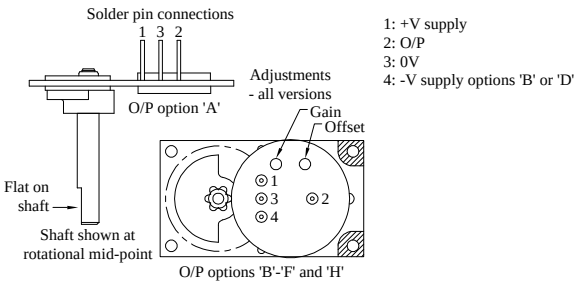
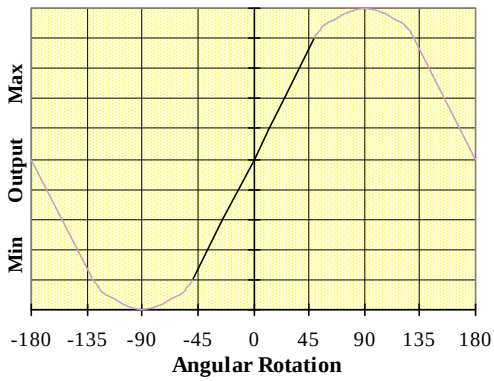
Installation Information
RIPS® 503 Flat Rotary Sensor Assembly

Electronics Option	A	B	C	D	E	F	H
Output Description:	Voltage ratiometric with supply	Voltage	Voltage	Voltage	2 wire 4 to 20mA	3 wire 4 to 20mA Sink	3 wire 4 to 20mA Source
Supply Voltage (Vs):	5±0.5V	±13 to 17V	13 to 28V	±13 to 17V	18 to 28V	13 to 28V	13 to 28V
Output:	0.5 to 4.5V	±5V	0.5 to 9.5V	±10V	4 to 20mA	4 to 20mA	4 to 20mA
Load resistance: (inclusive of leads for 4 to 20mA versions)	2kΩ min	1kΩ min	5kΩ min	5kΩ min	R_L = Vs-18/20mA 300Ω @ 24V	R_L = Vs-5/20mA 950Ω @ 24V	300Ω max
Load connected to:	0V	0V	0V	0V	In supply lead	Vs	0V



Typical Output Characteristic



Gain and Offset Adjustment: (Where accessible - Typically ± 10% Min available)
To adjust the gain or offset remove the taptite screw from the cover and insert a small potentiometer adjuster or screwdriver 2mm across, 30mm long. The trim potentiometers are accessed through holes in the cover; the other electronics are protected from damage by a inner lid. Do not apply too much force on the potentiometers. The offset is set at mid span at the mid point, within ±5°, of rotation.

Mechanical Mounting:
By four 3.2 mm diameter holes in the printed circuit board. The sensor should be mounted with minimal axial and radial loading on the shaft for optimum life. It is recommended that the shaft is coupled to the drive using a flexible coupling. Tests indicate that, with a suitable bearing system, a life in excess of 16 million cycles can be achieved with 1kg side and end load. The radial position of the shaft must be controlled by the customer; the end float is set by the sensor and should not be controlled by the customer.

Output Characteristic:
The sensor has full rotational freedom and two sectors, 180° apart, over which linear response can be achieved. At the mid point of the calibrated range the output signal will be half full scale deflection, and the flat on the shaft is as shown. In the calibrated range the output increases as the shaft is rotated in an anti-clockwise direction viewed from the shaft. The calibrated output is factory set to be between 20 and 160°.

A	**Not protected** – the sensor is **not** protected against either reverse polarity or over-voltage. The risk of damage should be minimal where the supply current is limited to less than 50mA.
B & D	Supply leads diode protected. Output must not be taken outside ± 12V.
C	Supply leads diode protected. Output must not be taken outside 0 to 12V.
E, F & H	Protected against any misconnection within the rated voltage.

For more information, please contact:
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