

HTM electronics

PHOTOELECTRIC SENSORS



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H60 Series

Image	Series Description	Modes	Ranges	Page #
	Advanced Performance Photoelectric Sensor - Standard 50 x 50mm Housing - Rotatable M12 Connector - High Quality - Many Operating Modes Available	Through Beam	0...20m	4 - 5
		Retroreflective	0.1...20m	
		Diffuse	5...2000mm	
		Background Suppression	7...200mm	
		Contrast	19mm	
		Distance	50...150mm	

RP18 Series

Image	Series Description	Modes	Ranges	Page #
	Compact Photoelectric Sensor - M18 threaded lens - Visible Red LED - Several mounting options - Multi-voltage	Through Beam	0.1...20m	6 - 7
		Retroreflective	0.1...2.5mm	
		Diffuse	20...350mm	

MP Series

Image	Series Description	Modes	Ranges	Page #
	Universal Mount Photoelectric Sensor • Mounts on Standard or Flat Bracket • Long Range - Up to 30m • Several Detection Modes • Compact Size	Through Beam	30m	8 - 9
		Retroreflective	5m	
		Diffuse	380mm	
		Convergent	43mm	
		Fiber Optic Mode - (range depends on fiber used)		

M18 Series

Image	Series Description	Modes	Range	Page
	Cylindrical Photoelectric Sensor - Standard 18mm Housing - Pre-wired or Quick Disconnect - Metal or Plastic Housings - Self-contained Amplifier	Through Beam	15m	10 - 11
		Retroreflective	3m	
		Diffuse	500mm	

M12 Series

Image	Series Description	Modes	Range	Page
	Cylindrical Photoelectric Sensor - Standard 12mm Housing - Pre-wired or Quick Disconnect - Self-contained Amplifier	Through Beam	5.2m	12
		Retroreflective	1m	
		Diffuse	200mm	

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RP74 Series

Image	Series Description	Modes	Ranges	Page #
	Multi-purpose Photoelectric Sensor • Built-in Timer Modes • Several Mounting Options • Universal Power Supply • Long Range	Through Beam	61m	13
		Retroreflective	9.14m	
		Diffuse	3.04m	
		Clear Object Detection	1.2m	
		Fiber Optic Mode - (range depends on fiber used)		

RP76 Series

Image	Series Description	Modes	Ranges	Page #
	Terminal (Conduit) Mount - Back or Bottom Mounting Option - Universal Power Supply - Built-in Timer Modes	Through Beam	28m	14
		Retroreflective	10m	
		Diffuse with Background Suppression	300mm	

RS62 Series

Image	Series Description	Modes	Ranges	Page #
	Multi-voltage Photoelectric Sensor 12-240 VDC or 24-240 VAC - SPDT Relay Models - Accurate Detection	Through Beam	10...30m	15
		Retroreflective	5...7m	
		Diffuse	700mm	

U Series

Image	Series Description	Modes	Ranges	Page #
	Slot Photoelectric Sensor 2, 15, 30, 50, 80 and 120mm Widths - High Switching Frequency - Rugged Die-cast Metal Housings	Through Beam	2mm...120mm	16 - 17

RP32 Series

Image	Series Description	Modes	Ranges	Page #
	Miniature Photoelectric Sensor - Compact & Rugged Design - Stainless Steel and Glass Fiber Reinforced Plastic Housing - Shock & Vibration Resistant	Through Beam	8.5m	18
		Retroreflective	4m	
		Diffuse	400mm	
		Clear Object Detection	500mm	

H60 SERIES

H60 Series - Advanced Performance Photoelectric Sensor

Image	Series Description	Modes	Ranges
	Advanced Performance Photoelectric Sensor - Standard 50 x 50mm Housing - Rotatable M12 Connector - High Quality - Many Operating Modes Available	Through Beam	0...20m
		Retroreflective	0.1...20m
		Diffuse	5...2000mm
		Background Suppression	7...200mm
		Contrast	19mm
		Distance	50...150mm

Ordering Information

Mode	Through-beam (30m range)	Diffuse	Laser Diffuse	Polarized Retroreflective
Operating Range	0...20m (65.6 ft.)	0.005...2m (6.56 ft.)	0...0.6m (1.97 ft.)	0.1...8m (26.2 in.)
Light Emission	Infrared LED, 880nm	Red LED, 880nm	Red Laser, 650nm	Red LED, 600nm

Part Numbers

Emitter	H60-THRU-E-PO-4Q			
NPN	H60-THRU-R-NO-4Q	H60-DIF-NO-4Q	H60-LASER-D-NO-4Q	H60-RETRO-NO-4Q
PNP	H60-THRU-R-PO-4Q	H60-DIF-PO-4Q	H60-LASER-D-PO-4Q	H60-RETRO-PO-4Q

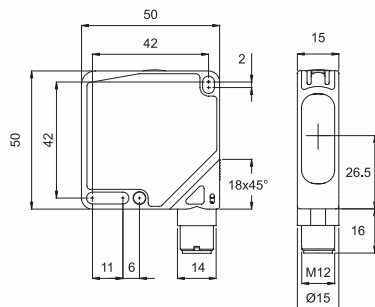
Mode	Laser Retroreflective	Background Suppression	Contrast	Distance
Operating Range	0.1...20m (65.6 ft.)	0.007...0.2m (7.87 in.)	19mm (0.75 in.)	50...150mm (5.9 in.)
Light Emission	Red Laser, 650nm	Red LED, 670nm	White LED, 400-700nm	Red LED, 670nm

Part Numbers

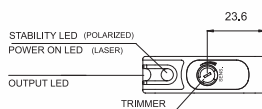
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PNP	H60-LASER-R-PO-4Q	H60-BGS-PO-4Q	H60-CONTRAST-PO-4Q	H60-DISTANCE-PO-4Q

Dimensions

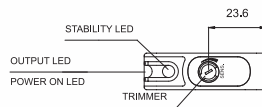
All Models



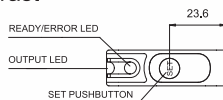
Retroreflective



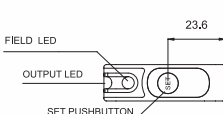
Diffuse



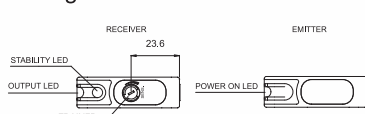
Background Suppression & Contrast



Distance



Through-beam



Connections

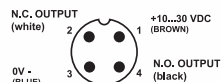
Through-beam Emitter

BROWN	1	+10 - 30 VDC
WHITE	2	TEST +
BLACK	4	TEST -
BLUE	3	0V



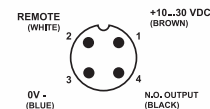
Through-beam Receiver, Diffuse & Retroreflective

BROWN	1	+10 - 30 VDC
WHITE	2	N.C. OUTPUT
BLACK	4	N.O. OUTPUT
BLUE	3	0V



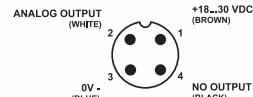
Background Suppression & Contrast

BROWN	1	+10 - 30 VDC
WHITE	2	REMOTE
BLACK	4	N.O. OUTPUT
BLUE	3	0V



Distance

BROWN	1	+10 - 30 VDC
WHITE	2	ANALOG OUTPUT
BLACK	4	NO OUTPUT
BLUE	3	0V



TECHNICAL DATA

	Through-beam	Diffuse		Retroreflective		BGS	Contrast	Distance
		Standard	Laser	Polarized	Laser			
Power Supply:	10...30 VDC							18...30 VDC
Ripple:	≤ 2 Vpp							
Current Consumption:	≤ 35 mA	≤ 40 mA	≤ 35 mA	≤ 40 mA	≤ 35 mA	≤ 30 mA	≤ 30 mA	≤ 60 mA
Spot Dimension:	approx. 200 mm at 4m	approx. 250mm at 1m	approx. 0.2mm @ 15cm approx. 2mm @ 50cm	approx. 90mm at 3m	approx. 10mm	approx. 16mm at 200mm	approx. 3.5mm at 19mm	approx. 16 mm at 150mm
Setting:	sensitivity trimmer					push-button teaching		
Indicators:	yellow: OUTPUT LED green: STABILITY LED green (emitter): POWER ON LED	yellow: OUTPUT LED green: STABILITY LED	yellow: OUTPUT LED green: POWER ON LED	yellow: OUTPUT LED green: STABILITY LED	yellow: OUTPUT LED green: POWER ON LED	yellow: OUTPUT LED green / red READY / ERROR LED		yellow: OUTPUT LED red: FIELD LED
Output Type:	PNP, N.O. and N.C. / NPN, N.O. and N.C.					PNP, N.O. / NPN, N.O.		PNP, NO NPN, NO analog with 0...10 V (8 bit)
Output Current:	≤ 100 mA							
Saturation Voltage:	≤ 2 V							
Response Time:	1 ms	500 μs	250 μs	500 μs	250 μs	500 μs	100 μs	1 ms
Switching Frequency:	500 Hz	1 kHz	2 kHz	1 kHz	2 kHz	1 kHz	5 kHz	500 Hz
Operating Mode:	dark on N.O. / light on N.C.	light on N.O. / dark on N.C.		dark on N.O. / light on N.C.		dark / light configurable	automatic dark / light fine acquisition	automatic dark / light fine acquisition configurable direct / inverse proportionality
Timing Function:	-						20 ms minimum output ON	-
Auxiliary Functions:	Test + and Test -	-		-		remote teach/ keylock		-
Connection:	M12, 4-pin (90° rotatable) - Recommended Mating Cable: part # R-FS4TZ-V075 (straight), R-FA4TZ-V075 (right-angle)							
Electrical Protection:	class 2							
Mechanical Protection:	IP67							
Protection Devices:	Reverse Polarity, Overload, Short-circuit Protection							
Housing Material:	ABS							
Lens Material:	External - PMMA, Internal - Polycarbonate						Glass	External - PMMA, Internal - Polycarbonate
Operating Temperature:	-25...+55°C							
Storage Temperature:	-25...+70°C							
Reference Standard:	EN 60947-5-2 (Laser Models: EN 60947-5-2 , EN 60825-1, CDRH21 CFR 1040.10)							

RP18 SERIES

RP18 Series

Image	Series Description	Modes	Ranges
	Compact Photoelectric Sensor - M18 threaded lens - Visible Red LED - Several mounting options - Multi-voltage	Through Beam	0.1...20m
		Retroreflective	0.1...2m
		Diffuse	20...0.5m

	Through-beam	Diffuse	Diffuse (Fixed-field with Back-ground Suppression)	Retroreflective	Retroreflective - with Polarizing Filter
Operating Range	20m (65.6 ft.)	DC: 500mm (19.7 in.) AC: 300mm (11.8 in.)	100mm (3.94 in)	2m (6.56 ft.)	1m (3.28 ft.)
Light Emission	950nm Infrared LED	Infrared LED, 880 nm	Infrared LED, 880nm	Infrared LED, 950nm	Red LED, 680nm

DC Models - Quick Connect, M12 - Recommended Mating Cable: part # R-FS4TZ-V075 (straight), R-FA4TZ-V075 (right-angle)

Emitter	RP18-T020MD-EY9Q4LE				
NPN	RP18-T020MN-CY9Q4UE	RP18-D0500N-CY9Q4UE	RP18-D0100N-CY9Q4UE-BS	RP18-L2000N-CY9Q4UE	RP18-L2000N-CY6Q4UE-PF
PNP	RP18-T020MP-CY9Q4UE	RP18-D0500P-CY9Q4UE	RP18-D0100P-CY9Q4UE-BS	RP18-L2000P-CY9Q4UE	RP18-L2000P-CY6Q4UE-PF

AC Models - Quick Connect, 1/2"-20 UNF - Recommended Mating Cable: part # U-FS4TA-V165 (straight), U-FA4TA-V165 (right-angle)

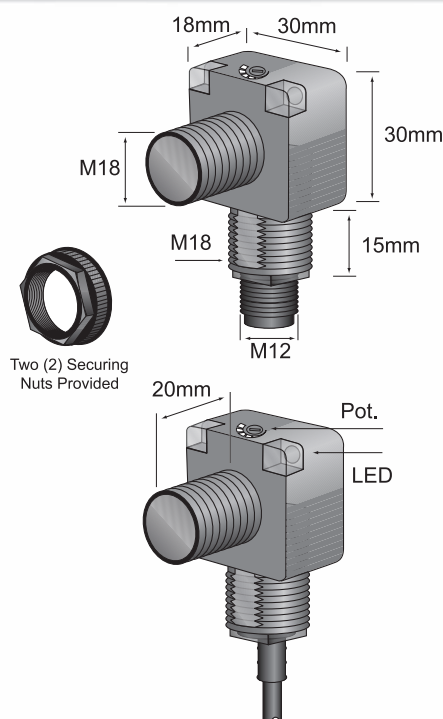
Emitter (2-wire)	RP18-T020MA-EY9Q4LM				
Light-ON (3-wire)	RP18-T020MA-LY9Q4UM	RP18-D0300A-LY9Q4UM	RP18-D0100A-LY9Q4UM-BS	RP18-L2000A-LY9Q4UM	RP18-L2000A-LY6Q4UM-PF
Dark-ON (3-wire)	RP18-T020MA-DY9Q4UM	RP18-D0300A-DY9Q4UM	RP18-D0100A-DY9Q4UM-BS	RP18-L2000A-DY9Q4UM	RP18-L2000A-DY6Q4UM-PF

AC/DC Models - Quick Connect, 1/2"-20 UNF - Recommended Mating Cable: part # U-FS4TA-V165 (straight), U-FA4TA-V165 (right-angle)

Emitter (2-wire)	RP18-T020MC-EY9Q4LM				
Light-ON (2-wire)	RP18-T020MC-LY9Q4UM	RP18-D0300C-LY9Q4UM	RP18-D0100C-LY9Q4UM-BS	RP18-L2000C-LY9Q4UM	RP18-L2000C-LY6Q4UM-PF
Dark-ON (2-wire)	RP18-T020MC-DY9Q4UM	RP18-D0300C-DY9Q4UM	RP18-D0100C-DY9Q4UM-BS	RP18-L2000C-DY9Q4UM	RP18-L2000C-DY6Q4UM-PF

TECHNICAL DATA

	DC	AC	AC/DC
Operating Voltage	10-30 VDC	24-240 VAC	20-250 VAC/DC
Voltage Drop	2.5V or less	3V @300mA AC; 2V @ 15mA AC	3V or less
Current Consumption	30mA or less	5mA or less	30mA or less
Response Time	1.5ms	15ms	15ms
Max. Load Current	200mA	300mA	
Output Operation	Light-ON or Dark-ON selectable by control input wire		Light-ON or Dark-ON selectable by type number
Reverse Polarity Protection	Yes		
Short Circuit Protection	Yes		
Overload Current Protection	Yes		
Housing Material	PBT (plastic) housing		
Indicators	Red LED indicator		
Environmental Rating	IP67		
Operating Temperature	-25°C to +55°C (Max. relative humidity: 85%)		
EMC	IEC 60947-5-2, Parts 7.2.6.1.2.3 or RFI>3V/m (in 30-1000MHz), EFT>1KV, ESD>4KV (contact)		
Voltage Withstandability	IEC 60947-5-2, Part 8.3.3.4 or 500 VDC (or 1500 VAC) for 1 min., between all supply terminals connected together and enclosure		
Insulation Resistance	>20MΩ, with 500 VDC (or 1500 VAC) megger between all supply terminals connected together and enclosure.		
Vibration Resistance	IEC 60947-5-2, Part 7.4.2 or 10-55 Hz, 1.0mm amplitude in x, y, and z directions for 30 min.		
Shock Resistance	IEC 60947-5-2, Part 7.4.1 or 30g, 11ms in x, y, and z directions for six times each		
Cable	Standard length 2m. Other lengths available upon request		
Connector	M12x1 DC Micro Connector	1/2-20" UNF	

Dimensions

Connections

AC Emitter	AC	AC Pins
DC Emitter	DC NPN & PNP	DC Pins
	NPN PNP D1: Reverse polarity protection diode ZD1: Surge absorption zener diode T1: NPN output transistor	Emitter Receiver
AC / DC Emitter	AC / DC	AC / DC Pins

MP SERIES

MP Series

Image



Series Description

Universal Mount Photoelectric Sensor

- Mounts on Standard or Flat Bracket
- Long Range - Up to 30m
- Several Detection Modes
- Compact Size

Modes

Through Beam	30m
Retroreflective	5m
Diffuse	380mm
Convergent	43mm
Fiber Optic Mode - (range depends on fiber used)	

Ranges

DC Models - Quick Connect

Mode	Through-beam (30m range)	Retroreflective	Diffuse	Convergent
Light Emission	Infrared LED, 880nm	Red LED, 650nm	Infrared LED, 880nm	Red LED, 650nm
Operating Range	30m (98.4 ft.)	5m (16.4 ft.)	380mm (14.96 in.)	43mm (1.69 in.)

Part Numbers

Emitter	MP-T030MD-EX9Q4LE			
NPN / PNP	MP-T030MD-CX9Q4UE	MP-L5000D-CX6Q4UE	MP-D0380D-CX9Q4UE	MP-C0043D-CX6Q4UE

Mode	Through-beam (3m range)	Retroreflective (Polarized)	Fiber Optic (Diffuse)	Fiber Optic (Through-beam)
Light Emission	Infrared LED, 880nm	Red LED, 650nm	Infrared LED, 880nm	
Operating Range	3m (9.84 ft.)	2m (6.56 ft.)	Depends on fiber used (see pages 18-21)	

Part Numbers

Emitter	MP-T3000D-EX9Q4LE			
NPN / PNP	MP-T3000D-CX9Q4UE	MP-L2000D-CX6Q4UE-PF	MP-DGFD-CX9Q4UE	MP-TGFD-CX9Q4UE

AC Models - Prewired

Mode	Through-beam (30m range)	Retroreflective	Diffuse	Convergent
Light Emission	Infrared LED, 880nm	Red LED, 650nm	Infrared LED, 880nm	Red LED, 650nm
Operating Range	30m (98.4 ft.)	5m (16.4 ft.)	380mm (14.96 in.)	43mm (1.69 in.)

Part Numbers

Emitter	MP-T030MA-EX9C2L2			
SPST, Solid State	MP-T030MA-CX9C3U2	MP-L5000A-CX6C3U2	MP-D0380A-CX9C3U2	MP-C0043A-CX6C3U2

Mode	Through-beam (3m range)	Retroreflective (Polarized)	Fiber Optic (Diffuse)	Fiber Optic (Through-beam)
Light Emission	Infrared LED, 880nm	Red LED, 650nm	Infrared LED, 880nm	
Operating Range	3m (9.84 ft.)	2m (6.56 ft.)	Depends on fiber used (see pages 18-21)	

Part Numbers

Emitter	MP-T3000A-EX9C2L2			
SPST, Solid State	MP-T3000A-CX9C3U2	MP-L2000A-CX6C3U2-PF	MP-TGFA-CX9C3U2	MP-DGFA-CX9C3U2

TECHNICAL DATA

	DC Models	AC Models
Power Supply	10...30 VDC	20 to 250 VAC
Current Consumption	25mA max.	25mA max. (1.7mA max. for emitter)
Output Configuration	Bipolar: One current sourcing (PNP) and one current sinking (NPN) open-collector transistor	SPST MOSFET solid-state relay with either N.O. or N.C. contact (light/dark operate selectable: 3-wire hook-up)
Voltage Drop	<2.0V @ 150mA	<10V @ 200mA
Current Load Max	150mA	200mA
Response Time	1ms	8ms (4ms for Retroreflective Models)
Adjustments	LIGHT/DARK Operate sensitivity adjustment switch	
Connection	M12 - Recommended Mating Cable: part # R-FS4TZ-V075 (straight), R-FA4TZ-V075 (right-angle)	2 meter cable
Electrical Protection	Short-circuit, Reverse Polarity and Overload Current Protection	-
Mechanical Protection	IP67 (IEC)	
Housing Material	Reinforced thermoplastic polyester housing, totally encapsulated o-ring sealing, acrylic lenses and stainless steel screws	
Environment	-20°C to +70°C (-4°F to 158°F) ; Max. 90% RH @ 50°C	
Reference Standard	IEC 60947-5-2	

DIAGRAMS

Dimensions	Connections	
	Emitter AC	Emitter DC
	AC Sensors	
	NPN/PNP	DC Connector (M12)

M18 SERIES

M18 Series

Image	Series Description	Modes	Range
	Cylindrical Photoelectric Sensor - Standard 18mm Housing - Pre-wired or Quick Disconnect - Metal or Plastic Housings - Self-contained Amplifier	Through Beam	15m
		Retroreflective	3m
		Diffuse	500mm

	Through-beam	Diffuse	Retroreflective	Retroreflective (Polarized)
Operating Range	15m (49.2 ft.)	0.5m (1.6 ft.)	3m (9.8 ft.)	1m (3.2ft.)
Light Emission	880nm Infrared LED			660nm Red LED

DC Models

Part Numbers - Metal Housing

Emitter	M18B-T015MD-EX9Q4LE			
NPN - Light/Dark	M18B-T015MN-CX9Q4UE	M18B-D0500N-CX9Q4UE	M18B-L3000N-CX9Q4UE	M18B-L1000N-CX6Q4UE-PF
PNP - Light/Dark	M18B-T015MP-CX9Q4UE	M18B-D0500P-CX9Q4UE	M18B-L3000P-CX9Q4UE	M18B-L1000P-CX6Q4UE-PF

Part Numbers - Plastic Housing (right-angle body)

Emitter	M18P-T015MD-EZ9Q4LE			
NPN - Light/Dark	M18P-T015MN-CZ9Q4UE	M18P-D0500N-CZ9Q4UE	M18P-L3000N-CZ9Q4UE	M18P-L1000N-CZ6Q4UE-PF
PNP - Light/Dark	M18P-T015MP-CZ9Q4UE	M18P-D0500P-CZ9Q4UE	M18P-L3000P-CZ9Q4UE	M18P-L1000P-CZ6Q4UE-PF

AC Models

Part Numbers - Metal Housing

Emitter	M18B-T015MA-EX9Q4LM			
Light-ON	M18B-T015MA-LX9Q4UM	M18B-D0500A-LX9Q4UM	M18B-L3000A-LX9Q4UM	M18B-L1000A-LX6Q4UM-PF
Dark-ON	M18B-T015MA-DX9Q4UM	M18B-D0500A-DX9Q4UM	M18B-L3000A-DX9Q4UM	M18B-L1000A-DX6Q4UM-PF

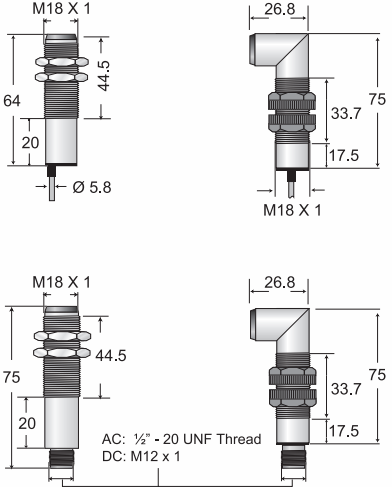
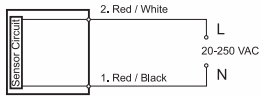
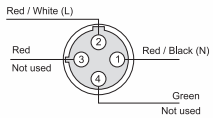
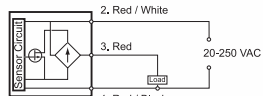
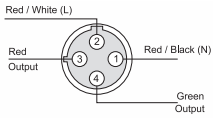
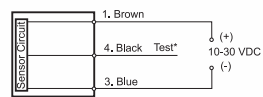
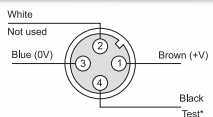
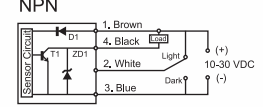
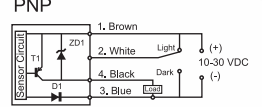
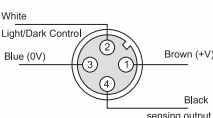
Part Numbers - Plastic Housing (right-angle body)

Emitter	M18P-T015MA-EZ9Q4LM			
Light-ON	M18P-T015MA-LZ9Q4UM	M18P-D0500A-LZ9Q4UM	M18P-L3000A-LZ9Q4UM	M18P-L1000A-CZ6Q4UM-PF
Dark-ON	M18P-T015MA-DZ9Q4UM	M18P-D0500A-DZ9Q4UM	M18P-L3000A-DZ9Q4UM	M18P-L1000A-CZ6Q4UM-PF

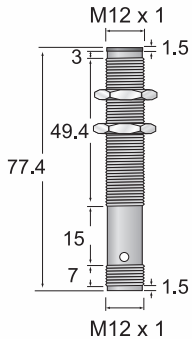
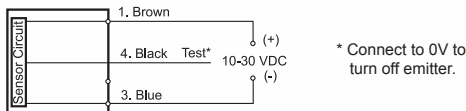
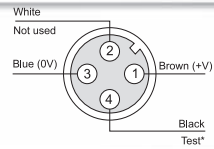
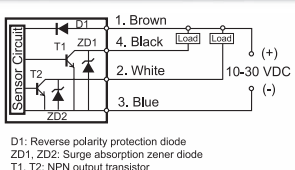
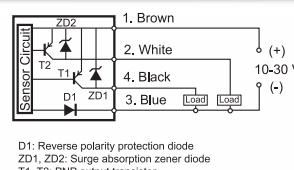
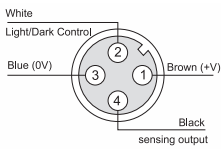
TECHNICAL DATA

	DC Models	AC Models
Power Supply	10...30 VDC	20 to 250 VAC
Current Consumption	30mA max.	5mA max.
Indicator LEDs	Red LED (output activated)	
Voltage Drop	2.5 V or less	10 VAC
Current Load Max	200mA	300mA
Response Time	1.5ms	-
Connection	M12 - Recommended Mating Cable: part # R-FS4TZ-V075 (straight), R-FA4TZ-V075 (right-angle)	½"-20 UNF - Recommended Mating Cable: part # U-FS4TA-V165 (straight), U-FA4TA-V165 (right-angle)
Electrical Protection	Short-circuit, Reverse Polarity and Overload Current Protection	-
Mechanical Protection	IP67 (IEC)	
Housing Material	Metal: Nickel-plated Brass; Plastic: PBT	
Environment	-25°C to +55°C (-13°F to 131°F) ; 35-85% RH	
Storage Temp.	-25°C to + 70°C (-13°F to +158°F)	
Reference Standard	IEC 60947-5-2	

DIAGRAMS

Dimensions	Connections	
	Emitter AC 	AC Connector (½"-20 UNF) 
	AC Through-beam Receiver, Diffuse & Retro 	AC Connector (½"-20 UNF) 
	Emitter DC 	DC Connector (M12) 
	NPN/PNP NPN  D1: Reverse polarity protection diode ZD1: Surge absorption zener diode T1: NPN output transistor PNP  D1: Reverse polarity protection diode ZD1: Surge absorption zener diode T1: PNP output transistor	DC Connector (M12) 

M12 SERIES

M12 Series			
Image	Series Description	Modes	Range
	Cylindrical Photoelectric Sensor - Standard 12mm Housing - Pre-wired or Quick Disconnect - Self-contained Amplifier	Through Beam	5.2m
		Retroreflective	1m
		Diffuse	200mm
	Through-beam	Diffuse	Retroreflective (Polarized)
Operating Range	5.2m (17.06 ft.)	0.2m (0.66 ft.)	1m (3.28 ft.)
Light Emission	880nm Infrared LED		660nm Red LED
Part Numbers			
Emitter	M12B-T5200D-EX9Q4LE		
NPN - Light/Dark	M12B-T5200N-CX9Q4UE	M12B-D0200N-CX9Q4UE	M12B-L1000N-CX6Q4UE-PF
PNP - Light/Dark	M12B-T5200P-CX9Q4UE	M12B-D0200P-CX9Q4UE	M12B-L1000P-CX6Q4UE-PF
Technical Data			
Power Supply	10...30 VDC		
Current Consumption	30mA max.		
Indicator LEDs	Red LED (output activated)		
Voltage Drop	2.5 V or less		
Current Load Max	200mA		
Response Time	1.5ms		
Connection	M12 - Recommended Mating Cable: part # R-FS4TZ-V075 (straight), R-FA4TZ-V075 (right-angle)		
Electrical Protection	Short-circuit, Reverse Polarity and Overload Current Protection		
Mechanical Protection	IP67 (IEC)		
Housing Material	Metal: Nickel-plated Brass; Plastic: PBT		
Environment	-25°C to +55°C (-13°F to 131°F) ; 35-85% RH		
Storage Temp.	-25°C to + 70°C (-13°F to +158°F)		
Reference Standard	IEC 60947-5-2		
Dimensions	Connections		
	Emitter		Emitter
			
	NPN	PNP	NPN / PNP
			

RP74 SERIES

RP74 Series

Image



Series Description

Multi-purpose Photoelectric Sensor

- Built-in Timer Modes
- Several Mounting Options
- Universal Power Supply
- Long Range

Modes

Through Beam	61m
Retroreflective	9.14m
Diffuse	3.04m
Clear Object Detection	1.2m
Fiber Optic Mode - (range depends on fiber used)	

Ranges

	Through-beam	Diffuse	Retroreflective (Polarized)	Fiber Optic	Clear Object Detection
Operating Range	61m (200 ft.)	3.04m (10 ft.)	9.14m (30 ft.)	Depends on fiber	1.20m (3.9 ft.)
Light Emission	880nm Infrared LED	880nm Red LED	660nm Red LED	880nm Infrared LED	660nm Red LED

DC Models (10-40 VDC) M12 - Recommended Mating Cable: part # R-FS4TZ-V075 (straight), R-FA4TZ-V075 (right-angle)

Emitter	RP74-T061MD-EY9Q4LE				
NPN / PNP - with timing	RP74-T061MD-CY9Q4UE-T	RP74-D3040D-CY9Q4UE-T	RP74-L9140D-CY6Q4UE-T	RP74-FGFD-CY9Q4UE-T	RP74-S1200D-CY6Q4UE-T

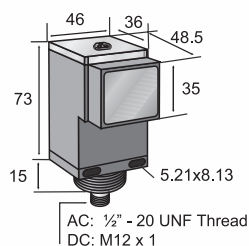
AC Models (12-240 VDC/24-240 VAC) 1/2"-20 UNF - Recommended Mating Cable: part # U-FS5TA-V105 (straight), U-FA5TA-V105 (right-angle)

Emitter	RP74-T061MA-EY9Q4LM				
SPDT Relay	RP74-T061MR-CY9Q5LM-T	RP74-D3040R-CY9Q5LM-T	RP74-L9140R-CY6Q5LM-T	RP74-FGFR-CY9Q5LM-T	RP74-S1200R-CY6Q5LM-T

Technical Data

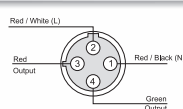
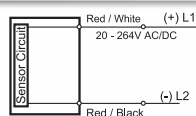
Power Supply	10-40 VDC or 12-240VDC/24-240 VAC
Indicator LEDs	Green: Power, Yellow: Output, Red: Margin
Current Consumption	30mA max.
Saturation Voltage	2.5 V max.
Output Current	30mA max.
Response Time	NPN/PNP: 5ms, SPDT Relay: 23ms
Timing Options	No Delay, On Delay, Off Delay, One-shot (for Models With Timing Delay).
Time Settings	Adjustable, 0.1...15s (for Models with Timing Delay)
Mechanical Protection	IP67
Housing Material	Glass Fiber Reinforced Plastic, Cover Gasket Material: Neoprene
Lens Material	Acrylic
Operating Temp.	-25...+55°C (-13...+131°F)
Storage Temp.	-40...+55°C (-40...+131°F)
Reference Standard	EN 60947-5-2

Dimensions

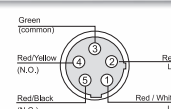
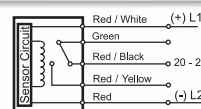


Connections

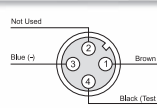
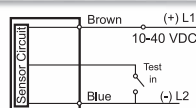
Emitter AC



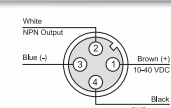
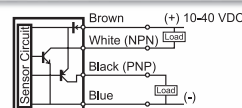
AC Receiver, Diffuse & Retro.



Emitter DC



NPN/PNP



RP76 SERIES

RP76 Series

Image	Series Description	Modes	Ranges
	Terminal (Conduit) Mount - Back or Bottom Mounting Option - Universal Power Supply - Built-in Timer Modes	Through Beam	28m
		Retroreflective	10m
		Diffuse with Background Suppression	300mm

	Through-beam	Diffuse	Retroreflective (Polarized)
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DC Models

Emitter	RP76-T028MD-EY9T4L		
NPN - Timing Delay	RP76-T028MN-CY9T4U-T	RP76-D0300N-CY9T4U-BT	RP76-L010MN-CY6T4U-TP
PNP - Timing Delay	RP76-T028MP-CY9T4U-T	RP76-D0300P-CY9T4U-BT	RP76-L010MP-CY6T4U-TP

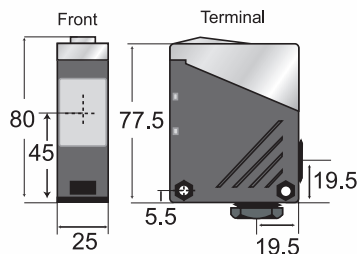
AC Models

Emitter	RP76-T028MA-EY9T4L		
Relay SPST - Timing Delay	RP76-T028MR-CY9T4L-T	RP76-D0300R-CY9T4L-BT	RP76-L010MR-CY6T4L-TP

Technical Data

Operating Range	28m (91.8 ft.)	0.3m (11.8 in.)	10m (32.8ft.)
Light Emission	880nm Infrared LED		660nm Red LED
Power Supply	DC: 10-30 VDC AC: 20-250 VAC		
Current Consumption	DC: <35 mA (no load) AC: <2 VA		
Time Options	No Delay, On Delay, Off Delay, One-shot (for Models With Timing Delay)		
Time Settings	Adjustable, 0.1...15s (for Models with Timing Delay)		
Indicator LEDs	Green: Power, Yellow: Output, Red: Margin / SCP		
Housing Material	Glass fiber reinforced plastic		
Lens Material	Acrylic		
Mechanical Protection	IP66 / NEMA 4		
Circuit Protection	Reverse polarity protected (DC Models also have outputs short circuit and over current protected)		
Operating Temperature	-25°C to +55°C (-13°F to 131°F)		
Storage Temperature	-40°C to +55°C (-40°F to 131°F)		
Reference Standard	IEC 60947-5-2		

Dimensions



Connections

Emitter AC	AC Receiver, Diffuse & Retro.
Emitter DC	NPN/PNP
	NPN PNP

RS62 SERIES

RS62 Series

Image	Series Description	Modes	Ranges
	Multi-voltage Photoelectric Sensor 12-240 VDC or 24-240 VAC - SPDT Relay Models - Accurate Detection	Through Beam	10...30m
		Retroreflective	5...7m
		Diffuse	700mm

	Through-beam	Diffuse	Retroreflective	Retroreflective with Polarizing Filter
Operating Range	30m (98.4 ft.)	700mm (27.56 in.)	7m (22.9 ft.)	5m (16.4 ft.)

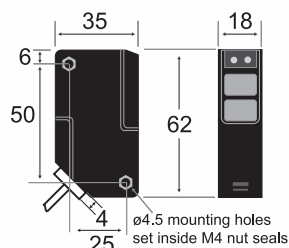
Part Numbers

Emitter	RS62-T030MD-EY9C2L2			
SPDT Relay (Light On)	RS62-T030MR-LY9C5L2	RS62-D0700R-LY9C5L5	RS62-L7000R-LY9C5L5	RS62-L5000R-LY6C5L5-PF
SPDT Relay (Dark On)	RS62-T030MR-DY9C5L2	RS62-D0700R-DY9C5L5	RS62-L7000R-DY9C5L5	RS62-L5000R-DY6C5L5-PF

Technical Data

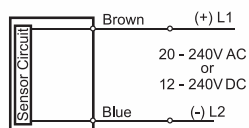
Power Supply	12...240 VDC or 24-240 VAC $\pm$ 10%
Current Consumption	2 VA max.
Light Emission	Infrared (Through-beam, Diffuse & Retroreflective) or Modulated Red LED (Polarized Retroreflective)
Setting	Continuously variable adjuster (except for long range through-beam and retroreflective models)
Indicator LEDs	Red LED: Operation Indicator, Green LED: Stability Indicator
Output (Relay contact 1c)	* Switching capacity: 250 VAC 1A (resistive load) 30 VDC 2A (resistive load) * Electrical life: 100,000 or more operations (at rated AC load) 50,000 or more operations (at rated DC load) * Mechanical life: 100,000 or more operations
Response Time	10 ms max.
Switching Frequency	10 Hz max.
Connection	2 meter cable
Mechanical Protection	IP66
Housing Material	Housing: ABS, Lens: Polycarbonate
Operating Temp.	-20...+55°C (-4...+131°F)
Reference Standard	EN 60947-5-2

Dimensions

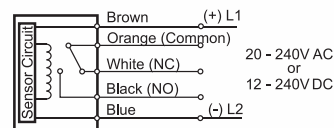


Connections

Wires



Emitter



Receiver & All Others

U SERIES

U Series

Images

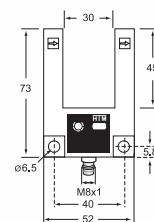
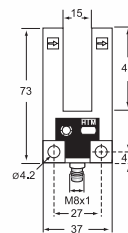
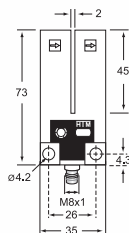


Series Description:	Slot Photoelectric Sensor	Modes	Ranges
		Through Beam	2mm...120mm

- 2, 15, 30, 50, 80 and 120mm Widths
- High Switching Frequency
- Rugged Die-cast Metal Housings

Part Numbers

NPN (red LED, 660nm)	U02-T0002N-CY6Q4UP	U15-T0015N-CY6Q4UP	U30-T0030N-CY6Q4UP
PNP (red LED, 660nm)	U02-T0002P-CY6Q4UP	U15-T0015P-CY6Q4UP	U30-T0030P-CY6Q4UP
Slot Spacing	2mm	15mm	30mm
Supply Voltage	10-30 VDC		
Voltage Drop	< 3V		
Rated Isolated Voltage	75 VDC		
Rated Operational Current	200mA		
No-load Supply Current	≤35mA		
Reverse Polarity Protection	Yes		
Short-circuit Protection	Yes		
On/Off Delay	0.2ms		
Operating Frequency	3000Hz		1500Hz
Switching Hysteresis	≤0.1mm		
Resolution	0.3mm		
Repeatability	0.02mm		
Output Function	Light On / Dark On		
Permissible Ambient Light	10 Kl		
Function Indicator	red LED		
Operating Temp.	-10°C to 60°C (14°F to 140°F)		
Mechanical Protection	IP65		
Reference Standard	IEC 60947-5-2		
Housing Material	Die-cast Zinc		
Connection	M8 4 pin connector - Recommended Mating Cable: Part # C-FS4TZ-V075 (straight), or C-FA4TZ-V075 (right-angle)		

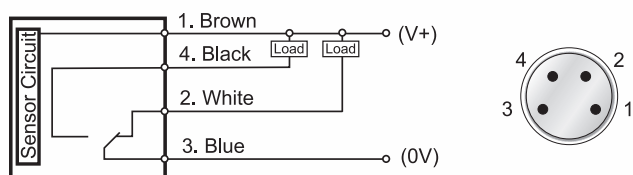


U SERIES

U Series

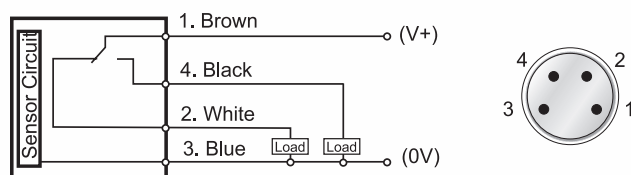
Connections

M8 DC 4-wire NPN - N.O. & N.C.



Black: Light-ON White: Dark-ON

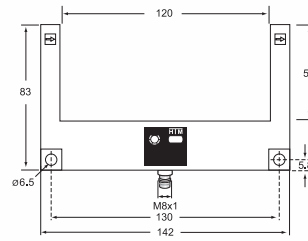
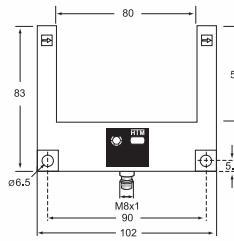
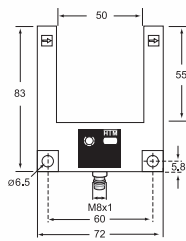
M8 DC 4-wire PNP - N.O. & N.C.



Black: Light-ON White: Dark-ON

Part Numbers

NPN (red LED, 660nm)	U50-T0050N-CY6Q4UP	U80-T0080N-CY6Q4UP	U120-T0120N-CY6Q4UP
PNP (red LED, 660nm)	U50-T0050P-CY6Q4UP	U80-T0080P-CY6Q4UP	U120-T0120P-CY6Q4UP
Slot Spacing	50mm	80mm	120mm
Supply Voltage	10-30 VDC		
Voltage Drop	< 3V		
Rated Isolated Voltage	75 VDC		
Rated Operational Current	200mA		
No-load Supply Current	≤35mA		
Reverse Polarity Protection	Yes		
Short-circuit Protection	Yes		
On/Off Delay	0.2ms	0.33ms	
Operating Frequency	1500Hz		
Switching Hysteresis	≤0.1mm	≤0.2mm	
Resolution	0.5mm		0.8mm
Repeatability	0.04mm	0.06mm	0.08mm
Output Function	Light On / Dark On		
Permissible Ambient Light	10 Kl	5 Kl	
Function Indicator	red LED		
Operating Temp.	-10°C to 60°C (14°F to 140°F)		
Mechanical Protection	IP65		
Reference Standard	IEC 60947-5-2		
Housing Material	Die-cast Zinc		
Connection	M8 4 pin connector - Recommended Mating Cable: Part # C-FS4TZ-V075 (straight), or C-FA4TZ-V075 (right-angle)		



RP32 SERIES

RP32 Series

Image



Series Description

Miniature Photoelectric Sensor

- Compact & Rugged Design
- Stainless Steel and Glass Fiber Reinforced Plastic Housing
- Shock & Vibration Resistant

Modes

Through Beam

Ranges

8.5m

Retroreflective

4m

Diffuse

400mm

Clear Object Detection

500mm

Through-beam

Diffuse

Retroreflective

Clear Object Detection

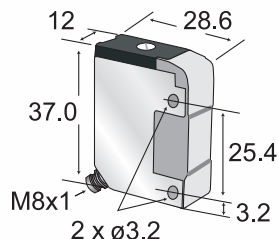
Part Numbers

Emitter	RP32-T8500D-EY6Q4LP			
NPN	RP32-T8500N-CY6Q4UP	RP43-D0400N-CY6Q4UP	RP32-L4000N-CY6Q4UP-PF	RP32-L0500N-CY6Q4UP-PD
PNP	RP32-T8500P-CY6Q4UP	RP43-D0400P-CY6Q4UP	RP32-L4000P-CY6Q4UP-PF	RP32-L0500P-CY6Q4UP-PD

Technical Data

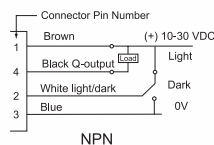
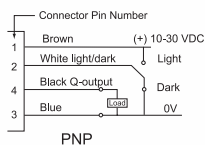
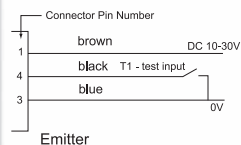
Operating Range	8.5m (27.8 ft.)	400mm (15.7 in.)	4m (13 ft.)	0.5m (19 in.)
Power Supply	10...30 VDC			
Current Consumption	35mA max.			
Ripple	±10% (within Vs tolerance)			
Light Emission	660nm Infrared LED			
Angle of Divergence	approx. 3.5°	approx. 5.0°	approx. 4.5°	
Light Spot Size	approx. 440mm@7m	40mm@400mm	approx.200mm@2.5m	
Setting	sensitivity trimmer			
Output Voltage	High: PNP: Vs - (≤1.5V); NPN is approx. Vs; Low: PNP is approx. 0V; NPN is ≤1.5V			
Output Current Max.	100mA max., short-circuit protected and over current protected, Vs reverse polarity protected			
Response Time	<15 ms	<2 ms	<0.7 ms	
Switching Frequency	33 Hz	250 Hz	700 Hz	
Connection	M8 4 pin connector - Recommended Mating Cable: Part # C-FS4TZ-V075 (straight), or C-FA4TZ-V075 (right-angle)			
Mechanical Protection	IP67 / NEMA 6			
Housing Material	Stainless Steel / Glass fiber reinforced plastic			
Operating Temp.	-25...+55°C (-13...+131°F)			
Storage Temp.	-40...+70°C (-40...+158°F)			
Reference Standard	EN 60947-5-2			

Dimensions

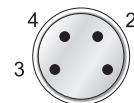


Connections

Wires



Pins



CABLES & BOXES



DC - MICRO

AC - MICRO

M8 - PICO

MINI

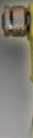
STRAIGHT & 90°

PVC & PUR

YELLOW, GRAY OR BLACK

DOUBLE-ENDED CABLES

SELECTION & ORDERING INFORMATION

Cables					Boxes	
	C Series - M8 Pico		R Series - M12 DC Micro		4 Port	8 Port
						
Part Numbers						
3 Poles	C-FS3TZ-V075	C-FA3TZ-V075				
4 Poles	C-FS4TZ-V075	C-FA4TZ-V075	R-FS4TZ-V075	R-FA4TZ-V075		
4 Port PNP					ASTR4-5/4PA-1005	
4 Port NPN					ASTR4-5/4NA-1005	
8 Port PNP						DSTR8-5/4PA-1205
8 Port NPN						DSTR8-5/4NA-1205
Diagrams						
Field Connectors						
						
Part Number	R-FS4KZPG7	R-FA4KZPG7	R-MS4KZPG7	R-MA4KZPG7		
Poles	4 (female)	4 (female)	4 (male)	4 (male)		
Max. Wire Section	18 AWG	18 AWG	18 AWG	18 AWG		
Screw Joint for Cables	PG7 (Φ4.0-6.0mm)	PG7 (Φ4.0-6.0mm)	PG7 (Φ4.0-6.0mm)	PG7 (Φ4.0-6.0mm)		

HTM electronics

SENSOR SOLUTIONS MADE SIMPLE

Inductive & Capacitive Proximity Sensors



Standard DC, AC & AC/DC, NPN, PNP, N.O., N.C. proximity sensors.

Professional Series Proximity Sensors



Long Range, MetalHead™, Weld Field Immune, SpatterGuard™ Proximity Sensors for harsh industrial conditions.

Photoelectric Sensors



Through-beam, Diffuse, Retroreflective, Laser, Background Suppression, Contrast, Distance Models

Safety Light Curtains



Category 2 & Category 4 Safety Light Curtains for Finger, Hand & Body Protection.

Non-contact Thermometers



Fixed Mounted, Separate Amplifier and Hand-held models Measure Temperatures at a safe distance.

Cables & Boxes



M8 Pico, M12 DC Micro, 1/2"-20 AC Micro Cables, Pre-wired and Quick Connect Distribution Boxes.

Sensor Accessories



Sensor Testers, Counters, Cushioned Sensor Mounts, Contact Sensor Probes, Mounting Brackets and more.

New & Key Products



Our Newest Products and Our Most Popular Models.

Prox Worx



Learn how to protect your sensor investment and reduce downtime and associated costs with our Prox Worx Program.

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