

18 mm Diameter "Half Pint" Switch Point and Analog Outputs

- Compact housing (only 50 mm) for space restricted applications
- 300 mm (12") and 800 mm (31") sensing ranges
- Pushbutton programmable via UB-PROG2
- Straight or right-angled sensing heads
- Discrete PNP switch point or analog outputs available



The Half Pint family of ultrasonic sensors is a versatile, cost-effective solution for a wide range of applications. The 18 mm cylindrical housing is only 50 mm long and has highly visible 360° viewable LEDs. These units are programmable via the white wire or the optional handheld programmer, UB-PROG2.



See pages 803-854 for cordsets



See pages 865-872 for accessories

Single Switch Point Output								
Model Number	Sensing Head	Sensing Range	Unusable Area	Output	Transducer Freq.	Response Time	Switching Freq.	
UB300-18GM40-E5-V1	⚡ Straight	50-300 mm	0-50 mm	PNP, 1 NO or NC	390 kHz	≤30 ms	13 Hz	
UB300-18GM40A-E5-V1	⚡ Right-angle							
UB800-18GM40-E5-V1	⚡ Straight	70-800 mm	0-70 mm	PNP, 1 NO or NC	205 kHz	≤100 ms	4 Hz	
UB800-18GM40A-E5-V1	● Right-angle							

Analog Output							
Model Number	Sensing Head	Sensing Range	Unusable Area	Output	Transducer Freq.	Response Time	
UB300-18GM40-I-V1	⚡ Straight	50-300 mm	0-50 mm	4-20 mA (load ≤ 300 Ω)	390 kHz	≤30 ms	
UB300-18GM40A-I-V1	⚡ Right-angle			0-10 V (load ≥ 1kΩ)			
UB300-18GM40-U-V1	⚡ Straight	70-800 mm	0-70 mm	4-20 mA (load ≤ 300 Ω)	205 kHz	≤100 ms	
UB300-18GM40A-U-V1	● Right-angle			0-10 V (load ≥ 1kΩ)			

Wiring Diagrams







Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

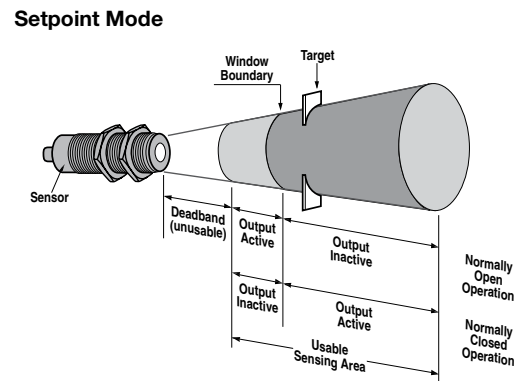
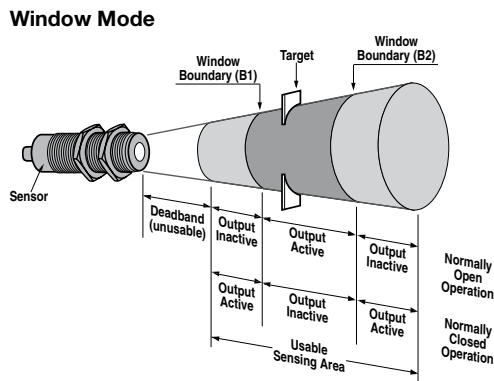
V1 Type



Specifications	Single Switch Point	Analog Output
SUPPLY VOLTAGE	10-30 VDC	10-30 VDC (suffix -I) 15-30 VDC (suffix -U)
OUTPUT		
LOAD CURRENT (PER OUTPUT)	≤ 200 mA	–
VOLTAGE DROP	≤ 3 VDC	–
SHORT CIRCUIT AND OVERLOAD PROTECTED	Yes	Yes
REVERSE POLARITY PROTECTION	Yes	Yes
INPUT - TEACH IN		
LOW LEVEL	≤ 1 V	≤ 1 V
HIGH LEVEL	≥ 6 V	≥ 4 V
INPUT IMPEDANCE	> 4.7 kΩ	> 4.7 kΩ
TEACH-IN PULSE	≥ 1 s	≥ 1 s
LED(S)	Yes (2)	Yes (2)
CURRENT CONSUMPTION	≤ 20 mA	≤ 20 mA
REPEATABILITY	≤ 1% of set switching distance	≤ 0.5% of full scale
HYSTERESIS	≤ 1% of set switching distance	–
RESOLUTION	–	0.4 mm
LINEARITY	–	± 1% max.
STANDARDS	EN 60947-5-2	EN 60947-5-2
PROTECTION IEC	IP67	IP67
STANDARD TARGET	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)
STORAGE	-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
TRANSDUCER	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
APPROVALS		
ELECTRICAL CONNECTION	 4-pin M12 x 1 (V1)	 4-pin M12 x 1 (V1)

Modes of Operation

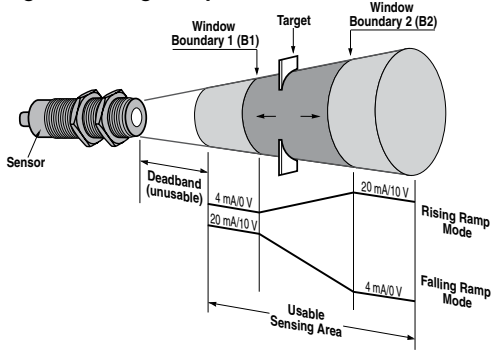
Single Switch Point Output



Modes of Operation (cont.)

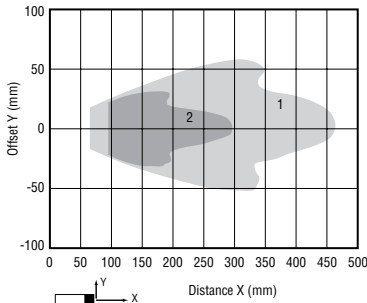
Analog Output

Rising and Falling Ramp



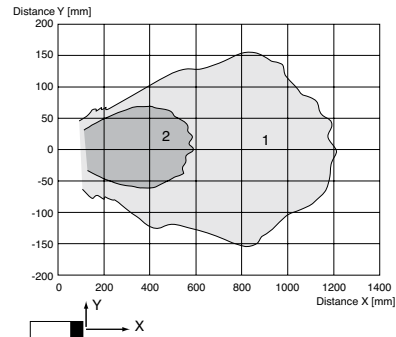
Target Response Curves

UB300-18GM40...



Curve 1: flat surface 100 mm x 100 mm
Curve 2: round bar, \varnothing 25 mm

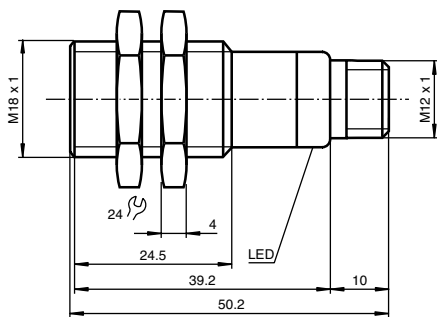
UB800-18GM40...



Curve 1: flat surface 100 mm x 100 mm
Curve 2: round bar, \varnothing 25 mm

Dimensions (mm)

UB300-18GM40...
UB800-18GM40...



UB300-18GM40A...
UB800-18GM40A...

