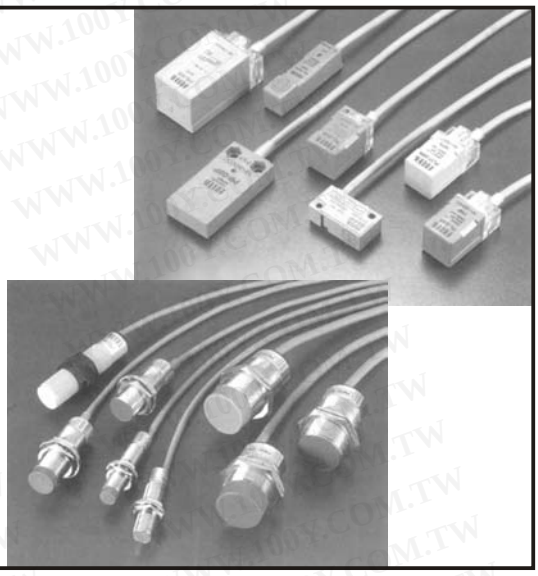
勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

PS/PM series INDUCTIVE PROXIMITY SENSOR CE

※ DC TYPE WITH SHORT CIRCUIT PROTECTION AND POLARITY REVERSED PROTECTION
直流型都附有短路保護和極性反接保護迴路
※ AC TYPE WITH SURGE ABSORBING CIRCUIT MAY AVOID SURGE DAMAGED
交流型都附有突波吸收迴路可避免突波破壞
※ HIGH SOLID COMPACT STRUCTURE IP-67 SUITED TO BE APPLIED IN THE POOR CIRCUMSTANCE
堅固結構- IP67- 適用各種環境
※ ALL MODELS WITH OPERATIN LED, EASY TO ADJUSTED
全機種附動作指示燈便於安裝調整



Guiding of Model 型號索引

TUBULAR TYPE

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

1> TYPE 型式
PM= SCREW TYPE 螺絲型

2> OUTLINE DIAMETER 外徑
08=M8x1.0 18=M18x1.0
12=M12x1.0 30=M30x1.5

3> SENSING DISTANCE 檢測距離
02=2.0 mm 10=10. mm
05=5.0 mm 15=15.0 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 B= NC TYPE

6> LENGTH OF BODY 本體長度
NON= STANDARD TYPE
S= SHORT TYPE

7> CONNECTING METHOD 接線方式
NON= LEAD WIRE TYPE
M12= M12 CONNECTOR TYPE
PG= M8 LEAD WIRE CONNECTOR TYPE

SQUARE TYPE

Ex. LS ① - 04 ② N ③ B ④ - V ⑤ - PG ⑥

1> TYPE型式
PS=SQUARE TYPE PP=PLATE TYP
PL=LONG TYPE BS=MICRO TYPE

2> SENSING DISTANCE檢測距離
04= 4.0 mm 10= 10.0mm
05= 5.0 mm 15= 15.0 mm

3> OUTPUT METHOD 輸出方式
N= NPN P= PNP

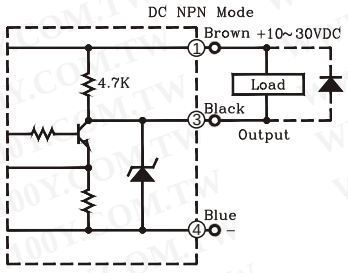
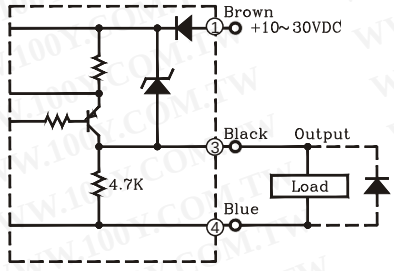
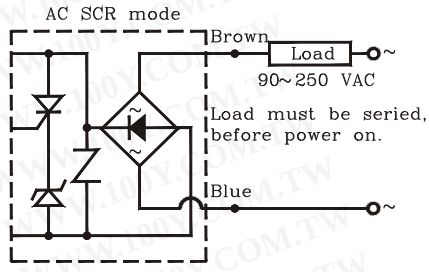
4> OUTPUT STATUS輸出狀態
NON= NO TYPE
B= NC TYPE B= NC TYPE

5> DIRECTION OF SENSING
V= VERTICAL TYPE 垂直式
NON= HORIZONTAL TYPE 水平式

6> CONNECTION METHOD接線方式
NON= LEAD WIRE TYPE
PG= M8 LEAD WIRE CONNECTOR TYPE

NOTE： THE B<NC> TYPE HAVE NO STOCK MAYBE,ACCEPTED ORDER TO MANUFACTURE

Output Circuit & Connection Diagram

NPN	PNP	SCR
		

General Data

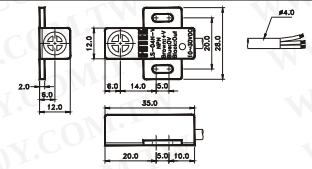
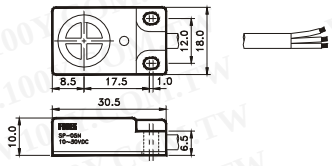
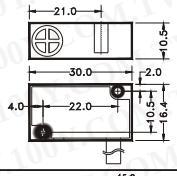
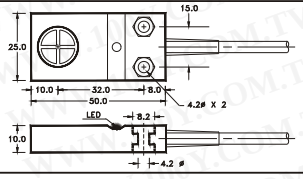
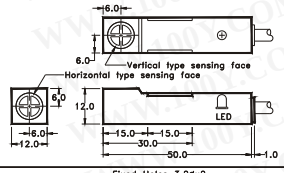
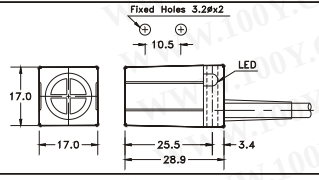
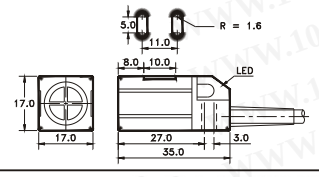
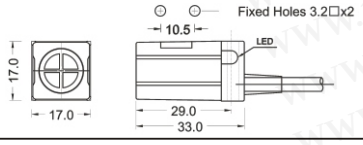
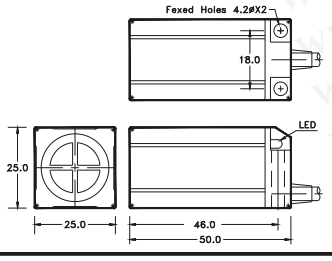
Specification	DC Type	AC Type
Operating Voltage	10~30 VDC	90~250VAC
Power Ripple	< 20% of Peak to Peak	50/60Hz
Output Current	150mA max.	100mA max.
Current Consumption	< 10mA	< 2mA
Residual Voltage	< 0.1V	
Leakage Current	< 0.8mA	< 4.0mA
Hysteresis	<10% of Sensing Distance	
Thermal Drift	< 10 μ m/ C	
Voltage Drift	< 1 μ 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 / 4.2φ X 2m	2 Cores / 4.2φ 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 , if may resulting 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.

勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

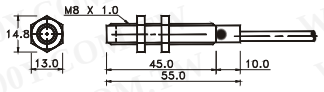
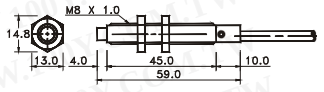
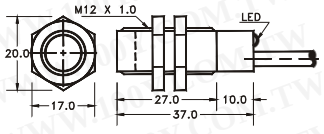
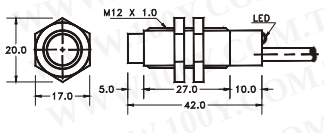
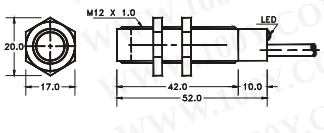
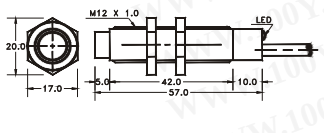
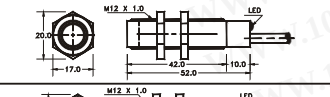
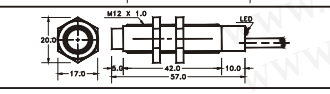
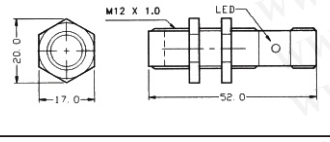
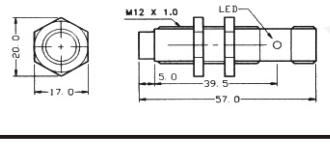
Square Type 〈 Plastic Housing 〉

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					
	LS-04N	NPN			Horizontal		
	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					
	BS-04N	NPN	4.0mm	Non-Flushed			
	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					
	PS-04N	NPN	4.0mm		Horizontal		
	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-05S	SCR	5.0mm	Flushed	Horizontal	90 ~ 250 VAC	20HZ
	PS-08S	SCR	8.0mm	Non-Flushed			
	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			

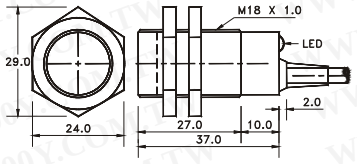
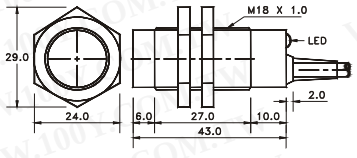
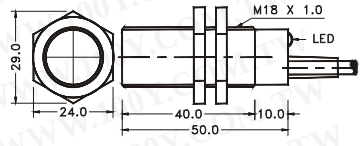
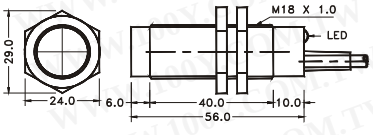
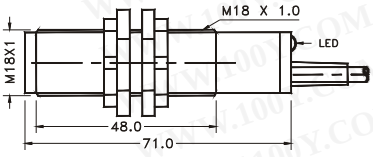
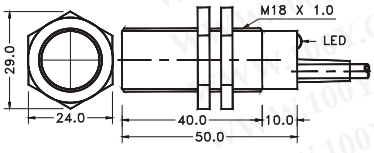
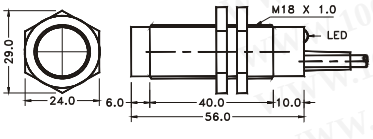
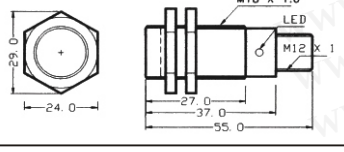
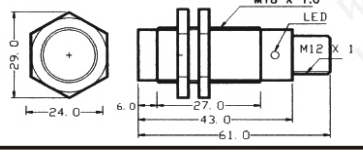
勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

M8/M12 Tubular Type

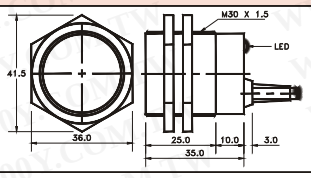
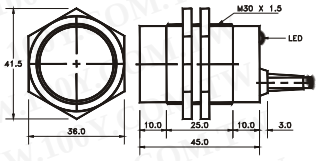
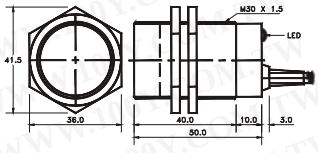
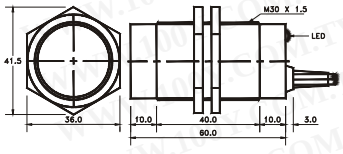
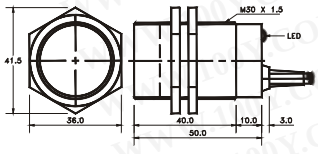
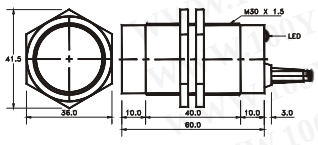
Outline Dimension	Model	Output Status	Output Method	Operating Voltage	Sensing Direction	Response Frequency	Mounting Method
	PM08-01N	NO	NPN	10 ~ 30 VDC	1.0mm	2.5KHZ	Flushed
	PM08-01NB	NC					
	PM08-01P	NO	PNP				
	PM08-01PB	NC					
	PM08-02N	NO	NPN	10 ~ 30 VDC	2.0mm	2.5KHZ	Non-Flushed
	PM08-02NB	NC					
	PM08-02P	NO	PNP				
	PM08-02PB	NC					
	PM12-02N-S	NO	NPN	10 ~ 30 VDC	2.0mm	2.5KHZ	Flushed
	PM12-02NB-S	NC					
	PM12-02P-S	NO	PNP				
	PM12-02PB-S	NC					
	PM12-04N-S	NO	NPN	10 ~ 30 VDC	4.0mm	2.5KHZ	Non-Flushed
	PM12-04NB-S	NC					
	PM12-04P-S	NO	PNP				
	PM12-04PB-S	NC					
	PM12-02N	NO	NPN	10 ~ 30 VDC	2.0mm	2.5KHZ	Flushed
	PM12-02NB	NC					
	PM12-02P	NO	PNP				
	PM12-02PB	NC					
	PM12-04N	NO	NPN	10 ~ 30 VDC	4.0mm	2.5KHZ	Non-Flushed
	PM12-04NB	NC					
	PM12-04P	NO	PNP				
	PM12-04PB	NC					
	PM12-02S	NO	SCR	90 ~ 250 VAC	2.0mm	20HZ	Flushed
	PM12-02SB	NC					
	PM12-04S	NO	SCR	90 ~ 250 VAC	4.0mm	20HZ	Non-Flushed
	PM12-04SB	NC					
	PM12-02N-M12	NO	NPN	10 ~ 30 VDC	2.0mm	2.5KHZ	Flushed
	PM12-02NB-M12	NC					
	PM12-02P-M12	NO	PNP				
	PM12-02PB-M12	NC					
	PM12-04N-M12	NO	NPN	10 ~ 30 VDC	4.0mm	2.5KHZ	Non-Flushed
	PM12-04NB-M12	NC					
	PM12-04P-M12	NO	PNP				
	PM12-04PB-M12	NC					

M18 Tubular Type

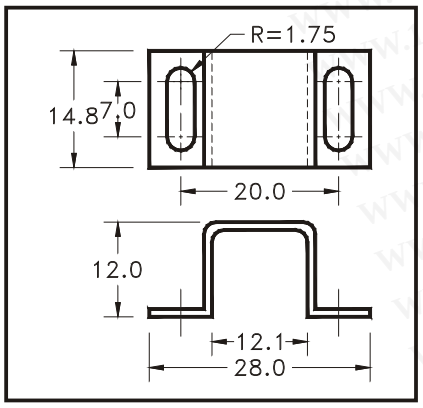
Outline Dimension	Model	Output Status	Output Method	Operating Voltage	Sensing Direction	Response Frequency	Mounting Method
	PM18-05N-S	NO	NPN	10 ~ 30 VDC	5.0mm	800HZ	Flushed
	PM18-05NB-S	NC					
	PM18-05P-S	NO	PNP				
	PM18-05PB-S	NC					
	PM18-08N-S	NO	NPN	10 ~ 30 VDC	8.0mm	800HZ	Non-Flushed
	PM18-08NB-S	NC					
	PM18-08P-S	NO	PNP				
	PM18-08PB-S	NC					
	PM18-05N	NO	NPN	10 ~ 30 VDC	5.0mm	800HZ	Flushed
	PM18-05NB	NC					
	PM18-05P	NO	PNP				
	PM18-05PB	NC					
	PM18-08N	NO	NPN	10 ~ 30 VDC	8.0mm	800HZ	Non-Flushed
	PM18-08NB	NC					
	PM18-08P	NO	PNP				
	PM18-08PB	NC					
Polymid Housing 	PM18-08N-P	NO	NPN	10 ~ 30 VDC	8.0mm	800HZ	Non-Flushed
	PM18-08NB-P	NC					
	PM18-08P-P	NO	PNP	10 ~ 30 VDC	8.0mm	800HZ	Non-Flushed
	PM18-08PB-P	NC					
	PM18-08S-P	NO	SCR	10 ~ 30 VDC	8.0mm	20HZ	Non-Flushed
	PM18-08SB-P	NC					
	PM18-05S	NO	SCR	90 ~ 250 VAC	5.0mm	20HZ	Flushed
	PM18-05SB	NC					
	PM18-08S	NO	SCR	90 ~ 250 VAC	8.0mm	20HZ	Non-Flushed
	PM18-08SB	NC					
	PM18-05N-M12	NO	NPN	10 ~ 30 VDC	5.0mm	800HZ	Flushed
	Pm18-05NB-M12	NC					
	PM18-05P-M12	NO	PNP				
	PM18-05PB-M12	NC					
	PM18-08N-M12	NO	NPN	10 ~ 30 VDC	8.0mm	800HZ	Non-Flushed
	Pm18-08NB-M12	NC					
	PM18-08P-M12	NO	PNP				
	PM18-08PB-M12	NC					

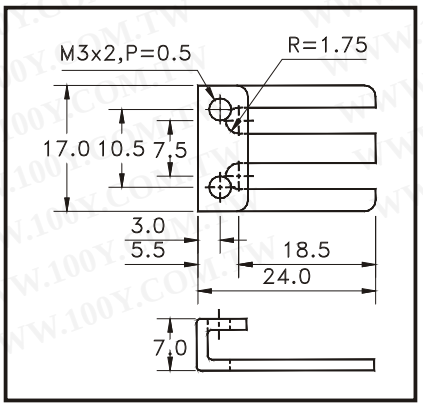
勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

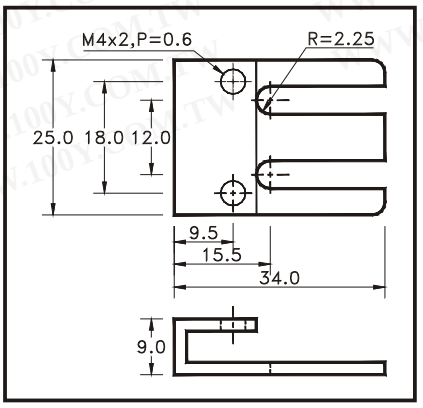
M30 Tubular Type

Outline Dimension	Model	Output Status	Output Method	Operating Voltage	Sensing Direction	Response Frequency	Mounting Method
	PM30-10N-S	NO	NPN	10 ~ 30 VDC	10.0mm	500HZ	Flushed
	PM30-10NB-S	NC					
	PM30-10P-S	NO	PNP				
	PM30-10PB-S	NC					
	PM30-15N-S	NO	NPN	10 ~ 30 VDC	15.0mm	500HZ	Non-Flushed
	PM30-15NB-S	NC					
	PM30-15P-S	NO	PNP				
	PM30-15PB-S	NC					
	PM30-10N	NO	NPN	10 ~ 30 VDC	10.0mm	500HZ	Flushed
	PM30-10NB	NC					
	PM30-10P	NO	PNP				
	PM30-10 PB	NC					
	PM30-15N	NO	NPN	10 ~ 30 VDC	15.0mm	500HZ	Non-Flushed
	PM30-15NB	NC					
	PM30-15P	NO	PNP				
	PM30-15PB	NC					
	PM30-10S	NO	SCR	90 ~ 250 VAC	10.0mm	20HZ	Flushed
	PM30-10SB	NO					
	PM30-15S	NO	SCR	90 ~ 250 VAC	15.0mm	20HZ	Non-Flushed
	PM30-15SB	NO					

Fixed Bracket

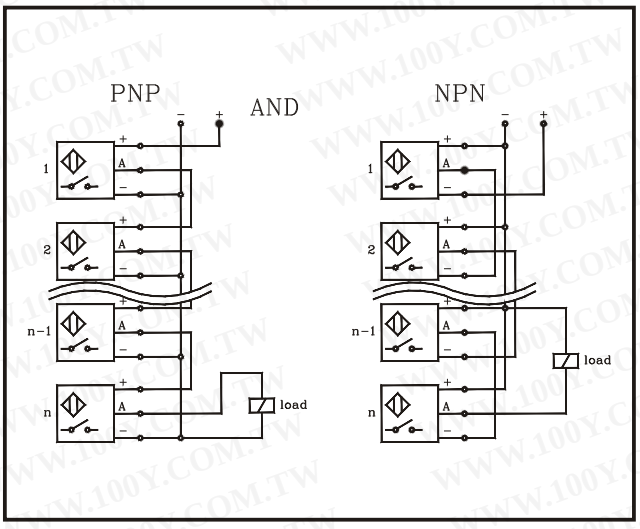


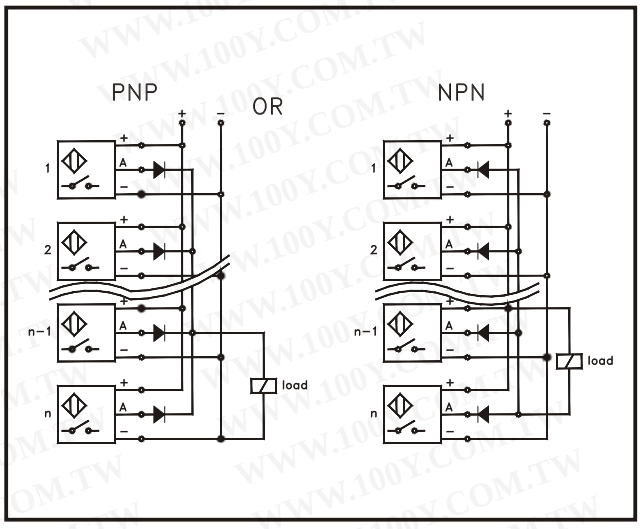




勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

Connecting Method of AND & OR

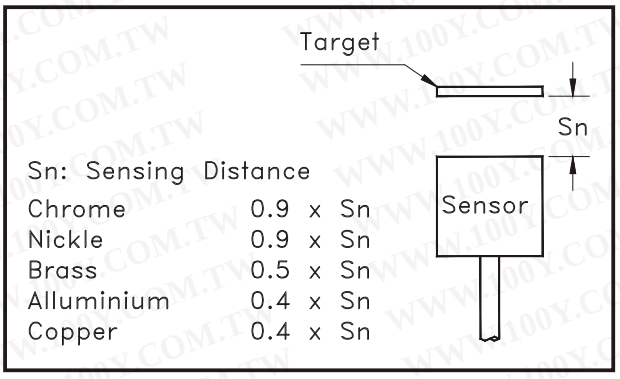




Basic Definition of Inductive Proximity Sensor

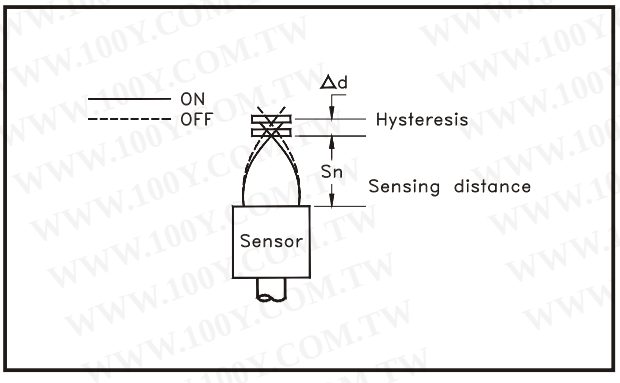
Target

Which is steel , 1 mm thick ness , square form with width lengths equal to the diameter of the sensing surface , if the target is made of a different material , the sensing distance must be multiplied by the Correction Factors .



Accuracy < Repetition >

Tolerance of operating position that sensor is certainly operated under the same conditions .

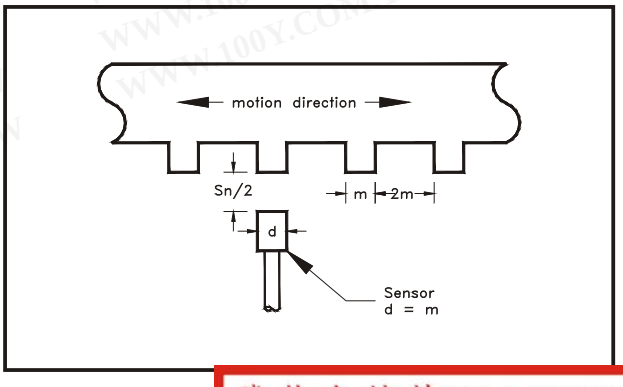


Hysteresis

Hysteresis is the different distance between the operating points that the target is approaching and leaving the sensing area of the sensor , The value is expressed as a percentage of the sensing distance , < △d/Sn% > .

Switch frequency

This is the maximum response frequency per second , based on a pulse / pause ratio of 1:2 . The sketch shows the condition of test .

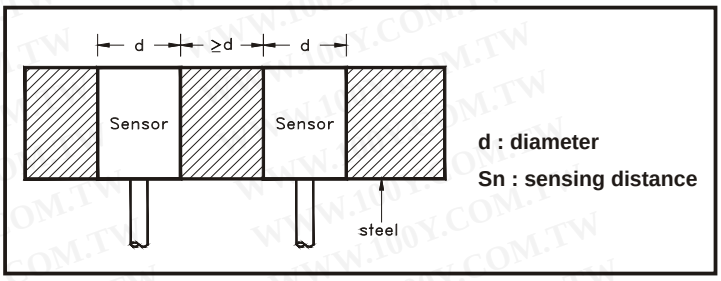


勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

How To Install Induction Proximity Sensor

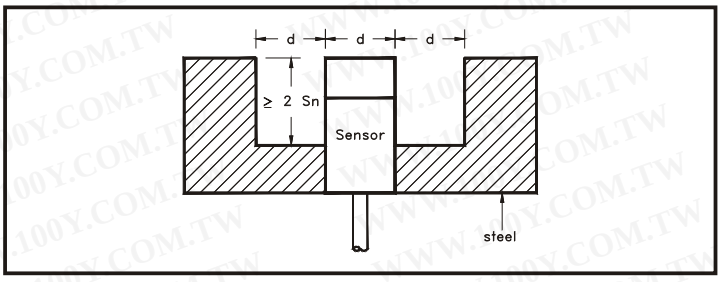
Flushed type

A proximity sensor can be flushed mounted in metal and surrounded by metal up to the level of the active face.



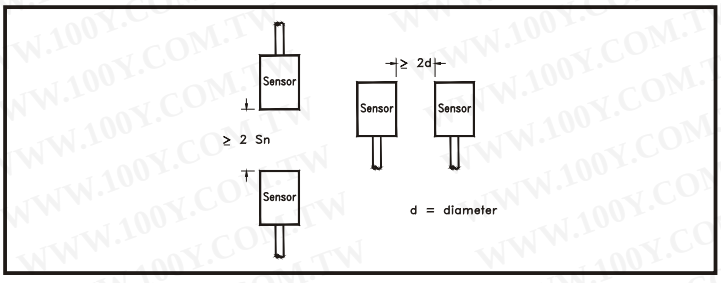
Non-flushed

A proximity sensor cannot be flushed in metal , a clear zone of 3 time of the diameter of the sensing surface must be keeped .



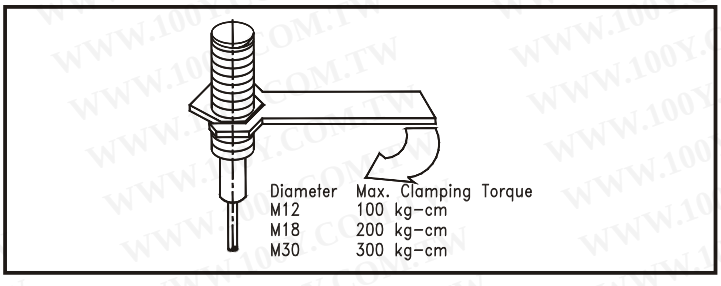
Mutual Interference

Installing inductive proximity sensors of the same model face to face or side by side , please set the minimum distance between the sensors larger than the diameter of sensor , to avoid the malfunction .



Clampling torque

Be sure to set a spring washer when fixing the sensor .
Don't tighten the sensor's mounting screw of PM series , with a clamping torque higher the right values .



Wiring

To avoid being influenced by noised . Try best to separate the cable of the sensor from power lines and high

If extend the sensor cable , use a cable which diameter as same as that .

勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw