

Programmable Potentiometer Isolating Transmitters PSP



Features

- ⊙ Field - rangeability
- Switchable wide input ranges
- Switchable wide output ranges
- ⊙ Accuracy 0.1%
- ⊙ Input / output isolation 1.6KVdc
- ⊙ Either standard or custom calibration

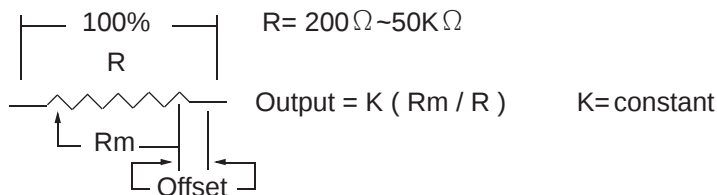
Definition

Excitation constant DC voltage 2.5 VDC

Output scale defined of input ration R_m / R

R 100% of potentiometer allowable range 200Ω to $50K\Omega$

R_m variable input



Model Selection Standard or custom calibration

PSP — S Standard calibration
Input 0 - 100% / output 4 - 20mA
Power AC 120V

PSP — — — Custom calibration

An On Pn

Input $D = r / R$

DL~DH	An	DL~DH	An	Output	On	Output	On	Power	Pn
0~10 %	A	0~75 %	J	0~1 V	A	1~5 mA	J	AC120V	A
0~15 %	B	0~80 %	K	0~2 V	B	0~10 mA	K	AC240V	B
0~20 %	C	0~90 %	L	0~5 V	C	2~10 mA	L		
0~25 %	D	5~95 %	M	1~5 V	D	0~16 mA	M	Option	
0~30 %	E	0~100 %	N	0~10 V	E	0~20 mA	N		
0~40 %	F	10~90 %	P	2~10 V	F	4~20 mA	P	DC 24V	C
0~50 %	G	10~100 %	Q	0~1 mA	G	Specified	Y	DC 48V	D
0~60 %	H	Specified	Y	0~2 mA	H			DC 12V	E
0~70 %	I			0~5 mA	I				

Ordering example

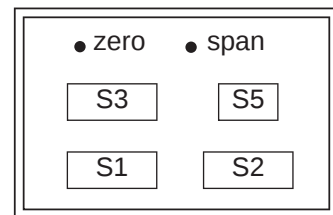
PSP - K - P - A Potentiometer ($200\sim 50K\Omega$) , input 0~80% / output 4~20mA / power AC 120V

PSP - Y - E - C Potentiometer input specified say 20~90% / output 0~10V / power DC 24V

Specification

Accuracy (23 ± 3°C)	0.1% of effective range
Linearty & repeatability	0.05% typical
Temperature stability	< 0.007% ro per degree C of effective range
Configuration	Potentiometer input with ratio detection
(Field - rangeable)	Excitation DC constant 2.5V Input ranges / switchable Output ranges / switchable
Power effect	< 0.003% for per volt change
Response time & ripple	250ms , ripple < 0.1% rms ro
Common mode rejection	> 100db DC to 60 Hz
Dielectric strength	1500Vac power / input & output terminals 1600Vdc input / output terminals
Output drive capability	≤ 10 mA for voltage mode , ≤ 10V for current mode
Operating condition	-5~55°C , humidity 20~95% RH non - condensed
Storage condition	-10~70°C , humidity 20~95% RH non - condensed
Power supply	± 20% of rated , less 3.5 VA for AC input ± 20% of rated , less 3.5 watt for DC input
Construction	Socket plug - in type with barrier terminals

Control switches



S1 % offset

S2 % span gain

Status S1 & S2 OFF = enable

All poles OFF $\Sigma N = 165\%$

All poles ON $\Sigma N = 0\%$

Offset setting % - S1
N% [1 2 4 8 10 20 40 80]
P [1 2 3 4 5 6 7 8]

Span setting % - S2
[1 2 4 8 10 20 40 80] ON
[1 2 3 4 5 6 7 8] OFF

S3 output range selection 6 poles ref. output switching table

S5 output mode : voltage / current selection 2 poles ref. output switching table

Input programming formula

Unit of input : % $D = r / R$ range from DL (Lo input) to DH (Hi input)

Input gain $X = [10 / (DH / DL)] \%$

Input offset $Y = 100 (DL) \%$

Example : potentiometer (200Ω~50KΩ)

Input range : 10% to 100%

Input gain : $X = [10 / (100\% - 10\%)] \%$ = 11.1% 11%

Input offset : $Y = [100 \times (10\%)] \%$ = 10%

Gain 11% S2 P1 - P5 Off & rest On

Offset ... 10% S1 P5 Off & rest On

Input switching tables

switching status.....1 = on ; 0 = off

Input Ranges	Switch poles	Switch ples
	S1...% of input offset	S2...% of input gain
	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
0-10%	1 1 1 1 1 1 1 1	1 1 1 1 1 0 1 0
0-15%	1 1 1 1 1 1 1 1	0 0 0 1 1 0 0 1
0-20%	1 1 1 1 1 1 1 1	1 1 1 1 1 1 0 1
0-25%	1 1 1 1 1 1 1 1	0 0 1 1 0 0 1 1
0-30%	1 1 1 1 1 1 1 1	0 1 0 1 1 0 1 1
0-40%	1 1 1 1 1 1 1 1	0 1 0 1 1 0 1 1
0-50%	1 1 1 1 1 1 1 1	1 1 1 1 1 0 1 1
0-60%	1 1 1 1 1 1 1 1	0 0 0 1 0 1 1 1
0-70%	1 1 1 1 1 1 1 1	1 1 0 1 0 1 1 1
0-75%	1 1 1 1 1 1 1 1	0 0 1 1 0 1 1 1
0-80%	1 1 1 1 1 1 1 1	0 0 1 1 0 1 1 1
0-90%	1 1 1 1 1 1 1 1	0 1 1 1 0 1 1 1
5-95%	0 1 0 1 1 1 1 1	0 1 1 1 0 1 1 1
0-100%	1 1 1 1 1 1 1 1	1 1 1 1 0 1 1 1
10-90%	1 1 1 1 0 1 1 1	0 0 1 1 0 1 1 1

Output switching table

Switch status 1 : ON ; 0 : OFF

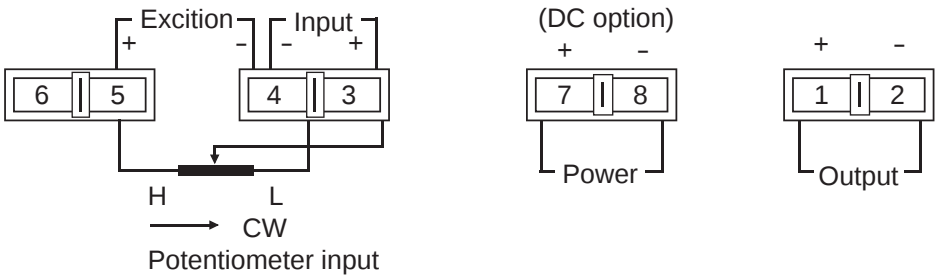
Output Ranges	S5 1-2	S3 1-2-3-4-5-6	Output Ranges	S5 1-2	S3 1-2-3-4-5-6
0~0.5 V	1-0	0-0-1-1-1-1	0~1 mA	0-1	0-0-1-1-1-1
0~1 V	1-0	0-1-0-1-1-1	0~2 mA	0-1	0-1-0-1-1-1
0~2 V	1-0	0-1-1-0-1-1	0~5 mA	0-1	0-0-1-0-1-1
0~4 V	1-0	0-1-1-1-0-1	1~5 mA	0-1	1-1-1-0-1-1
0~5 V	1-0	0-1-0-1-0-1	0~10 mA	0-1	0-1-0-1-0-1
1~5 V	1-0	1-1-1-1-0-1	2~10 mA	0-1	1-1-1-1-0-1
0~6 V	1-0	0-1-1-0-0-1	0~16 mA	0-1	0-1-1-1-1-0
0~8 V	1-0	0-1-1-1-1-0	0~20 mA	0-1	0-1-1-0-1-0
0~10 V	1-0	0-1-1-0-1-0	4~20 mA	0-1	1-1-1-1-1-0
2~10 V	1-0	1-1-1-1-1-0			

* Plus 0.008% fs per °C of 0 - 0.5V / 1V / 2V / 1mA / 2mA range selection

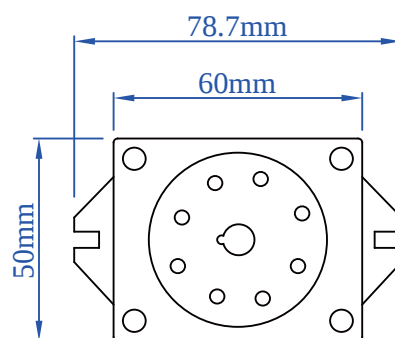
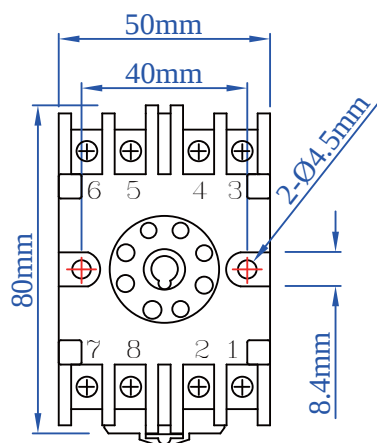
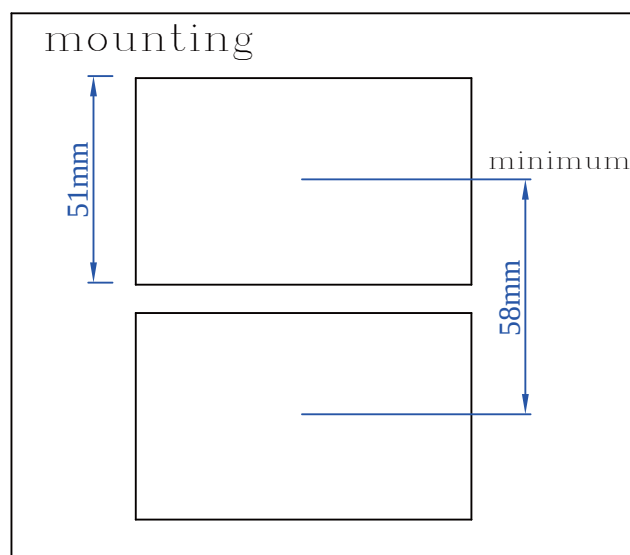
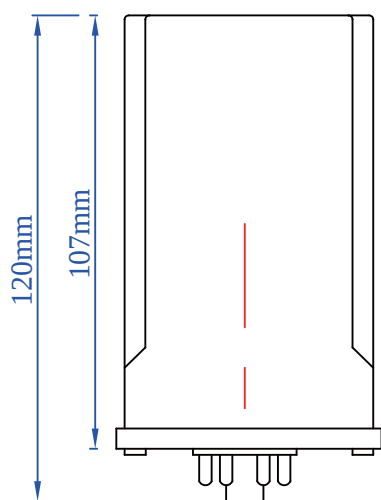
AC auxiliary power selection

Switchable 120V / 240V by slide switch internally

Terminal connection



Dimension



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