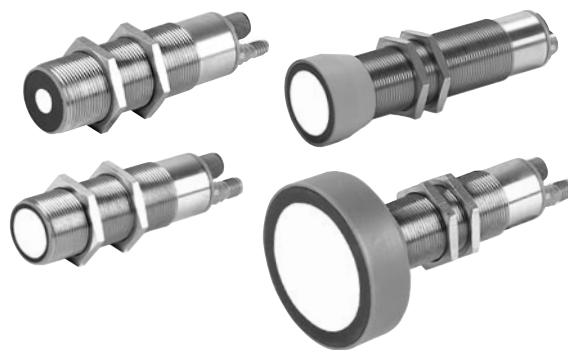


30 mm Diameter Switch Point and Analog Outputs

- 500 mm (20"), 2 m (6.5'), 4 m (13') and 6 m (20") sensing ranges
- Models available with RS-232 interface for advanced programming
- External sensor multiplex/synchronization input
- Discrete switch point or analog outputs available



This versatile industry trend-setter has many benefits, including synchronization/multiplex capability for eliminating crosstalk. Single switch point outputs are ideal for simple applications. Dual switch point and analog output features are programmable with the Ultra 3000 PC software and RS-232 interface.







Single Switch Point Output						
Model Number	Sensing Range	Unusable Area	Output	Transducer Freq.	Response Time	Switching Freq.
UB500-30GM-E4-V15 ⚡	50-500 mm	0-50 mm	NPN, 1 NO or NC	380 kHz	≤ 50 ms	10 Hz
UB500-30GM-E5-V15 ⚡			PNP, 1 NO or NC			
UB2000-30GM-E4-V15 ⚡	120 mm-2 m	0-120 mm	NPN, 1 NO or NC	180 kHz	≤ 150 ms	3.3 Hz
UB2000-30GM-E5-V15 ⚡			PNP, 1 NO or NC			
UB4000-30GM-E4-V15 ⚡	240 mm-4 m	0-240 mm	NPN, 1 NO or NC	85 kHz	≤ 325 ms	1.5 Hz
UB4000-30GM-E5-V15 ⚡			PNP, 1 NO or NC			
UB6000-30GM-E4-V15 ⚡	400 mm-6 m	0-400 mm	NPN, 1 NO or NC	65 kHz	≤ 650 ms	0.8 Hz
UB6000-30GM-E5-V15 ⚡			PNP, 1 NO or NC			

Dual Switch Point Output						
Model Number	Sensing Range	Unusable Area	Output	Transducer Freq.	Response Time	Switching Freq.
UC500-30GM-E6R2-V15 ⚡	50-500 mm	0-50 mm	PNP, 2 NO or NC	380 kHz	21 ms min/63 ms*	≤ 7 Hz
UC500-30GM-E7R2-V15 ●			NPN, 2 NO or NC			
UC2000-30GM-E6R2-V15 ⚡	120 mm-2 m	0-120 mm	PNP, 2 NO or NC	180 kHz	65 ms min/195 ms*	≤ 2.5 Hz
UC2000-30GM-E7R2-V15 ⚡			NPN, 2 NO or NC			
UC4000-30GM-E6R2-V15 ⚡	240 mm-4 m	0-240 mm	PNP, 2 NO or NC	85 kHz	145 ms min/440 ms*	≤ 1 Hz
UC4000-30GM-E7R2-V15 ●			NPN, 2 NO or NC			
UC6000-30GM-E6R2-V15 ⚡	400 mm-6 m	0-400mm	PNP, 2 NO or NC	65 kHz	285 ms min/850 ms*	≤ 0.5 Hz
UC6000-30GM-E7R2-V15 ⚡			NPN, 2 NO or NC			

*factory setting

Analog Output					
Model Number	Sensing Range	Unusable Area	Output	Transducer Freq.	Response Time
UC500-30GM-IUR2-V15 ⚡	50-500 mm	0-50 mm	4-20 mA or 20-4 mA (load ≤500 Ω) 10-0 V or 0-10 V (Load ≥1000 Ω)	380 kHz	21 ms min/63 ms*
UC2000-30GM-IUR2-V15 ⚡	120 mm-2 m	0-120 mm	4-20 mA or 20-4 mA (load ≤500 Ω) 10-0 V or 0-10 V (Load ≥1000 Ω)	180 kHz	65 ms min/195 ms*
UC4000-30GM-IUR2-V15 ⚡	240 mm-4 m	0-240 mm	4-20 mA or 20-4 mA (load ≤500 Ω) 10-0 V or 0-10 V (Load ≥1000 Ω)	85 kHz	145 ms min/440 ms*
UC6000-30GM-IUR2-V15 ⚡	400 mm-6 m	0-400 mm	4-20 mA or 20-4 mA (load ≤500 Ω) 10-0 V or 0-10 V (Load ≥1000 Ω)	65 kHz	285 ms min/850 ms*

*factory setting

Specifications	Single Switch Point	Dual Switch Point	Analog Output
SUPPLY VOLTAGE	10-30 VDC	10-30 VDC	10-30 VDC
RS-232 INTERFACE	No	Yes	Yes
OUTPUT			
LOAD CURRENT (PER OUTPUT)	≤ 200 mA	≤ 200 mA	–
LEAKAGE CURRENT	None	None	–
VOLTAGE DROP	≤ 2 VDC	≤ 2 VDC	–
SHORT CIRCUIT AND OVERLOAD PROTECTED	Yes	Yes	Yes
REVERSE POLARITY PROTECTION	Yes	Yes	Yes
INPUT - TEACH IN			
LOW LEVEL	≤ 1 V	–	–
HIGH LEVEL	≥ 4 V	–	–
INPUT IMPEDANCE	> 4.7 kΩ	–	–
TEACH-IN PULSE	≥ 1 s	–	–
INPUT - SYNCHRONIZATION	Bi-directional	Bi-directional	Bi-directional
LOW LEVEL	≤ 1 V	≤ 1 V	≤ 1 V
HIGH LEVEL	≥ 4 V	≥ 4 V	≥ 4 V
INPUT IMPEDANCE	> 12 kΩ	> 12 kΩ	> 12 kΩ
SYNCHRONIZATION PULSE	≥ 100 μs	≥ 100 μs	≥ 100 μs
SYNCHRONIZATION TIME BETWEEN PULSES	≥ 2 ms	≥ 2 ms	≥ 2 ms
SYNCHRONIZATION FREQUENCY*			
UB500/UC500	≤ 95 Hz	≤ 95 Hz	≤ 95 Hz
UB2000/UC2000	≤ 30 Hz	≤ 30 Hz	≤ 30 Hz
UB4000/UC4000	≤ 13 Hz	≤ 13 Hz	≤ 13 Hz
UB6000/UC6000	≤ 7 Hz	≤ 7 Hz	≤ 7 Hz
LED(S)	Yes (3)	Yes (4)	Yes (4)
CURRENT CONSUMPTION	≤ 50 mA	≤ 50 mA	–
POWER CONSUMPTION	–	–	≤ 900 mW
REPEATABILITY	≤ 0.5% of set switching distance	≤ 0.1% of set switching distance	≤ 0.1% of full scale
HYSTERESIS	≤ 1% of set switching distance	≤ 1% of set switching distance	–
RESOLUTION	–	–	Max. span value - min. span [†] 4000
LINEARITY	–	–	≤ 0.2% of full scale
STANDARDS	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
PROTECTION IEC	IP65	IP65	IP65
STANDARD TARGET	100 mm x 100 mm flat plate	100 mm x 100 mm flat plate	100 mm x 100 mm flat plate
TEMPERATURE RANGE			
WORKING	-13 °F to +158 °F (-25 °C to 70 °C)	-13 °F to +158 °F (-25 °C to 70 °C)	-13 °F to +158 °F (-25 °C to 70 °C)
STORAGE	-40 °F to +185 °F (-40 °C to 85 °C)	-40 °F to +185 °F (-40 °C to 85 °C)	-40 °F to +185 °F (-40 °C to 85 °C)
HOUSING MATERIAL	Nickel-plated brass	Stainless steel/crastin	303 Stainless steel
TRANSDUCER	Epoxy resin/silica composite; foam polyurethane, surround PBT	Epoxy resin/silica composite; foam polyurethane, surround PBT	Epoxy resin/silica composite; foam polyurethane, surround PBT
TEMPERATURE DRIFT	≤ 2% of final value	≤ 2% of final value	≤ 2% of final value
APPROVALS			
ELECTRICAL CONNECTION	 5-pin M12 x 1 (V15)	 5-pin M12 x 1 (V15)	 5-pin M12 x 1 (V15)

*Frequency for multiplex mode is divided by the number of sensors.

†Minimum possible resolution is 0.05mm

Programming Method

	Programming plug (included)	RS-232	Pin 2 (white wire)	Optional UB-PROG2 handheld
UB... models			●	●
UC... models	●	●		



See pages 803-854 for cordsets



See pages 865-872 for accessories

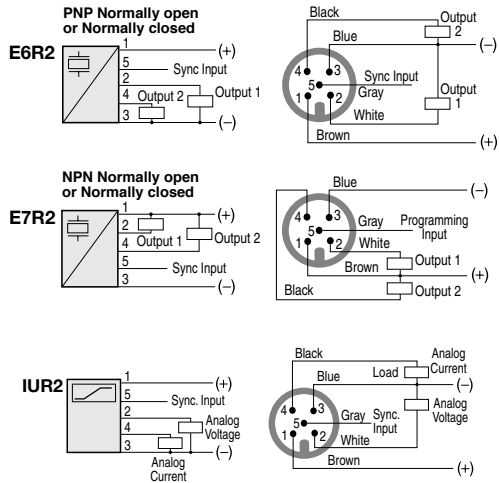
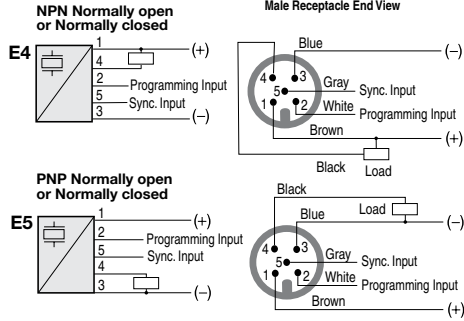
Wiring Diagrams



Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

V15 Type

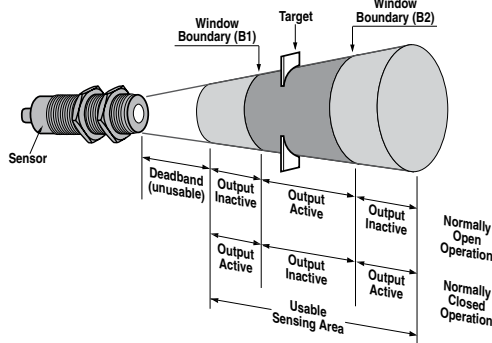


Ultrasonic 30 mm Cylindrical

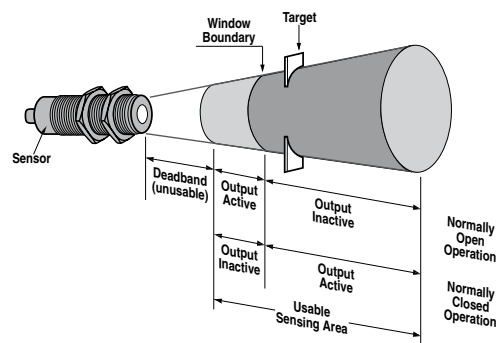
Modes of Operation

Single Switch Point Output

Window Mode

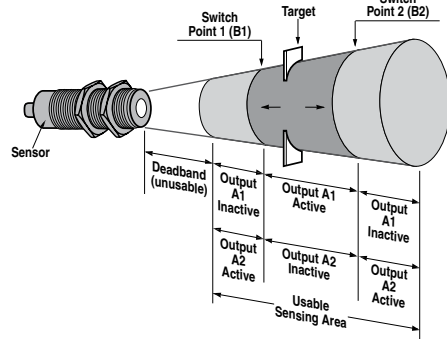


Setpoint Mode

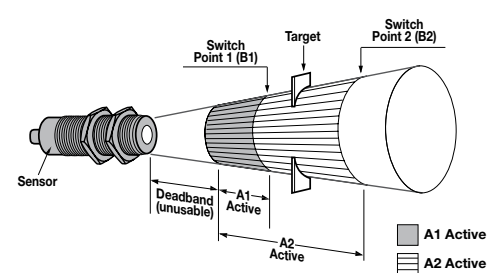


Dual Switch Point Output

Window Mode



Setpoint Mode

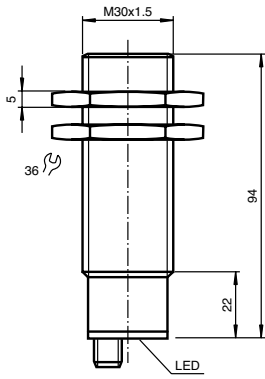


Dimensions (mm)

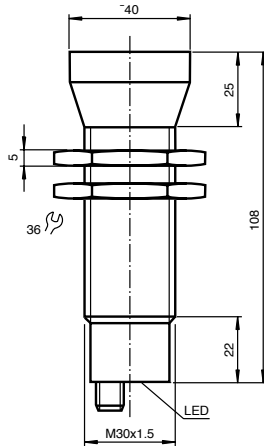
Ultrasonic 30 mm Cylindrical

Single Switch Point Models:

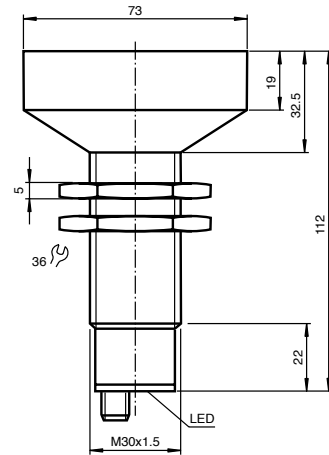
UB500-30GM...
UB2000-30GM...



UB4000-30GM...

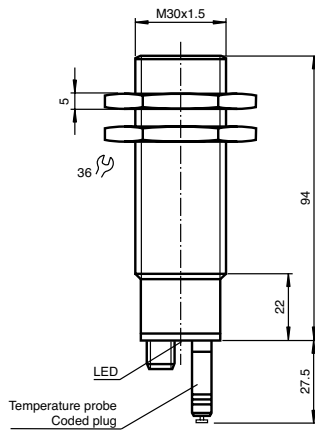


UB6000-30GM...

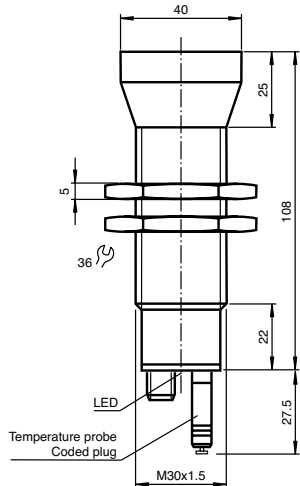


Dual Switch Point Models:

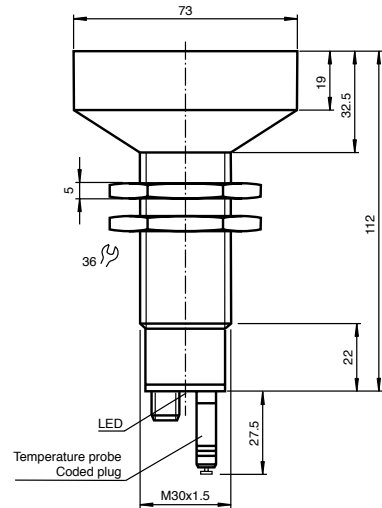
UC500-30GM...
UC2000-30GM...



UC4000-30GM...



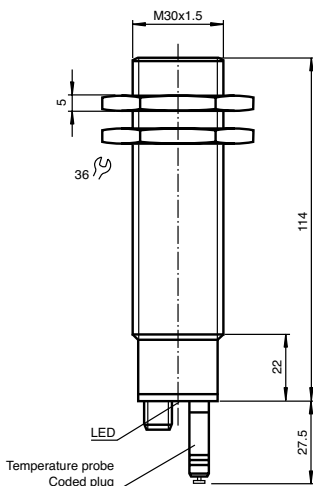
UC6000-30GM...



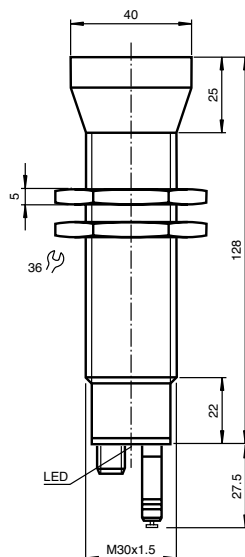
Dimensions (mm)

Analog Output:

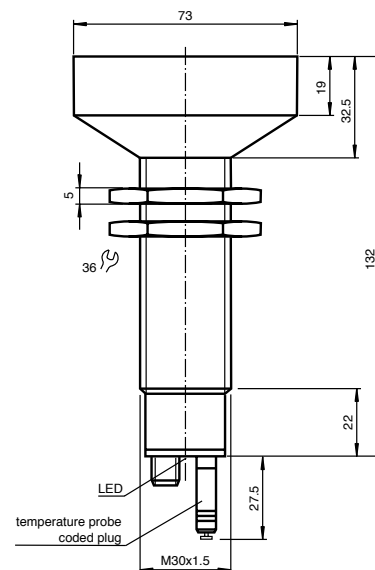
UC500-30GM...
UC2000-30GM...



UC4000-30GM...



UC6000-30GM...



Ultrasonic 30 mm Cylindrical

Recommended Accessories



Programming Accessories

Model	Description
UB-PROG2	Pushbutton programmer for single switch point output sensors
UC-30GM-R2	RS-232 programming cable for all ...R2-V15 sensors



Micro Cordsets

5-Pin Straight "Micro" (M12)	
Model	Description
V15-G-YE2M-PVC	2 m length, PVC jacket
V15-G-YE5M-PVC	5 m length, PVC jacket
V15-G-YE2M-PUR	2 m length, PUR jacket
V15-G-YE5M-PUR	5 m length, PUR jacket



Mounting Brackets

Model	Description
BF30	30 mm clamp bracket
BF 30-F	30 mm snap lever bracket
BF5-30	5-30 mm universal bracket
AB30	30 mm right angle bracket

5-Pin Right Angle "Micro" (M12)	
Model	Description
V15-W-YE2M-PVC	2 m length, PVC jacket
V15-W-YE5M-PVC	5 m length, PVC jacket
V15-W-YE2M-PUR	2 m length, PUR jacket
V15-W-YE5M-PUR	5 m length, PUR jacket

See pages 803-854 for complete cordset listing.

See pages 865-872 for complete accessory listing.