

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]	Dimensional drawing C	<L1 [mm]
1336 ... CXR - 123	47,5	1727 ... CXR - 123	38,2
		1741 ... CXR - 123	52,2
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		

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.

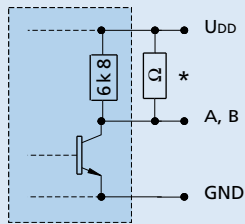
The supply voltage for the encoder and the DC-Micromotor as well as the two channel output signals are interfaced through a ribbon cable with connector.

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

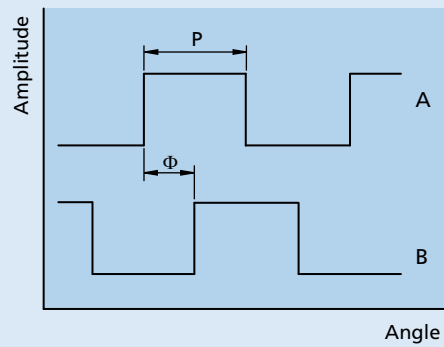
Output circuit



* 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

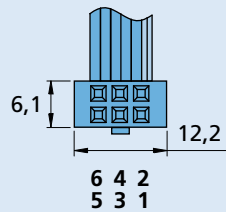
with clockwise rotation as seen from the shaft end



Connector information / Variants

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

Connection Encoder



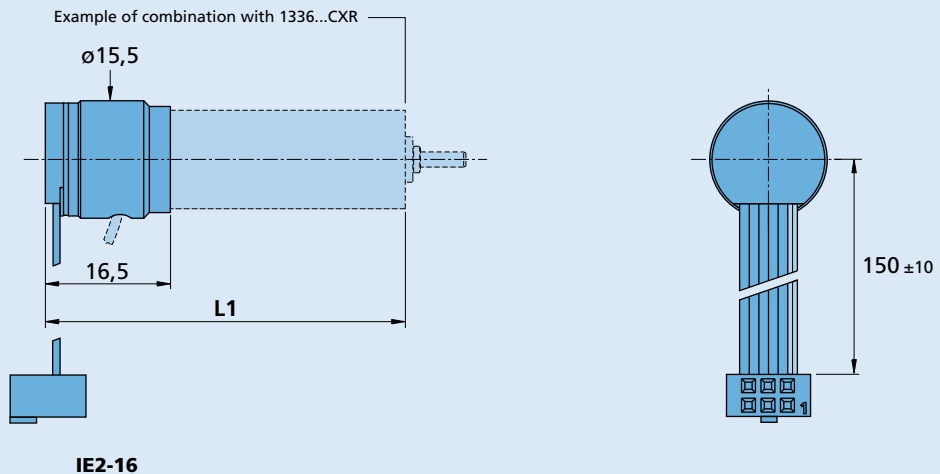
Cable
PVC-ribbon cable
6-conductors, 0,09 mm²

Connector
DIN-41651
grid 2,54 mm

Full product description

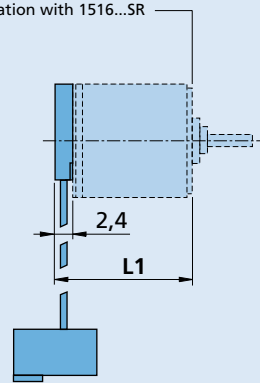
■ Example:
1336U012CXR-123 IE2-16
1516T006SR IE2-16

Dimensional drawing A

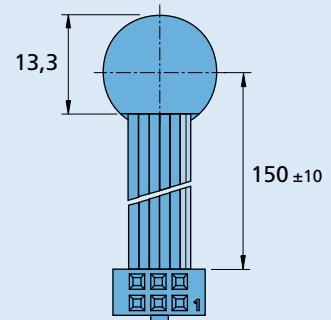


Dimensional drawing B

Example of combination with 1516...SR

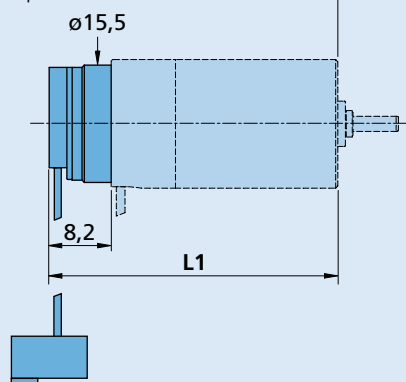


IE2-16



Dimensional drawing C

Example of combination with 1727...CXR



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