

PROGRAMMABLE AC TRANSMITTER



FEATURES

- Field-rangeable switchable input & output range
- Accuracy 0.1% F.S.
- Input/output isolation 1.6KVdc

1. MODEL: PF- [] - [] - [] - [] - [] → (Non-programmable)

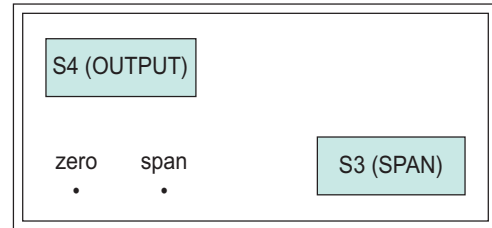
AA	RMS (Isolating)
AB	TRUE RMS (Isolating)

• CTB (diode block) is supplied to protect the current transformer from burning when the loop is open

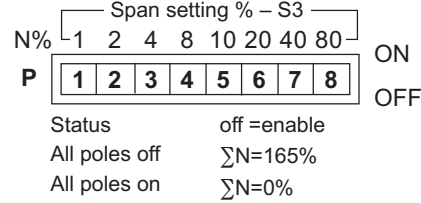
NO	Input Type	NO	Output Ranges	NO	Aux. Power
1	AC 0-10V	E	DC 0-5 V	1	AC 110V (50/60Hz)
2	AC 0-50V	F	DC 1-5 V	2	AC 220V (50/60Hz)
3	AC 0-150V	H	DC 0-10 V	3	DC 24V
4	AC 0-300V	I	DC 2-10 V	4	DC 48V
5	AC 0-600V	J	DC 0-1 mA	5	DC 110V
6	AC 0-1A	N	DC 0-10 mA	6	DC 220V
7	AC 0-5A	P	DC 0-20 mA	7	AC 90~260V
8	AC 0-10A	Q	DC 4-20 mA	9	SPECIFIED
9	SPECIFIED	R	SPECIFIED		

• ±20% of rate, less 2.5VA for AC input
 • ±20% of rate, less 2WATT for DC input
 • Switchable 110V/220V by jump internally
 • ±10% of rate, less 2.5VA for AC switching input

3. Function switches (S3, S4)



• S3 → Input range offset (GAIN) selection



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

2. Specification

- Accuracy : 0.1% F.S. (TRMS) (23±5°C)
 0.25% F.S. (RMS) (23±5°C)
- Temp. coefficient : 100ppm/°C (0-50°)
- Input burden : ≤0.2VA (ACV); ≤0.2VA (ACA)
- Max. input over : ≤2 x rated continuous (Voltage)
 ≤3 x rated continuous (Current)
- Response time : ≤300ms (0~90%)
- Output ripple (p-p) : <0.1% F.S.
- Dielectric strength : 1.5KVac/1 min. (power/input/output)
- Output drive capability : ≤10mA for voltage mode
 ≤10V for current mode
- 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

4. Programming formula

Effective input range	Pregain	Effective input range	Pregain
D	G	D	G
600V ≥ D > 150V	600	10A ≥ D > 5A	10
150V ≥ D > 50V	150	5A ≥ D > 1A	5
50V ≥ D > 10V	50	10A ≥ D > 5A	1
10V ≥ D > 2V	10		

IH/IL: input high/input low; G: pregain

• SPAN → X = [10G/(IH-IL)]%

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5. Application

Example : PF-AA-7Q-2

Gain (G = 5)
 Input range (IH = 5A, IL = 0A)
 Output (DC 4-20mA)
 Power (AC 220V)
 • (Span) X = $[10 \times 5 / (5-0)]\%$
 = 10%

• S3 →

1	2	3	4	5	6	7	8
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 ON
 OFF
 (P5-off & the rest on → ΣN=10%)

• S4 →

1	2	3	4	5	6	7	8
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 ON
 OFF
 (P5-P7-P8-off & the rest on)

Example : PF-AA-9H-1

Gain (G = 50)
 Input range (IH = 35V, IL = 0V)
 Output (DC 0-10V)
 Power (AC 110V)
 • (Span) X = $[10 \times 50 / (35-0)]\%$
 = 14%

• S3 →

1	2	3	4	5	6	7	8
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 ON
 OFF
 (P3-P5-off & the rest on → ΣN=14%)

• S4 →

1	2	3	4	5	6	7	8
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 ON
 OFF
 (P3-P5-P6-off & the rest on)

6. Input switching table (S3)

(switching status 1 = on; 0 = off)

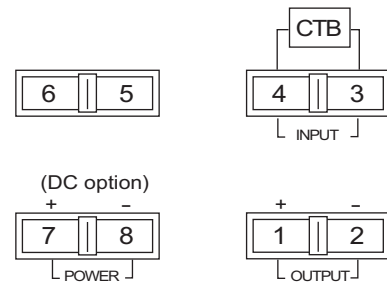
Input Range	S3 (SPAN)
AC 0 ~ 10V	1-2-3-4-5-6-7-8
AC 0 ~ 50V	1-1-1-1-0-1-1-1
AC 0 ~ 150V	1-1-1-1-0-1-1-1
AC 0 ~ 300V	1-1-1-1-1-0-1-1
AC 0 ~ 600V	1-1-1-1-0-1-1-1
AC 0 ~ 1A	1-1-1-1-0-1-1-1
AC 0 ~ 5A	1-1-1-1-0-1-1-1
AC 0 ~ 10A	1-1-1-1-0-1-1-1

7. Output switching table (S4)

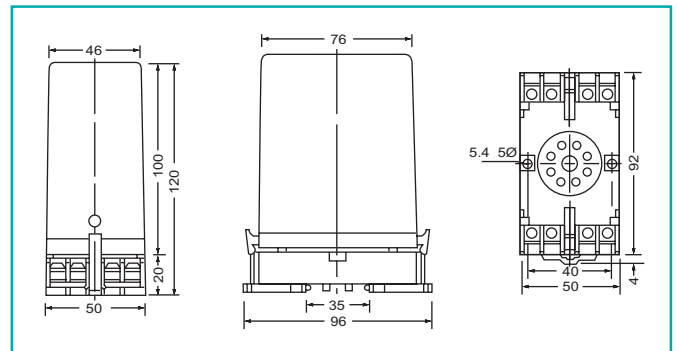
(switching status 1 = on; 0 = off)

Output Range	O/P Range 1-2-3-4-5-6	O/P Mode 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



9. Dimension:



Note: 1. Socket drawing type
 2. Mounting: either rail mounting or general screw mounting