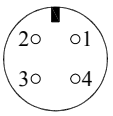
POSITEK LIMITED

Installation Information
RIPS® E500 ROTARY SENSOR
INTRINSICALLY SAFE FOR HAZARDOUS DUST ATMOSPHERES

ATEX Qualified to Intrinsic Safety Standard Certificate number Sira 00ATEX2076X

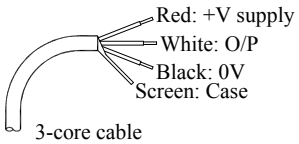
Output Description:	Barrier Supply Voltage:	Barrier Output:	Ex II 1GD EEx ia IIC T4 (Ta = -40°C to +80°C) Ex iaD 20 T135°C (Ta = -40°C to +80°C)
Voltage (BX002)	20-35V dc	0.5 to 9.5V	
Current Loop (BX003)	20-35V dc	4-20mA	

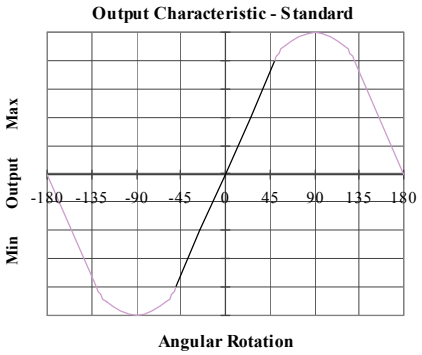
Connector pin layout:



1: +Vsupply
2: O/P
3: 0V
4: Sensor body

Conductor Identification:





Putting Into Service:
The sensor must be used with a galvanically isolated three port barrier designed to supply the sensor with a nominal 5V and to transmit the buffered output to a safe area. Various Barrier output versions are available. The barrier parameters must not exceed:- **Ui = 11.4V Ii = 0.46A Pi = 0.51W**
The sensor is certified to be used with up to **150m** of cable with parameters not exceeding:-
Capacitance = **550 nF** total, Inductance = **0.66uH/m**
The performance of the sensor may be affected by voltage drops in long cables; these can be eliminated by using a 5 wire connection. The typical supply current is 10mA and the sensor output is ratiometric to the supply voltage at the sensor.

Use: The sensor is designed to measure Rotary displacement and provide an analogue output signal.

Assembly and Dismantling: The unit is not to be serviced or dismantled and re-assembled by the user.

Maintenance: accumulated dust layer must not exceed a depth of 50mm.

Mechanical Mounting:
Flange mounted or servo mount, with appropriate clips, options. The flange slots are 4.5mm by 30 degrees wide on a 48mm pitch. 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 life in excess of 16 million cycles can be achieved with 1kg side and end load.

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 aligned with the registration mark in the base of the sensor. 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°.
N.b. sensors supplied with cable, the free end must be appropriately terminated.
Warning - the connector on 'J' coded sensors can be rotated for purposes of convenient orientation of the connector and cable, however rotating the connector more than one complete revolution is not recommended. Repeated rotation of the connector will lead to damage to the internal wiring.

Incorrect Connection Protection levels:-
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.

For further information please contact:
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