

# 可程式荷重元隔離傳送器

(PROGRAMMABLE LOAD-CELL ISOLATED TRANSMITTER)

MODEL  
TLP



## ■特點(FEATURES)

- 精確度0.1%滿刻度 (Accuracy 0.1%F.S.)
- 開關式多種荷重元輸入與直流輸出規劃功能(Field-rangeable switchable load-cell input ranges from 3mV to 90mV, 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:TLP -

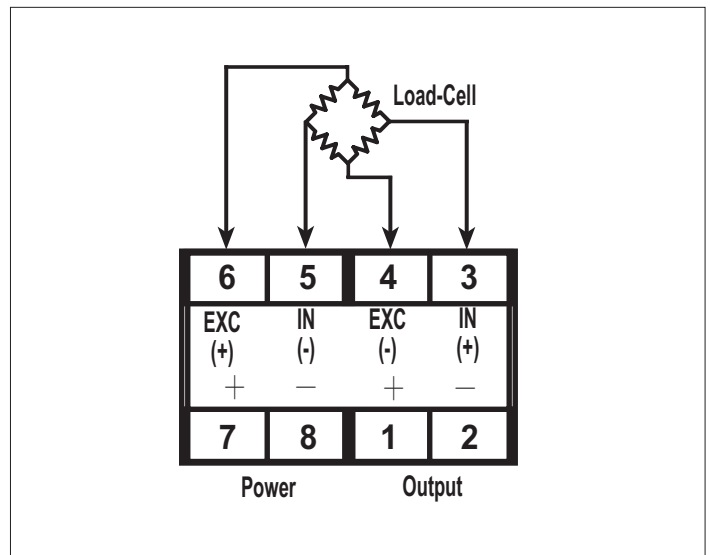
(選購型號)

NO	Input Range	NO	Input Range	NO	Input Range	NO	Exciting Voltage	NO	Output Range	NO	Output Range	NO	Output Range	NO	Aux.Power
A	0~3mV	G	0~12mV	M	0~27mV	1	5V(<50mA)	A	0~0.5V	G	0~8V	M	1~5mA	A	AC/DC18~60V
B	0~4mV	H	0~15mV	N	0~30mV	2	10V(<50mA)	B	0~1V	H	0~10V	N	0~10mA	B	AC/DC90~260V
C	0~5mV	I	0~18mV	O	0~50mV	3	12V(<50mA)	C	0~2V	I	2~10V	O	0~16mA		•Less 3VA for AC/DC input •AC input frequency (45~65Hz)
D	0~6mV	J	0~20mV	P	0~60mV	9	SPECIFIED	D	0~4V	J	0~1mA	P	0~20mA		
E	0~8mV	K	0~24mV	Q	0~90mV		•Max. output current 50mA	E	0~5V	K	0~2mA	Q	4~20mA		
F	0~10mV	L	0~25mV	R	SPECIFIED			F	1~5V	L	0~5mA	R	SPECIFIED		

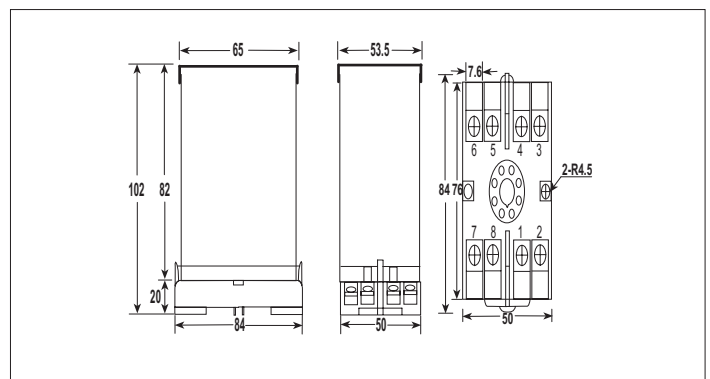
## 2.SPICIFICATION (主要規格)

- Measuring accuracy : 0.1% F.S. (23±5°C) (精確度)
- Exciting voltage : 5V±3%(<50mA) (感應器電源)  
10V±3%(<50mA)  
12V±3%(<50mA)
- Response time : <250ms (0~90%) (輸出反應時間)
- Output drive capability : <10mA for voltage mode (輸出負載能力)  
<10V for current mode
- Output ripple(p-p) : <0.1% F.S. (輸出漣波)
- Zero (offset) range : 0~±165% F.S.(DIP-switches) (歸零調整範圍)  
0~±5% F.S.(VR adjustable)
- Span (scale) range : 0~165% F.S.(DIP-switches) (最大值調整範圍)  
0~±10% F.S.(VR adjustable)
- 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) (絕緣耐壓能力)  
1600Vdc (input/output)
- 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

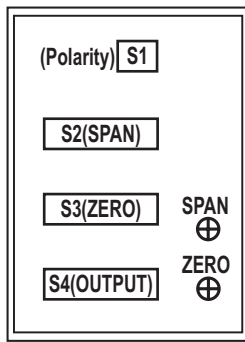
## 3.TERMINAL CONNECTION (接線圖)



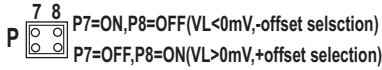
## 4.DIMENSION(unit:mm) (外型尺寸)



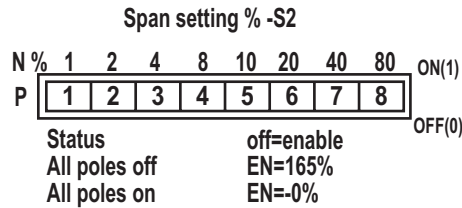
## 5. FUNCTION SWITCHES (S1, S2, S3, S4) (開關功能)



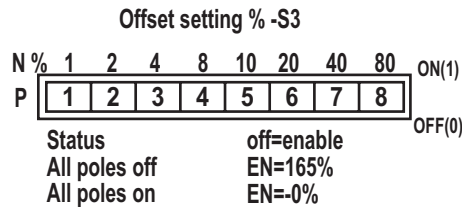
•S1→input offset polarity selection



•S2→Input range span (GAIN) selection



•S3→Input range offset (ZERO) selection



•S4→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

VH/VL: input high/input low (unit: mV)

•Span→ $X = [500 / (VH - VL)] \%$

•Offset→ $Y = (VL) \%$

Note: on field application, the required offset at a no load status just switching S2 of 1%=1mV fset

## 7. APPLICATION

Example: TLP-R1QB

Exciting voltage: DC5V

Input range: DC-10mV~+10mV (VH=+10mV, VL=-10mV)

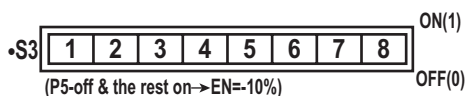
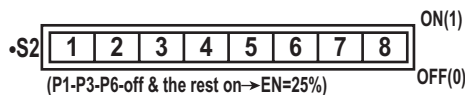
Output range: DC4-20mA

Aux. power: AC/DC90~260V

•SPAN→ $X = [500 / (20 - 0)] \%$  = 25%

•ZERO→ $Y = (-10\%) = -10\%$

S1→P7=ON, P8=OFF (VL<0mV, -offset selection)



## 8. INPUT SWITCHING TABLE (S2)

(switching status off=enable 1=on ; 0=off)

Input range (VH-VL)	S2(SPAN)
	1-2-3-4-5-6-7-8
3mV	△0-0-0-0-0-0-0-0
4mV	0-1-0-1-1-1-0-0
5mV	1-1-1-1-1-0-1-0
6mV	△0-0-1-1-1-1-1-0
8mV	△0-0-1-1-1-0-0-1
10mV	1-1-1-1-0-1-0-1
12mV	△1-0-1-1-1-1-0-1
15mV	△0-0-1-1-0-0-1-1
18mV	△1-1-1-0-1-0-1-1
20mV	0-1-0-1-1-0-1-1
24mV	△0-1-1-1-1-0-1-1
25mV	1-1-1-1-1-0-1-1
27mV	△0-1-1-0-0-1-1-1
30mV	△0-0-0-1-0-1-1-1
36mV	△1-1-0-1-0-1-1-1
40mV	△0-0-1-1-0-1-1-1
50mV	1-1-1-1-0-1-1-1
60mV	△1-1-1-0-1-1-1-1
90mV	△1-0-0-1-1-1-1-1

△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