

# Cylindrical

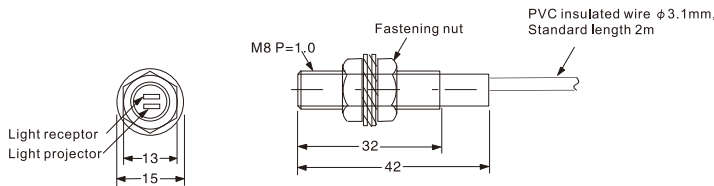
## PM08 Series



Appearance		
Sensing type	Diffuse reflection	
Sensing distance	30mm (White 30X30mm)	
Hysteresis	< 20%	
Light source	IR Diode(940nm)	
Operating voltage	12~24V DC $\pm$ 10% ripple(p-p) < 10%	
Current consumption	$\leq$ 30mA	
Control output	NPN open-collector output	PNP open-collector output
Switch mode	L.on	
Protection circuit	Short circuit protection, reverse polarity protection, anti-interference protection	
Ambient brightness	Sunlight $\leq$ 10000lux, Incandescent Lamp $\leq$ 3000lux	
Ambient temperature	Operation: $-25^{\circ}\text{C} \sim +55^{\circ}\text{C}$ , Storage: $-30^{\circ}\text{C} \sim +70^{\circ}\text{C}$ (No freezing, No condensation)	
Ambient humidity	Operation: 30~85% RH, Storage: 35~95% RH	
Insulation resistance	$> 20\text{M}\Omega$	
Withstand voltage	500 V/AC 50/60Hz 1min	
Anti-vibration	10 to 55 Hz with 1.5mm up&down amplitude for 2 hours each in X, Y, and Z directions	
Impact resistance	500m/s <sup>2</sup> for 3 times each in X, Y, Z directions	
Degree of protection	IP65	
Connection method	2M 3core cable	
Weight	Approx 80g	
Material	Stainless steel	
Model No.	PM08-D03NO <span style="color: red;">HOT</span>	PM08-D03PO

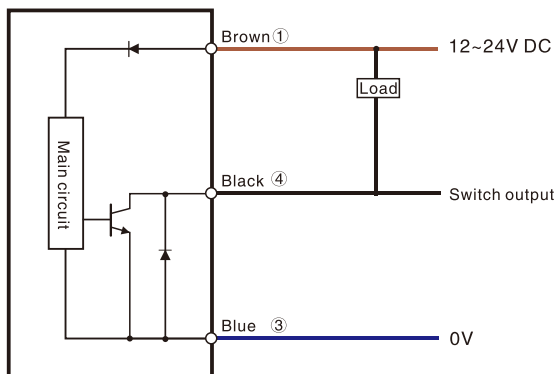
### Dimensions

Unit: mm

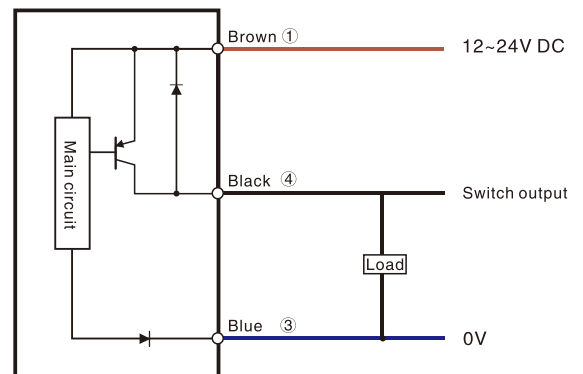


### Circuit diagram

#### NPN Output



#### PNP Output





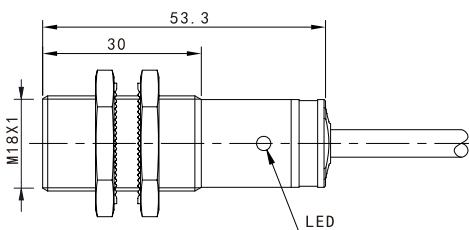
Appearance

Sensing type	Diffuse reflection		Thru-beam		Retro-reflection	
Sensing distance	10cm(fixed)	40cm(adjustable)	1000cm(fixed)	2000cm(fixed)	300cm(fixed)	
Hysteresis	3~20%		...			
Repeat accuracy	< 5%					
Output type	NPN/PNP Open-collector					
Switch type	Selectable L.on/D.on					
Indicator	Yellow LED		Green LED(Emitter)/Yellow LED(Receiver)		Yellow LED	
Response time	< 8.2 ms					
Light source	Infrared LED(880nm)					
Operating voltage	10~30V DC					
Voltage drop	< 2.5V					
Current consumption	< 25mA					
Load current	< 200mA					
Protection circuit	Reverse polarity, short circuit, surge protection					
Ambient temperature	-15°C~+55°C, No freezing					
Ambient humidity	35%~95%RH, No condensation					
Degree of protection	IP67					
Material	Nickel copper alloy					
Connection method	2M 4core cable					
Model No.	NPN	<b>PM18-D10NR</b>	<b>PM18-D40NR</b>	<b>PM18-TM10NR</b>	<b>PM18-TM20NR</b>	<b>PM18-R300NR</b>
	PNP	<b>PM18-D10PR</b>	<b>PM18-D40PR</b>	<b>PM18-TM10PR</b>	<b>PM18-TM20PR</b>	<b>PM18-R300PR</b>

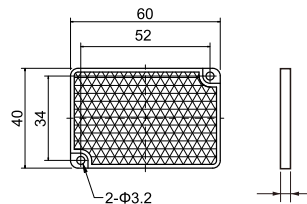
- Fiber Optic
- Slot Sensors
- Photoelectric**
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

### Dimensions

Unit: mm



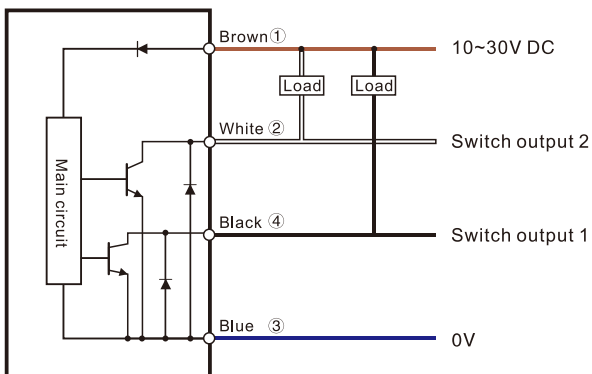
### Reflector for PM18-R300



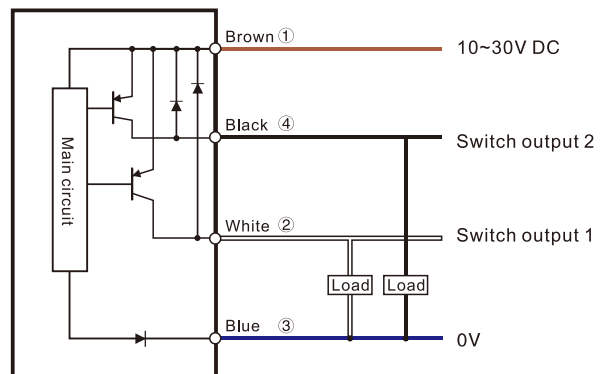
(Standard TD-09)

### Circuit diagram

#### NPN Output



#### PNP Output



#### Guidance

#### Photoelectric

#### Cylindrical

#### Square

#### Flat type

#### Thin type

#### BGS

#### Transparent detection

#### Color/Mark Detection

#### TOF reflective

#### IP69K high protection type

#### Anti-glare type

#### Reflectors

#### Reflectors

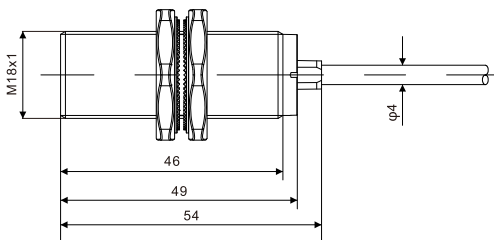
# Cylindrical

## PM18 Series



Appearance						
Sensing type	Disffuse Reflection		Thru-beam			
Sensing distance	10cm(fixed)		5m(fixed)	20m(fixed)		
Detected object	100mm x 100mm 90% whiteness white paper		> φ 18mm,opaque			
Output type	NPN Open-collector		NPN/PNP Open-collector			
Switch type	L.on		Selectable L.on/D.on			
Indicator	Motion indicator light: yellow		Transmitter end: power indicator: green; Receiving end: action indicator light: yellow	Transmitter end: power indicator: yellow; Receiving end: action indicator light: yellow; power indicator: green;		
Response frequency	900HZ		150HZ			
Light source	Infrared LED 940nm (modulation)		Infrared LED 850nm (modulation)			
Operating voltage	10~30V DC		12~24V DC	10~24V DC		
residual voltage	< 2V		< 1.5V			
Current consumption	<25mA		Transmitter < 20 mA; Receiver <20mA	Transmitter < 25 mA; Receiver <25mA		
Load current	< 150mA					
Protective circuit	Reverse polarity, short circuit, surge protection					
Ambient temperature	-20℃~-+55℃, No freezing		-20℃~-+60℃, No freezing			
Storage temperature	-25℃~-+65℃		-25℃~-+70℃			
Ambient humidity	35~90%RH, No condensation		35~85%RH, No condensation			
Store humidity	35~90%RH		35~85%RH			
Withstand Voltage	± 1000V 50/60Hz 60s					
Electrostatic	± 4000V		± 8000V			
Resistance	10~50Hz, 0.5mm amplitude, X, Y, Z direction 2 hours each					
Ambient brightness	Incandescent lamp: < 3000lux, sunlight: < 10000lux					
Degree of protection	IP67					
Material	Nickel copper alloy		Housing: PC			
Connection method	2M 3core cable					
Model No.	NPN	<b>PM18-D10NO</b>	<b>PM18-D10NC</b>	<b>PM18-TM05NO</b>	<b>PM18-TM20NO</b>	<b>PM18-TM20NC</b>
	PNP			<b>PM18-TM05PO</b>	<b>PM18-TM20PO</b>	<b>PM18-TM20PC</b>

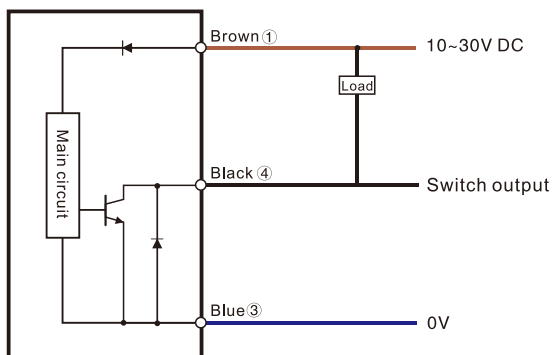
### Dimensions



Unit: mm

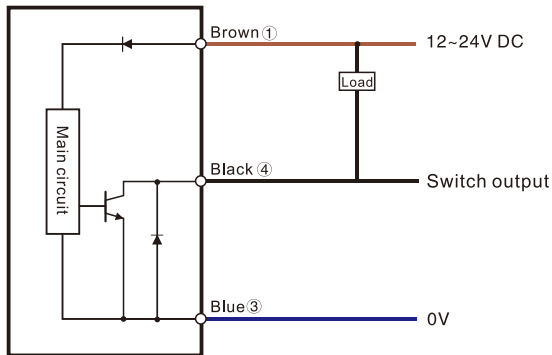
### Circuit diagram

#### NPN Output

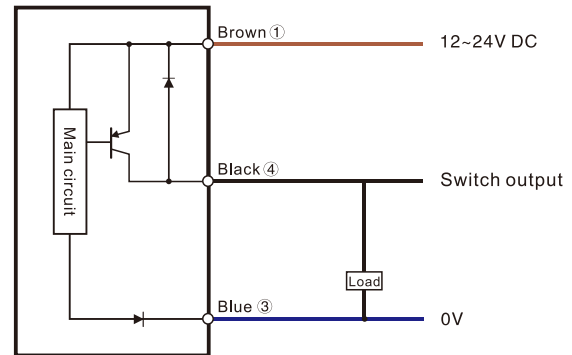


### PM18-TM05N(P)O

#### NPN Output

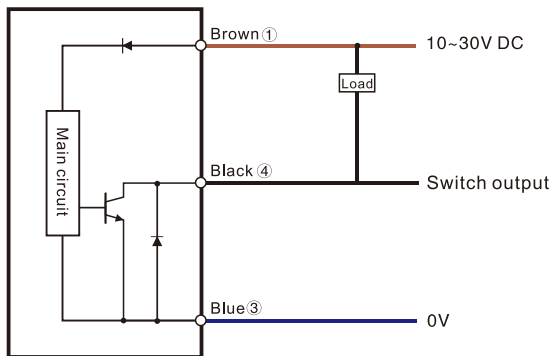


#### PNP Output

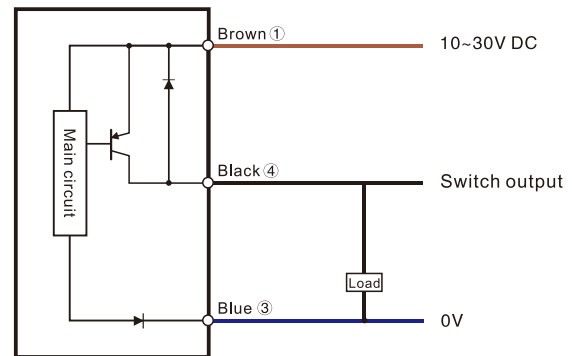


### PM18-TM20N(P)O(C)

#### NPN Output



#### PNP Output



Fiber Optic

Slot Sensors

Photoelectric

Laser

Proximity

Displacement

Magnetic

Contact

Area

Ultrasonic

Vision

Vibration

Temperature

Annexes

Guidance

Photoelectric

Cylindrical

Square

Flat type

Thin type

BGS

Transparent detection

Color/Mark Detection

TOF reflective

IP69K high protection type

Anti-glare type

Reflectors

Reflectors

# TOF Type Photoelectric

## PM18-TF Series

TOF Principle

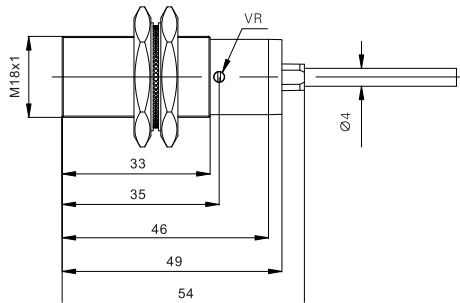
NEW!



Appearance

Sensing type	Reflection
Sensing distance	1.2m
Spot divergence angle	30°
Output	NPN / PNP open collector
Switch mode	L.on/ D.on selectable
Indicator	Operation: green, Motion: Red
Sensitivity	multi-turn adjuster
Light source	Laser 940nm ( Modulated), class 1
Operating voltage	10~30V DC
Volatge drop	< 1.5V
Current consumption	≦20mA
Load current	≦100mA
Protective Circuit	Short circuit,reverse polarity,surge protection
Ambient temperature	10°C~50°C No freezing
Ambient humidity	35~85% RH, No condensation
Withstand voltage	± 1000V 50/60Hz 60s
Static electricity	± 8000V (air discharge)
Group pulse	± 2000V ( 5kHz/50kHz )
Impact resistance	10~55Hz amplitude 1.5mm;X, Y, Z 3 directions, 2 hours each
Ambient light	Incandescent lamp: <3,000 lux, Sunlight < 5,000 lux
Degree of protection	IP67
Material	Nickel-copper alloy
Connection	2M 3-core cable
Accessories	Mounting screws
Model No.	NPN <b>PM18-TF120N</b> PNP <b>PM18-TF120P</b>

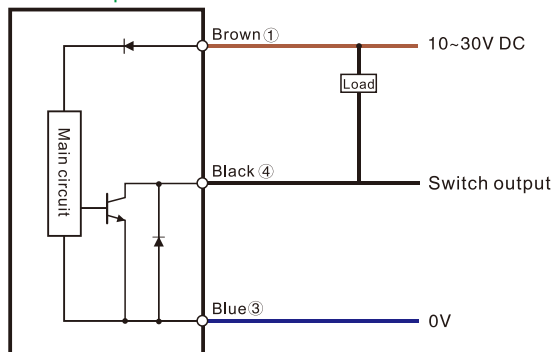
### Dimensions



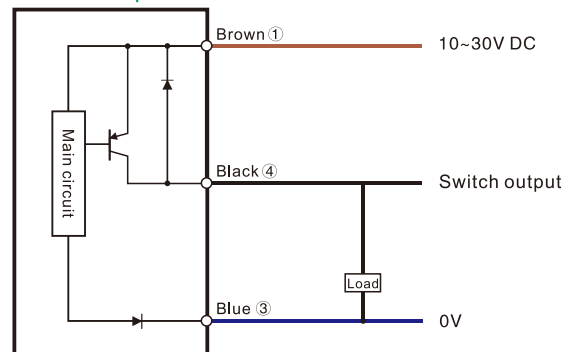
Unit: mm

### Circuit diagram

#### NPN Output



#### PNP Output





IP69K Type

NEW!

Appearance	
Sensing type	Diffuse Reflection
Sensing distance	400mm
Light source	IR 880 nm
Hysteresis	≤10%
Repeatability	5%
Tolerance	+15/-5% Sn
Operating voltage	10-30V DC
Ripple factor	≤10%
No load current	Max. 35mA (30V)
Load current	≤100mA
LED	Green: teach-in Yellow: Excess gain
Output voltage drop	2Vmax. IL=100mA
Output type	NPN
Switch frequency	500Hz
Start delay	200ms
Ambient light	Incandescent lamp: <5,000 lux, Sunlight < 10,000 lux
Ambient temperature	25°C~80°C , no condensation
Protective Circuit	Reverse polarity protection, short-term overvoltage protection
Output protection	short circuit protection ( Automatic reset)
Sensitivity	Teach-in
Temperature drift	10%Sr
Protective degree	IP67; IP68 (1m, 7m /days); IP69K ( 40050-9 standard)
Material	stainless steel 316
Accessories	Mounting screws
Model No.	<b>PM18K-D40NR</b>

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Guidance

Photoelectric

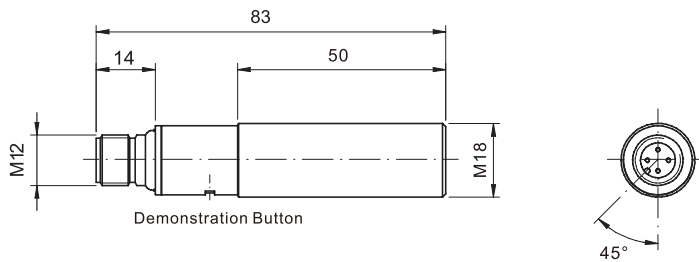
- Cylindrical**
- Square
- Flat type
- Thin type
- BGS
- Transparent detection
- Color/Mark Detection
- TOF reflective
- IP69K high protection type
- Anti-glare type

Reflectors

- Reflectors

Dimensions

Unit: mm



Circuit diagram

