



MODELS OFFERED

TF-1: Frequency

- Accurate measurement of the Frequency of a single or three phase system with balanced or unbalanced loads.
- The output signals are isolated load independent DC mA or DC V, representing the measured value of the Frequency.

FEATURES

- High accuracy $\pm 0.05\%$ of Rated Output (R.O.).
- Frequency range from 45 Hz to 10KHz.
- High immunity to external noise.
- Quick and easy mounting to 35mm DIN Rail (DIN46277) or screw mounting.
- Many input and output signal combinations.

GENERAL SPECIFICATIONS

Accuracy	$\pm 0.2\%$ R.O. Standard for 10 to 100% of rated output $\pm 0.1\%$ R.O. (Special Option)
Temp. coefficient.....	$\leq 100\text{ppm}/^\circ\text{C}$ of span $\leq 60\text{ppm}/^\circ\text{C}$ for ambient temperature of $25^\circ\text{C} \pm 10^\circ\text{C}$
Temp. range	Storage temperature range -20°C to 60°C (-4°F to 140°F) Operating temperature range 0°C to 50°C (32°F to 122°F)
Humidity range	Up to 95% RH non condensing
Isolation.....	Between Input/Output/Power/Case
Dielectric test.....	DIN-IEC 688 2K Vrms/1 min, Between terminal to terminal 2.8K Vrms/1 min, Between terminal to case
Surge test.....	DIN-IEC 255-4, ANSI C37 90a/1974 5KV(1.2x50 μs)
Insulation Resistance	Greater than $100\text{ M }\Omega$ at 500V DC
Housing material	ABS Resin(94V-0) or metal
Mounting	Screw mount on metal case or Plastic case on DIN Rail 35mm
Auxiliary Power.....	AC $115/230\text{V} \pm 15\%$, 50/60Hz, 3VA DC $24\text{V} \pm 20\%$ (optional) $125\text{V DC} \pm 20\%$ (optional)

INPUT SPECIFICATIONS

AC Voltage Input range..... 2V to 200V AC or 30 to 600V AC

Frequency 60Hz \pm 3Hz, 50Hz \pm 3Hz, 400Hz \pm 3Hz

Burden..... \leq 0.2VA per current circuit, \leq 0.1VA per voltage circuit.

Response Sensitivity \leq 0.5% of measuring range to maximum input range

Input Voltage..... 600V AC rms continuous (absolute maximum)

Overload Capacity

- 1.25 times the rated input Voltage continuously.
- 2 times the rated input Voltage for 10 secs.
- 4 times the rated input Voltage for 5 secs.

OUTPUT SPECIFICATIONS

Output Variables..... DCmA or DCV

Ripple..... $<$ 0.5% of rated output. Peak to Peak (maximum)

Response Time..... $<$ 400 milliseconds to go from 0 to 99% of output

Zero Adjustment..... \pm 5% of rated output (minimum)

Span Adjustment..... \pm 10% of rated output (minimum)

Load Resistance.....

- 10 k Ω maximum for 0 to 1mA output
- 500 Ω maximum for 4 to 20mA output
- 500 Ω minimum for 0 to 10V output

CONNECTION DIAGRAM

