

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

CARLO GAVAZZI



- 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 _n) | Ordering no. Analogue 0-10 V | Ordering no. Analogue 4-20 mA |
|------------------|------------|---|------------------------------|-------------------------------|
| M30 | M16 | 150-1500 mm | UA 30 CLD 15 FK M7 | UA 30 CLD 15 FG M7 |
| M30 | M16 | 250-2000 mm | UA 30 CLD 20 FK M7 | UA 30 CLD 20 FG M7 |
| M30 | M16 | 350-3500 mm | UA 30 CLD 35 FK M7 | UA 30 CLD 35 FG M7 |

Specifications

| | | | |
|--|---|--|--|
| Rated operational volt. (U_e) | 19 to 30 VDC (ripple incl.) | Linearity | ± 0.5%/3 mm |
| Ripple | ≤ 10% | Repeatability | ± 0.2%/0.4 mm |
| Output current (I_o) | max. 100 mA (continuous) | Load | max. 500 Ω |
| No-load supply current (I_o) | ≤ 35 mA | 4 - 20 mA | min. 1 kΩ |
| Off-state current (I_r) | 200 μA | 0 - 10 V | |
| Voltage drop (U_d) | 4.5 V | Output, switching | 2 x PNP, open collector, NO/NC, 100 mA, programmable. |
| Power-on delay | < 10 ms | Programming (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 |
| Carrier frequency | 200 KHz | Output, information | Serial HEX/BCD |
| Protection | Short-circuit, transients and reverse polarity | | |
| Rated insulation voltage | > 1 kV | | |
| Control input | Hold/Synchronisation | | |
| Output, analogue 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 | | |

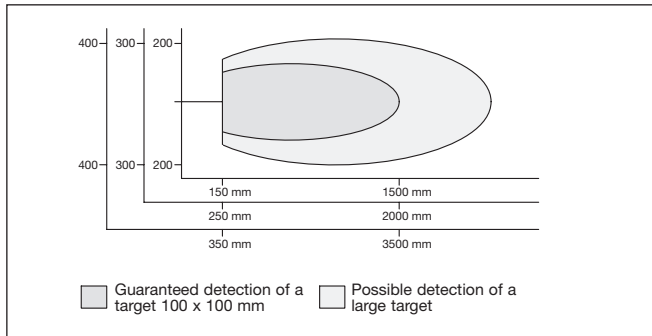


Specifications (cont.)

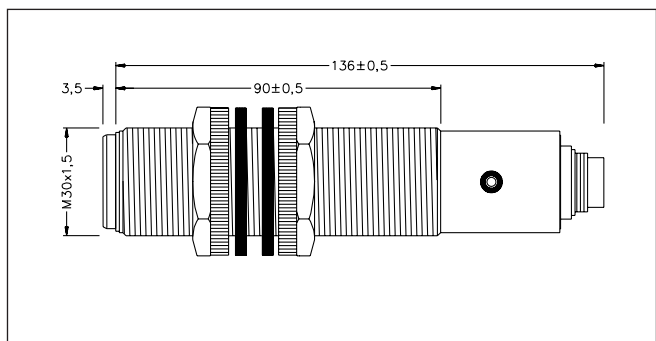
| | |
|--|-----------------------|
| Interface | RS 232 |
| Indication | Alignment LED |
| Repeat accuracy (R) | ≤ 0.2% |
| Rated operating distance / resolution | |
| UA30CLD15 ... | 150-1500 mm / < 1 mm |
| UA30CLD20 ... | 250-2000 mm / < 1 mm |
| UA30CLD35 ... | 350-3500 mm / < 1 mm |
| Operating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

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

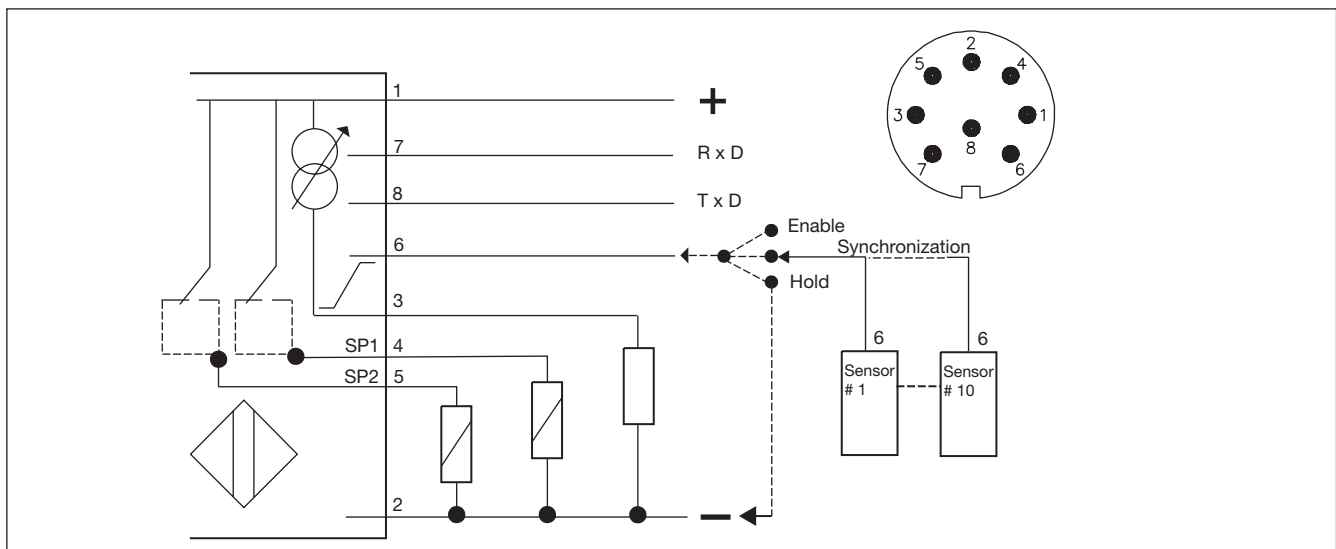
Detection Range



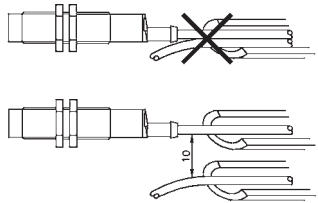
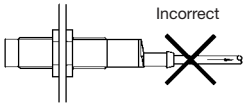
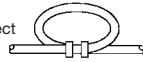
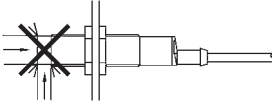
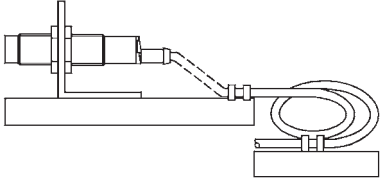
Dimensions



Wiring Diagram



Installation Hints

| | | | |
|--|---|--|--|
| <p>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</p>  | <p>Relief of cable strain</p> <p>Incorrect</p>  <p>Correct</p>  <p>The cable should not be pulled</p> | <p>Protection of the sensing face</p>  <p>A proximity switch should not serve as mechanical stop</p> | <p>Switch mounted on mobile carrier</p>  <p>Any repetitive flexing of the cable should be avoided</p> |
|--|---|--|--|

Accessories

- UDSprog 2000 PC-software, download from www.carlogavazzi.com/ac
- UCP1 Programming Adaptor