Encoders

Magnetic Encoders

Features:
10 Lines per revolution
2 Channels
Digital output

Series 30B

		30B	
Lines per revolution	N	10	
Signal output, square wave		2	channels
Supply voltage	V_{CC}	4,5 ... 5,5	V DC
Current consumption, typical (V_{CC} = 5 V DC)	I_{CC}	5	mA
Pulse width	P	180 ± 45	°e
Phase shift, channel A to B	Φ	90 ± 45	°e
Logic state width	S	90 ± 45	°e
Cycle	C	360 ± 30	°e
Signal rise/fall time, typical	tr/tf	5 / 0,2	µs
Frequency range [1]	f	up to 7,2	kHz
Inertia of code disc	J	0,09	gcm²
Operating temperature range		– 20 ... + 85	°C

[1] Velocity (rpm) = f (Hz) x 60/N

Ordering information

Encoder type	number of channels	lines per revolution	in combination with DC-Micromotors
30B19	2	10	**series 1016, 1024**
30B20	2	10	**series 1219, 1224**
30B18	2	10	**series 1336**

Features

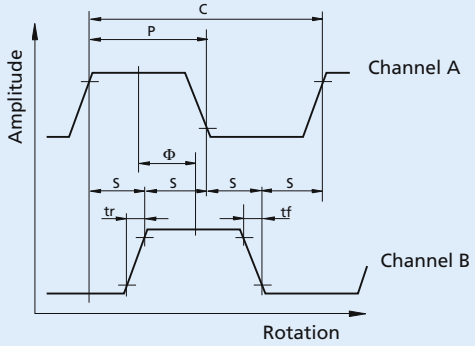
These incremental shaft encoders in combination with the FAULHABER DC-Micromotors are designed for the indication and control of both shaft velocity and direction of rotation as well as for positioning.

Solid state Hall sensors and a low inertia magnetic disc provide two channels with 90° phase shift.

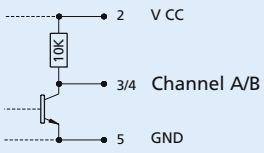
The supply voltage for the encoder and the DC-Micromotor as well as the two channel output signals are interfaced with a 150 mm ribbon cable and a connector.

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

Output signals / Circuit diagram / Connector information

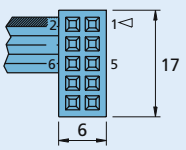


Output signals
with clockwise rotation as seen from the shaft end
Encoders 30B19, 30B20 channel A leads B
Encoders 30B18 channel B leads A

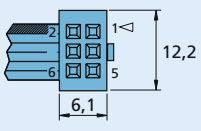


Output circuit

Connectors



Standard 10P
(Panduit 050-010-455)



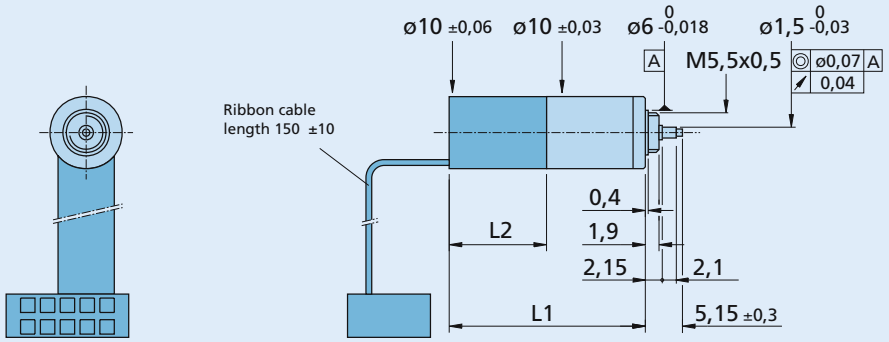
Option 6P
(DIN-41651 grid 2,54 mm)

Pin Function

1 Motor +
2 V_{CC}
3 Channel A
4 Channel B
5 GND
6 Motor –
7 –
8 –
9 –
10 –

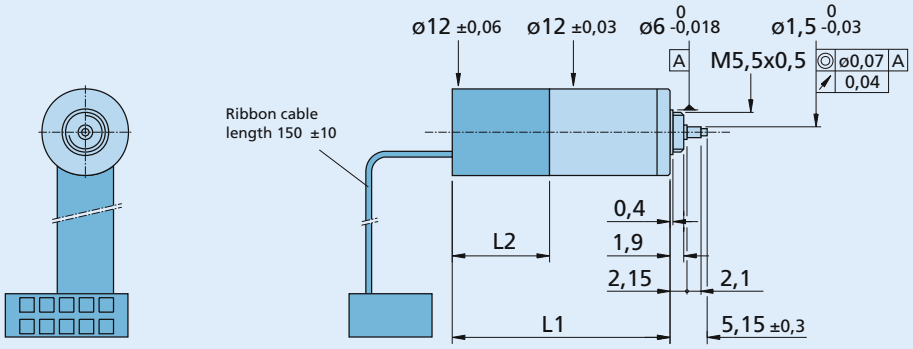
Ribbon cable
PVC - 6 conductors
0,09 mm² / 28 AWG

DC-Micromotors 1016 N ... G - K380, 1024 N ... S - K380 with Encoder 30B19



Motor type	L1	L2
1016	27,2	13,5
1024	35,2	13,5

DC-Micromotors 1219 N ... G - K380, 1224 N ... S - K380 with Encoder 30B20



Motor type	L1	L2
1219	30,2	13,5
1224	33,7	11,7

DC-Micromotor 1336 U ... C - 123 with Encoder 30B18