

## ENI58HA SERIE



**For the CNC machines, crane system and test equipment**



- ➔ Up to 36,000 pulses
- ➔ RS422 and push-pull signals
- ➔ With cable or plug connection
- ➔ Magnetproof
- ➔ Short circuit proof

### Product Description

---

The ENI58HA series incremental encoders offer resolutions up to a maximum of 36,000 pulses per revolution. They are therefore predestined for use in applications where maximum accuracy is required.

### Application

---

The encoder is used in all areas of industry. Especially in the processing industry such as metal construction. It is used in lathes and milling machines, CNC machines, motors and in many other machines. Rotary encoders with incremental measurement are predestined to detect the angular change of objects and determine their position.

### Technical Data

---

#### RS422 - signal

Supply voltage		5 V DC (+5 %) or 10 ... 30 V DC
Current consumption (without load)		typ. 70 mA / max. 120 mA
Permissible load / channel		max. +/- 20 mA
Pulse frequency		max. 800 kHz
Signal level	HIGH	min. 2.5 V
	LOW	max. 0.5 V
Edge rise time $t_r$		max. 200 ns
Edge fall time $t_f$		max. 200 ns
Short circuit protection		yes
Reverse polarity protection of supply voltage		no; 10 ... 30 V DC: yes

## ENI58HA SERIE



### Push-pull - Signal

Supply voltage		10 ... 30 V DC
Current consumption (without load)		typ. 115 mA/max. 160 mA
Permissible load / channel		max. +/- 30 mA
Pulse frequency		max. 600 kHz
Signal level	HIGH	min. +V - 2.5 V
	LOW	max. 2.0 V
Edge rise time tr		max. 1 µs
Edge fall time tf		max. 1 µs
Short circuit protection		yes
Reverse polarity protection of supply voltage		yes

Maximum speed		shaft IP65 12000 min-1
Mass moment of inertia		approx. 1.8 x 10 <sup>-6</sup> kgm <sup>2</sup>
Starting torque (at 20°C)	shaft IP65	< 0.01 Nm
Shaft load capacity	radial	80 N
	axial	40N
Weight		approx. 0.4 kg
Protection class according to EN 60529		IP65
Operating temperature range		-20°C ... +105°C
Material shaft		stainless steel H7
Shock resistance according to EN 60068-2-27		1000 m/s <sup>2</sup> , 6 ms
Vibration resistance according to EN 60068-2-6		100 m/s <sup>2</sup> , 10 ... 2000 Hz

### Pin Assignment

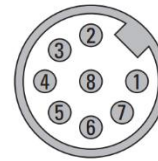
Interface	Connection type	Cables (unused cores must be individually insulated before commissioning)												
0, 1, 2, 3	0, 1	Signal	0V	+V	0Vsens 2)	+Vsens 2)	A	A-	B	B-	0	0-	Shirm	
		Cable color	WH 0.5mm <sup>2</sup>	BN 0.5mm <sup>2</sup>	WH	BN	GY	PK	BU	RD	BK	-	Shirm	
Interface	Connection type	M23 plug, 12 Pole												
0, 1, 2, 3	2	Signal	0V	+V	0Vsens 2)	+Vsens 2)	A	A-	B	B-	0	0-	Shirm	
		Pin	10	12	11	2	5	6	8	1	3	4	PH 1)	
Interface	Connection type	M12 plug, 8 Pole												
0, 1, 2, 3	3	Signal	0V	+V	0Vsens 2)	+Vsens 2)	A	A-	B	B-	0	0-	Shirm	
		Pin	1	2			3	4	5	6	7	8	PH 1)	

# Incremental encoder with high resolution

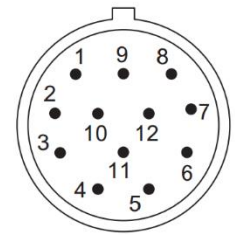
## ENI58HA SERIE



- +V: Supply voltage encoder +V DC
- 0 V: Encoder ground GND (0 V)
- 0 Vsens / +Vsens: Via the sensor lines of the encoder the voltage applied to the encoder can be measured and increased accordingly if required.
- A, A- : Incremental output channel A
- B, B- : Incremental output channel B
- 0, 0- : Reference signal
- PH : Connector housing (shield)



M12 connector 8-pole



M23-connector 12-pole

- 1) PH = Shield is connected to the connector housing.
- 2) The sensor lines are internally connected to the voltage supply connected. Special power supplies regulate via the feedback of the voltage replicates the voltage drop on long lines.

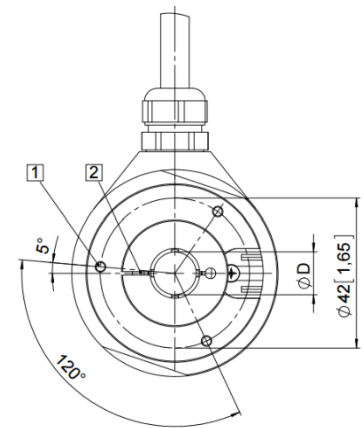
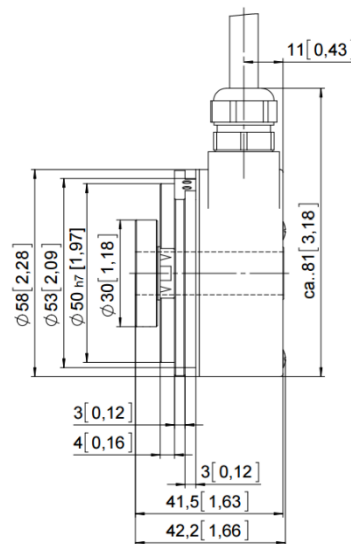
### Drawing Inch [mm]

#### Clamping flange, $\phi 58$

Dimension in mm [inch]

D	Fit
6 [0.24]	H7
8 [0.32]	H7
10 [0.39]	H7
12 [0.47]	H7

Insertion depth blind hollow shaft with flange 2: max 30 mm



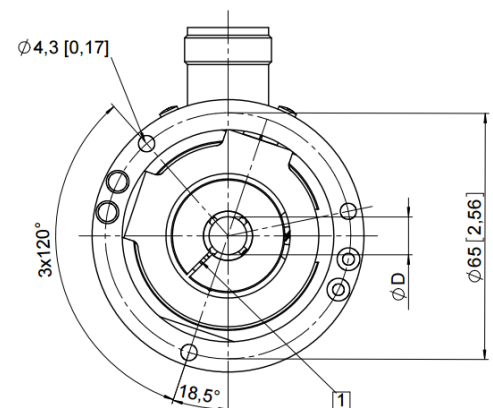
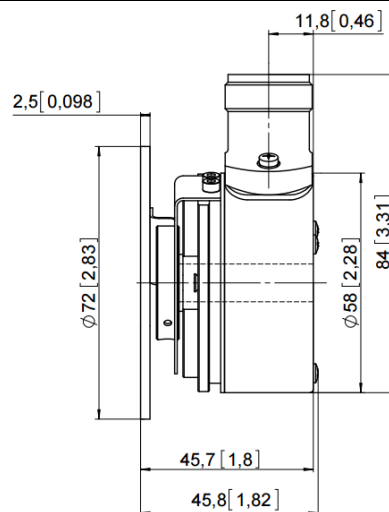
- 1 - 3 x M3, 6 [0.24] tief
- 2 - Recommended torque for clamping ring 0,6 Nl

#### Clamping flange, $\phi 58$

Dimension in mm [inch]

D	Fit
6 [0.24]	H7
8 [0.32]	H7
10 [0.39]	H7
12 [0.47]	H7

Insertion depth blind hollow shaft with flange 2: max 30 mm



- 1 - Recommended torque for clamping ring 0,6 Nm

**ENI58HA SERIE**



**Order Code**

<b>ENI58HA</b>	<b>962</b>	<b>x.</b>	<b>x</b>	<b>x.</b>	<b>x</b>	<b>x</b>	<b>x</b>
<b>962 ENI58HA</b>							
<b>FLANGE</b>							
0	with through hollow shaft and spring element, short						
1	with blind hollow shaft and spring element, short						
2	with through hollow shaft and stator coupling D65mm						
3	with blind hollow shaft and stator coupling D65mm						
<b>HOLLOW SHAFT</b>							
0	Ø 6 mm without seal, IP40						
1	Ø 6 mm with seal, IP66						
2	Ø 8 mm without seal, IP40						
3	Ø 8 mm with seal, IP66						
4	Ø 10 mm without seal, IP40						
5	Ø 10 mm with seal, IP66						
6	Ø 12 mm without seal, IP40						
7	Ø 12 mm with seal, IP66						
<b>OUTPUT CIRCUIT</b>							
0	RS 422 (with inversions) 5V						
1	RS 422 (with inversions) 10...30V						
2	Push-pull (with inversions) 10...30V						
3	Push-pull (without inversions) 10...30V						
<b>CONNECTION TYPE</b>							
0	Cable radial (1m PVC cable)						
1	M23 connector radial 12-pin without mating connector M12 connector radial 8-pin without mating connector						
1	Cable radial, special length PVC (*)						
<b>IMPULSE NUMBER</b>							
0	6000						
1	7200						
2	8000						
3	8192						
4	9000						
5	10000						
6	18000						
7	36000						
<b>SPECIAL LENGTH PVC (*)</b>							
0	Connection type standard						
1	2m						
2	3m						
3	5m						
4	8m						
5	10m						
6	15m						



**Do you have any questions?**

Phone: +41 (0)44 843 40 20 or Mail: sales@micronor.ch

*Subject to errors and changes Date: 12.06.2023*