

# Ultrasonic Diffuse, Digital Output Types UA30CAD.....TI

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- Cylindrical M30 PBT housing
- Sensing distance: 250-3500 mm
- Power supply: 12 to 30 VDC
- Outputs: Two multi function switching outputs. PNP or NPN
- Setup: Normal switching or adjustable hysteresis
- Repeatability 0.2%
- Beam angle.  $\pm 6^\circ$
- Protection: Short-circuit, reverse polarity and overvoltage
- Protection degree IP 67, Nema 4X
- 2 m cable or M12 plug



## Product Description

A self-contained multi function diffuse ultrasonic sensor with a sensing range of 250 to 3500 mm. 2 switching outputs - easily set up for two different output modes and adjusted by teach-in - makes it ideal for level control tasks in a wide variety of vessels. A sturdy one-piece polyester

housing provides the perfect packaging for the sophisticated microprocessor controlled and digitally filtered sensor electronics. Excellent EMC performance and precision are typical features of this sensor on true distance measurement.

## Ordering Key

**UA30CAD35NPM1TI**

Ultrasonic sensor	_____
Housing style	_____
Housing size	_____
Housing material	_____
Housing length	_____
Detection principle	_____
Sensing distance	_____
Output type	_____
Output configuration	_____
Connection	_____
Teach-in	_____

## Type Selection

Housing diameter	Connection	Rated operating dist. ( $S_n$ )	Digital output NPN/PNP	Ordering no.
M30	Plug M12	250-3500 mm	2 x NPN	<b>UA 30 CAD 35 NP M1 TI</b>
M30	Cable	250-3500 mm	2 x NPN	<b>UA 30 CAD 35 NP TI</b>
M30	Plug M12	250-3500 mm	2 x PNP	<b>UA 30 CAD 35 PP M1 TI</b>
M30	Cable	250-3500 mm	2 x PNP	<b>UA 30 CAD 35 PP TI</b>

## Specifications

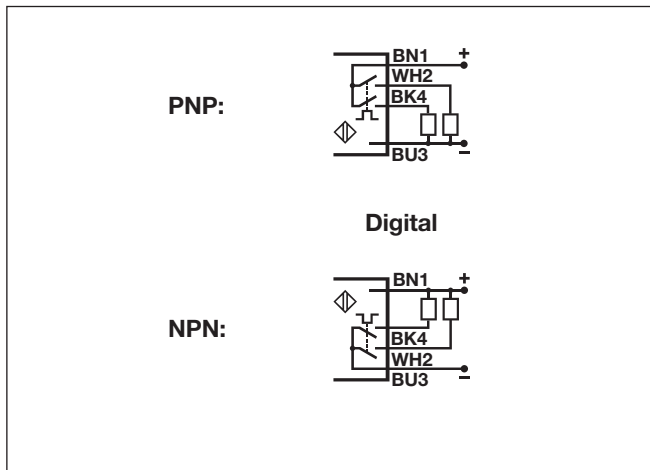
<b>Rated operating distance (<math>S_n</math>)</b>	Reference target: 1 mm metal rolled finish, size 200 x 200 mm. 250 - 3500 mm	Max. load capacity 100 nF UL508 specification	$\leq 300$ mA $\leq 100$ mA
<b>Blind zone</b>	$\leq 250$ mm	<b>Output current short-time (I)</b> Max. load capacity 100 nF UL508 specification	$\leq 300$ mA $\leq 100$ mA
<b>Repeatability</b>	0.2%	<b>Minimum operational current (<math>I_m</math>)</b>	$\leq 0.5$ mA
<b>Beam angle</b>	$\pm 6^\circ$	<b>OFF-state current (<math>I_o</math>)</b>	$\leq 10$ $\mu$ A
<b>Adjustment</b> Push-button	P1 (farthest setpoint) P2 (nearest setpoint)	<b>Voltage drop (<math>U_d</math>)</b>	$\leq 2.2$ VDC @ 100 mA
<b>Temperature drift</b>	$\leq 0.1\%/^\circ\text{C}$ @ $-20^\circ$ to $+70^\circ$ C	<b>Protection</b>	Short-circuit, overvoltage and reverse polarity
<b>Temperature compensation</b>	Yes	<b>Carrier frequency</b>	112 kHz
<b>Hysteresis (H)</b>	Min. 0.5%	<b>Operating frequency (f)</b>	$\leq 2$ Hz
<b>Rated operational voltage (<math>U_B</math>)</b>	12 to 30 VDC (ripple included)	<b>Response time OFF-ON (<math>t_{ON}</math>)</b>	$\leq 250$ ms
<b>Ripple (<math>U_{rpp}</math>)</b>	$\leq 5\%$	<b>Response time ON-OFF (<math>t_{OFF}</math>)</b>	$\leq 250$ ms
<b>No-load supply current (<math>I_o</math>)</b>	$\leq 50$ mA @ $U_B$ max	<b>Power ON delay</b>	$\leq 500$ ms
<b>Output current continuous (<math>I_o</math>)</b>		<b>Output function, open collector</b>	



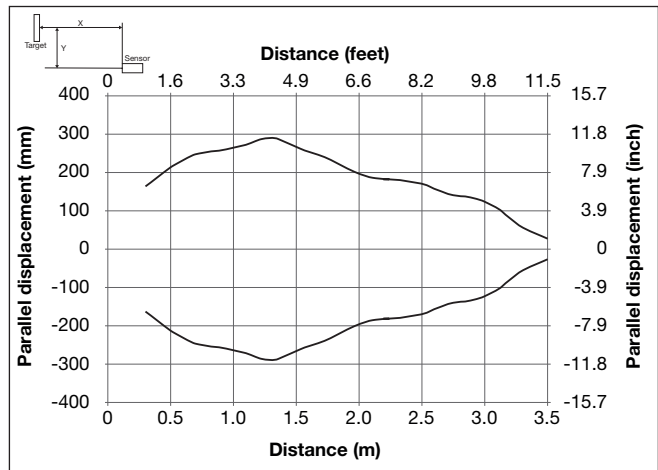
## Specifications (cont.)

By sensor type	NPN or PNP	<b>Rated insulation voltage</b>	< 500 VAC (rms)
<b>Output switching function</b>	Two open collector transistor outputs to be configured as: - Normal Switching function with N.O output. - Adjustable hysteresis Filling or emptying control	<b>Housing</b>	Material body: PBT Material front: Epoxy-glass resin Material back, plug: Grilamid Material back, cable: Grilamid Material push-button: TPE Sealing around push-button: TPE Material sealing front: TPE
<b>Indication</b>	Output ON: Yellow LED Echo received: Green LED	<b>Connection</b>	Cable: PVC, grey, 2 m, 4 x 0.34 mm <sup>2</sup> , Ø = 4.7 mm Plug: M12, 4-pin (CON. 14-series)
<b>Environment</b>	Installation category: III (IEC 60664/60664A; 60947-1) Pollution degree: 3 (IEC 60664/60664A; 60947-1) Degree of protection: IP67 (IEC 60529; 60947-1) Nema 4X	<b>Tightening torque</b>	≤ 1.5 Nm
<b>Ambient temperature</b>	Operating: -20° to +70°C (-4° to +158°F) Storage: -35° to +70°C (-31° to +158°F)	<b>Weight</b>	Cable version: 160 g Plug version: 90 g
<b>Vibration</b>	10 to 55 Hz, 1.0 mm/6G. (IEC/EN 60068-2-6)	<b>CE-marking</b>	Yes
<b>Shock</b>	30 g / 11 mS, 3 directions (IEC/EN 60068-2-27)	<b>Approvals</b>	cULus (UL508)

## Wiring Diagram



## Detection Range



## Dimensions

