

Sendix absolute, multiturn type 5868 (shaft) / 5888 (blind hollow shaft) PROFIBUS®-DP



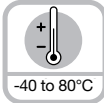
Mechanical drive



Safety-Lock™



High rotational speed



Temperature
-40 to 80°C



High IP



High shaft load capacity



Shock/
vibration resistant



Magnetic field proof



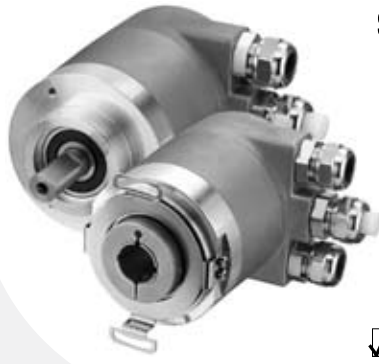
Short-circuit proof



Reverse polarity protection

Reliable

- **Increased ability to withstand vibration and installation errors.** Sturdy Safety-Lock™ Design bearing structure eliminates machine downtime and repairs.
- **Fewer components and connection points increase the operational reliability:** TURCK OptoASIC technology with highest integration density (Chip-on-Board).
- **Die cast housing and protection up to IP67:** Remains sealed even when subjected to harsh everyday use.
- **Wide temperature range.**
- **Immediate recognition of bus operation.**



Sendix[®] absolute
PROFI
BUS



Fast

- **Fast data availability with reduced loading on the bus and controller:** Intelligent functions like the transmission of speed, acceleration or exiting a working area.
- **Fast, simple, error-free connection.**

Versatile

- **Up-to-the minute fieldbus performance:** PROFIBUS-DPV0 supports Class I and II.
- **Connection options:** Bus cover with M12 connector or cable connection.
- **Fast start-up with pre-defined GSD file:** A variety of scaling options, 16 bit singleturn resolution, 12 bit multiturn resolution.
- **Comprehensive diagnostics,** programmable to Class II.

Mechanical characteristics:

Max. speed without shaft sealing (IP65) up to 158°F (70°C):	9,000 RPM, continuous 7,000 RPM
Max. speed without shaft sealing (IP65) up to Tmax:	7,000 RPM, continuous 4,000 RPM
Max. speed with shaft sealing (IP67) up to 158°F (70°C):	8,000 RPM, continuous 6,000 RPM
Max. speed with shaft sealing (IP67) up to Tmax:	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):	7 oz-in (< 0.05 Nm)
Moment of inertia:	Shaft version: 0.219 oz-in ² (4.0 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:	40 lbs (178 N)
Axial load capacity of shaft:	40 lbs (178 N)
Weight:	approx. 1.26 lbs (0.57 kg) with bus terminal cover approx. 1.15 lbs (0.52 kg) with fixed connection
Protection acc. to EN 60 529:	Housing: IP67, Shaft: IP65, opt. IP67
EX approval for hazardous areas:	optional zone 2 and 22
Working temperature:	-40 to +176°F (-40 to +80°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



- Safe operation in strong magnetic fields
- Special gears with specific toothing

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General electrical characteristics:

Supply voltage:	10-30 VDC
Current consumption (w/o output load):	24 VDC, max. 90 mA
Reverse polarity protection	Yes at power supply (+V)
Conforms to CE requirements according to EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3	
UL certified	File 224618
RoHS compliant according to EU guideline 2002/95/EG	

Interface characteristics PROFIBUS-DP:

Singleturn resolution (max, scalable):	1-65536 (16 bits), default scale value is set to 8192 (13 bits)
Total resolution:	28 Bit (scalable 1-228 steps)
Number of Revolutions:	4096 (12 bits), (scalable 1-4096)
Code:	Binary
Interface:	Specification according to PROFIBUS-DP 2.0 Standard (DIN 19245 Part 3) RS485 driver galvanically isolated.

SET control button (zero or defined value, option):

Protected against accidental activation, can only be depressed with the tip of a ballpoint pen or similar.

Diagnostic LED (yellow):

LED on with: optical sensor path faulty (code error, LED error), low voltage and over-temperature

Protocol:	PROFIBUS Encoder Profile V1.1 Class 1 and Class 2 with manufacturer-specific enhancements
Baud rate:	12 Mbits/s
Node address:	1-127 (set by rotary switches / software configurable)
Termination switchable:	Set by DIP switches

PROFIBUS Encoder-Profile V1.1

The PROFIBUS-DP device profile describes the functionality of the communication and the user-specific component within the PROFIBUS fieldbus system. The encoder profile is definitive. Here the individual objects are defined independent of the manufacturer. Furthermore, the profiles offer space for additional manufacturer-specific functions.

The following parameters may be programmed:

- Direction of rotation
- Scaling
- Number of steps per revolution
- Number of revolutions
- Total resolution over Singleturn/Multiturn
- Preset value
- Diagnostics mode

The following parameters may be configured:

- Position 16/32 Bit
- Speed UPM or Unit/s (16/32) Bit

The following functionality is integrated:

- Galvanic isolation of the bus stage with DC/DC converter
- Line driver according to RS485; max. 12 MB
- Address programmable via DIP switches
- Diagnostics LED
- Full Class I and Class II functionality

Pin configuration with terminal box (Connection 1):

Signal:	BUS IN				BUS OUT			
	B	A	Common (0 V)	+V	Common (0 V)	+V	B	A
Pin:	1	2	3	4	5	6	7	8

Pin configuration M12 - 3 connector version (Connection 2):

Bus In	Signal:	-	BUS-A	-	BUS-B	Shield
	Pin:	1	2	3	4	5

Power Supply	Signal:	+V	-	Common (0 V)	-
	Pin:	1	2	3	4

Bus Out	Signal:	BUS-VDC ¹⁾	BUS-A	BUS_GND ¹⁾	BUS-B	Shield
	Pin:	1	2	3	4	5

Wiring Diagrams:

Bus In	Power Supply	Bus Out
Male encoder view	Male encoder view	Female encoder view
M12 <i>eurofast</i> ® pinout	M12 <i>eurofast</i> pinout	M12 <i>eurofast</i> pinout
Mating cordset: ^{2) 3)} RKS _W -455-*M	Mating cordset: ²⁾ RK 4.4T-*	Mating cordset: ^{2) 3)} RSS _W -455-*M

¹⁾ For powering an external PROFIBUS-DP terminating resistor.

²⁾ See cable section for additional options.

³⁾ "S" denotes shield tied to coupling nut.

* Length in meters. Available in 0.1 meter increments ≥ 0.2 meters.

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Part number key shaft version:

T8.5868.XXXX.XX1X

<p>Type</p>	<p>Options (service)</p> <p>2 = no option 3 = SET button</p>
<p>Flange</p> <p>1 = clamping flange Ø 58 IP65 2 = servo flange Ø 58 mm, IP65 3 = clamping flange Ø 58 mm, IP67 4 = servo flange Ø 58 mm, IP67 5 = square flange 2.5" / 63.5 mm, IP65 6 = servo flange 2.5" / 63.5 mm, IP65 7 = square flange 2.5" / 63.5 mm, IP67 8 = servo flange 2.5" / 63.5 mm, IP67</p> <p>Shaft (Ø x L)</p> <p>1 = Ø 6 mm x 10 mm 2 = Ø 10 mm x 20 mm 3 = Ø 1/4" x 7/8" 4 = Ø 3/8" x 7/8"</p>	<p>Fieldbus profile</p> <p>31 = PROFIBUS-DP-V0 encoder profile Class 2</p> <p>Type of connection</p> <p>1 = with removable bus terminal cover, with radial screwed cable passage 2 = removable bus terminal cover with 3 x M12 eurofast® connector</p>
<p>Output circuit and power supply</p> <p>3 = 10-30 VDC, PROFIBUS-DP V0 encoder Profile V 1.1</p>	

Part number key: 5888 blind hollow shaft version

T8.5888.XXXX.XX1X

<p>Type</p>	<p>Options (service)</p> <p>2 = no option 3 = SET button</p>
<p>Flange</p> <p>1 = flange with torque stop IP65 2 = flange with torque stop IP67 3 = flange with flex mount pitch circle Ø 65, IP65 4 = flange with flex mount pitch circle Ø 65, IP67 5 = flange with slotted flex mount pitch circle Ø 63, IP65 6 = flange with slotted flex mount pitch circle Ø 63, IP67</p> <p>Blind hollow shaft</p> <p>3 = Ø 10 mm 4 = Ø 12 mm 5 = Ø 14 mm 6 = Ø 15 mm 8 = Ø 9.52 mm (3/8") 9 = Ø 12.7 mm (1/2")</p>	<p>Fieldbus profile</p> <p>31 = PROFIBUS-DP-V0 encoder profile Class 2</p> <p>Type of connection</p> <p>1 = with removable bus terminal cover, with radial screwed cable passage 2 = removable bus terminal cover with 3 x M12 eurofast® connector</p>
<p>Output circuit and power supply</p> <p>3 = 10-30 VDC, PROFIBUS-DP V0 encoder Profile V 1.1</p>	

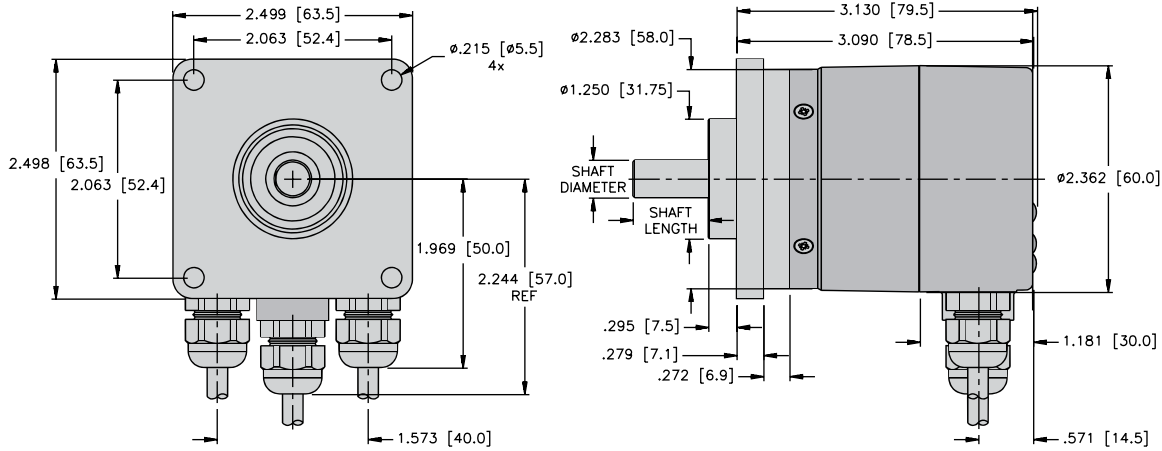
Accessories:

- See page J1, Connectivity, for cables and connectors
- See page E1, Accessories, for mounting attachments and couplings

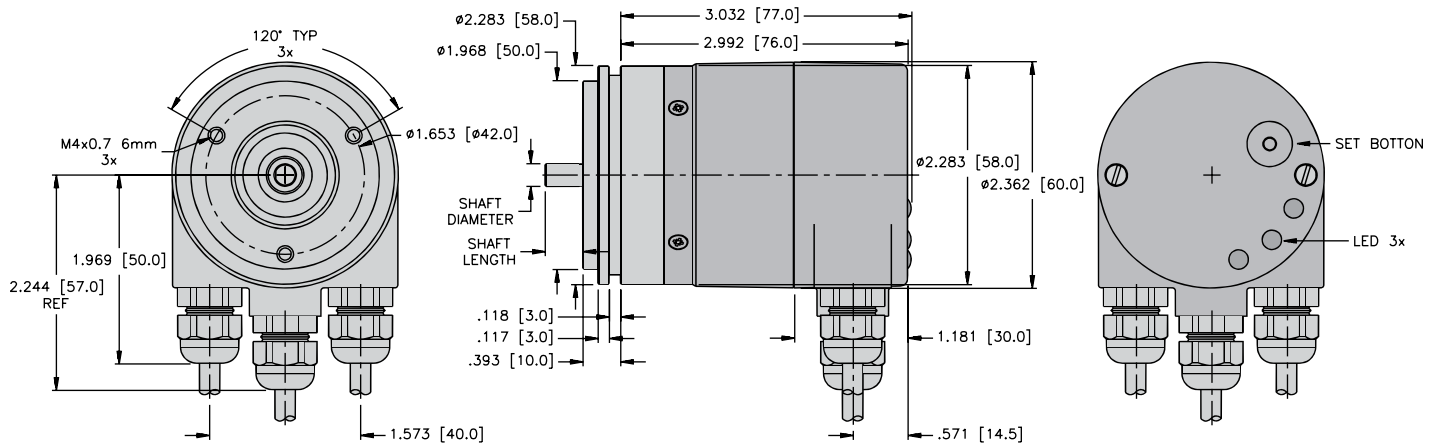
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Dimensions: 5868 shaft version

5868 flanges 5 & 7
Cable connection 1



5868 flanges 2 & 4
Cable connection 1

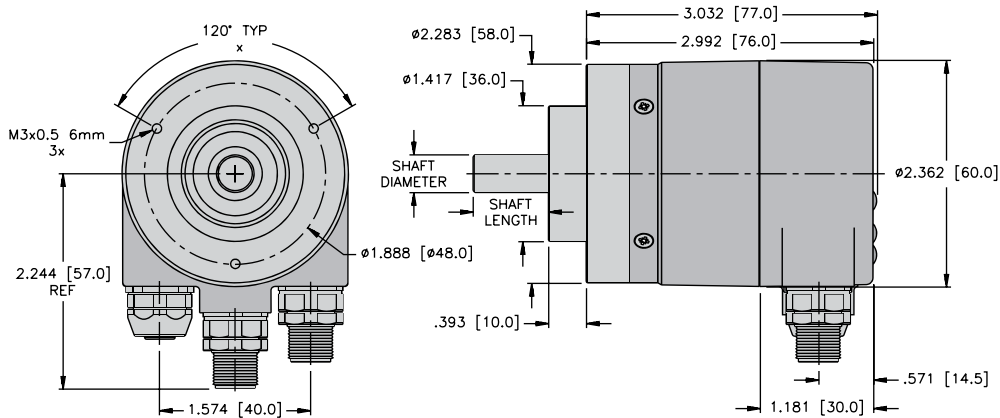


Absolute Encoders

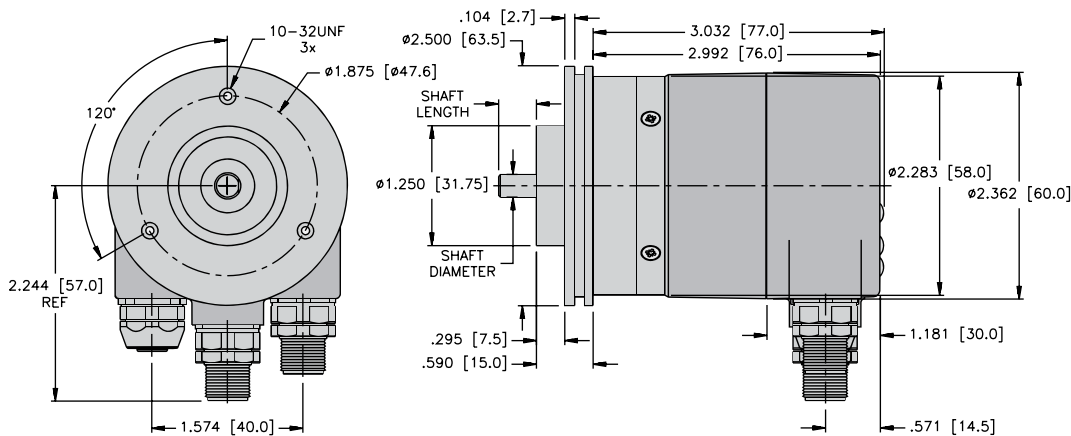
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Dimensions: 5868 shaft version

5868 flanges 1 & 3
M12 eurofast® connection 2



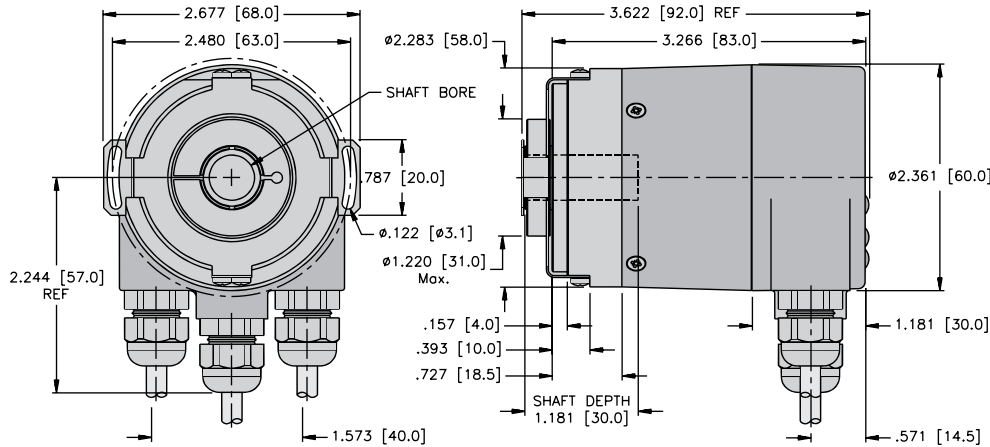
5868 flanges 6 & 8
M12 eurofast connection 2



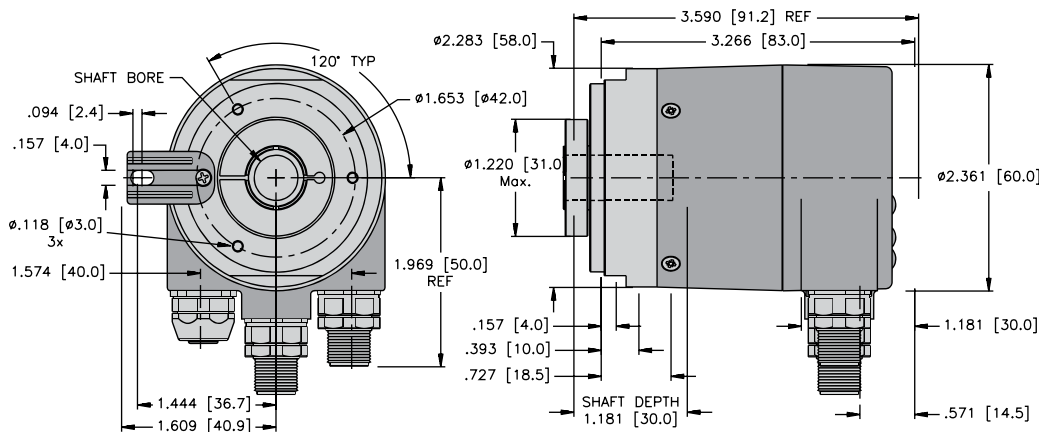
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Dimensions: 5888 blind hollow shaft version

5888 flanges 5 & 6
Cable connection 1



5888 flanges 1 & 2
M12 eurofast® connection 2



5888 flanges 3 & 4
M12 eurofast connection 2

