

Absolute Encoders - Singleturn

**Standard
Optical**

Sendix 5858 / 5878 (Shaft / Hollow shaft)

PROFINET IO



The singleturn encoders 5858 and 5878 with PROFINET interface and optical sensor technology are ideal for use in all applications with a PROFINET interface.

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

Easy start-up thanks to the "Ezturn for PROFINET" software supplied with the encoder.



Safety-Lock™



High rotational speed



Temperature range
-40°...+85°C



High protection level
IP67



High shaft load capacity



Shock / vibration resistant



Magnetic field proof



Short-circuit proof



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

Flexible

- 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

Order code Shaft version

8.5858
Type

.XXC2.C212
a b c d e

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 Field bus profile

C2 = PROFINET IO

d Type of connection

2 = 3 x M12 connector

removable bus terminal cover
optional on request
- Ex 2/22
- seawater-resistant

Order code Hollow shaft

8.5878
Type

.XXC2.C212
a b c d e

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 Field bus profile

C2 = PROFINET IO

d Type of connection

2 = 3 x M12 connector

removable bus terminal cover
optional on request
- Ex 2/22
- seawater-resistant

1) Preferred type only in conjunction with flange type 2
2) Preferred type only in conjunction with flange type 1

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Mounting accessory for shaft encoders		Order No.
Coupling	Bellows coupling ø 19 mm [0.75"] for shaft 6 mm [0.24"]	8.0000.1101.0606
	Bellows coupling ø 19 mm [0.75"] for shaft 10 mm [0.39"]	8.0000.1101.1010

Mounting accessory for hollow shaft encoders		Order No.
Cylindrical pin, long for torque stops		8.0010.4700.0000
	With fixing thread	

Connection technology		Order No.
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

Further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories
Additional connectors can be found in the connection technology section or in the connection technology area of our website at: www.kuebler.com/connection_technology

Technical data

Mechanical characteristics		
Max. speed	IP65 up to 70°C [158°F] IP65 up to T _{max} IP67 up to 70°C [158°F] IP67 up to T _{max}	9 000 min ⁻¹ , 7 000 min ⁻¹ (continuous) 7 000 min ⁻¹ , 4 000 min ⁻¹ (continuous) 8 000 min ⁻¹ , 6 000 min ⁻¹ (continuous) 6 000 min ⁻¹ , 3 000 min ⁻¹ (continuous)
Starting torque - at 20°C [68°F]	IP65 IP67	< 0.01 Nm < 0.05 Nm
Moment of inertia	Shaft version Hollow shaft version	3.0 x 10 ⁻⁶ kgm ² 6.0 x 10 ⁻⁶ kgm ²
Load capacity of shaft	radial axial	80 N 40 N
Weight		approx. 0.50 kg [17.64 oz]
Protection acc. to EN 60529	housing side shaft side	IP67 IP65, opt. IP67
EX approval for hazardous areas		optional Zone 2 and 22
Working temperature range		-40°C ... +85°C [-40°F ... +185°F]
Material	shaft/hollow shaft flange housing	stainless steel aluminium zinc die-cast housing
Shock resistance acc. EN 60068-2-27		2500 m/s ² , 6 ms
Vibration resistance acc. EN 60068-2-6		100 m/s ² , 55 ... 2000 Hz

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

Device characteristics	
Singleturn resolution	1 ... 65535 (16 bit), scalable
Default value	8192 (13 bit)
Total resolution	scalable from 1 up to 65535 (13 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

Ezturn software for PROFINET IO (supplied with the encoder)
<ul style="list-style-type: none"> Monitoring of cyclic data (e.g. position, speed) Monitoring of acyclic data (e.g. IMO, electronic name plate, encoder parameters, warnings and error messages, preset) Setting of preset values Firmware updates via the bus

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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

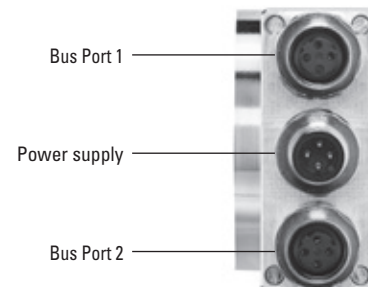
The complete encoder profile according to Profile Encoder Version 4.1 as well as the Identification & Maintenance functionality Version 1.16 has been implemented. IM blocks 0, 1, 2, 3 and 4 are supported.

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 bus

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:	+ V	-	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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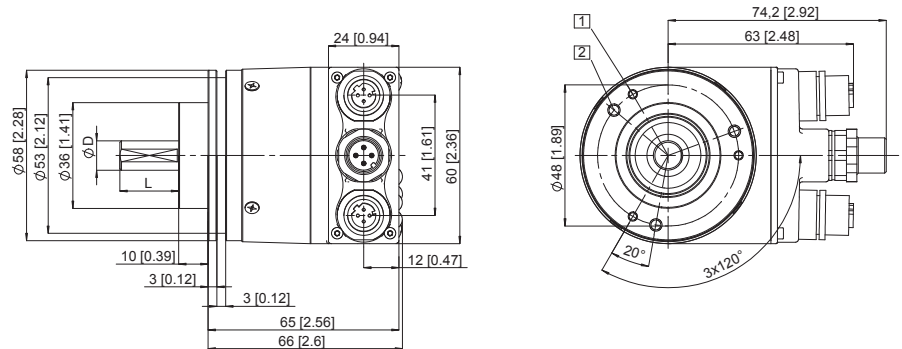
Dimensions shaft version, with removable bus terminal cover

Dimensions in mm [inch]

Clamping flange, \varnothing 58 [2.28] Flange type 1 and 3

- 1 3 x M3, 6 [0.24] deep
- 2 3 x M4, 8 [0.32] deep

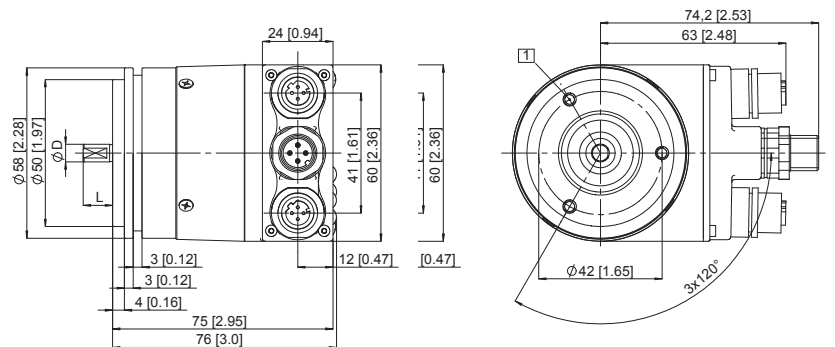
D	L	Fit
6 [0.24]	10 [0.39]	h7
10 [0.39]	20 [0.79]	f7
1/4"	7/8"	h7
3/8"	7/8"	h7



Synchro flange, \varnothing 58 [2.28] Flange type 2 and 4

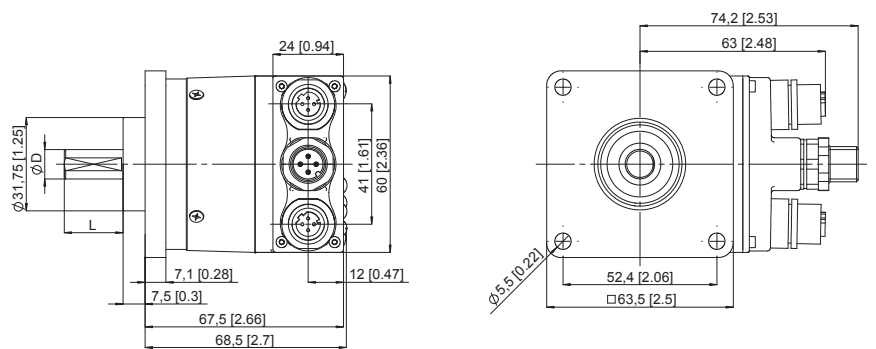
- 1 3 x M4, 6 [0.24] deep

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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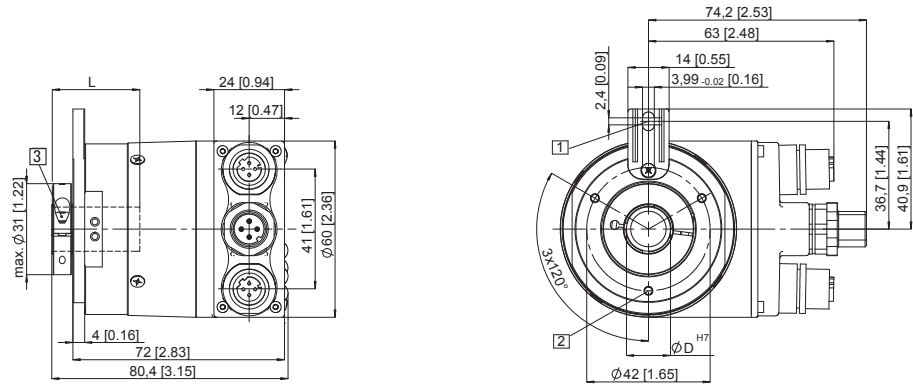
PROFINET IO

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

Dimensions in mm [inch]

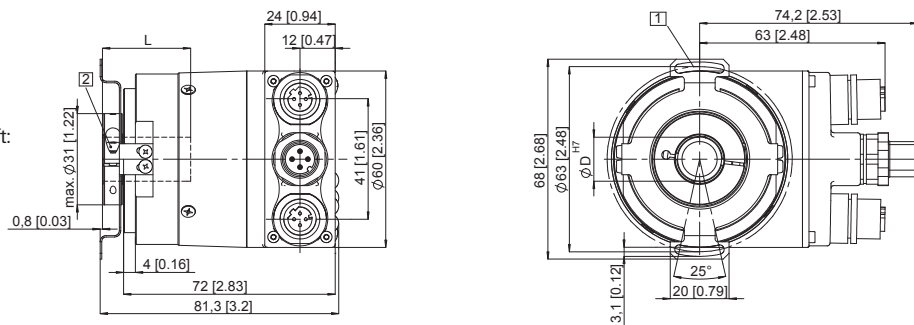
Flange with spring element long Flange type 1 and 2

- 1 Torque stop slot,
Recommendation:
Cylindrical pin DIN 7, $\varnothing 4$ [0.16]
 - 2 3 x 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 Fixing screws DIN 912 M3 x 8
(Washer included in delivery)
 - 2 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]

