PHOTOELECTRIC

FEATURED RECTANGLE RIGHT ANGLE

BARREL



Slot & Area

Slot sensors, also known as fork sensors, provide easy and reliable opposed-mode sensing of objects as small as 0.3 mm. Slot sensors are offered in a wide variety of sizes to meet your application needs.

SLOT & AREA MINIATURE FIBER OPTIC

Series	Description	Max Sensing Ra	ange	Dimensions H x W x D	Protection Rating	Housing Material	Power Supply
	SLM Easy to mount, focus-beamed sensors with powerful optics. Page 144	Opposed:	220 mm	Varies by model	IP67; NEMA 6	Die-cast zinc	10 to 30 V dc
	SL30 & SL10 A fixed-distance slot sensor with a slot that offers high speed sensing with expert push-button TEACH options. Page 146	Opposed:	30 mm	72 x 52 x 18.8 mm	IP67; NEMA 6	ABS/polycarbonate	10 to 30 V dc
	LX Part-Sensing Arrays provides wide area detection used for detecting small parts on conveyors, part ejection verification and leading edge detection. Page 148	Opposed:	2 m	Varies by model	IP65	Aluminum housing, die-cast zinc with black e-coated painted endcaps	10 to 30 V dc

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SLM Series



Rugged, Nickel-Plated, Fixed-Distance Slot Sensors

- Easy to mount, focus-beamed sensors with powerful optics.
- Powerful optics for detecting between sheets of plastic
- Requires no alignment, with easy and economical mounting that uses molded in-beam guides to simplify beam placement
- Rugged metal housing rated to IP67

Sensing Mode	Slot Width/ Depth	Width (W)	Depth (D)	Connection	Response	Models NPN	Models PNP
				2 m		SLM10B6 (Bipola	r NPN/PNP)
	10 mm/ 60 8 mm	42 mm	80 mm	4-Pin Euro Pigtail QD	500 µs	SLM10B6QPMA	Bipolar NPN/PNP)
SLOT	0010 1111			3-Pin Pico QD		SLM10N6Q	SLM10P6Q
	/			2 m		SLM20B6 (Bipola	r NPN/PNP)
	20 mm/ 60.8 mm	52 mm	80 mm	4-Pin Euro Pigtail QD	500 µs	SLM20B6QPMA	Bipolar NPN/PNP)
SLOT				3-Pin Pico QD		SLM20N6Q	SLM20P6Q
				2 m		SLM30B6 (Bipola	r NPN/PNP)
	30 mm/ 60.8 mm	62 mm	80 mm	4-Pin Euro Pigtail QD	500 µs	SLM30B6QPMA	Bipolar NPN/PNP)
SLOT				3-Pin Pico QD		SLM30N6Q	SLM30P6Q
	50 (2 m		SLM50B6 (Bipola	r NPN/PNP)
	50 mm/ 60.8 mm	82 mm	80 mm	4-Pin Euro Pigtail QD	500 µs	SLM50B6QPMA	Bipolar NPN/PNP)
SLOT				3-Pin Pico QD		SLM50N6Q	SLM50P6Q
				2 m		SLM80B6 (Bipola	r NPN/PNP)
	80 mm/ 60.8 mm	112 mm	80 mm	4-Pin Euro Pigtail QD	500 µs	SLM80B6QPMA	Bipolar NPN/PNP)
SLOT				3-Pin Pico QD		SLM80N6Q	SLM80P6Q
	100			2 m		SLM120B6 (Bipol	ar NPN/PNP)
	120 mm/ 120.7 mm	152 mm	140 mm	4-Pin Euro Pigtail QD	500 µs	SLM120B6QPMA	(Bipolar NPN/PNP)
SLOT				3-Pin Pico QD		SLM120N6Q	SLM120P6Q
	100 /			2 m		SLM180B6 (Bipol	ar NPN/PNP)
	180 mm/ 120.7 mm	202 mm	140 mm	4-Pin Euro Pigtail QD	500 µs	SLM180B6QPMA	(Bipolar NPN/PNP)
SLOT				3-Pin Pico QD		SLM180N6Q	SLM180P6Q
	000 (2 m		SLM220B6 (Bipol	ar NPN/PNP)
	220 mm/ 120.7 mm	252 mm	140 mm	4-Pin Euro Pigtail QD	500 µs	SLM220B6QPMA	(Bipolar NPN/PNP)
SLOT				3-Pin Pico QD		SLM220N6Q	SLM220P6Q

SLM Nickel-Plated

Visible Red LED

Connection options: A model with a QD requires a mating cordset

For 9 m cable, add suffix W/30 to the 2 m model number (example, SLM10B6 W/30).

SLOT & AREA MINIATURE **FIBER OPTIC**

4-Pin

MQDC-406

MQDC-415

MQDC-430

5 m (15')

9 m (30')

2 m (6')



Pico QD (for Q models) Straight connector models listed; for right-angle, W replaces G in the model number. (example, PKW3M-5) *There are no PKW3M-7, or PKW3M-10 models available



7 m (23')

9 m (30') PKG3M-10

10 m

PKG3M-9



Additional cordset information is available See page 758

Euro QD

(for ..Q8 or ..Q5 models)

Straight connector models

(example, MQDC-406RA)

listed; for right-angle, add RA

to the end of the model number

SLM Specifications

Slot Opening	10, 20, 30, 50	10, 20, 30, 50, 80, 120, 180 or 220 mm (depending on model); beam is 5 mm from outer edge								
Supply Voltage and Current	10 to 30 V dc	10 to 30 V dc (10% ripple) @ less than 25 mA, exclusive of load								
Supply Protection Circuitry	Protected aga	Protected against reverse polarity and transient voltages								
Output Configuration	Cabled and I Pico-style QI	Cabled and Euro-style QD models: Bipolar: One current sourcing (PNP) and one current sinking (NPN) Pico-style QD models: Current sourcing (PNP) or current sinking (NPN), depending on model								
Output Rating	100 mA with s OFF-state lea ON-state sat	100 mA with short circuit protection OFF-state leakage current: less than 10 μA sourcing; less than 200 μA sinking ON-state saturation voltage: NPN: 1.6 V @ 100 mA PNP: 2.0 V @ 100 mA								
Output Protection Circuitry	Protected aga during this tim	Protected against output short-circuit and false pulse on power up. 100 milliseconds max. delay at power up; outputs do not conduct during this time.								
Minimum Object Detection*	SLM10	SLM20	SLM30	SLM50	SLM80	SLM120	SLM180	SLM220		
at wax. Gain	1.00 mm	1.25 mm	1.50 mm	1.65 mm	1.80 mm	1.80 mm	1.80 mm	2.40 mm		
Minimum Object Detection* at 2X Excess Gain	0.30 mm	0.30 mm	0.40 mm	0.60 mm	0.75 mm	0.90 mm	0.90 mm	1.00 mm		
Hysteresis**	0.10 mm	0.10 mm	0.10 mm	0.10 mm	0.20 mm	0.20 mm	0.20 mm	0.20 mm		
Repeatability [†]	0.02 mm	0.02 mm	0.02 mm	0.04 mm	0.06 mm	0.08 mm	0.08 mm	0.08 mm		
Output Response Time	500 microsec	onds								
Repeatability	95 microseco	nds								
Adjustments	1-turn potenti Light Operate	ometer Sensitivity a / Dark Operate Se	adjustment election switch							
Indicators	Two LED Ind Solid Green: Solid Yellow: See datashee	Two LED Indicators: Solid Green: Power ON Flashing Green: output short circuit Solid Yellow: Output activated See datasheet for detailed information								
Construction	Housing: Die	-cast zinc Endcaps	s: ABS Opti	c windows: Acryli	С					
Environmental Rating	IEC IP67; NE	MA 6								
Connections	Cabled mode Pico-style QI Euro-style Q	Cabled models: 2 m or 9 m 4-conductor, PVC-jacketed cable Pico-style QD models: 3-pin, threaded Euro-style QD models: 4-pin, threaded 150 mm pigtail with polyurethane (PUR) cable								
Operating Conditions	Temperature	: -20° to +60° C	Relative hum	i dity : 95% @ 55° (C (non-condensing)					
Certifications	CE									

* Minimum Object Detection: Smallest diameter rod that can be detected when passed slowly through sensing beam.

NOTE: Minimum object detection is measured midway between the emitter and receiver. For best results, objects to be detected should be placed in the midway position when possible. The minimum object detection size may increase if the object is very close to the receiver side.

** Hysteresis: Distance an object must move to toggle between output OFF and output ON conditions.

* Repeatability: Variation in switching distance for a standard target at controlled sensing conditions.

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SL30 Series



Fixed-Distance Slot Sensors

- •Uses molded in-beam guides to simplify beam placement
- Provides easy-to-use self-contained opposed-mode sensor pair in rugged U-shaped housing
 - Features manual sensitivity adjustment or easy push-button TEACH-mode setup, depending on model
 - Cordsets and brackets see page 148

SL30

Sensing Mode	Slot Width	Connection	Output Type	Response	Repeatability	Models
SLOT 30 mm	30 mm	2 m	Bipolar	1 mo	050.00	SL30VB6V
	5-Pin Euro QD	NPN/PNP	11110	200 μ3	SL30VB6VQ	
SLOT 30 mm		2 m	Bipolar NPN/PNP	202	75 µs	SL30VB6VY
	30 mm	5-Pin Euro QD		300 µs		SL30VB6VYQ

SLO30

Infrared LED

Visible Red LED

Sensing Mode	Slot Width	Connection	Output Type	Response	Repeatability	Models
SLOT 30	30 mm	2 m	Bipolar NPN/PNP	1 ms	250 µs	SLO30VB6
		5-Pin Euro QD				SLO30VB6Q
SLOT 3C	30 mm	2 m	Bipolar NPN/PNP	300 µs	75 µs	SLO30VB6Y
		5-Pin Euro QD				SLO30VB6YQ

SLE30 Expert™

Visible Red LED

Sensing Mode	Slot Width	Connection	Output Type	Response	Repeatability	Models
SLOT 30 mm	30 mm	2 m	Bipolar	500 µs	100 µs	SLE30B6V
	0011111	5-Pin Euro QD	NPN/PNP			SLE30B6VQ
30 mm	2 m	Bipolar			SLE30B6VY	
	30 mm	5-Pin Euro QD	NPN/PNP	150 µs	75 µs	SLE30B6VYQ

For more specifications see page 148.

Connection options: A model with a QD requires a mating cordset (see page 148).

For 9 m cable, add suffix W/30 to the 2 m model number (example, SL30VB6V W/30).

SL10 Series



Fixed-Distance Slot Sensors

- Uses molded in-beam guides to simplify beam placement
- Provides easy-to-use self-contained opposed-mode sensor pair
 - Features manual sensitivity adjustment or easy push-button TEACH-mode setup, depending on model
 - Cordsets and brackets see page 148

SL10

SL10						Visible Red LED
Sensing Mode	Slot Width	Connection	Output Type	Response	Repeatability	Models
SLOT 10 mm	10 mm	2 m	Bipolar NPN/PNP	1 ms	250 µs	SL10VB6V
	10 1111	5-Pin Euro QD				SL10VB6VQ
SLOT	10 mm	2 m	Bipolar NPN/PNP	300 µs	75 µs	SL10VB6VY
		5-Pin Euro QD				SL10VB6VYQ

SLE10 Expert[™]

Sensing Mode	Slot Width	Connection	Output Type	Response	Repeatability	Models
SLOT 10 mm	10	2 m	Bipolar	500.00	100 µs	SLE10B6V
	10 mm	5-Pin Euro QD	NPN/PNP	500 µs		SLE10B6VQ
10 mm	10 mm	2 m	Bipolar	150.00	75	SLE10B6VY
	10 mm	5-Pin Euro QD	NPN/PNP	150 µS	75 µs	SLE10B6VYQ

For more specifications see page 148.

Connection options: A model with a QD requires a mating cordset (see page 148).

For 9 m cable, add suffix W/30 to the 2 m model number (example, SL10VB6V W/30).

Visible Red LED

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RECTANGLE

RIGHT ANGLE

BARREL

Euro-Style Straight connector models listed; for right-angle, add RA to the end of the model number (example, MQDC1-506RA) 5-Pin MQDC1-501.5 0.5 m (1.6') MQDC1-506 2 m (6.5') MQDC1-515 5 m (15') MQDC1-530 9 m (30')

Additional cordset information is available See page 758



SMBSL 12-ga. stainless steel

Additional bracket information is available See page 724



SL30, SL10 and SLO30 Specifications

Supply Voltage and Current	10 to 30 V dc, 30 mA
Supply Protection Circuitry	Protected against reverse polarity and transient voltages
Output Configuration	Bipolar: One current sinking (NPN) and one current sourcing (PNP) open-collector transistor
Output Rating	150 mA, each output
Output Protection Circuitry	Protected against false pulse on power-up and short-circuit of outputs
Output Response Time	1 millisecond or 300 microseconds, depending on model
Repeatability	250 microseconds or 75 microseconds, depending on model
Adjustments	SL30 and SL10: 4-turn clutched potentiometer sensitivity adjustment SL030: None
Indicators	Green: Power ON/OFF indicator Yellow: Signal condition indicator
Construction	Housing: ABS/polycarbonate Lenses: Acrylic
Environmental Rating	IP67; NEMA 6
Connections	2 m or 9 m 5-conductor PVC-jacketed attached cable, or 5-pin Euro-style quick-disconnect (QD) fitting. QD cordsets are ordered separately.
Operating Conditions	Temperature: -40° to +70° C Relative humidity: 90% @ 50° C (non-condensing)
Certifications	(F

SLE30 and SLE10 *Expert*™ Specifications

Supply Voltage and Current	10 to 30 V dc (10% max. ripple) at less than 45 mA, exclusive of load						
Supply Protection Circuitry	Protected against reverse polarity and transient voltages						
Output Configuration	Bipolar: One current sourcing (PNP) and one current sinking (NPN) open-collector transistor						
Output Rating	150 mA max. each output at 25° C, derated to 100 mA at 70° C (derate ≈1 mA per ° C) OFF-state leakage current: less than 5 μA @ 30 V dc ON-state saturation current: less than 1 V @ 10 mA; less than 1.5 V @ 150 mA						
Output Protection Circuitry	Protected against false pulse on power-up and continuous overload or short-circuit of outputs						
Output Response Time	Sensors will respond to either a "light" or a "dark" signal of 500 microseconds (or 150 microseconds, depending on model) or longer duration, 1 kHz max						
Delay at Power-up	1 second; outputs are non-conducting during this time						
Repeatability	100 microseconds or 75 microseconds, depending on model						
Adjustments	Pushbutton TEACH-mode sensitivity setting; remote TEACH-mode input						
Indicators	 Two LEDs: Yellow and Bicolor Green/Red Green (RUN Mode): ON when power is applied Flashes when received light level approaches the switching threshold Red (TEACH Mode): OFF when no signal is received. Pulses to indicate signal strength (received light level). Rate is proportional to signal strength (the stronger the signal, the faster the pulse rate). This is a function of Banner's Alignment Indicating Device (AID™). Alternating Red/Green: Microprocessor memory error Flashing Yellow (Static TEACH): ON to indicate sensor is ready to learn output ON condition OFF to indicate sensor is ready to learn output OFF condition Yellow (Dynamic TEACH): Pulses at 0.5 Hz when ready to sample ON to indicate sampling OFF to indicate sampling was accepted Yellow (RUN Mode): ON when outputs are conducting 						
Construction	Housing: ABS/polycarbonate Lenses: Acrylic						
Environmental Rating	IEC IP67; NEMA 6						
Connections	PVC-jacketed 5-conductor 2 m or 9 m unterminated cable, or 5-pin Euro-style quick-disconnect (QD) fitting. QD cordsets are ordered separately.						
Operating Conditions	Temperature: -20° to +70° C Relative humidity: 90% at 50° C (non-condensing)						
Application Notes	The first condition presented during TEACH mode becomes the output ON condition						
Certifications	CE						