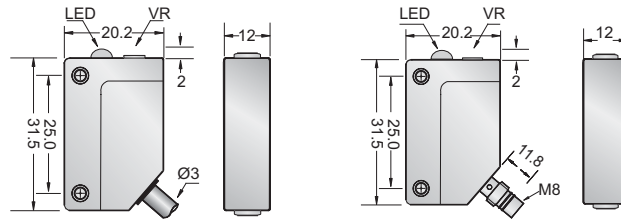


Features

- 31.5x20.2x12mm dimension
- Through-beam sensing mode
 Diffuse sensing mode
 Retro-reflective mode
- ABS plastic housing
- Built-in electric protection
- NPN or PNP function
- N.O. + N.C. Output
- Cable version
 M8 connector



(Unit: mm)

Through-beam Mode	Switching Distance (Sn: mm)	5m	10mm			
	Sensing Object	/	/			
	2m Cable	Emitter	PHCK500A	PHCK10MA		
		PNP-NO + NC	PHCE500A	PHCE10MA		
		NPN-NO + NC	PHCF500A	PHCF10MA		
	M8 Connector	Emitter	PHCK500G	PHCK10MG		
PNP-NO + NC		PHCE500G	PHCE10MG			
NPN-NO + NC		PHCF500G	PHCF10MG			

Diffuse	Switching Distance (Sn: mm)	110mm	350mm	800mm		
	Sensing Object	10x10cm white paper	10x10cm white paper	20x20cm white paper		
	2m Cable	PNP-NO + NC	PHDE011A	PHDE035A	PHDE080A	
		NPN-NO + NC	PHDF011A	PHDF035A	PHDF080A	
	M8 Connector	PNP-NO + NC	PHDE011G	PHDE035G	PHDE080G	
		NPN-NO + NC	PHDF011G	PHDF035G	PHDF080G	

Retro-reflective	Switching Distance (Sn: mm)	0.1 ... 4m				
	Sensing Object	D51 mirror				
	2m Cable	PNP-NO + NC	PHRE400A			
		NPN-NO + NC	PHRF400A			
	M8 Connector	PNP-NO + NC	PHRE400G			
		NPN-NO + NC	PHRF400G			

Type	PH31(31.5x20.2x12mm)
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 or NPN
Switching Function	NO+NC
Max. Output Current	100mA
Absorption at 30VDC	<35mA
Start-up Delay	<300ms
Switching Frequency	<500Hz
Voltage Drop	<2.0V
Output Indicator	Yellow LED Output indicator, Green LED Power indicator
Sensitivity Adjustment	Trimmer 1 turn
Time Regulation	/
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	IP65
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)
Housing Material	ABS
Sensing Surface Material	PMMA
Sensing Object	See above
Connection	2m PVC Cable(Ø4 4x0.25) / M8 Connector(4 Pin, Pico style)
Weight	Approx. 42g/35g

Features

- 50x50x18mm dimension
- Through-beam sensing mode
Diffuse sensing mode
Retro-reflective mode
- PBT Resin housing
- Built-in electric protection
- NPN,PNP,N.O.,N.C. integrated
- Cable version
M12 connector

CE

(Unit: mm)

Through-beam	Switching Distance (Sn: mm)	20m	40mm			
	Sensing Object	/	/			
	2m Cable	Emitter	PKCK20MA	PKCK40MA		
		Receiver	PKCT20MA	PKCT40MA		
	Note: NPN,PNP,Light On,Dark On all integrated in one single sensor					
	M12 Connector	Emitter	PKCK20MH	PKCK40MH		
Receiver		PKCT20MH	PKCT40MH			
Note: NPN,PNP,Light On,Dark On all integrated in one single sensor						

Diffuse	Switching Distance (Sn: mm)	0.1m ... 0.4m	0.2m ... 1m	0.2m ... 1.8m	0.3m ... 2m	
	Sensing Object	10x10cm white paper	20x20cm white paper	20x20cm white paper	20x20cm white paper	
	2m Cable		PKDT040A	PKDT100A	PKDT180A	PKDT200A
		Note: NPN,PNP,Light On,Dark On all integrated in one single sensor				
	M12 Connector		PKDT040H	PKDT100H	PKDT180H	PKDT200H
		Note: NPN,PNP,Light On,Dark On all integrated in one single sensor				

Retro-Reflective	Switching Distance (Sn: mm)	10m				
	Sensing Object	D83 mirror				
	2m Cable		PKRT10MA			
		Note: NPN,PNP,Light On,Dark On all integrated in one single sensor				
	M12 Connector		PKRT10MH			
		Note: NPN,PNP,Light On,Dark On all integrated in one single sensor				

Type	PK50(50x50x18mm)
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 or NPN(programmable)
Switching Function	NO,NC(programmable)
Max. Output Current	200mA
Absorption at 30VDC	<40mA
Start-up Delay	<300ms
Switching Frequency	<200Hz
Voltage Drop	<2.5V
Output Indicator	Yellow LED Output indicator, Green LED Power indicator
Sensitivity Adjustment	Trimmer 1 turn
Time Regulation	/
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	IP65
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)
Housing Material	PBT Resin
Sensing Surface Material	PMMA
Sensing Object	See above
Connection	2m PVC Cable(Ø4 4x0.25) / M12 Connector(4 Pin, Euro style)
Weight	Approx. 160g/85g



Features

- 81x65x25mm dimension
- Through-beam sensing mode
- Diffuse sensing mode
- Retro-reflective mode
- Polarized reflective mode
- PBT Resin housing
- Built-in electric protection
- NPN,PNP,N.O.,N.C. integrated
- M12 Connector
- PG Terminal

(Unit: mm)

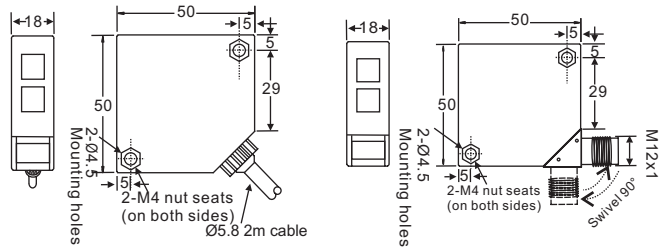
Through-beam	Switching Distance (Sn: mm)	25m	50m			
	Sensing Object	/	/			
	PG Terminal	Emitter	PMCK25MT	PMCK50MT		
		Receiver	PMCT25MT	PMCT50MT		
	M12 Connector	Emitter	PMCK25MH	PMCK50MH		
Receiver		PMCT25MH	PMCT50MH			
Diffuse	Switching Distance (Sn: mm)	0.25m ... 1.0m	0.3m ... 1.8m			
	Sensing Object	10x10cm white paper	20x20cm white paper			
	PG Terminal	PMDT100T	PMDT180T			
	M12 Connector	PMDT100H	PMDT180H			
Retro-Reflective	Switching Distance (Sn: mm)	15m				
	Sensing Object	D83 mirror				
	PG Terminal	PMRT15MT				
	M12 Connector	PMRT15MH				
Polarized Retro-Reflective	Switching Distance (Sn: mm)	9m				
	Sensing Object	D83 mirror				
	PG Terminal	PMFT900T				
	M12 Connector	PMFT900H				

Type	PM80(81x65x25mm)
Nominal Voltage	10-30VDC
Rated Voltage	24VDC
Rated Insulation Voltage	75VDC
Residual Ripple	<10%
Tolerance	<10%Sn
Hysteresis	<10%
Emission	880nm Infrared, 660nm Red(Polarized Retro-reflective mode)
Switching Output	PNP or NPN(programmable)
Switching Function	NO,NC(programmable)
Max. Output Current	200mA
Absorption at 30VDC	<40mA
Start-up Delay	<300ms
Switching Frequency	<200Hz
Voltage Drop	<2.5V
Output Indicator	Yellow LED Output indicator, Green LED Power indicator
Sensitivity Adjustment	Trimmer 1 turn
Time Regulation	0.1-7s ±2s
Response Time	2.5ms
Shock Circuit Protection	Yes
Overload Protection	Yes
Reverse Polarity Protection	Yes
Ambient Humidity	35 to 85% RH
Temperature Limit	-10°C~+60°C
Light Immunity	>10.000Lux
Protection Degree	IP65
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)
Housing Material	ABS
Sensing Surface Material	PMMA
Sensing Object	See above
Connection	PG Terminal / M12 Connector(4 Pin, Euro style)
Weight	Approx. 110g



Features:

- 50x50x18mm dimension
- Through-beam sensing mode
Diffuse sensing mode
Retro-reflective mode
- PBT Resin housing
- 12-240VDC/24-240VAC Voltage
- Relay Output
- Cable version
M12 connector



(Unit: mm)

Through-beam	Switching Distance (Sn: mm)	20m	40mm			
	Sensing Object	/	/			
	2m Cable	Emitter	PKCX20MA	PKCX40MA		
		Receiver	PKCY20MA	PKCY40MA		
	M12 Connector	Emitter	PKCX20MH	PKCX40MH		
		Receiver	PKCY20MH	PKCY40MH		
Diffuse	Switching Distance (Sn: mm)	0.1m ... 0.4m	0.2m ... 1m	0.2m ... 1.8m	0.3m ... 2m	
	Sensing Object	10x10cm white paper	20x20cm white paper	20x20cm white paper	20x20cm white paper	
	2m Cable		PKDY040A	PKDY100A	PKDY180A	PKDY200A
	M12 Connector		PKDY040H	PKDY100H	PKDY180H	PKDY200H
Retro-Reflective	Switching Distance (Sn: mm)	10m				
	Sensing Object	D83 mirror				
	2m Cable		PKRY10MA			
	M12 Connector		PKRY10MH			
Type	PK50(50x50x18mm)					
Nominal Voltage	12-24VDC / 24-240VAC					
Rated Voltage	110VAC					
Rated Insulation Voltage	250VAC					
Residual Ripple	<10%					
Tolerance	<10%Sn					
Hysteresis	<10%					
Emission	Infrared(880nm)					
Switching Output	Relay					
Switching Function	NO or NC selectable via control wire					
Max. Output Current	3A/30VAC, 1A/220VAC					
Absorption at 30VDC	<2.5VA					
Start-up Delay	<300ms					
Switching Frequency	<10Hz					
Voltage Drop	<2.0V					
Output Indicator	Yellow LED Output indicator, Green LED Power indicator					
Sensitivity Adjustment	Trimmer 1 tum					
Time Regulation	/					
Response Time	20ms					
Shock Circuit Protection	No					
Overload Protection	No					
Reverse Polarity Protection	No					
Ambient Humidity	35 to 85% RH					
Temperature Limit	-25°C~+55°C					
Light Immunity	>10.000Lux					
Protection Degree	IP65					
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2					
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)					
Housing Material	PBT Resin					
Sensing Surface Material	PMMA					
Sensing Object	See above					
Connection	2m PVC Cable(Ø4 5x0.25) / M12 Connector(4 Pin, Euro style)					
Weight	Approx. 160g/85g					



Features:

- 81x65x25mm dimension
- Through-beam sensing mode
- Diffuse sensing mode
- Retro-reflective mode
- Polarized reflective mode
- PBT Resin housing
- Built-in electric protection
- NPN,PNP,N.O.,N.C.integrated
- M12 Connector
- PG Terminal

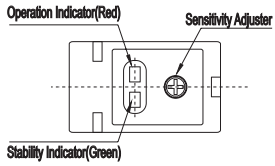
CE

(Unit: mm)

Through-beam	Switching Distance (Sn: mm)	25m	50m			
	Sensing Object	/	/			
	PG Terminal	Emitter	PMCX25MT	PMCX50MT		
		Receiver	PMCY25MT	PMCY50MT		
	M12 Connector	Emitter	PMCX25MH	PMCX50MH		
Receiver		PMCY25MH	PMCY50MH			
Diffuse	Switching Distance (Sn: mm)	0.25m ... 1.0m	0.3m ... 1.8m			
	Sensing Object	10x10cm white paper	20x20cm white paper			
	PG Terminal	PMDY100T	PMDY180T			
	M12 Connector	PMDY100H	PMDY180H			
Retro-Reflective	Switching Distance (Sn: mm)	15m				
	Sensing Object	D83 mirror				
	PG Terminal	PMRY15MT				
	M12 Connector	PMRY15MH				
Polarized Retro-Reflective	Switching Distance (Sn: mm)	9m				
	Sensing Object	D83 mirror				
	PG Terminal	PMFY900T				
	M12 Connector	PMFY900H				
Type	PM80(81x65x25mm)					
Nominal Voltage	12-24VDC / 24-240VAC					
Rated Voltage	110VAC					
Rated Insulation Voltage	250VAC					
Residual Ripple	<10%					
Tolerance	<10%Sn					
Hysteresis	<10%					
Emission	880nm Infrared, 660nm Red(Polarized Retro-reflective mode)					
Switching Output	Relay SPDT					
Switching Function	NO,NC(programmable)					
Max. Output Current	200mA					
Absorption at 30VDC	<40mA					
Start-up Delay	<300ms					
Switching Frequency	<200Hz					
Voltage Drop	<2.5V					
Output Indicator	Yellow LED Output indicator, Green LED Power indicator					
Sensitivity Adjustment	Trimmer 1 turn					
Time Regulation	0.1-7s ±2s					
Response Time	100ms					
Shock Circuit Protection	Yes					
Overload Protection	Yes					
Reverse Polarity Protection	Yes					
Ambient Humidity	35 to 85% RH					
Temperature Limit	-10°C~+60°C					
Light Immunity	>10.000Lux					
Protection Degree	IP65					
EMC	IEC 6094752 Part 7.4.1 and Part 7.4.2					
Shock / Vibration	RFI>3V/m / EFT>1KV / ESD>4KV(contact)					
Housing Material	ABS					
Sensing Surface Material	PMMA					
Sensing Object	See above					
Connection	PG Terminal / M12 Connector(4 Pin, Euro style)					
Weight	Approx. 110g					

TERMINAL CONNECTIONS FOR PHOTOELECTRIC SENSORS

PH31 Series Photoelectric Sensors Sensitivity Adjustment

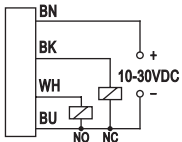


Note: The trimmer just needs one turn.

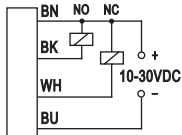
- 1) Sensitivity Increase:
Screw the trimmer towards right towards position "+"
- 2) Sensitivity Decrease:
Screw the trimmer towards left towards position "-"

PH31 Series Photoelectric Sensors Wiring Diagram

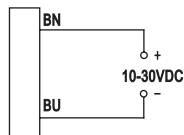
B1 PNP-NO & NC



B2 NPN-NO & NC



B3 Emitter(DC)



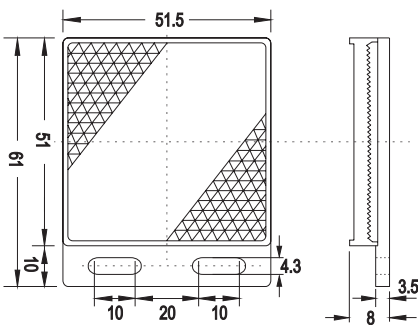
B4 Connection With Connector(DC)



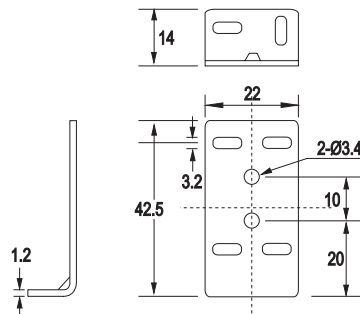
Output	Contact Numbers			
	1	2	3	4
PNP-NO & NC	+	NC	-	NO
NPN-NO & NC	+	NC	-	NO
Emitter	+		-	

PH31 Series Photoelectric Sensors Accessories

● D51 Reflectors

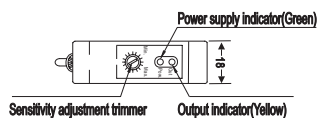


● Brackets



TERMINAL CONNECTIONS FOR PHOTOELECTRIC SENSORS

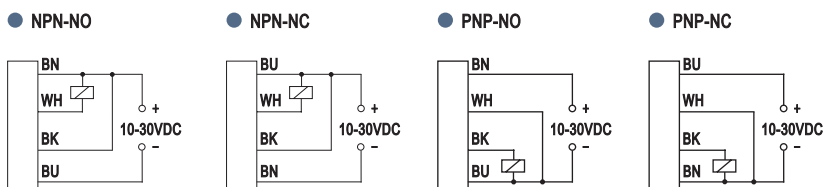
PK50 Series Photoelectric Sensors Sensitivity Adjustment



- Note: The trimmer just needs one turn.
 - Sensitivity Increase: Screw the trimmer towards right towards position "+"
 - Sensitivity Decrease: Screw the trimmer towards left towards position "-"

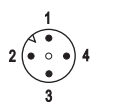
PK50 Series Photoelectric Sensors Wiring Diagram

C1 Wiring Diagram(DC)



C3 Connection With Connector(DC)

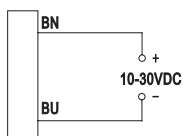
M12 Euro-style Connector



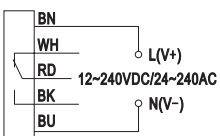
Connector face view

Output	Contact Numbers			
	1	2	3	4
NPN-NO	+	NO	-	+
NPN-NC	-	NC	+	+
PNP-NO	+	-	-	NO
PNP-NC	-	-	+	NC
Emitter	+		-	

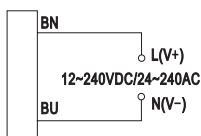
C2 Emitter(DC)



C4 AC/DC

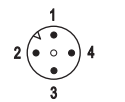


C5 Emitter(AC/DC)



C6 Connection With Connector(AC/DC)

M12 Euro-style Connector

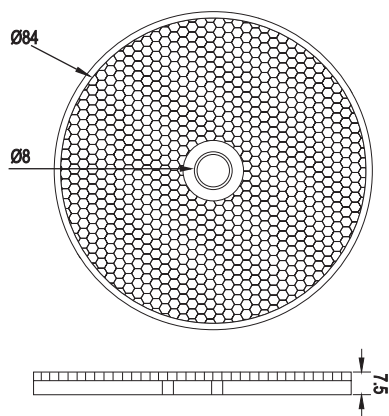


Connector face view

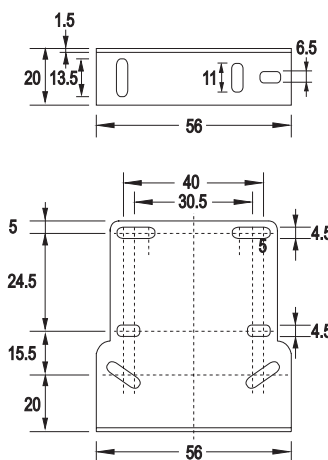
Output	Contact Numbers			
	1	2	3	4
Relay	L(+)	Com	N(-)	NO
Emitter	L(+)		N(-)	
Wire Colors	BN	WH	BU	BK

PK50 Series Photoelectric Sensors Accessories

D83 Reflectors



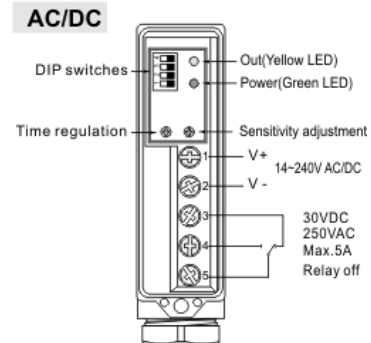
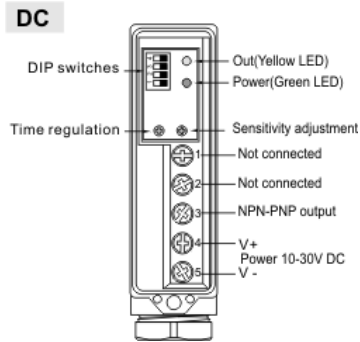
Brackets



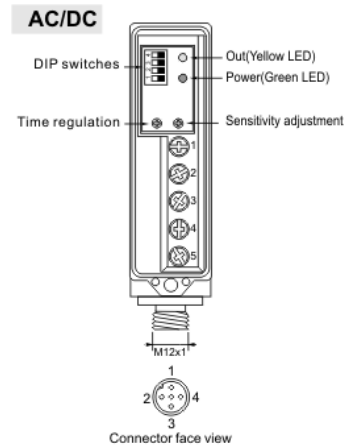
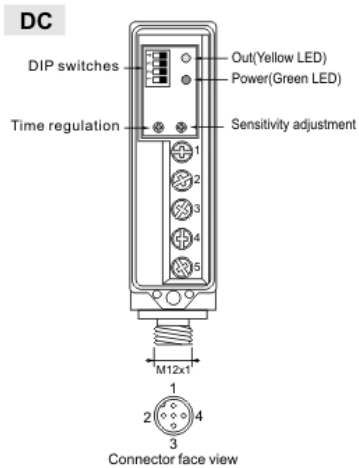
TERMINAL CONNECTIONS FOR PHOTOELECTRIC SENSORS

PM80 Series Photoelectric Sensors Connection Diagram

PG Terminal



4 Poles M12 Connector



Contacts configuration

Available	Contacts numbers			
	1	2	3	4
(NO + NC)	V+		V-	NO/NC

Contacts configuration

Output	Contacts numbers			
	1	2	3	4
Relay	V+	Com	V-	NO
Emitter	V+		V-	
Wire colors	Brown	White	Blue	Black

PM80 Series Photoelectric Sensors Accessories

