

Encoders

magnetic Encoder, digital outputs,
2 channels, 16 - 4096 lines per revolution

For combination with
DC-Micromotors

Series IEH2-4096

		-16	-32	-64	-128	-256	-512	-1024	-2048	-4096	IEH2
Lines per revolution	<i>N</i>	16	32	64	128	256	512	1 024	2 048	4 096	
Frequency range, up to ¹⁾	<i>f</i>	5	10	20	40	80	160	320	640	875	kHz
Signal output, square wave		2									Channels
Supply voltage	<i>U_{DD}</i>	4,5 ... 5,5									V
Current consumption, typical ²⁾	<i>I_{DD}</i>	typ. 15, max. 25									mA
Output current, max. ³⁾	<i>I_{OUT}</i>	2,5									mA
Phase shift, channel A to B ⁴⁾	Φ	90 ± 45						90 ± 65	90 ± 75	°e	
Signal rise/fall time, max. (<i>C_{LOAD}</i> = 50 pF)	<i>tr/tf</i>	0,05 / 0,05									µs
Inertia of sensor magnet	<i>J</i>	0,11									gcm ²
Operating temperature range		-40 ... +100									°C

¹⁾ Velocity (min⁻¹) = *f* (Hz) x 60/*N*

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

³⁾ *U_{DD}* = 5 V: low logic level < 0,4 V, high logic level > 4,6 V: CMOS- and TTL compatible

⁴⁾ At 5 000 min⁻¹

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.

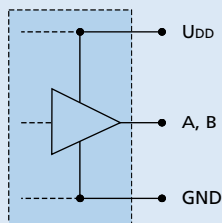
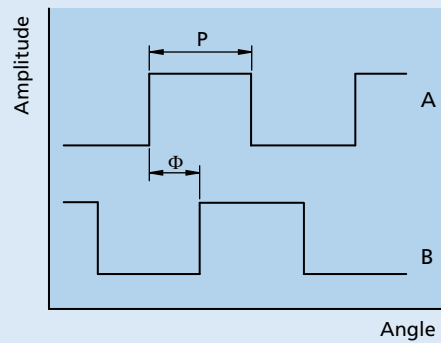
A segmented magnetic disc provides a magnetic field which is detected and further processed by an angle sensor.

The output signals of both channels consist of a square wave signal with 90° phase shift and up to 4096 impulses per motor revolution.

The encoder is available with different standard resolutions. 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.

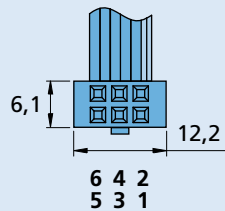
Details for the DC-Micromotors and suitable reduction gearheads are on separate catalogue pages.

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

Circuit diagram / Output signals
Output circuit

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.

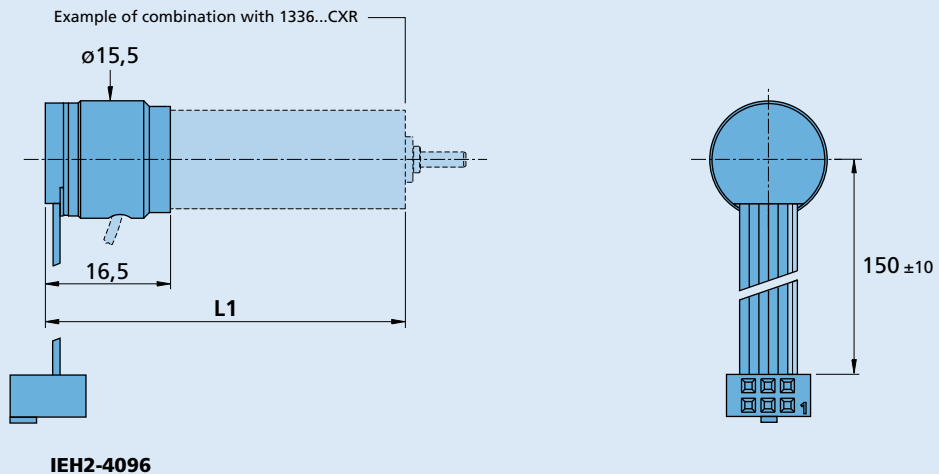
Connection Encoder


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

Connector
 DIN-41651
 grid 2,54 mm

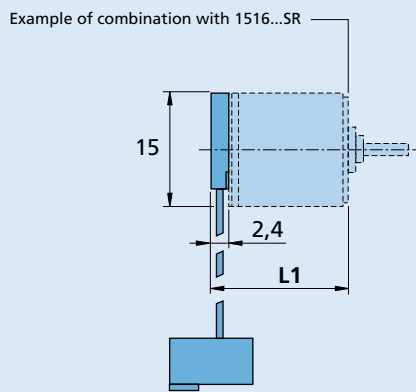
Full product description

■ Example:
1516T006SR IEH2-256

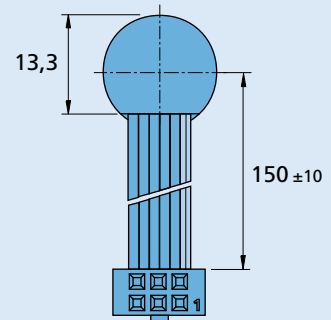
Dimensional drawing A


IEH2-4096

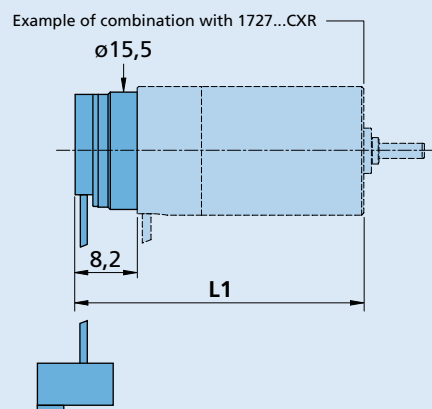
Dimensional drawing B



IEH2-4096



Dimensional drawing C



IEH2-4096

