

Incremental Encoders

Miniature

11-40SN / 40HN



- Outer diameter 40 mm , ideal for use in tight space
- Optical sensor technology
- Protection acc. to EN 60 529, up to IP 67
- Wide temperature range, -40°C ~ +80°C optional



High Rotational Speed	Temperature Range	High Protection Level	High Shaft Load Capacity	Shock/Vibration Resistant	Magnetic Field Proof	Short-circuit Protection	Reverse Polarity Protection	Optical sensor

Highlight :

- Only 40 mm outer diameter
- Wide temperature range, -40°C ~ +80°C optional
- RS422 or HTL output signal
- Solid or hollow shaft version
- Connection via cable or M12 connector
- Number of resolution up to 2500 ppr

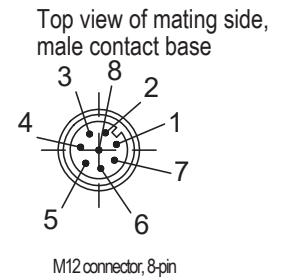
Mechanical characteristics	
Max. Speed	12000 rpm
Starting torque	≤ 0.2 Ncm (at 20 °C)
Moment of inertia	Shaft: ≤ 4 gcm ² ; hollow Shaft: ≤ 14 gcm ²
Shaft load capacity	Shaft: Radial 80 N; Axial 50 N
	hollow Shaft: Radial 100 N; Axial 50 N
Weight	approx.0.100 kg
Protection acc. to EN 60 529	IP 65, optional IP 67
Working temperature range	-20°C ... 80°C; -40°C ... 80°C optional*
Materials	Shaft: Stainless Steel Housing: Aluminium
Shock resistance acc. to EN 60068-2-29	1000 m/s ² (6 ms)
Vibration resistance acc. to EN 60068-2-27	50 m/s ² (10-2000 Hz)

* Please contact us if need low temperature encoder.

Electrical characteristics		
Output circuit	RS 422	HTL
Power supply	5 V DC	10...30 VDC
Power consumption (no load)	Max. 70 mA	Max. 70 mA
Permissible load/channel	Max. 40 mA	Max. 40 mA
Pulse frequency	Max. 200 kHz	Max. 200 kHz
Signal level(at 20mA)	High Min. 2.5 V	Min. Ub - 2.5 V
	Low Max. 0.5 V	Max. 0.5 V
Rising edge time tr	Max. 200 ns	Max.1 μs
Falling edge time tf	Max. 200 ns	Max. 1 μs
Short circuit protection	no	yes
Reverse polarity protection	no	yes
UL approval	yes	yes
CE approval	EN 61000-6-2, EN 55011 Class B	

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	
M12 connector, 8-pin	2	1	3	6	4	7	5	8	



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Order Code Shaft Version

11-40SN-X X X X - X X X X
Type f a b c d e

a Flange

- 3 = Synchro flange, IP65
- 4 = Synchro flange, IP67
- 5 = M20 fixed flange, IP65
- 6 = M20 fixed flange, IP67

b Shaft

- 3 = $\varnothing 6 \times 11,5$ mm

c Output circuit / Power supply

- 1 = RS422 (with inverted signal) / 5 VDC
- 3 = Push-pull (without inverted signal) / 10 ... 30VDC
- 5 = Push-pull (with inverted signal) / 10 ... 30VDC

d Type of connection

- 1 = Axial cable, 2m
- 2 = Radial cable, 2m
- 6 = M12 connector, 8-pin, axial (without mating connector)

e Pulse rate

- 4,9,10,15 ... 100,125,128 ... 180,200,235,250 ...
- 300,314,360,400,500 ... 600,625,635,720 ... 900,
- 1000,1024,1080,1200,1250,1800,2000,2048,2500
- Other pulse rates on request

f Type

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

Order Code Hollow Shaft

11-40HN-X X X X - X X X X
Type f a b c d e

a Flange

- 1 = with fastening arm

b Hollow shaft (Blind, depth 15 mm)

- 3 = $\varnothing 6$ mm

c Output circuit / Power supply

- 1 = RS422 (with inverted signal) / 5 VDC
- 3 = Push-pull (without inverted signal) / 10 ... 30VDC
- 5 = Push-pull (with inverted signal) / 10 ... 30VDC

d Type of connection

- 1 = Axial cable, 2m
- 2 = Radial cable, 2m
- 6 = M12 connector, 8-pin, axial (without mating connector)

e Pulse rate

- 4,9,10,15 ... 100,125,128 ... 180,200,235,250 ...
- 300,314,360,400,500 ... 600,625,635,720 ... 900,
- 1000,1024,1080,1200,1250,1800,2000,2048,2500
- Other pulse rates on request

f Type

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

Accessories

Connection technology:

Connector, self-assembly

M12 self-assembly

E1-1208-0101

Mounting accessory for shaft version:

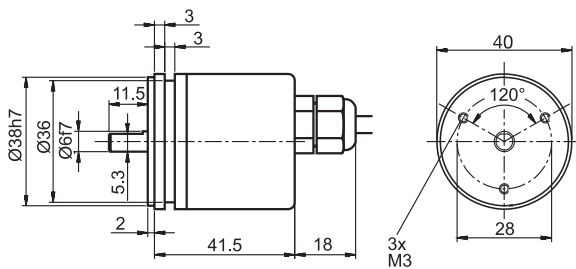
Coupling

Bellows coupling (aluminium alloy) $\varnothing 25$ mm for shaft 6 mm T1-1000-2525-0606

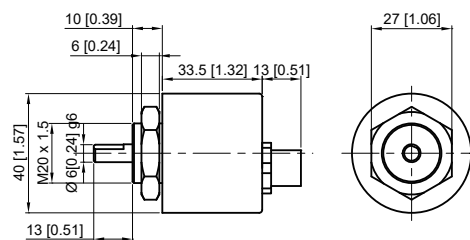
Dimensions

Shaft encoder:

type of flange 3 and 4, $\varnothing 6$ mm shaft, type of connection 1

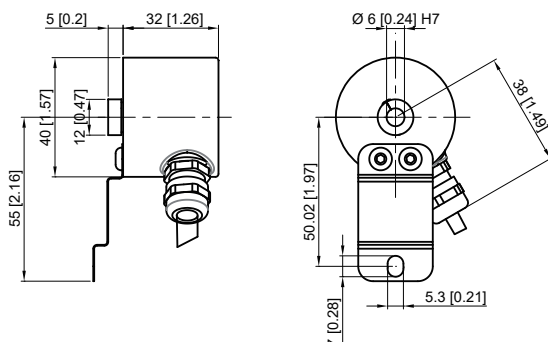


type of flange 5 and 6, $\varnothing 6$ mm shaft, type of connection 6



Hollow Shaft encoder

type of flange 1, type of connection 2



Other mounting types and accessories on your request,
please send us an email: sales@heinlanz.com