

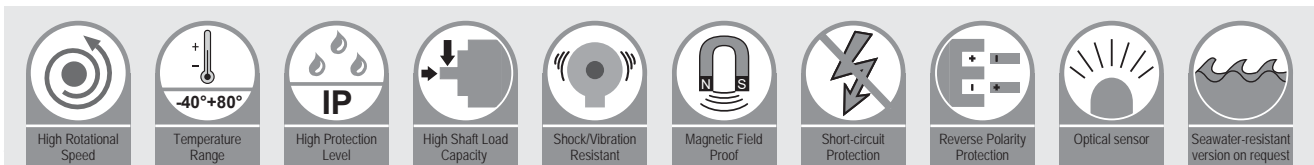
Incremental Encoders

Hollow shaft

11-A0HN



- Heavy duty
- Max bore size 45 mm
- Balanced stainless-steel clamping ring
- Optional isolated insertion available to protect against shaft currents
- Pulse frequency up to 2 MHz



Highlight :

- 100 mm outer diameter, max bore size 45 mm
- Wide temperature range, -40°C ~ +80°C optional
- High shock and vibration resistance
- Protection acc. to EN 60 529, up to IP 65
- Connection via cable, M12 or M23 connector
- High resolution up to 20480 ppr
- With Push-pull, RS422 or SinCos output

Mechanical characteristics	
Max. Speed	6000 rpm
Starting torque	1.5 Ncm (at 20 °C)
Moment of inertia	≤ 22 gcm ²
Shaft load capacity	Radial 200 N; Axial 100 N**
Weight	Approx. 0.720 kg
Protection acc. to EN 60 529	IP 65
Working temperature range	-20°C ... 80°C; -40°C ... 80°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)

* Please contact us if need low temperature encoder.
** : Can be customized: Radial 400 N, Axial 200 N.

SinCos Interface Electrical characteristics	
Output circuit	Sin/Cos (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	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	Min. U - 2.5V	Min. U - %10U
	Low Max. 0.5 V	Max. 2.5 V	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		

*** : 100 mA when resolution ≥ 10000ppr **** : 2MHz when resolution ≥ 10000ppr

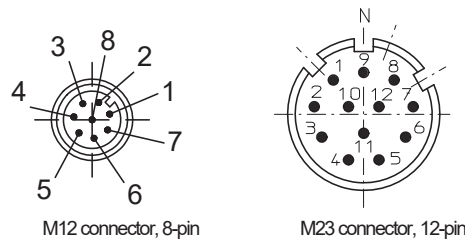
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Terminal assignmen

Signal	Ub	GND	A	\bar{A}	B	\bar{B}	Z	\bar{Z}	Shield
Cable (Colour)	BN	WH	GN	RD	YW	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 Hollow Shaft	11-A0HN-X X X X-X X X X				
	Type a b c d e				
a Flange	b Hollow shaft*	c Output circuit / Power supply	e Pulse rate		
1 = without mounting accessory by flange ring	B = \varnothing 25 mm	1 = RS422 (with inverted signal) / 5 VDC	512, 1000, 1024, 2048, 2500, 3600, 4096, 4500, 5000, 8192, 10240, 16384, 20480		
3 = with fastening arm, by flange ring	C = \varnothing 25.4 mm	2 = RS422 (with inverted signal) / 10 ... 30 V DC	1 Vpp Sin/Cos: 1024 2048		
4 = with fastening arm, fasten the shaft by screw	E = \varnothing 30 mm	3 = Push-pull (without inverted signal) / 10 ... 30VDC	Other pulse rates on request		
5 = Tether arm, by flange ring	F = \varnothing 35 mm	4 = Push-pull (7272 with inverted signal) / 5 ... 30VDC (Only for equal or less than 2500ppr)			
	G = \varnothing 38 mm	5 = Push-pull (with inverted signal) / 10 ... 30VDC			
	J = \varnothing 42 mm	6 = SinCos, 1Vpp (with inverted signal) / 5VDC			
	L = \varnothing 45 mm	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)			

* When flange type is 1,3,5 and bore size \leq 42mm, the shaft is with isolated insertion.

Accessories

Connection technology:

Connector, self-assembly

M12 female connector with coupling nut
M23 female connector with coupling nut

E1-1208-0101
E1-3212-0100

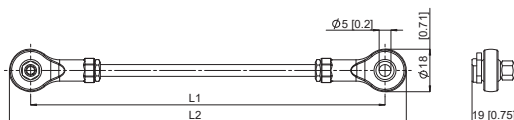
Mounting accessory for hollow shaft version:

Stator coupling



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

Tether arm

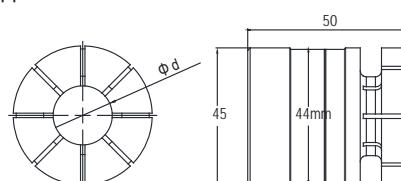


L1= 70 mm, L2= 88 mm (Other lengths on request) T2-0000-5000-0070

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.

Applicable to 11-A0HN



\varnothing d
25 mm T2-0000-4102-4525
30 mm T2-0000-4102-4530
Other bore size see accessories section

** : Only for flange type 1,3,5.

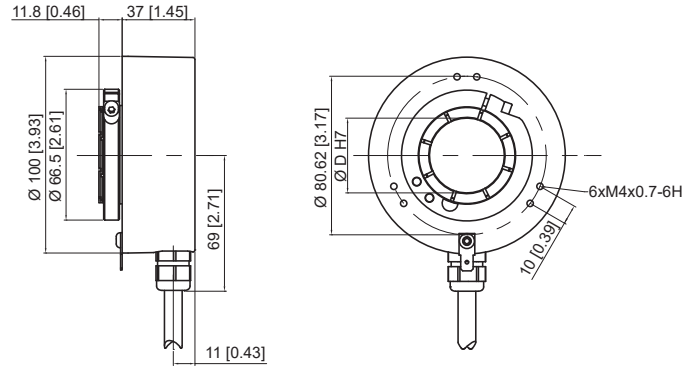
Incremental Encoders

Hollow shaft

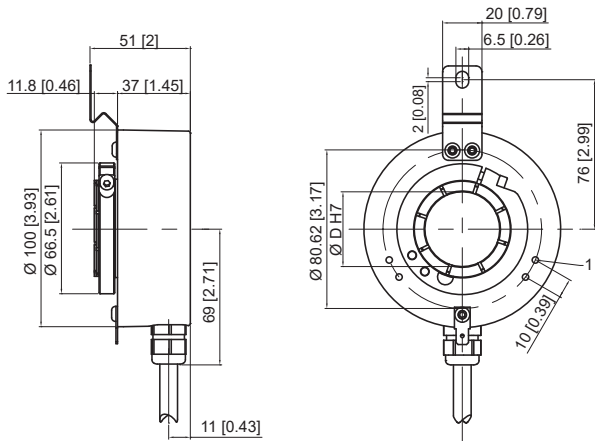
11-A0HN

Dimensions

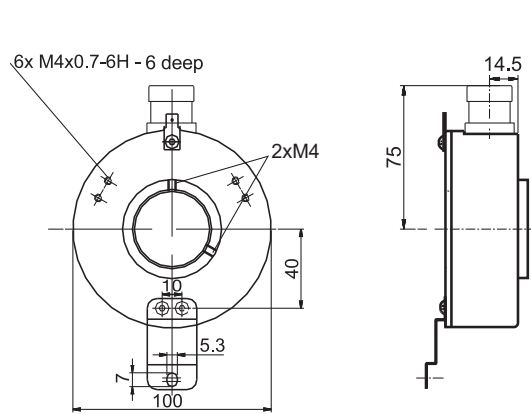
Flange type 1, type of connection 2



Flange type 3, type of connection 2



Flange type 4, type of connection 5



Flange type 5, type of connection 5

