

Encoders

Magnetic Encoders

Features:
 15 or 16 Lines per revolution
 2 Channels
 Digital output

Series 20B, 21B

		20B	21B	
Lines per revolution	N	15	16	
Signal output, square wave		2	2	channels
Supply voltage	V _{CC}	4,5 ... 5,5	4,5 ... 5,5	V DC
Current consumption, typical (V _{CC} = 5 V DC)	I _{CC}	5	5	mA
Pulse width	P	180 ± 45	180 ± 45	°e
Phase shift, channel A to B	Φ	90 ± 45	90 ± 45	°e
Logic state width	S	90 ± 45	90 ± 45	°e
Cycle	C	360 ± 30	360 ± 30	°e
Signal rise/fall time, typical	tr/tf	5 / 0,2	5 / 0,2	µs
Frequency range ¹⁾	f	up to 7,2	up to 7,2	kHz
Inertia of code disc	J	0,2	0,2	gcm ²
Operating temperature range		- 20 ... + 85	- 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 and DC-Motor-Tacho units	
		20B	21B	
20B3	2	15	16	free standing for independent use series 1336, 1841, 2251
20B18	2	15	16	

Features

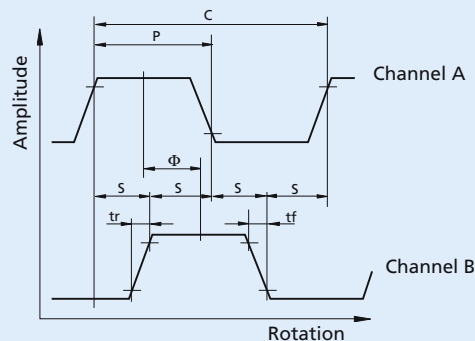
These incremental shaft encoders in combination with the FAULHABER DC-Micromotors are designed for the indication and control of both shaft velocity and direction of rotation as well as for positioning.

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

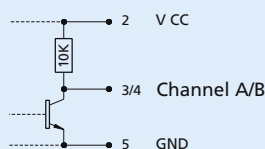
The supply voltage for the encoder and the DC-Micromotor as well as the two channel output signals are interfaced with a 150 mm ribbon cable and a 10-pin connector.

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

Output signals / Circuit diagram / Connector information

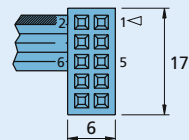


Output signals
 with clockwise rotation as seen from the shaft end
 Encoders 20B channel A leads B
 Encoders 21B channel B leads A

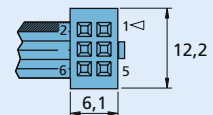


Output circuit

Connectors



Standard 10P
 (Panduit 050-010-455)



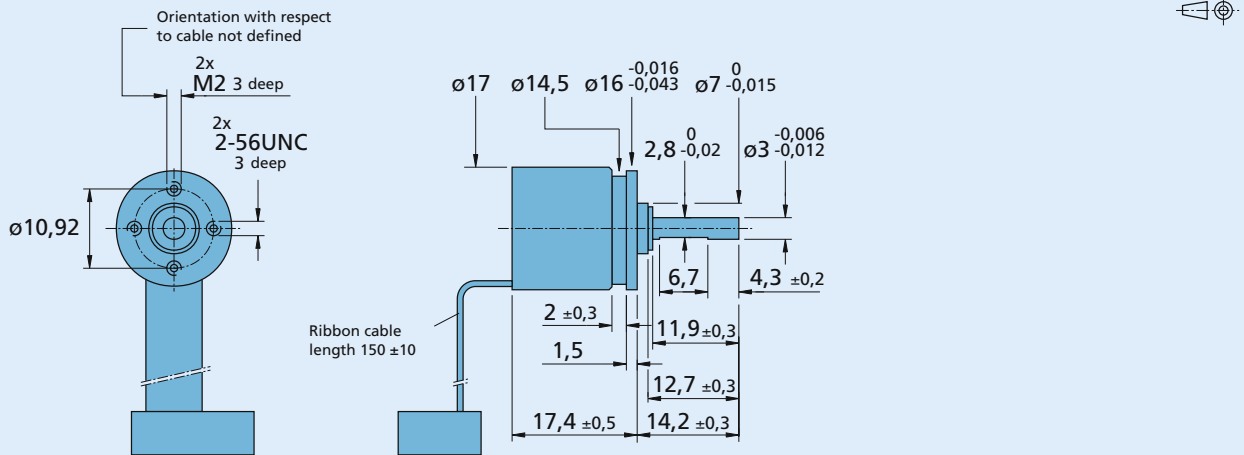
Option 6P
 (DIN-41651 grid 2,54 mm)

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

Encoders 20B3, 21B3 free standing, with ball bearings



DC-Micromotor 1336 U ... C - 123 with Encoders 20B18, 21B18

