OrSense RW Series Photoelectric Sensors

Overview

The RW series photoelectric sensors are great for particularly small applications where space is restricted. They are reliable for position detection in feeding and handling technology, and offer precise detection of small, flat or highly reflective components. The compact light spot is ideal for precise detection even at longer distances.



RWRR-DN-0F

14x8x28 mm plastic - DC

- Diffuse reflective with background suppression, diffuse reflective, polarized retroreflective, through-beam styles
- Axial cable or M8 quick-disconnect models; purchase cable separately
- Complete overload protection
- IP65/67 rated





RW Series Photoelectric Sensors Selection Table									
Part Number	Price	Sensing Distance ¹	Switching Frequency	Light Type	Logic	Output Function	Connection Type	Wiring	Drawing Link
Diffuse reflective with background suppression									
RWRS-LP-1A	\$46.00	3 to 15 mm	- 1000 Hz	Visible red	PNP	Light-on	3-wire, pigtail, 2m [6.5ft] cable	2	PDF
RWRS-LP-1F	\$48.00				PNP		3-wire, 4-pin M8 quick-disconnect	2	PDF
RWRS-LN-1F	\$48.00	[0.11 to 0.00 iii]			NPN		300mm [11.8in]	1	PDF
RWRS-LP-3A	\$46.00				PNP		3-wire, pigtail, 2m [6.5ft] cable	2	PDF
RWRS-LP-3F	\$48.00	1 to 30 mm [0.03 to 1.18 in]			PNP		3-wire, 4-pin M8 quick-disconnect 300mm [11.8in]	2	PDF
RWRS-LN-3F	\$48.00	[0.00 to 1.10 iii]			NPN			1	PDF
RWRS-LP-5A	\$46.00	1 to 50 mm			PNP		3-wire, pigtail, 2m [6.5ft] cable	2	PDF
RWRS-LP-5F	\$48.00				PNP		3-wire, 4-pin M8 quick-disconnect 300mm [11.8in]	2	PDF
RWRS-LN-5F	\$48.00	[0.03 to 1.90 iii]			NPN			1	PDF
RWRS-LP-7A	\$46.00				PNP		3-wire, pigtail, 2m [6.5ft] cable	2	PDF
RWRS-LP-7F	\$48.00	1 to 80 mm [0.03 to 3.14 in]			PNP		3-wire, 4-pin M8 quick-disconnect 300mm [11.8in]	2	PDF
RWRS-LN-7F	\$48.00	[0.03 to 3.14 iii]			NPN			1	PDF
Diffuse reflective			l						
RWRT-LP-0A	\$46.00		1000 Hz	Visible red	PNP	Light-on	3-wire, pigtail, 2m [6.5ft] cable	2	PDF
RWRT-LP-0F	\$46.00	180mm [7.08 in]			PNP		3-wire, 4-pin M8 quick-disconnect	2	PDF
RWRT-LN-0F	\$46.00	[7.00 11]			NPN		300mm [11.8in]	1	PDF
*Polarized retroreflective									
RWRP-DP-0A	\$46.00		1000 Hz	Visible red	PNP	Dark-on	3-wire, pigtail, 2m [6.5ft] cable	2	PDF
RWRP-DP-0F	\$46.00	0.02 to 1.8 m			PNP		3-wire, 4-pin M8 guick-disconnect	2	PDF
RWRP-DN-0F	\$46.00	[0.00 to 5.90 it]	[0.06 to 5.90 ft] 1000 Ft2 Visible Feb FNF Baix-off 3-wire, 4-pin M8 quick-disc 300mm [11.8in]			1	PDF		
*Purchase reflector	separately								
Through-beam emit	tters								
RWRE-00-0A	\$31.50	3m	N/A	Visible red	N/A	N/A	2-wire, pigtail, 2m [6.5ft] cable	3	PDF
RWRE-00-0F	\$31.50	[9.84 ft]			N/A	N/A	2-wire, 3-pin M8 quick-disconnect 300mm [11.8in]	3	<u>PDF</u>
Through-beam receivers									
RWRR-DP-0A	\$39.50	2	1000 Hz	Visible red	PNP	Dark-on	3-wire, pigtail, 2m [6.5ft] cable	2	PDF
RWRR-DP-0F	\$39.50	3m [9.84 ft]			PNP		3-wire, 4-pin M8 quick-disconnect	2	PDF
RWRR-DN-0F	\$39.50	[5.04 11]			NPN		300mm [11.8in]	1	<u>PDF</u>
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¹Object with 90% reflectance (standard white paper)

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

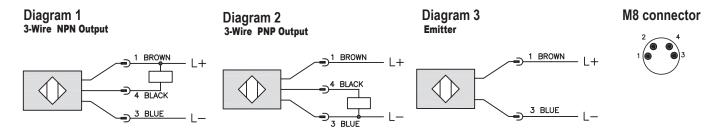
www.automationdirect.com

PrSense RW Series Photoelectric Sensors

RW Series Photoelectric Sensors Specifications						
Sensor type	Diffuse reflective with background suppression	Diffuse reflective	Polarized retroreflective	Through-beam		
Sensing Distance ¹	See selection table					
Light Spot Diameter at Max Distance	4mm	18mm	120mm	200mm		
Emission	Red light 633nm					
Sensitivity	N/A					
Output Types	NPN or PNP					
Operating Voltage	10-30 VDC					
Switching Output Current Rating	0.70 A	1.00 A	0.95 A	N/A (emitter)/ 0.64 A (receiver)		
Operating (Load) Current		12mA (emitter)/ 15mA (receiver)				
Off-state (Leakage) Current	500 μa					
Voltage Drop (Max)	2.5 VDC					
Response Time	300ms (max)					
Voltage Reversal Protection	Yes					
Short-circuit Protection	Yes, pulsed Yes, non-latching					
Operating Temperature	-25 to 60°C [-13 to 140°F]					
Protection Degree	IP65/IP67					
Shock/Vibration	Shock: pulse shape – half-sine, peak acceleration – 30g (300 m/s²), impulse duration – 11 ms Vibration: frequency range – 10 to 55 Hz, amplitude – 0.5 mm, vibration duration – 5 min					
LED Indicators - Switching Status	Green LED: power; yellow LED switching status					
Housing Material	ABS - Acrylonitrile Butadiene Styrene; Stainless steel 316L					
Lens Material	PMMA - Poly (methyl methacrylate)					
EMC	EN 60947-5-2					
Tightening Torque	0.2 N•m [0.14 lb•ft] max					
Weight	21g [0.74 oz] Connector version 38g [1.34 oz.] Cable version					
IO-Link	N/A					
Connectors		PVC, 2m [6.5 ft] 28 a 3-wire, 4-pin M8 quick-d	6.5 ft] 28 AWG 3-wire or 2-wire; 18 quick-disconnect 300mm [11.8in]			
Agency Approvals	cULus, CE					

¹Object with 90% reflectance (standard white paper)

Wiring Diagrams



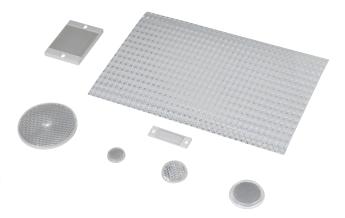
Reflectors

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 $\pm 15^\circ$.



Reflector Specifications								
Part number	Price	Drawing Link	Quantity	Dimensions mm [in]	Degree of Protection	Mounting	Materials	
RL102	\$38.00	<u>PDF</u>	10	25		Customer-supplied adhesive or other mounting method required		
RL102-1	\$4.25		1	[0.98]				
RL103	\$42.50	- <u>PDF</u>	10	34.5 [1.36]				
RL103-1	\$4.75		1					
RL104	\$42.50	DDE	10	46				
RL104-1	\$4.75	<u>PDF</u>	1	[1.81]			Reflective face: PMMA	
<u>RL105G</u>	\$38.00	DDE	10	95 x 38		Two 4.3 mm holes	Polymethylmethacrylate (acrylic)	
<u>RL105G-1</u>	\$4.25	<u>PDF</u>	1	[3.74 x 1.50]			Base material: ABS (Acrylonitrile-butadiene-styren)	
<u>RL106G</u>	\$42.50	PDF	10	182 x 42		Two 6mm holes		
RL106G-1	\$4.75	FUE	1	[7.17 x 1.65]	IEC IP67			
RL110	\$19.00	<u>PDF</u>	10	84 [3.31]		One 5mm hole		
RL110-1	\$2.00		1					
RL116	\$19.00	- <u>PDF</u>	10	41 x 60 [3.54 x 2.36]		Two 3mm holes		
<u>RL116-1</u>	\$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]				
<u>RL111G</u>	\$60.00	DD5	10	22.5 x 47		Two 3mm slots		
<u>RL111G-1</u>	\$7.25	<u>PDF</u>	1	[0.89 x 1.85]			Reflective face: PMMA Polymethylmethacrylate (acrylic)	
<u>RL112G</u>	\$44.00	PDF	10	19 x 73				
RL112G-1	\$4.75	<u> FDI</u>	1	[0.75 x 2.87]			Base material: ABS	
<u>RL113G</u>	\$53.00	<u>PDF</u>	10	51.4 x 60.3		Two 4mm slots	(Acrylonitrile-butadiene-styren)	
RL113G-1	\$6.00	1.01	1	[2.02 x 2.37]				

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