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 ϟ			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 ϟ			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 ϟ	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 ϟ			PNP, 1 NO and 1 NC			
UB1000-18GM75-E6-V15 ϟ	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 ϟ			PNP, 1 NO and 1 NC			

Analog Output

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

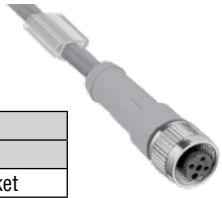

UB-PROG2


UB-PROG3

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

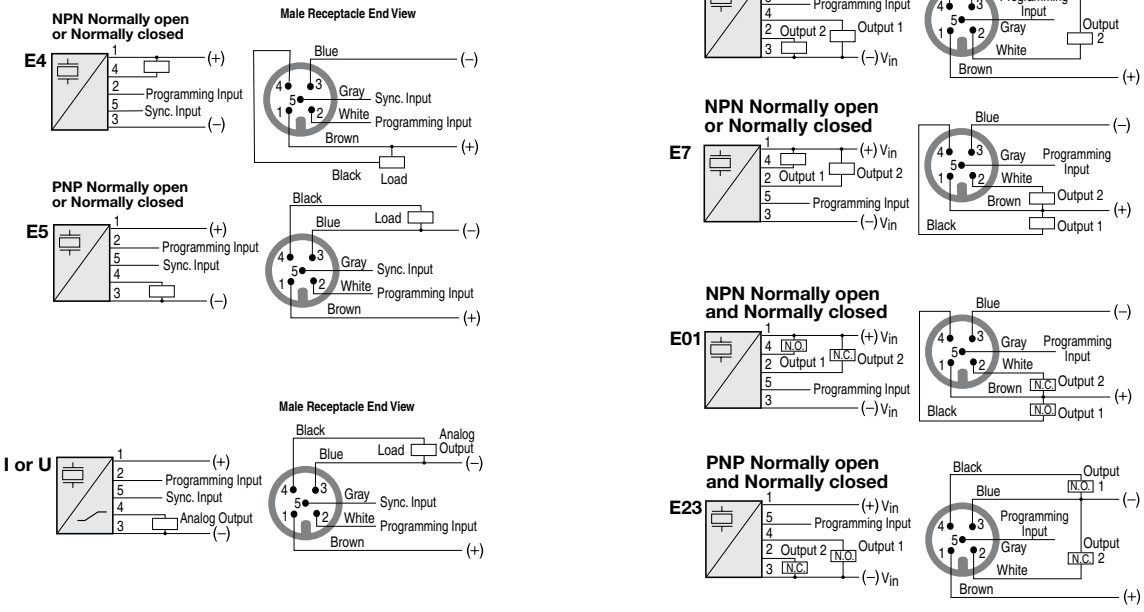
See pages 803-854 for complete cordset listing.

Wiring Diagrams

Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

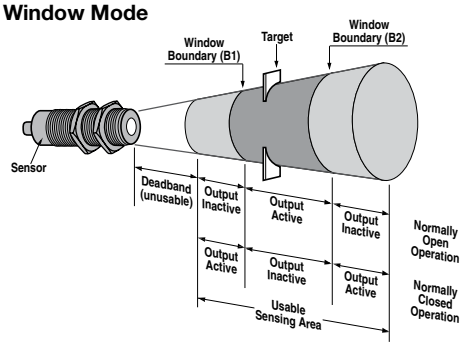
V15 Type



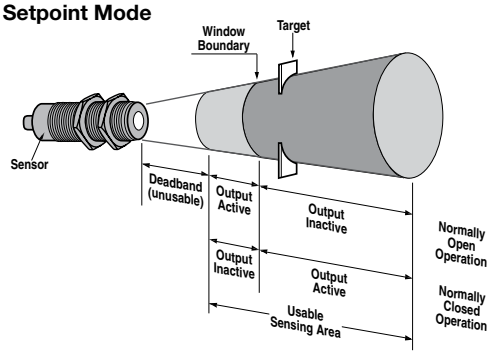
Modes of Operation

Single Switch Point Output

Window Mode

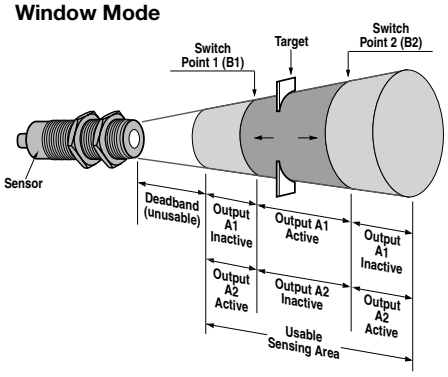


Setpoint Mode

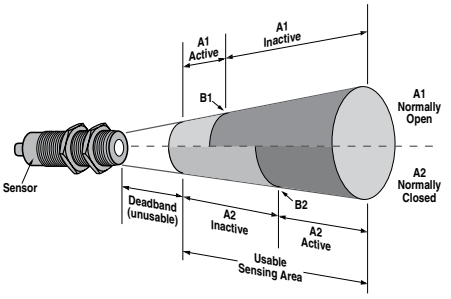


Dual Switch Point Output

Window Mode



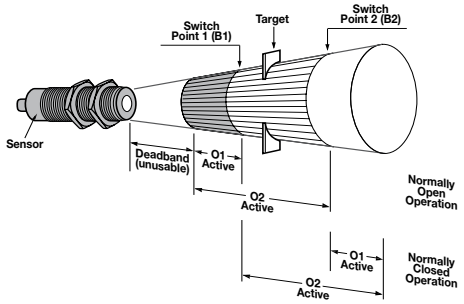
Setpoint Mode (Suffix -E6 and -E7)



Modes of Operation (cont.)

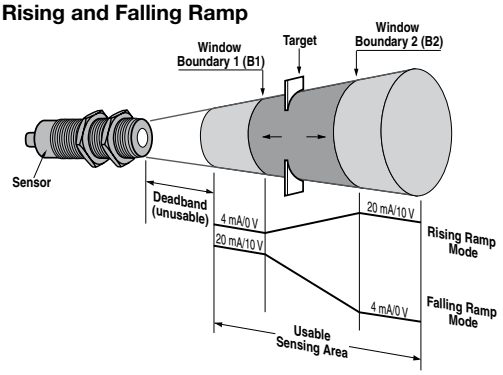
Dual Switch Point Output (cont.)

Setpoint Mode
(Suffix -E01 and -E23)



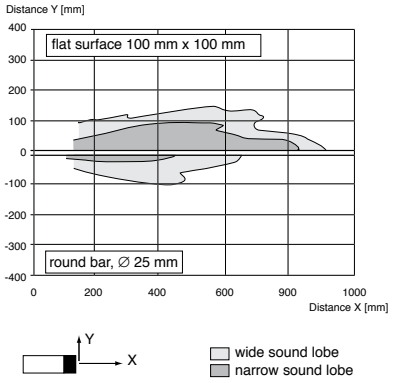
Analog Output

Rising and Falling Ramp

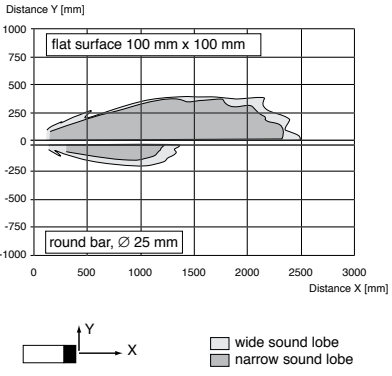


Target Response Curves

UB500-18GM75...



UB1000-18GM75...



Dimensions (mm)

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