Absolute, Singleturn Type RS-107 (Shaft) / RS-108 (Blind Hollow Shaft) EtherNet/IP

Bearing-Lock | High rotational speed | Temperature | High IP | High shaft load capacity | Shock/vibration resistant | Magnetic field proof | Reverse polarity protection | Optical sensor

Reliable

- Increased ability to withstand vibration and installation errors. Sturdy Bearing-Lock design structure eliminates machine downtime and repairs.
- Wide temperature range of -40 to +176°F(-40 to +80°C).
- Fewer components and connection points increase the operational reliability: TURCK OptoASIC technology with highest integration density(Chip-on-board).

Absolute

RoHS compliant

EtherNet/IP

Fast

- 5x faster position value transfer that the usual market encoder – RPI time of 1 ms
- Fast and easy commissioning, configuration possible through cyclic services
- M12 connector ensures fast, simple, error-free connection

Versatile

- Thanks to the implementation of DLR(Device Level Ring) a single cable break does not lead to a "machine down" state.
- 16 bits total resolution, shafts up to 10 mm, blind hollow shafts up to 15 mm and certified EtherNet/IP functionality.
- The optical absolute singleturn EtherNet/IP encoders were designed for time sensitive applications. Their distinctive features help not only with the machine's performance as well as uptime, but also contribute to time and cost savings.

Mechanical Characteristics:

Max. speed shaft version (IP65) up to 158 °F (70 °C):	8,000 RPM, continuous 6000 RPM
Max. speed shaft version (IP65) up to Tmax:	6,000 RPM, continuous 4000 RPM
Max. speed blind hollow shaft version (IP65) up to 158 °F (70 °C):	6,000 RPM, continuous 4000 RPM
Max. speed blind hollow shaft version (IP65) up to Tmax:	4,000 RPM, continuous 3,000 RPM
Starting torque at 68 °F (20 °C):	1.4 oz-in (< 0.01 Nm)
Moment of inertia:	Shaft version: 0.16 oz-in^2 (3.0 x 10^{-6} kgm^2) Hollow shaft version: 0.32 oz-in^2 (6.0 x 10^{-6} kgm^2)
Radial load capacity of shaft:	18 lbs (80 N)
Axial load capacity of shaft:	9 lbs (40 N)
Weight:	approx. 1.0 lbs (0.45 kg)
Protection acc. to EN 60 529:	IP65
Working temperature:	-40 to +176 °F (-40 to +80 °C)
Materials:	Shaft: stainless steel, Flange: aluminum, Housing: aluminum
Shock resistance acc. to EN 60068-2-27:	> 250 g (> 2,500 m/s^2), 6 ms
Vibration resistance acc. to EN 60068-2-26:	> 10 g (> 100 m/s^2), 55-2,000 Hz

General Information about EtherNetIP

EtherNet/IP conformance tested acc. to version CT-12 of Dec. 11, 2014
EtherNet/IP specification Vol 2, Ed 1.17
CIP specification Vol 1, Ed 3.16.

Applications

Industrial Ethernet is increasingly imposing itself as the new communication standard in automation technology. The goal is to create a vertical integration – that is to say: only one core computer, from the control level up to the industrial production plants – that will be able to control any devices.

The Turck EtherNet/IP encoders demonstrate their abilities in the following application examples: automotive production, logistics, metal-working, textile, printing and packaging machines.

Absolute, Singleturn Type RS-107 (Shaft) / RS-108 (Blind Hollow Shaft) EtherNet/IP

General Electrical Characteristics:

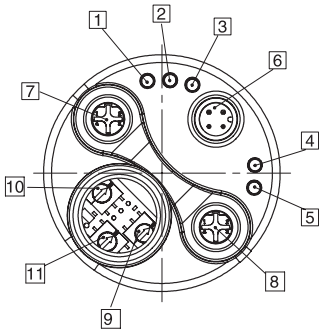
Supply voltage:	10-30 VDC
Current consumption (without output load):	Max. 250 mA
Reverse polarity protection at power supply (+V):	Yes
CE compliant acc. to:	EMC guideline 2014/30/EU RoHS guideline 2011/65/EU

Device Characteristics:

Singleturn resolution Default value:	1-65536 (16 bit), (scalable: 1-65536) 65536 (16 bit)
Code:	Binary
Interface:	EtherNet/IP

Rear side connection and display elements

1 LED: Link 1
2 LED: Mod.
3 LED: Net.
4 LED: Encoder
5 LED: Link 2
6 Power
7 Port 1
8 Port 2
9 Switch: x1
10 Switch: x100
11 Switch: x10



The following functionalities are integrated:

Adjustable parameters
- Preset
- Count direction
- Resolution
- Unity of speed
- IP address
- Number of revolutions
- Position
- Diagnosis
- Position limit
- Warning messages

Objects (CIP Objects)
- Identity Object
- Message Router
- Assembly Object
- Connection Manager
- Parameter Object
- Position Sensor Object
- Qos Object
- Port Object
- TCP / IP Interface Object
- EtherNet Link Object

EtherNet/IP features
- DLR (Device Level Ring) possible
- Qos (Quality of Service) possible
- ACD (Address Conflict Detection)
- Multicast and unicast capability

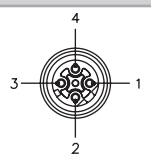
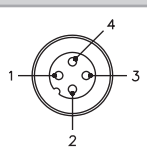
Standard Wiring (Bus):
(M12 *eurofast*® Connector, D-Coded)

Direction:	Port 1				Port 2			
Signal:	Transmit data+	Receive data+	Transmit data-	Receive data-	Transmit data+	Receive data+	Transmit data-	Receive data-
Abbrv:	TxD+	RxD+	TxD-	RxD-	TxD+	RxD+	TxD-	RxD-
M12 *eurofast*®:	1	2	3	4	1	2	3	4

Standard Wiring (Power Supply):
M12 *eurofast*® Connector

Signal:	Power Supply	N/C	Common	N/C
Abbrv:	+V	-	0 V	-
M12 *eurofast*®:	1	2	3	4

Wiring Diagrams:

Bus	Power Supply
Female Encoder View	Male Encoder View
	
M12 *eurofast*® Pinout	M12 *eurofast*® Pinout
Mating Cordset: **RSSD 420-***	Mating Cordset: **RK 4.4T-***

Absolute, Singleturn Type RS-107 (Shaft) / RS-108 (Blind Hollow Shaft) EtherNet/IP

Part Number Key: RS-107 Shaft Version

A	B	C		D		E
RS-107T	6	C	-	9N32B	-	B3M12

A	Type
RS-107T	Ø 58 mm, Shaft, IP65 Shaft Seal

B	Shaft (Ø x L)
6	Ø 6 mm x 10 mm
10	Ø 10 mm x 20 mm
A0	Ø 1/4" x 7/8"
A1	Ø 3/8" x 7/8"

C	Flange
C	Ø 58 mm Clamping Flange
S	Ø 58 mm Servo Flange
R	2.5" Square Flange

D	Voltage Supply and Output Type
9N32B	10-30 VDC, EtherNet/IP w/DLR

E	Type of Connection
B3M12	Axial 3 x M12 ***eurofast***® Connectors

Part Number Key: RS-108 Blind Hollow Shaft Version

A	B	C		D		E
RS-108C	10	T	-	9N32B	-	B3M12

A	Type
RS-108C	Ø 58 mm, Blind Hollow Shaft, IP65 Shaft Seal

B	Bore (30 mm Insertion Depth)
10	Ø 10 mm
12	Ø 12 mm
14	Ø 14 mm
15	Ø 15 mm
A1	Ø 3/8"
A3	Ø 1/2"

C	Flange
T	Ø 50 mm Flange w/ Torque Stop
E	Ø 63 mm Flange w/ Slotted Flex Mount
E1	Ø 65 mm Flange w/ Flex Mount

D	Voltage Supply and Output Type
9N32B	10-30 VDC, EtherNet/IP w/DLR

E	Type of Connection
B3M12	Axial 3 x M12 ***eurofast***® Connectors

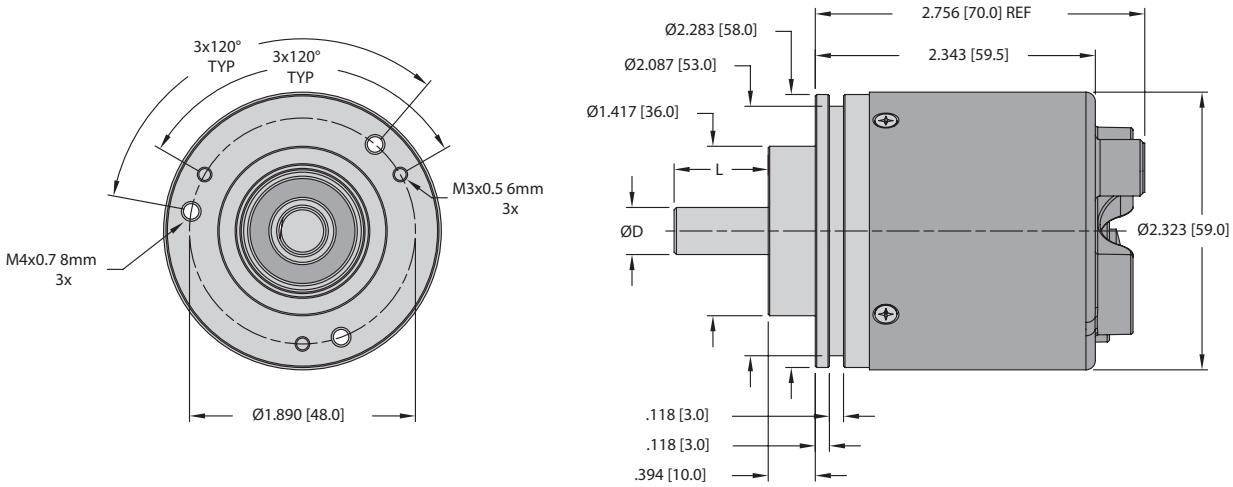
Accessories:

- See page H1, Connectivity, for cables and connectors
- See page G1, Accessories, for mounting attachments and couplings

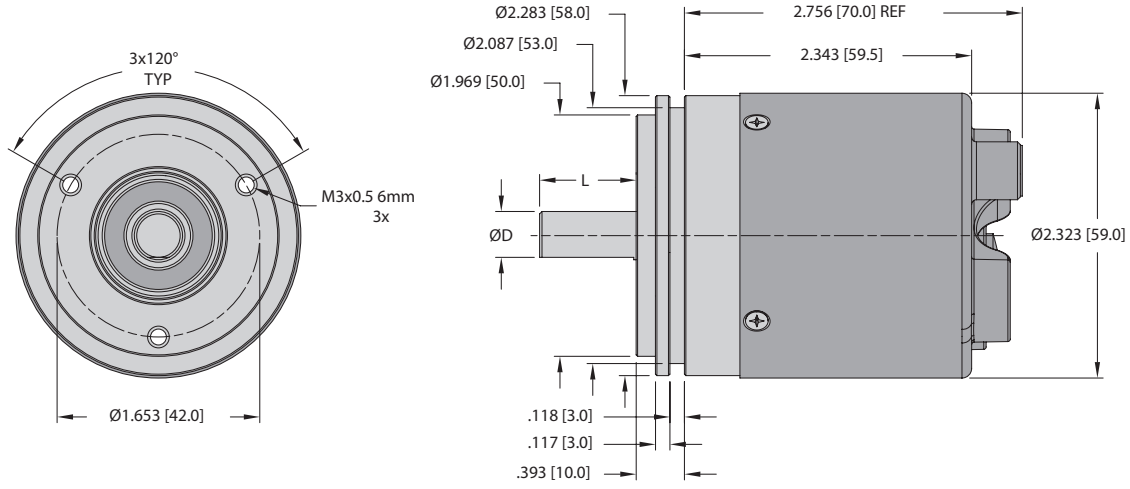
Absolute, Singleturn Type RS-107 (Shaft) / RS-108 (Blind Hollow Shaft) EtherNet/IP

Dimensions: RS-107 Shaft Version

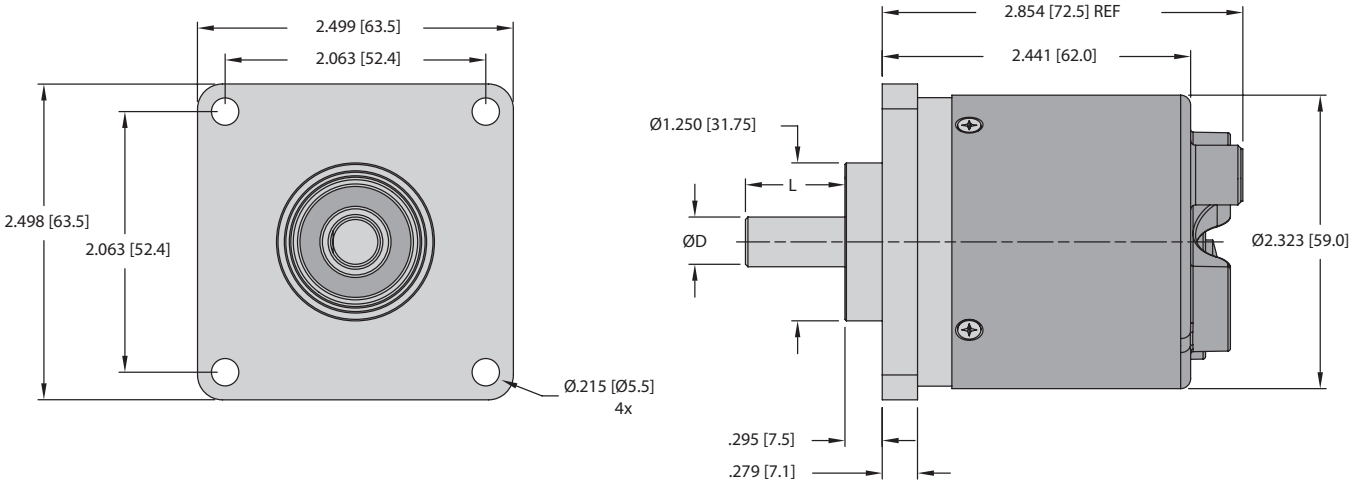
RS-107 Flange C
Connection B3M12



RS-107 Flange S
Connection B3M12



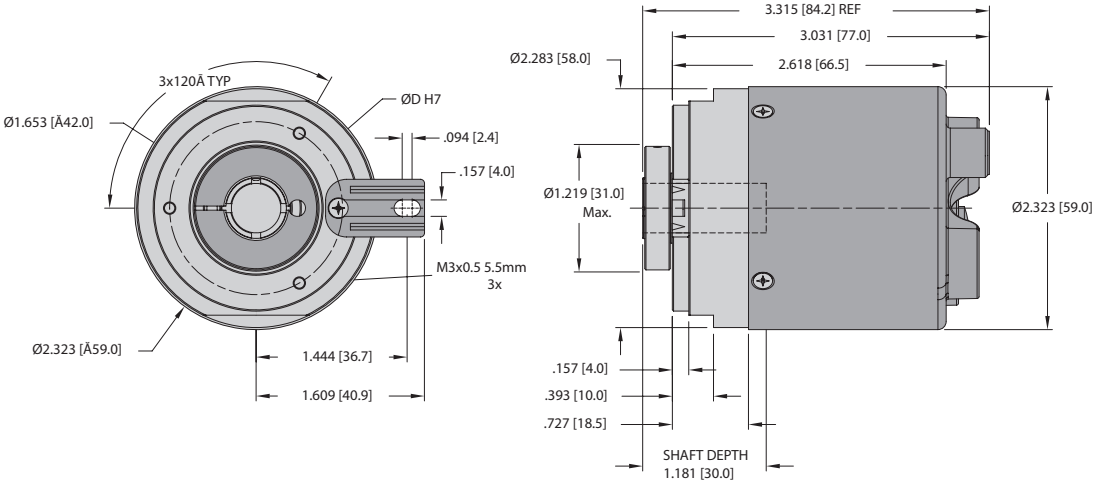
RS-107 Flange R
Connection B3M12



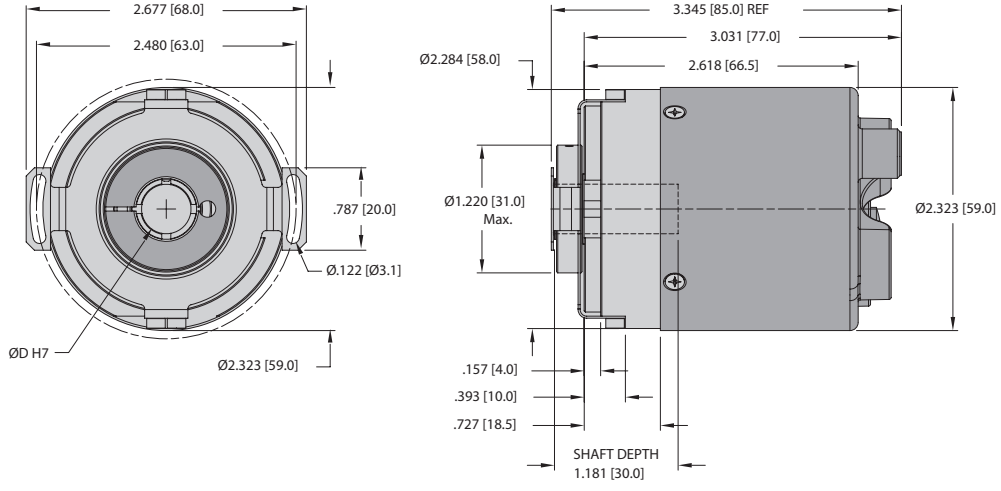
Absolute, Singleturn Type RS-107 (Shaft) / RS-108 (Blind Hollow Shaft) EtherNet/IP

Dimensions: RS-108 Blind Hollow Shaft Version

RS-108 Flange T
Connection B3M12



RS-108 Flange E
Connection B3M12



RS-108 Flange E1
Connection B3M12