CONTRINEX

C23 Rectangular Photoelectric Transparent Object Sensors

TRR-C23PA-PMS-603

TRU-C23PA-TMS-603

Overview

Whatever the application, C23 series sensors meet its highest demands. Their miniature size (20 x 30 x 10 mm), first-class sensing ranges and practical accessories are ideal for limited spaces. Housings have an IP67 enclosure rating and are Ecolab-approved for use in hygienic areas. Versions with patented UV technology set new benchmarks for transparent object detection. Versatile mounting brackets ensure ease of installation. All PNP types include IO-Link communication.

20 x 30mm plastic – DC

- Retroreflective
- Axial cable or M8 quick-disconnect models; purchase cable separately
- Complete overload protection
- IP67 rated
- 2-year warranty
- IO-Link v1.0 on PNP models

NEED CABLES?

MADE IN USA

C23 Photoelectric Transparent Object Sensors									
Part Number	Price	Sensing Range	Switching Frequency	Light Type	Logic	Output Function	Connection Type	Wiring	Drawing Link
Transparent Reflex - Potentiometer									
TRR-C23PA-PMK-603	$54.00	20-4200mm [0.78-165.35 in]	1.5 kHz	LED, Red 630nm	PNP	Complementary Light-on / Dark-on	4-wire, 2m [6.5 ft] cable	2	PDF
TRR-C23PA-PMK-101	$54.00				NPN		4-wire, 2m [6.5 ft] cable	1	PDF
TRR-C23PA-PMS-603	$54.00				PNP		4-wire, 4-pin M8 quick-disconnect	2	PDF
TRR-C23PA-PMS-101	$54.00				NPN		4-wire, 4-pin M8 quick-disconnect	1	PDF
Transparent Reflex - Teach-in button									
TRR-C23PA-TMK-603	$54.00	20-4200mm [0.78-165.35 in]	1.5 kHz	LED, Red 630nm	PNP	Complementary Light-on / Dark-on	4-wire, 2m [6.5 ft] cable	2	PDF
TRR-C23PA-TMK-101	$54.00				NPN		4-wire, 2m [6.5 ft] cable	1	PDF
TRR-C23PA-TMS-101	$54.00				NPN		4-wire, 4-pin M8 quick-disconnect	1	PDF
Transparent UV Reflex - Teach-in button									
TRU-C23PA-TMK-603	$120.00	0 to 1200 mm [0 to 47.24 in]	1 kHz	UV 275nm	PNP	Complementary Light-on / Dark-on	4-wire, 2m [6.5 ft] cable	2	PDF
TRU-C23PA-TMK-101	$120.00				NPN		4-wire, 2m [6.5 ft] cable	1	PDF
TRU-C23PA-TMS-603	$120.00				PNP		4-wire, 4-pin M8 quick-disconnect	2	PDF
TRU-C23PA-TMS-101	$120.00				NPN		4-wire, 4-pin M8 quick-disconnect	1	PDF

Note: Purchase reflector separately.
Warning: These products are not safety sensors and are not suitable for use in personal safety applications.

C23 Rectangular Photoelectric Transparent Object Sensors

CE cULus ECOLAB® ⬦ IO-Link

C23 Photoelectric Transparent Object Sensors		
Sensor type	*Transparent Reflex*	*Transparent UV Reflex*
Sensing Distance [1]	10 to 250mm [0.39 to 9.84 in]	3 to 1200mm [0.11 to 47.24 in]
Light Spot Diameter [Distance]	40mm [1m]	11mm [500mm] 21mm [1000mm]
Emission	LED, Red 630nm	UV 275nm
Sensitivity	30 to 5000 mm, teach-in button or IO-Link (TRR-C23PA-TMx-603) 30 to 5000 mm, 3/4 turn pot (TRR-C23PA-PMx-101)	40 to 1200 mm, teach-in button or IO-Link for (TRU-C23PA-TMx-603)
Output Types	NPN or PNP	
Operating Voltage	10-30 VDC	
No Load Supply Current	≤ 15mA	≤ 15mA
Operating (Load) Current	≤ 100 mA	
Response Time	≤ 340 µs (normal) ≤ 1 ms/≤ 100 µs	≤ 500 µs (normal) ≤ 1 ms/≤ 200 µs
Switching Frequency	≤ 1.5 kHz (normal) ≤ 500 Hz / ≤ 5 kHz	≤ 1 kHz (normal) ≤ 500Hz / ≤ 2.5kHz
Ripple	10%Vpp	
Voltage Reversal Protection	Yes	
Short-circuit Protection	Yes	
Operating Temperature	-25 to 65°C [-13 to 149°F]	
Protection Degree	IP67	
LED Indicators - Switching Status	Green LED: excess gain; yellow LED sensing state	
Housing Material	ABS Acrylonitrile Butadiene Styrene	
Lens Material	PMMA - Poly (methyl methacrylate)	
Shock/Vibration	IEC 60947-5-2	
Tightening Torque	0.2 N•m [0.14 lb•ft]	
Weight	6g [0.21 oz] Connector version 42g [1.48 oz.] Cable version	5g [0.17 oz] Connector version 41g [1.44 oz] Cable version
IO-Link	IO-Link version 1.0, PNP units only	
Connectors	PVC, 2m [6.5 ft] 4-wire; M8 4-pin connector	
Agency Approvals	cULus, CE, Ecolab	

[1] **Object with 90% reflectance (standard white paper)**

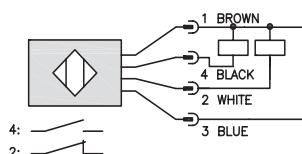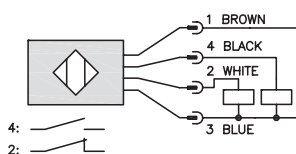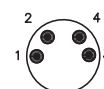## Wiring Diagrams

Diagram 1
4-Wire NPN Output

Diagram 2
4-Wire PNP Output

Note: Pin 4 also used for IO link

M8 connector

Photoelectric Sensors

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C23 Mounting Brackets

C23 Mounting Brackets

LXW-C23PA-000   **LXW-C23PA-001**   **LXW-C23PA-002**   **LXW-C23PA-003**

C23 Mounting Brackets				
Part Number	*Price*	*Description*	*Weight*	*Drawing Link*
LXW-C23PA-000	$5.50	Contrinex mounting bracket, right-angle horizontal, 304 stainless steel. For use with Contrinex C23 photoelectric sensors.	13g	PDF
LXW-C23PA-001	$5.50	Contrinex mounting bracket, right-angle vertical, 304 stainless steel. For use with Contrinex C23 photoelectric sensors.	20g	PDF
LXW-C23PA-002	$6.50	Contrinex mounting bracket, protective, 304 stainless steel. For use with Contrinex C23 photoelectric sensors.	16g	PDF
LXW-C23PA-003	$14.00	Contrinex mounting bracket, protective dual-axis, 304 stainless steel. For use with Contrinex C23 photoelectric sensors.	49g	PDF

CONTRINEX Reflectors

C23 TRU Series Reflectors

- Protection: IP67
- Temperature: -40 to +70 °C [-40 to 158 °F]
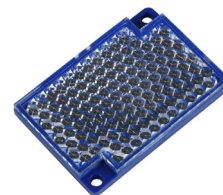- Material: Plastic
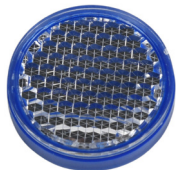
LXU-0000-025   LXU-0000-084   LXU-0001-032   LXU-0001-064

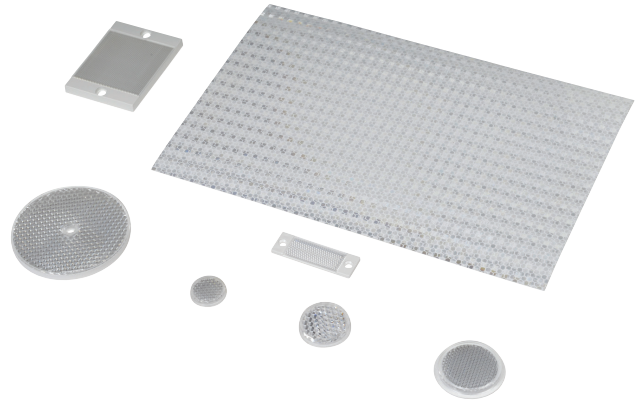| C23 TRU Series Reflectors					
Part Number	Price	Description	Self-adhesive	Weight	Drawing Link
LXU-0000-025	$15.50	Contrinex reflector, round, 26.4mm. Package of 1. For use with Contrinex C23 TRU series photoelectric sensors.	Yes	4g	PDF
LXU-0000-084	$15.50	Contrinex reflector, round, 82mm. Package of 1. For use with Contrinex C23 TRU series photoelectric sensors.	No	27g	PDF
LXU-0001-032	$15.50	Contrinex reflector, rectangular, 20 x 32mm. Package of 1. For use with Contrinex C23 TRU series photoelectric sensors.	No	4g	PDF
LXU-0001-064	$15.50	Contrinex reflector, rectangular, 41 x 60mm. Package of 1. For use with Contrinex C23 TRU series photoelectric sensors.	No	14g	PDF

Reflectors

RL Series Reflectors for Polarized Reflective Photoelectric Sensors (All Models)

- Suitable for use with polarized light photoelectric sensors
- Shapes and sizes for most applications
- Miniature types for close mounting in multiple sensor installations
- Single hole, dual hole and self-adhesive mounting types available
- Single and 10-packs available

Installation Notes

- Keep the reflector surface clean to ensure peak detection performance. This is especially true when the maximum sensing range is being used. Clean using a damp cloth.
- When selecting a reflector, it is important to consider the ambient conditions it will be exposed to. Dusty or high humidity conditions may reduce the sensing range as much as 90%.
- Reflectors should be positioned at a 90° angle to the optical axis with a tolerance of ±15°.

Reflector Specifications							
Part number	Price	Drawing Link	Quantity	Dimensions mm [in]	Degree of Protection	Mounting	Materials
RL102	$38.00	PDF	10	25 [0.98]	IEC IP67	Customer-supplied adhesive or other mounting method required	Reflective face: PMMA Polymethylmethacrylate (acrylic) Base material: ABS (Acrylonitrile-butadiene-styren)
RL102-1	$4.25		1				
RL103	$42.50	PDF	10	34.5 [1.36]			
RL103-1	$4.75		1				
RL104	$42.50	PDF	10	46 [1.81]			
RL104-1	$4.75		1				
RL105G	$38.00	PDF	10	95 x 38 [3.74 x 1.50]		Two 4.3 mm holes	
RL105G-1	$4.25		1				
RL106G	$42.50	PDF	10	182 x 42 [7.17 x 1.65]		Two 6mm holes	
RL106G-1	$4.75		1				
RL110	$19.00	PDF	10	84 [3.31]		One 5mm hole	
RL110-1	$2.00		1				
RL116	$19.00	PDF	10	41 x 60 [3.54 x 2.36]		Two 3mm holes	
RL116-1	$2.00		1				
RL100DA4	$38.50	NA	1	200 x 300 [7.87 x 11.81]		Self-adhesive	Paper (Acrylic tape with micro prism)
RL100DC4	$12.00	NA	1	50 x 300 [1.97 x 11.81]			
RL100DQ1	$8.75	NA	1	100 x 100 [3.94 x 3.94]			
RL111G	$60.00	PDF	10	22.5 x 47 [0.89 x 1.85]		Two 3mm slots	Reflective face: PMMA Polymethylmethacrylate (acrylic) Base material: ABS (Acrylonitrile-butadiene-styren)
RL111G-1	$7.25		1				
RL112G	$44.00	PDF	10	19 x 73 [0.75 x 2.87]			
RL112G-1	$4.75		1				
RL113G	$53.00	PDF	10	51.4 x 60.3 [2.02 x 2.37]		Two 4mm slots	
RL113G-1	$6.00		1				

Not recommended for applications involving moist air environments or water immersion.