



Heavy-duty incremental encoder

ENI11HD-H

- Up to 2500 ppr
- Variable hollow shaft up to Ø28 mm
- Highly shock and vibration resistant
- Degree of protection IP66 / IP67 / IP69K
- Optional: Electrically insulated shaft for a dielectric strength up to 2.5 kV
- Variable connection by means of rotating terminal box with plug-in terminals
- High bearing loads

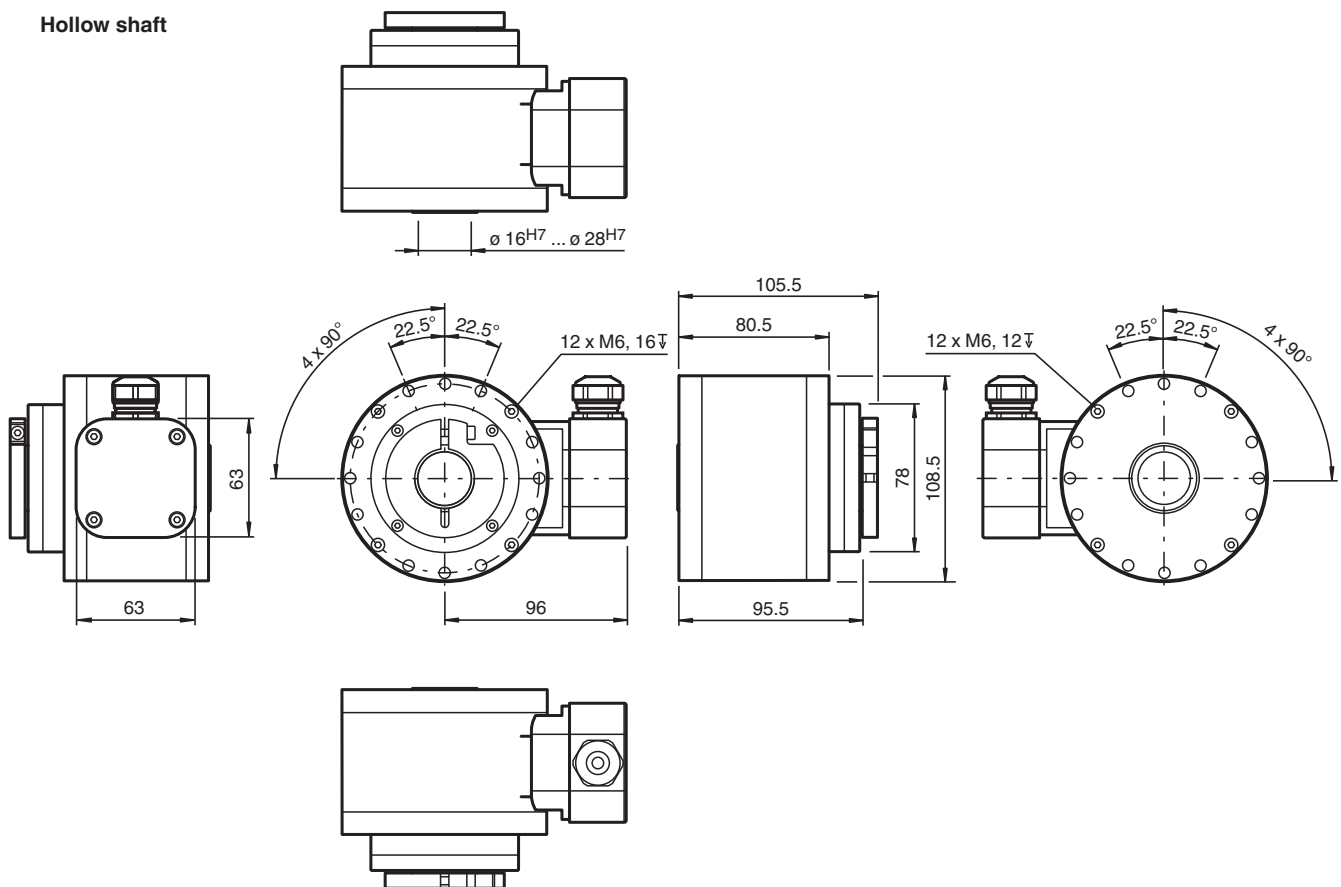


Function

When conditions are tough, the ENI11HD heavy-duty rotary encoders provide reliable speed feedback for large asynchronous motors. Heat, cold, dirt, permanent vibration, strong shocks, and electromagnetic interference pose no problem for these heavy duty encoders. The optional electrically insulated shaft guarantees a dielectric strength of up to 2.5 kV. This option prevents damage to the ball bearing due to current flashovers caused by shaft currents. ENI11HD rotary encoders combine a long service life with a high level of reliability. The cover on the junction box, which can be rotated 4 x 90°, provides greater flexibility when installing and maintaining the device while also helping to save costs.

Dimensions

Hollow shaft



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

General specifications		
Detection type		photoelectric sampling
Pulse count		max. 2500
Functional safety related parameters		
MTTF _d		140 a
Mission Time (T _M)		20 a
L ₁₀		50 E+9 at 1750 rpm
Diagnostic Coverage (DC)		0 %
Electrical specifications		
Operating voltage	U _B	10 ... 30 V DC or 5 V DC ± 5 % (see "Output circuit" in the ordering information)
No-load supply current	I ₀	max. 70 mA
Output		
Output type		push-pull, incremental or RS 422, incremental (see "Output circuit" in the ordering information)
Voltage drop	U _d	< 2.5 V (push-pull, incremental)
Load current		max. per channel 40 mA , short-circuit protected, reverse polarity protected (push-pull, incremental) max. per channel 20 mA , short-circuit protected, reverse polarity protected (RS 422, incremental)
Output frequency		max. 200 kHz
Rise time		600 ns
De-energized delay	t _{off}	600 ns
Connection		
Connector		M23 connector, 12-pin , clockwise rotation M23 connector, 12-pin , counter clockwise rotation
Cable		Ø7,5 mm, 6 x 2 x 0,14 mm ²
Terminal compartment		Cable duct for cable diameter Ø4 mm ... 13 mm
Standard conformity		
Degree of protection		DIN EN 60529, IP66, IP67 or IP69K
Climatic testing		DIN EN 60068-2-78 , no moisture condensation
Emitted interference		EN 61000-6-4:2007/A1:2011
Noise immunity		EN 61000-6-2:2005
Shock resistance		DIN EN 60068-2-27, 200 g, 6 ms
Vibration resistance		DIN EN 60068-2-6, 20 g, 10 ... 2000 Hz
Ambient conditions		
Operating temperature		-40 ... 80 °C (-40 ... 176 °F) fixed cable
Storage temperature		-40 ... 80 °C (-40 ... 176 °F)
Mechanical specifications		
Material		
Housing		3.2315 aluminum
Flange		3.2315 aluminum
Shaft		Stainless steel 1.4305 / AISI 303
Mass		approx. 2200 g
Rotational speed		max. 3000 min ⁻¹
Starting torque		≤ 20 Ncm
Shaft insulation		max. 2.5 kV (for dielectric strength version)
Shaft load		
Axial		≤ 300 N
Radial		≤ 400 N
Angle offset		1 °
Axial offset		max. 1 mm








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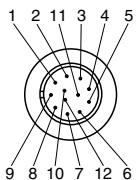
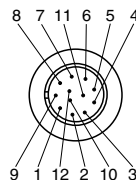
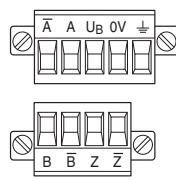
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Accessories

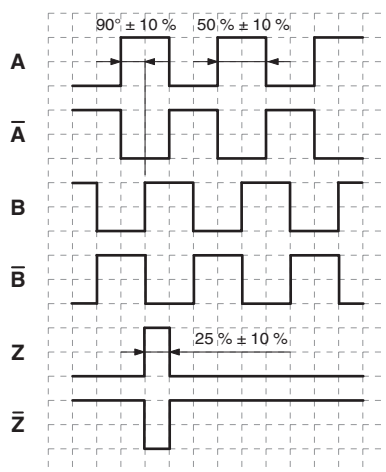
	ACC-ROD-ENI11HD-070	swivel arm, 70 mm
	ACC-ROD-ENI11HD-120	swivel arm, 120 mm
	ACC-SET-ENI11HD-EARTH	Grounding kit for ENI11HD rotary encoder
	ACC-SET-ENI11HD-GASKET	Gasket set for cable ducts
	ACC-TOR-ENI11HD-070	Support plate 70 mm, straight for ENI11 HD
	ACC-TOR-ENI11HD-120	Support plate 120 mm, straight for ENI11 HD
	ACC-TOR-ENI11HD-120A	Torque rest 120 mm, angled for ENI11HD rotary encoder

Connection

Signal	Cable	Connector 9416, M23, 12-pin	Connector 9416L, M23, 12-pin	Terminals
GND	White	10	10	0V
U _b	Brown	12	12	U _B
A	Green	5	5	A
B	Grey	8	8	B
A $\bar{}$	Yellow	6	6	A $\bar{}$
B $\bar{}$	Pink	1	1	B $\bar{}$
Z	Blue	3	3	Z
Z $\bar{}$	Red	4	4	Z $\bar{}$
Shielding	Shield	Housing	Housing	\perp
NC	-	2, 7, 9, 11	2, 7, 9, 11	
				

Operation

Signal outputs



↻ cw - with view from the drive side

Type Code

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