

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	gcm ²
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).

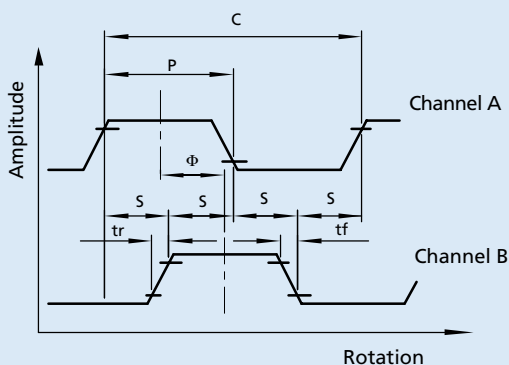
Details for the DC-Micromotors and suitable reduction gearheads are on separate catalog pages.

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

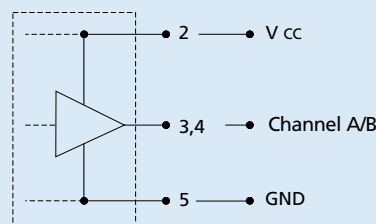
Output signals / Circuit diagram / Connector information

Output signals

with clockwise rotation as seen from the shaft end

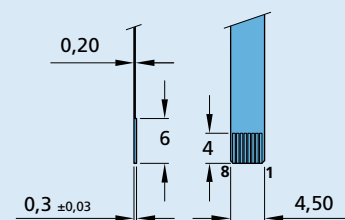


Output circuit



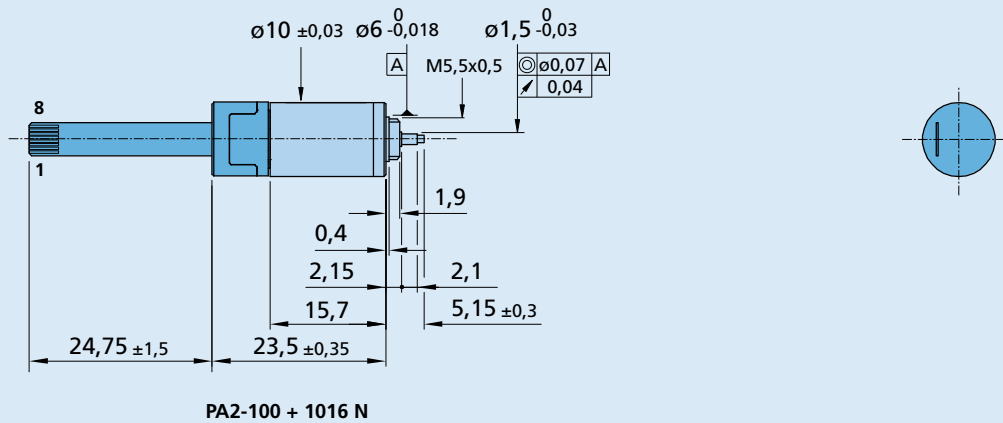
Pin Function

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

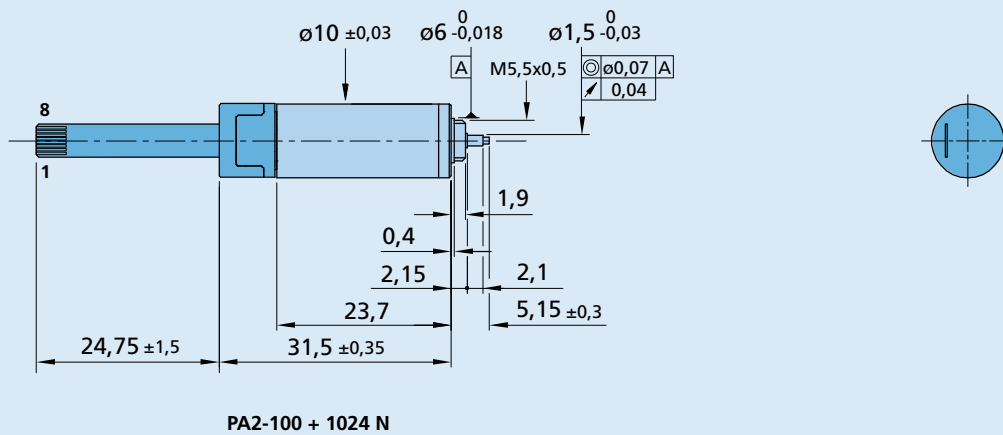


Connector
 Molex 52745
 grid 0,5 mm
 FPC / FFC, 8-conductors

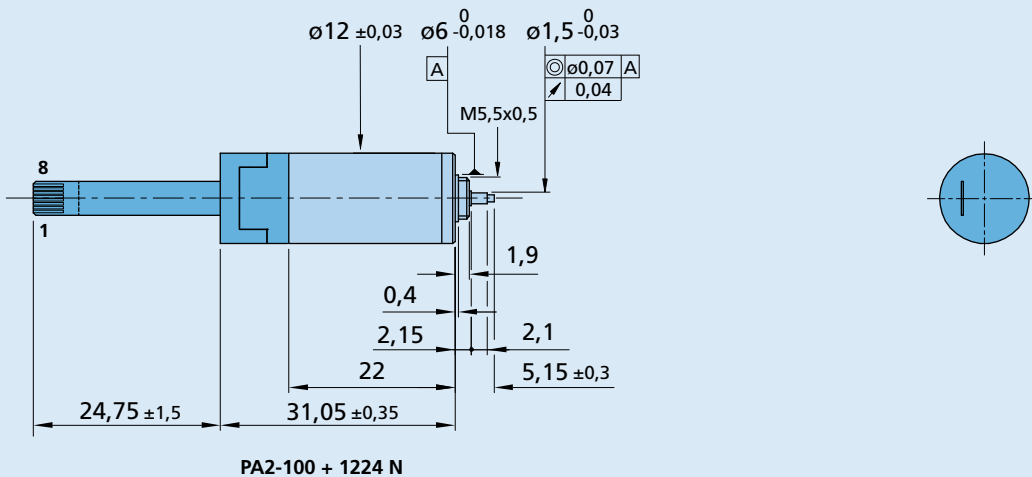
DC-Micromotor 1016 N ... G - K1752 with encoder PA2-100



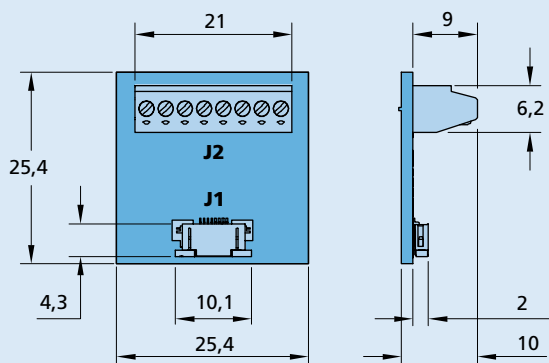
DC-Micromotor 1024 N ... S - K1752 with encoder PA2-100



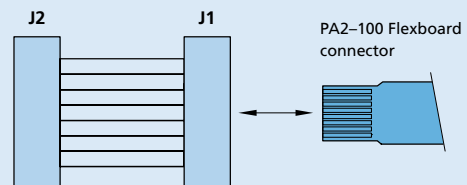
DC-Micromotor 1224 N ... SR - K1752 with encoder PA2-100



Optional interface board



Interface board PA2-100
Part No.: D100308900



Connector
J1 – Molex 52745-0896
J2 – Phoenix 1725711