

NEW

Encoders

Magnetic Encoders

Features:
 16, 32, 64 Lines per revolution
 3 Channels
 Digital output

Series HXM3-64

| | | HXM3-64 | |
|---|-------------------|-------------------------|------------------|
| Signal output, square wave | | 3 | channels |
| Supply voltage ¹⁾ | V _{CC} | 4,5 ... 5,5 | V DC |
| Current consumption, typical (V _{CC} = 5 V DC) | I _{CC} | 9 | 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 | 60 / 60 (at 50 pF load) | µs |
| Rotational speed up to | n _{max.} | 30 000 | rpm |
| Inertia of code disc | J | 0,02 ¹⁾ | gcm ² |
| Operating temperature range | | -25 ... +85 | °C |

¹⁾ No additional inertia for series 0620

Ordering information

| Encoder | number of channels | lines per revolution | in combination with: |
|---------|--------------------|----------------------|--|
| HXM3-64 | 3 | 64 | DC-Micromotors series 0615 Brushless DC-Servomotors series 0620 |

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

Features

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

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

The supply voltage for the encoder and the DC-Micromotor as well as the output signals are interfaced with a flexible printed circuit (FPC) to a 8-pin ZIF connector.

Encoder is programmable by user to 16, 32, and 64 lines per revolution by setting the CFG2 pin to high, open, or ground respectively. The input power must be cycled off and on to change the settings.

Please note: Velocity (rpm) = f (Hz) x 60/N

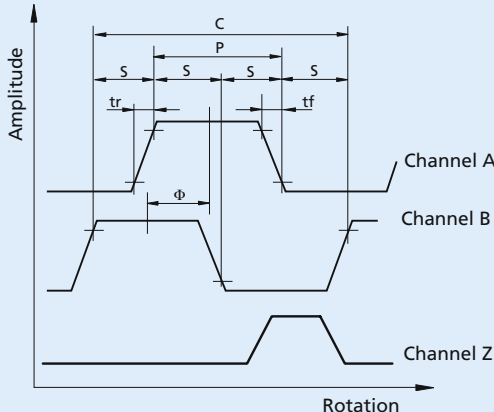
Details for the DC-Micromotors and suitable reduction gearheads are on separate catalog pages.

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

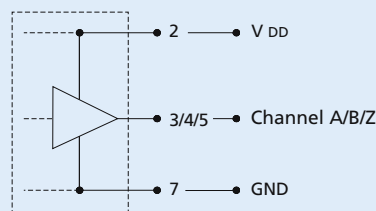
Output signals / Circuit diagram / Connector information

Output signals

with clockwise rotation as seen from the shaft end



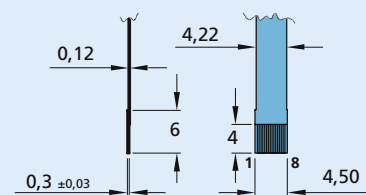
Output circuit



Pin Function

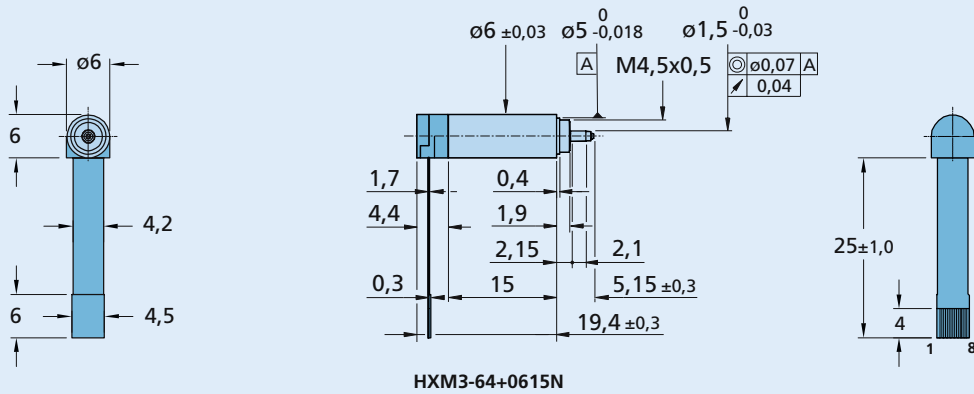
- 1 Motor + *
- 2 V_{DD}
- 3 Channel Z
- 4 Channel A
- 5 Channel B
- 6 Cfg2
- 7 GND
- 8 Motor - *

* Note: Brushless motors have separate motor leads.

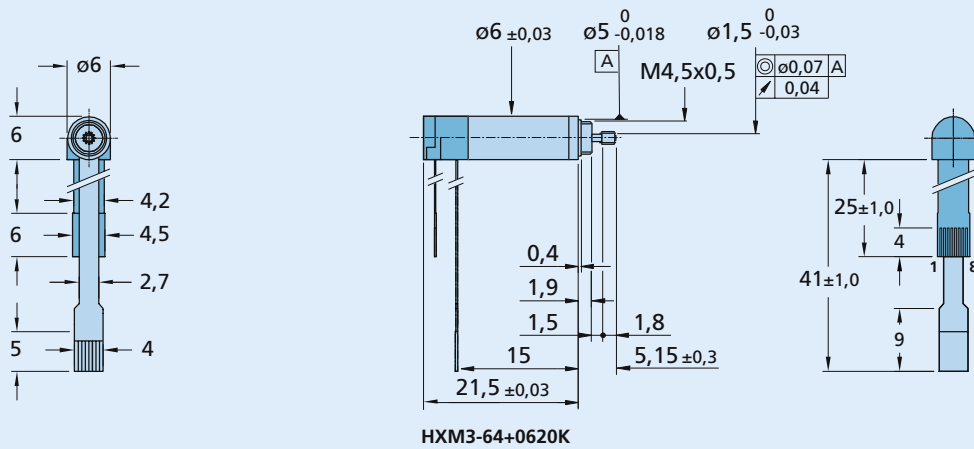


Connector
 Molex 52745
 grid 0,5 mm
 FPC / FFC, 8-conductors

DC-Micromotor 0615 N ... S - K1707 with Encoder HXM3-64



Brushless DC-Servomotor 0620 K ... B - K1674 with Encoder HXM3-64



Optional interface board

