

ROTARY VARIABLE DIFFERENTIAL TRANSFORMER (RVDT)

This unique design Rotary Variable Differential Transformer (RVDT) combines a rugged mechanical package with a modified RVDT to solve a problem in the V-22 vertical lift aircraft. This unit is mounted on a shelf around the rotor shaft and the input arm is connected to the flapping plate of the rotor. The sensor measures the amount of movement of the rotor in the direction parallel to the shaft. This measurement is critical to flight safety and varies with rotor position and aircraft altitude. The motion being measured would normally be best measured by an LVDT, but the LVDT failed repeatedly due to the mechanical environment. In addition to the high shock and vibration requirements, the input arm is designed to withstand a 200 lb, side load without permanent damage. This unit has recently completed qualification testing.

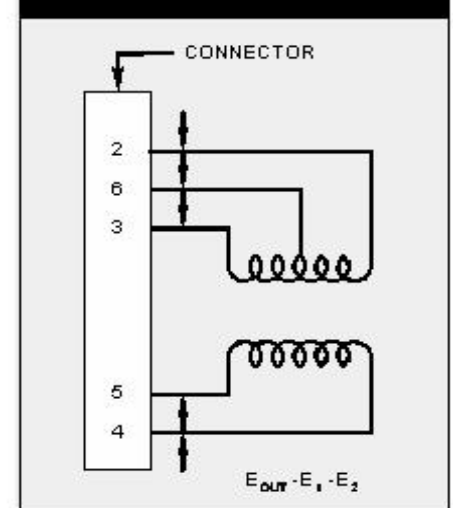


*Accuracy $\pm 2.5\%$ of full scale or $\pm 4.25\%$ of point whichever is greater, over the operating temperature range.

PERFORMANCE CHARACTERISTICS

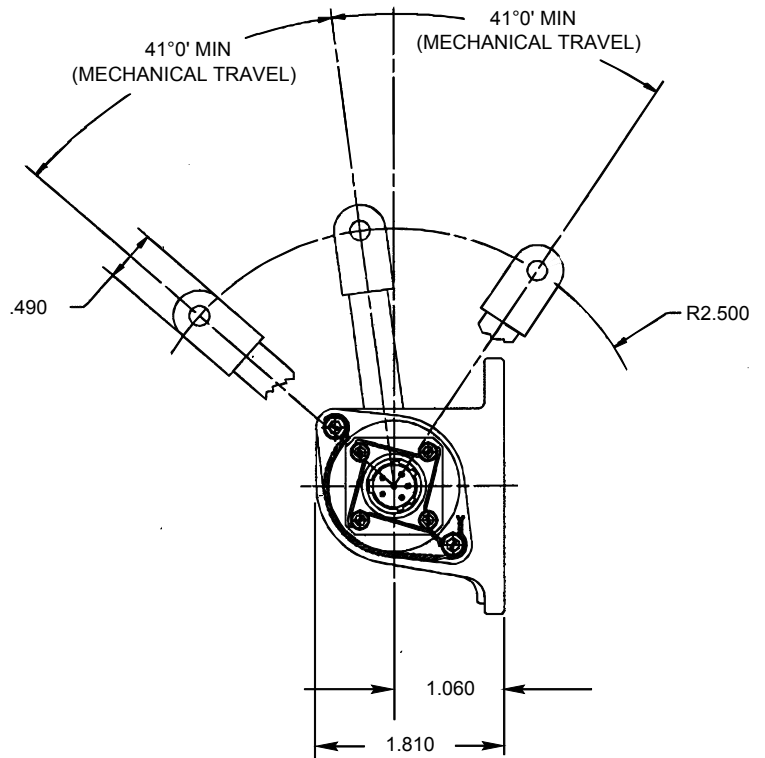
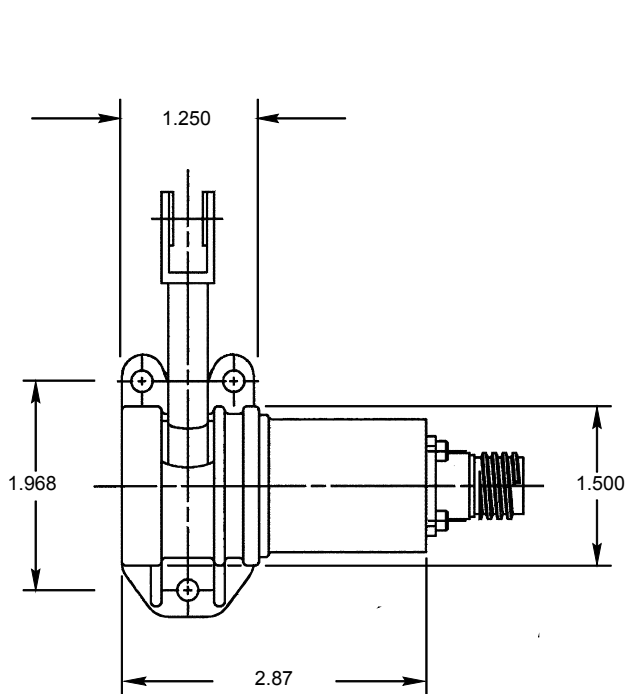
CHARACTERISTIC		UNITS	SYMBOL	VALUE
RATED PRIMARY VOLTAGE (REF)		VOLTS RMS	E_{in}	8.0
RATED FREQUENCY (REF)		HERTZ	f	1870
PRIMARY POWER (MAX)		VOLTAMPS	P	0.24
SUM VOLTAGE $\pm 10\%$ ($E_1 + E_2$)		VOLTS RMS	V_s	5.0
DIFFERENCE VOLTAGE ($E_1 - E_2$)		V/V/DEG	V_d	0.010
HALF SECONDARY VOLTAGE ($\pm 10\%$)		VOLTS RMS	Y_{MS}	4.30
MIN PRIMARY IMPEDANCE (SECONDARY OPEN CIRCUIT)		OHMS	Z_{PO}	300
MAX SECONDARY IMPEDANCE (PRIMARY SHORT CIRCUIT)		OHMS	Z_{SE}	390
ACCURACY		VOLTS RMS	-	*
SECONDARY DC RESISTANCE (REF)		OHMS	S_{dc}	112
PRIMARY DC RESISTANCE (REF)		OHMS	R_{dc}	19.8
INSULATION RESISTANCE	BETWEEN WINDINGS AND CASE	MEGOHMS	-	100
	BETWEEN ISOLATED WINDINGS			100
HIGH POTENTIAL	BETWEEN WINDINGS AND CASE	VOLTS RMS	-	1100
	BETWEEN ISOLATED WINDINGS			1100

WIRING DIAGRAM



MECHANICAL DATA

CHARACTERISTIC	UNITS	SYMBOL	VALUE
WEIGHT (MAX)	POUNDS	W_T	0.6
OPERATING TEMPERATURE RANGE	DEG F	t	-65 TO +150
CONNECTOR NUMBER	-	-	D38999/26WA35PN



ASHEVILLE PRODUCT LIST

SENSORS

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RVDT
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Servo Amps
Converters
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Brush/Brushless
Induction/Synchronous

ACTUATORS

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Rotary

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Dampers
Angle Sensors
Torquers
Tachometers
Generators
Alternators
PC Boards
Harnesses

For additional information on this product or any other product listed above please contact Kearfott's Marketing Department at:

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