

# 可程式直流/頻率隔離傳送器 (PROGRAMMABLE DC TO FREQUENCY ISOLATED TRANSMITTER)

MODEL  
TDF



## ■特點(FEATURES)

- 精確度±0.1%滿刻度(Accuracy ±0.1% F.S.)
- 最高輸出頻率100KHz(Maximum output frequency up to 100KHz)
- 寬範圍脈波輸出功能0.006Hz至100KHz(Wide frequency output range form 0.006Hz to 100KHz)
- 寬範圍脈波輸入預乘(0.1至1.0)與預除(1至165000)功能  
(Wide input pulse multiplier scale (0.1 to 1.0)and divide scale(1 to 165000))
- 輸入與輸出絕緣耐壓2仟伏特/1分鐘(Dielectric strength 2KVac/1min.(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 and High stability)

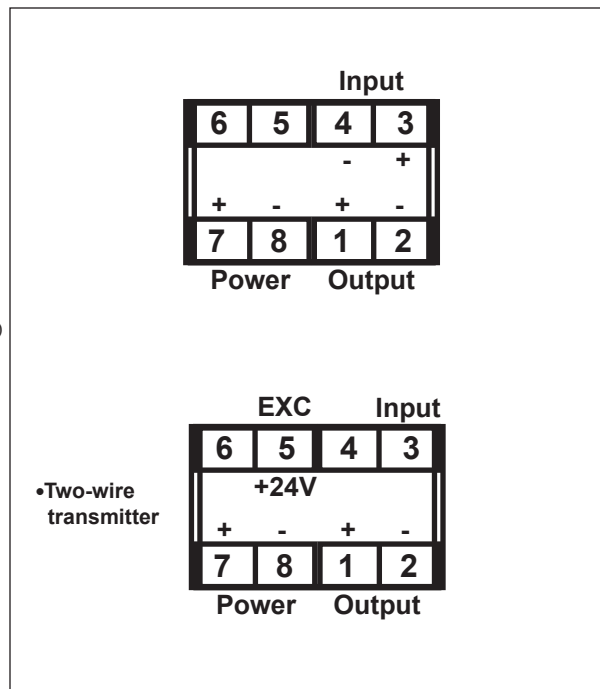
## 1.MODEL:TDF- (選購型號)

NO	Input Range	NO	Input Range	NO	Output Range	NO	Output Model	NO	Aux.Power
1	0~50mV	6	4~20mA	1	0~10KHz	O	Open-collector(<30V/40mA)	A	AC/DC18~60V
2	0~1V	7	•4~20mA	2	0~100KHz	T	5V(Voltage pulse<10mA)	B	AC/DC90~260V
3	0~5V	9	SPECIFIED	9	SPECIFIED	C	12V(Voltage pulse<10mA)	•Less 3VA for AC/DC input	
4	1~5V	•Exciting DC24V(<25mA)		H	24V(Voltage pulse<10mA)				
5	0~10V	(two-wire transmitter)		R	Relay contact(AC250V-1A,DC30V-2A)				

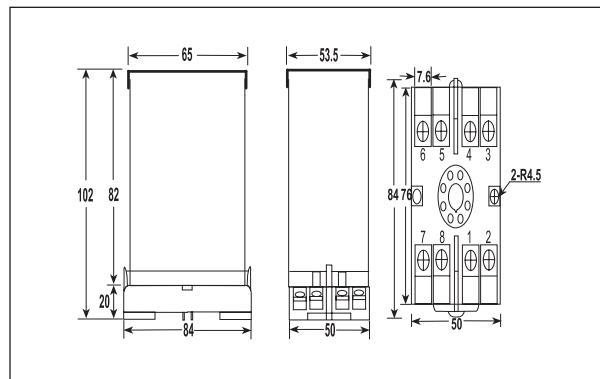
## 2.SPECIFICATION(主要規格)

- Measuring accuracy (精確度) :±0.1%F.S.
- Input resistance (輸入阻抗) :>100Mohm(<2V ranges)  
>1Mohm(>2V ranges)  
<100ohm(current ranges)
- Maximum input (最大過載能力) :<300Vrms(>2V ranges)  
<150Vrms(<2V ranges)  
<150mA(current ranges)
- Responses time (輸出反應時間) :<150ms(0~90%)(≤100KHz)
- Output drive capability (輸出負載能力) :<DC30V/40mA for (Open collector output,Max.100KHz)  
<DC10mA for (Voltage pulse output,Max.100KHz)  
AC250V-1A/DC30V-2A,for (Relay contact output,Max.100Hz)
- Zero (offset) range (歸零調整範圍) :0~±5% F.S.
- Span (scale) range (最大值調整範圍) :0~±15% F.S.
- Output pulse multiplier scale :0.1~1.0 can be selective (輸出脈波預乘範圍)
- Output pulse divide scale :1~165000 can be selective (輸出脈波預除範圍)
- Temp. coefficient (溫度係數) :±100ppm/°C (0~50°C)
- Isolation (隔離特性) :Input/Output/Power/Case
- Insulation Resistance (絕緣阻抗) :>100Mohm with 500VDC
- Dielectric strength (絕緣耐壓能力) :2KVac/1 min. (input/output/power)  
1600Vdc (input/output)
- Operating condition (使用環境條件) :0~60°C (20 to 90% RH non-condensed)
- Storage condition (存放環境條件) :0~70°C (20 to 90% RH non-condensed)
- Construction (安裝方式) :Socket/plugin type with barrier terminals
- CE EMC Certification (CE 認證) :EN 55022:1998/A1:2000 Class A  
EN 61000-3-2:2000  
EN 61000-3-3:1995/A1:2001  
EN55024:1998/A1:2001

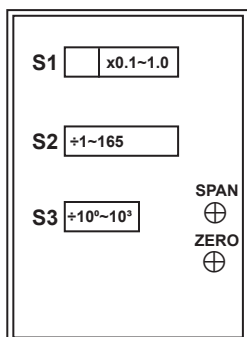
## 3.TERMINAL CONNECTION (接線圖)



## 4.DIMENSION(unit:mm) (外型尺寸)



## 5. FUNCTION SWITCHES (S1, S2, S3)



• S1 → output frequency multiplier scale selection

P1-P2: don't care

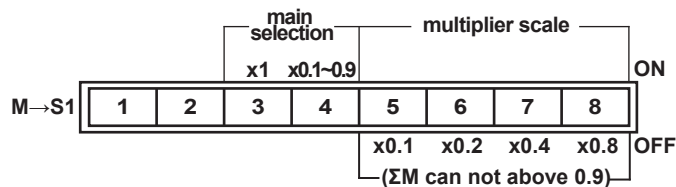
P3: ON = main selection output frequency multiplier scale 1.0

OFF = select pin 4 is ON (P3-P4 only one pin on)

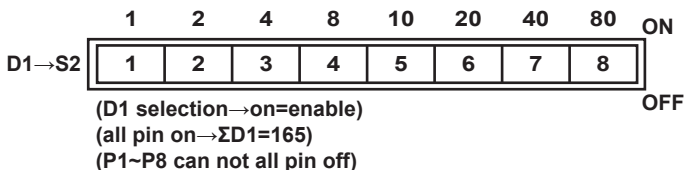
P4: ON = main selection output frequency multiplier scale 0.1 to 0.9

OFF = select pin 3 is ON (P3-P4 only one pin on)

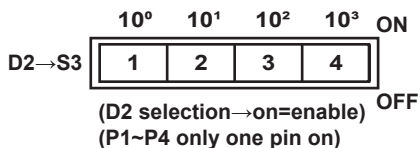
P5-P6-P7-P8: multiplier scale 0.1 to 0.9 selection



• S2 → output frequency divide scale (1~165) selection



• S3 → output frequency divide scale (10<sup>0</sup>~10<sup>3</sup>) selection



## 6. OUTPUT FREQUENCY PROGRAMMABLE FORMULA

$F_i$  = Output maximum frequency

$F_o$  = Output needed frequency

$$F_o = (F_i \times M) / (D1 \times D2)$$

## 7. APPLICATION

⊙ Example 1: TDF-510B

Input range → DC 0~10V

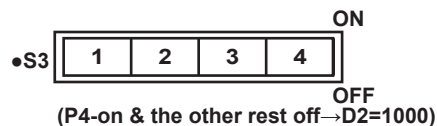
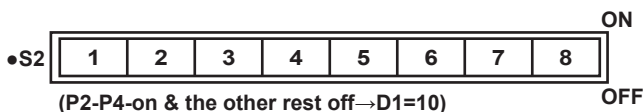
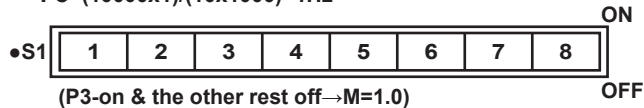
Output max. frequency → 0~10KHz

Output needed frequency → 0~1Hz

Output model → open-collector (<30V/40mA)

Aux. Power → AC/DC 90~260V

$$F_o = (10000 \times 1) / (10 \times 1000) = 1\text{Hz}$$



⊙ Example 2: TDF-62TA

Input range → DC 4~20mA

Output max. frequency → 0~100KHz

Output needed frequency → 0~25KHz

Output model → 5V (Voltage pulse <10mA)

Aux. Power → AC/DC 18~60V

$$F_o = (100000 \times 1) / (4 \times 1) = 25\text{KHz}$$

