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	gcm²
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.

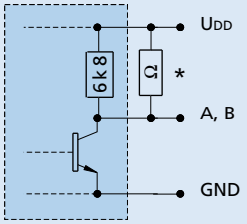
The supply voltage for the encoder and the DC-Micromotor as well as the two channel output signals are interfaced through a ribbon cable with connector.

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.

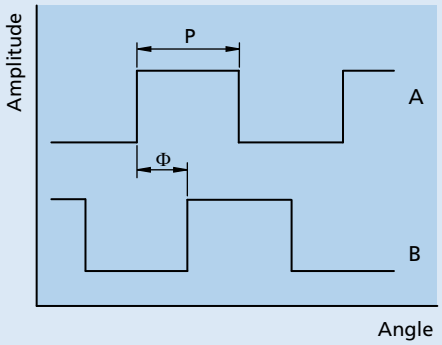
Circuit diagram / Output signals

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



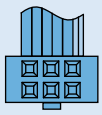
Connector information / Variants

Example product designation: **1336U012CXR-123 IE2-16**

Option	Type	Description

Connection Encoder

No.	Function
1	Motor – *
2	Motor + *
3	GND
4	UDD
5	Channel B
6	Channel A

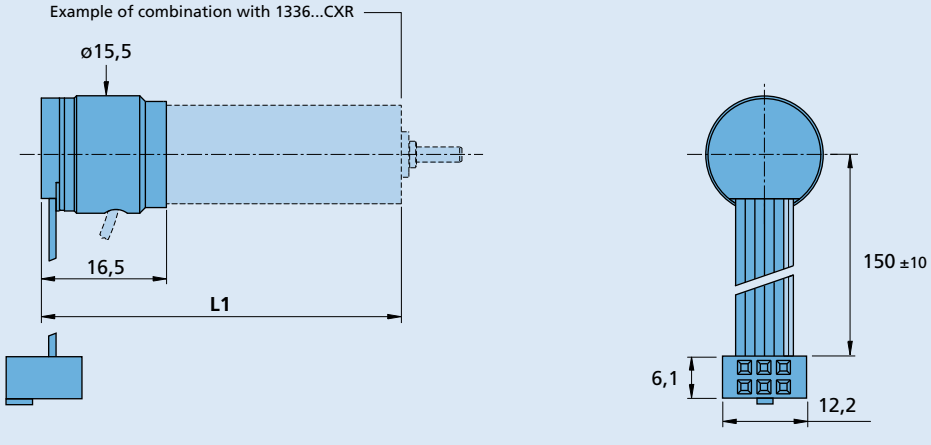


6 4 2
5 3 1

Cable
PVC-ribbon cable, 6-conductors, 0,09 mm²
Connector
EN 60603-13 / DIN-41651, grid 2,54 mm

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

Dimensional drawing A



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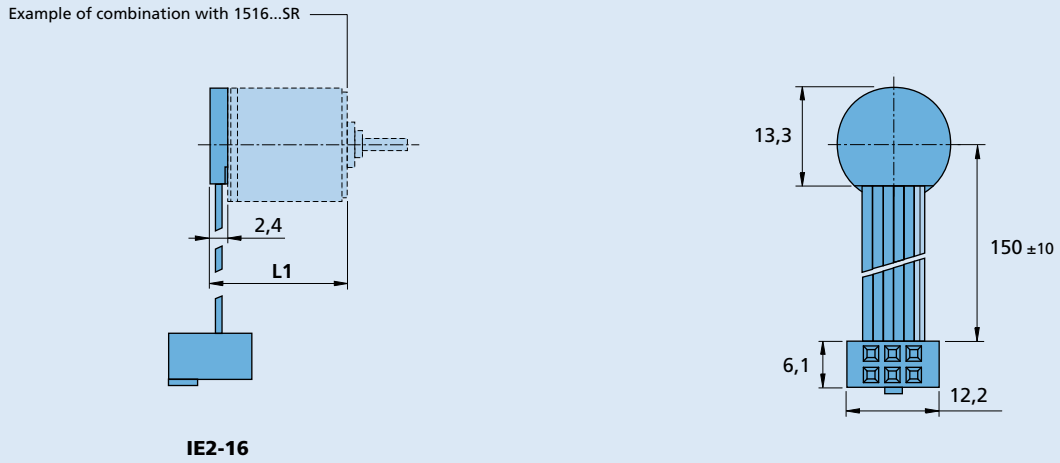
Dimensional drawing B



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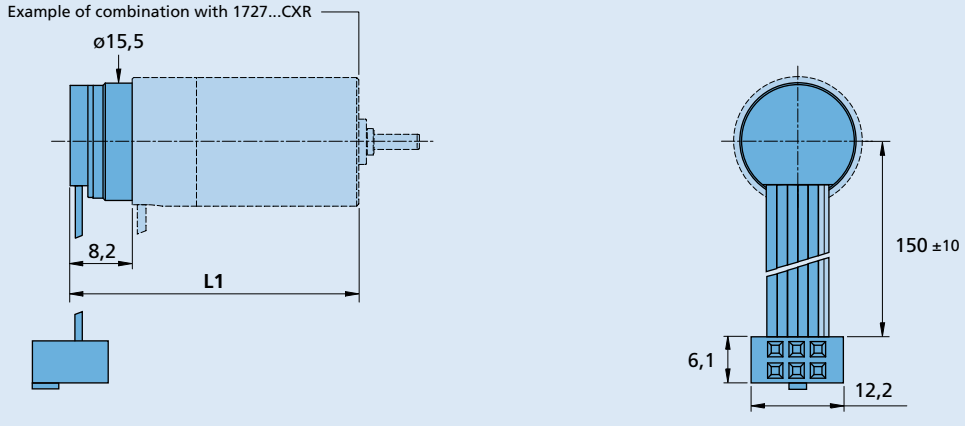
Dimensional drawing C



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