



# F R E Q U E N C Y T R A N S D U C E R

### TF1 model

Model TF1 Transducer is intended for frequency measurements. The instruments change the measured value into a proportional, load-independent DC current or DC voltage.

### FEATURES

- Accuracy  $\pm 0.05\%$  R.O.
- Frequency range from 45 Hz to 10KHz
- High immunity to external noise
- Wide selection of input and output range
- Quick and easy mounting

### SPECIFICATION

<b>Accuracy:</b>	$\pm 0.1\%$ R.O. ( $\pm 0.05\%$ R.O. option)
<b>Temp. coefficient:</b>	100ppm at 23°C $\pm 3^\circ\text{C}$ (Option 60ppm at 23°C $\pm 3^\circ\text{C}$ )
<b>Temp. range:</b>	-20 to 60 °C Operating 0~50°C
<b>Humidity range:</b>	Up to 95% RH
<b>Isolation:</b>	Input/output/power/case
<b>Dielectric test:</b>	DIN-IEC 688. 2K Vrms 50/60 Hz, 1 min. Between terminal to terminal. 2.8K Vrms/1min. Between terminal to case.
<b>Surge test:</b>	DIN-IEC 255-4, ANSI C37. 90a/1974. 5KV (1.2 x 50 $\mu\text{s}$ )
<b>Insulation resistance:</b>	100M $\Omega$ or more, DC 500V
<b>Housing material:</b>	Steel sheet
<b>Mounting:</b>	Wall mounting
<b>Power supply:</b>	AC 115/230V $\pm 15\%$ , 50/60 Hz, 3VA

### INPUT

<b>AC rated:</b>	AC 2V ~ 200V, AC 30V ~ 600V
<b>Burden:</b>	$\leq 0.1\text{VA}$
<b>Overload capacity:</b>	< 600Vrms continuous 1.25 x rated continuous 2 x rated for 10 sec 4 x rated for 5 sec

### Range:

AC input signal	Frequency
AC 30V ~ 600V	45 ~ 55Hz
	55 ~ 65Hz
	45 ~ 65Hz
	0 ~ 100Hz
AC 2V ~ 200V	0 ~ 500Hz
	0 ~ 1KHz
	0 ~ 5KHz
	0 ~ 10KHz



Case: B

### OUTPUT

<b>Output variables:</b>	DC voltage or current
<b>Ripple:</b>	<0.5% p-p max.
<b>Response time:</b>	< 0.4 sec. or less
<b>Zero adjustment:</b>	$\pm 5\%$ minimum
<b>Span adjustment:</b>	$\pm 10\%$ minimum
<b>DC current:</b>	0~20mA (max.)

Output	Load resistance	Load voltage 12V $R = \frac{12V}{\text{Output current}}$ (R = load resistance)
4~20mA	$\leq 600\Omega$	
0~20mA	$\leq 600\Omega$	
0~10mA	$\leq 1200\Omega$	
0~1mA	$\leq 12K\Omega$	

**DC voltage:** 0~12V (max.)

Output	Load resistance	Load voltage 10mA $R = \frac{\text{Output voltage}}{10\text{mA}}$ (R = load resistance)
0~10V	$\geq 1000\Omega$	
0~5V	$\geq 500\Omega$	
1~5V	$\geq 500\Omega$	
0~1V	$\geq 100\Omega$	

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## ORDERING INFORMATION

TF1 — □ □ □ □

**MODEL** \_\_\_\_\_

1: 45~55Hz  
 2: 55~65Hz  
 3: 45~65Hz  
 4: 0~100Hz  
 5: 0~1KHz  
 6: 0~10KHz  
 7: Option

**INPUT VOLT** \_\_\_\_\_

A: AC 80~600V  
 B: AC/DC 2~30V  
 Y: Option

**DC OUTPUT** \_\_\_\_\_

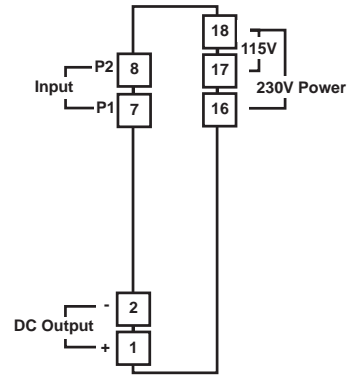
1: 4~20mA  
 2: 0~20mA  
 3: 0~10mA  
 4: 0~1mA  
 A: 0~10V  
 B: 0~5V  
 C: 1~5V  
 D: 0~1V  
 Y: Option (0~20mA, 0~12V max.)

**POWER SUPPLY** \_\_\_\_\_

1: AC 115/230V ±15%, 50/60Hz  
 Y: Option

## CONNECTION DIAGRAM

### ■ TF1 (CASE B)



## CODE NUMBER

### Model-Input Freq./DC Output/Power Supply

**Example:** TF1-2AB1  
**Input Freq.:** 55~65Hz  
**Input Volt:** AC 80~600V  
**Output:** DC 0~5V  
**Power Supply:** AC 115/230V