

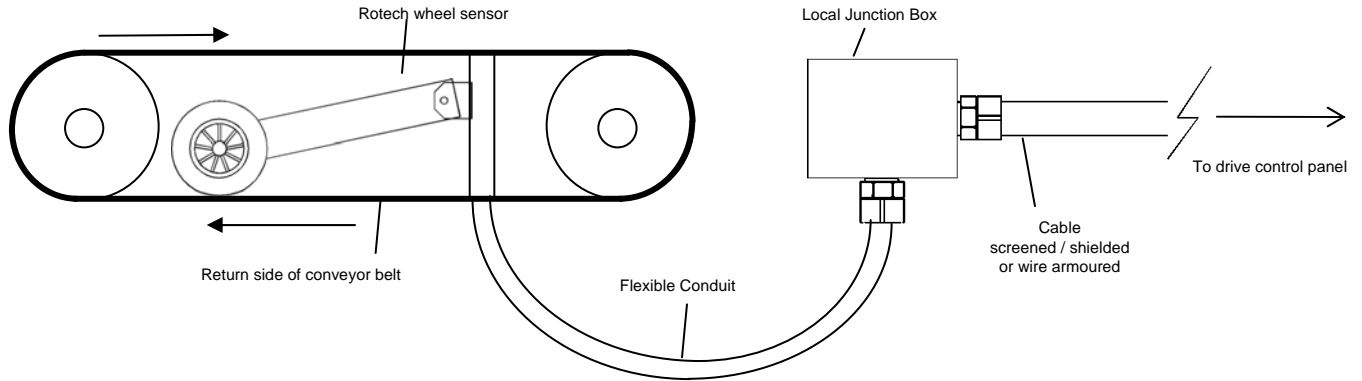
# Commissioning & Testing

## Conveyor Belt Wheel Sensors



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### Commissioning & testing

#### 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 its 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 its 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.

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## Codes Explanation Motion Sensors/Encoders

(1) (2) (3) (4) (5)

Typical Example: **AE – 60 – E2 – HD – HS**

### (1) Housing Type

- AE** = Aluminium Housing (1000,2000 Series) – End of shaft mounting
- MAE** = Min-Aluminium Housing (Mini 1000 Series) – End of shaft mounting
- PE** = Polypropylene Housing (4000 Series) – End of shaft mounting
- SSE** = Stainless Steel Housing (2000,3000 Series) – End of shaft mounting
- WE** = Steel Housing - Wheel Driven Trailing Arm-Series 5000 (**Utilising AE 2000 Unit**)
- PWE** = Steel Housing – Wheel Driven Trailing Arm-Series 6000 (**Utilising PE 4000 Unit**)
- AV** = Aluminium Housing –Vibration Sensor- (VS4000 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)

- 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).

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.

### (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).