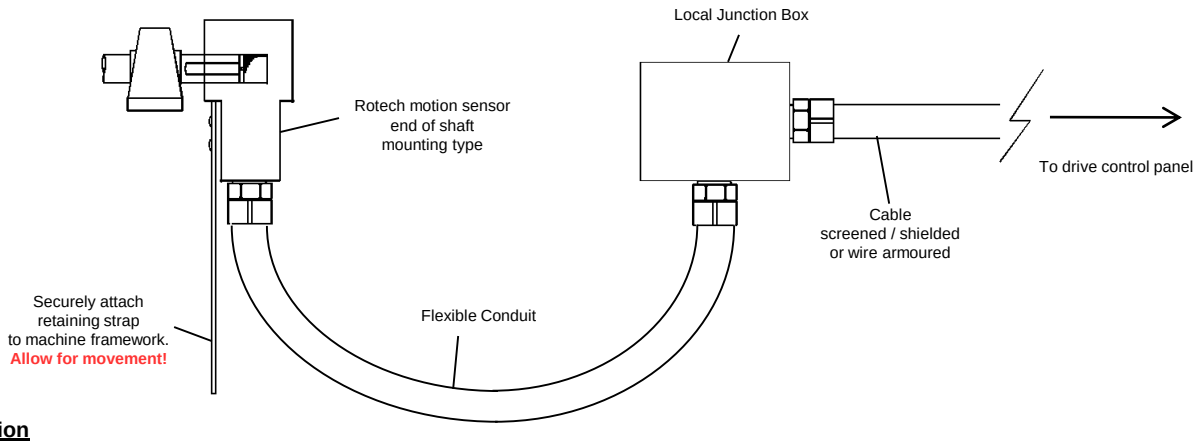
Commissioning & Testing

End of Shaft Mounted Encoders

Monitoring the world since 1983

ROTECH FOR RELIABILITY!

Why Accept Anything Less?



Installation

1. Drill & tap end of shaft to be monitored (refer to "Mag-con" data sheet for magnetic connector usage)
2. Remove rear cover plate from Rotech
3. Install Rotech to end of shaft using socket cap bolt provided. Ensure bolt does not 'bottom' in tapped hole, slippage may occur if shaft faces are not firmly in contact.
   RECOMMENDED:
   APPLY A SUITABLE THREAD LOCKING ADHESIVE TO THE THREADS PRIOR TO INSTALLATION (LOCTITE OR SIMILAR)
4. Refit rear cover plate to Rotech
5. If fitted - secure flexible restraining strap to convenient point on machine
6. Cable as per drawing above
7. Refer to appropriate Rotech data sheet for output type connections

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Important

All wiring must be in accordance with local and national electrical codes and should only be undertaken by an experienced and professional Qualified electrician.

All disconnections and connections must be made with the power supply switched off.

To test the Rotech unit it must be connected to it's power source and associated control circuit I.E. "Rotech" speed relay, plc, Computer, etc. And for power to be switched on.

Rotech sensor output type E, E2, E3

Connect a 0 to 30vdc voltmeter between brown and blue connections
Voltmeter should indicate D.C. Supply voltage of between 10 and 30vdc
Now Connect the voltmeter between the black and blue connections.
Rotate Rotech unit very slowly, voltmeter should indicate on/off pulses between 0vdc and the nominal Supply Voltage (Supply Voltage Minus 1 To 2 Vdc)

Rotech sensor type N

Connect a 0 to 10ma Multimeter in series with the blue wire connecting the Rotech unit to it's control circuit
rotate the Rotech unit very slowly, Multimeter should indicate on / off pulses of less than 1ma to greater than 3ma.
See note * 1 below

Rotech sensor type W

Connect a 0 to 240vac voltmeter between the brown connection and 0 vac, verify the supply voltage is present.
Now connect the voltmeter between the blue connection and 0 vac.
Rotate the Rotech unit very slowly, the voltmeter should indicate on / off pulses of between 0v and the supply voltage.
See note * 1 below

Note * 1

* At higher speeds the meter will not respond quickly enough to the on / off pulses. It will display an average value between The max and min levels.
* The number of on / off pulses for one complete revolution should be the same as detailed in the Rotech Product data sheets I.E. 1,10,120,360,500 etc.

Codes Explanation
Motion Sensors/Encoders

(1) (2) (3) (4) (5)
Typical Example: CAE – 60 – E2 – HD – HS

(1) Housing Type
CAE = Aluminium Housing (1000,2000 Series) – End of shaft mounting
CPE = Polypropylene Housing (4000 Series) – End of shaft mounting
CSSE = Stainless Steel Housing (2000,3000 Series) – End of shaft mounting
CWE = Steel Housing - Wheel Driven Trailing Arm-Series 5000 **(Utilising CAE 2000 Unit)**
CAV = Aluminium Housing –Vibration Sensor- (CVS4000 Series)

(2) PPR Number of Pulses Per Revolution

Available standard pulse rates (dependant upon output type)- Others available to Order.
1, 2, 4, 6, 8, 10, 12, 13, 16, 20, 30, 32, 40, 50, 60, 100, 120, 180, 240, 250, 260, 300, 360, 500, 1000

(3) Electrical Signal Output Configuration (Incremental)

The voltage and current characteristics of NAMUR sensor outputs are so low that they can be safely used in explosive environments.
The power limitation is implemented in the corresponding equipment. This means that the circuit containing a NAMUR proximity sensor Is only intrinsically safe if it is supplied via a corresponding isolating amplifier.
Contact Rotech Systems for details of amplifiers available.

N = 2 wire – NAMUR Intrinsically Safe-Hazardous Areas 8.2V DC
E = 3 wire 10 to 30 VDC – NPN transistor-current sink
E2 = 3 wire 10 to 30 VDC – PNP transistor-current source
E3 = 3 wire 10 to 30 VDC – NPN/PNP transistor (Sink/Source)
E4 = 2 wire 10 to 36 VDC – NPN/PNP transistor (Sink/Source) bipolar (Can be used in place of E3 Type)
E3Q = 4 wire 10 to 30VDC - 2x NPN/PNP Transistor (Sink/Source - Quadrature Configuration)
NQ = 2x 2 wire - N Type (as shown above) - Quadrature Configuration
EQ = 2x 3 wire - E Type (as shown above) - Quadrature Configuration
E2Q = 2x 3 wire = E2 Type (as shown above) - Quadrature Configuration
W = 2 wire, 20 to 240 VAC/DC (Max Switching Frequency 25Hz AC, 100 Hz DC).

(4) Application Duty

No Code (blank) = Aluminium Standard Duty –Series 1000
HD = Aluminium/ Stainless Steel Heavy Duty-Series 2000
XHD = Aluminium/ Stainless Steel Extra Heavy Duty-Series 3000

(5) Variations on Standard Units

HS =High Speed Operation = Excess of 1000 RPM

No Code (blank) = -25°C to +70°C
100 = -25°C to +100°C
125 = -25°C to +125°C
150 = -40°C to +150°C
-40 = - 40°C to +70°C

No Code (blank) = 12mm Thread Fixing Bolt (2000/3000 Series) 10mm Fixing Bolt (1000 Series).
M10 = 10mm Thread Fixing bolt (2000 Series)
M16 = 16mm Thread Fixing bolt (2000/3000 Series)

RS30 = 3 pin Brad ® Connectivity Electrical Connector
RS40 = 4 pin Brad ® Connectivity Electrical Connector

S = Special Bespoke Customer Requirements (refer to Rotech systems).