Absolute, Multiturn Type RM-29 (Shaft) / RM-36 (Blind Hollow Shaft) PROFINET IO

Mechanical drive | Bearing-Lock | High rotational speed | Temperature | High IP | High shaft load capacity | Shock/vibration resistant | Magnetic field proof | Short-circuit protected | Reverse polarity protection | Optical sensor | Seawater-resistant version on request

Reliable

- Ideally suited for all PROFINET applications thanks to the use of encoder profile 4.1.
- Perfect for use in harsh outdoor environments, as a result of IP67 protection and rugged housing construction.

Absolute

Fast

- Fast, simple, error-free connection.

Versatile

- IRT-Mode.
- Cycle time ≤ 1 ms
- Firmware updater allows for easy expansion of characteristics without having to disassemble the encoder.
- M12 connector ensures fast, simple, error-free connection

Mechanical Characteristics:

Max. speed without shaft sealing (IP65) up to 158 °F (70 °C): Max. speed without shaft sealing (IP65) up to Tmax: Max. speed with shaft sealing (IP67) up to 158 °F (70 °C): Max. speed with shaft sealing (IP67) up to Tmax:	9,000 RPM, continuous 7,000 RPM 7,000 RPM, continuous 4,000 RPM 8,000 RPM, continuous 6,000 RPM 6,000 RPM, continuous 3,000 RPM
Starting torque without shaft seal (IP65):	1.4 oz-in (< 0.01 Nm)
Starting torque with shaft seal (IP67):	Shaft version: 7 oz-in (< 0.05 Nm) Hollow shaft version: 4.25 oz-in (< 0.03 Nm)
Moment of inertia:	Shaft version: 0.16 oz-in^2 (3.0 x 10^{-6} kgm^2) Hollow shaft version: 0.41 oz-in^2 (7.5 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. 1.19 lbs (0.54 kg)
Protection acc. to EN 60 529:	Housing: IP67, Shaft: IP65, opt. IP67
Working temperature:	-40 to +185 °F (-40 to +85 °C)
Materials:	Shaft: stainless steel, Flange: aluminum, Housing: die cast zinc
Shock resistance acc. to DIN-IEC 68-2-27:	> 250 g (> 2,500 m/s^2), 6 ms
Vibration resistance acc. to DIN-IEC 68-2-6:	> 10 g (> 100 m/s^2), 55-2,000 Hz

General Information about PROFINET

The PROFINET encoder implements the Encoder Profile 4.1. (according to the specification Encoder Version 4.1 Dec. 2008).
It permits scaling and preset values, as well as many other additional parameters to be programmed via the PROFINET-Bus.
When switching on, all parameters are loaded from an EEPROM, where they were saved previously to protect them against power-failure, or taken over by the controller in the start-up phase.
Position, speed and many other states of the encoder can be transmitted.

PROFINET IO

The complete encoder profile according to Profile Encoder Version 4.1 as well as the Identification and maintenance functionality Version 1.16 has been implemented. IM blocks 0, 1, 2, 3 and 4 are supported.
The **Media Redundancy Protocol** is implemented here. Basically, the advantage of MRP is that the functionality of the components, which are wired in a ring structure, is maintained in case of a failure or of a breakage of the wires in any location.

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Absolute, Multiturn Type RM-29 (Shaft) / RM-36 (Blind Hollow Shaft) PROFINET IO

General Electrical Characteristics:

Supply voltage:	10-30 VDC
Current consumption (without output load):	Max. 200 mA
Reverse polarity protection at power supply (+V):	Yes
RoHS compliant according to EU guideline 2011/65/EU	
UL approval:	file E356899

Link 1 and 2, LED (green/yellow):

Green:	active
Yellow:	data transfer

Error LED (red)/PWR LED (green):

Functionality see manual

Device Characteristics:

Singleturn resolution Default value:	1-65535 (16 bit), (scalable: 1-65535) 8192 (13 bit)
Multiturn resolution:	Max. 4096 (12 bit) scalable only via the total resolution
Total resolution:	scalable from 1 to 268435456 (28 Bit)
Code:	Binary
Interface:	PROFINET IO

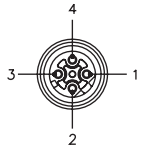
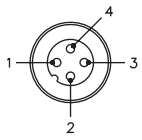
Standard Wiring (Bus):
(M12 Eurofast Connector, D-Coded)

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, Multiturn Type RM-29 (Shaft) / RM-36 (Blind Hollow Shaft) PROFINET IO

Part Number Key: RM-29 Shaft Version

A	B	C		D		E
RM-29S	6	C	-	9E28B	-	R3M12

A	Type
RM-29S	Ø 58 mm, Shaft, IP67 Shaft Seal
RM-29T	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
9E28B	10-30 VDC, PROFINET IO

E	Type of Connection
R3M12	Radial 3 x M12 Eurofast Connectors w/ Bus Terminal Cover

Part Number Key: RM-36 Blind Hollow Shaft Version

A	B	C		D		E
RM-36B	10	T	-	9E28B	-	R3M12

A	Type
RM-36B	Ø 58 mm, Blind Hollow Shaft, IP67 Shaft Seal
RM-36C	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
9E28B	10-30 VDC, PROFINET IO

E	Type of Connection
R3M12	Radial 3 x M12 Eurofast Connectors w/ Bus Terminal Cover

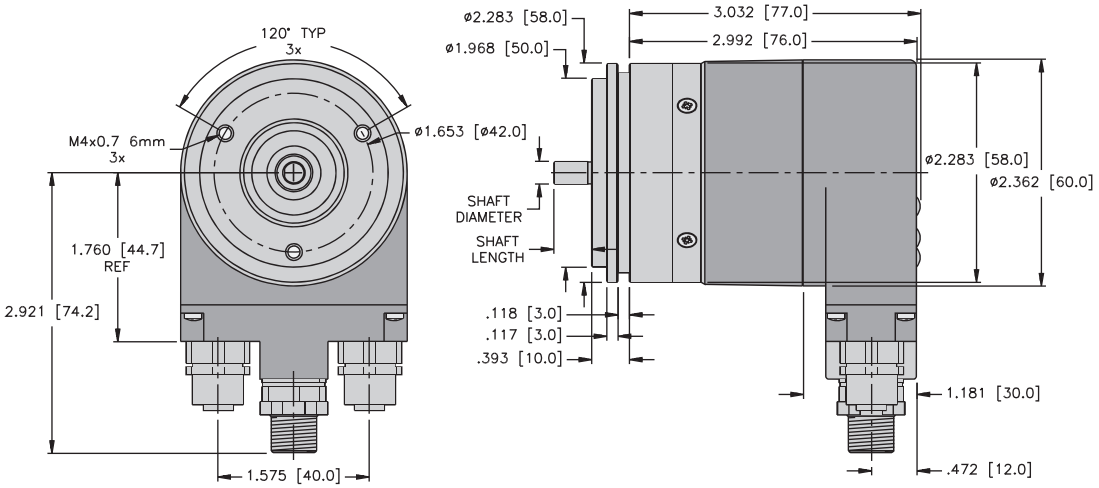
Accessories:

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

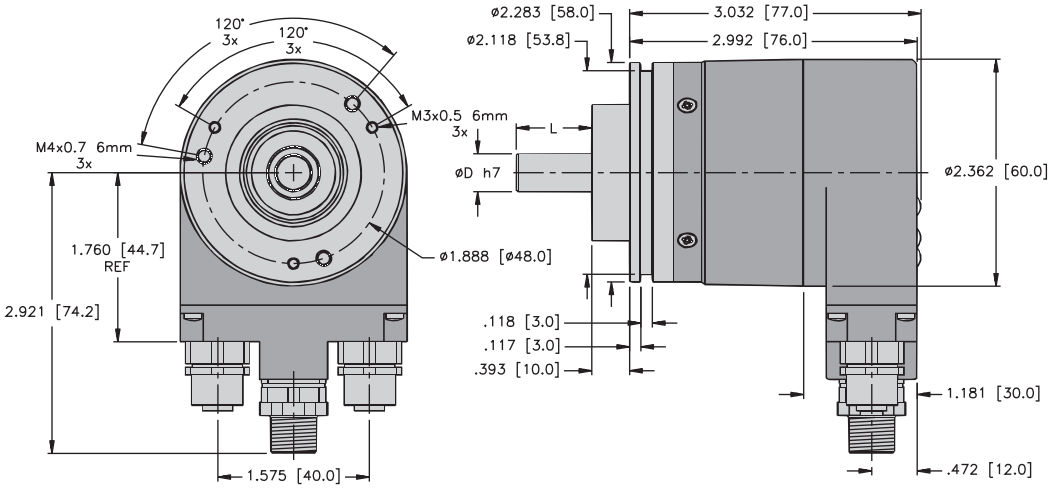
Absolute, Multiturn Type RM-29 (Shaft) / RM-36 (Blind Hollow Shaft) PROFINET IO

Dimensions: RM-29 Shaft Version

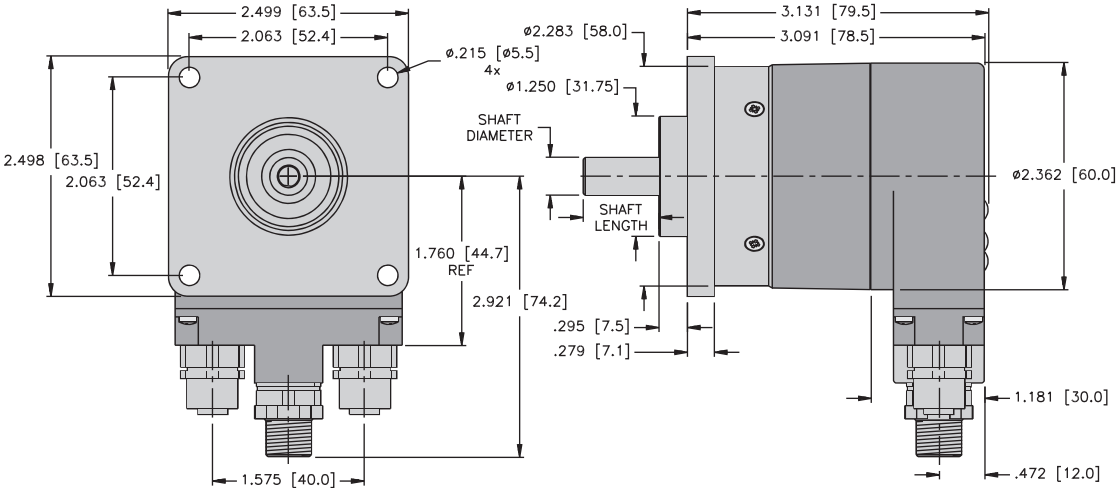
RM-29 Flange S
Connection R3M12



RM-29 Flange C
Connection R3M12



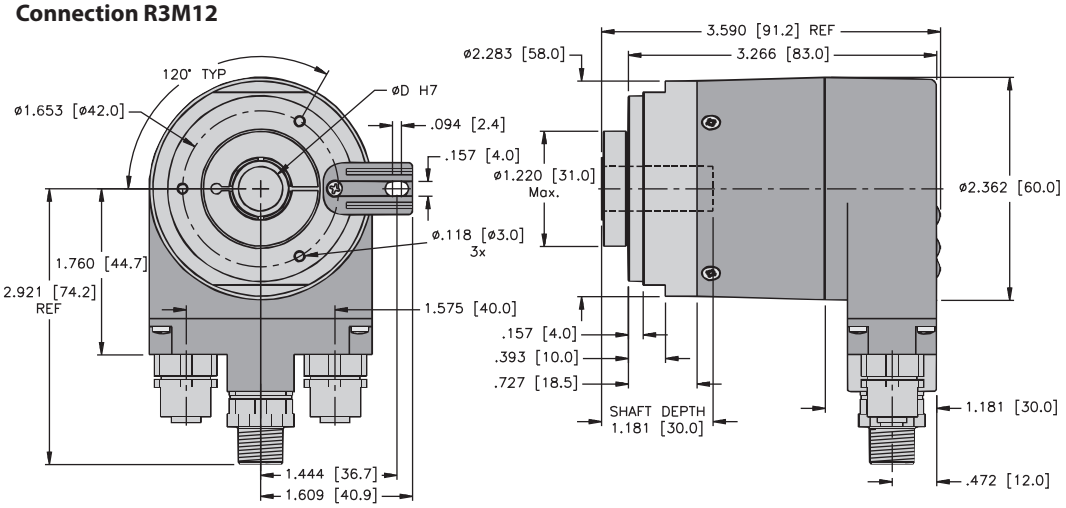
RM-29 Flange R
Connection R3M12



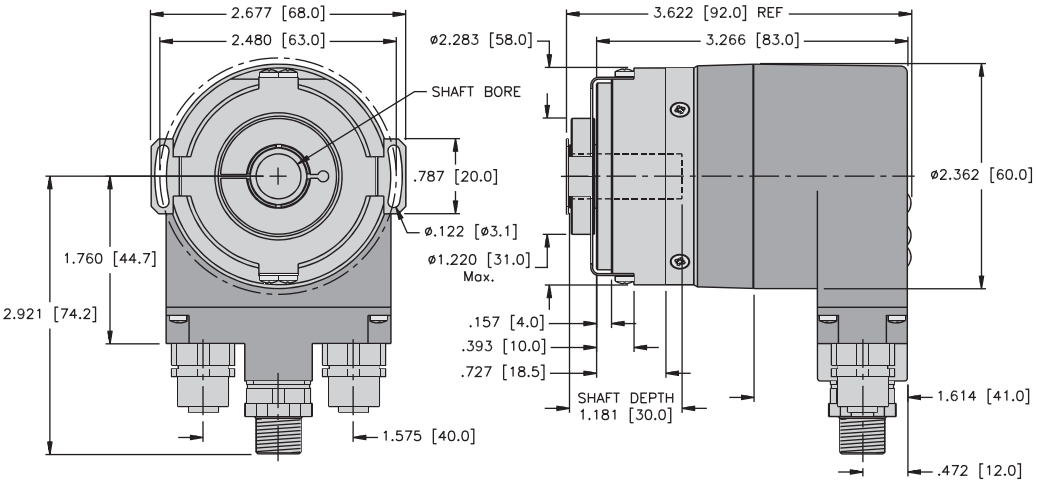
Absolute, Multiturn Type RM-29 (Shaft) / RM-36 (Blind Hollow Shaft) PROFINET IO

Dimensions: RM-36 Blind Hollow Shaft Version

RM-36 Flange T
Connection R3M12



RM-36 Flange E
Connection R3M12



RM-36 Flange E1
Connection R3M12