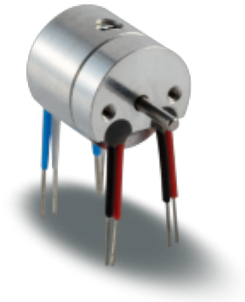


Case diameter 12 mm  
Connection for PCB mounting



## Micro Encoder ES 12

Optical incremental shaft encoder, Micro size for industrial use.

### Resolution

#### Resolution (Pulses/Revolution):

50	60	90	100
125			

### Type explanation

#### ES 12-2-125

Encoder type	Incremental
Flange diameter	ø 12 mm
Case diameter	ø 12 mm
Number of channels	1 = A 2 = A + B
Resolutions	xxx = Impulse pro Umdrehung
Shaft diameter	ø 2 mm

## Technical data

### Mechanical data

Rotational speed	? 6000 min <sup>-1</sup>
Breakaway torque	? 0,01 Ncm
Moment of inertia	0,02 g cm <sup>2</sup>
shaft loading	? 1 N radial, axial
Operational life of ball bearings	> 2 x 10 <sup>5</sup> h (100 min <sup>-1</sup> )
Weight	0,008 kg

### Environmental conditions

Vibration	100 ms <sup>-2</sup> (50 Hz / 1h)
Shock	300 ms <sup>-2</sup> (11 ms)
Operating temperature	0 ... +50°C
Storage temperature	-20 ... +80°C
Atmospheric humidity	? 85% r.h.
Protection class	IP 50 (DIN 40050/IEC 144)

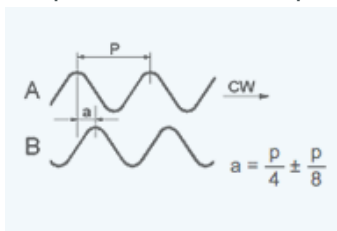
### Limiting values for scanning

Scanning type	Optical, without contact
<b>Transmitter, infrared</b>	<b>LED</b>
Current	40 mA
Reverse breakdown voltage	5 V
Temperature dependence	-0,8 mA/°C (25..70°C)
<b>Receiver</b>	<b>Photo-Transistor</b>
Voltage	20 V (Collector-Emitter) 5 V (Emitter-Collector)
Current	20 mA
Dissipation	75 mW
Temperature dependence	-1 mW/°C (25..70°C)

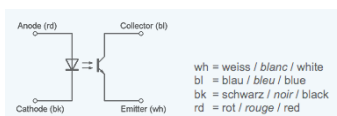
### Electrical data

Scanning type	Optical, without contact
Power consumption	26 mA max. 10 mA typ.
Output frequency	? 10 kHz
Signal shape	sin.
Signal level (amplitude)	150 mV <sub>pp</sub>
Amplitude fluctuation	? 40%

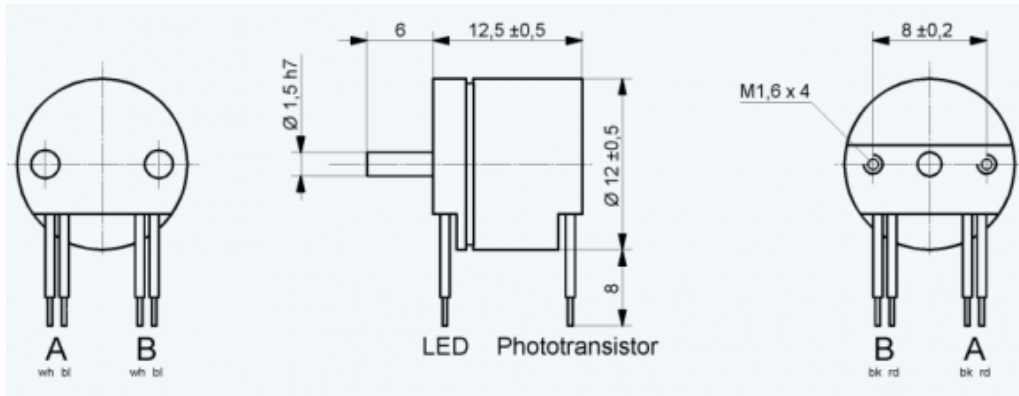
## Output channels / Output signals



## Channel schematic



## Outline drawing



Version E503-203 · Subject to change

INDUcoder® · INDUcoder Messtechnik GmbH, Kaiserstraße 316, 47178 Duisburg, Deutschland  
Tel: (0203) 57047-0, Fax: (0203) 57047-20, E-Mail: [info@inducoder.de](mailto:info@inducoder.de), Internet:  
[www.inducoder.de](http://www.inducoder.de)