Rotary Measuring Technology
Incremental shaft encoder

MICRONOR
automation components

Compact Type ESI 36

- High-quality miniature model
- High mechanical protection
- Lightweight
- Broad input voltage range (5 V or 10 ... 30 V)
- Highly flexible cable with stands constant flexing from 0 up to 70 °C)
- Low power consumption despite high scanning rate
- Electronic temperature and ageing compensation
- Ex available as explosion proof zone 2 and 22

Mechanical characteristics:

Speed:	max. 12000 min^{-1}
Rotor moment of inertia:	approx. 0.27 x 10^{-6} kgm^2
Starting torque:	< 0.007 Nm
Radial load capacity of shaft:	15 N
Axial load capacity of shaft::	10 N
Weight:	approx. 0.1 kg
Protection acc. to EN 60 529:	IP 66
Working temperature:	0° C ... +70 °C[2)]
Operating temperature:	0° C ... +80 °C[2)]
Shaft:	stainless steel g7
Shock resistance acc. to DIN-IEC 68-2-27	1000 m/s^2, 6 ms
Vibration resistance acc. to DIN-IEC 68-2-6:	100 m/s^2, 10 ... 2000 Hz

2) Non-condensing

Pulse rates available at short notice:

15, 50, 60, 90, 100, 180, 200, 250, 300, 314, 360, 400, 500, 600, 625, 635, 720, 900, 1000, 1024, 1080, 1200, 1250, 1500, 1600, 2000, 2500, 3600

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:	not available	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. ±10 mA	max. ±30 mA
Pulse frequency:	max. 125 kHz	max. 100 kHz
Signal level high:	min. 2.5 V	min. U_B = -3 V
Signal level low:	max. 0.5 V	max. 0.5 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::	yes[1)]	no
Conforms to CE requirements acc. to EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3		

1) Only one channel allowed to be shorted-out:
(If U_B = 5V, short-circuit to channel, 0 V, or +U_B is permitted)
(If U_B = 10 ... 30 V short-circuit to channel or 0 V is permitted)

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Terminal assignment

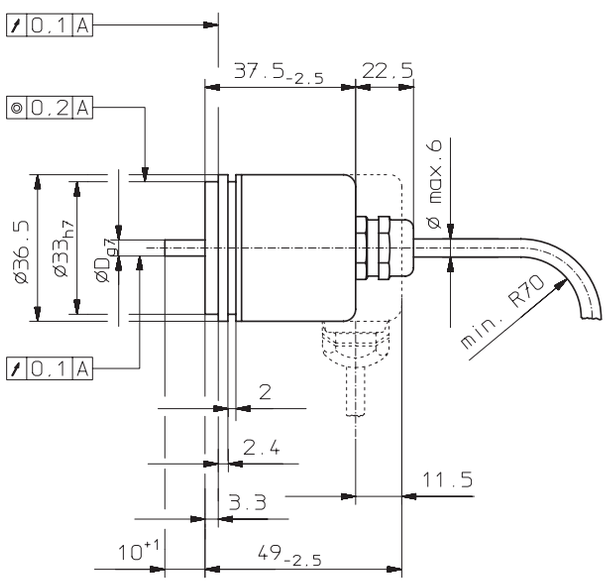
Signal:	0 V	0 V Sensor[1)]	+U_B	+U_B Sensor[1)]	A	$\overline{A}$	B	$\overline{B}$	0	$\overline{0}$	Shield
Colour:	WH	GY PK	BN	BU RD	GN	YE	GY	PK	BU	RD	BK WH

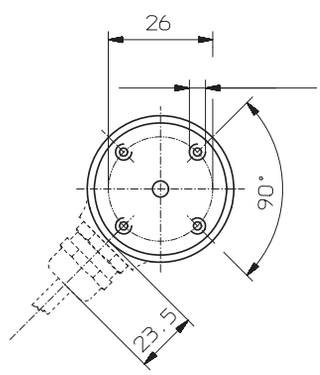
[1)] Sensor cables are connected to the supply voltage internally and if long feeder cables are involved can be used for adjusting or controlling the voltage at the encoder

- If sensor cables are not in use, they have to be insulated or 0 VSensor 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





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).

Order code:

ESI 36.XXXX.XXXX

Range

Bracket

Shaft (ø x L)
1 = 4 x 10 mm
2 = 6 x 10 mm with flat

Pulse rate
(e.g. 250 pulses=> 0250)

Type of connection
1 = Cable axial (1 m PVC-Cable)
2 = Cable radial (1 m PVC-Cable)

Output and voltage supply
1 = RS422:
5 V supply voltage
2 = RS422:
10 ... 30 V supply voltage
3 = Push-pull with inverted signals
10 ... 30 V supply voltage

Preferred types are indicated in ***bold***