

NEW

Encoders

Magnetic Encoders

Features:
 1 + 8 Lines per revolution
 2 + 2 Channels
 Analog + Digital output

Series 05AB

		05AB		
Lines per revolution	N	1 analog	8 digital	
Signal output		2 (sine wave)	2 (square wave)	channels
Supply voltage	V _{DD}	4,5 ... 5,5		V DC
Current consumption, max.	I _{DD}	6		mA
Output current, max.	I _{OUT}	- ¹⁾	5 ²⁾	mA
Pulse width	P	-	180 ± 45	°e
Phase shift, channel	Φ	90 ± 20 (X to Y)	90 ± 45 (A to B)	°e
Output voltage	V _{OUT P-P}	1,3 ± 20%	-	V
Offset voltage	V _{OFF}	1,4 ± 20%	-	V
Signal rise/fall time, max. (C _{LOAD} = 50 pF)	tr/tf	-	0,1 / 0,1	µs
Frequency range ³⁾ , up to	f	2,5		kHz
Inertia of code disc	J	0,15		gmm ²
Operating temperature range		- 25 ... +85		°C

¹⁾ Output resistance 50 kΩ: recommended external amplifier

²⁾ V_{DD} = 5 V DC: Low logic level < 0,5 V, high logic level > 4,5 V: CMOS and TTL compatible

³⁾ Velocity (rpm) = f (Hz) x 60/N

Ordering information

Encoder type	number of channels	lines per revolution	in combination with DC-Micromotors
05AB28	2 (X, Y) + 2 (A, B)	1 + 8	series 0816 ... S - K1310
05AB19	2 (X, Y) + 2 (A, B)	1 + 8	series 1016 ... G - K380
05AB20	2 (X, Y) + 2 (A, B)	1 + 8	series 1219 ... G - K380
05AB29	2 (X, Y) + 2 (A, B)	1 + 8	series 1224 ... S - K380

Features

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

The encoder mounted with the DC-Micromotor series 0816 and extends the overall length by 7 mm, the external diameter of the encoder is only 8 mm as the motor!

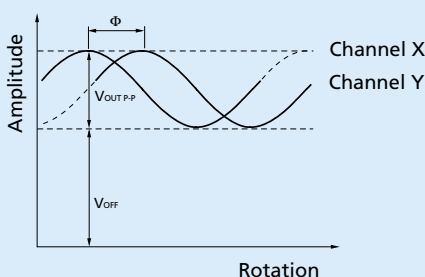
Hybrid circuits with sensor and very low inertia magnetic disc provide two analogs channels (sinus and cosinus) with 90° phase shift and 8 digital line per revolution.

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

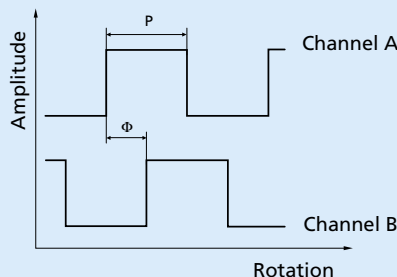
Details for the DC-Micromotors and suitable reduction gearheads are on separate catalog pages.

Output signals / Connector information

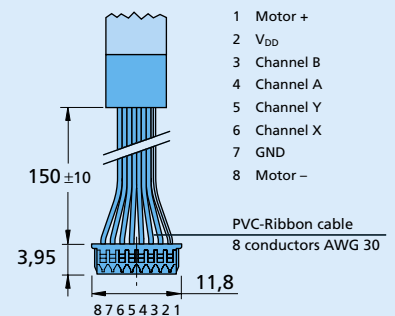
Analog output signals



Digital output signals



Pin Function

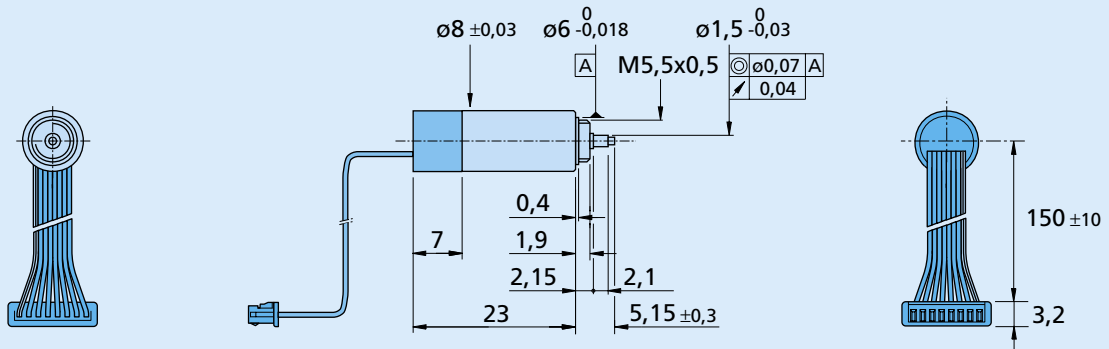


- 1 Motor +
- 2 V_{DD}
- 3 Channel B
- 4 Channel A
- 5 Channel Y
- 6 Channel X
- 7 GND
- 8 Motor -

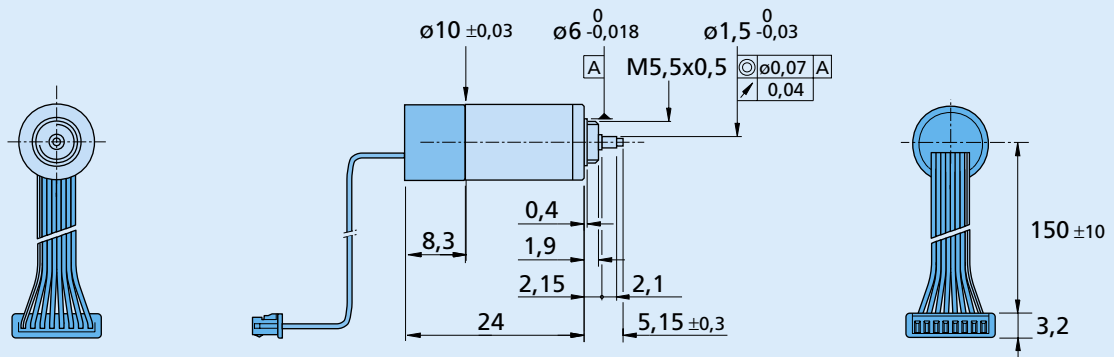
Connector
 Molex 51021/0800
 grid 1,25 mm

Output signals
 with clockwise rotation as seen from the shaft end

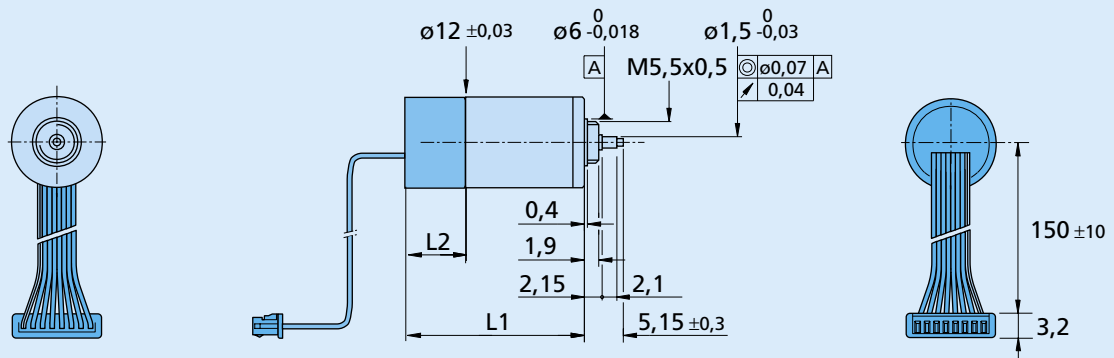
DC-Micromotor 0816 N ... S - K1310 with Encoder 05AB



DC-Micromotor 1016 N ... G - K380 with Encoder 05AB



DC-Micromotors 1219 N ... G - K380, 1224 N ... S - K380 with Encoder 05AB



Motor type	L1	L2
1219	27,0	8,3
1224	30,6	8,5