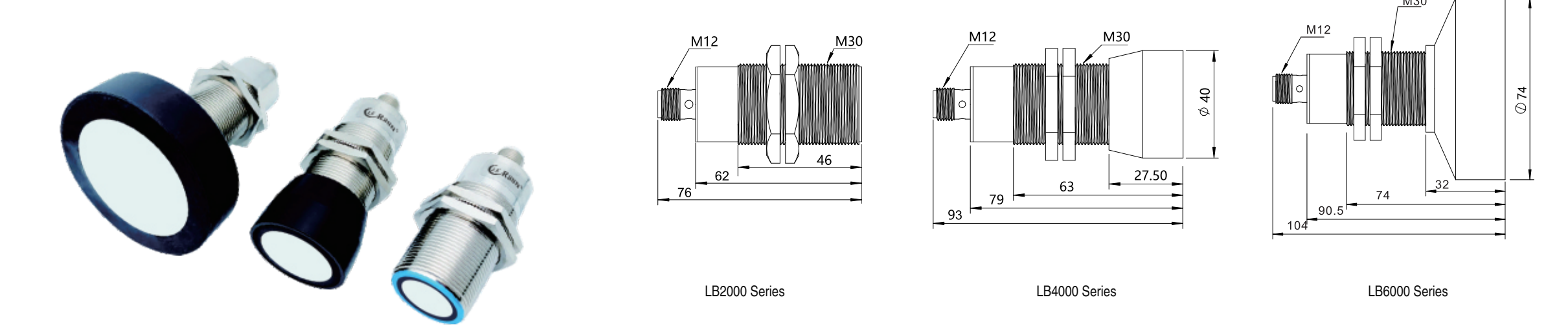


Ultrasonic Displacement Sensor

Product Images and Dimensions

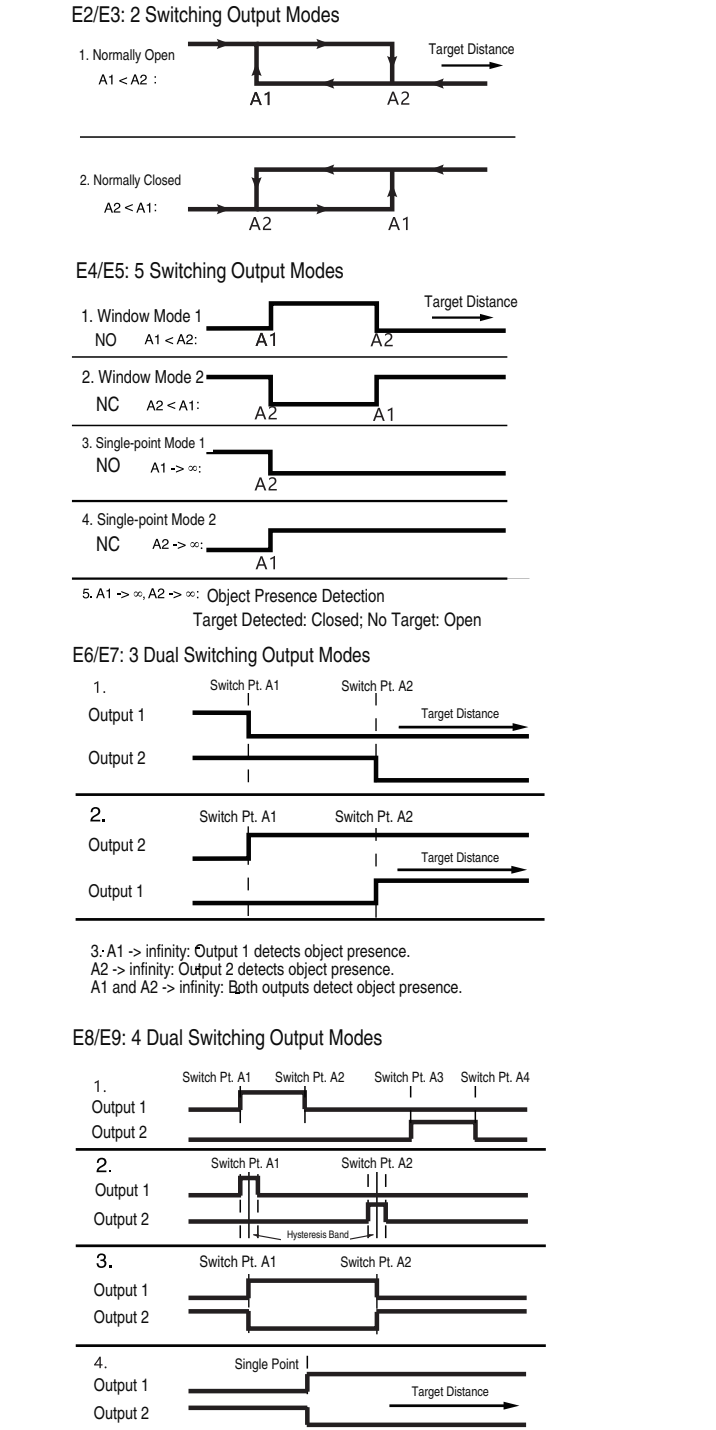
LB2000/4000/6000 Series (Switching Output)



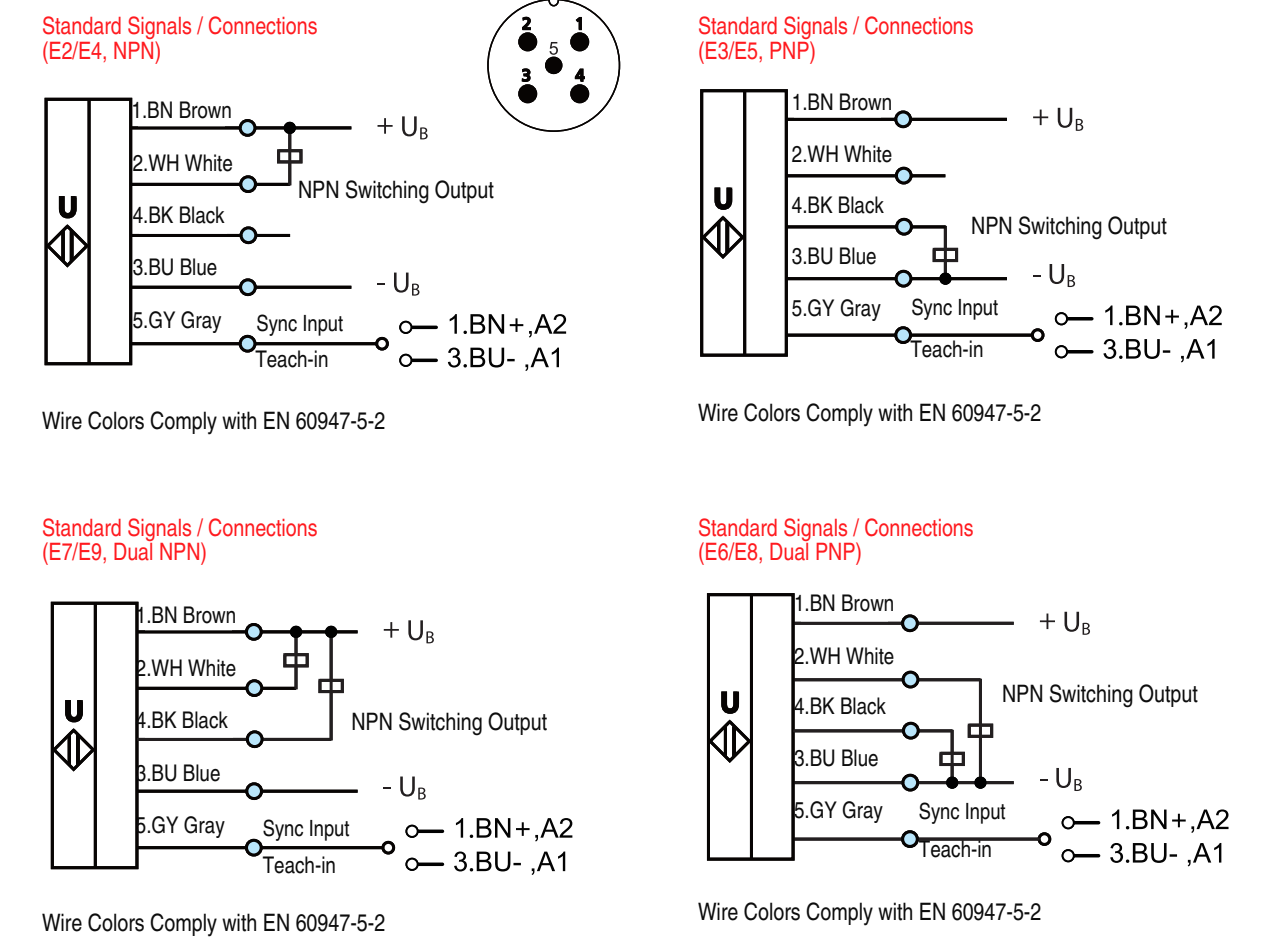
Product Models and Specifications

Model	LB2000-30GM60-E2-V15	LB4000-30GM60-E2-V15	LB6000-30GM70-E2-V15
	LB2000-30GM60-E3-V15	LB4000-30GM60-E3-V15	LB6000-30GM70-E3-V15
	LB2000-30GM60-E4-V15	LB4000-30GM60-E4-V15	LB6000-30GM70-E4-V15
	LB2000-30GM60-E5-V15	LB4000-30GM60-E5-V15	LB6000-30GM70-E5-V15
	LB2000-30GM60-E6-V15	LB4000-30GM60-E6-V15	LB6000-30GM70-E6-V15
	LB2000-30GM60-E7-V15	LB4000-30GM60-E7-V15	LB6000-30GM70-E7-V15
	LB2000-30GM60-E8-V15	LB4000-30GM60-E8-V15	LB6000-30GM70-E8-V15
	LB2000-30GM60-E9-V15	LB4000-30GM60-E9-V15	LB6000-30GM70-E9-V15
Detection Range	100-2000mm	200-4000mm	350-6000mm
Blind Zone	0-100mm	0-200mm	0-350mm
Resolution	0.17mm	0.17-1.5mm	0.17-2.5mm
Repeatability	±0.15% of Full Scale	±0.15% of Full Scale	±0.15% of Full Scale
Absolute Accuracy	±1% (Built-in Temperature Drift Compensation)	±1% (Built-in Temperature Drift Compensation)	±1% (Built-in Temperature Drift Compensation)
Response Time	82ms	162ms	232ms
Switching Hysteresis	±2mm	±4mm	±5mm
Switching Frequency	10Hz	5Hz	4Hz
Power-on Delay	<500ms	<500ms	<500ms
Operating Voltage	10-30 V DC; Reverse Polarity Protection	10-30 V DC; Reverse Polarity Protection	10-30 V DC; Reverse Polarity Protection
Red LED	No Target: Steady; No Target during Teach-in: Flashing	No Target: Steady; No Target during Teach-in: Flashing	No Target: Steady; No Target during Teach-in: Flashing
Green LED	Target Detected: Steady; Target during Teach-in: Flashing	Target Detected: Steady; Target during Teach-in: Flashing	Target Detected: Steady; Target during Teach-in: Flashing
Overload Protection	200 mA; Red and Green LEDs Flash Simultaneously	200 mA; Red and Green LEDs Flash Simultaneously	200 mA; Red and Green LEDs Flash Simultaneously
Load Impedance	I/ 0 ~ 300 Ohm, U/> 1k Ohm	I/ 0 ~ 300 Ohm, U/> 1k Ohm	I/ 0 ~ 300 Ohm, U/> 1k Ohm
No-load Current	≤30mA	≤30mA	≤30mA
Input Type	Synchronization and Teach-in Functions	Synchronization and Teach-in Functions	Synchronization and Teach-in Functions
Materials	Nickel-plated Brass, Plastic Parts, Glass-filled Epoxy Resin	Nickel-plated Brass, Plastic Parts, Glass-filled Epoxy Resin	Nickel-plated Brass, Plastic Parts, Glass-filled Epoxy Resin
Protection Rating	IP67	IP67	IP67
Connection Type	5-pin M12 Connector	5-pin M12 Connector	5-pin M12 Connector
Ambient Temperature	-25°C ~ +70°C (248 ~ 343K)	-25°C ~ +70°C (248 ~ 343K)	-25°C ~ +70°C (248 ~ 343K)
Storage Temperature	-40°C ~ +85°C (233 ~ 358K)	-40°C ~ +85°C (233 ~ 358K)	-40°C ~ +85°C (233 ~ 358K)
Weight	105g	145g	185g
Output Type	E2/E4	1 NPN Switching Output, NO/NC	
	E3/E5	1 PNP Switching Output, NO/NC	
	E6/E8	2 PNP Switching Outputs, NO/NC	
	E7/E9	2 NPN Switching Outputs, NO/NC	

Output Modes



Wiring Diagrams

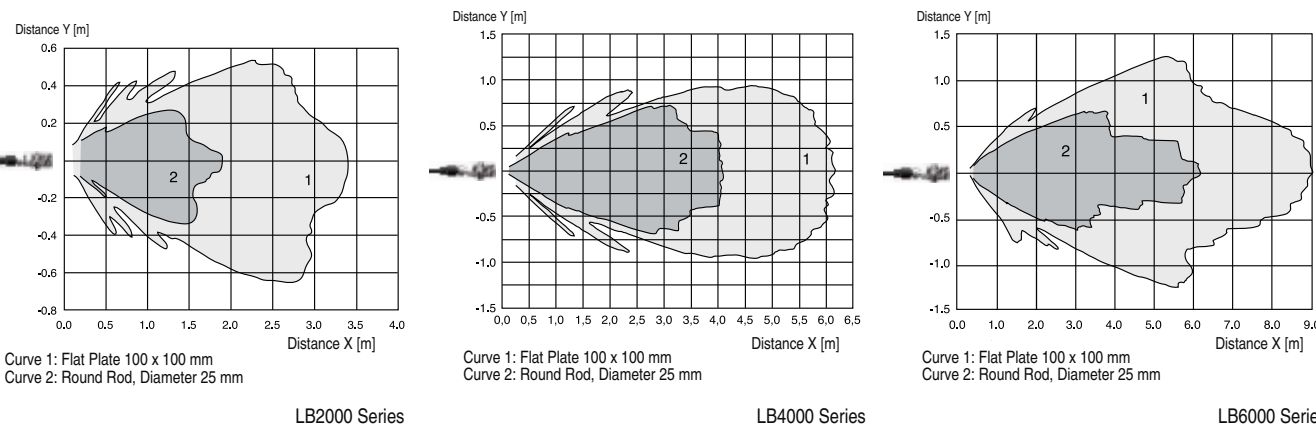


Teach-in Function

Mode	State	Procedure
Window Mode	NO	Place the target at the near switching point. Connect TEACH-IN to +Ub to set A1. Wait for the green LED to flash at least 3 times, then disconnect.
		Place the target at the far switching point. Connect TEACH-IN to +Ub to set A2. Wait for the green LED to flash at least 3 times, then disconnect.
	NC	Place the target at the near switching point. Connect TEACH-IN to +Ub to set A2. Wait for the green LED to flash at least 3 times, then disconnect.
		Place the target at the far switching point. Connect TEACH-IN to -Ub to set A1. Wait for the green LED to flash at least 3 times, then disconnect.
Switching Point Mode	NO	Place the target at the near switching point. Connect TEACH-IN to +Ub to set A2. Wait for the green LED to flash at least 3 times, then disconnect.
		Cover the sensor by hand or remove all objects from its detection range. Connect TEACH-IN to -Ub to set A1. Wait for the red LED to flash at least 3 times, then disconnect.
	NC	Place the target at the near switching point. Connect TEACH-IN to -Ub to set A1. Wait for the green LED to flash at least 3 times, then disconnect.
		Cover the sensor by hand or remove all objects from its detection range. Connect TEACH-IN to +Ub to set A2. Wait for the red LED to flash at least 3 times, then disconnect.
Object Presence Detection Mode	/	Cover the sensor by hand or remove all objects from its detection range. Connect TEACH-IN to -Ub to set A1; wait for the red LED to flash at least 3 times, then disconnect. Connect TEACH-IN to +Ub to set A2; wait for the red LED to flash at least 3 times, then disconnect.

Factory Settings
A1: Blind Zone (Minimum Operating Range)
A2: Maximum Range

Reference Response Curves



Synchronous / Asynchronous Control

