

ENCODER

Profinet Multiturn



Series 8.5868, 8.5888

Key-Features:

- Solid shaft: maximum diameter 10 mm
- Blind hollow shaft: maximum diameter 15 mm
- Housing diameter 58 mm
- Interface: Profinet IO
- Protection class up to IP67
- Total resolution up to 28 Bit
- Maximum revolution speed 9000 turns/min
- Temperature range -40...+80°C

Content:

Order Code2
Technical Data3
Profinet Interface4
Connection4
Technical Drawing5

Absolute encoders – multiturn

Standard
mechanical multiturn, optical

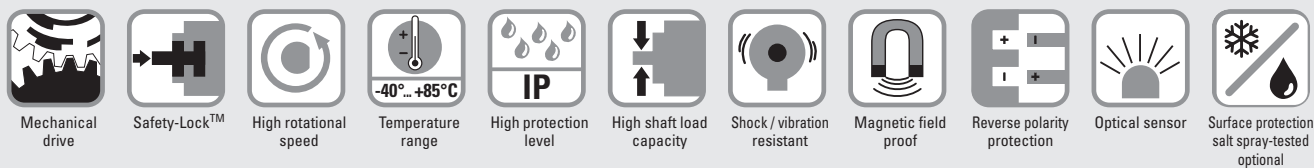
Sendix 5868 / 5888 (shaft / hollow shaft)

PROFINET IO



The multiturn encoders Sendix 5868 and 5888 with PROFINET interface and optical sensor technology are ideal for use in all applications with PROFINET technology.

The encoder supports the isochronous (IRT) mode and is therefore ideal for real-time applications.



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.

Flexible

- IRT-Mode.
- Cycle time ≤ 1 ms.
- Firmware updater allows for easy expansion of characteristics without having to disassemble the encoder.
- Faster, easier error-free connection thanks to M12 connectors.

Absolute encoders
multiturn

Order code 8.5868 . X X C 2 . C2 12
Shaft version Type

If for each parameter of an encoder the underlined preferred option is selected, then the delivery time will be 10 working days for a maximum of 10 pieces.
Qts. up to 50 pcs. of these types generally have a delivery time of 15 working days.



a Flange

- 1 = clamping flange, IP65 ø 58 mm [2.28"]
- 3 = clamping flange, IP67 ø 58 mm [2.28"]
- 2 = synchro flange, IP65 ø 58 mm [2.28"]
- 4 = synchro flange, IP67 ø 58 mm [2.28"]
- 5 = square flange, IP65 □ 63.5 mm [2.5"]
- 7 = square flange, IP67 □ 63.5 mm [2.5"]

b Shaft (ø x L), with flat

- 1 = 6 x 10 mm [0.24 x 0.39"]¹⁾
- 2 = 10 x 20 mm [0.39 x 0.79"]²⁾
- 3 = 1/4" x 7/8"
- 4 = 3/8" x 7/8"

c Interface / power supply

- C = PROFINET IO / 10 ... 30 V DC

e Fieldbus profile

- C2 = PROFINET IO

- d Type of connection
removable bus terminal cover

- 2 = 3 x M12 connector, 4-pin

- Optional on request
- Ex 2/22
- surface protection salt spray tested

Order code 8.5888 . X X C 2 . C2 12
Hollow shaft Type

If for each parameter of an encoder the underlined preferred option is selected, then the delivery time will be 10 working days for a maximum of 10 pieces.
Qts. up to 50 pcs. of these types generally have a delivery time of 15 working days.



a Flange

- 1 = with spring element, long, IP65
- 2 = with spring element, long, IP67
- 3 = with stator coupling, IP65 ø 65 mm [2.56"]
- 4 = with stator coupling, IP67 ø 65 mm [2.56"]
- 5 = with stator coupling, IP65 ø 63 mm [2.48"]
- 6 = with stator coupling, IP67 ø 63 mm [2.48"]

b Blind hollow shaft

- 3 = ø 10 mm [0.39"]
- 4 = ø 12 mm [0.47"]
- 5 = ø 14 mm [0.55"]
- 6 = ø 15 mm [0.59"]
- 8 = ø 3/8"
- 9 = ø 1/2"

c Interface / power supply

- C = PROFINET IO / 10 ... 30 V DC

e Fieldbus profile

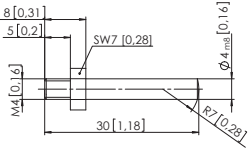
- C2 = PROFINET IO

- d Type of connection
removable bus terminal cover

- 2 = 3 x M12 connector, 4-pin

- Optional on request
- Ex 2/22
- surface protection salt spray tested

Absolute encoders – multiturn

Standard mechanical multiturn, optical	Sendix 5868 / 5888 (shaft / hollow shaft)	PROFINET IO
		Order no.
Coupling	bellows coupling \varnothing 19 mm [0.75"] for shaft 6 mm [0.24"]	8.0000.1102.0606
	bellows coupling \varnothing 19 mm [0.75"] for shaft 10 mm [0.39"]	8.0000.1102.1010
		Order no.
Cylindrical pin, long for torque stops		with fixing thread
		8.0010.4700.0000
		Order no.
Connection technology		
Connector, self-assembly (straight)	coupling M12 for port 1 and port 2 connector M12 for power supply	05.WASCSY4S 05.B8141-0
Cordset, pre-assembled	M12 for port 1 and port 2, 2 m [6.56'] PUR cable M12 for power supply, 2 m [6.56'] PUR cable	05.00.6031.4411.002M 05.00.6061.6211.002M

Technical data	
Mechanical characteristics	
Maximum speed	IP65 up to 70°C [158°F] 9000 min ⁻¹ , 7000 min ⁻¹ (continuous) IP65 up to T _{max} 7000 min ⁻¹ , 4000 min ⁻¹ (continuous) IP67 up to 70°C [158°F] 8000 min ⁻¹ , 6000 min ⁻¹ (continuous) IP67 up to T _{max} 6000 min ⁻¹ , 3000 min ⁻¹ (continuous)
Starting torque - at 20°C [68°F]	IP65 < 0.01 Nm IP67 < 0.05 Nm
Mass moment of inertia	shaft version 3.0 x 10 ⁻⁶ kgm ² hollow shaft version 7.5 x 10 ⁻⁶ kgm ²
Load capacity of shaft	radial 80 N axial 40 N
Weight	approx. 0.54 kg [19.05 oz]
Protection acc. to EN 60529	housing side IP67 shaft side IP65, opt. IP67
Working temperature range	-40°C ... +85°C [-40°F ... +185°F]
Material	shaft/hollow shaft stainless steel flange aluminium housing zinc die-cast
Shock resistance acc. to EN 60068-2-27	2500 m/s ² , 6 ms
Vibration resistance acc. to EN 60068-2-6	100 m/s ² , 55 ... 2000 Hz
Interface characteristics PROFINET IO	
Resolution singleturn	1 ... 65535 (16 bit), scaleable default: 8192 (13 bit)
Number of revolutions (multiturn)	max. 4096 (12 bit) scalable only via the total resolution
Total resolution	1 ... 268.435.456 (28 bit), scaleable default: 33.554.432 (25 bit)
Code	binary
Protocol	PROFINET IO
Link 1 and 2, LED (green / yellow)	
two coloured	green active link yellow data transfer
Error LED (red) / PWR LED (green)	
Functionality see manual	

Electrical characteristics	
Power supply	10 ... 30 V DC
Power consumption (no load)	max. 200 mA
Reverse polarity protection of the power supply	yes
UL approval	file 224618
CE compliant acc. to	EMC guideline 2004/108/EC RoHS guideline 2011/65/EUU

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Sendix 5868 / 5888 (shaft / hollow shaft)

PROFINET IO

General information about PROFINET IO

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 & maintenance functionality version 1.16 has been implemented. IM blocks 0, 1, 2, 3 and 4 are supported.

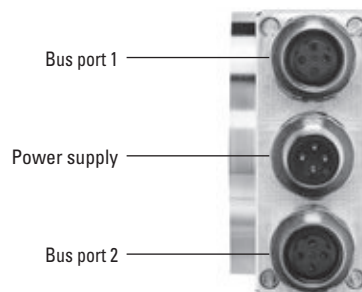
The **M**edia **R**edundancy **P**rotokoll is implemented here.

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.

Terminal assignment

Interface	Type of connection	Function	M12 connector					Diagram
			Signal:	Transmit data+	Receive data+	Transmit data -	Receive data -	
C	2 (3 x M12 connector)	Bus port 1	Signal:	Transmit data+	Receive data+	Transmit data -	Receive data -	
			Abbreviation:	TxD+	RxD+	TxD-	RxD-	
			Pin:	1	2	3	4	
		Power supply	Signal:	Voltage +	-	Voltage -	-	
			Abbreviation:	+	-	0 V	-	
			Pin:	1	2	3	4	
		Bus port 2	Signal:	Transmit data+	Receive data+	Transmit data -	Receive data -	
			Abbreviation:	TxD+	RxD+	TxD-	RxD-	
			Pin:	1	2	3	4	

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PROFINET IO

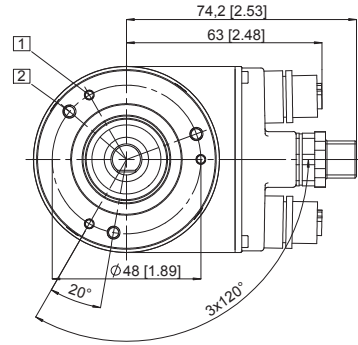
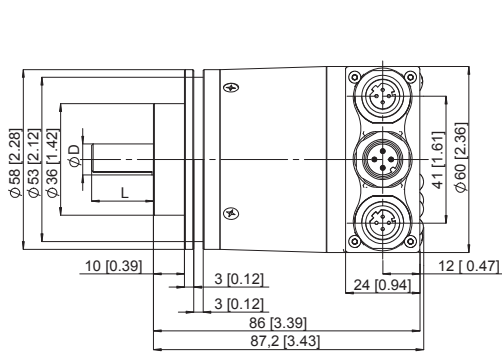
Dimensions shaft version, with removable bus terminal cover

Dimensions in mm [inch]

Clamping flange, \varnothing 58 [2.28]

Flange type 1 and 3

- 1 3 x M3, 6.0 [0.24] deep
- 2 3 x M4, 8.0 [0.31] deep

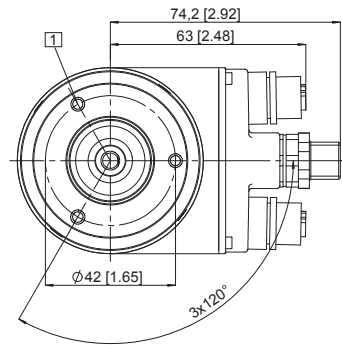
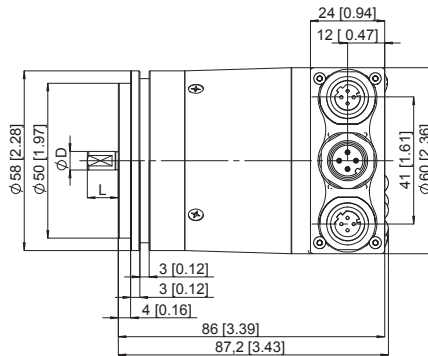


D	L	Fit
6 [0.24]	10 [0.39]	h7
10 [0.39]	20 [0.79]	f7
1/4"	7/8"	h7
3/8"	7/8"	h7

Synchro flange, \varnothing 58 [2.28]

Flange type 2 and 4

- 1 M4, 6.0 [0.24] deep

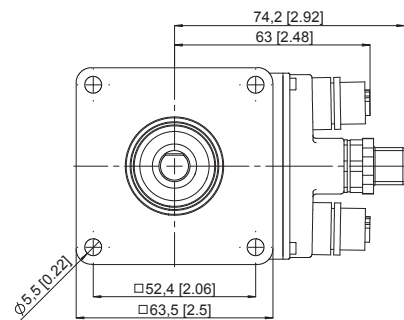
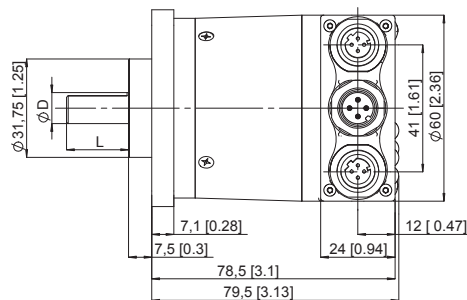


D	L	Fit
6 [0.24]	10 [0.39]	h7
10 [0.39]	20 [0.79]	f7
1/4"	7/8"	h7
3/8"	7/8"	h7

Square flange, \square 63.5 [2.5]

Flange type 5 and 7

D	L	Fit
6 [0.24]	10 [0.39]	h7
10 [0.39]	20 [0.79]	f7
1/4"	7/8"	h7
3/8"	7/8"	h7



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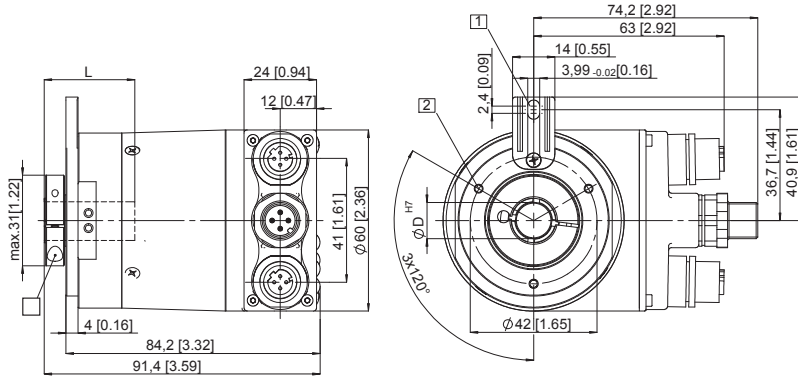
PROFINET IO

Dimensions hollow shaft version (blind hollow shaft), with removable bus terminal cover

Dimensions in mm [inch]

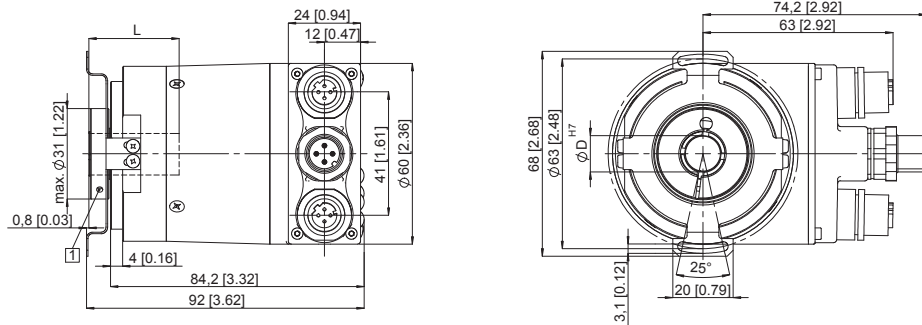
**Flange with spring element, long
Flange type 1 and 2**

- 1 Torque stop slot, recommendation: cylindrical pin DIN 7, \varnothing 4 [0.16]
 - 2 M3, 5.5 [0.21] deep
 - 3 Recommended torque for the clamping ring 0.6 Nm
- L: Insertion depth for blind hollow shaft: 30 [1.18]



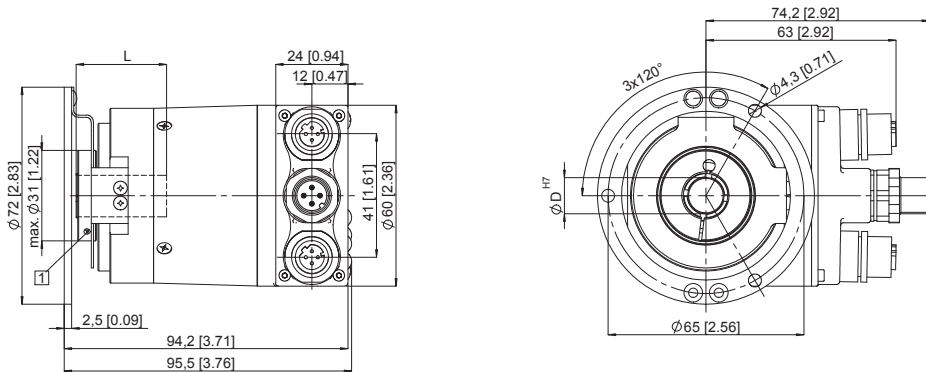
**Flange with stator coupling, \varnothing 63 [2.48]
Flange type 5 and 6**

- 1 Recommended torque for the clamping ring 0.6 Nm
- L: Insertion depth for blind hollow shaft: 30 [1.18]



**Flange with stator coupling, \varnothing 65 [2.56]
Flange type 3 and 4**

- 1 Recommended torque for the clamping ring 0.6 Nm
- L: Insertion depth for blind hollow shaft: 30 [1.18]



Absolute encoders
multiturn

Subject to change without prior notice.

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