Absolute encoders – multiturn



Compact

electronic multiturn, magnetic

Sendix M3668 / M3688 (shaft / hollow shaft)

IO-Link





The Sendix M36 with Energy Harvesting Technology is an electronic multiturn encoder in compact design, without gear and without battery. It is characterized by robustness, reliability and cost-efficiency.

With Smart Sensor Profile for easy and fast integration into the application.



capacity





protection















resistant





salt spray-tested optional

Harvesting

speed

Reliable and insensitive

- Sturdy bearing construction in Safety-Lock™ design for resistance against vibration and installation errors.
- · Reduced number of components ensures magnetic insensitivity.
- IP67 protection and wide temperature range -40 °C ... +85 °C.
- · Without gear and without battery, thanks to the Energy Harvesting technology.

Up-to-the-minute performance

- · Operation possible with any IO-Link master.
- Point-to-point communication in automation networks.
- · Use of cost-effective unshielded cables possible.
- · Automatic saving of device parameters.
- Firmware update via IO-Link.

Order code **Shaft version**

8.M3668

|X|X|4|X|41 |X|2 8060 **(** Û

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, IP67, Ø 36 mm [1.42"]

3 = clamping flange, IP65, ø 36 mm [1.42"]

2 = synchro flange, IP67, ø 36 mm [1.42"]

4 = synchro flange, IP65, ø 36 mm [1.42"]

b Shaft (ø x L), with flat

1 = Ø 6 x 12.5 mm [0.24 x 0.49"]

 $3 = \emptyset 8 \times 15 \text{ mm} [0.32 \times 0.59"]$

 $5 = \emptyset 10 \times 20 \text{ mm} [0.39 \times 0.79"]$ $2 = \emptyset 1/4" \times 12.5 \text{ mm } [0.49"]$

Interface / supply voltage

4 = 10-Link / 18 ... 30 V DC

Type of connection

3 = axial M12 connector, 4-pin 4 = radial M12 connector, 4-pin

e Fieldbus profile 41 = 10-Link

Profile

2 = Standard Profile 1)

3 = Smart Sensor Profile 2)

Optional on request

- Ex 2/22

- surface protection salt spray tested

Order code **Hollow** shaft

8.M3688 Type

|X|X|4|X|41 |X|2 0000 Θ Û

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

2 = with stator coupling, IP65, ø 46 mm [1.81"]

3 = with spring element, long, IP65

5 = with stator coupling, IP67, ø 46 mm [1.81"]

6 = with spring element, long, IP67

b Blind hollow shaft (insertion depth max. 18.5 mm [0.73"])

 $1 = \emptyset 6 \text{ mm} [0.24'']$

 $3 = \emptyset 8 \text{ mm} [0.32"]$

 $4 = \emptyset$ 10 mm [0.39"]

2 = 0.01/4'

ⓒ Interface / supply voltage

4 = 10-Link / 18 ... 30 V DC

d Type of connection

3 = axial M12 connector, 4-pin 4 = radial M12 connector, 4-pin

e Fieldbus profile 41 = 10-Link

Profile

2 = Standard Profile 1)

3 = Smart Sensor Profile 2)

Optional on request

- Ex 2/22

- surface protection salt spray tested

¹⁾ Delivered with default setting for Standard Profile (switchable to Smart Sensor Profile).

²⁾ Delivered with default setting for Smart Sensor Profile (switchable to Standard Profile).



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CICCHOING Multitulii, III	Sendix Misodo / Misodo (Shart / Horlow Sha	io-Link
Mounting accessory for shat	it encoders	Order no.
Coupling	Bellows coupling ø 19 mm [0.75"] for shaft 8 mm [0.32"]	8.0000.1102.0808
Mounting accessory for holl	ow shaft encoders Dimensions in mm [inch]	Order no.
Torque pin, ø 4 mm	with fixing thread	8.0010.4700.0000
for flange with spring element (flange type 3 + 6)	8[0,31] 5[0,2] SW7 [0,28] 30[1,18]	
Cables and connectors		Order no.
Preassembled cables	M12 female connector with coupling nut, 4-pin, A coded, straight single-ended 2 m [6.56'] PUR cable	05.00.6061.6211.002M
Connectors	M12 female connector with coupling nut, 4-pin, A coded, straight	05.B8141-0

Further Kübler accessories can be found at: kuebler.com/accessories

Further Kübler cables and connectors can be found at: kuebler.com/connection-technology

Technical data

Mechanical cha	racteristics		
Maximum speed shaft or blind hollov without shaft seal (I		6000 min ⁻¹ 3000 min ⁻¹ (cont	inuous)
shaft or blind hollow shaft version with shaft seal (IP67)		4000 min ⁻¹ 2000 min ⁻¹ (continuous)	
Starting torque at 2	0 °C [68 °F] without shaft seal with shaft seal (IP67	< 0.007 Nm < 0.01 Nm	
Shaft load capacity	radial axial	40 N 20 N	
Weight		approx. 210 g [7.	.41 oz]
Protection acc. to E	N 60529	IP65 or IP67	
Working temperatu	re range	-40 °C +85 °C	[-40 °F +185 °F]
Materials	shaft / hollow shaft flange housing	stainless steel aluminum zinc die-cast	
Shock resistance a	cc. to EN 60068-2-27	2500 m/s ² , 6 ms	
Vibration resistance	acc. to EN 60068-2-6	300 m/s², 10 20	000 Hz

Electrical characteristics	
Supply voltage	18 30 V DC
Current consumption (no load)	max. 40 mA
Reverse polarity protection of the supply voltage	yes

Interface characteristics IO-Link	
Resolution singleturn	1 16.384 (14 bit), scalable default: 16.384 (14 bit)
Angular measurement deviation 1)	±0,5°
Repeat accuracy	±0,2°
Number of revolutions (multiturn)	1 262.144 (18 bit), scalable only via the total resolution default: 262.144 (18 bit)
Total resolution	4 4.294.967.296 (32 bit), scalable default: 4.294.967.296 (32 bit)
Interface	IO-Link version 1.1 acc. to IEC 61131-9
Profile (details see manual)	Kübler Standard Profile or Smart Sensor Profile
Port classe	Type A

Approvals	
UL compliant in accordance with	File no. E224618
CE compliant in accordance with	
EMC Directive	2014/30/EU
RoHS Directive	2011/65/EU
ATEX Directive	2014/34/EU (for Ex 2/22 variants)

¹⁾ Over the whole temperature range.



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Terminal assignment

	Interface	Type of connection	M12 connector, 4-pin				
			Signal:	Supply voltage +V DC	Reserved (no function)	Supply voltage 0 V (GND)	IO-Link communication (Data line)
	4 3,4	Abbreviation:	L+	res.	L-	C/Q	
		Pin:	1	2	3	4	

Top view of mating side, male contact base



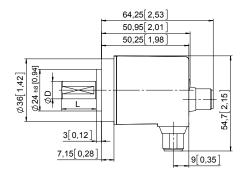
M12 connector, 4-pin

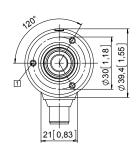
Dimensions shaft version

Dimensions in mm [inch]

Clamping flange, ø 36 [1.42] Flange type 1 and 3

1 3 x M3, 6 [0.24] deep

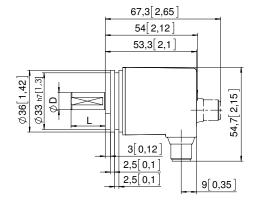


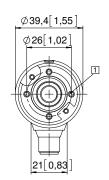


D	Fit	L
6 [0.24]	h7	12,5 [0.49]
8 [0.32]	h7	15 [0.59]
10 [0.39]	f7	20 [0.79]
1/4"	h7	12,5 [0.49]

Synchro flange, ø 36 [1.42] Flange type 2 and 4

1 4 x M3, 6 [0.24] deep





D	Fit	L
6 [0.24]	h7	12,5 [0.49]
8 [0.32]	h7	15 [0.59]
10 [0.39]	f7	20 [0.79]
1/4"	h7	12,5 [0.49]

3



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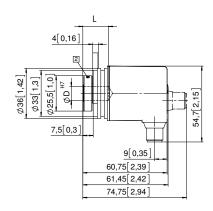
Dimensions hollow shaft version

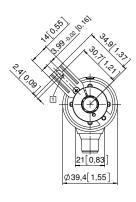
Dimensions in mm [inch]

Flange with spring element, long Flange type 3 and 6

- Slot spring element, recommendation: torque pin DIN 7, Ø 4 [0.16]
- 2 Recommended torque for the clamping ring 0.7 Nm

D	Fit	L	D1
6 [0.24]	H7	18,5 [0.73]	24 [0.94]
8 [0.32]	H7	18,5 [0.73]	25,5 [1.00]
10 [0.39]	H7	18,5 [0.73]	25,5 [1.00]
1/4"	H7	18,5 [0.73]	24 [0.94]
I = insertion denth max blind hollow shaft			





Flange with stator coupling, ø 46 [1.81] Flange type 2 and 5

1 Recommended torque for the clamping ring 0.7 Nm

D	Passung	L	D1
6 [0.24]	H7	18,5 [0.73]	24 [0.94]
8 [0.32]	H7	18,5 [0.73]	25,5 [1.00]
10 [0.39]	H7	18,5 [0.73]	25,5 [1.00]
1/4"	H7	18,5 [0.73]	24 [0.94]
L = insertion depth max. blind hollow shaft			

