

NEW

Encoders

magnetic Encoder, digital outputs, 2 channels,
64 - 4096 lines per revolution

For combination with
DC-Micromotors

Series IEH2 – 4096

	IEH2	- 64	- 128	- 256	- 512	- 1024	- 2048	- 4096	
Lines per revolution	N	64	128	256	512	1024	2048	4096	
Frequency range, up to ¹⁾	f	20	40	80	160	320	640	875	kHz
Signal output, square wave		2							channels
Supply voltage	U _{DD}	4,5 ... 5,5							V DC
Current consumption, typical ²⁾	I _{DD}	typ. 15, max. 25							mA
Output current, max. allowable ³⁾	I _{OUT}	2,5							mA
Phase shift, channel A to B ⁴⁾	Φ	90 ±45				90 ±65	90 ±75		°e
Signal rise/fall time, max. (C _{LOAD} = 50 pF)	tr/tf	0,05 / 0,05							µs
Inertia of code disc	J	0,09							gcm ²
Operating temperature range		- 40 ... +100							°C

¹⁾ speed (rpm) = f (Hz) x 60/N

²⁾ U_{DD} = 5V: with unloaded outputs

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

⁴⁾ at 5000 rpm

For combination with motor

Dimensional drawing A	<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		

Features

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 a single chip 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.

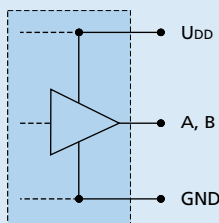
The encoder is available with different standard resolutions.

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.

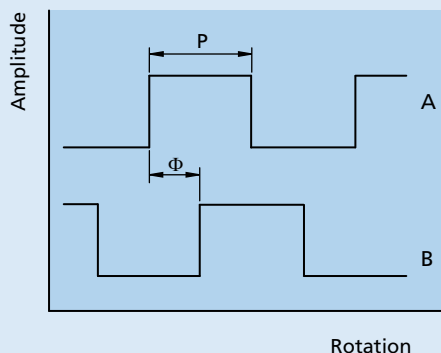
Output signals / Circuit diagram

Output circuit



Output signals

with clockwise rotation as seen from the shaft end

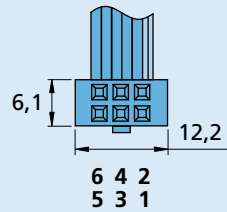


Admissible deviation of phase shift:

$$\Delta\Phi = \left| 90^\circ - \frac{\Phi}{P} * 180^\circ \right| \leq \text{see above}$$

Connector information / Variants

No.	Function
1	Motor -
2	Motor +
3	GND
4	U ₀₀
5	Channel B
6	Channel A

Connection Encoder


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

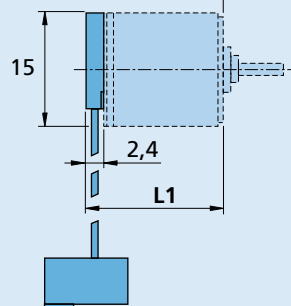
Connector
DIN-41651
grid 2,54 mm

Full product description

■ Example:
1516T006SR IEH2-256

Dimensional drawing A

Example of combination with 1516...SR



IEH2 - 64 ... 4096

