

Absolute Encoders - Singleturn

Miniature, magnetic

2450 / 2470 (Shaft / Hollow shaft)

SSI



The absolute singleturn encoders 2450 and 2470 with SSI interface are the specialists when space is tight.

Because of their high 12 bit resolution with 4096 different positions for 360° they offer exceptional repeat accuracy.



Minimal space requirement

- The outer diameter measures 24 mm; the shaft diameter at least 4 mm
- Flexible connection with radial or axial cable outlet

Durable and accurate

- Long service life and freedom from wear due to non-contact measuring system
- Wide temperature range from -20°C up to +85°C
- High 12 bit resolution with 4096 different positions for 360°

Order code Shaft version

8.2450 . XX1X . G121
Type a b c d e

- | | | | |
|---|--|---|--|
| <p>a Flange</p> <p>1 = ø 24 mm</p> <p>2 = ø 30 mm</p> <p>3 = ø 28 mm</p> | <p>b Shaft (ø x L)</p> <p>1 = ø 4 x 10 mm</p> <p>2 = ø 6 x 10 mm</p> <p>3 = ø 5 x 10 mm, with flat</p> | <p>c Output circuit / Power supply</p> <p>1 = SSI / 5 V DC</p> <p>d Type of connection</p> <p>1 = axial cable (2 m PVC cable ø 4.5 mm)</p> <p>2 = radial cable (2 m PVC cable ø 4.5 mm)</p> | <p>e Gray-Code</p> <p>12 bit resolution</p> |
|---|--|---|--|

Order code Hollow shaft

8.2470 . 1X1X . G121
Type a b c d e

- | | | | |
|---|---|---|---|
| <p>a Flange</p> <p>1 = ø 24 mm</p> | <p>b Blind hollow shaft
(insertion depth max. 14 mm)</p> <p>1 = ø 4 mm</p> <p>2 = ø 6 mm</p> | <p>c Output circuit / Power supply</p> <p>1 = SSI / 5 V DC</p> <p>d Type of connection</p> <p>1 = axial cable (2 m PVC cable ø 4.5 mm)</p> <p>2 = radial cable (2 m PVC cable ø 4.5 mm)</p> | <p>e Gray-Code</p> <p><u>12 bit resolution</u></p> |
|---|---|---|---|

Mounting accessory for shaft encoders

Coupling

Bellows coupling ø 15 mm for shaft 4 mm

8.0000.1201.0404

Further accessories can be found in the Accessories section or in the Accessories area of our website at: www.kuebler.com/accessories.
Additional connectors can be found in the Connection Technology section or in the Connection Technology area of our website at: www.kuebler.com/connection_technology.

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Mechanical characteristics		
Speed		max. 12.000 min ⁻¹
Rotor moment of inertia		approx. 0.1 x 10 ⁻⁶ kgm ²
Starting torque		< 0.01 Nm
Shaft load capacity	radial	10 N
	axial	20 N
Weight		approx. 0.06 kg
Protection to EN 60529	housing side	IP65 (IP67 on request)
	flange side	IP50 (IP67 on request)
Working temperature range		-20°C ... +85°C ¹⁾
Materials	shaft / hollow shaft	stainless steel
	clamping ring	MS58
Shock resistance acc. to EN 60068-2-27		1000 m/s ² , 6 ms
Vibration resistance acc. to EN 60068-2-27		100 m/s ² , 55 ... 2000 Hz

Electrical characteristics SSI Interface	
Sensor	
Supply voltage	5 (+0.4) V DC ¹⁾
Power consumption (no load)	< 40 mA
Reverse connection of the supply voltage	yes
Measuring range	360°
Resolution / Code	12 bit / Gray
Linearity (25°C)	< 1.5°
Repeat accuracy	≤ 0.4°
Data refresh rate	typ 100 µs
RoHS compliant acc. to	EU guideline 2002/95/EG
CE compliant acc. to	EN 61000-6-2, EN 55011 Class B
SSI interface	
Clock speed	100 kHz ... 750 kHz
Output driver	RS485
Monoflop time typ / max.	16 µs / 20 µs
Short circuit proof outputs	yes ²⁾
Permissible load / channel	typ. 60 Ohm (acc. to RS485)

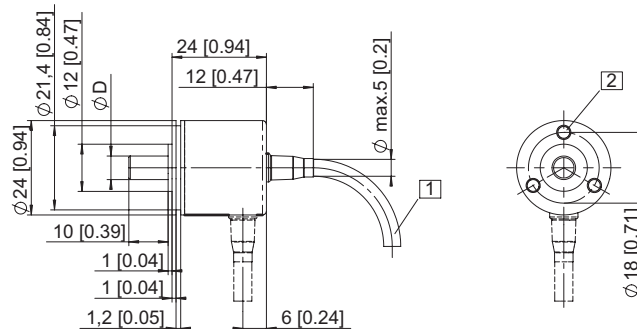
Terminal assignment

Signal	0V	+U _B	+T	-T	+D	-D
Cable colour	WH	BN	GN	YE	GY	PK

Dimensions shaft version

Flange Type 1 (ø 24 mm)

- 1 min. R50 [1.97]
- 2 3 x M3, 4 [0.16] deep

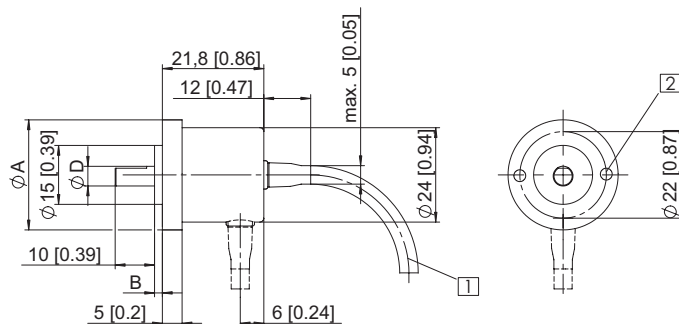


Flange Type 2 (ø 30 mm)

Flange Type 3 (ø 28 mm)

Flange Type	2	3
A	ø 30 mm	ø 28 mm
B	3 mm	2 mm

- 1 min. R50 [1.97]
- 2 2 x M3, 4 [0.16] deep

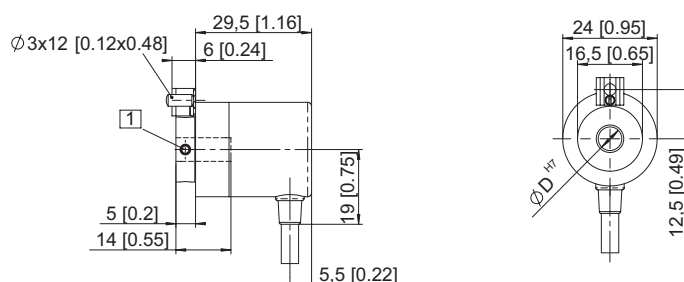


Mounting advice:

The flanges 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).

Dimensions hollow shaft version

- 1 4 x M3 DIN 915 - SW15



Mounting advice:

The flanges and shafts of the encoder and drive should not both be rigidly coupled together at the same time! A cylindrical pin (ISO 2338-A-3m6 x 10), for use as a torque stop, is supplied.

1) The supply voltage at the encoder input must not be less than 4.75 V (5 V - 5%)
 2) Short circuit to 0 V or to output, only one channel at a time, supply voltage correctly applied