

# RVDT Sensors AC/AC

Rotary Variable Differential Transformer



The Sentech RVDT is suitable for most applications where angular measurements are needed. Its output is linearly proportional to the angular position of its shaft. It features non contact type construction: a stationary coil and rotating sensing element on the shaft. The shaft is supported at both ends by precision ball bearings (ABEC class 7), minimizing friction.



to  $\pm 70^\circ$ . Within  $\pm 45^\circ$ , linearity is better than  $\pm 0.5\%$  of Full Scale. There are two linear regions  $180^\circ$  apart. Factory calibrates one of the two regions and marks its corresponding null position. All Sentech RVDTs are magnetically shielded and offer essentially infinite resolution only limited by signal conditioner. The AC/AC RVDTs require an AC voltage

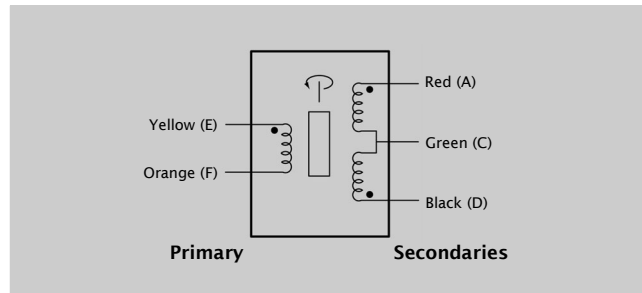
Combined with its rugged construction, not only does it offer high performance and reliability but will also resist the shocks and vibrations occurring in most industrial environments. Mechanically capable of rotating continuously, it offers linear measurement up

excitation to primary coil and produce an AC voltage, from their secondary, proportional to shaft position. Sentech offers different diameter housing RVDTs from 1" to 1.5" dia. with either aluminum or stainless steel housing.

## OPTIONS

- Intrinsic Safe units certified to UL, CSA and CENELEC standards
- DC/DC units (see DC/DC data sheet)
- Flying leads or connector termination
- 3, 4, 5 or 6 wire configurations
- High Temperature versions
- Matching signal conditioner available

## SCHEMATIC



## Technical Specifications @ 10 kHz (call for specific model drawings)

### PERFORMANCE

Non-Linearity	< $\pm 0.5\%$ of Full Scale @ $-45^\circ$ to $+45^\circ$ < $\pm 1.0\%$ of Full Scale @ $-60^\circ$ to $+60^\circ$
Angular Displacement	up to $\pm 70^\circ$
Mechanical Rotation	$360^\circ$
Operating Temperature Range	$-55^\circ\text{F}$ to $275^\circ\text{F}$ ( $-50^\circ\text{C}$ to $135^\circ\text{C}$ ) Wider range available

### ELECTRICAL

Input Voltage	3 Volts AC RMS (Nominal)
Input Frequency	2.5 kHz to 20 kHz
Sensitivity	3.6 mV <sub>out</sub> /deg/V <sub>in</sub>
Null Voltage	Less than 0.5% of Full Scale Output

#### WARRANTY

All Sentech Inc. products are warranted against defective materials and workmanship. This warranty applies for a period of one year from the date of delivery to the original purchaser. Any product that is found within the one year period not to meet these standards will be replaced or repaired at the discretion of Sentech Inc. No other warranty is expressed or implied. Although Sentech Inc. manufactures its products to exacting specification standards, we assume no responsibility for their misuse. Sentech Inc. accepts no liability for damages, incidental or punitive, in applications using our products. *Please note:* It is solely the user's responsibility to properly install and maintain transducers. Sentech Inc. manufactures its products to meet stringent specifications and cannot assume responsibility for those consequences arising from their misuse or unauthorized modification.

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SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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