

Encoders

magnetic Encoder, digital outputs,
2 channels, 16 lines per revolution

For combination with
DC-Micromotors

Series IE2-16

		IE2-16		
Lines per revolution	N	16		
Frequency range, up to ¹⁾	f	7		kHz
Signal output, square wave		2		Channels
Supply voltage	U_{DD}	4 ... 18		V
Current consumption, typical ²⁾	I_{DD}	typ. 6, max. 12		mA
Output current, max. ³⁾	I_{OUT}	15		mA
Phase shift, channel A to B	Φ	90 ± 45		°e
Signal rise/fall time, max. ($C_{LOAD} = 100$ pF)	tr/tf	2,5 / 0,3		µs
Inertia of sensor magnet	J	0,11		gcm ²
Operating temperature range		-25 ... +85		°C

¹⁾ Velocity (min⁻¹) = f (Hz) x 60/ N

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

³⁾ Tested at 2 kHz

For combination with Motor

Dimensional drawing A	<L1 [mm]		
1336 ... CXR - 123	47,5		
Dimensional drawing B	<L1 [mm]		
1516 ... SR	18,2		
1524 ... SR	26,2		
1717 ... SR	19,4		
1724 ... SR	26,4		
2224 ... SR	26,6		
2232 ... SR	34,6		
Dimensional drawing C	<L1 [mm]		
1727 ... CXR - 123	38,2		
1741 ... CXR - 123	52,2		

Characteristics

These incremental shaft encoders in combination with the FAULHABER DC-Micromotors are used for the indication and control of both shaft velocity and direction of rotation as well as for positioning.

The encoder is integrated in the DC-Micromotors SR-Series and extends the overall length by only 1,4 mm!

Solid state Hall sensors and a low inertia magnetic disc provide two channels with 90° phase shift.

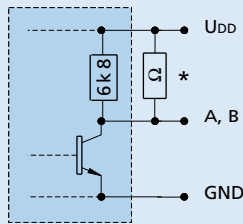
The supply voltage for the encoder and the DC-Micromotor as well as the two channel output signals are interfaced through a ribbon cable with connector.

Details for the DC-Micromotors and suitable reduction gearheads are on separate catalogue pages.

To view our large range of accessory parts, please refer to the "Accessories" chapter.

Circuit diagram / Output signals

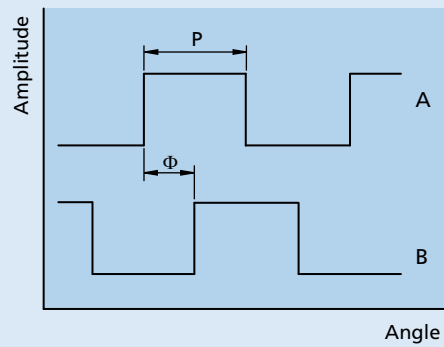
Output circuit



* An additional external pull-up resistor can be added to improve the rise time.
Caution: I_{OUT} max. 15 mA must not be exceeded!

Output signals

with clockwise rotation as seen from the shaft end

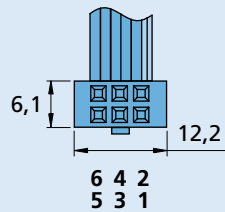


Connector information / Variants

No.	Function
1	Motor - *
2	Motor + *
3	GND
4	U _{DD}
5	Channel B
6	Channel A

* Note: DC-Micromotors series CXR have separate motor leads.

Connection Encoder



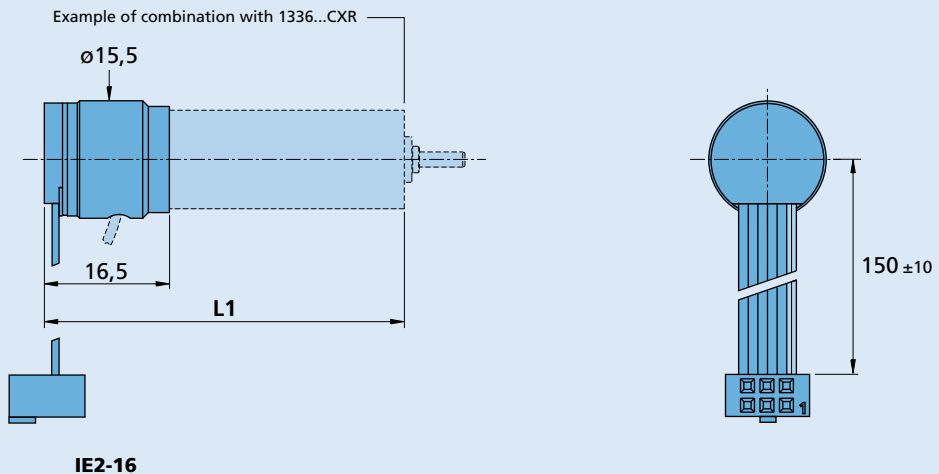
Cable
PVC-ribbon cable
6-conductors, 0,09 mm²

Connector
DIN-41651
grid 2,54 mm

Full product description

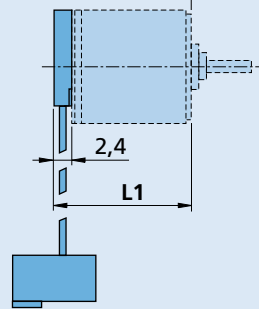
■ Example:
1336U012CXR-123 IE2-16
1516T006SR IE2-16

Dimensional drawing A

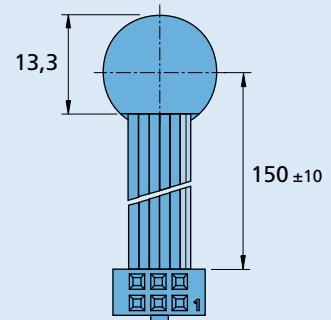


Dimensional drawing B

Example of combination with 1516...SR

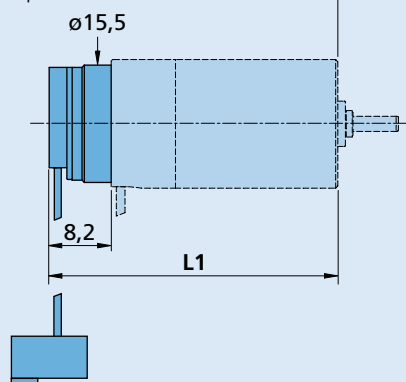


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Dimensional drawing C

Example of combination with 1727...CXR



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