BANNER®

more sensors, more solutions

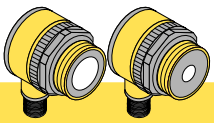
U-GAGE™ T30 Series with Analog and Discrete Outputs

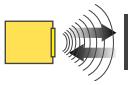
Ultrasonic Sensors with TEACH-Mode Programming

U-GAGE T30 Series Features

- Fast, easy-to-use TEACH-mode programming; no potentiometer adjustments
- Program both outputs together or independently, with either an upward or a downward analog output slope
- Remote TEACH input for security and convenience
- Choose models with 150 mm to 1 m range (7.9" to 39.4") or 300 mm to 2 m range (11.8" to 78.7")
- Wide operating temperature range of -20° to +70°C (-13° to +158°F)
- Choose models with NPN or PNP discrete output, plus 0 to 10V dc or 4 to 20 mA sourcing analog output
- LED indicators for Power ON/OFF; Signal Strength; and Analog/Discrete Outputs Conducting
- Choose 2 m (6.5') or 9 m (30') integral unterminated cable or 5-pin Euro-style QD connector
- Compact, self-contained sensor package
- Rugged design for use in demanding sensing environments; rated IEC IP67, NEMA 6P

CE





Ultrasonic, 228 or 128 kHz

U-GAGE T30 Series Proximity Mode Models

Models	Range and Frequency	Cable*	Supply Voltage	Discrete Output	Analog Output	Response Time
T30UINA **T30UINAQ**	150 mm to 1 m (5.9" to 39") 228 kHz	2 m (6.5') 5-pin Euro QD	12 to 24V dc	NPN (sinking)	4 to 20 mA Sourcing	48 milliseconds
T30UIPA **T30UIPAQ**		2 m (6.5') 5-pin Euro QD		PNP (sourcing)		
T30UUNA **T30UUNAQ**		2 m (6.5') 5-pin Euro QD	15 to 24V dc	NPN (sinking)	0 to 10V dc Sourcing	
T30UUPA **T30UUPAQ**		2 m (6.5') 5-pin Euro QD		PNP (sourcing)		
T30UINB **T30UINBQ**	300 mm to 2 m (11.8" to 79") 128 kHz	2 m (6.5') 5-pin Euro QD	12 to 24V dc	NPN (sinking)	4 to 20 mA Sourcing	96 milliseconds
T30UIPB **T30UIPBQ**		2 m (6.5') 5-pin Euro QD		PNP (sourcing)		
T30UUNB **T30UUNBQ**		2 m (6.5') 5-pin Euro QD	15 to 24V dc	NPN (sinking)	0 to 10V dc Sourcing	
T30UUPB **T30UUPBQ**		2 m (6.5') 5-pin Euro QD		PNP (sourcing)		

*NOTES:

- 9 m (30') cables are available by adding suffix **"W/30"** to the model number of any cabled sensor (e.g., **T30UINA/30**).
- A model with a QD connector requires an optional mating cable, see page 9.

U-GAGE™ T30 Series with Analog and Discrete Outputs

U-GAGE T30 Series Overview

The U-GAGE is an easy-to-use ultrasonic sensor, ideal for demanding environments. Simple push-button programming provides flexibility for a variety of applications. Excellent for measurement applications such as sensing of liquid levels in a tank or, for example, determining box heights for sorting purposes.

Each sensor includes both an analog and a discrete output, which may be programmed independently with different window limits or together with identical limits. Each output has the option of being set with a sensing distance set point centered within a 10-mm window.

U-GAGE T30 Series Programming

Window Limits

Window limits may be taught to the sensor in several ways. The following methods describe the programming procedures using the push buttons on the back of the sensor; remote programming (remote TEACH) procedures are described on page 4.

NOTE: When the sensor changes state between PROGRAM and RUN modes, all of the LED indicators turn OFF momentarily, before the appropriate LEDs come ON as described below. The sensing window limits expand temporarily to full scale (max range) during PROGRAM mode.

Teaching Limits for Either Analog or Discrete Output

1. Choose the output for the first set of window limits (analog or discrete) and push and hold the corresponding button until the green Power LED goes OFF and the appropriate yellow Output LED turns ON (solid). This indicates the sensor is waiting for the first limit.

2. Position the target for the first limit and briefly “click” the same button. This will teach the sensor the first limit. The yellow Output LED will flash to acknowledge receiving the first window limit; it is now waiting for the second limit.

3. Position the target for the second limit and “click” the button again. This will teach the sensor the second limit. The yellow Output LED turns OFF and the green Power LED comes ON; the sensor is now in normal RUN mode.

4. Repeat for the other output (analog or discrete) if a second output is desired.

NOTE: Press and hold the same button > 2 seconds (before teaching the second limit) to exit PROGRAM mode without saving any changes. The sensor will revert to the last saved program.

Teaching Analog or Discrete Limits Using the Auto-Zero Feature

For some applications, a sensing distance set point centered within a minimum sensing window may be required. The TEACH procedure for this application is simple: teaching the same limit twice causes the sensor to program a 10-mm window centered on the position taught (position ±5 mm).

NOTE: The sensor allows for some forgiveness in this procedure. If the two limits are not exactly the same (but closer than the minimum 10-mm window required), the sensor will put the set point at the “average” of the two limits.