

magnetic Encoder, digital outputs,
3 channels, 32 - 1024 lines per revolution

**For combination with
Brushless DC-Motors**

Series IEM3-1024

		IEM3-32	IEM3-64	IEM3-128	IEM3-256	IEM3-512	IEM3-1024	
Lines per revolution	N	32	64	128	256	512	1 024	
Frequency range, up to ¹⁾	f	64	128	256	500	500	500	kHz
Signal output, square wave		2+1 Index						Channels
Supply voltage	U_{DD}	4,5 ... 5,5						V
Current consumption, typical ²⁾	I_{DD}	typ. 16, max. 23						mA
Output current, max. ³⁾	I_{OUT}	4						mA
Index Pulse width ⁴⁾	P_0	90 ± 45			90 ± 75			°e
Phase shift, channel A to B ⁴⁾	Φ	90 ± 45			90 ± 75			°e
Signal rise/fall time, max. ($C_{LOAD} = 50$ pF)	tr/tf	0,1 / 0,1						µs
Inertia of sensor magnet ⁵⁾	J	0,007						gcm ²
Operating temperature range		-30 ... +100						°C

2) $U_{DD} = 5 \text{ V}$: with unloaded outputs

3) $U_{DD} = 5 \text{ V}$: low logic level $< 0,4 \text{ V}$, high logic level $> 4,5 \text{ V}$: CMOS- and TTL compatible

⁵⁾ No additional inertia for series 0824...B and 1028...B

For combination with Motor

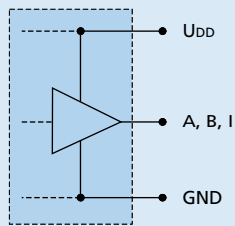
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Characteristics	
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100	100.1

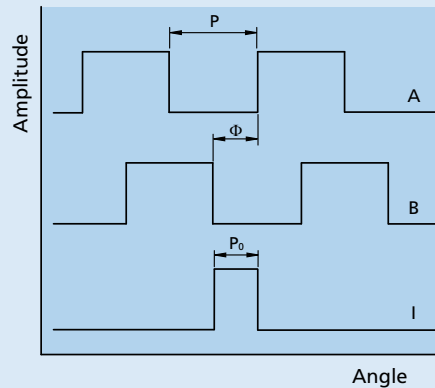
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Specifications subject to change without notice.

Circuit diagram / Output signals

Output circuit



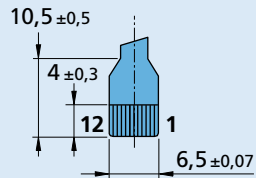
Output signals with clockwise rotation as seen from the shaft end



Connector information / Variants

Connection Encoder and Motor see dimensional drawing A and B

No.	Function
1	Phase C
2	Phase B
3	Phase A
4	GND
5	UDD
6	Hall sensor C
7	Hall sensor B
8	Hall sensor A
9	Channel B
10	Channel A
11	Channel I
12	N.C.

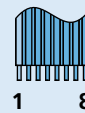


Flexboard
12 circuits, 0,5 mm pitch

Recommended connector
Top contact style
12 circuits, 0,5 mm pitch, e.g.:
Molex: 52745-1297

Connection Encoder and Motor see dimensional drawing C

No.	Function
1	GND
2	UDD
3	Hall sensor C
4	Hall sensor B
5	Hall sensor A
6	Channel B
7	Channel A
8	Channel I



Cable
PVC-ribbon cable
8-AWG 28, 1,27 mm

Options

- Resolutions from 1 - 127 lines per revolution are available on request.

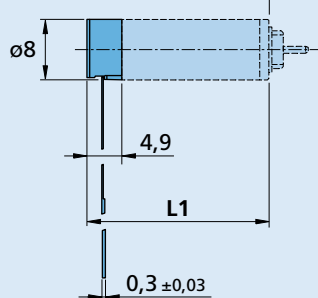
Full product description

- Examples:
0824K006B IEM3-1024
1660S024BHT IEM3-1024

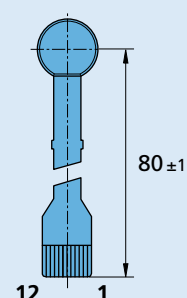
Caution:
Incorrect lead connection will damage the motor electronics!

Dimensional drawing A

Example of combination with 0824...B

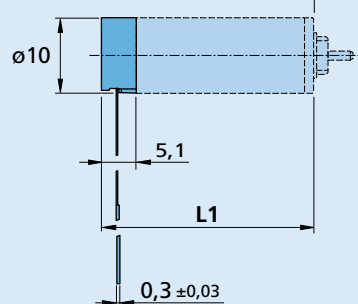


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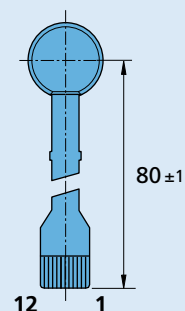


Dimensional drawing B

Example of combination with 1028...B

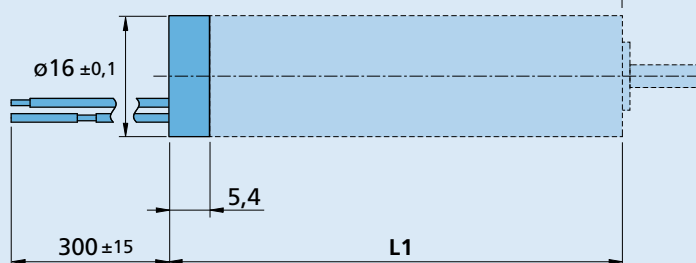


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Dimensional drawing C

Example of combination with 1660...BHT



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