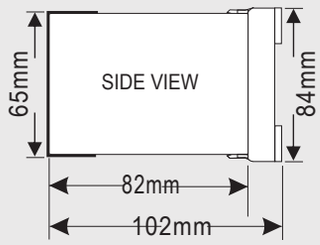
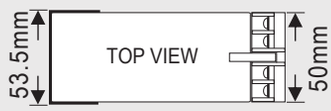
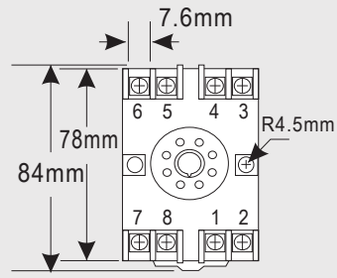
DCbox

PROGRAMMABLE POTENTIOMETER ISOLATED TRANSMITTER

XTP-P





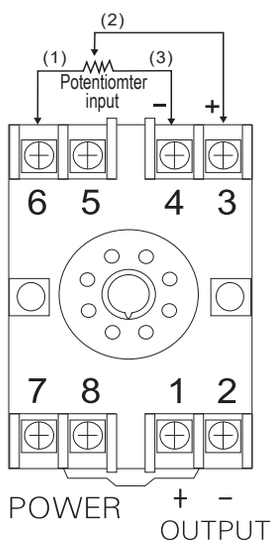


- Accuracy 0.1% F.S
- Field-rangeable switchable potentiometer input ranges from 100Ω~100KΩ, wide switchable DC output ranges over 20 standard process signal
- Dielectric strength 2KVac/1 min.(input / output / power)
- Wide input range for auxiliary power
- Dimension small & High stability

SPECIFICATION

◆ Measuring accuracy:	0.1% F.S.(23±5℃)
◆ Exciting voltage:	2.5VDC(<25mA) (Current)
◆ Potentiometer input range:	100ohm~100Kohm
◆ Response time:	<250ms(0~90%)
◆ Output drive capability:	<10mA for voltage mode <10V for current mode
◆ Output ripple(p-p):	<0.1% F.S.
◆ Zero(offset) range:	0~±165% F.S. (DIP-switches) 0~±5% F.S. (VR-adjustable)
◆ Span(scale) range:	0~±165% F.S. (DIP-switches) 0~±10% F.S. (VR-adjustable)
◆ Temp. coefficient:	100ppm/℃ (0~50℃)
◆ Isolation:	Input / Output/ Power / Case
◆ Insulation Resistance:	>100M ohm with 500V DC
◆ Dielectric strength:	2KVac/1min.(input/output/power) 1600Vdc(input/output)
◆ Operating condition	0~60℃; 20~90% RH (non-condensed)
◆ Storage condition:	0~70℃; 20~90% RH (non-condensed)
◆ Construction:	Socket/plugin type with barrier terminals

WIRING CONNECTION



ORDER INFORMATION

XTP-P- Code1 - Code2 - Code3

Code 1	Input Type	Code 1	Input Type	Code 1	Input Type
10	0~10%	16	0~50%	22	5~95%
11	0~15%	17	0~65%	23	10~90%
12	0~20%	18	0~70%	24	10~100%
13	0~25%	19	0~85%	29	OPTION
14	0~30%	20	0~90%	•ExcitingVoltage 2.5VDC(<25mA)	
15	0~40%	21	0~100%		

Code 2	Output Type	Code 2	Output Type	Code 2	Output Type
A	0~0.5V	G	0~8V	M	1~5mA
B	0~1V	H	0~10V	N	0~10mA
C	0~2V	I	2~10V	O	0~16mA
D	0~4V	J	0~1mA	P	0~20mA
E	0~5V	K	0~2mA	Q	4~20mA
F	1~5V	L	0~5mA	R	OPTION

Code 3	Aux.POWER
A	AC/DC 18~60V
B	AC/DC 90~260V

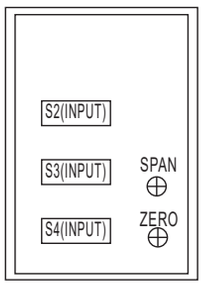
Less 3VA for AC/DC input
AC input frequency (45~65Hz)

FUNCTION SWITCHES

● S2→ Input range offset(ZERO) selection
Offset setting%-S2

N%	1	2	4	8	10	20	40	80	
P	1	2	3	4	5	6	7	8	ON(1) / OFF(0)

Status off=enable
All poles off N=165%
All poles on N=-0%



● S3→ Input range span(GAIN) selection
Span setting%-S3

N%	1	2	4	8	10	20	40	80	
P	1	2	3	4	5	6	7	8	ON(1) / OFF(0)

Status off=enable
All poles off N=165%
All poles on N=0%

● S3→ P1-P2-P3-P4-P5-P6 : input range selection
P7-P8: output mode of voltage or current selection
(Refer, output switching table)

INPUT SWITCHING TABLE

switching status 1 = on; 0 = off

Input range	S3(ZERO)								S2(SPAN)							
	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	0	1	0	1
0~25%	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
0~30%	1	1	1	1	1	1	1	1	0	0	1	1	0	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
0~80%	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	1	0	1	1
0~100%	1	1	1	1	1	1	1	1	1	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
10~90%	1	1	1	1	0	1	1	1	0	0	1	1	0	1	1	1
10~100%	1	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1

Recalibrating to obtain linear output

PROGRAMMING FORMULA

RH: percent input High range
RL : percent input Low range

● Span→X=[10/(RH-RL)]%

● Offset→Y=(100xGxRL)
(unit=%)

APPLICATION

Example: XTP-P-21Q2
Input range→RH=100%, RL=0%
Output range→DC4~20mA

● Span→X=[10/(100%-0%)]%=10%
● ZERO→Y=(100x0%)%=0%

● S2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | ON(1) / OFF(0)
(P5-off & the rest on→EN=10%)

● S3 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | ON(1) / OFF(0)
(All poles on→EN=10%)

● S4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | ON(1) / OFF(0)
(P5-P7-P8-off & the rest on)

OUTPUT SWITCHING TABLE

switching status 1 = on; 0 = off

	O/P Range						O/P Mode	
Output range	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