


Rotary Measuring Technology

Incremental shaft encoder

MICRONOR
automation components

High temperature Type ESI 58T



- High temperature version, up to 110 °C (higher temperatures on request). Application e.g. drive technology.
- Many variations, also customized versions
- Temperature and ageing compensation
- Short-circuit proof outputs
- Reverse connection protection (at $U_B = 10 \dots 30 \text{ V DC}$)
- Resolution up to 5000 ppr
- High shaft load
-  available as explosion proof zone 2 and 22

Mechanical characteristics:

Speed:	max. 12000 min ⁻¹
Rotor moment of inertia:	approx. $1.8 \times 10^{-6} \text{ kgm}^2$
Starting torque:	< 0.01 Nm
Radial load capacity of shaft*:	80 N
Axial load capacity of shaft*:	40 N
Weight:	approx. 0.4 kg
Protection acc. to EN 60 529:	IP 65
Working temperature:	-20 °C ... +105 °C ¹⁾
Operating temperature:	-20 °C ... +110 °C ¹⁾
Shaft:	stainless steel
Shock resistance acc. to DIN-IEC 68-2-27	1000 m/s ² , 6 ms
Vibration resistance acc. to IEC 68-2-6:	100 m/s ² , 10 ... 2000 Hz

* View also diagrams on page 25

¹⁾ Non-condensing

Pulse rates available at short notice:

10, 20, 25, 30, 50, 60, 100, 120, 125, 127, 150, 180, 200, 216, 240, 250, 254, 256, 300, 314, 360, 375, 400, 500, 512, 600, 625, 720, 745, 750, 762, 800, 900, 927, 1000, 1024, 1250, 1270, 1400, 1500, 1800, 2000, 2048, 2250, 2400, 2500, 3000, 3600, 4000, 4096, 5000

Other pulse rates on request

Electrical characteristics:

Output circuit:	RS 422 (TTL-compatible)	Push-pull
Supply voltage:	5 V (±5%) or 10 ... 30 V DC	10 ... 30 V DC
Power consumption (no load) without inverted signal:	–	typ. 55 mA / max. 125 mA
Power consumption (no load) with inverted signals:	typ. 40 mA / max. 100 mA	typ. 80 mA / max. 150
Permissible load/channel:	max. ±20 mA	max. ±30 mA
Pulse frequency:	max. 300 kHz	max. 300 kHz
Signal level high:	min. 2.5 V	min. $U_B - 2.5 \text{ V}$
Signal level low:	max. 0.5 V	max. 2.0 V
Rise time t_r :	max. 200 ns	max. 1 μs
Fall time t_f :	max. 200 ns	max. 1 μs
Short circuit proof outputs: ¹⁾	yes ²⁾	yes
Reverse connection protection at U_B :	5 V: no 10 ... 30 V: yes	yes

Conforms to CE requirements acc. to EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3

¹⁾ If supply voltage correctly applied

²⁾ Only one channel allowed to be shorted-out:

(If $U_B = 5 \text{ V}$, short-circuit to channel, 0 V, or + U_B is permitted)

(If $U_B = 5-30 \text{ V}$, short-circuit to channel or 0 V is permitted)

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Terminal assignment

Signal:	0V	0V Sensor ²⁾	+U _B	+U _B Sensor ²⁾	A	\bar{A}	B	\bar{B}	0	$\bar{0}$	Shield
12 pin plug Pin:	10	11	12	2	5	6	8	1	3	4	PH ¹⁾
7 pin plug Pin:	F	-	D	E	A	-	B	-	C	-	G
10 pin plug, Pin:	F	-	D	E	A	G	B	H	C	I	J
Cable colour:	WH 0.5 mm ²	WH	BN 0.5 mm ²	BN	GN	YE	GY	PK	BU	RD	

1) PH = Shield is attached to connector housing

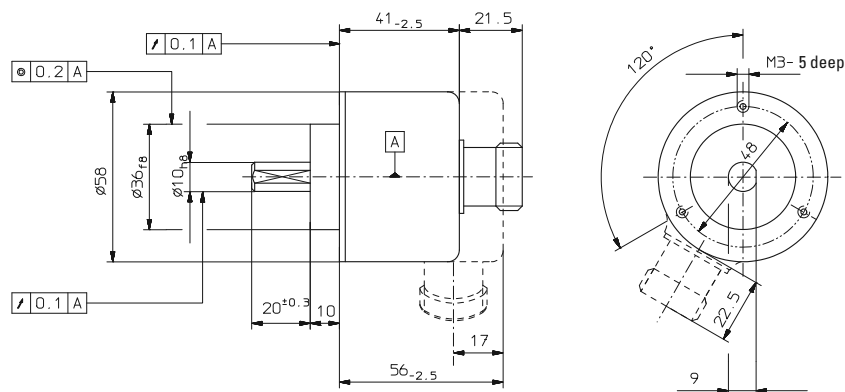
2) Sensor cables are connected to the supply voltage internally if long feeder cables are involved they can be used to adjust or control the voltage at the encoder

- If sensor cables are not in use, they have to be insulated or 0 V_{Sensor} has to be connected to 0 V and U_BSensor has to be connected to U_B

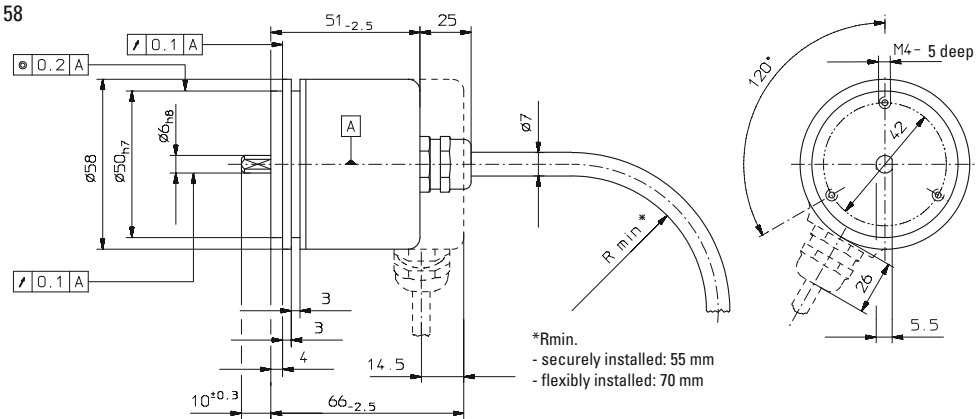
- Using RS 422 outputs and long cable distances, a wave impedance has to be applied at each cable end.
Insulate unused outputs before initial startup.

Dimensions

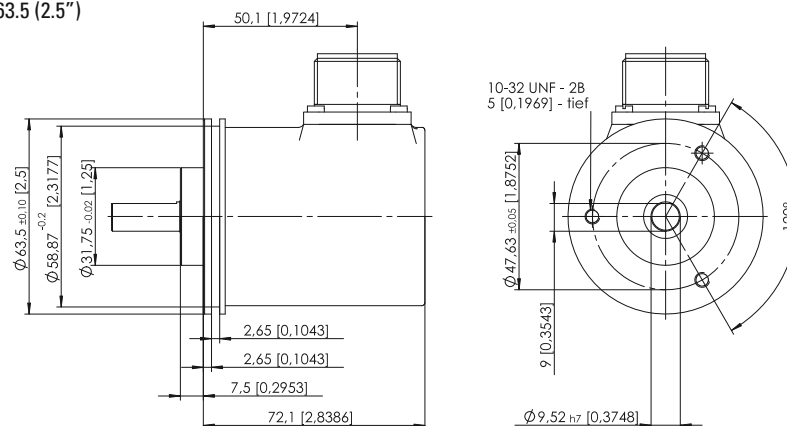
Clamping bracket $\phi 58$



Synchronous bracket $\phi 58$



Synchronous bracket $\phi 63.5$ (2.5")

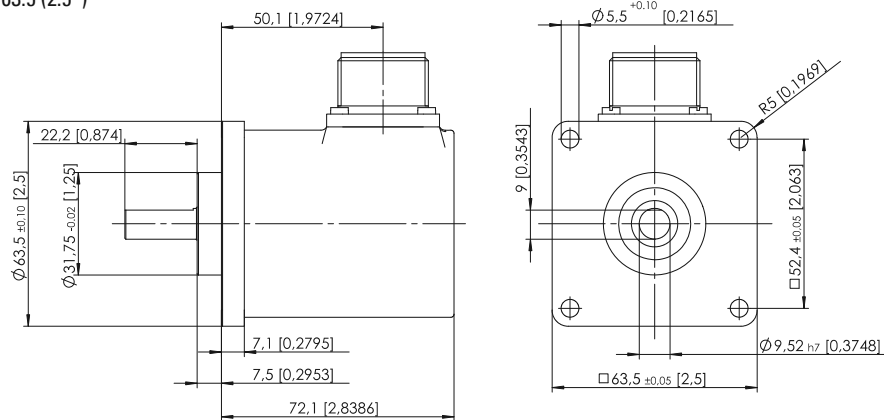


Mounting advice:

The brackets and shafts of the encoder and drive should not both be rigidly coupled together at the same time! We recommend the use of suitable couplings (see Accessories section)

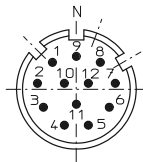
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Rectangular bracket □ 63.5 (2.5")

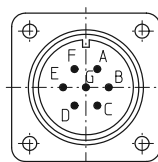


Top view of mating side, male contact base:

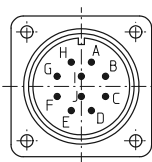
12 pin plug



7 pin plug



10 pin plug



Order code:

ESI 58T.XXXX.XXXX

