

NEW

Encoders

Magnetic Encoders

Features:

32, 64, 128, 256 Lines per revolution
 3 Channels
 Digital output
 Discrete wires and connector

HEM3-256-W

Signal output, square wave		3	channels
Supply voltage ¹⁾	V _{DD}	3,0 ... 3,6	V DC
Supply voltage ²⁾	V _{DD}	4,5 ... 5,5	V DC
Current consumption, typical (V _{DD} = 3,3 or 5 V DC)	I _{DD}	16	mA
Output current, max. ³⁾ (V _{DD} = 3,3 / 5 V DC)	I _{OUT}	2 / 4	mA
Pulse width	P	180 ± 45	°e
Phase shift, channel A to B	Φ	90 ± 45	°e
Logic state width	S	90 ± 45	°e
Signal rise/fall time, max (C _{LOAD} = 50 pF)	tr/tf	0,1 / 0,1	µs
Rotational speed up to	n _{max.}	30 000	rpm
Inertia of code disc	J	0,02	gcm ²
Operating temperature range		-30 ... +85	°C

¹⁾ V_{DD} = 3,3 V DC: Connect pins 3 and 4 to 3,3 V DC²⁾ V_{DD} = 5 V DC: Connect pin 3 to 5 V DC, do not connect pin 4³⁾ V_{DD} = 5 V DC: Low logic level < 0,5 V, high logic level > 4,5 V: CMOS and TTL compatible**Ordering information**

	of channels	per revolution	for combination with:
HEM3-032-W	3	32	} DC-Micromotors series 0816 ... S 1016 ... G, 1024 ... S 1224 ... S, 1224 ... SR
HEM3-064-W	3	64	
HEM3-128-W	3	128	
HEM3-256-W	3	256	

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

Features

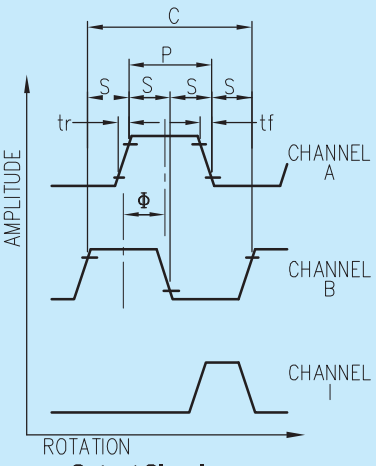
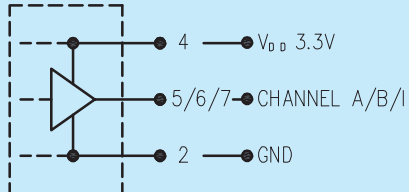
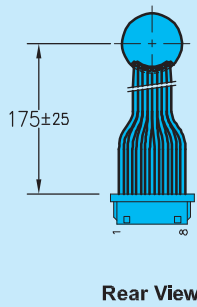
These incremental shaft encoders in combination with the FAULHABER® DC-Micromotors are designed for indication and control of both shaft velocity and direction of rotation as well as for positioning.

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

The nominal supply voltage for the encoder is selectable and either 3,3 VDC or 5,0 VDC.

The supply voltage for the encoder and the DC-Micromotor as well as the output signals are interfaced with discrete wires and an 8-pin Molex crimp style connector.

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

Output signals / Circuit diagram / Connector information




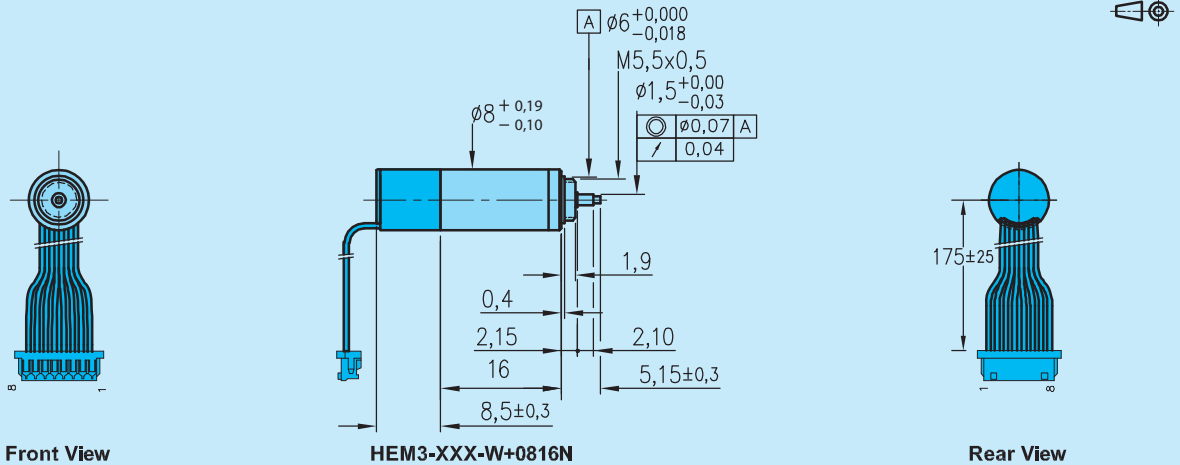
PIN	COLOR	FUNCTION
1	BLACK	MOT -
2	GREEN	GND
3	BROWN	VDD_5V
4	WHITE	VDD_3.3V
5	YELLOW	A
6	VIOLET	B
7	GREY	INDEX
8	BLUE	MOT +

Connector:
Molex 51021-0800
Pitch 1.25mm

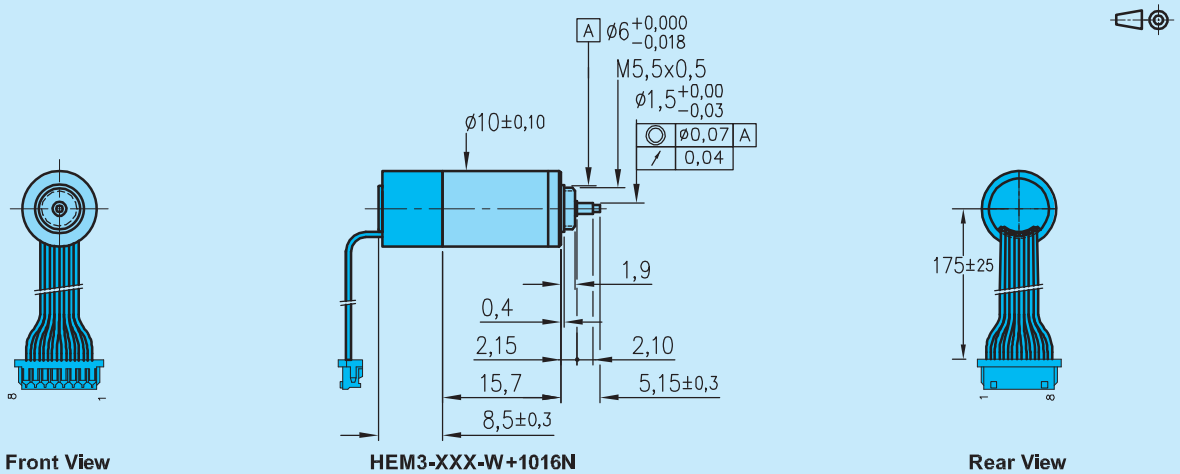
Wire:
Tefzel 30 AWG
MIL-W-227459/32

with clockwise rotation as seen from the shaft end

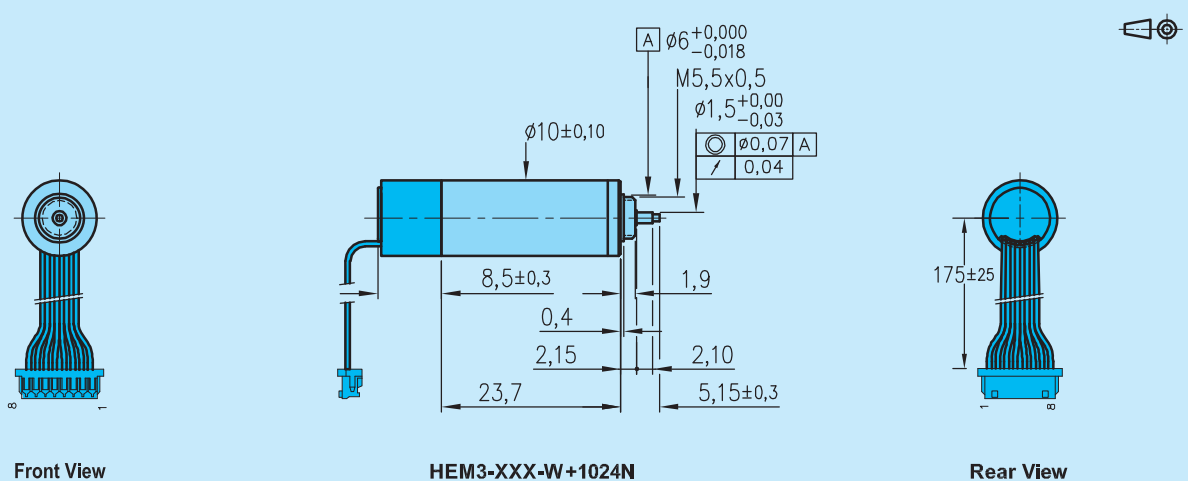
DC Micromotor 0816 N ... S - K1707 with Encoder HEM3-XXX-W



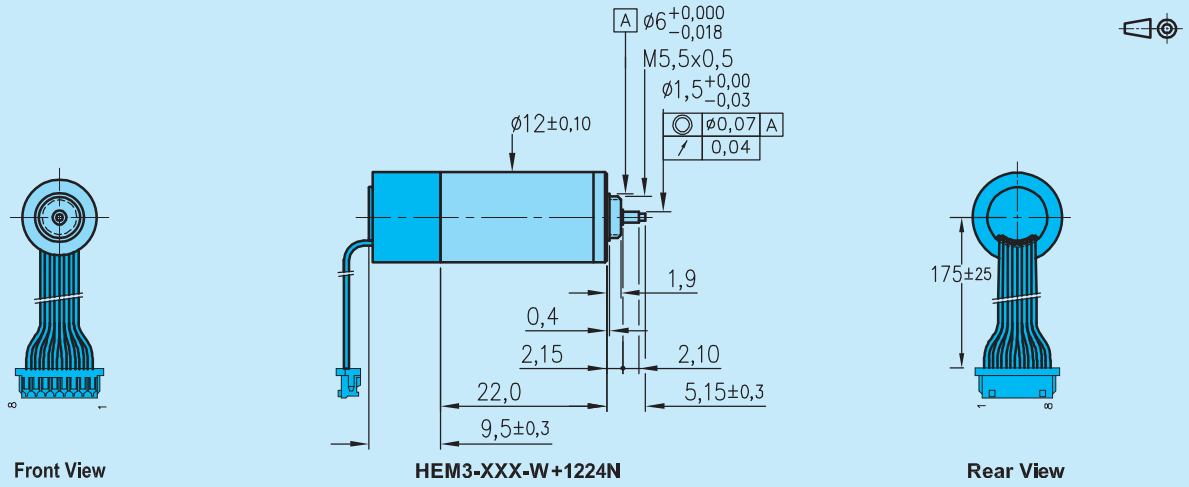
DC Micromotor 1016 N ... G - K1707 with Encoder HEM3-XXX-W



DC Micromotor 1024 N ... S - K1707 with Encoder HEM3-XXX-W



DC Micromotor 1224 N ... S - K1707 / 1224 N ... SR - K1707 with Encoder HEM3-XXX-W



How to Order a HEM3-256-W

Part number	Description	Stocked items
HEM3-032-W	3 channel, 32 line encoder with discrete wires	yes
HEM3-064-W	3 channel, 64 line encoder with discrete wires	yes
HEM3-128-W	3 channel, 128 line encoder with discrete wires	yes
HEM3-256-W	3 channel, 256 line encoder with discrete wires	yes