

Light Grids CX Series

Sender/Receiver Pair - Object Detection CX0 Models

- Total crossbeam through all the optics
- 160 and 320mm detection heights
- Beam resolution 5mm and 10mm
- Operating distance up to 6m
- Digital PNP output
- N.O./N.C. configurable
- Adjustment by teach-in with 2 levels of adjustment
- Three-year warranty
- Mounting hardware included



Sender/Receiver Pair Light Grids - CX0 Models Selection Chart

Part Number	Price	Beam Resolution	Detection Height	Operating Distance	Output	Input Voltage	Smallest Detectable Object		Maximum Response Time	Connection	Weight kg [lbs]
							(Fine Teach)	(Gross Teach)			
<u>CX0E1RP-05-016V</u>	\$333.00	5mm [0.09 in]	160mm [6.3 in]	0.3 - 3m [0.98 - 9.84 ft]	PNP; N.O./N.C. configurable	16.8-30 VDC	1.5 mm [0.05 in]	2.5 mm [0.09 in]	11ms	(1) 4-pin and (1) 5-pin M12 quick-disconnect Length: 8.6 in [220mm]	0.5 [1.1]
<u>CX0E1RP-10-016V</u>	\$245.00	10mm [0.39 in]	160mm [6.3 in]	0.5 - 6m [1.64 - 19.68 ft]	PNP; N.O./N.C. configurable		2.5 mm [0.09 in]	4mm [0.15 in]	5.3 ms		0.5 [1.1]
<u>CX0E1RP-10-032V</u>	\$416.00	10mm [0.39 in]	320mm [12.6 in]	1 - 6m [3.28 - 19.68 ft]	PNP; N.O./N.C. configurable		2.5 mm [0.09 in]	4mm [0.15 in]	6.6 ms		1 [2.2]

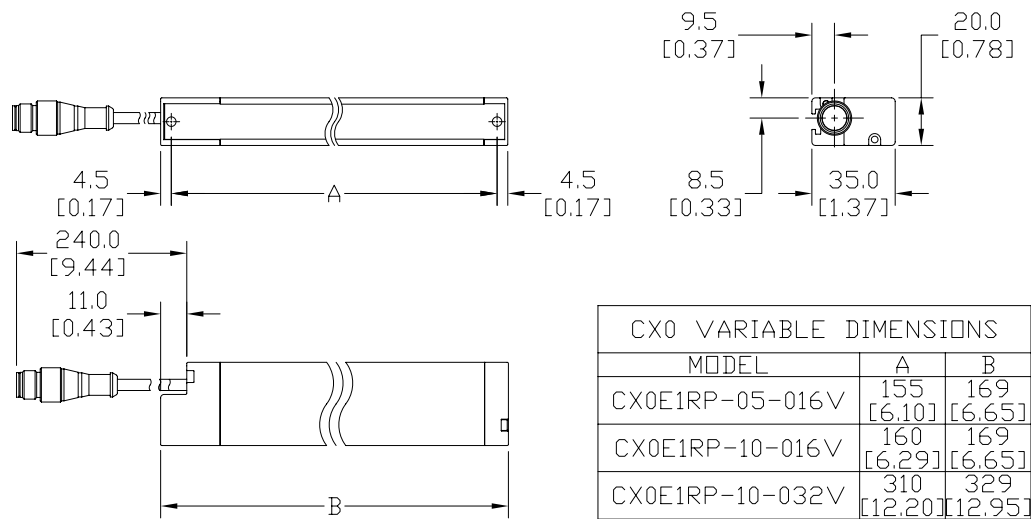
Purchase cable separately.

Light Grids CX Series

Light Grids - CX0 Models

Dimensions

mm [inches]

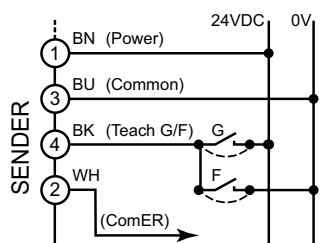


See our website: www.AutomationDirect.com for complete Engineering drawings.

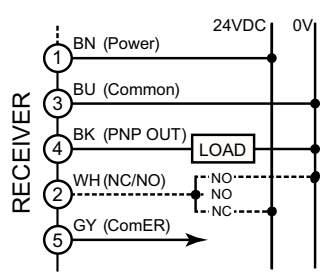
Light Grids CX Series

Light Grids - CX0 Models

Connections

Sender with Teach-In CX0 Models						
M12, 4-Pole Male Connector	Wiring		Connector			
		Pin	Color	Signal	Description	
		1	BN	24VDC	Power supply input from 16.8 to 30V	
		2	WH	ComER	Connect to same signal of the receiver, maximum cable length: 20m	
		3	BU	0V	Supply voltage reference, this pin must be tied together to the common of the receiver, maximum cable length: 20m	
		4	BK	Teach G/F	Teach-in input: GROSS at 24VDC; FINE at 0V	

NOTE: Pin 2 (ComER) must be connected to Pin 5 (ComER) of the receiver.

Receiver with Output PNP and Teach-In Function CX0 Models						
M12, 5-Pole Male Connector	Wiring		Connector			
		Pin	Color	Signal	Description	
		1	BN	24VDC	Power supply input from 16.8 to 30V	
		2	WH	N.C./N.O.	Open or 0VDC: Set output normally open, Dark operate +24VDC: Set output normally closed, Light operate	
		3	BL	0VDC	Supply voltage reference. This pin must be tied together to the common of the sender, maximum cable length: 20m	
		4	BK	PNP Out	Apply a load connected to the common, maximum current 100mA.	
		5	GY or GN/YL	ComER	Connect to the same signal of the sender, maximum cable length: 20m	

NOTE: Pin 5 (ComER) must be connected to Pin 2 (ComER) of the sender.

Light Grids CX Series

Sender/Receiver Pair - Measuring CX2 Models

- Parallel beams and floating crossbeams with variable amplitude
- Synchronization by cable
- Beam resolution 5mm and 10mm
- Detection height up to 960mm
- Maximum operating distance up to 6m
- Digital outputs PNP ; analog current output (4 to 20mA) or analog voltage output (0 to 10V)
- Blanking function
- Three-year warranty



Sender/Receiver Pair Light Grids CX2 Models Selection Chart

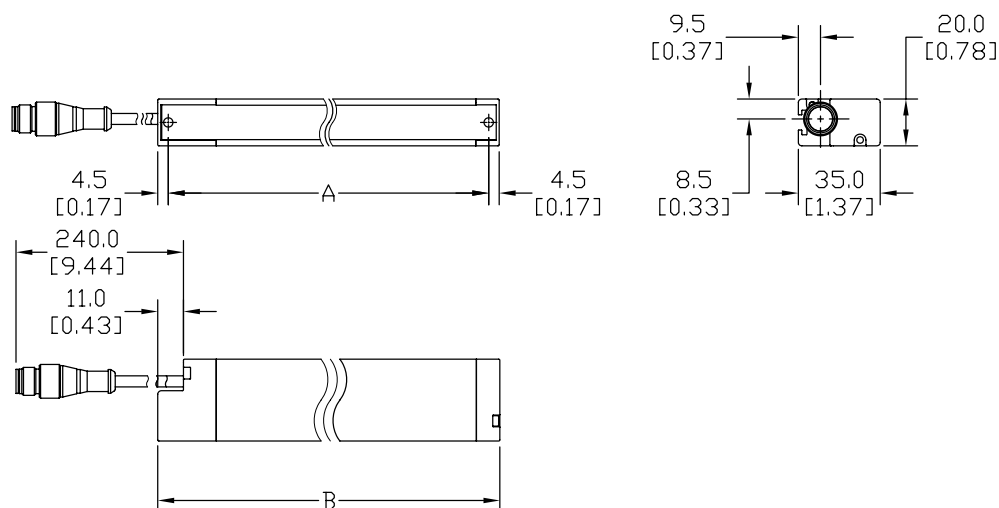
Part Number	Price	Beam Resolution	Detection Height	Operating Distance	Output	Input Voltage	Smallest Detectable Object		Maximum Response Time	Connection	Weight kg [lb]	
							(Fine Teach)	(Gross Teach)				
CX2E0RF-05-016V	\$333.00	5mm [0.09 in]	160mm [6.3 in]	0.1 - 3m	PNP; N.O./N.C. configurable; 0-10 VDC analog out	16.8-30 VDC	1.5 mm	2.5 mm	14.8 ms	(1) 4-pin and (1) 8-pin M12 quick-disconnect Length: 9.4 in [240mm]	1.1 kg [2.43 lb]	
CX2E0RF-05-032V	\$600.00		320mm [12.6 in]				4mm	5mm	27.6 ms		2.2 kg [4.85 lb]	
CX2E0RF-05-048V	\$854.00		480mm [18.90 in]						40.4 ms		3.5 kg [7.72 lb]	
CX2E0RD-05-016V	\$333.00		160mm [6.3 in]		PNP; N.O./N.C. configurable; 4-20mA analog out		1.5 mm	2.5 mm	14.8 ms		1.1 kg [2.43 lb]	
CX2E0RD-05-032V	\$600.00		320mm [12.6 in]				4mm	5mm	27.6 ms		2.2 kg [4.85 lb]	
CX2E0RD-05-048V	\$854.00		480mm [18.90 in]						40.4 ms		3.5 kg [7.72 lb]	
CX2E0RF-10-016V	\$313.00	10mm [0.39 in]	160mm [6.3 in]	0.3 - 6m [0.98 - 19.68 ft]	PNP; N.O./N.C. configurable; 0-10 VDC analog out		2.5 mm	4mm	8.4 ms		1.1 kg [2.43 lb]	
CX2E0RF-10-032V	\$441.00		320mm [12.6 in]						14.8 ms		2.2 kg [4.85 lb]	
CX2E0RF-10-048V	\$600.00		480mm [18.90 in]				8mm	10mm	21.2 ms		3.5 kg [7.72 lb]	
CX2E0RF-10-064V	\$706.00		640mm [25.20 in]						27.6 ms		4.5 kg [9.90 lb]	
CX2E0RF-10-080V	\$859.00		800mm [31.50 in]						34ms		5.7 kg [12.57 lb]	
CX2E0RF-10-096V	\$970.00		960mm [37.79 in]						40.4 ms		6.6 kg [14.55 lb]	
CX2E0RD-10-016V	\$313.00		160mm [6.3 in]		PNP; N.O./N.C. configurable; 4-20mA analog out		2.5 mm	4mm	8.4 ms		1.1 kg [2.43 lb]	
CX2E0RD-10-032V	\$441.00		320mm [12.6 in]						14.8 ms		2.2 kg [4.85 lb]	
CX2E0RD-10-048V	\$600.00		480mm [18.90 in]				8mm	10mm	21.2 ms		3.5 kg [7.72 lb]	
CX2E0RD-10-064V	\$706.00		640mm [25.20 in]						27.6 ms		4.5 kg [9.90 lb]	
CX2E0RD-10-080V	\$859.00		800mm [31.50 in]						34ms		5.7 kg [12.57 lb]	
CX2E0RD-10-096V	\$970.00		960mm [37.79 in]						40.4 ms		6.6 kg [14.55 lb]	

Purchase cable separately.

Light Grids CX Series

Dimensions

mm [inches]



CX2 VARIABLE DIMENSIONS		
MODEL	A	B
CX2E0RF-05-016V	160 [6.29]	169 [6.65]
CX2E0RF-05-032V	320 [12.59]	329 [12.95]
CX2E0RF-05-048V	480 [18.89]	489 [19.25]
CX2E0RF-10-016V	160 [6.29]	169 [6.65]
CX2E0RF-10-032V	320 [12.59]	329 [12.95]
CX2E0RF-10-048V	480 [18.89]	489 [19.25]
CX2E0RF-10-064V	640 [25.19]	649 [25.55]
CX2E0RF-10-080V	800 [31.49]	809 [31.85]
CX2E0RF-10-096V	960 [37.79]	969 [38.14]

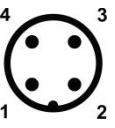
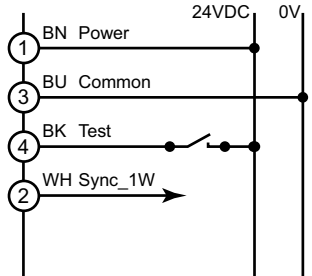
MODEL	A	B
CX2E0RD-05-016V	160 [6.29]	169 [6.65]
CX2E0RD-05-032V	320 [12.59]	329 [12.95]
CX2E0RD-05-048V	480 [18.89]	489 [19.25]
CX2E0RD-10-016V	160 [6.29]	169 [6.65]
CX2E0RD-10-032V	320 [12.59]	329 [12.95]
CX2E0RD-10-048V	480 [18.89]	489 [19.25]
CX2E0RD-10-064V	640 [25.19]	649 [25.55]
CX2E0RD-10-080V	800 [31.49]	809 [31.85]
CX2E0RD-10-096V	960 [37.79]	969 [38.14]

See our website: www.AutomationDirect.com for complete Engineering drawings.

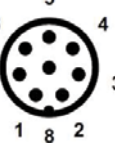
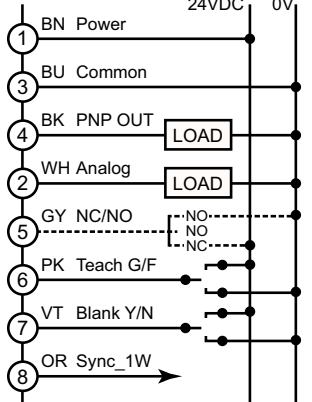
Light Grids CX Series

Light Grids - CX2 Models

Connections

Sender with Input Test CX2 Models					
M12, 4-Pole Male Connector	Wiring	Connector			
		Pin	Color	Signal	Description
		1	BN	24VDC	Power supply input from 16.8 to 30V
		2	WH	Sync_1W	Connect to same signal of the receiver, maximum cable length: 20m
		3	BU	0V	Supply voltage reference, this pin must be tied together to the common of the receiver, maximum cable length: 20m
		4	BK	Test	Test input: if it is connected to the positive it interrupts the emission

NOTE: Pin 2 (Sync 1W) must be connected to Pin 8 (Sync 1W on the receiver), otherwise the yellow LED of the sender and receiver are flashing highlighting an error.

Receiver with Output PNP and Teach-In Function CX2 Models					
M12, 8-Pole Male Connector	Wiring	Connector			
		Pin	Color	Signal	Description
		1	BN	24VDC	Power supply input from 16.8 to 30V
		2	WH	Analog	Analog Voltage Output 0-10V, or 4-20mA, depending on model
		3	BU	0V	Supply voltage reference. This pin must be tied together the common of the sender, maximum cable length: 20m
		4	BK	PNP Out	Apply a load connected to the common, maximum current 100mA
		5	GY	N.C./N.O.	Open or 0VDC: Outputs proportional to optics in Dark +24VDC: Outputs proportional to optics in Light
		6	PK	Teach G/F	Teach-in input: GROSS at 24VDC; FINE at 0V
		7	VT	Blank Y/N	BLANKING at Power-ON Activation (at positive) - Deactivation (at common)
		8	OR	Sync_1W	Connect to the same signal of the sender, maximum cable length: 20m

NOTE: Pin 8 (Sync 1W) must be connected to Pin 2 (Sync_1W on the sender), otherwise the yellow LED of the receiver and sender are flashing highlighting an error.

Light Grids CX Series Specifications

Light Grids CX Series Specifications		
Model	CX0	CX2
Type	Through-Beam	
Sensing Distance	0.3 - 3m (5mm beam resolution) 0.5 - 6m (10mm beam resolution 160mm detection height) 1 - 6m (10mm beam resolution 320mm detection height)	0.1 - 3m (5mm beam resolution) 0.3 - 6m (10mm beam resolution)
Detection Height Beam Resolution 5mm	160mm	160mm; 320mm; 480mm
Number of Beams Beam Resolution 5mm	32	33 (160mm); 65 (320mm); 97 (480mm)
Detection Height Beam Resolution 10mm	160mm; 320mm	160mm; 320mm; 480mm; 640mm; 800mm; 960mm
Number of Beams Beam Resolution 10mm	17 (160mm); 32 (320mm)	17 (160mm); 33 (320mm); 49 (480mm); 65 (640mm); 81 (800mm); 97 (960mm)
Emission	IR 850nm (5mm beam resolution); 880nm (10mm beam resolution)	
Sensitivity	Teach	
Time Teach-in Process (s)	15s max	= 0.5°N° beams
Time Blanking (s)	NA	= 1° N° beams
Output Type	PNP	PNP + 0 – 10V analog V or PNP + 4 – 20mA analog A
Operating Voltage	16.8 – 30 VDC	
No-load Supply Current	Sender: 120mA (@ 24V) max Receiver: 90mA (@ 24V) max	Sender: 200mA (@ 24V) max Receiver: 200mA (@ 24V) max
Operating (Load) Current	100mA	
Off-state (Leakage) Current	10µA	10µA
Voltage Drop	≤ 1.5V	
Switching Frequency	280Hz max (17 beams) 83Hz max (32 beams)	59.5 Hz (17 beams) 33.7 Hz (33 beams) 23.5 Hz (49 beams) 18.1 Hz (65 beams) 14.7 Hz (81 beams) 12.3 Hz (97 beams)
Ripple	≤ 10%	
Time Delay Before Availability (tv)	200ms	
Short-Circuit Protection	Yes	
Operating Temperature	-10 to 55 °C [14 to 131 °F]	
Protection Degree (DIN 40050)	IP67	
Sender LED Indicators - Switching Status	Refer to manual	
Receiver LED Indicators - Switching Status	Refer to manual	
Housing Material	Painted aluminum	
Lens Material	PC (Polycarbonate)	
Shock/Vibration	Acc. to IEC 60947-5-2	
Tightening Torque	NA	
Weight	0.48 kg [1.05 lb]	2.6 kg [5.73 lb]
Agency Approval	UL Listed E187310, CE	

To obtain the most current agency approval information, see the Agency Compliance & Certifications Checklist section on the specific part number's web page.

Light Grids CX Series Accessories

Light Grids Mounting Brackets CX Series		
Part Number	Price	Description
<u>ST151</u>	\$8.25	Mounting bracket, replacement, right-angle, zinc plated steel. Package of 2. For use with CX light grids.
<u>ST4VS</u>	\$21.50	Mounting bracket, right-angle, zinc plated steel, anti-vibration mount. Package of 4. For use with 160mm height CX light grids.
<u>ST8VS</u>	\$27.50	Mounting bracket, right-angle, zinc plated steel, anti-vibration mount. Package of 8. For use with 320-960mm height CX light grids.



[ST151](#)



[ST4VS](#)



[ST8VS](#)