



Optical incremental shaft encoder  
 Available with Sine/Cosine signals  
 Every shaft diameter from 6 mm to 12,7 mm  
 Available with slot and spring



## Standard Encoder EE 110

Optical incremental shaft encoder available with **Sine/Cosine** signals. Every shaft diameter from 6 mm to 12,7 mm, available with slot and spring.

### Resolution

Resolution (Pulses/Revolution):			
1	4	10	12
50	100	128	157
180	200	250	256
350	360	376	400
500	512	600	720
1000	1024	1250	1500
1800	2000	2048	2160
2500	3600	4000	4096
4500	5000	5400	6000
7200	9000	10000	18000

Every other resolution up to 900 000 on request

### Type explanation

EE 110-6-6000-05-D-RC12	
Encoder type	Incremental
Flange diameter	ø 110 mm
Case diameter	ø 90 mm
Number of channels	3 = A + B + M 6 = AA + BB + MM
Resolutions	xxxx = Impulse pro Umdrehung
Supply voltage	05 = 5 VDC ± 5% 30 = 10..30 VDC
Output driver	D-RS422 P S
Position of connection	R S
Shaft diameter	ø 10 mm

## Technical data

### Mechanical data

Rotational speed	? 10000 min <sup>-1</sup>
shaft loading	? 10 N radial ? 10 N axial
Angular acceleration	? 10 <sup>4</sup> rad/sec <sup>2</sup>
Weight	? 0,6 kg

### Environmental conditions

Vibration	100 ms <sup>-2</sup> (20 ... 2000 Hz)
Shock	1000 ms <sup>-2</sup> (11 ms)
Operating temperature	0 .. +80°C standard -20 .. +110°C optional -42 .. +110°C optional
Atmospheric humidity	? 95% r.h.
Protection class	IP 65 (DIN 40050/IEC 801) IP 68 (optional)

### Electrical data

Scanning type	Optical, without contact
Transmitter, infrared	LED
Receiver	Photo-Transistor
Measurement accuracy	± 1' standard ± 5" optional
Supply voltage	V <sub>cc</sub> = 5 VDC ±5% V <sub>cc</sub> = 10...30 VDC
Power consumption	200 mA max.
Output frequency	? 300 kHz (Output D) ? 160 kHz (Output P, S)
Signal level	High > V <sub>cc</sub> -2 V (Output D, P) Low < 0,5 V (Output D, P) Analog 1 V <sub>ss</sub> (Output S)
Load capacity of the outputs	20 mA

## Cable

### Wire colour

Brown/Green  
Blue  
White/Green  
White  
Brown  
Green  
Grey  
Pink  
Red  
Black  
Shield

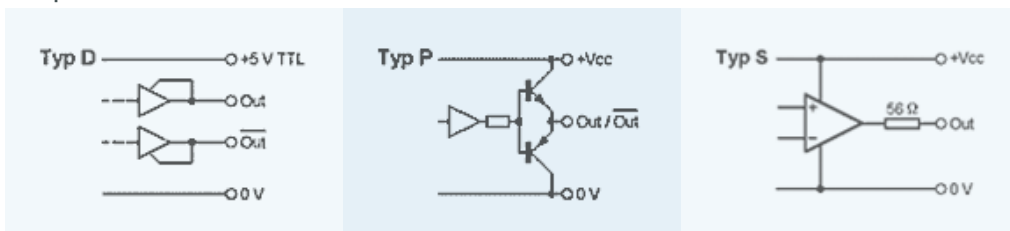
### Signal

+Vcc  
+Vcc Sense <sup>1)</sup>  
0 V GND  
0 V Sense  
Signal A+  
Signal A- <sup>2)</sup>  
Signal B+  
Signal B- <sup>2)</sup>  
Signal M+  
Signal M- <sup>2)</sup>  
N.C.

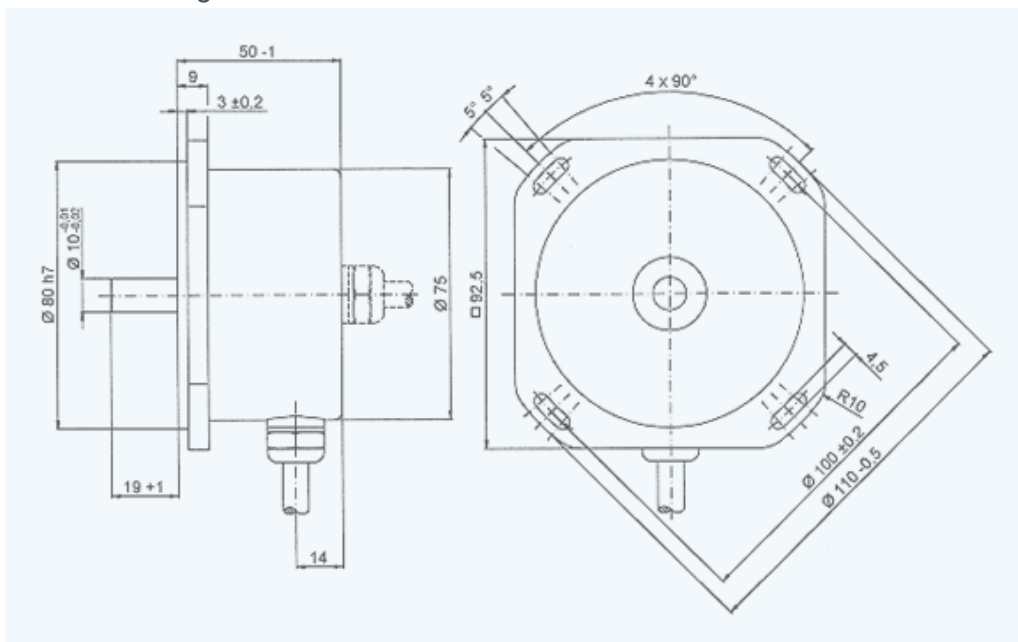
1) nur bei Vcc = 5 VDC TTL

2) nur bei 6 Ausgangskanälen

## Output driver



## Outline drawing



Version E 523-111 · 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)