

Encoders

Magnetic Encoders

Features:
 50 to 400 Lines per revolution
 2 Channels
 Digital output

Series IE2 – 400

		IE2 – 50	IE2 – 100	IE2 – 200	IE2 – 400	
Lines per revolution	N	50	100	200	400	
Signal output, square wave		2				channels
Supply voltage	V _{DD}	4,5 ... 5,5				V DC
Current consumption, typical (V _{DD} = 5 V DC)	I _{DD}	typ. 6, max. 12				mA
Output current, max. ¹⁾	I _{OUT}	5				mA
Pulse width	P	180 ± 45				°e
Phase shift, channel A to B	Φ	90 ± 45				°e
Signal rise/fall time, max. (C _{LOAD} = 50 pF)	tr/tf	0,1 / 0,1				µs
Frequency range ²⁾ , up to	f	20	40	80	160	kHz
Inertia of code disc	J	0,05				gcm ²
Operating temperature range		– 25 ... + 85				°C

¹⁾ V_{DD} = 5 V DC: Low logic level < 0,5 V, high logic level > 4,5 V: CMOS and TTL compatible

²⁾ Velocity (rpm) = f (Hz) x 60/N

Ordering information

Encoder	number of channels	lines per revolution	in combination with:
IE2 – 50	2	50	} DC-Micromotors series 1319 ... SR, 1331 ... SR
IE2 – 100	2	100	
IE2 – 200	2	200	
IE2 – 400	2	400	

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.

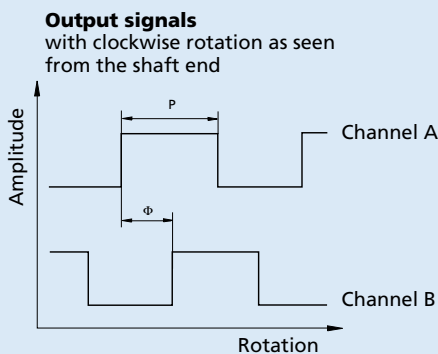
The encoder is integrated in the DC-Micromotors SR-Series and extends the overall length by only 1,7 mm!

Hybrid circuits with 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.

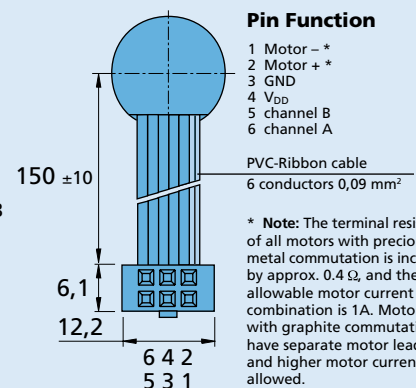
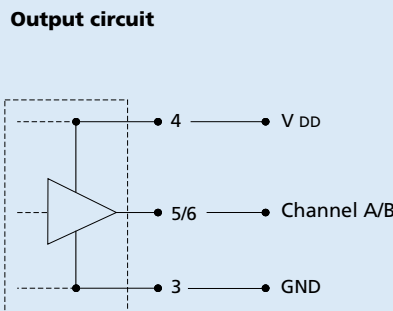
Details for the DC-Micromotors and suitable reduction gearheads are on separate catalogue pages.

Output signals / Circuit diagram / Connector information



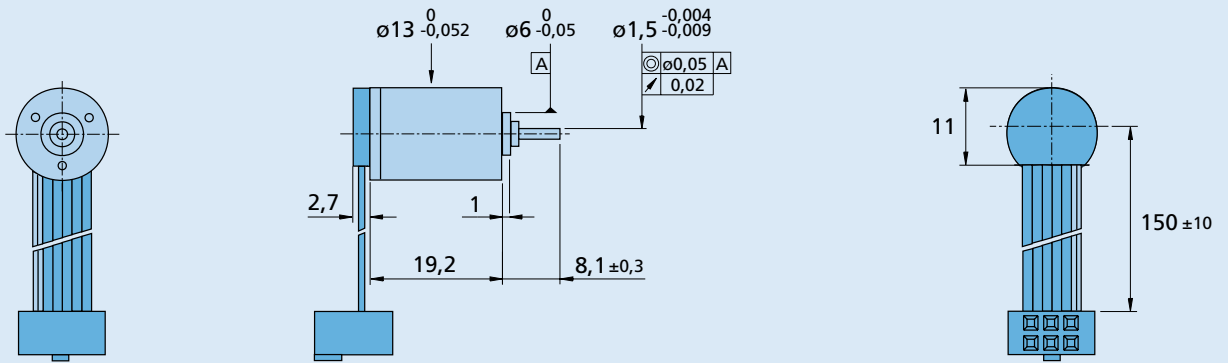
Admissible deviation of phase shift:

$$\Delta\Phi = \left| 90^\circ - \frac{\Phi}{P} * 180^\circ \right| \leq 45^\circ$$



Connector
 DIN-41651
 grid 2,54 mm

DC-Micromotor 1319 T ... SR with Encoder IE2 – 50 ... 400



DC-Micromotor 1331 T ... SR with encoder IE2 – 50 ... 400

