

# Plug-in, Universal AC or DC Photoelectric Switches RX



Rugged, multi-purpose AC or DC photoelectric switches ideal for mechanical handling

- M12 plug-in for ease of maintenance
- Sensitivity adjustment on all models – not just diffuse
- Top-mounted LED alignment indicator with 360° visibility
- LED indications for output and stability
- Plastic lenses suitable for food industry use
- PLC compatible relay output types
- Light on/dark on (NO/NC) selector switch
- Multifunction DECOU<sup>®</sup> models (NPN/PNP/NO/NC)
- Multifunction timer: on-delay, off-delay, one-shot adjustable from 0.1 to 10 seconds
- Half-power switch on through-beam models for fine detection
- Choice of mounting method models
- IP65 protection
- UL and CUL approved



## Options and ordering codes

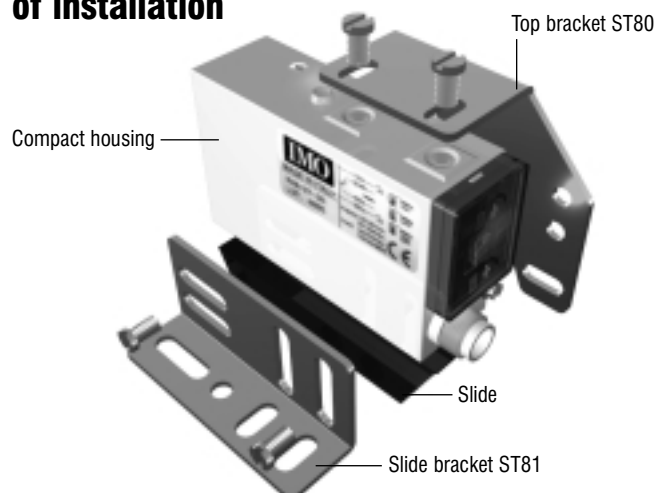
<b>RX</b>	<b>6</b>	/	<b>0</b>	<b>0</b>	-	<b>1</b>	<b>A</b>	
Diffuse reflection 1000mm	<b>6</b>						<b>A</b>	Without fixing slide
Diffuse reflection 2000mm	<b>8</b>						<b>B</b>	With fixing slide
Retro-reflective 12m	<b>C</b>							
Polarized retro-reflective 6m	<b>P</b>							
Background suppression 0.05 - 0.3m	<b>S</b>					<b>1</b>		DECOU: 10-30VDC
Background suppression 0.25 - 1m	<b>L</b>					<b>3</b>		Relay output: 20-60VDC/20-253VDC
Emitter: 20-60VDC/20-253VAC	<b>E</b>							
Emitter with check: 10-30VDC	<b>X</b>							
Receiver	<b>R</b>					<b>0</b>		Without timer
						<b>T</b>		With timer

For RXC and RXP models, select a reflector from the 'Reflectors' page  
 For all models, select a 4-wire cable from the 'Sensor Connector Leads' page

## Highly effective over long distances

0.3m and 1m background suppression, 1 and 2 metres diffuse reflection, 12 m with reflector (6 m with polarizing filter), 32m through beam; the highest distances in its category.

## Maximum versatility of installation



### Specifications

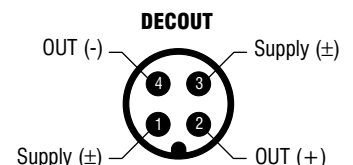
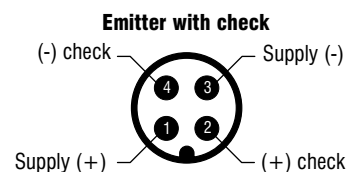
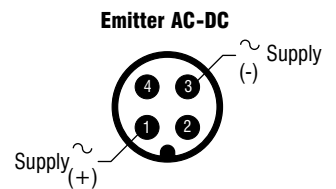
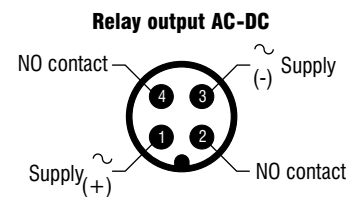
Model	DC						AC/DC							
	RX6/0*-1*	RX8/0*-1*	RXC/0*-1*	RXP/0*-1*	RXS/0*-1*	RXL/0*-1*	RX6/0*-3*	RX8/0*-3*	RXC/0*-3*	RXP/0*-3*	RXS/0*-3*	RXL/0*-3*		
Type	diffuse reflection		retro-reflective		diffuse reflection		diffuse reflection		retro-reflective		diffuse reflection			
	-		standard	polarized	background suppr.		-		standard	polarized	background suppr.			
Nominal sensing distance(Sn)	1m <sup>(1)</sup>	2m <sup>(1)</sup>	12m <sup>(2)</sup>	6m <sup>(2)</sup>	0.05-0.3m <sup>(1)</sup>	0.25-1m <sup>(1)</sup>	1m <sup>(1)</sup>	2m <sup>(1)</sup>	12m <sup>(2)</sup>	6m <sup>(2)</sup>	0.05-0.3m <sup>(1)</sup>	0.25-1m <sup>(1)</sup>		
Emission	infrared (880nm)			red(660nm)	infrared (880nm)				red (660nm)	infrared (880nm)				
Tolerance	-10/ +30%		EG 2 at Sr		0/ +10%		-10/ +30%		EG 2 at Sr		0/ +10%			
Differential travel	2/10% of the nominal sensing distance Sn													
Repeat accuracy	5%													
Operating voltage	10 - 30Vdc 2						0 - 253Vac / 20 - 60Vdc							
Ripple	≤ 10%						-							
No-load supply current	25mA			40mA			25mARms			30mARms				
Load current	≤ 100 mA						3A - 250Vac / 3A - 30Vdc (750VA/90W)							
Leakage current	≤ 10μA						-							
Voltage drop	1.2V max.						-							
Output type	static type (DECOUT®)						relay type							
Switching frequency	500Hz						25Hz							
Time delay before availability	100 ms													
Timing functions	from 0,1s to 10s, delay ON, delay OFF, one shot													
Supply electrical protections	polarity reversal, transient						transient (AC), over voltages (DC)							
Output electrical protections	short circuit (with hold)						-							
Temperature range	-25° to +70°C (without freeze)			-25° to +60°C			-25° to +70°C (without freeze)			-25° to +60°C		-25° to +70°C		
Temperature drift	± 10% Sr													
Interference to external light	≥ 5000 lux (incandescent lamp)		≥ 10000 lux (incandescent lamp)		≥ 5000 lux (incandescent lamp)				≥ 10000 lux (incandescent lamp)		≥ 5000 lux (incandescent lamp)			
Protection degree (DIN 40)	IEC IP65													
LED indicators	rear red (output state), top red (alignment), green (stable signal)													
Housing material	polycarbonate (glass fibre reinforced)													
Lenses material	PMMA 7N						glass		PMMA 7N			glass		
Weight (approx.)	75g (without slide) - 90g (with slide)													

(1) with 100x100mm white matt paper and excess gain EG=1,5 ; (2) with standard reflector Ø80mm (RL110 supplied separately).

Model	DC		AC/DC	
	RXX/0*-1* and RXR/0*-1*		RXE/0*-3* and RXR/0*-3*	
Type	through-beam			
	with check		without check	
Nominal sensing distance(Sn)	16-32m selectable with switch <sup>(1)</sup>			
Emission	infrared (880nm)			
Tolerance	EG 2 at Sr			
Differential travel	10%			
Repeat accuracy	5%			
Operating voltage	10 - 30Vdc		20 - 253Vac / 20 - 60Vdc	
No-load supply current	35mA (emitter) - 25mA (receiver)		15mARms (emitter) - 25mARms (receiver)	
Load current	100 mA		3A - 250Vac / 3A - 30Vdc (750VA/90W)	
Leakage current	≤ 10μA		-	
Voltage drop	1,2V max.		-	
Output type	static type (DECOUT®)		relay type	
Switching frequency	250Hz		25Hz	
Time delay before availability	100 ms			
Timing functions	from 0,1s to 10s, delay ON, delay OFF, one shot			
Supply electrical protections	polarity reversal, transient		transient (AC), over voltages (DC)	
Output electrical protections	short circuit (with hold)		-	
Temperature range	-25° to +70°C (without freeze)			
Temperature drift	± 10% Sr			
Interference to external light	10000lux (incandescent lamp)			
Protection degree (DIN 40 050)	IEC IP65			
Emitter LED indicators	green (check off), red (distance x2)		green (supply), red (distance x2)	
Receiver LED indicators	rear red (output state), top red (alignment), green (stable signal)			
Housing material	polycarbonate (glass fiber reinforced)			
Lenses material	PMMA 7N			
Weight	(approx.) 75g (without slide) - 90g (with slide)			

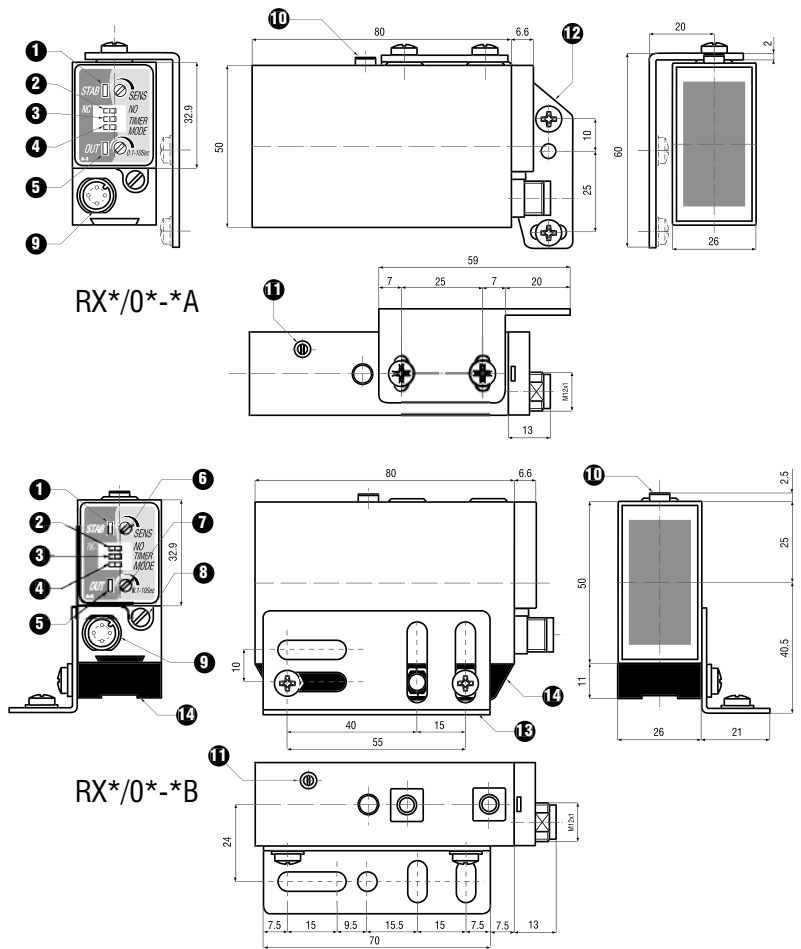
(1) with excess gain EG>2 at the nominal sensing distance Sn.

### Connectors (M12)

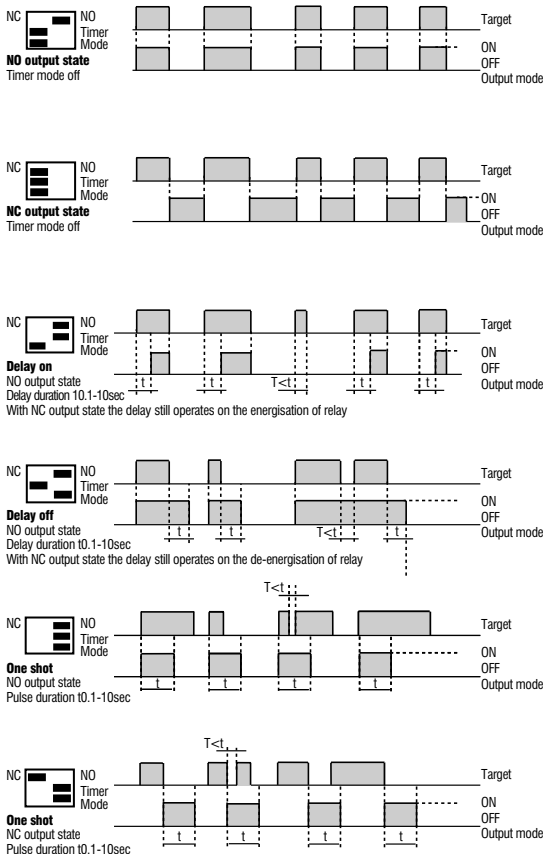


## Dimensions mm

- 1 Green LED: stable signal (RX6-RX8-RSC-RXP-RXS-RXL-RXR) Green LED: check off (RXX) or supply voltage (RXE)
- 2 Switch of NO-NC selection (RX6-RX8-RSC-RXP-RXS-RXL-RXR) Switch selecting distance x1 – distance x2 (RXX-RXE)
- 3 Switch selecting timer function delay ON
- 4 Switch selecting timer function delay OFF
- 5 Red LED output state (RX6-RX8-RSC-RXP-RXS-RXL-RXR) Red LED distance x2 (RXX-RXE)
- 6 Trimmer for sensitivity adj. (not available for RXX and RXE)
- 7 Trimmer for timer function adjustment (0.1-10s)
- 8 Fixing screw for plastic protection of adjustments
- 9 M12 standard plug-in exit
- 10 LED for alignment (not available on RXX and RXE)
- 11 Screw for optic adjustment (available only for background suppression models RXS-RXL)
- 12 Fixing bracket (ST80) for sensor option A (supplied with option A)
- 13 Plastic base for sensor option B fixing
- 14 Fixing bracket (ST81) for sensor option B (supplied with option B)

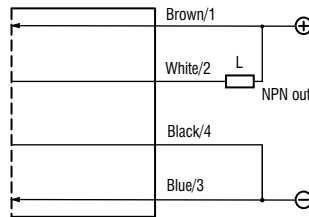


## Timing diagrams RX\*/OT-\*\* models

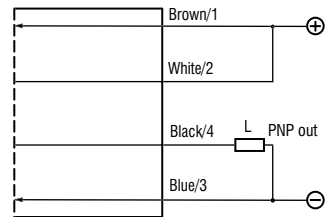


## Wiring connections

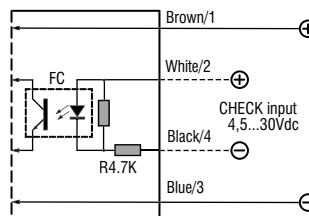
### DECOUT® output



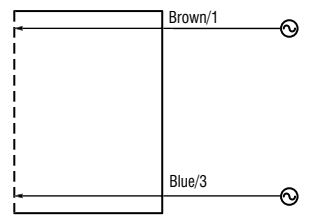
### DECOUT® output



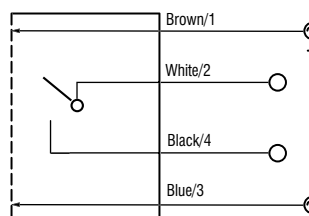
### Emitters RXX (DC)



### Emitters RXE (AC/DC)

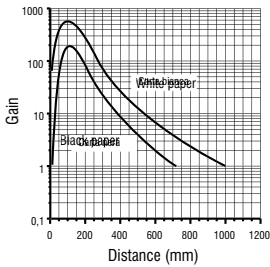


### Relay output AC-DC

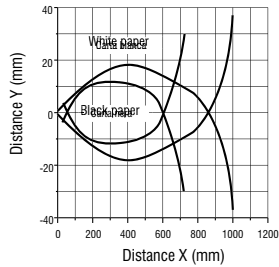


**Characteristic curves**

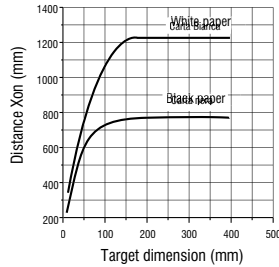
**RX6** excess gain



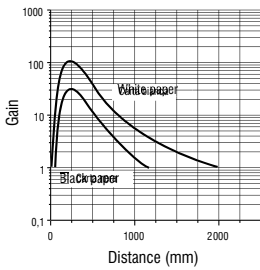
**RX6** parallel displacement



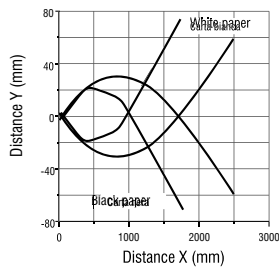
**RX6** distance/target size



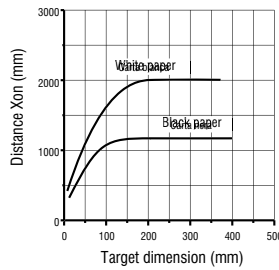
**RX8** excess gain



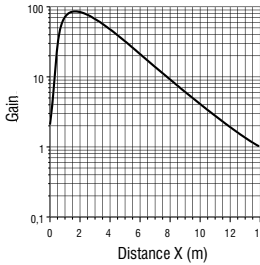
**RX8** parallel displacement



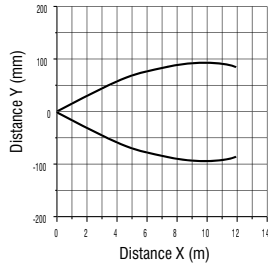
**RX8** distance/target size



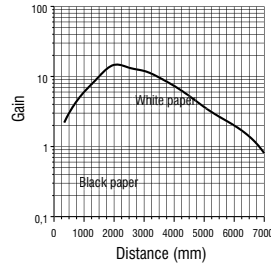
**RXC** excess gain



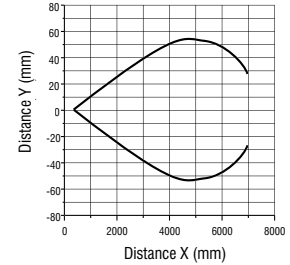
**RXC** parallel displacement



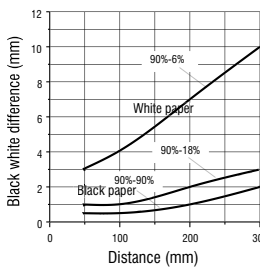
**RXP** excess gain



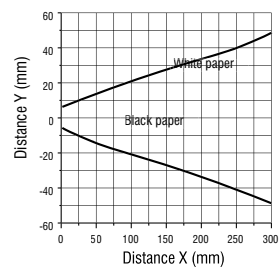
**RXP** parallel displacement



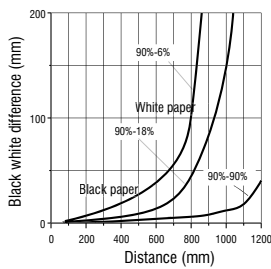
**RXS** background suppression



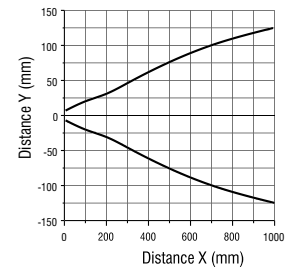
**RXS** parallel displacement



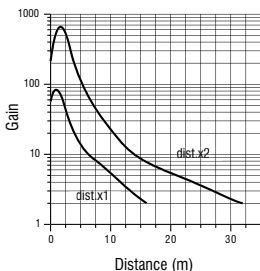
**RXL** background suppression



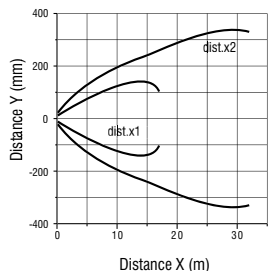
**RXL** parallel displacement



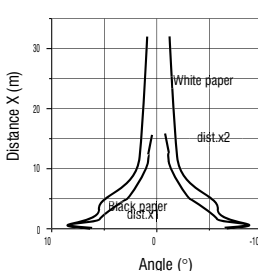
**RX\*-RXR** excess gain



**RX\*-RXR** parallel displacement



**RX\*-RXR** angular displacement



**RX\*-RXR** mutual interference

