Programmable Resistance Isolating Transmitters

PSK

Features

- ◎ Top changer & position application
- ◎ Field - rangeable
  Switchable input & output ranges
- ◎ Accuracy 0.1%
- ◎ Input / output isolation 1.6KVdc
- ◎ Available standard or custom calibration

Model Selection ..... Standard or custom calibration

PSK — S Standard calibration
Input 0 - 1KΩ / output 4 - 20mA
Power AC 120V

PSK — □ — □ — □ Custom calibration
An On Pn

Input	An	Output	On	Output	On	Power	Pn
0~20 Ω	A	0~1 V	A	0~10 mA	K	AC120V	A
0~50 Ω	B	0~2 V	B	2~10 mA	L	AC240V	B
0~100 Ω	C	0~5 V	C	0~16 mA	M		
0~200 Ω	D	1~5 V	D	0~20 mA	N	Option	
0~500 Ω	E	0~10 V	E	4~20 mA	P		
0~1 KΩ	F	2~10 V	F	Specified	Y	DC 24V	C
0~2 KΩ	G	0~1 mA	G			DC 48V	D
0~5 KΩ	H	0~2 mA	H			DC 12V	E
0~10 KΩ	I	0~5 mA	I				
Specified	Y	1~5 mA	J				

Ordering example

PSK - F - P - A ..... 0~1KΩ input / 4~20mA output / power AC 120V

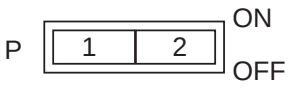
PSK - Y - P - C ..... specified input range / 4~20mA output / power DC 24V

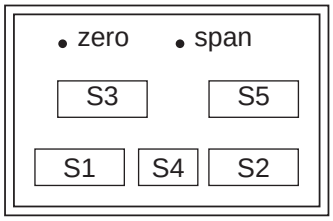
Specification

Accuracy (23 ± 3°C)	0.1% of effective range
	0.15% of effective range of ≦ 50Ω input span
Linearty & repeatability	0.05% typical
Temperature stability	≦ 0.008% ro per degree C
Configuration	Two wires or three wires connection
	Excitation 2 / 0.2 mAdc constant current source
Field rangeability	Selectable output mode ..... voltage or current
	Switchable input range / switchable output range
	Switchable AC power 120V or 240V
Effect of wire resistance	Automatically eliminated for 3 wires connection
	Offset recal. Required for 2 wires connection
Input break detection	Hi - set ≧ 110% of rated output
Power effect	< 0.003% for per volt change
Response time & ripple	400ms typically , ripple < 0.1% rms of span
Common mode rejection	> 80db 50 / 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

Function switches ..... S1 , S2 , S3 , S4 , S5

S4 .... sensing control for input range selection





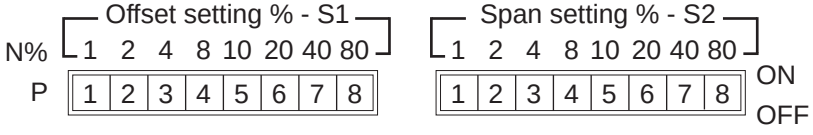
Status ..... ON = enable 1 = ON ; 2 = OFF

Input range Ω					S4 pole 1 - 2
10 Ω	≦	R	≦	100 Ω	1 - 1
100 Ω	<	R	≦	1 KΩ	0 - 1
1 KΩ	<	R	≦	10 KΩ	0 - 0

S1 ..... % offset

S2 ..... % span gain

Status S1 & S2 OFF = enable
All poles OFF ΣN = 165%
All poles ON ΣN = 0%



S3 ..... output range selection ..... 6 poles ..... ref. output switching table

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

Reference constant ..... Rf

Input range Ω					Refence constand Rf
10 Ω	≦	R	≦	100 Ω	100
100 Ω	<	R	≦	1 KΩ	1000
1 KΩ	<	R	≦	10 KΩ	10000

Programming formula ..... RH / RL : input high / input low ..... Rf : reference constant

Input gain X = [10 Rf / (RH - RL)] %

Input offset Y = 100 (RL / Rf) %

Note

1. Input span | RH - RL | should be ≧ 0.1 | RH |

Application

Example : PSK - Y - P - A

Input range Y ..... non list range , say specified 200~400Ω ; RH = 400Ω ; RL = 200Ω

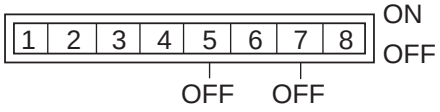
Output ..... 4~20mA ; Power ..... AC 120V

Input gain = [10 Rf / (RH - RL)] %

= [(10 x 1000) / (400 - 200)] % ..... Rf = 1000 for 100Ω < R ≦ 1KΩ

= 50%

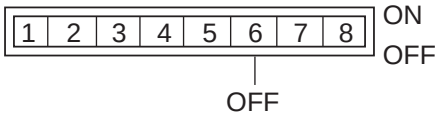
S2 P



P5 - P7 off & the rest on 50%

Input offset = (100 RL / Rf) % = (100 x 200 / 1000) % = 20%

S1 P



P6 off & the rest on 20%

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			

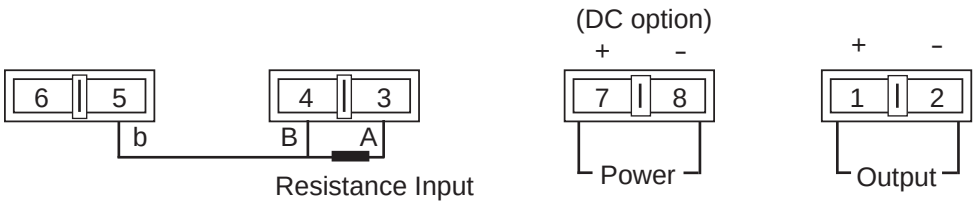
* Plus 0.008% fs per °C of ..... 0 - 0.5V / 1V / 2V / 1mA / 2mA range selection

AC auxiliary power selection

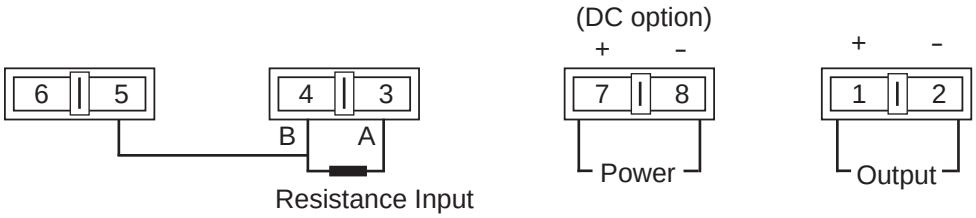
Switchable 120V / 240V by slide switch internally

Terminal connection

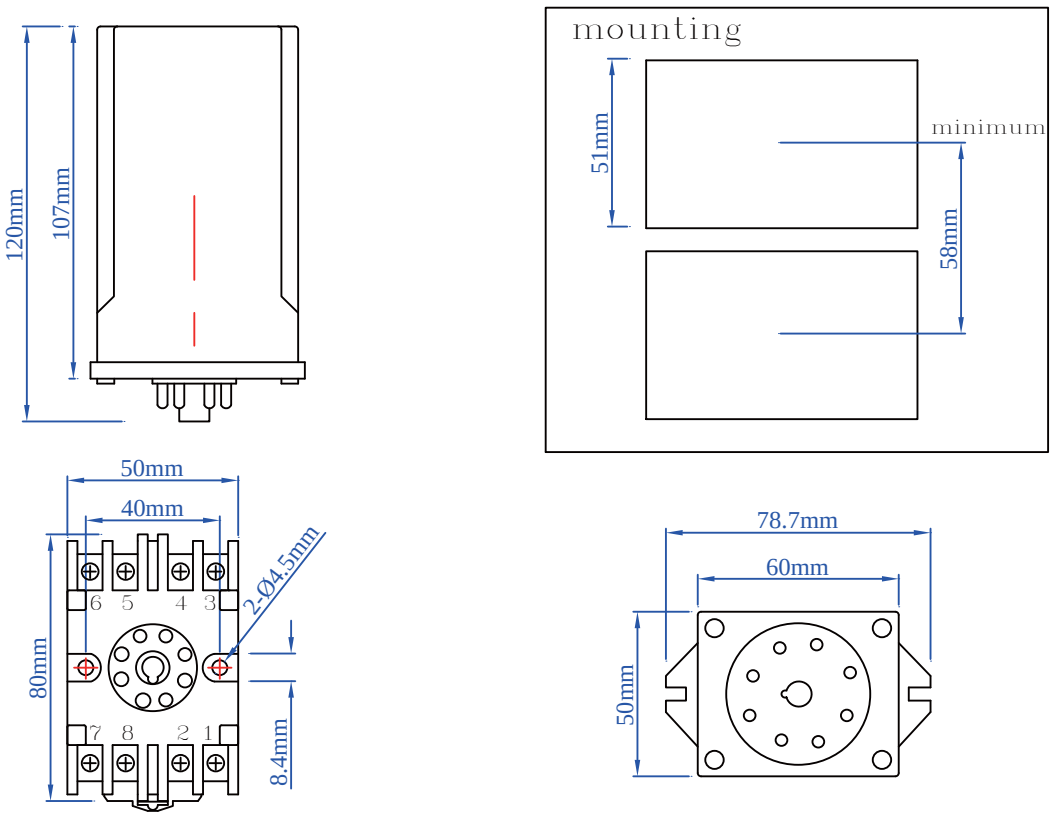
Three wires connection



Two wires application shorting terminals 4 & 5



Dimension



HSIANG CHENG ELECTRIC CORP.
4F., No.11, Ln. 235, Baoqiao Rd., Xindian Dist., New Taipei City 231, Taiwan
TEL：886-2-2917-5865~9
FAX：886-2-2917-3946
E-mail：expo.sales@hc.com.tw
http://www.hc.com.tw