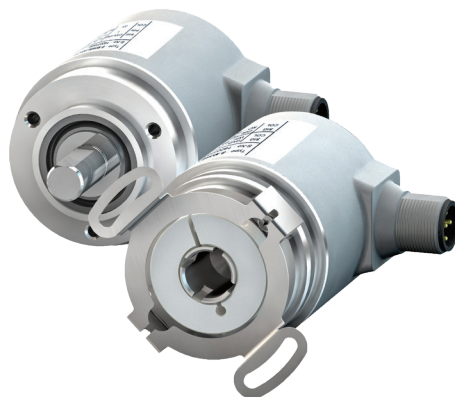


# Rotary Multiturn Encoders | IO-Link Output | REM-190/191



## Performance Data

Measuring Principle	Magnetic, energy harvesting, absolute multi-turn
Resolution	32-bit, 14-bit singleturn + 18-bit multi-turn (scalable)
Absolute Accuracy	± 1 ° (at 25 °C)
Repeatability	± 0.2 ° (at 25 °C)
Max. Rotational Speed	6000 RPM (IP65)/4000 RPM (IP67)
Startign Torque	<0.007 Nm [1.0 oz-in] (IP65) / <0.01 Nm [1.4 oz-in] (IP67)
Max. Shaft Load	40N [9.0 lbs] (radial) / 20N [4.5 lbs] (axial)

## Electrical Data

Operating Voltage	18 to 30 VDC
No Load Current	≤ 30 mA
Short Circuit/Reverse Polarity Protection	Yes/Yes
Output Type	IO-Link, v1.1
Programming	FDT/DTM

## Environmental Data

Ambient Temperature	-40 to 85°C (-40 to +185°F)
Housing Materials	Die-cast zinc
Shaft/Hollow Shaft Materials	Stainless steel
Flange Materials	Aluminum
Vibration Resistance (EN 60068-2-6)	300 m/s <sup>2</sup> [30g], 10-2000 Hz
Shock Resistance (EN 60068-2-27)	2500 m/s <sup>2</sup> [250g], 6ms
Degree of Protection	IP65/IP67

## Part Number Key

REM - 190S 6 C - IOL32B - H1141

### Product Type

REM = Rotary encoder multi-turn

### Encoder Series

190S = Shaft encoder, IP67  
190T = Shaft encoder, IP65

### Shaft Size (OD x L)

6 = 6 mm x 12.5 mm      10 = 10 mm x 20 mm  
8 = 8 mm x 15 mm      A0 = 1/4" x 12.5 mm

### Connection Type

H1141 = Radial 4-pin M12 connector

### Voltage Supply & Output Type

IOL32B = 18 - 30 VDC, IO-Link v1.1, 32-bit

### Flange Type

C = 36 mm Clamping Flange  
S = 36 mm Servo Flange

REM - 191B 6 E - IOL32B - H1141

### Product Type

REM = Rotary encoder multi-turn

### Encoder Series

191B = Blind hollow shaft encoder, IP67  
191C = Blind hollow shaft encoder, IP65

### Bore Size (Max. insertion depth 18.5 mm)

6 = 6 mm x 12.5 mm      10 = 10 mm x 20 mm  
8 = 8 mm x 15 mm      A0 = 1/4" x 12.5 mm

### Connection Type

H1141 = Radial 4-pin M12 connector

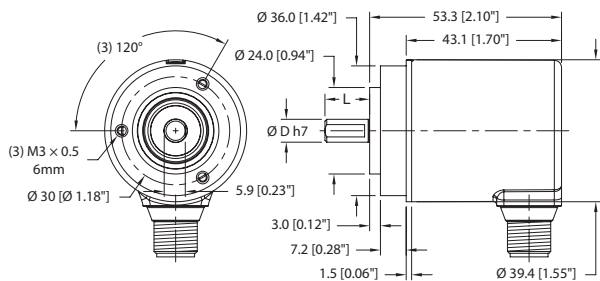
### Voltage Supply & Output Type

IOL32B = 18 - 30 VDC, IO-Link v1.1, 32-bit

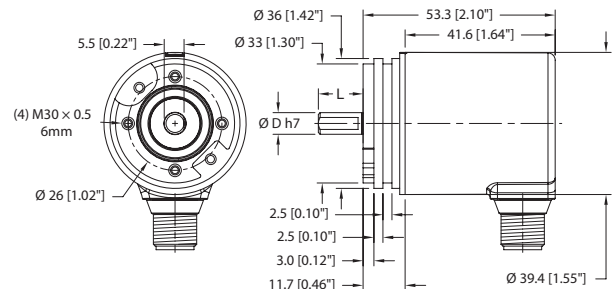
### Flange Type

E = 46 mm Clamping Flange  
T = Long torque stop

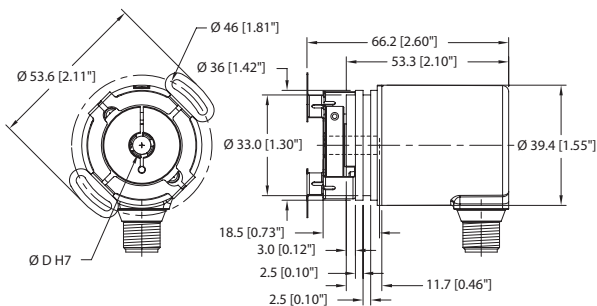
## Dimension Drawings



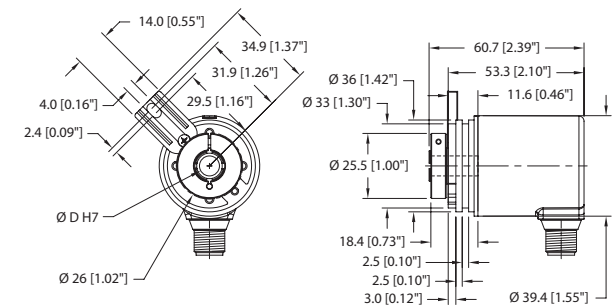
REM-190, flange C



REM-190, flange S

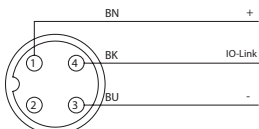


REM-191, flange E



REM-191, flange T

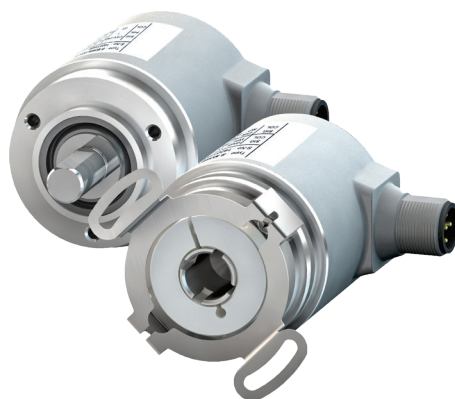
## Wiring Diagrams/Mating Cordset



Mating Cordset: US Mating Cordset: RK 4T-\*

\* Length in meters

# Rotary Singleturn Encoders | IO-Link Output | RES-192/193



## Performance Data

Measuring Principle	Magnetic, energy harvesting, absolute singleturn
Resolution	14-bit singleturn
Absolute Accuracy	$\pm 1^\circ$ (at 25 °C)
Repeatability	$\pm 0.2^\circ$ (at 25 °C)
Max. Rotational Speed	6000 RPM (IP65)/4000 RPM (IP67)
Startign Torque	<0.007 Nm [1.0 oz-in] (IP65) / <0.01 Nm [1.4 oz-in] (IP67)
Max. Shaft Load	40N [9.0 lbs] (radial) / 20N [4.5 lbs] (axial)

## Electrical Data

Operating Voltage	18 to 30 VDC
No Load Current	$\leq 30$ mA
Short Circuit/Reverse Polarity Protection	Yes/Yes
Output Type	IO-Link, v1.1
Programming	FDT/DTM

## Environmental Data

Ambient Temperature	-40 to 85°C (-40 to +185°F)
Housing Materials	Die-cast zinc
Shaft/Hollow Shaft Materials	Stainless steel
Flange Materials	Aluminum
Vibration Resistance (EN 60068-2-6)	300 m/s <sup>2</sup> [30g], 10-2000 Hz
Shock Resistance (EN 60068-2-27)	2500 m/s <sup>2</sup> [250g], 6ms
Degree of Protection	IP65/IP67

## Part Number Key

RES - 192S 6 C - IOL14B - H1141

### Product Type

RES = Rotary encoder singleturn

### Encoder Series

192S = Shaft encoder, IP67  
192T = Shaft encoder, IP65

### Shaft Size (OD x L)

6 = 6 mm x 12.5 mm      10 = 10 mm x 20 mm  
8 = 8 mm x 15 mm      A0 = 1/4" x 12.5 mm

### Connection Type

H1141 = Radial 4-pin M12 connector

### Voltage Supply & Output Type

IOL14B = 18 - 30 VDC, IO-Link v1.1, 14-bit

### Flange Type

C = 36 mm Clamping Flange  
S = 36 mm Servo Flange

RES - 193B 6 E - IOL14B - H1141

### Product Type

RES = Rotary encoder singleturn

### Encoder Series

193B = Blind hollow shaft encoder, IP67  
193C = Blind hollow shaft encoder, IP65

### Bore Size (Max. insertion depth 18.5 mm)

6 = 6 mm x 12.5 mm      10 = 10 mm x 20 mm  
8 = 8 mm x 15 mm      A0 = 1/4" x 12.5 mm

### Connection Type

H1141 = Radial 4-pin M12 connector

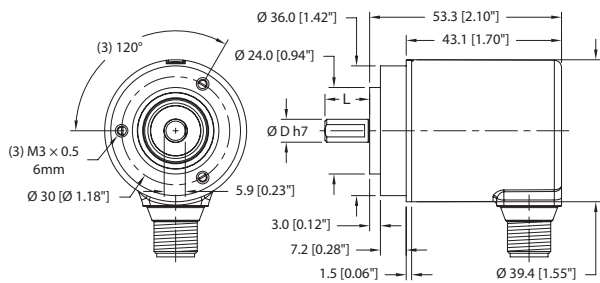
### Voltage Supply & Output Type

IOL14B = 18 - 30 VDC, IO-Link v1.1, 14-bit

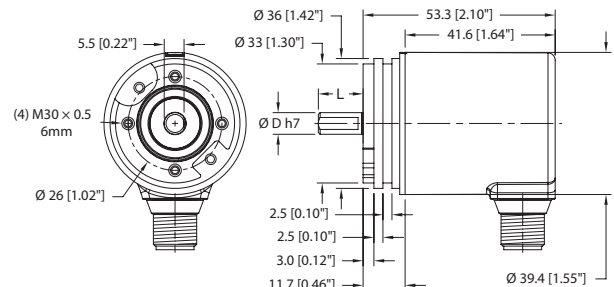
### Flange Type

E = 46 mm Clamping Flange  
T = Long torque stop

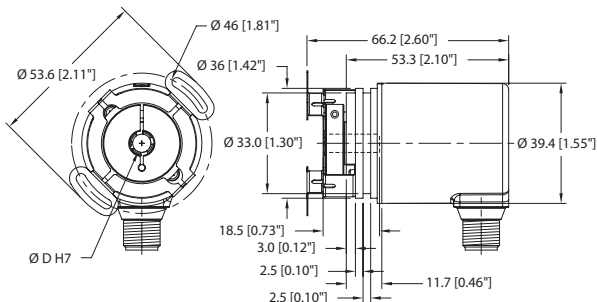
## Dimension Drawings



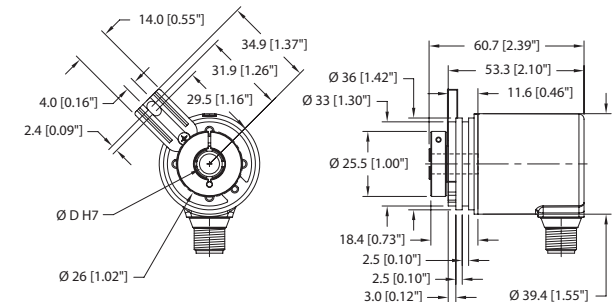
RES-192, flange C



RES-192, flange S

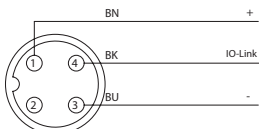


RES-193, flange E



RES-193, flange T

## Wiring Diagrams/Mating Cordset



Mating Cordset: US Mating Cordset: RK 4T-\*

\* Length in meters