Encoders

Optical Encoders

Features:
100 Lines per revolution
2 Channels
Digital output

Series PA2 – 100

		PA2 – 100	
Signal output, square wave		2	channels
Supply voltage	V_{CC}	2,7 ... 3,3	V DC
Current consumption, typical (V_{CC} = 3 V DC)	I_{CC}	8	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 (C_{LOAD} = 50 pF)	tr/tf	0,1 / 0,1	µs
Frequency range [1]	f	up to 35	kHz
Inertia of code disc	J	0,02	gcm²
Operating temperature range		-25 ... +85	°C

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

Ordering information

Encoder	number of channels	lines per revolution	for combination with: DC-Micromotors series
PA2-100	2	100	**1016 ... G** **1024 ... S** **1224 ... SR**

Note: Lines per revolution refers to pre-quadrature resolution and equals the cycles per revolution

Features

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

An all-in-one emitter and detector chip transmits and receives LED light reflected off a low inertia reflective disc providing two channels with 90° phase shift.

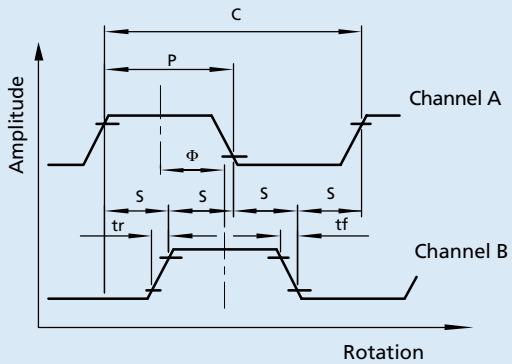
The supply voltage for the encoder and the Micromotor as well as the output signals are interfaced with a flexible printed circuit (FPC).

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

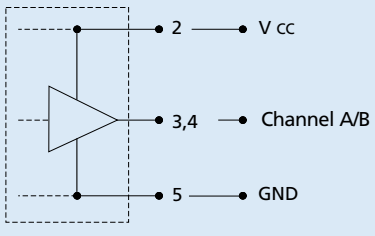
An optional interface board with suitable connector is also available on request.

Output signals / Circuit diagram / Connector information

Output signals
with clockwise rotation as seen from the shaft end

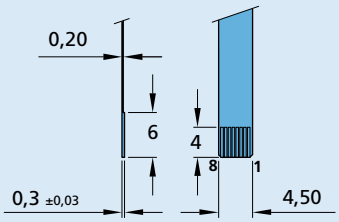


Output circuit



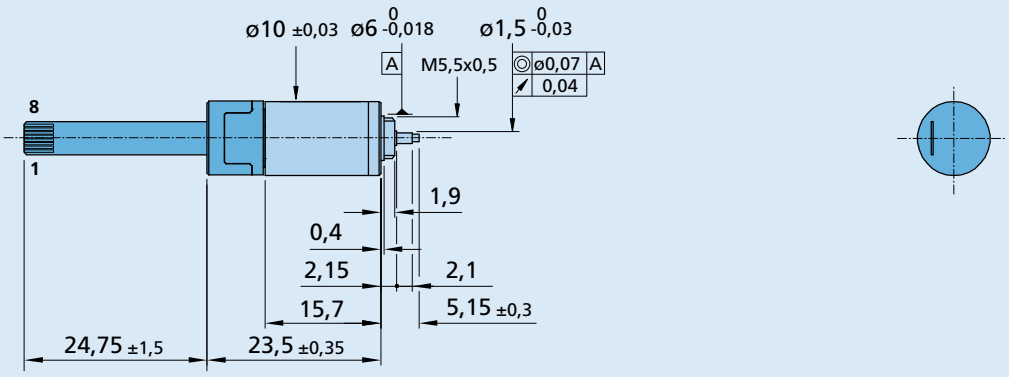
Pin Function

1 Motor +
2 Motor +
3 Vcc
4 Channel A
5 Channel B
6 GND
7 Motor -
8 Motor -



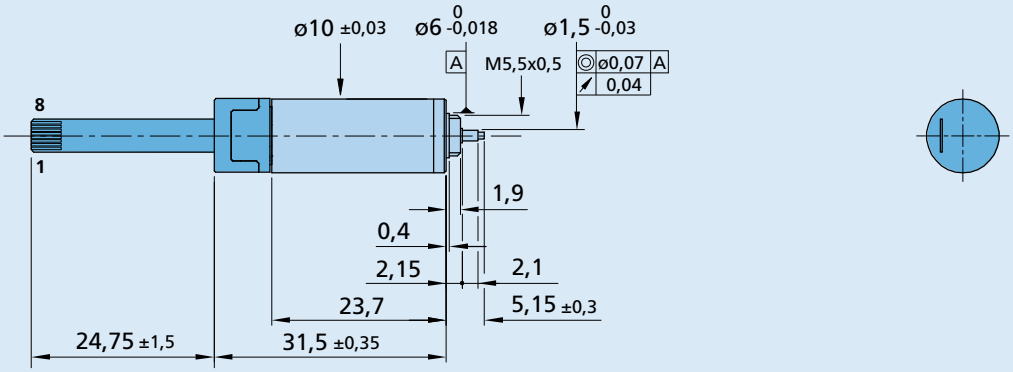
Connector
Molex 52745
grid 0,5 mm
FPC / FFC, 8-conductors

DC-Micromotor 1016 N ... G - K1752 with encoder PA2-100



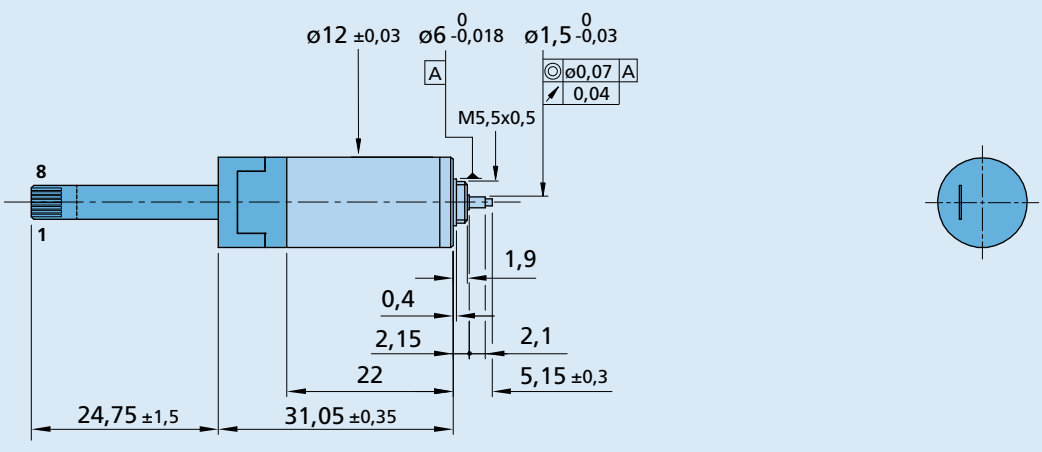
PA2-100 + 1016 N

DC-Micromotor 1024 N ... S - K1752 with encoder PA2-100



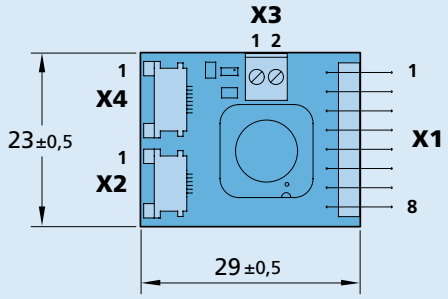
PA2-100 + 1024 N

DC-Micromotor 1224 N ... SR - K1752 with encoder PA2-100



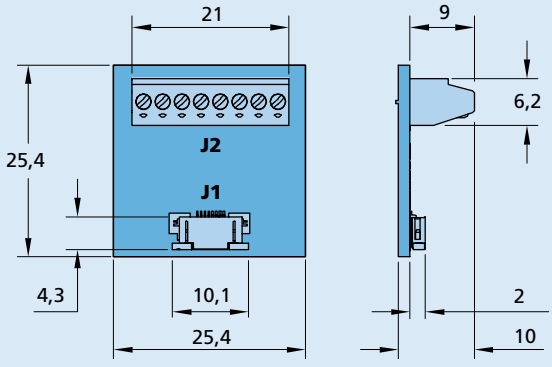
PA2-100 + 1224 N

Interface board for MCDC 3002 S

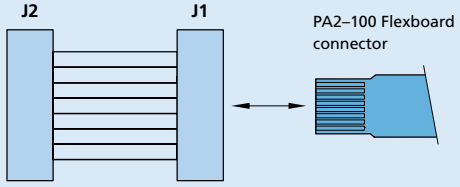


Interface board PA2-50 / PA2-100
Part No.: 6501.00144

Optional interface board



Interface board PA2–100
Part No.: D100308900



Connector
J1 – Molex 52745-0896
J2 – Phoenix 1725711