

# Suggested Replacement for Discontinued BGS-DL-T Type Digital Laser for Background Suppression Applications

	Selectable Background and Foreground Suppression CMOS Image Sensor Excellent stability and accuracy regardless of target color or reflectivity Repeat Accuracies of 0.2 and 0.3mm - Ideal for precision sensing applications. Pushbutton Teach with Fine Adjustment FGS mode detects all objects, thin, black, rough and reflective, on a conveyor Remote Teach Capable, Multi-Function Timer Option M8 4 Wire Quick Disconnect with Rotatable connector		Optex High precision Back ground Suppression Laser sensor with digital output. Digital Display reads out distance in mm. Output selectable NPN/PNP Sensing Range is 50 to 250mm Timing Functions built in. Uses CMOS Digital ub pixel processing and an Automatic shutter control perfect for detecting different reflective objects at the same distance. Class II Type Stainless Steel Housing for better chemical resistance		
	<b>BGS-DL10T</b>	<b>BGS-DL25T</b>	<b>BGS-HL05T</b>	<b>BGS-HL25T</b>	<b>BGS-HL25T2</b>
<b>Sensing Mode</b>	<b>BGS or FGS</b>	<b>BGS or FGS</b>	BGS	BGS	BGS
<b>Setting Distance Range</b>	40 to 100mm	100 to 250mm	20 to 50mm	50 to 250mm	50 to 250mm
<b>Light Source</b>	Red Semiconductor Laser	Red Semiconductor Laser	Red Laser Diode	Red Laser Diode	Red Laser Diode
<b>Class</b>	Class 2 (IEC/JIS)	Class 2 (IEC/JIS)	Class 1	Class 1	Class 2
<b>Wavelength/Max Output</b>	650nm/1mW	650nm/1mW	655nm/390 μW	655nm/1 mW	655nm/1 mW
<b>Spot Size</b>	ø1mm / 80mm	ø2mm / 200mm	ø0.8mm / 35mm	ø1mm / 150mm	ø1mm / 150mm
<b>Response Time</b>	1ms	1ms	1.5ms	1.5ms	1.5ms
<b>Minimum Detectable Height Difference</b>			0.08 mm	0.8 mm	0.8 mm
<b>Repeat Accuracy</b>	.2 mm	.3mm	0.01 mm (display: 0.01)	0.1 mm (display: 0.1)	0.1 mm (display: 0.1)
<b>Hysteresis</b>	3% of sensing distance	10% of sensing distance	0 to 22.49 mm Adjustable	0 to 149.9 mm Adjustable	0 to 149.9 mm Adjustable
<b>Distance Adjustment</b>	Teaching/Manual Type	Teaching/Manual Type	Teaching / Manual (Selectable from: 1-point / 2-point / Zone)	Teaching / Manual (Selectable from: 1-point / 2-point / Zone)	Teaching / Manual (Selectable from: 1-point / 2-point / Zone)
<b>Threshold Adjustment</b>	Manual Adjust after Teach	Manual Adjust after Teach	Manual Adjust after Teach	Manual Adjust after Teach	Manual Adjust after Teach
<b>Teach Modes</b>	BGS mode: 1-point, Position, FGS mode: 1-point, 2-point	BGS mode: 1-point, Position, FGS mode: 1-point, 2-point	1-point, 2-point, Zone	1-point, 2-point, Zone	1-point, 2-point, Zone
<b>Digital Display</b>	7-segment, 3-digit	7-segment, 3-digit	7-segment 4-digit LED (0.00 to 30.00)	7-segment 4-digit LED (0.0 to 200.0)	7-segment 4-digit LED (0.0 to 200.0)
<b>Control Output</b>	1 ea. NPN or PNP by PN	1 ea. NPN or PNP by PN	1 ea. NPN or PNP by PN	1 ea. NPN or PNP by PN	1 ea. NPN or PNP by PN
<b>External Input</b>	Teach	Teach	Laser Off, Teach, Sample & Hold, One-shot	Laser Off, Teach, Sample & Hold, One-shot	Laser Off, Teach, Sample & Hold, One-shot
<b>Timer Function</b>	ON-Dly, OFF-Dly, One-shot	ON-Dly, OFF-Dly, One-shot	ON/OFF-Dly, OFF-Dly, One-Shot	ON/OFF-Dly, OFF-Dly, One-Shot	ON/OFF-Dly, OFF-Dly, One-Shot
<b>Output Mode</b>	Light-ON / Dark-ON	Light-ON / Dark-ON	Light-ON / Dark-ON	Light-ON / Dark-ON	Light-ON / Dark-ON
<b>Input</b>	Teach	Teach	Laser OFF, Teach, Sample Hold, One-shot hold	Laser OFF, Teach, Sample Hold, One-shot hold	Laser OFF, Teach, Sample Hold, One-shot hold
<b>Supply Voltage</b>	10 to 30VDC	10 to 30VDC	12 to 24VDC	12 to 24VDC	12 to 24VDC
<b>Shock</b>	50 G	50 G	50 G	50 G	50 G
<b>Protection</b>	IP67	IP67	IP67	IP67	IP67
<b>Material</b>	Housing: ABS, Front Cover: PMMA	Housing: ABS, Front Cover: PMMA	Housing: Aluminum, Front Cover: PPSU	Housing: Aluminum, Front Cover: PPSU	Housing: Aluminum, Front Cover: PPSU
<b>Includes</b>	Mounting Bracket	Mounting Bracket	Mounting Bracket	Mounting Bracket	Mounting Bracket
<b>Connection Types Available</b>	2m Cabled 4 Conductor or QD with M8 4 Pin	2m Cabled 4 Conductor or QD with M8 4 Pin	2m Cabled 4 Conductor or QD with M8 4 Pin	2m Cabled 4 Conductor or QD with M8 4 Pin	2m Cabled 4 Conductor or QD with M8 4 Pin

For Application/Technical Support Contact Ramco Innovations  
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# Suggested Replacement for Discontinued BGS-DL-T Type Digital Laser for Foreground Suppression Applications

	Selectable Background and Foreground Suppression CMOS Image Sensor Excellent stability and accuracy regardless of target color or reflectivity Repeat Accuracies of 0.2 and 0.3mm - ideal choice for precision sensing applications. Pushbutton Teach with Fine Adjustment Fine adjustments after teaching using the Up/Down buttons. FGS mode detects all objects, thin, black, rough and reflective, on a conveyor Remote Teach Capable, Multi-Function Timer Option M8 4 Wire Quick Disconnect with Rotatable connector		Optex High-precision Background Suppression Laser sensor with digital output. Digital Display reads out distance in mm Includes output mode w/ FGS sensing Two Models of Minimum Detectable height differences of 80 or 800 Microns. Two-Outputs selectable NPN/PNP - Sensing Ranges of up to 50 and 250mm Timing Functions built in. Uses CMOS Digital sub-pixel processing with a Automatic shutter control Perfect for detecting different reflective objects at the same distance.	
	<b>BGS-DL10T</b>	<b>BGS-DL25T</b>	<b>BGS-HDL05T</b>	<b>BGS-HDL25T2</b>
<b>Sensing Mode</b>	<b>BGS and FGS modes</b>	<b>BGS and FGS modes</b>	<b>BGS and FGS modes</b>	<b>BGS and FGS modes</b>
<b>Setting Distance Range</b>	40 to 100mm	100 to 250mm	20 to 50mm	50 to 250mm
<b>Light Source</b>	Red Semiconductor Laser	Red Semiconductor Laser	Red Laser Diode	Red Laser Diode
<b>Class</b>	Class 2 (IEC/JIS)	Class 2 (IEC/JIS)	Class 1 (IEC/JIS/FDA)	Class 2 (IEC/JIS/FDA)
<b>Wavelength/Max Output</b>	650nm/1mW	650nm/1mW	655nm/390 μW	655nm/1 mW
<b>Spot Size</b>	ø1mm / 80mm	ø2mm / 200mm	ø0.8mm / 35mm	ø1mm / 150mm
<b>Response Time</b>	1ms	1ms	1.5ms - 7ms	1.5ms - 14ms
<b>Minimum Detectable Height Difference</b>			0.08 mm	0.8 mm
<b>Repeat Accuracy</b>	.2 mm	.3mm	0.01 mm (display: 0.01)	0.1 mm (display: 0.1)
<b>Hysteresis</b>	3% of sensing distance	10% of sensing distance	0 to 22.49 mm Adjustable	0 to 149.9 mm Adjustable
<b>Distance Adjustment</b>	Teaching/Manual Type	Teaching/Manual Type	Teaching/Manual Type	Teaching/Manual Type
<b>Threshold Adjustment</b>	Teach / Manual Adjust after Teach	Teach / Manual Adjust after Teach	Teach / Manual Adjust after Teach	Teach / Manual Adjust after Teach
<b>Teach Modes</b>	BGS mode: 1-point, Position, FGS mode: 1-point, 2-point	BGS mode: 1-point, Position, FGS mode: 1-point, 2-point	1-point, 2-point, Zone	1-point, 2-point, Zone
<b>Indicators</b>	Output: Orange, Laser emission: Green	Output: Orange, Laser emission: Green	Output: Orange, Laser emission: Green, Mode Indicator: Red	Output: Orange, Laser emission: Green, Mode Indicator: Red
<b>Digital Display</b>	7-segment, 3-digit	7-segment, 3-digit	7-segment 4-digit LED Background or Target Mode	7-segment 4-digit LED Background or Target Mode
<b>Control Output</b>	1 each NPN or PNP by PN	1 each NPN or PNP by PN	2 each NPN/PNP	2 each NPN/PNP
<b>External Input</b>	Teach	Teach	Laser Off, Teach, Sample Hold & One-shot	Laser Off, Teach, Sample Hold & One-shot
<b>Timer Function</b>	ON-Dly, OFF-Dly, One-shot	ON-Dly, OFF-Dly, One-shot	ON-Dly, OFF-Dly, One-Shot	ON-Dly, OFF-Dly, One-Shot
<b>Output Mode</b>	Light-ON / Dark-ON	Light-ON / Dark-ON	Light-ON / Dark-ON, Zone, <b>FGS</b>	Light-ON / Dark-ON, Zone, <b>FGS</b>
<b>Input</b>	Teach	Teach	Laser OFF, Teach, Sample Hold, One-shot hold	Laser OFF, Teach, Sample Hold, One-shot hold
<b>Supply Voltage</b>	10 to 30VDC	10 to 30VDC	12 to 24VDC	12 to 24VDC
<b>Protection</b>	IP67	IP67	IP67	IP67
<b>Material</b>	Housing: ABS, Front Cover: PMMA	Housing: ABS, Front Cover: PMMA	Housing: Aluminum, Front Cover: PPSU	Housing: Aluminum, Front Cover: PPSU
<b>Includes</b>	Mounting Bracket	Mounting Bracket	Mounting Bracket	Mounting Bracket
<b>Connection Types Available</b>	Cabled, QD with M8 4 Pin	Cabled, QD with M8 4 Pin	Cabled, QD w/M8, QD w/M12	Cabled, QD w/M8, QD w/M12

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