

T30UX Series

Right-Angle, Long-Range Ultrasonic Sensors



- Built-in temperature compensation for high-accuracy across a wide range of ambient temperatures
- Resists harsh environments with rugged IP67 (NEMA 6) housing and fully encapsulated electronics
- Push-button and remote TEACH-mode programming with an external switch, computer or controller for added security and convenience

T30UX

Range	Frequency	Connection	Response Time	Output	Models*
100 mm to 1 m	224 kHz	2 m 4-Pin Euro QD	45 ms	Discrete: NPN, PNP, NO, NC, Selectable	T30UXDA T30UXDAQ8
200 mm to 2 m	174 kHz	2 m 4-Pin Euro QD	92 ms	Discrete: NPN, PNP, NO, NC, Selectable	T30UXDB T30UXDBQ8
300 mm to 3 m	114 kHz	2 m 4-Pin Euro QD	135 ms	Discrete: NPN, PNP, NO, NC, Selectable	T30UXDC T30UXDCQ8
100 mm to 1 m	224 kHz	2 m 4-Pin Euro QD	Selectable 45 or 105 ms	Analog: 0 to 10 V dc	T30UXUA T30UXUAQ8
100 mm to 1 m	224 kHz	2 m 4-Pin Euro QD	Selectable 45 or 105 ms	Analog: 4 to 20 mA	T30UXIA T30UXIAQ8
200 mm to 2 m	174 kHz	2 m 4-Pin Euro QD	Selectable 92 or 222 ms	Analog: 0 to 10 V dc	T30UXUB T30UXUBQ8
200 mm to 2 m	174 kHz	2 m 4-Pin Euro QD	Selectable 92 or 222 ms	Analog: 4 to 20 mA	T30UXIB T30UXIBQ8
300 mm to 3 m	114 kHz	2 m 4-Pin Euro QD	Selectable 135 or 318 ms	Analog: 0 to 10 V dc	T30UXUC T30UXUCQ8
300 mm to 3 m	114 kHz	2 m 4-Pin Euro QD	Selectable 135 or 318 ms	Analog: 4 to 20 mA	T30UXIC T30UXICQ8



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.



4-Pin

Euro-Style with Shield
Straight connector models listed;
for right-angle, add **RA** to the end
of the model number (example,
MQDEC2-406RA)

MQDEC2-406
2 m (6.5')
MQDEC2-415
5 m (15')
MQDEC2-430
9 m (30')

Additional cordset information is available
See page 758



SMB30A



SMB30FA..



SMB1815SF

Additional bracket information is available
See page 723



T30UX (Long-range) Models

T30UX Specifications

Supply Voltage and Current	10 to 30 V dc (10% max. ripple) at 40 mA, exclusive of load		
Supply Protection Circuitry	Protected against reverse polarity and transient voltages		
Output Configuration	Discrete (switched) output models: SPST solid-state switch. Configurable as NPN (sinking) or PNP (sourcing) via Mode push button. Normally Open (NO) or Normally Closed (NC) operation is also selectable via Mode push button. The default setting is PNP/NO. Analog output models: 0 to 10 V dc or 4 to 20 mA, depending on model		
Output Ratings	Discrete output models: 100 mA max. OFF-state leakage current: NPN: < 200 μ A @ 30 V dc (see NOTE 1) PNP: < 10 μ A @ 30 V dc ON-state saturation voltage: NPN: < 1.6 V @ 100 mA PNP: < 3 V @ 100 mA Analog output models: Analog Voltage Output: 2.5 k Ω min. load resistance Minimum supply for a full 10 V output is 12 V dc (for supply voltages between 10 and 12, V out max. is at least V supply -2) Analog Current Output: 1 k Ω max. @ 24 V input; max. load resistance = $(V_{cc}-4)/0.02\Omega$ For current output (4-20 mA) models, ideal results are achieved when the total load resistance $R = [(V_{in} - 4)/0.020]\Omega$. Example, at $V_{in} = 24$ V dc, $R \approx 1$ k Ω (1 watt)		
Output Protection Circuitry	Protected against short circuit conditions		
Output Response Time	"A" suffix models: 45 milliseconds	"B" suffix models: 92 milliseconds	"C" suffix models: 135 milliseconds
Delay at Power-up	500 milliseconds		
Temperature Effect	0.02% of distance/ °C		
Linearity (analog models)	0.25% of distance		
Repeatability/Resolution	"A" suffix models: 0.1% of distance (0.5 mm min.) "B" suffix models: 0.1% of distance (1.0 mm min.) "C" suffix models: 0.1% of distance (1.5 mm min.)		
Sensing Hysteresis (discrete models)	"A" suffix models: 2 mm	"B" suffix models: 3 mm	"C" suffix models: 4 mm
Minimum Window Size	10 mm		
Adjustments	Sensing window limits: TEACH-Mode configuration of near and far window limits may be set using the push button or remotely via TEACH input Discrete output models: Output Configuration: NPN, PNP, Normally Open (NO), Normally Closed (NC) select Advanced configuration options: Push button enabled/disabled, temperature compensation enabled/disabled Analog output models: Response speed selection: Fast or Slow Advanced configuration options: Analog output slope, push button enabled/disabled, temperature compensation enabled/disabled		
Indicators	Green Power LED ON: Power ON, RUN mode Red Signal LED: Target signal strength Amber Output LED: Output enabled; sensor receiving a signal within the window limits Amber Mode LED: Currently selected mode		
Loss of Signal Indication (analog models)	0 to 10 V dc models: Analog output goes to 0 V 4 to 20 mA models: Analog output goes to 3.6 mA		
Construction	Housing: PBT polyester Push buttons: Polyester Transducer: Epoxy /ceramic composite		
Environmental Rating	Leakproof design, rated IEC IP67 (NEMA 6)		
Operating Conditions	Temperature: -40 to +70 °C Relative humidity: 95% at 50 °C non-condensing		
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.		
Application Notes	The temperature warmup drift upon power-up is less than 1% of the sensing distance		
Certifications	 		

NOTE: NPN < 200 μ A for load impedance > 3 k Ω ; for load current of 100 mA, leakage < 1% of load current