

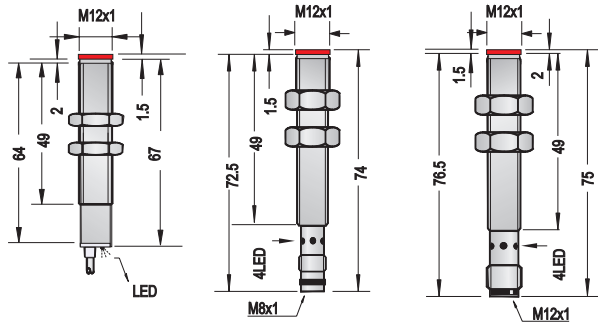


Features <ul style="list-style-type: none"> ▪ M8mm diameter ▪ Through-beam sensing mode ▪ Sn=80mm ... 3000mm ▪ Stainless steel housing case ▪ Built-in electric protection ▪ NPN or PNP function ▪ N.O., N.C. Output ▪ Cable version M8 connector 						
		(Unit: mm)				
Type		M8				
Sensing Mode		Through-beam Mode				
Switching Distance (Sn: mm)		150mm	500mm	1000mm	3000mm	
Stainless Steel Housing	Cable version	Emitter	PACK015A	PACK050A	PACK100A	PACK300A
		NPN-NO	PACC015A	PACC050A	PACC100A	PACC300A
		NPN-NC	PACD015A	PACD050A	PACD100A	PACD300A
		PNP-NO	PACA015A	PACA050A	PACA100A	PACA300A
		PNP-NC	PACB015A	PACB050A	PACB100A	PACB300A
	M8 connector	Emitter	PACK015G	PACK050G	PACK100G	PACK300G
		NPN-NO	PACC015G	PACC050G	PACC100G	PACC300G
		NPN-NC	PACD015G	PACD050G	PACD100G	PACD300G
		PNP-NO	PACA015G	PACA050G	PACA100G	PACA300G
		PNP-NC	PACB015G	PACB050G	PACB100G	PACB300G
	M12 connector	Emitter				
		NPN-NO				
		NPN-NC				
		PNP-NO				
		PNP-NC				
Nominal Voltage	10-30VDC					
Rated Voltage	24VDC					
Rated Insulation Voltage	75VDC					
Residual Ripple	<10%					
Tolerance	<10%Sn					
Hysteresis	<10%					
Emission	Infrared(880nm)					
Switching Output	PNP,NPN					
Switching Function	NO,NC(Light On,Dark On)					
Max. Output Current	150mA					
Absorption at 30VDC	<35mA					
Start-up Delay	350ms					
No Load Current	<30mA					
Voltage Drop	<2.5V					
Output Indicator	Yellow LED					
Sensitivity Adjustment	/					
Response Time	1ms					
Shock Circuit Protection	Yes					
Overload Protection	Yes					
Reverse Polarity Protection	Yes					
Ambient Humidity	35 to 85% RH					
Temperature Limit	-25°C~+55°C					
Light Immunity	>10.000Lux					
Protection Degree	IP67					
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2					
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)					
Housing Material	Nickel plated brass / PBT Resin					
Sensing Surface Material	PMMA					
Sensing Object	Ø8mm or more					
Connection	2m PVC Cable(Ø3 3x0.15) / M8 Connector(4 Pin, Euro style)					
Weight	Approx. 50g/35g					

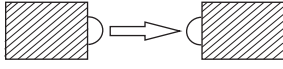


Features

- M12mm diameter
- Through-beam sensing mode
- Sn=5.2m ... 10m
- Nickel plated brass housing, Plastic housing
- Built-in electric protection
- NPN or PNP function
- N.O., N.C. Output
- Cable version
M8 connector
M12 connector



(Unit: mm)

Type	M12			
Sensing Mode	Through-beam Mode 			
Switching Distance (Sn: m)	5.2m	10m	5.2m	10m

Cable version	Emitter	Brass Housing		Plastic Housing	
		5.2m	10m	5.2m	10m
M8 connector	NPN-NO	PBCK520A	PBCK10MA	PCC520A	PCC10MA
	NPN-NC	PBCC520A	PBCC10MA	PCC520A	PCC10MA
	PNP-NO	PBCD520A	PBCD10MA	PCCD520A	PCCD10MA
	PNP-NC	PBCA520A	PBCA10MA	PCCA520A	PCCA10MA
		PBCB520A	PBCB10MA	PCCB520A	PCCB10MA
M12 connector	NPN-NO	PBCK520G	PBCK10MG	PCC520G	PCC10MG
	NPN-NC	PBCC520G	PBCC10MG	PCC520G	PCC10MG
	PNP-NO	PBCD520G	PBCD10MG	PCCD520G	PCCD10MG
	PNP-NC	PBCA520G	PBCA10MG	PCCA520G	PCCA10MG
		PBCB520G	PBCB10MG	PCCB520G	PCCB10MG
M12 connector	NPN-NO	PBCK520H	PBCK10MH	PCC520H	PCC10MH
	NPN-NC	PBCC520H	PBCC10MH	PCC520H	PCC10MH
	PNP-NO	PBCD520H	PBCD10MH	PCCD520H	PCCD10MH
	PNP-NC	PBCA520H	PBCA10MH	PCCA520H	PCCA10MH
		PBCB520H	PBCB10MH	PCCB520H	PCCB10MH

Nominal Voltage	10-30VDC
Rated Voltage	24VDC
Rated Insulation Voltage	75VDC
Residual Ripple	<10%
Tolerance	<10%Sn
Hysteresis	<10%
Emission	Infrared(880nm)
Switching Output	PNP,NPN
Switching Function	NO+NC
Max. Output Current	150mA
Absorption at 30VDC	<35mA
Start-up Delay	350ms
No Load Current	<30mA
Voltage Drop	<2.5V
Output Indicator	Yellow LED
Sensitivity Adjustment	Trimmer 1 tum
Response Time	1ms
Shock Circuit Protection	Yes
Overload Protection	Yes
Reverse Polarity Protection	Yes
Ambient Humidity	35 to 85% RH
Temperature Limit	-25°C~+55°C
Light Immunity	>10.000Lux
Protection Degree	IP67
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)
Housing Material	Nickel plated brass / PBT Resin
Sensing Surface Material	PMMA
Sensing Object	10x10cm white paper(Sn=150mm) / 20x20cm white paper(Sn=500mm)
Connection	2m PVC Cable(Ø3 3x0.15) / M12 Connector(4 Pin, Euro style)
Weight	Approx. 67g/35g/40g



M12 Series Photoelectric Sensors - Diffuse Mode

Features <ul style="list-style-type: none"> ▪ M12mm diameter ▪ Diffuse sensing mode ▪ Sn=200mm ▪ Nickel plated brass housing, Plastic housing ▪ Built-in electric protection ▪ NPN,PNP function ▪ N.O., N.C. Output ▪ Cable version MB connector M12 connector 					
		(Unit: mm)			
Type		M12			
Sensing Mode		Diffuse Mode			
Switching Distance (Sn: m)		200mm		200mm	
		Brass Housing		Plastic Housing	
Cable version	NPN-NO+NC	PBDF020A		PCDF020A	
	PNP-NO+NC	PBDE020A		PCDE020A	
M8 connector	NPN-NO+NC	PBDF020G		PCDF020G	
	PNP-NO+NC	PBDE020G		PCDE020G	
M12 connector	NPN-NO+NC	PBDF020H		PCDF020H	
	PNP-NO+NC	PBDE020H		PCDE020H	
Nominal Voltage	10-30VDC				
Rated Voltage	24VDC				
Rated Insulation Voltage	75VDC				
Residual Ripple	<10%				
Tolerance	<10%Sn				
Hysteresis	<10%				
Emission	Infrared(880nm)				
Switching Output	PNP,NPN				
Switching Function	NO+NC				
Max. Output Current	150mA				
Absorption at 30VDC	<35mA				
Start-up Delay	350ms				
No Load Current	<30mA				
Voltage Drop	<2.5V				
Output Indicator	Yellow LED				
Sensitivity Adjustment	Trimmer 1 tum				
Response Time	1ms				
Shock Circuit Protection	Yes				
Overload Protection	Yes				
Reverse Polarity Protection	Yes				
Ambient Humidity	35 to 85% RH				
Temperature Limit	-25°C~+55°C				
Light Immunity	>10.000Lux				
Protection Degree	IP67				
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2				
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)				
Housing Material	Nickel plated brass / PBT Resin				
Sensing Surface Material	PMMA				
Sensing Object	10x10cm white paper(Sn=150mm) / 20x20cm white paper(Sn=500mm)				
Connection	2m PVC Cable(Ø3 3x0.15) / M12 Connector(4 Pin, Euro style)				
Weight	Approx. 67g/35g/40g				



Features <ul style="list-style-type: none"> ▪ M12mm diameter ▪ Retro-reflective sensing mode ▪ Sn=1500mm, 2000mm ▪ Nickel plated brass housing, Plastic housing ▪ Built-in electric protection ▪ NPN or PNP function ▪ N.O. + N.C. Output ▪ Cable version MB connector M12 connector 									
CE		(Unit: mm)							
Type		M12							
Sensing Mode		Retro-reflective Mode							
Switching Distance (Sn: mm)		1500mm		2000mm		1500mm		2000mm	
		Brass Housing				Plastic Housing			
Cable version	NPN-NO+NC	PBRF150A		PBRF200A		PCRF150A		PCRF200A	
	PNP-NO+NC	PBRE150A		PBRE200A		PCRE150A		PCRE200A	
M8 connector	NPN-NO+NC	PBRF150G		PBRF200G		PCRF150G		PCRF200G	
	PNP-NO+NC	PBRE150G		PBRE200G		PCRE150G		PCRE200G	
M12 connector	NPN-NO+NC	PBRF150H		PBRF200H		PCRF150H		PCRF200H	
	PNP-NO+NC	PBRE150H		PBRE200H		PCRE150H		PCRE200H	
Nominal Voltage		10-30VDC							
Rated Voltage		24VDC							
Rated Insulation Voltage		75VDC							
Residual Ripple		<10%							
Tolerance		<10%Sn							
Hysteresis		<10%							
Emission		Infrared(880nm)							
Switching Output		PNP,NPN							
Switching Function		NO+NC							
Max. Output Current		150mA							
Absorption at 30VDC		<35mA							
Start-up Delay		350ms							
No Load Current		<30mA							
Voltage Drop		<2.5V							
Output Indicator		Yellow LED							
Sensitivity Adjustment		Trimmer 1 tum							
Response Time		1ms							
Shock Circuit Protection		Yes							
Overload Protection		Yes							
Reverse Polarity Protection		Yes							
Ambient Humidity		35 to 85% RH							
Temperature Limit		-25°C~+55°C							
Light Immunity		>10.000Lux							
Protection Degree		IP67							
EMC		IEC 6094752 Part 7.4.1 and Part 7.4.2							
Shock / Vibration		RFI>3V/m / EFT>1KV / ESD>4KV(contact)							
Housing Material		Nickel plated brass / PBT Resin							
Sensing Surface Material		PMMA							
Sensing Object		10x10cm white paper(Sn=150mm) / 20x20cm white paper(Sn=500mm)							
Connection		2m PVC Cable(Ø3 3x0.15) / M12 Connector(4 Pin, Euro style)							
Weight		Approx. 67g/35g/40g							



M18 Series Photoelectric Sensors - Through-beam Mode

Features

- M18mm diameter
- Through-beam sensing mode
- Sn=15m
- Nickel plated brass housing, Plastic housing
- Built-in electric protection
- NPN or PNP function
- NO or NC Output
NO + NC Output
Multifunction Output
- Cable version
M12 connector

(Unit: mm)

Type	M18		
Sensing Mode	Through-beam Mode		
Switching Distance (Sn: m)	15m		15m
	Brass Housing		Plastic Housing
Cable version	Emitter	PDCK15MA	PECK15MH
	NPN-NO or NC	PDCH15MA	PECH15MH
	PNP-NO or NC	PDCG15MA	PECG15MH
	NPN-NO + NC	PDCF15MA	PECF15MH
	PNP-NO + NC	PDCE15MA	PECE15MH
	Multifunction (NPN,PNP,NO,NC,integrated)	PDCT15MA	PECT15MH
M12 connector	Emitter	PDCK15MH	PECK15MH
	NPN-NO or NC	PDCH15MH	PECH15MH
	PNP-NO or NC	PDCG15MH	PECG15MH
	NPN-NO + NC	PDCF15MH	PECF15MH
	PNP-NO + NC	PDCE15MH	PECE15MH
	Multifunction (NPN,PNP,NO,NC,integrated)	PDCT15MH	PECT15MH
Nominal Voltage	10-30VDC		
Rated Voltage	24VDC		
Rated Insulation Voltage	75VDC		
Residual Ripple	<10%		
Tolerance	<10%Sn		
Hysteresis	<10%		
Emission	Infrared(880nm)		
Switching Output	PNP,NPN		
Switching Function	NO or NC / NO+NC		
Max. Output Current	200mA		
Absorption at 30VDC	<35mA		
Start-up Delay	350ms		
No Load Current	<30mA		
Voltage Drop	<2.5V		
Output Indicator	Yellow LED		
Sensitivity Adjustment	Trimmer 1 tum		
Response Time	1ms		
Shock Circuit Protection	Yes		
Overload Protection	Yes		
Reverse Polarity Protection	Yes		
Ambient Humidity	35 to 85% RH		
Temperature Limit	-25°C~+55°C		
Light Immunity	>10.000Lux		
Protection Degree	IP67		
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2		
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)		
Housing Material	Nickel plated brass / PBT Resin		
Sensing Surface Material	PMMA		
Sensing Object	10x10cm white paper(Sn=150mm) / 20x20cm white paper(Sn=500mm)		
Connection	2m PVC Cable(Ø3 3x0.15) / M12 Connector(4 Pin, Euro style)		
Weight	Approx. 112g/75g		



Features

- M18mm diameter
- Diffuse sensing mode
- Sn=150mm ...500mm
- Nickel plated brass housing
Plastic housing
- Built-in electric protection
- NPN or PNP function
- NO or NC Output
NO + NC Output
Multifunction Output
- Cable version
M12 connector

(Unit: mm)

Type	M18
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Sensing Mode	Diffuse Mode
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Switching Distance (Sn: mm)	150mm 500mm 150mm 500mm
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	Brass Housing		Plastic Housing		
	150mm	500mm	150mm	500mm	
Cable version	Emitter				
	NPN-NO or NC	PDDH015A	PDDH050A	PEDH050H	PEDH050H
	PNP-NO or NC	PDDG015A	PDDG050A	PEDG050H	PEDG050H
	NPN-NO + NC	PDDF015A	PDDF050A	PEDF050H	PEDF050H
	PNP-NO + NC	PDDE015A	PDDE050A	PEDE050H	PEDE050H
Multifunction (NPN,PNP,NO,NC,integrated)	PDDT015A	PDDT050A	PEDT050H	PEDT050H	
M12 connector	Emitter				
	NPN-NO or NC	PDDH015H	PDDH050H	PEDH050H	PEDH050H
	PNP-NO or NC	PDDG015H	PDDG050H	PEDG050H	PEDG050H
	NPN-NO + NC	PDDF015H	PDDF050H	PEDF050H	PEDF050H
	PNP-NO + NC	PDDE015H	PDDE050H	PEDE050H	PEDE050H
Multifunction (NPN,PNP,NO,NC,integrated)	PDDT015H	PDDT050H	PEDT050H	PEDT050H	

Nominal Voltage	10-30VDC
Rated Voltage	24VDC
Rated Insulation Voltage	75VDC
Residual Ripple	<10%
Tolerance	<10%Sn
Hysteresis	<10%
Emission	Infrared(880nm)
Switching Output	PNP,NPN
Switching Function	NO or NC / NO+NC
Max. Output Current	200mA
Absorption at 30VDC	<35mA
Start-up Delay	350ms
No Load Current	<30mA
Voltage Drop	<2.5V
Output Indicator	Yellow LED
Sensitivity Adjustment	Trimmer 1 tum
Response Time	1ms
Shock Circuit Protection	Yes
Overload Protection	Yes
Reverse Polarity Protection	Yes
Ambient Humidity	35 to 85% RH
Temperature Limit	-25°C~+55°C
Light Immunity	>10.000Lux
Protection Degree	IP67
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)
Housing Material	Nickel plated brass / PBT Resin
Sensing Surface Material	PMMA
Sensing Object	10x10cm white paper(Sn=150mm) / 20x20cm white paper(Sn=500mm)
Connection	2m PVC Cable(Ø3 3x0.15) / M12 Connector(4 Pin, Euro style)
Weight	Approx. 112g/75g



M18 Series Photoelectric Sensors - Retro-reflective Mode

Features

- M18mm diameter
- Retro-reflective sensing mode
- Sn=3m
- Nickel plated brass housing, Plastic housing
- Built-in electric protection
- NPN or PNP function
- N.D., N.C. Output
- Cable version M12 connector

(Unit: mm)

Type	M18		
Sensing Mode	Retro-reflective Mode		
Switching Distance (Sn: m)	3m	3m	3m

	Brass Housing		Plastic Housing	
	Cable version	Emitter		
	NPN-NO or NC	PDRH300A		PERH300A
	PNP-NO or NC	PDRG300A		PERG300A
	NPN-NO + NC	PDRF300A		PERF300A
	PNP-NO + NC	PDRE300A		PERE300A
	Multifunction (NPN,PNP,NO.,NC.,integrated)	PDRT300A		PERT300A
M12 connector	Emitter			
	NPN-NO or NC	PDRH300H		PERH300H
	PNP-NO or NC	PDRG300H		PERG300H
	NPN-NO + NC	PDRF300H		PERF300H
	PNP-NO + NC	PDRE300H		PERE300H
	Multifunction (NPN,PNP,NO.,NC.,integrated)	PDRT300H		PERT300H

Nominal Voltage	10-30VDC
Rated Voltage	24VDC
Rated Insulation Voltage	75VDC
Residual Ripple	<10%
Tolerance	<10%Sn
Hysteresis	<10%
Emission	Infrared(880nm)
Switching Output	PNP,NPN
Switching Function	NO or NC / NO+NC
Max. Output Current	200mA
Absorption at 30VDC	<35mA
Start-up Delay	350ms
No Load Current	<30mA
Voltage Drop	<2.5V
Output Indicator	Yellow LED
Sensitivity Adjustment	Trimmer 1 tum
Response Time	1ms
Shock Circuit Protection	Yes
Overload Protection	Yes
Reverse Polarity Protection	Yes
Ambient Humidity	35 to 85% RH
Temperature Limit	-25°C~+55°C
Light Immunity	>10.000Lux
Protection Degree	IP67
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)
Housing Material	Nickel plated brass / PBT Resin
Sensing Surface Material	PMMA
Sensing Object	10x10cm white paper(Sn=150mm) / 20x20cm white paper(Sn=500mm)
Connection	2m PVC Cable(Ø3 3x0.15) / M12 Connector(4 Pin, Euro style)
Weight	Approx. 112g/75g



M18 Series Photoelectric Sensors - 24-240VAC Operating Voltage

Features:

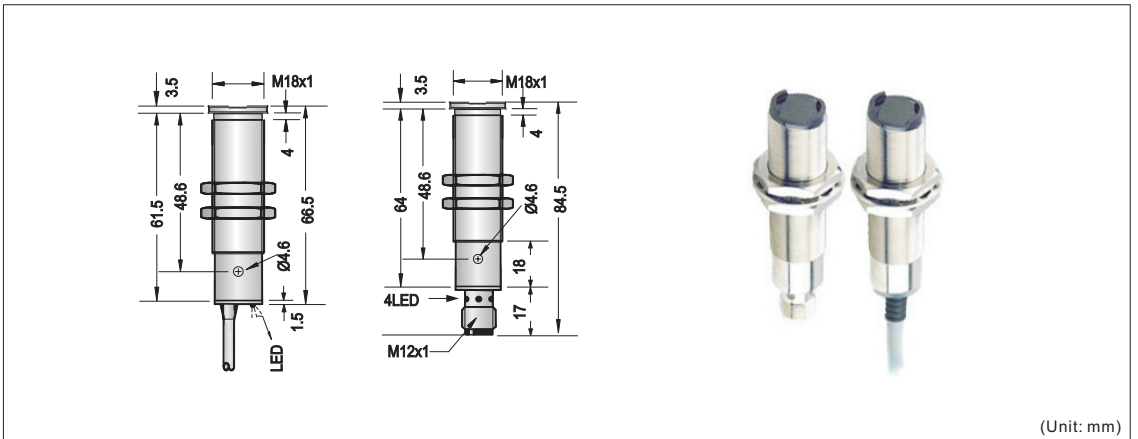
- M18mm diameter
- Nickel plated brass housing
Plastic housing
- 24-240VAC operating voltage
- N.O., N.C. Output
- IP67 protection
- Cable version
M12 connector

CE

Type

Sensing Mode

Switching Distance



M18		
Through-beam Mode	Diffuse Mode	Retro-reflective Mode
 15m	 150mm / 500mm	 3m

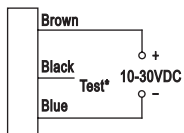
Cable version	Sensing Mode	Emitter	Brass Housing		Plastic Housing	
			Through-beam Mode	PDCL15MA		PECL15MA
Diffuse Mode	NO	PDCP15MA		PECP15MA		
	NC	PDCQ15MA		PECQ15MA		
Retro-reflective Mode	NO	PDDP015A	PDDP050A (Sn=500mm)	PEDP015A	PEDP050A (Sn=500mm)	
	NC	PDDQ015A	PDDQ050A (Sn=500mm)	PEDQ015A	PEDQ050A (Sn=500mm)	
M12 connector	Through-beam Mode	NO	PDRP300A		PERP300A	
		NC	PDRQ300A		PERQ300A	
Diffuse Mode	NO	PDDP015H	PDDP050H (Sn=500mm)	PEDP015H	PEDP050H (Sn=500mm)	
	NC	PDDQ015A	PDDQ050A (Sn=500mm)	PEDQ015A	PEDQ050A (Sn=500mm)	
Retro-reflective Mode	NO	PDRP300H		PERP300H		
	NC	PDRQ300H		PERQ300H		

Nominal Voltage	24-240VAC
Rated Voltage	110VAC
Rated Insulation Voltage	250VAC
Residual Ripple	<10%
Tolerance	<10%Sn
Hysteresis	<10%
Emission	Infrared(880nm)
Switching Output	AC non-contact (MOSFET Output)
Switching Function	NO,NC
Max. Output Current	200mA
Absorption at 30VDC	<5mA
Start-up Delay	10ms
No Load Current	<5mA
Voltage Drop	<10VAC
Output Indicator	Yellow LED
Sensitivity Adjustment	Trimmer 1 tum
Response Time	10ms
Shock Circuit Protection	Yes
Overload Protection	Yes
Reverse Polarity Protection	Yes
Ambient Humidity	35% to 85%RH
Temperature Limit	-25°C ... +55°C
Light Immunity	>10.000Lux
Protection Degree	IP67
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)
Housing Material	Nickel plated brass / PBT Resin
Sensing Surface Material	PMMA
Sensing Object	>Ø8mm, through-beam / 10x10cm white papaer,diffuse Sn=150mm, 20x20cm white paper, diffuse Sn=500mm/ D51 mirror, retro-reflective
Connection	2m PVC Cable(Ø3 3x0.15) / M12 Connector(4 Pin, Euro style)
Weight	Approx. 112g/75g

TERMINAL CONNECTIONS FOR CYLINDRICAL PHOTOELECTRIC SENSORS

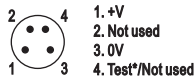
● Emitter (Through-beam Mode)

A1 Cable Output



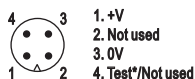
*Test(black wire)=0V, Emitter off

A2 M8 Pico-style



Connector face view

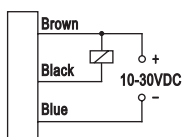
A3 M12 Euro Style



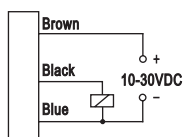
Connector face view

● Receiver Cable Output (Through-beam Mode)

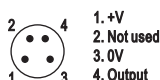
A4 NPN Cable Output



A5 PNP Cable Output

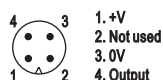


A6 M8 Pico-style



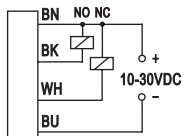
Connector face view

A7 M12 Euro Style

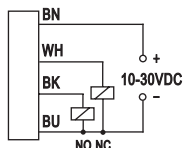


● NO & NC Cable Output

A8 NPN Cable Output



A9 PNP Cable Output



A10 M8 Pico-style



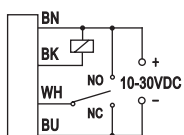
Connector face view

A11 M12 Euro Style

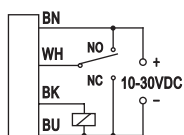


● NO or NC Cable Output

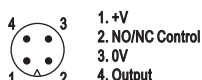
A12 NPN Cable Output



A13 PNP Cable Output



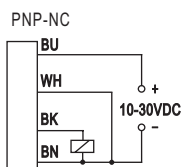
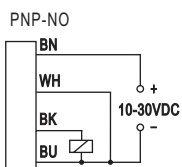
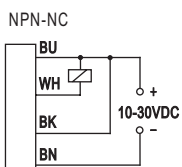
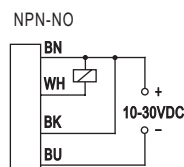
A14 M12 Connector



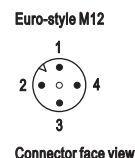
Connector face view

● Multifunctional Output (Cable Output)

A15 Cable Output



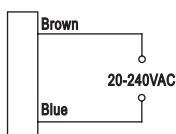
A16 Euro-style M12 Connector Output



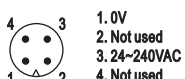
Output	Contact Numbers / Wire			
	1/BN	2/WH	3/BU	4/BK
NPN-NO	+	NO	-	+
NPN-NC	-	NC	+	+
PNP-NO	+	-	-	NO
PNP-NC	-	-	+	NC
Emitter	+	-	-	-

● AC Emitter

A17 Cable Output



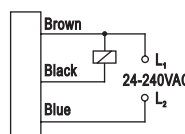
A18 M12 Euro-style



Connector face view

● AC Receiver

A19 Cable Output



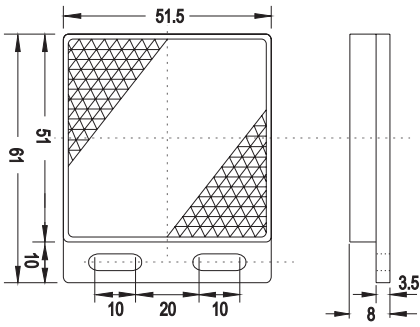
A20 M12 Euro-style



Connector face view

TERMINAL CONNECTIONS FOR CYLINDERIAL PHOTOELECTRIC SENSORS

● D51 Reflectors



● D83 Reflectors

