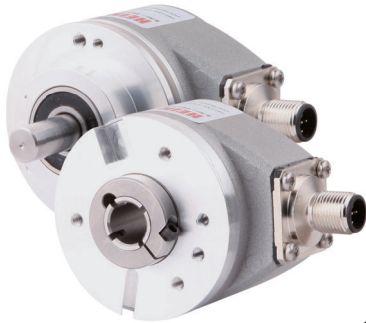


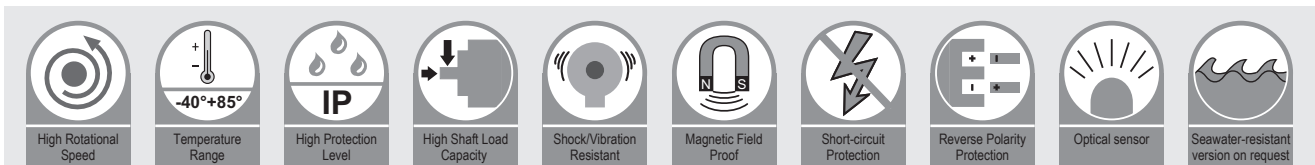
Incremental Encoders

Standard

11-58SX / 58HX



- Standard industrial flange
- High resolution up to 25000 ppr
- Protection acc. to EN 60 529, up to IP 67 optional
- High shock and vibration resistance
- Wide temperature range, -40°C ~ +85°C optional



Highlight :

- 58 mm outer diameter, standard flange types
- Wide temperature range, -40°C ~ +85°C optional
- Protection acc. to EN 60 529, up to IP 65, IP 67 optional
- Connection via cable, M12 or M23 connector
- High resolution up to 25000 ppr
- Pulse frequency up to 2 MHz

Mechanical characteristics

Max. Speed	Shaft: 12000 rpm; hollow Shaft: 6000 rpm
Starting torque	Shaft: ≤ 0.5 Ncm (at 20 °C); hollow Shaft: ≤ 2.2 Ncm
Moment of inertia	Shaft: 18 gcm ² ; hollow Shaft: 60 gcm ²
Shaft load capacity	Industrial type: Shaft: Radial125 N, Axial70 N; hollow Shaft: Radial80 N, Axial60 N Heavy duty: Radial500 N; Axial500 N*
Weight	Approx. 0.25 kg
Protection acc. to EN 60 529	IP 65, optional IP 67
Working temperature range	-20°C ... 80°C; -40°C ... 85°C optional**
Materials	Shaft: Stainless Steel、Flange/Housing: Aluminium
Shock resistance acc. to EN 60068-2-29	1000 m/s ² (6 ms)
Vibration resistance acc. to EN 60068-2-6	50 m/s ² (10-2000 Hz)

* Only for solid shaft type 8 ** Please contact us if need low temperature encoder.

SinCos Interface Electrical characteristics

Output circuit	SinCos (1Vpp)
Power supply	5 VDC
Power consumption with inverted signal	Max. 100 mA
Frequency	≤100 kHz
Permissible load / channel	Min. 120 Ohm
Short circuit protection	yes
Reverse polarity protection	no
UL approval	yes
CE compliant acc. to	EN 61326-1:2006 EN 61000-6-2:2006 EN 61000-6-3:2007

Electrical characteristics

Output circuit	RS422 Output	Push-pull	Push-pull(7272)
Power supply	5 VDC or 10 ... 30 VDC	10 ... 30 VDC	5 ... 30 VDC
Power consumption (no load)	Max. 70 mA****	Max. 70 mA****	Max. 70 mA****
Permissible load / channel	Max.40 mA	Max.40 mA	Max.40 mA
Pulse frequency	Max. 200 kHz***	Max. 200 kHz***	Max. 200 kHz***
Signal level	High: Min. 2.5 V Low: Max. 0.5 V	Min. U - 2.5V Max. 2.5 V	Min. U - %10U Max. 2.5 V
Rising edge time tr	Max. 200 ns	Max.1 μs	Max.1 μs
Falling edge time tf	Max. 200 ns	Max. 1 μs	Max.1 μs
Short circuit protection	yes	yes	no
Reverse polarity protection	no;10 ... 30 VDC yes	yes	yes
UL approval	yes	yes	yes
CE compliant acc. to	EN 61326-1:2006; EN 61000-6-2:2006 ; EN 61000-6-3:2007		

*** : 2MHz when resolution ≥ 10000ppr

**** : 100 mA when resolution ≥ 10000ppr

Incremental Encoders

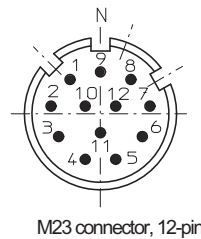
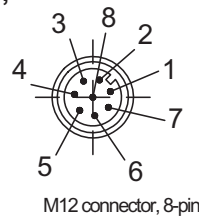
Standard

11-58SX / 58HX

Terminal assignment

Signal	Ub	GND	A	\bar{A}	B	\bar{B}	Z	\bar{Z}	Shield
Cable (Colour)	BN	WH	GN	RD	YE	BK	GY	VT	Shield
M12 connector, 8-pin	2	1	3	6	4	7	5	8	
M23 connector, 12-pin	12	10	5	6	8	1	3	4	

Top view of mating side, male contact base



Incremental encoder

Order Code Shaft Version

11-58SN-X X X X-XXXXX
Type **f a b c d e**

a Flange

- 1 = Clamping flange, \varnothing 58mm, IP65
- 2 = Clamping flange, \varnothing 58mm, IP67
- 3 = Synchro flange, \varnothing 58mm, IP65
- 4 = Synchro flange, \varnothing 58mm, IP67
- 5 = Synchro Clamping flange, \varnothing 63.5 mm, IP65
- 6 = Synchro Clamping flange, \varnothing 63.5 mm, IP67
- 7 = Square flange, 63.5 mm, IP65
- 8 = Square flange, 63.5 mm, IP67
- 9 = EURO Flange, 115 mm, IP65

b Shaft

- 2 = \varnothing 6 x 10 mm
- 5 = \varnothing 10 x 20 mm
- 6 = \varnothing 9.52 x 20 mm, Only for flange type 5,6,7,8
- 7 = \varnothing 11 x 33 mm, Only for flange type 9
- 8 = \varnothing 12 x 25 mm, Heavy duty, Only for flange type 1,2

c Output circuit / Power supply

- 1 = RS422 (with inverted signal) / 5 VDC
- 2 = RS422 (with inverted signal) / 10 ... 30VDC
- 3 = Push-pull (without inverted signal) / 10 ... 30VDC
- 4 = Push-pull (7272 with inverted signal) / 5 ...30VDC
(Only for equal or less than 2500ppr)
- 5 = Push-pull (with inverted signal) / 10 ... 30VDC
- 6 = SinCos, 1Vpp (with inverted signal) / 5VDC

- 2,5,15,20,25, 100,120, 500,512, 600,720, ... 1000,1024,1200,1250, 3600,4096,5000, 10000, 12500, 20000,25000
- 1 Vpp Sin/Cos: 1024 2048
- Other pulse rates on request

d Type of connection

- 1 = Axial cable, 2m
- 2 = Radial cable, 2m
- 3 = M23 connector, 12-pin, axial (without mating connector)
- 5 = M23 connector, 12-pin, radial (without mating connector)
- 6 = M12 connector, 8-pin, axial (without mating connector)
- 7 = M12 connector, 8-pin, radial (without mating connector)

f Type

- N = industrial grade
- L = -40°C...80°C

Order Code Hollow Shaft

11-58HN-X X X X-XXXXX
Type **f a b c d e**

a Flange

- 1 = without mounting accessory
- 3 = With short single arm spring
- 7 = With long single arm spring
- 8 = with D-wing spring coupling

b Hollow shaft

- 4 = \varnothing 8 mm
- 5 = \varnothing 10 mm
- Z = \varnothing 10 mm (only for blind hollow shaft)
- 6 = \varnothing 12 mm
- U = \varnothing 12 mm (only for blind hollow shaft)
- 7 = \varnothing 14 mm
- X = \varnothing 15 mm
- 8 = \varnothing 15 mm (only for blind hollow shaft)

c Output circuit / Power supply

- 1 = RS422 (with inverted signal) / 5 VDC
- 2 = RS422 (with inverted signal) / 10 ... 30VDC
- 3 = Push-pull (without inverted signal) / 10 ... 30VDC
- 4 = Push-pull (7272 with inverted signal) / 5 ...30VDC
(Only for equal or less than 2500ppr)
- 5 = Push-pull (with inverted signal) / 10 ... 30VDC
- 6 = SinCos, 1Vpp (with inverted signal) / 5VDC

e Pulse rate

- 2,5,15,20,25, 100,120, 500,512, 600,720, ... 1000,1024,1200,1250, 3600,4096,5000, 10000, 12500, 20000,25000
- 1 Vpp Sin/Cos 1024 2048
- Other pulse rates on request

d Type of connection

- 2 = Radial cable, 2m
- 5 = M23 connector, 12-pin, radial (without mating connector)
- 7 = M12 connector, 8-pin, radial (without mating connector)

f Type

- D = Mechanically strong
- N = industrial grade
- L = -40°C...80°C

Incremental Encoders

Standard

11-58SX / 58HX

Accessories

Connection technology:

Connector, self-assembly

M12 female connector with coupling nut

E1-1208-0101

M23 female connector with coupling nut

E1-3212-0100

Mounting accessory for shaft version:

Coupling

Bellows coupling (aluminium alloy) Ø 25mm for shaft 6 mm

T1-1000-3025-0606

Bellows coupling (spring steel) Ø 25mm for shaft 10 mm

T1-2000-5025-1010

Mounting accessory for hollow shaft version:

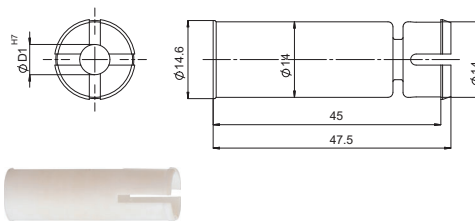
Stator coupling



Further accessories and exact order code please refer to the accessories section.

Isolated insertion

Isolation inserts prevent currents from passing through the encoder bearings. These currents can occur when using inverter controlled three-phase or AC motor and considerably shorten the service life of the encoder bearings.



Ø D1

6 mm

T2-0000-4001-1406

8 mm

T2-0000-4001-1408

10 mm

T2-0000-4001-1410

12 mm

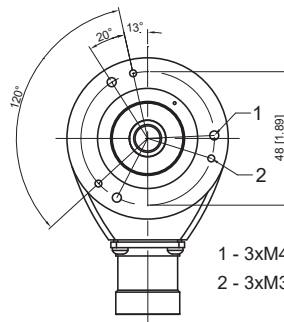
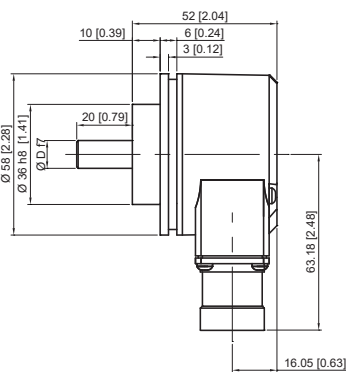
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Other bore size see accessories section

Dimensions

Shaft encoder:

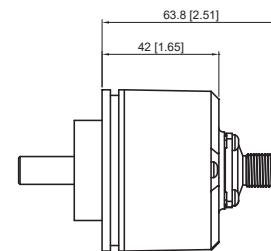
type of flange 1 and 2, type of connection 5



1 - 3xM4, Deep 8

2 - 3xM3, Deep 8

type of flange 1 and 2, type of connection 6



Incremental Encoders

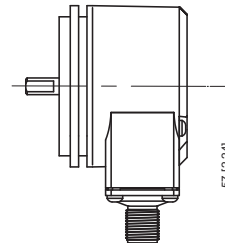
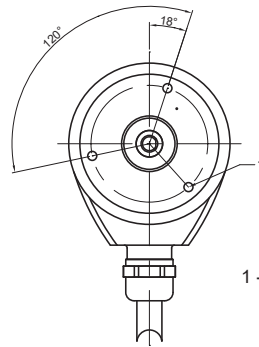
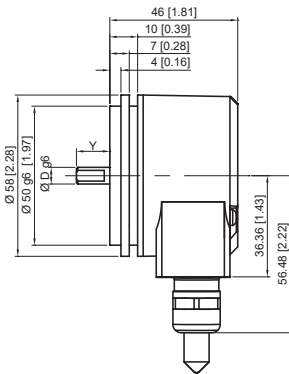
Standard

11-58SX / 58HX

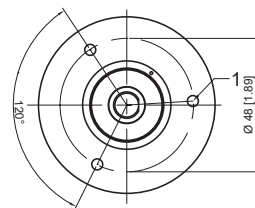
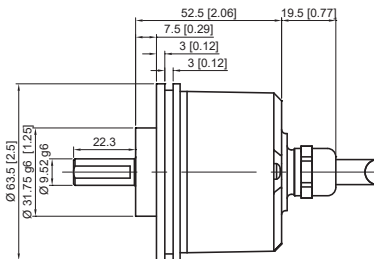
Shaft encoder

type of flange3 and 4 , ype of connection 2

type of flange3 and 4 , ype of connection 7

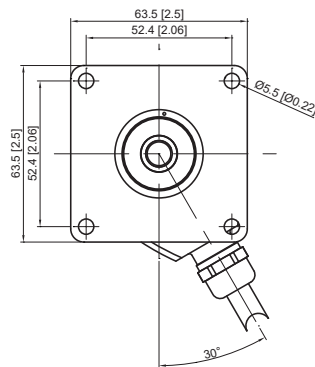
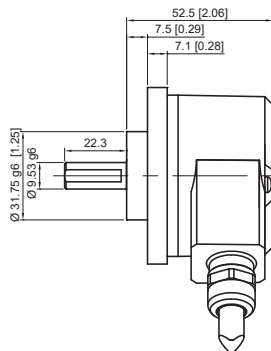


type of flange5 and 6 , ype of connection 1

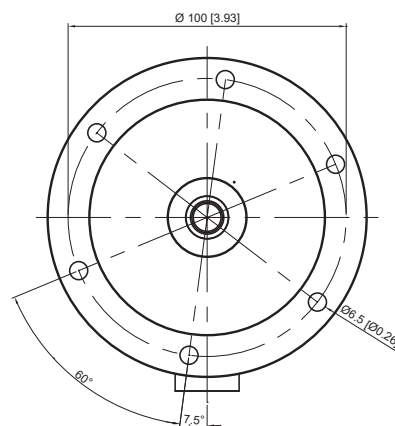
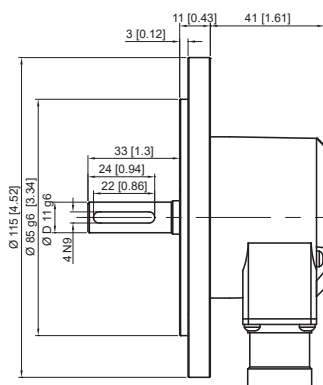


1 - 3xM4, Deep 8

type of flange7 and 8 , ype of connection 2



type of flange9 , ype of connection 5



Incremental encoder

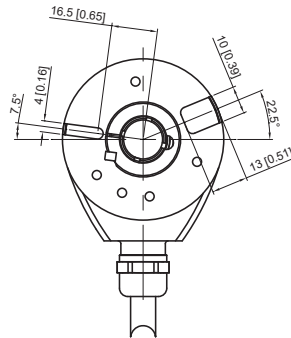
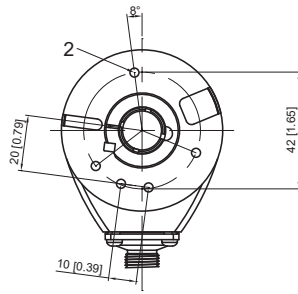
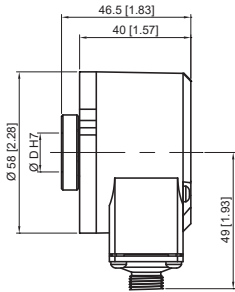
Incremental Encoders

Standard

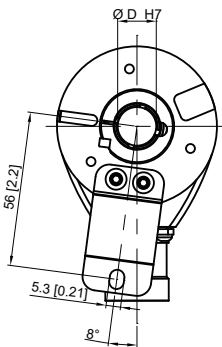
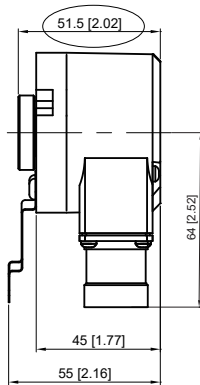
11-58SX / 58HX

Hollow shaft encoder:
type of flange 1 , type of connection 7

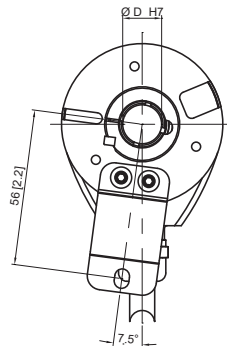
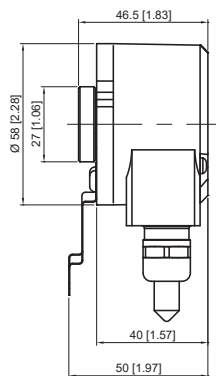
type of flange 1 , type of connection 2



D = Mechanically strong
type of flange 3 , type of connection 5



type of flange 3 , type of connection 2

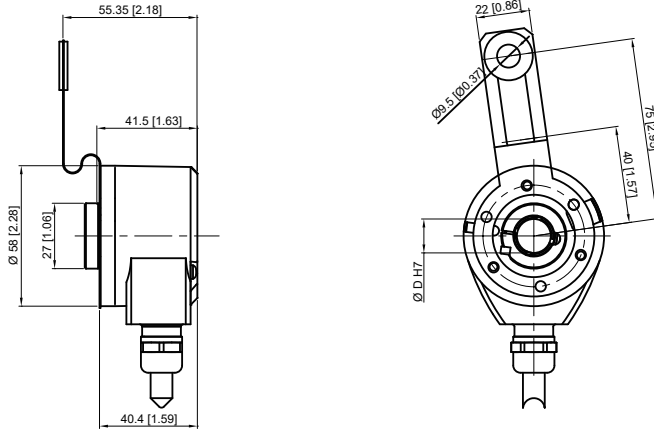


Incremental Encoders

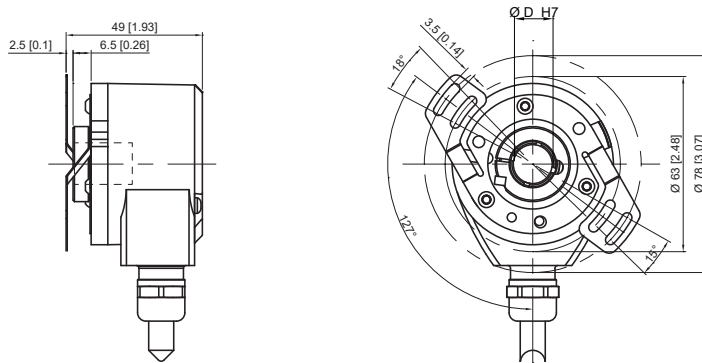
Standard

11-58SX / 58HX

Hollow shaft encoder:
type of flange 7, type of connection 2



Blind Hollow shaft encoder:
type of flange 8, type of connection 2



Blind hole depth: 35 mm