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Sensing and Control
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Sensing and Control

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Ultrasonic Sensors

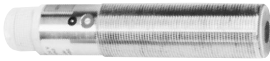
942 Series

Compact 30 mm Diameter Analog and Digital, RS232/RS485 Interface

FEATURES

- Programmable
 - RS232 or RS485 interface
- 0 - 10 VDC
 - Two N.O. PNP outputs or one N.O. PNP/one N.C. PNP output

ORDER GUIDE

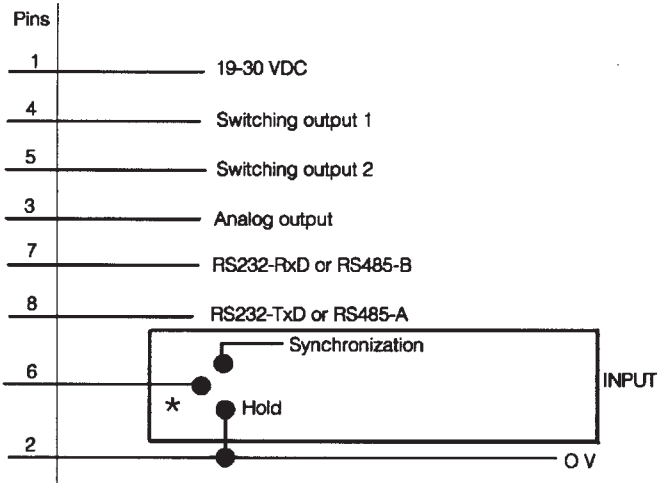
Sensor Package Style	Sensing Range* mm (in.)	Analog Output	Digital Output	Interface	Catalog Listing
30 mm dia. Stainless Steel  272,1g (9.6 oz)	150 - 1500 (5.9 - 59.1)	0 - 10 V	PNP, N.O./N.C.	RS232	942-A4N-2D-1C1-220S

* Standard target is 120 mm square of mild steel perpendicular to ultrasonic beam.

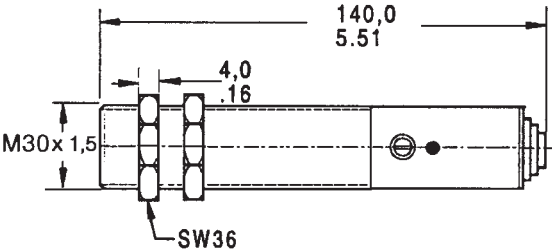
SPECIFICATIONS

Catalog Listing	942-A4N-2D-1C1-220S
Max. Sensing Distance	1500 mm (59.1 in.)
Min. Sensing Distance	150 mm (5.91 in.)
Beam Angle	10°
POWER SUPPLY	
Supply Voltage	19 - 30 VDC
Supply Current	< 30 mA without load
Circuit Protection	Reverse Polarity
OUTPUT CHARACTERISTICS (DIGITAL)	
Load Current	0 - 100 mA
Hysteresis	Programmable (0 - 255 mm)
Switching Frequency	Programmable 5-30 Hz
Repeatability	±2 mm or ±0.4% of reading
Setpoint Adjust	Programmable within sensing range
Circuit Protection	Short circuit
OUTPUT CHARACTERISTICS (ANALOG)	
Switching Frequency	Programmable 5-30 Hz
Repeatability	±2 mm or ±0.4% of reading
Linearity	3 mm or ±0.5%
Output Adjust	Programmable
Circuit Protection	Short circuit
ENVIRONMENTAL	
Operating Temperature	–15 to 70°C (5 to 150°F)
Storage Temperature	–25 to 85°C (–13 to 185°F)
Sealing	IP 65
SPECIAL FEATURES	
Hold Input	Stops transmission and reception when input is connected to 0 VDC. Analog output would be zero.
Synchronization input	Avoids mutual interference from several sensors by interconnecting the Hold input from each sensor.
LED Indicator	Illuminates when sensor detects target
Programmable Parameters	Analog Output: Span, Offset, Positive or Negative slope Digital Output: Hysteresis, N.O./N.C.

WIRING DIAGRAM



MOUNTING DIMENSIONS (For reference only)



Proximity

ACCESSORIES

	Catalog Listing	Features
Mounting clamp	43178389-030	Allows mounting to flat surface
Beam deflector	43192871-001	Allows right angle mounting (approx. dim. 50 x 170 mm)
Focusing beam deflector	43192871-002	Reduces beam angle by approximately 50%
Compact deflector	66195116-001	Allows right angle mounting (approx. dim. 35 x 52 mm)
Programming adapter	55000005-002	Allows sensor programming via RS232 interface
RS232/RS485 converter	55000003-001	Converts RS232 interface to RS485 interface
24 VDC Power supply, relay output, 110 VAC input	FF-MADB24RB	See page B24 more information
Software package (disk, manual, cable + 1 sub min D9 connector)	55195101-101	Allows programming of sensor
Software package (disk, manual, cable + 2 sub min D9 connectors)	55195101-102	Allows programming of sensor
Straight connector	66195126-001	Used for wiring to connector
2 meter cable with straight connector	55195126-001	Used for wiring to connector