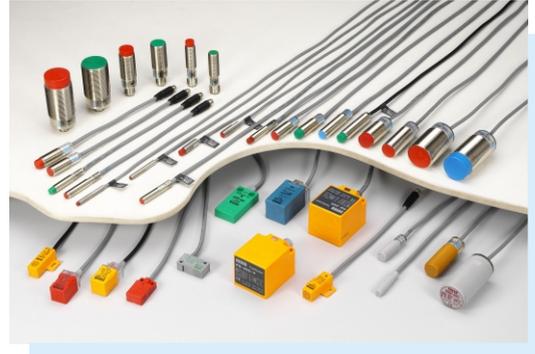


- ❖ All DC type with 「Short-circuit」 & 「Polarity reversed」 protection.
直流型都附「短路保護」及「極性保護」回路
- ❖ All AC type with 「surge absorbing circuit」 to avoid surge damage.
交流型都附「突波吸收回路」可有效防止突波破壞
- ❖ High solid compact structure 「IP-67」 suited to applied in any poor circumstance.
堅固結構「IP-67」適用各種惡劣環境
- ❖ All models with 「operating pilot.」
全機種都附「動作指示燈」



◆ Guiding of model / 型號索引

Tubular type

Ex. PM 12-04 N B S-M12
 1 2 3 4 5 6 7

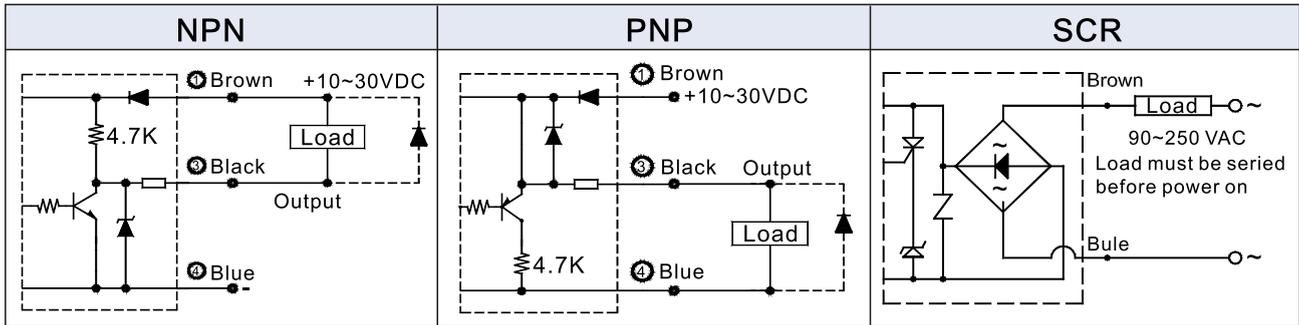
- 1> Type / 型式
PM = Screw type / 螺絲型
- 2> Outline diameter / 外徑
05 = M5 x 1.0 08 = M8 x 1.0 12 = M12 x 1.0
18 = M18 x 1.0 30 = M30 x 1.5
- 3> Sensing distance / 感應距離
01 = 1.0 mm 02 = 2.0 mm 04 = 4.0 mm
05 = 5.0 mm 08 = 8.0 mm 10 = 10.0 mm
15 = 15.0 mm 20 = 20.0 mm 25 = 25.0 mm
- 4> Output method / 輸出方式
N = NPN P = PNP S = SCR
- 5> Output status / 輸出狀態
Non = NO type B = NC type
- 6> Length or shape or material of body / 本體
Non = Cu plated Ni / 銅鍍鎳
S = Short type / 短型
E = Body with all screw / 全牙型
K = Stainless steel / 白鐵
- 7> Connection method / 接線方式
Non = Lead wire type / 出線式
PG = M8 lead wire type / M8 接頭出線式
M12 = M12 connector type / M12 接頭式

Square type

Ex. LS - 04 N B - V - PG
 1 2 3 4 5 6

- 1> Type / 型式
LS = Long square type / 長條型
BS = Micro switch type / 微動開關型
PS = Square type / 方型
PL = Long square type / 長方型
PP = Plate type / 扁型
- 2> Sensing distance / 感應距離
02 = 2.0 mm 04 = 4.0 mm
05 = 5.0 mm 08 = 8.0 mm
10 = 10.0 mm 15 = 15.0 mm
25 = 25.0 mm
- 3> Output method / 輸出方式
N = NPN P = PNP S = SCR
- 4> Output status / 輸出狀態
Non = NO type B = NC type
- 5> Sensing direction / 檢測方向
Non = Horizontal type / 水平式
V = Vertical type / 垂直式
- 6> Connection method / 接線方式
Non = Lead wire type / 出線式
PG = M8 lead wire type / M8 接頭出線式
M12 = M12 connector type / M12 接頭式

◆ Output circuit & connection diagram / 輸出回路及接線圖



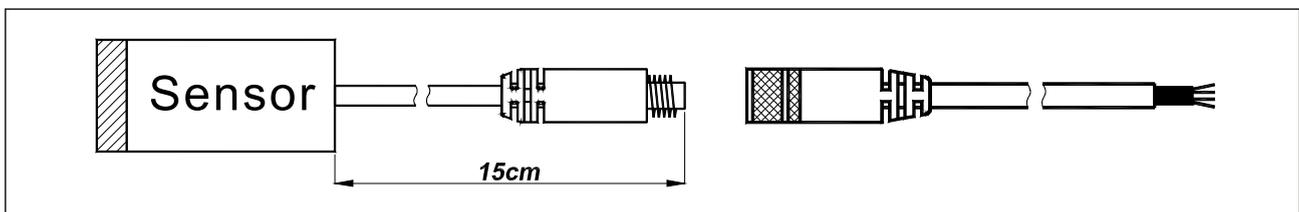
◆ General data / 共同規格

Specification		DC type	AC type
Operating voltage	工作電壓	10 ~ 30 VDC	90 ~ 250 VAC
Power ripple	電源漣波	< 20% of Vp-p	50/60Hz
Output current	輸出電流	150 mA max.	100mA max.
Current consumption	消耗電流	10 mA max.	2.0mA max.
Residual voltage	殘留電壓	< 0.1V	< 15V
Leakage current	洩漏電流	< 0.8 mA	< 4.0 mA
Hysteresis	應差	< 10% of sensing distance	
Thermal drift	溫度漂移	< 10 μ m/ $^{\circ}$ C	
Voltage drift	電壓漂移	< 1 μ m/V	
Protection circuit	保護回路	Short-circuit & Polarity reversed	surge absorbing circuit
Operating Temperature	工作溫度	- 25 $^{\circ}$ C ~ +80 $^{\circ}$ C	
Operating humidity	工作濕度	35% ~ 95% RH	
Protection class	保護等級	IP-67	
Color of sensing face	感應面顏色	NPN=Red ; PNP=Green	Blue

◆ Application hints

While a switching power supply is used, please be sure to ground the FG (Frame ground) and the G (Ground) terminal, if failure to do so, it may resulting malfunction of the sensor for the noise of the switching power supply. Meanwhile, the ripple of the DC power supply is required less than 20% to avoid resulting malfunction of the sensor.

◆ M8 lead wire connection 【Available for all sensor】



◆ Square type 【Plastic housing】

Outline	Model	Output status	Output method	Sensing distance	Mounting method	Sensing direction	Operating voltage	Response frequency
	LS-04N	NO	NPN	4.0 mm	Non-flushed	Horizontal	10~30 VDC	2KHz
	LS-04NB	NC						
	LS-04P	NO	PNP					
	LS-04PB	NC						
	LS-04N-V	NO	NPN	4.0 mm	Non-flushed	Vertical	10~30 VDC	2KHz
	LS-04NB-V	NC						
	LS-04P-V	NO	PNP					
	LS-04PB-V	NC						
	SP-05N	NO	NPN	5.0 mm	Flushed	Vertical	10~30 VDC	800Hz
	SP-05NB	NC						
	SP-05P	NO	PNP					
	SP-05PB	NC						
	SP-08N	NO	NPN	8.0 mm	Non-flushed	Vertical	10~30 VDC	800Hz
	SP-08NB	NC						
	SP-08P	NO	PNP					
	SP-08PB	NC						
	BS-02N	NO	NPN	2.0 mm	Flushed	Vertical	10~30 VDC	2KHz
	BS-02NB	NC						
	BS-02P	NO	PNP					
	BS-02PB	NC						
	BS-04N	NO	NPN	4.0 mm	Non-flushed	Horizontal	10~30 VDC	2KHz
	BS-04NB	NC						
	BS-04P	NO	PNP					
	BS-04PB	NC						
	PP-05N	NO	NPN	5.0 mm	Flushed	Vertical	10~30 VDC	800Hz
	PP-05P	NO	PNP	8.0 mm				
	PP-08N	NO	NPN					
	PP-08P	NO	PNP					
	PS-05N	NO	NPN	5.0 mm	Non-flushed	Horizontal	10~30 VDC	800Hz
	PS-05NB	NC						
	PS-05P	NO	PNP					
	PS-05PB	NC						
	PS-08N	NO	NPN	8.0 mm	Non-flushed	Horizontal	10~30 VDC	800Hz
	PS-08NB	NC						
	PS-08P	NO	PNP					
	PS-08PB	NC						
	PS-05S	NO	SCR	5.0 mm	Flushed	Horizontal	90~250 VAC	20Hz
	PS-05SB	NC		8.0 mm				
	PS-08S	NO	SCR					
	PS-08SB	NC						

◆ Square type 【Plastic housing】

Outline	Model	Output status	Output method	Sensing distance	Mounting method	Sensing direction	Operating voltage	Response frequency
	PL-05N	NO	NPN	5.0 mm	Flushed	Horizontal	10~30 VDC	800Hz
	PL-05NB	NC						
	PL-05P	NO	PNP					
	PL-05PB	NC						
	PL-08N	NO	NPN	8.0 mm	Non-flushed	Horizontal	10~30 VDC	800Hz
	PL-08NB	NC						
	PL-08P	NO	PNP					
	PL-08PB	NC						
	PS-10N	NO	NPN	10.0 mm	Non-flushed	Horizontal	10~30 VDC	500Hz
	PS-10NB	NC						
	PS-10P	NO	PNP					
	PS-10PB	NC						
	PS-15N	NO	NPN	15.0 mm	Non-flushed	Horizontal	10~30 VDC	500Hz
	PS-15NB	NC						
	PS-15P	NO	PNP					
	PS-15PB	NC						
	PS-10S	NO	SCR	10.0 mm	Non-flushed	Horizontal	10~30 VDC	500Hz
	PS-10SB	NC						
	PS-15S	NO		15.0 mm				
	PS-15SB	NC						
	PS-25C	NO	NPN + PNP	25.0 mm	Non-flushed	Horizontal	10~30 VDC	250Hz
	PS-25CB	NC						
	PS-25C-M12	NO						
	PS-25CB-M12	NC						
	PS-25C-V	NO	NPN + PNP	25.0 mm	Non-flushed	Vertical	10~30 VDC	250Hz
	PS-25CB-V	NC						
	PS-25C-V-M12	NO						
	PS-25CB-V-M12	NC						

◆ Fixed bracket

BR-PS-04	BR-PS-05	BR-PS-10	BR-PS-25