Ultrasonic
Diffuse, Analogue Output with Teach-in
Types UA 30 CLD .. .. M1 TI

CARLO GAVAZZI

- **Cylindrical M30 polyester housing**
- **Sensing distance: 100-1500 mm, 200-2000 mm or 300-3500 mm**
- **Outputs: Analogue 0-10 V or 4-20 mA and 2 switching outputs PNP, NO or NC**
- **Teach-in functionality**
- **Power supply: 19 to 30 VDC**
- **8° beam angle**
- **Protection: Short-circuit, reverse polarity, transients**
- **Protection degree IP 67**
- **M12 plug, 5 pin**

Product Description

A family of diffuse ultrasonic sensors with sensing range from 100-1500 mm, 200-2000 mm and 300-3500 mm with teach-in adjustment. Adjustments by teach-in make it possible to set the analog angle according to the requests and program the output to NO or NC switching as well. The outputs are either 0-10 V or 4-20 mA which make it an ideal choice for distance measurement, level measurement, diameter measurement or slope control with customised settings. Due to use of microprocessor control the digital filtering makes the sensor very immune against most electromagnetic interferences and enables synchronisation in an easy way.

Ordering Key

UA 30 CLD 35 AK M1 TI

- **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)	Analogue output and 2 PNP outputs NO/NC	Ordering no. Teach-in
M30	Plug M12	100-1500 mm	0-10 VDC and 2 x PNP	**UA 30 CLD 15 AK M1 TI**
M30	Plug M12	200-2000 mm	0-10 VDC and 2 x PNP	**UA 30 CLD 20 AK M1 TI**
M30	Plug M12	200-2000 mm	4-20 mA and 2 x PNP	**UA 30 CLD 20 AG M1 TI**
M30	Plug M12	200-2000 mm	2 x PNP	**UA 30 CLD 20 PO M1 TI**
M30	Plug M12	300-3500 mm	0-10 VDC and 2 x PNP	**UA 30 CLD 35 AK M1 TI**

Specifications

Rated operational volt. (U_e)	19 to 30 VDC (ripple included)
Ripple	≤ 10%
Output current (I_e)	max. 100 mA (continuous) for switching outputs
No-load supply current (I_o)	≤ 45 mA
Protection	Short-circuit, transients and reverse polarity
Rated insulation voltage	> 1 kV
Output	
UA30CLD..AKM1TI	Analogue 0-10 VDC, 2 PNP open collector outputs, NO or NC
UA30CLD20AGM1TI	Analogue 4-20 mA, 2 PNP open collector outputs, NO or NC
UA30CLD20POM1TI	2 PNP open collector outputs, NO or NC
Teach-in	Set point adjustment NO/NC selection
Indication	Set points, 2 LED's
Rated operating distance	
UA30CLD15 .. M1 TI	100-1500 mm
UA30CLD20 .. M1 TI	200-2000 mm
UA30CLD35 .. M1 TI	300-3500 mm
Operating frequency	1 Hz
Response times	
UA30CLD15/20 .. M1 TI	60 ms (target speed 1 m/s) 300 ms (step response)
UA30CLD35 AG M1 TI	120 ms (target speed 1 m/s) 500 ms (step response)
Hysteresis (H) (differential travel)	Programmable
Temperature compensation	Yes
Beam angle	8°

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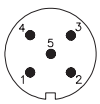
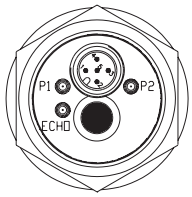
Specifications (cont.)

Ambient temperature	
Operating	-15° to +70°C (5° to +158°F)
Storage	-25° to +85°C (-13° to +185°F)
Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Housing material	Polyester PBTP
Connection	
Plug	M12, 5-pin
Weight	148 g
Tightening torque	7.5 Nm
CE-marking	Yes

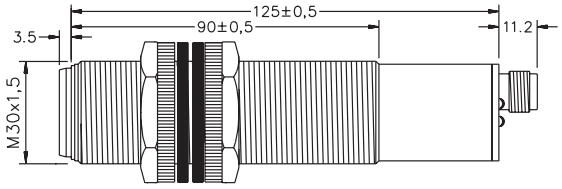
Wiring

Pin	Function
1	24 VDC
2	SP 2
3	0 V GND
4	SP 1
5	0 ... 10 V

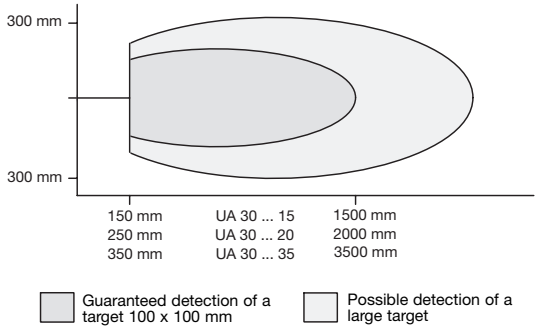




Dimensions

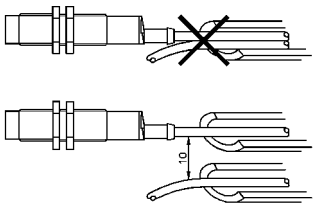


Detection Range

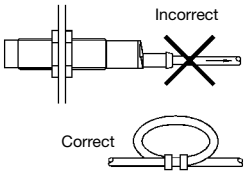


Installation Hints

To avoid interference from inductive voltage/ current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables

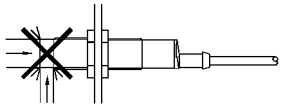


Relief of cable strain



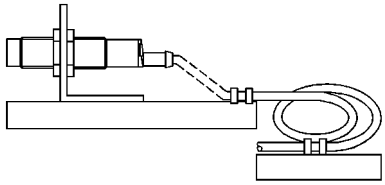
The cable should not be pulled

Protection of the sensing face



A proximity switch should not serve as mechanical stop

Switch mounted on mobile carrier



Any repetitive flexing of the cable should be avoided