

# Rotary Inductive Sensors | Analog Output | QR20



## Performance Data

Measuring Principle	Inductive, Absolute Singleturn
Resolution	0.09°
Repeat Accuracy	≤0.09°
Linearity Deviation	≤1.08°
Temperature Drift	≤±0.01%K

## Electrical Data

Operating Voltage (LU4)	8 to 30 VDC
Operating Voltage (LI2)	15 to 30 VDC
Residual Ripple	≤10% U <sub>ss</sub>
Isolation Test Voltage	≤0.5 kV
Short Circuit/Reverse Polarity Protection	Yes/Yes
Load Resistance (LU4)	≥4.7 kΩ
Load Resistance (LI2)	≤0.4 kΩ
Sampling Rate	800 Hz
Load Dump Protection (DIN ISO 7637-2)	Severity Degree IV/Level 4
Current Consumption	<100 mA

## Environmental Data

Ambient Temperature (LU4)	-40 to 85°C (-40 to +185°F)
Ambient Temperature (LI2)	-25 to 70°C (-13 to +158°F)
Storage Temperature	-40 to 125°C (-40 to +257°F)
Temperature Change (EN 60068-2-12)	-40 to 85°C (-40 to +185°F)
Housing Materials	Plastic, Ultem
Vibration Resistance	55 Hz (1 mm)
Vibration Resistance (EN 60068-2-6)	20 g, 10-3000 Hz, 50 cycles, 3 axes
Shock Resistance (EN 60068-2-27)	100 g, 11 ms ½ sine, 3x each, 3 axes
Continuous Shock Resistance (EN 60068-2-52)	40 g, 6 ms ½ sine, 4000x each, 3 axes
Salt Spray Test (EN 60068-2-52)	Severity Degree 5 (4 Test Cycles)
Degree of Protection	IP68/IP69K

## Part Number Key

RI 20 - P1 - QR20 - LU4X2 - BLANK

### Product Type

Rotary Inductive

### Measuring Range

20 = -10° to +10°  
 40 = -20° to +20°  
 60 = -30° to +30°  
 90 = -45° to +45°  
 120 = -60° to +60°  
 240 = -120° to +120°  
 360 = 0° to +360°

### Positioning Element (Included in Delivery)

P1 = 6 mm shaft size  
 P2 = 1/4" shaft size

### Connection Type

(Blank) = 2 m cable  
 H1141 = 4-pin M12 connector  
 0.15-DT04-3P = 3-pin Deutsch connector  
 0.24-AMP01-3P = 3-pin Amp connector

### Voltage Supply & Output

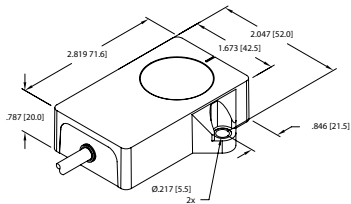
LU4X2 = 8-30 VDC, 0.5-4.5 V output  
 LI2X2 = 15-30 VDC, 4-20 mA output

### Housing

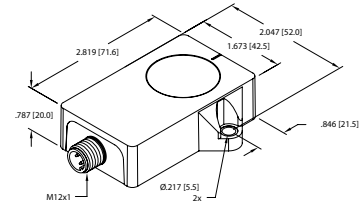
QR20 = 20 mm rectangular

## Dimension Drawings

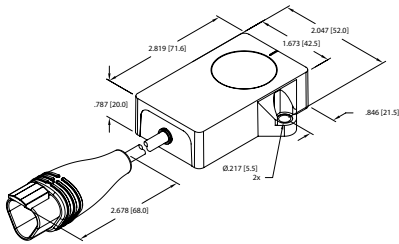
A



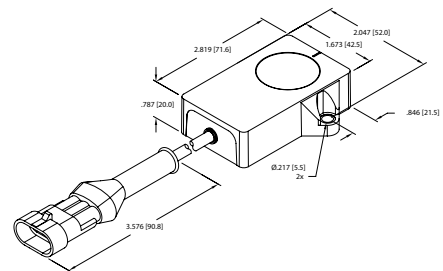
B



C

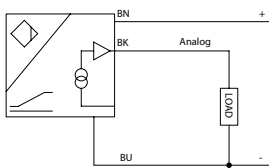


D

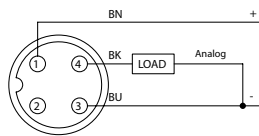


## Wiring Diagrams/Mating Cordset

A

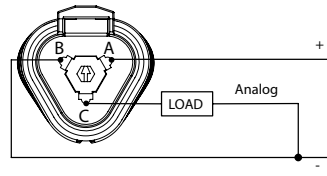


B



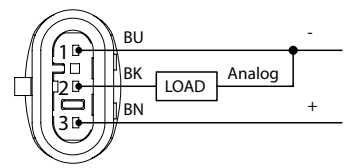
Mating Cordset: RK 4.4T-\*/S618

C



Mating Cordset: DT06-3S-1876-\*M

D

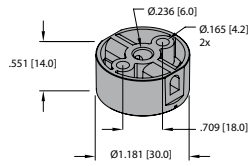


Mating Cordset: TSS-3P-A-\*/TXL

\* Length in meters

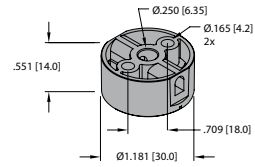
## Accessories

A

**Positioning Element**  
P1-Ri-QR20

Positioning element, operating at a distance of 0-5 mm to the sensor surface. Nominal distance is 1 mm.

B

**Positioning Element**  
P2-Ri-QR20

Positioning element, operating at a distance of 0-5 mm to the sensor surface. Nominal distance is 1 mm.