

R30D – DC Operated, Light Weight RVDT



- Bipolar DC operation
- ± 60 degree sensing range
- Light-weight
- Non-contact design
- Wide operating temperature range
- Size 11 servo mount
- Anodized aluminum housing

DESCRIPTION

The **R30D RVDT** (Rotary Variable Differential Transformer) is a DC operated non-contacting rotary position transducer. Integrated signal conditioning enables the R30D to operate from a bipolar ± 15 VDC supply, and provide a high level DC output that is proportional to the full angular sensing range of the device. Calibrated for operation over ± 30 degrees, the R30D provides a ± 3.75 VDC output, with a non-linearity error of less than $\pm 0.25\%$ of Full Range. Extended range operation up to a maximum of $\pm 60^\circ$ is possible with compromised linearity.

Internally, the DC supply voltage is converted into an AC carrier signal which excites the primary coil of the sensor. An integrated demodulator amplifier with low-pass filter converts the differential secondary output into a smooth, high level, linear DC output signal relative to the angular position of the shaft.

High reliability and performance are achieved through the use of a specially shaped rotor and wound coil that together simulates the linear displacement of a Linear Variable Differential Transformer (LVDT). Non-contact electromagnetic coupling of the rotor provides infinite resolution thus enabling absolute measurements to a fraction of a degree.

The R30D features a rugged aluminum size 11 housing making this rotary position sensor ideal for applications where integrated signal conditioning and small size are required.

Also see our other angular position sensors, **R60D** ($\pm 60^\circ$, bipolar DC operation), **RVIT-15 Series** (single ended DC operation, voltage or current output), **R120LC** (+5VDC operation, low cost) and **R30A/R36AS** (AC operation).

Measurement Specialties, Inc. (NASDAQ MEAS) offers many other types of sensors and signal conditioners. Data sheets can be downloaded from our web site at: <http://www.meas-spec.com/datasheets.aspx>

MEAS acquired Schaevitz Sensors and the **Schaevitz®** trademark in 2000.

FEATURES

- Extended operation up to $\pm 60^\circ$
- High level, low noise DC output
- Long term reliability
- Excellent temperature performance
- Rugged anodized aluminum housing
- Shielded ABEC 3 precision bearings

APPLICATIONS

- Hydraulic pump control
- Throttle lever position feedback
- Rotary actuator feedback
- Dancer arm position
- Reeler/Dereeler
- Valve position

ELECTRICAL SPECIFICATIONS

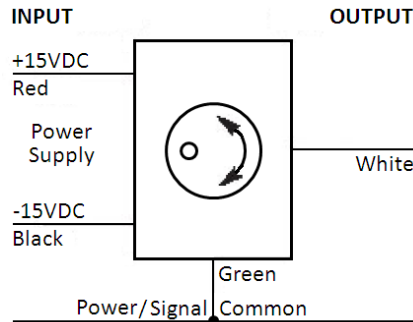
ENVIRONMENTAL AND MECHANICAL SPECIFICATIONS

FR (Full Range) is $2 \times A^0$ for $\pm A^0$ angular range

Dimensions are in inches (mm)

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WIRING DIAGRAM



ORDERING INFORMATION

Description	Model	Part Number
RVDT $\pm 30^\circ$	R30D	02560234-000
OPTIONS		
RVDT with $\pm 40^\circ$ calibration	R30D-040	02560234-040
RVDT with $\pm 60^\circ$ calibration	R30D-060	02560234-060
ACCESSORIES		
R-FLEX multipurpose coupling kit	R-FLEX	66530072-000
Dual rail DC power supply ($\pm 15\text{VDC}$)	PSD 4-15	02291331-000

Refer to our ["Accessories for RVDT's and RVIT's"](#) brochure for our RVDT signal conditioning instrumentation and other accessories

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