Encoders

magnetic Encoder, digital outputs,
2 channels, 50 - 400 lines per revolution

For combination with
DC-Micromotors

Series IE2-400

		IE2-50	IE2-100	IE2-200	IE2-400	
Lines per revolution	*N*	50	100	200	400	
Frequency range, up to[1]	*f*	20	40	80	160	kHz
Signal output, square wave		2				Channels
Supply voltage	U_{DD}	4,5 ... 5,5				V
Current consumption, typical[2]	I_{DD}	typ. 9,5, max. 13				mA
Output current, max.[3]	I_{OUT}	5				mA
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
Inertia of sensor magnet	*J*	0,05				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] U_{DD} = 5 V: low logic level < 0,5 V, high logic level > 4,5 V: CMOS- and TTL compatible

For combination with Motor

Dimensional drawing A	<L1 [mm]
1319 ... SR	21,9
1331 ... SR	33,9

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 1,7 mm!
Hybrid circuits with sensors and a low inertia magnetic disc provide two channels with 90° phase shift.

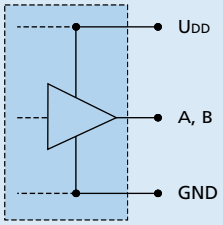
The supply voltage for the encoder and the DC-Micromotor as well as the two channel output signals are interfaced through a ribbon cable with connector.

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

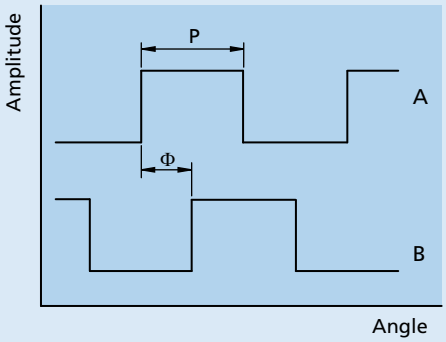
To view our large range of accessory parts, please refer to the "Accessories" chapter.

Circuit diagram / Output signals

Output circuit



Output signals
with clockwise rotation as seen from the shaft end

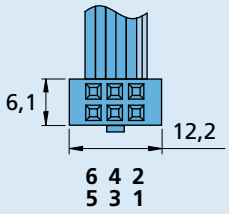


Connector information / Variants

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

***Note:** The terminal resistance of all motors with precious metal commutation is increased by approx. 0.4 Ω, and the max. allowable motor current in combination is 1A, depending on the motor can also be lower.

Connection Encoder



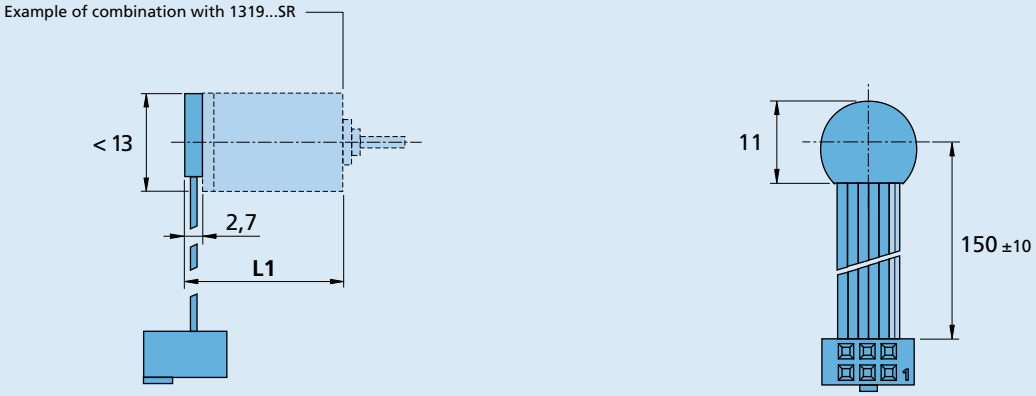
Cable
PVC-ribbon cable
6-conductors, 0,09 mm²

Connector
EN 60603-13 / DIN-41651, grid 2,54 mm

Full product description

- Example:
  1319T012SR IE2-50
  1331T012SR IE2-400

Dimensional drawing A



IE2-400