

# FREQUENCY TRANSDUCER

Model RF1 transducer is intended for frequency measurement. 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 45Hz to 10KHz
- High immunity to external noise
- Wide selection of input and output range
- Quick and easy mounting

## SPECIFICATION

**Accuracy** .....  $\pm 0.1\%$  R.O.  
( $\pm 0.05\%$  R.O. option)

**Temp. coefficient** .....  $\leq 100\text{ppm}/^\circ\text{C}$   
 $\leq 60\text{ppm}/^\circ\text{C}$ ,  $25^\circ\text{C} \pm 10^\circ\text{C}$

**Temp. range** .....  $-20^\circ\text{C}$  to  $60^\circ\text{C}$ , Operating  $0 \sim 50^\circ\text{C}$

**Humidity range** ..... Up to 95% RH

**Isolation** ..... Input/output/power/case

**Dielectric test** ..... DIN-IEC 688  
2K Vrms/1min Between terminal to terminal  
2.8K Vrms/1min, Between terminal to case

**Surge test** ..... DIN-IEC 255-4, ANSI C37  
90a/1974 5KV ( $1.2 \times 50\mu\text{s}$ )

**Insulation resistance** .....  $100\text{M}\Omega$  or more, DC 500V

**Housing material** ..... ABS Resin (94V-0)

**Mounting** ..... Rail 35mm

**Aux. power** ..... AC 115/230V  $\pm 15\%$ , 50/60Hz, 3VA  
DC 24V, 48V, 110V  $\pm 20\%$  (option)

## INPUT

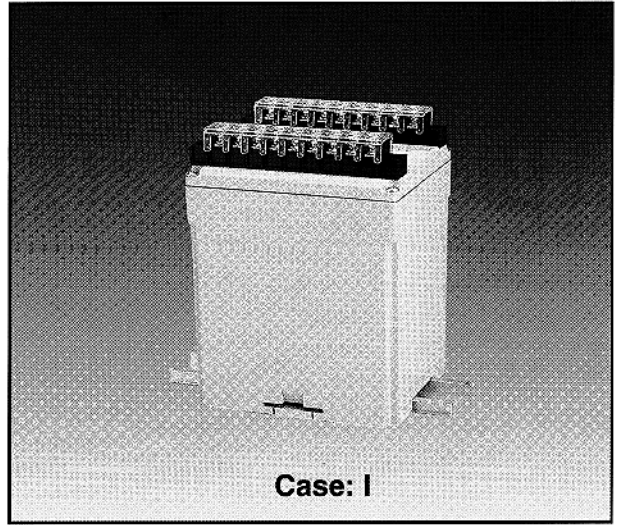
**AC Reted** ..... AC 2V  $\sim$  200V, AC 30V  $\sim$  600V

**Burden** .....  $\leq 0.1\text{VA}$

**Overload capacity** .....  $< 600\text{Vrms}$  continuous  
 $1.25 \times$  rated continuous  
 $2 \times$  rated for 10 sec.  
 $4 \times$  rated for 5 sec.

### Range:

AC Input Signal	Frequency
AC 80V $\sim$ 600V	45 $\sim$ 55Hz
	55 $\sim$ 65Hz
	45 $\sim$ 65Hz
	0 $\sim$ 100Hz
	0 $\sim$ 100Hz
AC/DC 2V $\sim$ 30V	0 $\sim$ 1KHz
	0 $\sim$ 5KHz
	0 $\sim$ 10KHz
	0 $\sim$ 10KHz



## OUTPUT

**Output variables** ..... DC voltage or current

**Ripple** .....  $< 0.5\%$  p-p max.

**Response time** .....  $< 0.4$  sec. or less

**Zero adjustment** .....  $\pm 5\%$  minimum

**Span adjustment** .....  $\pm 10\%$  minimum

**DC current:** 0  $\sim$  20mA

Output	Load resistance	Load voltage: 10V $R = \frac{10\text{V}}{\text{Output current}}$ (R: load resistance)
4 $\sim$ 20mA	$\leq 500\Omega$	
0 $\sim$ 20mA	$\leq 500\Omega$	
0 $\sim$ 10mA	$\leq 1000\Omega$	
0 $\sim$ 1mA	$\leq 10\text{K}\Omega$	

**DC Voltage:** 0  $\sim$  10V (max.)

Output	Load resistance	Load capacity: 20mA $R = \frac{\text{Output voltage}}{20\text{mA}}$ (R: load resistance)
0 $\sim$ 10V	$\geq 500\Omega$	
0 $\sim$ 5V	$\geq 250\Omega$	
1 $\sim$ 5V	$\geq 250\Omega$	
0 $\sim$ 1V	$\geq 50\Omega$	

## ORDERING INFORMATION

RF1 —

### INPUT FREQUENCY

- 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 ~ 10V max.)

### AUX. POWER

- 1: AC 115/230V
- A: DC 24V
- B: DC 48V
- C: DC 110V
- Y: Option

### SENSOR AUX. POWER

- 1: DC 12V/30mA
- N: No

## CODE NUMBER

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

Example ..... RF1-2AB11  
 Input freq ..... 55 ~ 65Hz  
 Input volt ..... AC 80 ~ 600V  
 DC output ..... DC 0 ~ 5V  
 Aux. power ..... AC 115/230V  
 Sensor aux. power ..... DC 12V

## CONNECTION DIAGRAM

Model: RF1 (CASE I)

