

可程式電位計隔離傳送器

(PROGRAMMABLE POTENTIOMETER ISOLATED TRANSMITTER)

MODEL
TKP



■特點(FEATURES)

- 精確度0.1%滿刻度 (Accuracy 0.1%F.S.)
- 開關式多種電位計輸入與直流輸出規劃功能(Field-rangeable switchable potentiometer input ranges from 100ohm to 100Kohm,wide switchable DC output ranges over 20 standard process signal)
- 輸入與輸出與電源絕緣耐壓 2千伏特/1分鐘(Dielectric strength 2KVac/1 min.(input/output/power))
- 寬範圍交直流兩用電源設計(Wide input range for auxiliary power)
- 尺寸小,穩定性高(Dimension small & High stability)

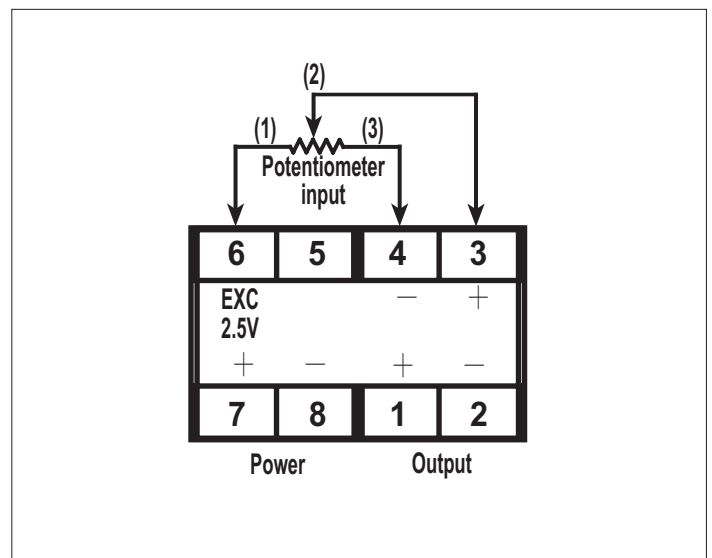
1.MODEL:TKP -
(選購型號)

NO	Input Range	NO	Input Range	NO	Input Range	NO	Output Range	NO	Output Range	NO	Output Range	NO	Aux.Power
10	0~10%	16	0~50%	22	5~95%	A	0~0.5V	G	0~8V	M	1~5mA	A	AC/DC 18~60V
11	0~15%	17	0~60%	23	10~90%	B	0~1V	H	0~10V	N	0~10mA	B	AC/DC 90~260V
12	0~20%	18	0~70%	24	10~100%	C	0~2V	I	2~10V	O	0~16mA	*Less 3VA for AC/DC input *AC input frequency (45~65Hz)	
13	0~25%	19	0~80%	29	SPECIFIED	D	0~4V	J	0~1mA	P	0~20mA		
14	0~30%	20	0~90%	*Exciting Voltage 2.5VDC(<25mA)		E	0~5V	K	0~2mA	Q	4~20mA		
15	0~40%	21	0~100%	F	1~5V	L	0~5mA	R	SPECIFIED				

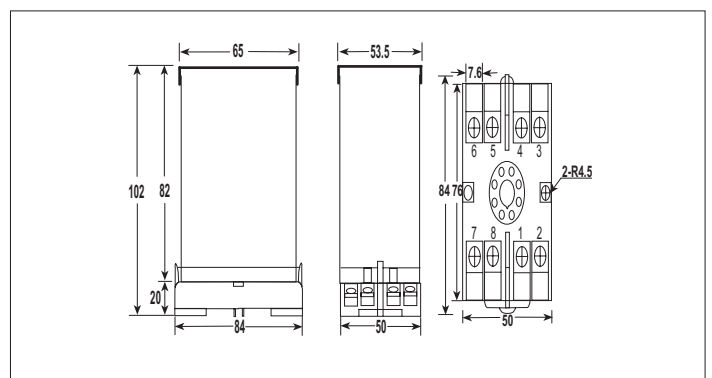
2.SPICIFICATION (主要規格)

- Measuring accuracy : 0.1% F.S. (23±5°C) (精確度)
- Exciting voltage(current) : 2.5VDC(<25mA) (電位計電源)
- Potentiometer input range: 100 ohm~100Kohm (電位計輸入範圍)
- Response time : <250ms (0~90%) (輸出反應時間)
- Output drive capability : <10mA for voltage mode <10V for current mode (輸出負載能力)
- Output ripple(p-p) : <0.1% F.S. (輸出漣波)
- Zero (offset) range : 0~±165% F.S.(DIP-switches) 0~±5% F.S.(VR adjustable) (歸零調整範圍)
- Span (scale) range : 0~165% F.S.(DIP-switches) 0~±10% F.S.(VR adjustable) (最大值調整範圍)
- Temp. coefficient : 100ppm/°C (0~50°C) (溫度係數)
- Isolation : Input/Output/Power/Case (隔離特性)
- Insulation Resistance : >100M ohm with 500V DC (絕緣阻抗)
- Dielectric strength : 2KVac/1 min. (input/output/power) 1600Vdc (input/output) (絕緣耐壓能力)
- Operating condition : 0~60°C (20 to 90% RH non-condensed) (使用環境條件)
- Storage condition : 0~70°C (20 to 90% RH non-condensed) (存放環境條件)
- Construction : Socket/plugin type with barrier terminals (安裝方式)
- CE EMC Certification : EN 55022:1998/A1:2000 Class A
(CE 認證) EN 61000-3-2:2000
EN 61000-3-3:1995/A1:2001
EN 55024:1998/A1:2001

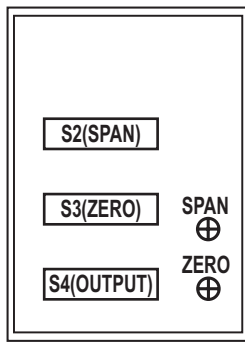
3.TERMINAL CONNECTION (接線圖)



4.DIMENSION(unit:mm) (外型尺寸)



5. FUNCTION SWITCHES (S2, S3, S4) (開關功能)



•S2→Input range offset (ZERO) selection

Offset setting % -S2

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

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

•S3→Input range span (GAIN) selection

Span setting % -S3

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

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

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

6. PROGRAMMING FORMULA

RH: percent input high range
 RL: percent input Low range

•Span→ $X = [10 / (RH - RL)] \%$

•Offset→ $Y = (100 \times RL) \%$

(unit=%)

7. APPLICATION

Example: TKP-21Q2

Input range→RH=100%, RL=0%

Output range→DC4-20mA

•SPAN→ $X = [10 / (100\% - 0\%)] \% = 10\%$

•ZERO→ $Y = (100 \times 0\%) \% = 0\%$

•S2

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

•S3

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

•S4

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

8. INPUT SWITCHING TABLE (S2, S3)

(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	0-1-1-1-0-1-1-1
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

9. 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