

PROGRAMMABLE RTD TRANSMITTER



FEATURES

- Field-rangeable switchable input & output ranges
- Accuracy 0.1% F.S.
- Non-linear input with linear DC output
- 3 wires configuration automatically compensating line resistance effects
- Input/output isolation 1.6KVdc

1. MODEL: PF- □ □ □ - □ - N → (Non-programmable)

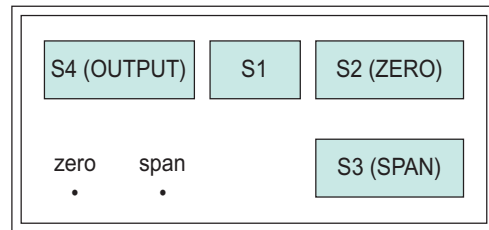
PAP	Non-Isolating (input/output)
PBP	Isolating (input/output)

NO	Input Ranges Temperature	NO	Output Ranges	NO	Aux. Power
10	0 ~ 50°C	A	0 - 0.5 V	1	AC 110V (50/60Hz)
11	0 ~ 100°C	B	0 - 1 V	2	AC 220V (50/60Hz)
12	0 ~ 200°C	C	0 - 2 V	3	DC 24V
13	0 ~ 300°C	D	0 - 4 V	4	DC 48V
14	0 ~ 400°C	E	0 - 5 V	5	DC 110V
15	0 ~ 600°C	F	1 - 5 V	6	DC 220V
16	0 ~ 800°C	G	0 - 8 V	7	AC 90~260V
17	-20 ~ +80°C	H	0 - 10 V	9	SPECIFIED
18	-50 ~ +50°C	I	2 - 10 V	• ±20% of rate, less 2.5VA for AC input	
19	-100 ~ +100°C	J	0 - 1 mA		
20	-100 ~ +200°C	K	0 - 2 mA	• ±20% of rate, less 2WATT for DC input	
21	-100 ~ +400°C	L	0 - 5 mA		
22	-100 ~ +800°C	M	1 - 5 mA	• Switchable 110V/220V by jump internally	
23	-200 ~ +200°C	N	0 - 10 mA		
24	-200 ~ +400°C	O	0 - 16 mA	• ±10% of rate, less 2.5VA for AC switching input	
25	-200 ~ +800°C	P	0 - 20 mA		
99	SPECIFIED	Q	4 - 20 mA		

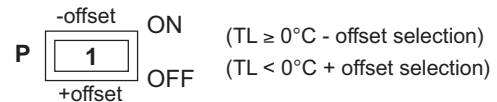
2. Specification

- Accuracy : 0.1% F.S. (23±5°C)
- Output ripple (p-p) : <0.1% F.S.
- Temp. coefficient : 100ppm/°C (0-50°)
- Dielectric strength : 1.5KVac/1 min. (power/input/output)
1600 Vdc (input/output)
- Output drive capability : ≤10mA for voltage mode
≤10V for current mode
- Response time : ≤250ms (0~90%)
- Operating condition : 0~55°C humidity 20~95% RH
non-condensed
- Storage condition : 0~70°C humidity 20~95% RH
non-condensed
- Construction : Socket/plug-in type with barrier terminals

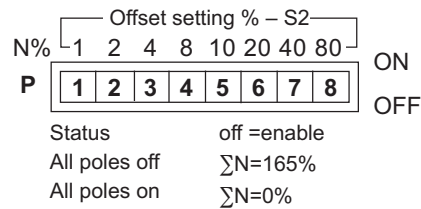
3. Function switches (S1, S2, S3, S4)



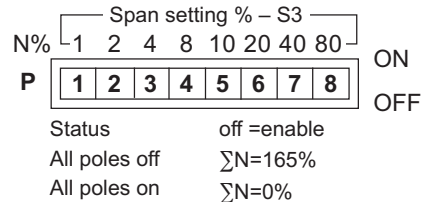
- S1 → Input offset polarity selection



- S2 → Input range offset (ZERO) selection



- S3 → Input range span (GAIN) selection



- S4 → P₁-P₂-P₃-P₄-P₅-P₆ output range selection
P₇-P₈ output mode: voltage/current selection
★ (ref. output switching table)

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4. Programming formula

TH/TL: input high / input low

- Span → $X = [8000 / (TH - TL)]$
- Offset → $= (TL / 2) \%$

★ Note: 1. Input span ITH-TLI should be ≥ 0.1 ITHI
 2. If input ITH-TLI ≤ 0.2 IVHI, at normal setting with calibration, if non-linear happened, shifting offset switches up or down 1-2%, recalibrating to obtain correct output.

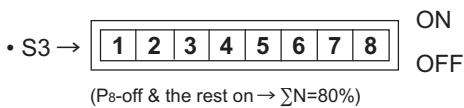
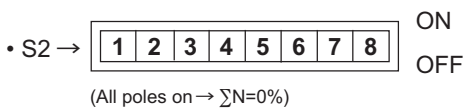
5. Application

Example : P11 E-1

Input range (TH = 100°C, TL = 0°C)
 Output (DC 0-5V)
 Power (AC 110V)

- (Span) $X = 8000 / (100 - 0) = 80\%$
- (Offset) $Y = 0 / 2 = 0\%$

• S1 → P1 = on/-offset (TL $\geq 0^\circ\text{C}$)



6. Input switching table (S1, S2, S3)

(switching status 1 = on; 0 = off)

Input Range	S1	S2 (ZERO)	S3 (SPAN)
	1	1-2-3-4-5-6-7-8	1-2-3-4-5-6-7-8
0 ~ 50°C	X	1-1-1-1-1-1-1-1	1-0-1-0-0-0-0-0
0 ~ 100°C	X	1-1-1-1-1-1-1-1	1-1-1-1-1-1-1-0
0 ~ 200°C	X	1-1-1-1-1-1-1-1	1-1-1-1-1-1-0-1
0 ~ 400°C	X	1-1-1-1-1-1-1-1	1-1-1-1-1-0-1-1
0 ~ 600°C	X	1-1-1-1-1-1-1-1	*0-0-1-1-0-1-1-1
0 ~ 800°C	X	1-1-1-1-1-1-1-1	1-1-1-1-0-1-1-1
-20 ~ 80°C	1	1-1-1-1-0-1-1-1	1-1-1-1-1-1-1-0
-50 ~ 50°C	1	0-1-0-1-1-0-1-1	1-1-1-1-1-1-1-0
-100 ~ 100°C	1	1-1-1-1-0-1-0-1	0-1-1-1-1-1-0-1
-100 ~ 200°C	1	1-1-1-1-0-1-0-1	*0-0-0-1-1-0-1-1
-100 ~ 400°C	1	1-1-1-1-0-1-0-1	0-0-0-1-0-1-1-1
-100 ~ 800°C	1	1-1-1-1-0-1-0-1	*0-1-1-0-1-1-1-1
-200 ~ 200°C	1	1-1-1-1-0-0-1-0	1-1-1-1-1-0-1-1
-200 ~ 400°C	1	1-1-1-1-0-0-1-0	*0-0-1-1-0-1-1-1
-200 ~ 800°C	1	1-1-1-1-0-0-1-0	1-1-1-0-1-1-1-1

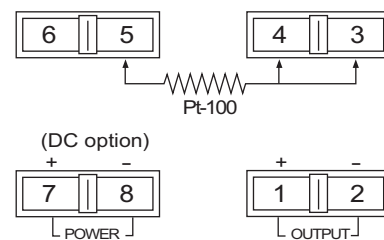
* recalibration to obtain linear output

7. Output switching table (S4)

(switching status 1 = on; 0 = off)

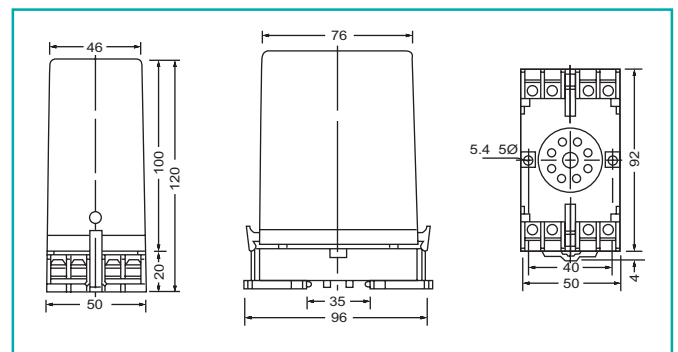
Output Range	O/P Range	O/P Mode
	1-2-3-4-5-6	7-8
0 ~ 0.5V	0-1-1-1-1-0	1-1
0 ~ 1V	1-0-1-1-1-0	1-1
0 ~ 2V	1-1-0-1-1-0	1-1
0 ~ 4V	1-1-1-0-1-0	1-1
0 ~ 5V	1-0-1-0-1-0	1-1
1 ~ 5V	1-1-1-0-1-1	1-1
0 ~ 6V	1-1-0-0-1-0	1-1
0 ~ 8V	1-1-1-1-0-0	1-1
0 ~ 10V	1-1-0-1-0-0	1-1
2 ~ 10V	1-1-1-1-0-1	1-1
0 ~ 1mA	0-1-1-1-1-0	0-0
0 ~ 2mA	1-0-1-1-1-0	0-0
0 ~ 5mA	0-1-0-1-1-0	0-0
1 ~ 5mA	1-1-0-1-1-1	0-0
0 ~ 10mA	1-0-1-0-1-0	0-0
2 ~ 10mA	1-1-1-0-1-1	0-0
0 ~ 16mA	1-1-1-1-0-0	0-0
0 ~ 20mA	1-1-0-1-0-0	0-0
4 ~ 20mA	1-1-1-1-0-1	0-0

8. Terminal connection



• Note: Two wires application shorting terminals 3 & 4

9. Dimension: (Unit: mm)



Note: 1. Socket drawing type

2. Mounting: either rail mounting or general screw mounting