 ms	NPN PNP	4 to 20 mA	**T30UINA** **T30UINAQ** **T30UIPA** **T30UIPAQ**
300 mm to 2 m†	128 kHz	2 m 5-pin Euro QD 2 m 5-pin Euro QD	96 ms	NPN PNP	4 to 20 mA	**T30UINB** **T30UINBQ** **T30UIPB** **T30UIPBQ**
150 mm to 1 m	228 kHz	2 m 5-pin Euro QD 2 m 5-pin Euro QD	48 ms	Dual NPN Dual PNP	None	**T30UDNA** **T30UDNAQ** **T30UDPA** **T30UDPAQ**
300 mm to 2 m†	128 kHz	2 m 5-pin Euro QD 2 m 5-pin Euro QD	96 ms	Dual NPN Dual PNP	None	**T30UDNB** **T30UDNBQ** **T30UDPB** **T30UDPBQ**
150 mm to 1 m 300 mm to 2 m†	228 kHz 128 kHz	2 m 5-pin Euro QD 2 m 5-pin Euro QD	48 ms 96 ms	Pump/Level Control Dual NPN	None	**T30UHNA** **T30UHNAQ** **T30UHNB** **T30UHNBQ**
150 mm to 1 m 300 mm to 2 m†	228 kHz 128 kHz	2 m 5-pin Euro QD 2 m 5-pin Euro QD	48 ms 96 ms	Pump/Level Control Dual PNP	None	**T30UHPA** **T30UHPAQ** **T30UHPB** **T30UHPBQ**

Connection options: A model with a QD requires a mating cordset.

For 9 m cable, add suffix **W/30** to the 2 m model number (example, **T30UXDA W/30**).
QD models: For a 4-pin 150 mm Euro-style PUR pigtail QD, add suffix **QPMA** the 2 m model number (example, **T30UXDAQPMA**).
* Contact factory to request chemically resistant flange or fill-level control models.
† **Teflon®-encapsulated models have a range of 300 mm - 1.5 m**

T30U, 15-24 V DC

Range	Frequency	Connection	Response Time	Analog Output	Models NPN*	Models PNP*
150 mm to 1 m	228 kHz	2 m 5-pin Euro QD	48 ms	0 to 10 V dc	T30UUNA T30UUNAQ	T30UUPA T30UUPAQ
300 mm to 2 m†	128 kHz	2 m 5-pin Euro QD	96 ms	0 to 10 V dc	T30UUNB T30UUNBQ	T30UUPB T30UUPBQ

Connection options: A model with a QD requires a mating cordset

For 9 m cable, add suffix **W/30** to the 2 m model number (example, **T30UUNA W/30**).

* **For sensors with Teflon®-protected face and transducer (long-range models only), add suffix -CRFV to the model number (example, T30UUNB-CRFV).**

† **Teflon®-encapsulated models have a range of 300 mm - 1.5 m.**

Teflon® is a registered trademark of Dupont™.

Euro-Style with Shield
Straight connector models listed; for right-angle, add **RA** to the end of the model number (example, **MQDEC2-506RA**)

5-Pin
MQDEC2-506
2 m (6.5')
MQDEC2-515
5 m (15')
MQDEC2-530
9 m (30')

Additional cordset information is available
See page 758

SMB30A

SMB30FA..

SMB1815SF

Additional bracket information is available
See page 723

T30U Models

T30U Specifications

Supply Voltage and Current	**Current sourcing analog output models:** 12 to 24 V dc (10% max. ripple); 90 mA (exclusive of load) **Voltage sourcing analog output models:** 15 to 24 V dc (10% max. ripple); 90 mA (exclusive of load) **Dual-discrete output models:** 12 to 24 V dc (10% max. ripple); 90 mA (exclusive of load)
Supply Protection Circuitry	Protected against reverse polarity and transient voltages
Ultrasonic Frequency	**Short Range ("A" suffix modesl):** 228 kHz **Long Range ("B" suffix models):** 128 kHz
Output Protection	Protected against continuous overload and short-circuit; transient over-voltage; no false pulse on power-up
Output Configuration	**Discrete (switched) output:** Solid-state switch conducts when target is sensed within sensing window; choose NPN (current sinking) or PNP (current sourcing) models **Analog output:** Choose 0 to 10 V dc sourcing or 4 to 20 mA sourcing output models; output slope may be selected using TEACH sequence
Output Ratings	**Discrete (switched) output:** 100 mA max., total–both outputs **OFF-state leakage current:** less than 10 µA **ON-state saturation voltage:** less than 1 V at 10 mA and less than 1.5 V at 100 mA **Analog Output:** **Voltage sourcing:** 0 to 10 V dc (at 1 kΩ min. resistance) **Current sourcing:** 4 to 20 mA, 1 Ω to Rmax $Rmax = \frac{Vsupply - 7V}{20\ mA}$
Output Response Time	**Discrete output: "A" suffix models:** 48 milliseconds **"B" suffix models:** 96 milliseconds **Analog output: "A" suffix models:** 48 milliseconds average, 16-millisecond update **"B" suffix models:** 96 milliseconds average, 32-millisecond update
Sensing Performance (Specified using a 100 x 100 mm aluminum target at 25˚ C under fixed sensing conditions.)	**Analog sensing resolution or discrete output repeatability:** ±0.25% of measured distance **"A" suffix models:** .5 mm min **"B" suffix models:** 1 mm min **Analog linearity:** ±0.5% of full-scale span **Min. window size:** 10 mm **Hysteresis of discrete output:** 2.5 mm **Temperature effect:** 0.2% of sensing distance per °C
Indicators	**Four status LEDs: In RUN mode:** **Green ON Steady:** Power ON, RUN mode **Green Flashing:** Discrete output is overloaded **Red Flashing:** Relative received signal strength **Yellow analog ON Steady:** Target is inside window limits **Yellow discrete ON Steady:** Output conducting **In Program mode:** **Green OFF:** PROGRAM mode **Red Flashing:** Relative received signal strength **Yellow ON Steady:** Ready for first window limit **Yellow Flashing:** Ready for second limit **Yellow OFF:** Not teaching this output
Construction	Molded reinforced thermoplastic polyester housing
Environmental Rating	Leakproof design is rated IEC IP67; NEMA 6P
Operating Conditions	**Temperature:** -20 to +70 °C **Relative humidity:** 100%
Vibration and Mechanical Shock	All models meet Mil. Std. 202F requirements. Method 201A (Vibration: 10 to 60Hz max., double amplitude 0.06", maximum acceleration 10G). Also meets IEC 947-5-2 requirements: 30G, 11 milliseconds duration, half sine wave.
Certifications	CE