

Absolute encoders – multiturn

**Compact
electronic multiturn, magnetic**

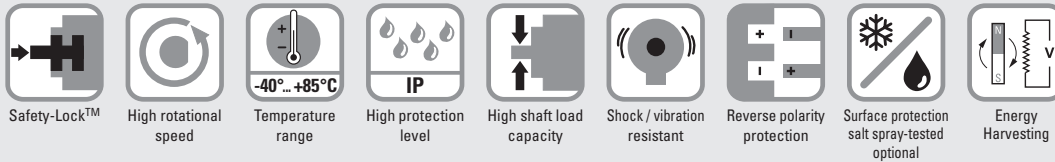
Sendix M3668 / M3688 (shaft / hollow shaft)

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.



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 8.M3668 . XX4X . 41 X 2
Shaft version Type a b c d e f

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 = ø 8 x 15 mm [0.32 x 0.59"]
- 5 = ø 10 x 20 mm [0.39 x 0.79"]
- 2 = ø 1/4" x 12.5 mm [0.49"]

c Interface / supply voltage

- 4 = IO-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 = IO-Link

f Profile

- 2 = Standard Profile¹⁾
- 3 = Smart Sensor Profile²⁾

Optional on request

- Ex 2/22

- surface protection salt spray tested

Order code 8.M3688 . XX4X . 41 X 2
Hollow shaft Type a b c d e f

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 = ø 6 mm [0.24"]
- 3 = ø 8 mm [0.32"]
- 4 = ø 10 mm [0.39"]
- 2 = ø 1/4"

c Interface / supply voltage

- 4 = IO-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 = IO-Link

f Profile

- 2 = Standard Profile¹⁾
- 3 = Smart Sensor Profile²⁾

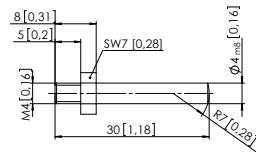
Optional on request

- 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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Mounting accessory for shaft encoders			Order no.
Coupling	Bellows coupling \varnothing 19 mm [0.75"] for shaft 8 mm [0.32"]		8.0000.1102.0808
Mounting accessory for hollow shaft encoders Dimensions in mm [inch]			Order no.
Torque pin, \varnothing 4 mm for flange with spring element (flange type 3 + 6)	with fixing thread 		8.0010.4700.0000
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 characteristics	
Maximum speed	shaft or blind hollow shaft version 6000 min ⁻¹ without shaft seal (IP65) 3000 min ⁻¹ (continuous)
	shaft or blind hollow shaft version 4000 min ⁻¹ with shaft seal (IP67) 2000 min ⁻¹ (continuous)
Starting torque at 20 °C [68 °F]	without shaft seal < 0.007 Nm with shaft seal (IP67) < 0.01 Nm
Shaft load capacity	radial 40 N axial 20 N
Weight	approx. 210 g [7.41 oz]
Protection acc. to EN 60529	IP65 or IP67
Working temperature range	-40 °C ... +85 °C [-40 °F ... +185 °F]
Materials	shaft / hollow shaft stainless steel flange aluminum 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	300 m/s ² , 10 ... 2000 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)
Absolute accuracy ¹⁾	$\pm 1^\circ$
Repeat accuracy	$\pm 0,2^\circ$
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)
UKCA compliant in accordance with	EMC Regulations S.I. 2016/1091 RoHS Regulations S.I. 2012/3032 UKEX Regulations S.I. 2016/1107 (for Ex 2/22 variants)

1) Over the whole temperature range.

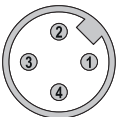
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Terminal assignment

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

Top view of mating side, male contact base



M12 connector, 4-pin

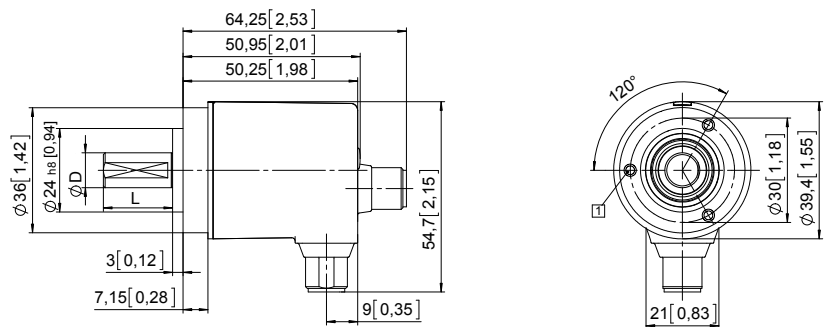
Dimensions shaft version

Dimensions in mm [inch]

Clamping flange, $\varnothing 36$ [1.42]

Flange type 1 and 3

1 3 x M3, 6 [0.24] deep

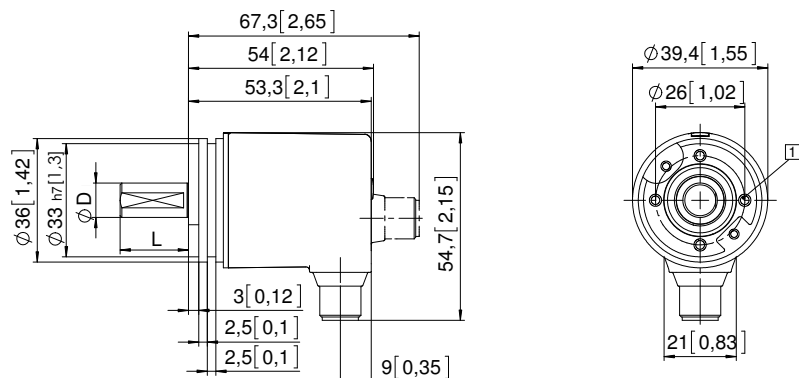


D	Fit	L
6 [0.24]	h7	12,5 [0.49]
8 [0.32]	h7	15 [0.59]
10 [0.39]	f7	20 [0.79]
1/4"	h7	12,5 [0.49]

Synchro flange, $\varnothing 36$ [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]

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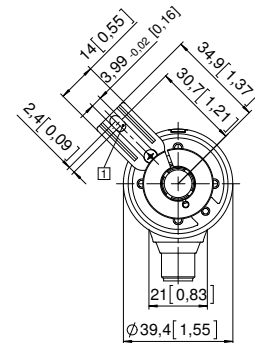
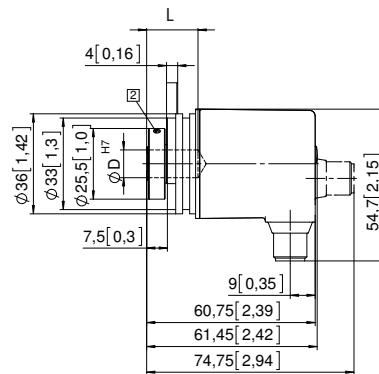
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Dimensions hollow shaft version

Dimensions in mm [inch]

Flange with spring element, long Flange type 3 and 6

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

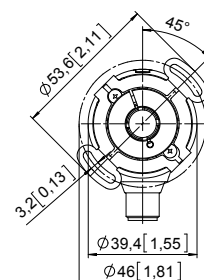
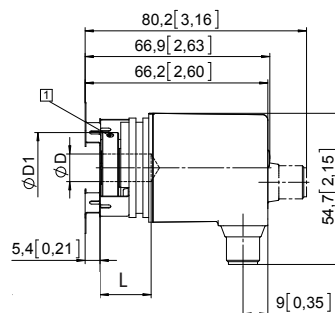


D	Fit	L	D1
6 [0.24]	H7	18,5 [0.73]	24 [0.94]
8 [0.32]	H7	18,5 [0.73]	25,5 [1.00]
10 [0.39]	H7	18,5 [0.73]	25,5 [1.00]
1/4"	H7	18,5 [0.73]	24 [0.94]

L = insertion depth max. blind hollow shaft

Flange with stator coupling, ϕ 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