

Absolute encoders - singleturn

Compact magnetic	Sendix M3658A/M3678A (shaft / hollow shaft)	IO-Link
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The Sendix M36 is a magnetic singleturn encoder in compact design. It is characterized by robustness, reliability and cost-efficiency.

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



Safety-Lock™	High rotational speed	Temperature range -40°... +85°C	High protection level IP	High shaft load capacity	Shock / vibration resistant	Reverse polarity protection	Surface protection salt spray-tested optional

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.

Up-to-the-minute performance

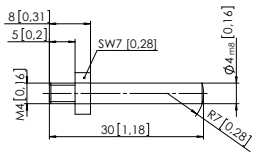
- Operation possible with any IO-Link master.
- Point-to-point communication in automation networks.
- Use of cost-effective unshielded cables possible.
- Automatic saving of device parameters.
- Firmware update via IO-Link.

Order code	8.M3658A	.XX4X	.41X2	If for each parameter of an encoder the <u>underlined preferred option</u> 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.	
Shaft version	Type	a b c d	e f		
a Flange	1 = clamping flange, IP67, ø 36 mm [1.42"]			c Interface / power supply	
	3 = clamping flange, IP65, ø 36 mm [1.42"]			<u>4 = IO-Link / 18 ... 30 V DC</u>	
	2 = synchro flange, IP67, ø 36 mm [1.42"]			d Type of connection	f Profile
	<u>4 = synchro flange, IP65, ø 36 mm [1.42"]</u>			3 = axial M12 connector, 4-pin	<u>2 = Standard Profile</u> ¹⁾
b Shaft (ø x L), with flat	1 = ø 6 x 12.5 mm [0.24 x 0.49"]			<u>4 = radial M12 connector, 4-pin</u>	3 = Smart Sensor Profile ²⁾
	<u>3 = ø 8 x 15 mm [0.32 x 0.59"]</u>				Optional on request
	5 = ø 10 x 20 mm [0.39 x 0.79"]			e Fieldbus profile	- Ex 2/22
	2 = ø 1/4" x 12.5 mm [0.49"]			<u>41 = IO-Link</u>	- surface protection salt spray tested

Order code	8.M3678A	.XX4X	.41X2	If for each parameter of an encoder the <u>underlined preferred option</u> 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.	
Hollow shaft	Type	a b c d	e f		
a Flange	<u>2 = with stator coupling, IP65, ø 46 mm [1.81"]</u>			c Interface / power supply	
	3 = with spring element, long, IP65			<u>4 = IO-Link / 18 ... 30 V DC</u>	
	5 = with stator coupling, IP67, ø 46 mm [1.81"]			d Type of connection	f Profile
	6 = with spring element, long, IP67			3 = axial M12 connector, 4-pin	<u>2 = Standard Profile</u> ¹⁾
b Blind hollow shaft (insertion depth max. 18.5 mm [0.73"])	1 = ø 6 mm [0.24"]			<u>4 = radial M12 connector, 4-pin</u>	3 = Smart Sensor Profile ²⁾
	3 = ø 8 mm [0.32"]				Optional on request
	<u>4 = ø 10 mm [0.39"]</u>			e Fieldbus profile	- Ex 2/22
	2 = ø 1/4"			<u>41 = IO-Link</u>	- 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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Compact magnetic	Sendix M3658A/M3678A (shaft / hollow shaft)	IO-Link
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. Bestell-Nr.
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 without shaft seal (IP65)	6000 min ⁻¹ 3000 min ⁻¹ (continuous)
shaft or blind hollow shaft version with shaft seal (IP67)	4000 min ⁻¹ 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	
Power supply	18 ... 30 V DC
Current consumption (no load)	max. 40 mA
Reverse polarity protection of the power supply	ja

Interface characteristics IO-Link	
Resolution singleturn	1 ... 16.384 (14 bit), scalable default: 16.384 (14 bit)
Angular measurement deviation ¹⁾	$\pm 0,5^\circ$
Repeat accuracy	$\pm 0,2^\circ$
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.

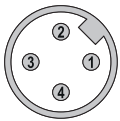
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Terminal assignment

Interface	Type of connection	M12 connector, 4-pin				
4	3, 4	Signal:	Power supply +V DC	Reserved (no function)	Power supply 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

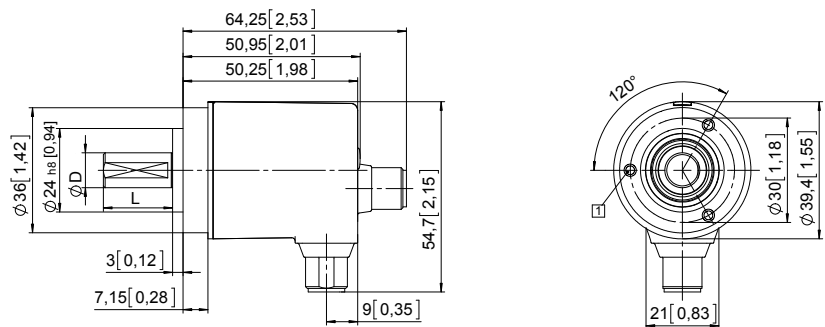
Dimensions shaft version

Dimensions in mm [inch]

Clamping flange, ø 36 [1.42]

Flange type 1 and 3

1 3 x M3, 6 [0.24] deep

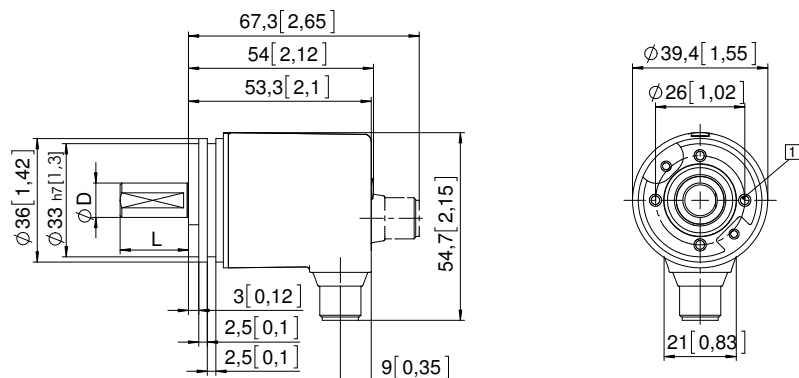


D	Fit	L
6 [0.24]	h7	12,5 [0.49]
8 [0.32]	h7	15 [0.59]
10 [0.39]	f7	20 [0.79]
1/4"	h7	12,5 [0.49]

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]

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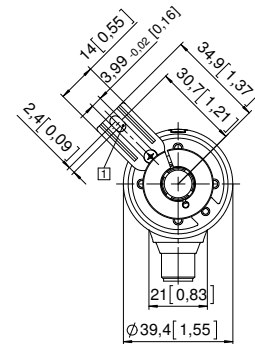
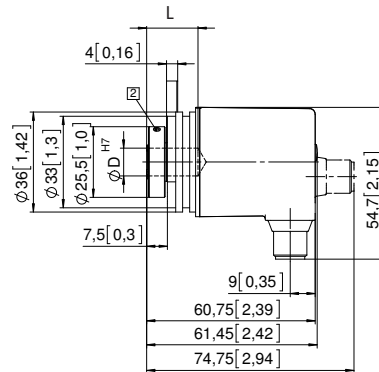
IO-Link

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, \varnothing 4 [0.16]
- 2 Recommended torque for the clamping ring 0.7 Nm

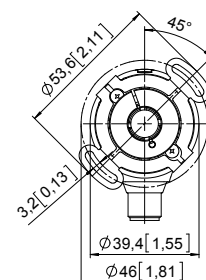
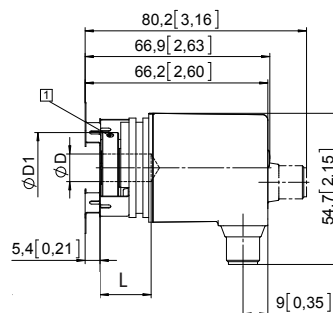


D	Fit	L	D1
6 [0.24]	H7	18,5 [0.73]	24 [0.94]
8 [0.32]	H7	18,5 [0.73]	25,5 [1.00]
10 [0.39]	H7	18,5 [0.73]	25,5 [1.00]
1/4"	H7	18,5 [0.73]	24 [0.94]

L = insertion depth max. blind hollow shaft

Flange with stator coupling, \varnothing 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