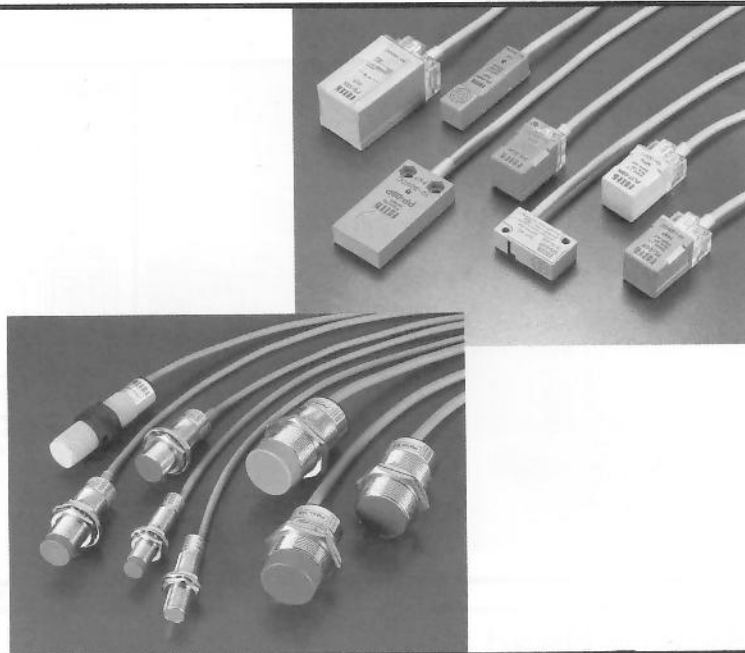


- \* DC type have short circuit protection , polarity reversed protection ; AC type have surge absorbing circuit may avoid damaged
- \* High solid compact structure - IP67 - applied in poor circum - stance suitable
- \* All models with operating LED , adjusted conveniently .



## Model Guiding

### Tubular Type

**Ex. PM-12-04 N B-S**

① ② ③ ④ ⑤ ⑥

① Type 形状

PM = Screw Type

② Outline Diameter 外徑

12 = M12    18 = M18

30 = M30

③ Sensing Distance 檢測距離

02 = 2.0mm    10 = 10.0mm

05 = 5.0mm    15 = 15.0mm

④ Output Method 輸出方式

N = NPN    P = PNP

S = SCR

⑤ Output Status 輸出狀態

B = NC Type

Non = No Type

⑥ Length of Body 身體長度

S = Short Type

Non = Standard Type

### Square Type

**Ex. PS-04 N B-V**

① ② ③ ④ ⑤

① Type 形状

PS = Square Type    PP = Plate Type

PL = Long Type    BS = Micro Type

② Sensing Distance 檢測距離

04 = 4.0mm    10 = 10.0mm

05 = 5.0mm    15 = 15.0mm

③ Output Method 輸出方式

N = NPN    P = PNP

S = SCR

④ Output Status 輸出狀態

B = NC Type

Non = No Type

⑤ Direction of Sensing 檢測方面

V = Vertical Type

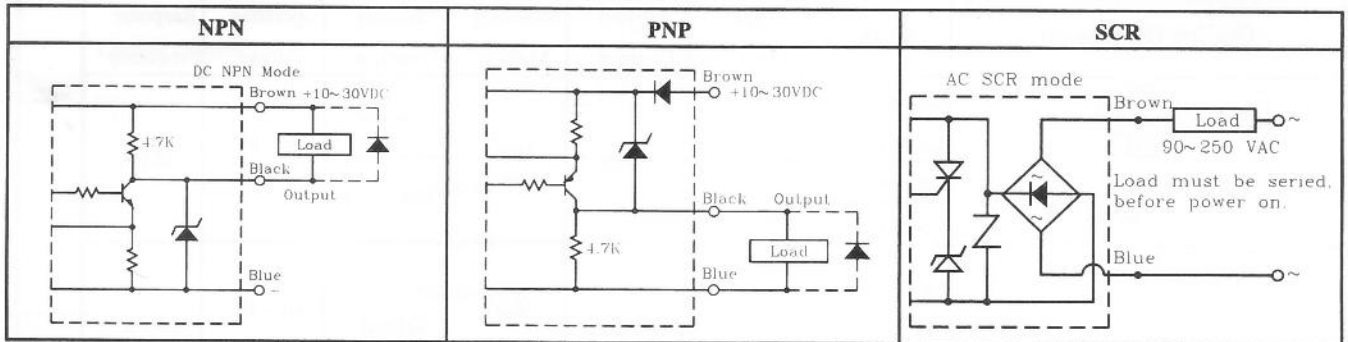
Non = Horizontal Type

Note : The B < NC > Type Have No Stock Maybe,  
Accepted Order To Manufacture.

■ Square Type < Plastic Housing >

Outline Dimension	Model	Output Method	Sensing Distance	Mounting Method	Sensing Direction	Operating Voltage	Response Frequency
	LS-04N-V	NPN	4.0mm	Non-Flushed	Vertical	10 ~ 30 VDC	2KHZ
	LS-04P-V	PNP			Horizontal		
	LS-04N	NPN					
	LS-04P	PNP					
	SP-05N	NPN	5.0mm	Non-Flushed	Vertical	10 ~ 30 VDC	800HZ
	SP-05P	PNP					
	BS-02N	NPN	2.0mm	Flushed	Vertical	10 ~ 30 VDC	2KHZ
	BS-02P	PNP	4.0mm	Non-Flushed			
	BS-04N	NPN					
	BS-04P	PNP					
	PP-05N	NPN	5.0mm	Flushed	Vertical	10 ~ 30 VDC	800HZ
	PP-05P	PNP					
	PP-08N	NPN	8.0mm	Non-Flushed			
	PP-08P	PNP					
	PS-04N-V	NPN	4.0mm	Non-Flushed	Vertical	10 ~ 30 VDC	2KHZ
	PS-04P-V	PNP			Horizontal		
	PS-04N	NPN					
	PS-04P	PNP					
	PS-05N	NPN	5.0mm	Flushed	Horizontal	10 ~ 30 VDC	800HZ
	PS-05P	PNP					
	PS-08N	NPN	8.0mm	Non-Flushed			
	PS-08P	PNP					
	PL-05N	NPN	5.0mm	Flushed	Horizontal	10 ~ 30 VDC	800HZ
	PL-05P	PNP					
	PL-08N	NPN	8.0mm	Non-Flushed			
	PL-08P	PNP					
	PS-10N	NPN	10.0mm	Flushed	Horizontal	10 ~ 30 VDC	500HZ
	PS-10P	PNP					
	PS-15N	NPN	15.0mm	Non-Flushed			
	PS-15P	PNP					
	PS-10S	SCR	10.0mm	Flushed	Horizontal	90 ~ 250 VAC	20HZ
	PS-15S	SCR	15.0mm	Non-Flushed			

## Output Circuit & Connection Diagram



## General Data

Specification	DC Type	AC Type
Operating Voltage	10~30 VDC	90~250VAC
Power Ripple	< 20% of Peak to Peak	50/60Hz
Output Current	150mA max.	100mA max.
Current Consumption	< 10mA	< 2mA
Residual Voltage	< 0.1V	
Leakage Current	< 0.8mA	< 4.0mA
Hysteresis	<10% of Sensing Distance	
Thermal Drift	< 10 $\mu$ m/ C	
Voltage Drift	< 1 $\mu$ m/V	
Protection Circuit	Short Circuit & Polarity Reversed Protection	Surge Protection Circuit
Operating Temp./Hum.	-20°C~+80°C ; 35%~95% RH	
Protection Class	IP-67	
Wiring Method	3 Cores / 4.2 $\phi$ X 2m	2 Cores / 4.2 $\phi$ X 2m
Color of Sensing Face	NPN : Red ;PNP ;Green	Blue

## Application Hints

When using a switching regulator , please be sure to ground the FG ( Frame Ground ) and G ( Ground ) terminal , If failure to do so , it may result in malfunction of the sensor for the noise of the switching regulator.

The ripple of the DC power supply is required less than 20% to avoid resulting malfunction of the sensor.