

# Ultrasonic Diffuse, Programmable Outputs Types UA 30 CLD .. F. M7

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- Cylindrical M30 polyester housing
- Sensing distance: 150-1500 mm, 250-2000 mm or 350-3500 mm
- Programmable outputs: Analogue (0-10 V or 4-20 mA, inverted or non-inverted) and 2 PNP open collector, NO/NC switching outputs, 100 mA
- Programmable hysteresis, switching frequency and set points
- RS 232 interface
- Power supply: 19 to 30 VDC
- 8° beam angle
- Protection: Short-circuit, reverse polarity, transients
- Protection degree IP 67
- M16 plug

## Product Description

A family of diffuse ultrasonic sensors with sensing range from 150-1500 mm, 250-2000 mm and 350-3500 mm with programmable settings by Windows based software. The programmability of the sensors gives the possibility of an universal application in any area of industrial environment. The outputs are 0-10V

or 4-20mA and RS232 interface, which make it possible to communicate with BUS-systems. Due to use of micro-processor control the digital filtering makes the sensor immune to most electromagnetic interferences. The control input enables synchronisation in an easy way.

## Ordering Key

**UA 30 CLD 15 FK M7**

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

## Type Selection

Housing diameter	Connection	Rated operating dist. (S <sub>n</sub> )	Ordering no. Analogue 0-10 V	Ordering no. Analogue 4-20 mA
M30	M16	150-1500 mm	<b>UA 30 CLD 15 FK M7</b>	<b>UA 30 CLD 15 FG M7</b>
M30	M16	250-2000 mm	<b>UA 30 CLD 20 FK M7</b>	<b>UA 30 CLD 20 FG M7</b>
M30	M16	350-3500 mm	<b>UA 30 CLD 35 FK M7</b>	<b>UA 30 CLD 35 FG M7</b>

## Specifications

<b>Rated operational volt. (U<sub>e</sub>)</b>	19 to 30 VDC (ripple incl.)	Linearity	± 0.5%/3 mm
<b>Ripple</b>	≤ 10%	Repeatability	± 0.2%/0.4 mm
<b>Output current (I<sub>o</sub>)</b>	max. 100 mA (continuous)	<b>Load</b>	
<b>No-load supply current (I<sub>o</sub>)</b>	≤ 35 mA	4 - 20 mA	max. 500 Ω
<b>Off-state current (I<sub>r</sub>)</b>	200 μA	0 - 10 V	min. 1 kΩ
<b>Voltage drop (U<sub>d</sub>)</b>	4.5 V	<b>Output, switching</b>	2 x PNP, open collector, NO/NC, 100 mA, programmable.
<b>Power-on delay</b>	< 10 ms	<b>Programming</b> (Windows based software)	- sensor address - analogue output offset, range, inversion - 2 set points/Limits NO/NC, position, hysteresis - digital output Hex, BCD - cycle time - over/under range - transmit time - offset - slope
<b>Carrier frequency</b>	200 KHz	<b>Output, information</b>	Serial HEX/BCD
<b>Protection</b>	Short-circuit, transients and reverse polarity		
<b>Rated insulation voltage</b>	> 1 kV		
<b>Control input</b>	Hold/Synchronisation		
<b>Output, analogue</b> UA30CLD..FKM7	Analogue 0-10 or 10-0 VDC, programmable Load: > 1 kΩ		
UA30CLD..FGM7	Analogue 4-20 or 20-4 mA, programmable Load: < 500 Ω		
Scaling	Programmable		

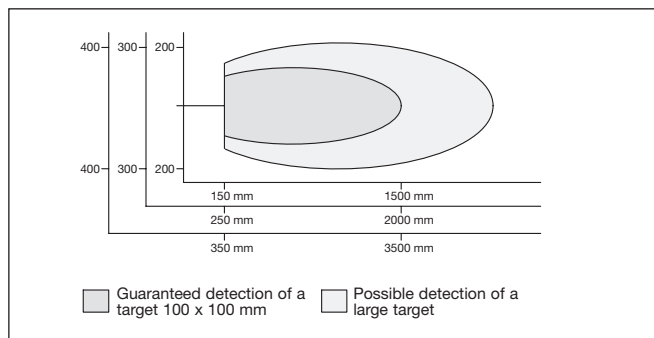


## Specifications (cont.)

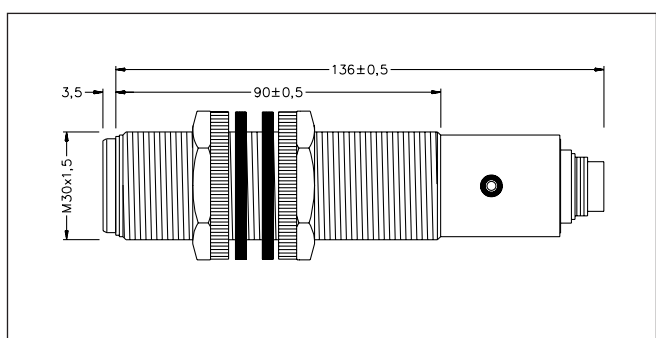
<b>Interface</b>	RS 232
<b>Indication</b>	Alignment LED
<b>Repeat accuracy (R)</b>	≤ 0.2%
<b>Rated operating distance / resolution</b>	
UA30CLD15 ...	150-1500 mm / < 1 mm
UA30CLD20 ...	250-2000 mm / < 1 mm
UA30CLD35 ...	350-3500 mm / < 1 mm
<b>Operating frequency</b>	5-30 Hz, programmable
<b>Response times</b>	
UA30CLD15 ...	100 ms
UA30CLD20 ...	300 ms
UA30CLD35 ...	500 ms
<b>Hysteresis (H)</b> (differential travel)	Programmable

<b>Temperature compensation</b>	Yes
<b>Beam angle</b>	8°
<b>Ambient temperature</b>	
Operating	-15° to +70°C (5° to +158°F)
Storage	-25° to +75°C (-13° to +167°F)
<b>Degree of protection</b>	IP 67 (Nema 1, 3, 4, 6, 13)
<b>Housing material</b>	Polyester PBTP
<b>Connection</b>	
Plug	M16, 8-pin
<b>Weight</b>	154 g
<b>Tightening torque</b>	7.6 Nm
<b>CE-marking</b>	Yes

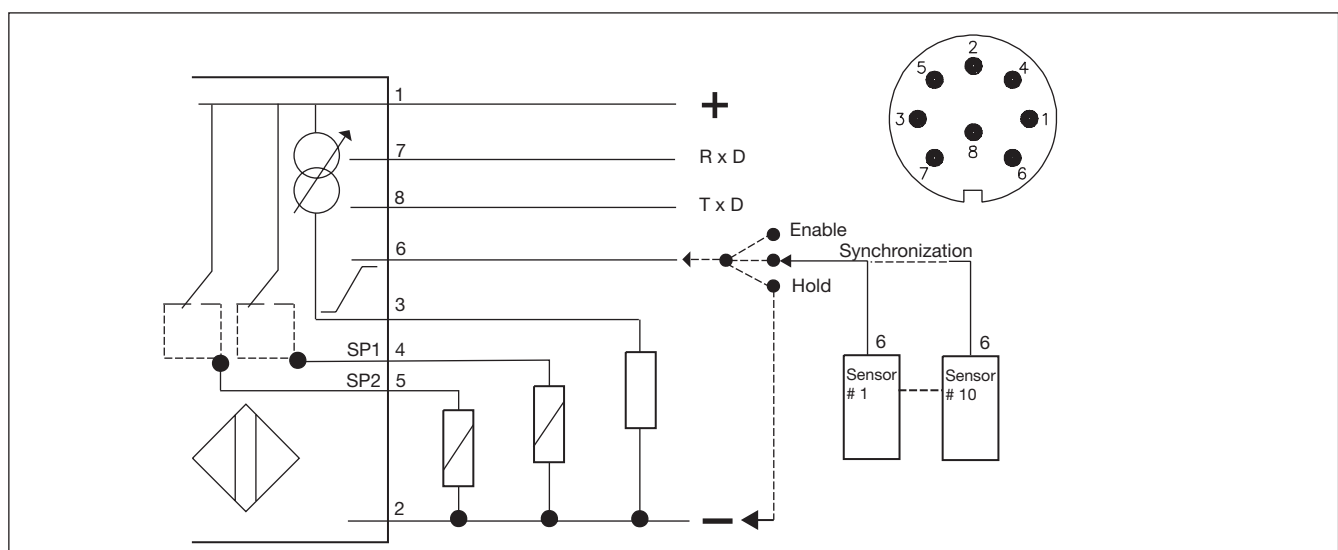
## Detection Range



## Dimensions

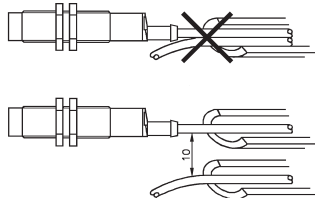


## Wiring Diagram

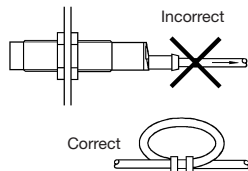


## Installation Hints

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

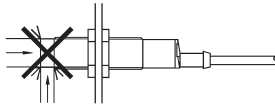


Relief of cable strain



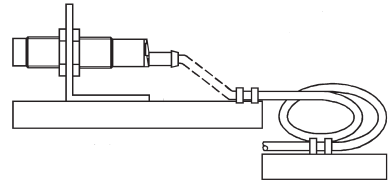
The cable should not be pulled

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

## Accessories

- UDSprog 2000 PC-software, download from [www.carlogavazzi.com/ac](http://www.carlogavazzi.com/ac)
- UCP1 Programming Adaptor