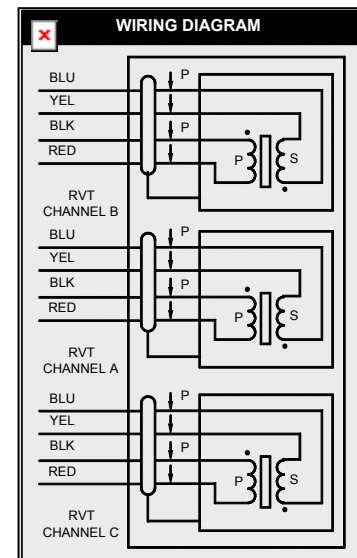
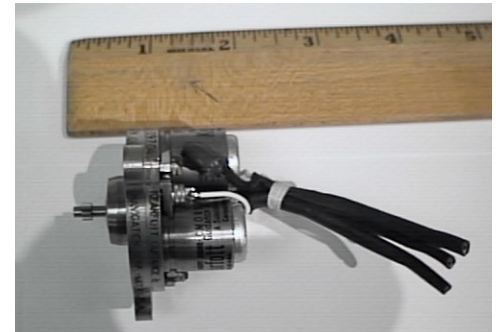


ROTARY VARIABLE TRANSFORMER (RVT), TRIPLE CHANNEL

The Kearfott Triple Channel Rotary Variable Transformer (RVT) is designed to provide triple redundancy in a robust mechanical package. This sensor is used in the F-22 Leading Edge Flap Drive System. Triple redundancy is required due to the critical nature of the lead edge flaps in the fighter environment. The three channel tandem approach was not considered robust enough for this high stress environment. A 1:1 gear pass with anti-backlash gearing provides linkage between the channels without sacrificing accuracy. The individual channels can be tested independently and adjusted to be in electrical alignment with each other. In addition to improving yield at final assembly and test by allowing replacement of individual channels, the design is much more compact and reliable than the tandem approach.

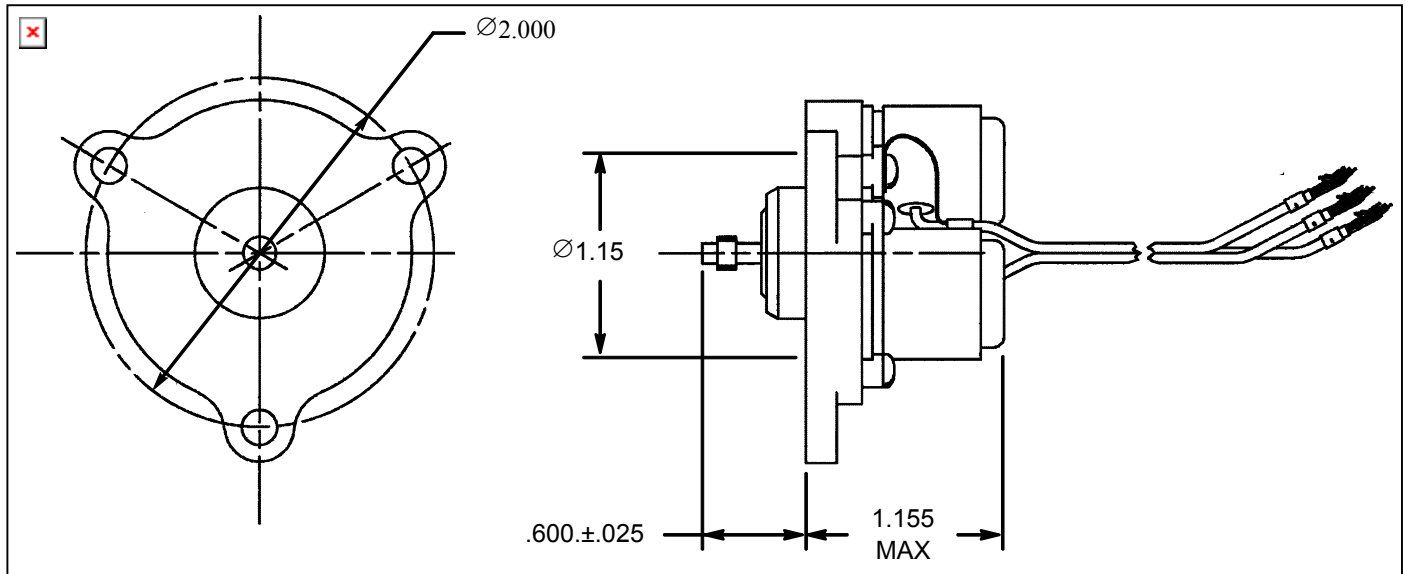


ELECTRICAL DATA • AMBIENT TEMP				
CHARACTERISTICS		UNITS	SYMBOL	VALUE
RATE VOLTAGE		VOLTS RMS	E_{IN}	7.07
RATED FREQUENCY	CHANNEL A	HERTZ	f	3045
	CHANNEL B			3255
	CHANNEL C			3431
PRIMARY CURRENT (MAX)		MILLIAMPS	I	38.5
PRIMARY IMPEDANCE (REF) (SECONDARY OPEN CIRCUIT)		OHMS	Z_{PO}	202
SECONDARY IMPEDANCE (REF) (PRIMARY OPEN CIRCUIT)		OHMS	Z_{SO}	1125
RANGE		REVOLUTIONS	-	±40
OUTPUT VOLTAGE • FULL SCALE		VOLTS RMS	E_{OUT}	3.733
PHASE SHIFT INPUT TO OUTPUT (OPEN CIRCUIT) (REF)		DEGREES	ϕ	±10
SCALE FACTOR ±1%		VOLTS RMS/DEG	RVT	0.0132
ACCURACY		% F.S.	-	±1
SECONDARY DC RESISTANCE (REF)		OHMS	S_{DC}	317
PRIMARY DC RESISTANCE (REF)		OHMS	R_{DC}	44
INSULATION RESISTANCE	BETWEEN WINDINGS AND CASE	MEGOHMS	-	150
	BETWEEN INSULATED WINDINGS			150
HIGH POTENTIAL	BETWEEN WINDINGS AND CASE	VOLTS RMS	-	500
	BETWEEN INSULATED WINDINGS			500
OPERATING TEMPERATURE RANGE		DEGREES F	t	-65 TO +220

MECHANICAL DATA • AMBIENT TEMP			
CHARACTERISTICS	UNITS	SYMBOL	VALUE
WEIGHT (MAX)	POUNDS	W_T	0.65
FRICTION (MAX)	GRAM-CENTIMETER	T_f	21

EXTERNAL INVOLUTE SPLINE DATA CLASS 4, FILLET ROOT SIDE FIT PER ANSI, B92.1 1976

NO. OF TEETH	8
DIAMETRAL PITCH	48/96
PRESSURE ANGLE	30°
BASE DIAMETER	.1443375 REF
PITCH DIAMETER	.1666667 REF
MAJOR DIAMETER	.1877.185
FORM DIAMETER	.160
MINOR DIAMETER	.115 MIN.
CIRC. TOOTH THICKNESS	
MAX EFFECTIVE	.0327
MIN ACTUAL	.031
MIN MEASUREMENT OVER 2 PINS PIN ϕ .040	.2295 REF



ASHEVILLE PRODUCT LIST

SENSORS

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RVDT
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Resolvers

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Servo Amps
Converters
Power Supplies

MOTORS

AC
DC
Brush/Brushless
Induction/Synchronous

ACTUATORS

Linear
Rotary

OTHER

Motor Gearheads
Servo Systems
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:

Kearfott Corporation • Motion Systems Division

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Website: www.kearfott.com