

18 mm Diameter Switch Point and Analog Outputs

- 500 mm (31") and 1 m (3') sensing ranges
- Pushbutton programmable via optional handheld programmer
- External sensor multiplex/synchronization input
- Selectable beam width – narrow or wide
- Discrete switch point or analog outputs available



The 18 mm sensors offer versatility in a compact housing. Outputs include single switch point, dual switch point, and analog. Crosstalk is eliminated when multiplexing switch point and analog output models. The selectable beam width allows use in tight sensing areas.



See pages 803-854 for cordsets









See pages 865-872 for accessories

Single Switch Point Output						
Model Number	Sensing Range	Unusable Area	Output	Transducer Freq.	Response Time	Switching Freq.
UB500-18GM75-E4-V15	50-500 mm	0-50 mm	NPN, 1 NO or NC	380 kHz	≤50 ms	8 Hz
UB500-18GM75-E5-V15			PNP, 1 NO or NC			
UB1000-18GM75-E4-V15	90 mm-1 m	0-90 mm	NPN, 1 NO or NC	205 kHz	≤125 ms	3 Hz
UB1000-18GM75-E5-V15			PNP, 1 NO or NC			

Dual Switch Point Output						
Model Number	Sensing Range	Unusable Area	Output	Transducer Freq.	Response Time	Switching Freq.
UB500-18GM75-E6-V15	50-500 mm	0-50 mm	PNP, 2 NO or NC	380 kHz	≤50 ms	8 Hz
UB500-18GM75-E7-V15			NPN, 2 NO or NC			
UB500-18GM75-E01-V15			NPN, 1 NO and 1 NC			
UB500-18GM75-E23-V15			PNP, 1 NO and 1 NC			
UB1000-18GM75-E6-V15	90 mm-1 m	0-90 mm	PNP, 2 NO or NC	205 kHz	≤125 ms	3 Hz
UB1000-18GM75-E7-V15			NPN, 2 NO or NC			
UB1000-18GM75-E01-V15			NPN, 1 NO and 1 NC			
UB1000-18GM75-E23-V15			PNP, 1 NO and 1 NC			

Analog Output					
Model Number	Sensing Range	Unusable Area	Output	Transducer Freq.	Response Time
UB500-18GM75-I-V15	50-500 mm	0-50 mm	4-20 mA (load ≤ 300 Ω)	380 kHz	≤ 50 ms
UB500-18GM75-U-V15			0-10 V (load ≥ 1kΩ)		
UB1000-18GM75-I-V15	90 mm-1 m	0-90 mm	4-20 mA (load ≤ 300 Ω)	205 kHz	≤ 125 ms
UB1000-18GM75-U-V15			0-10 V (load ≥ 1kΩ)		

Specifications	Single Switch Point	Dual Switch Point	Analog Output
SUPPLY VOLTAGE	10-30 VDC	10-30 VDC	10-30 VDC (suffix -I) 15-30 VDC (suffix -U)
OUTPUT			
LOAD CURRENT (PER OUTPUT)	≤ 200 mA	≤ 100 mA	–
VOLTAGE DROP	≤ 3 VDC	≤ 3 VDC	–
SHORT CIRCUIT AND OVERLOAD PROTECTED	Yes	Yes	Yes
REVERSE POLARITY PROTECTION	Yes	Yes	Yes
INPUT - TEACH IN			
LOW LEVEL	≤ 1 V	≤ 1 V	≤ 1 V
HIGH LEVEL	≥ 4 V	≥ 4 V	≥ 4 V
INPUT IMPEDANCE	> 4.7 kΩ	> 4.7 kΩ	> 4.7 kΩ
TEACH-IN PULSE	≥ 1 s	≥ 1 s	≥ 1 s
INPUT - SYNCHRONIZATION	Bi-directional	–	Bi-directional
LOW LEVEL	≤ 1 V	–	≤ 1 V
HIGH LEVEL	≥ 4 V	–	≥ 4 V
INPUT IMPEDANCE	> 12 kΩ	–	> 12 kΩ
SYNCHRONIZATION PULSE	≥ 100 μs	–	≥ 100 μs
SYNCHRONIZATION TIME BETWEEN PULSES	≥ 2 ms	–	≥ 2 ms
SYNCHRONIZATION FREQUENCY*			
UB500	≤ 95 Hz	–	≤ 95 Hz
UB1000	≤ 40 Hz	–	≤ 40 Hz
LED(S)	Yes (2)	Yes (3)	Yes (2)
CURRENT CONSUMPTION	≤ 50 mA	≤ 50 mA	≤ 45 mA (UB500) ≤ 50 mA (UB1000)
REPEATABILITY	≤ 1%	≤ 1%	± 0.1% of full scale
RESOLUTION			
UB500	–	–	0.13 mm
UB1000	–	–	0.35 mm
HYSTERESIS	≤ 1%	≤ 1%	
LINEARITY			± 1% max.
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	Nickel-plated brass	Nickel-plated brass
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	≤ 1.5% of final value	≤ 1.5% of final value	≤ 1.5% 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.

Recommended Accessories

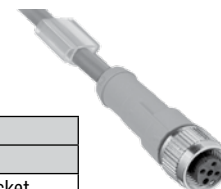


Pushbutton Programmers

Model	Description
UB-PROG2	Pushbutton programmer for single switch point and analog output sensors
UB-PROG3	Pushbutton programmer for dual switch point output 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



See pages 803-854 for complete cordset listing.

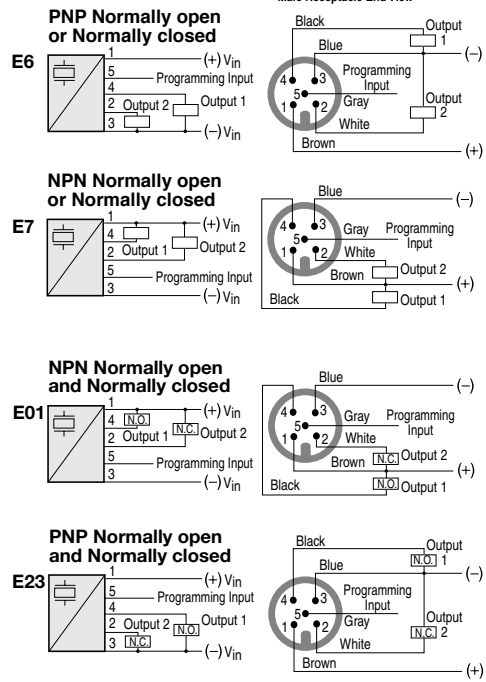
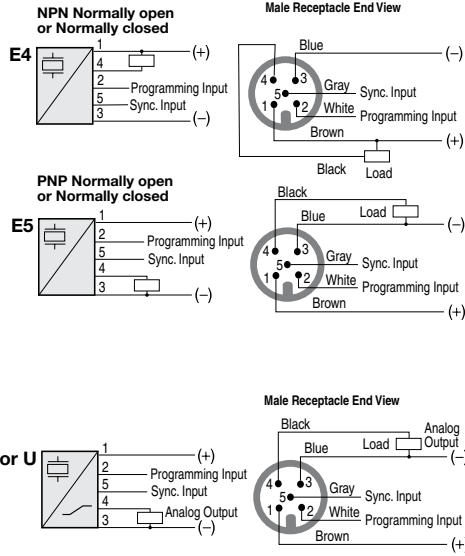
Wiring Diagrams



Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

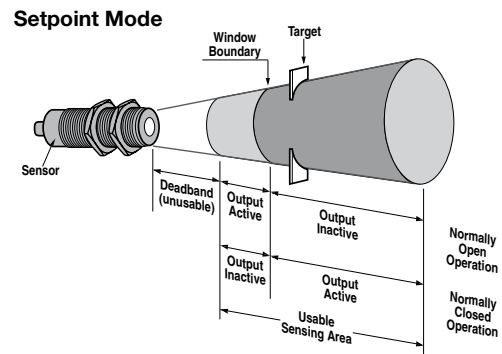
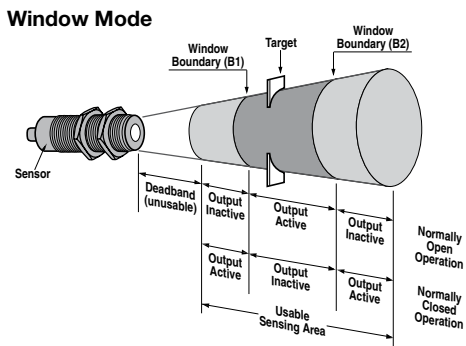
V15 Type



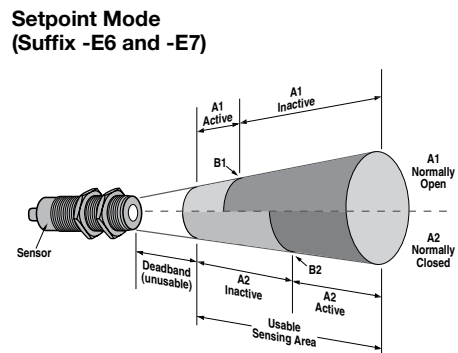
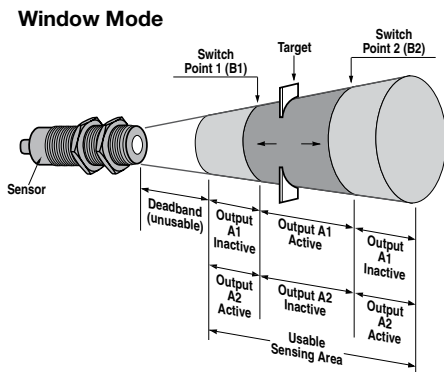
Ultrasonic 18 mm Cylindrical

Modes of Operation

Single Switch Point Output



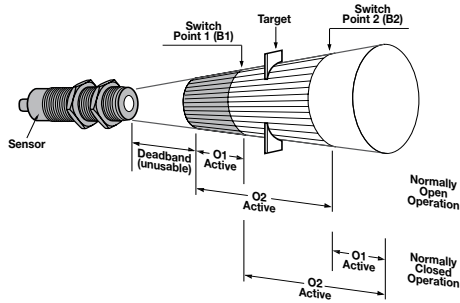
Dual Switch Point Output



Modes of Operation (cont.)

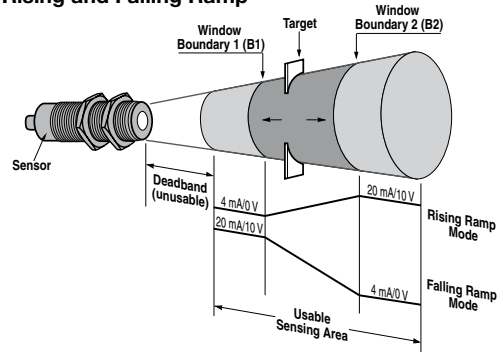
Dual Switch Point Output (cont.)

Setpoint Mode
(Suffix -E01 and -E23)



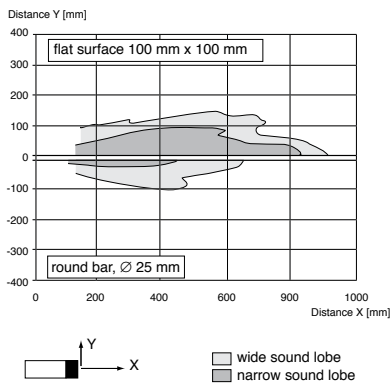
Analog Output

Rising and Falling Ramp

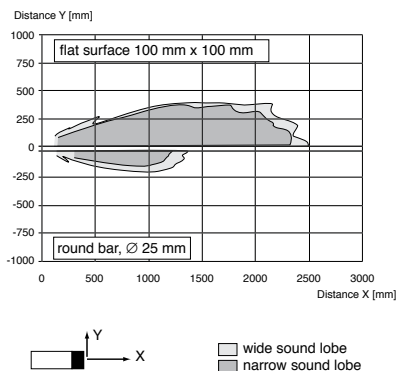


Target Response Curves

UB500-18GM75...



UB1000-18GM75...



Dimensions (mm)

UB500-18GM75...
UB1000-18GM75...

