

Encoders

Miniature Optical Encoders

Features:
 100 to 360 Pulses per revolution
 2 Channels
 Digital output

Series E4P

Pulses per revolution	N	100 - 360	
Signal output (quadrature)		2	channels
Supply voltage	V _{DD}	4,5 ... 5,5	V _{DC}
Current consumption, typical	I _{DD}	25 max.	mA
Output current, max. admissible	I _{OUT}	8 (per channel)	mA
Pulse width ²⁾	P	180 ± 75	°e
Phase shift, channel A to B ²⁾	Φ	90 ± 60	°e
Signal rise/fall time, max. (C _{LOAD} = 25 pF)	tr/tf	0,50 / 0,10	µs
Frequency range ¹⁾ , up to	f	30	kHz
Inertia of code disc	J	0,21	gcm ²
Operating temperature range		-10 ... +85	°C

Ordering information

Encoder type	number of channels	pulses per revolution	in combination with DC-Micromotors
E4P-100	2	100	} 2224 ... SR, 2232 ... SR (with thru shaft) } 2342 ... CR } 2642 ... CR, 2657 ... CR } 3242 ... CR, 3257 ... CR
E4P-108	2	108	
E4P-120	2	120	
E4P-125	2	125	
E4P-128	2	128	
E4P-250	2	250	
E4P-256	2	256	
E4P-300	2	300	
E4P-360	2	360	

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 positioning.

An all-in-one emitter and detector chip (AEDR 8300) transmits and receives LED light reflected off a low inertia metal disc with a push-on hub to give two channels with 90° phase shift.

This economical and smaller low profile encoder is fitted with a snap fit plastic cover and is designed to attach with screws or adhesive backed tape. A thru-shaft option is available upon request.

The Molex high retention snap-in polarized connector easily attaches to a variety of cable options. We recommend the 4-pin connector with 300 mm 26 AWG wires. Other cable combinations and lengths are available upon request.

Recommended cable order part number is CA-MIC4-W4-NC-1.

Output signals / Circuit diagram / Connector information

Connector:
 Molex 53048-0410
 Mating Connector:
 Molex 51021-0400 (Housing)
 Molex 50079-8100 (Pins)

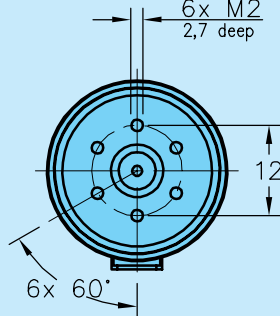
Admissible deviation of phase shift:
 $\Delta\Phi = |90^\circ - \frac{\Phi}{P} * 180^\circ| \leq 45^\circ$

Output signal
 with clockwise rotation as seen from the shaft end

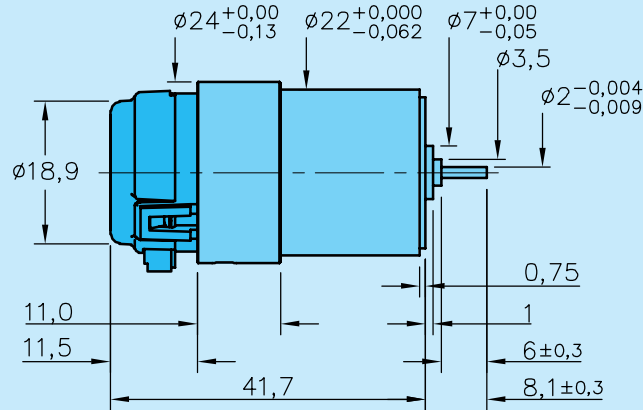
E4P

DC-Micromotor 2224 SR ... U with encoder E4P

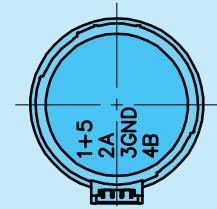
Orientation with respect to motor terminals not defined



Front View



E4P + 2224

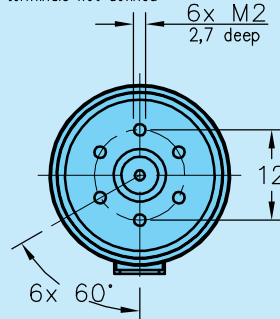


Rear View

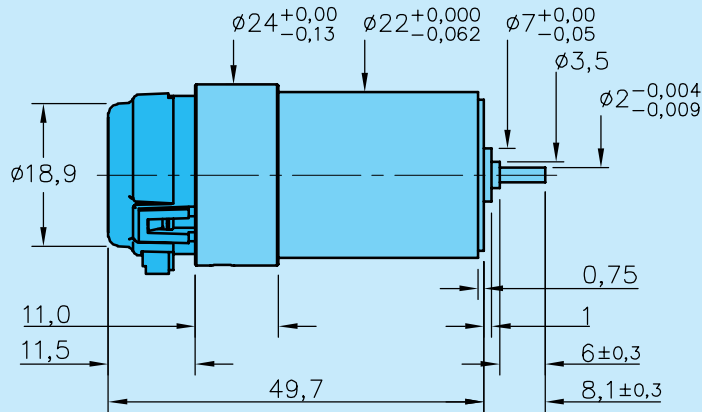


DC-Micromotor 2232 SR ... U with encoder E4P

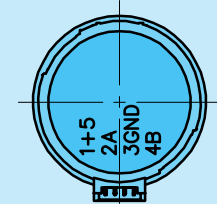
Orientation with respect to motor terminals not defined



Front View



E4P + 2232

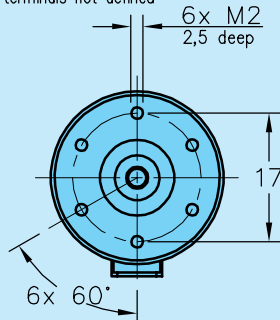


Rear View

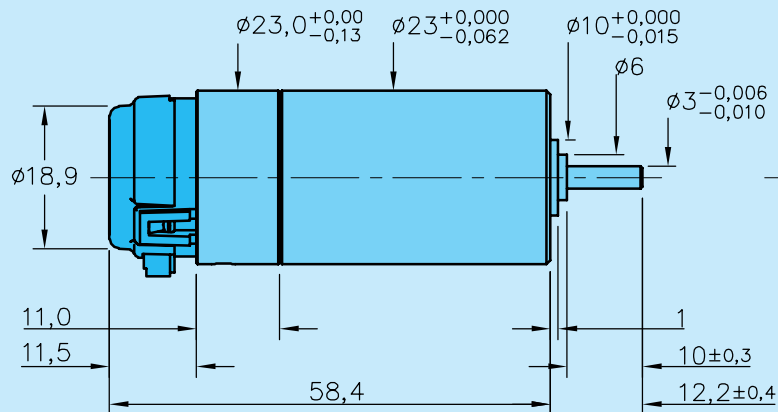


DC-Micromotor 2342 CR ... S with encoder E4P

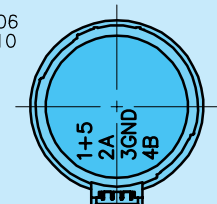
Orientation with respect to motor terminals not defined



Front View



E4P + 2342

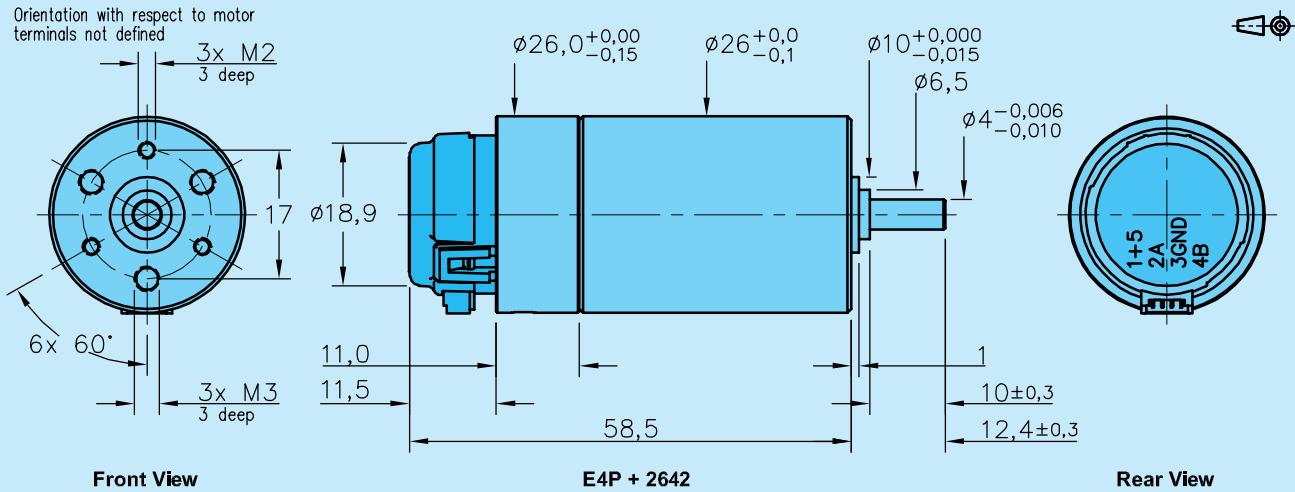


Rear View

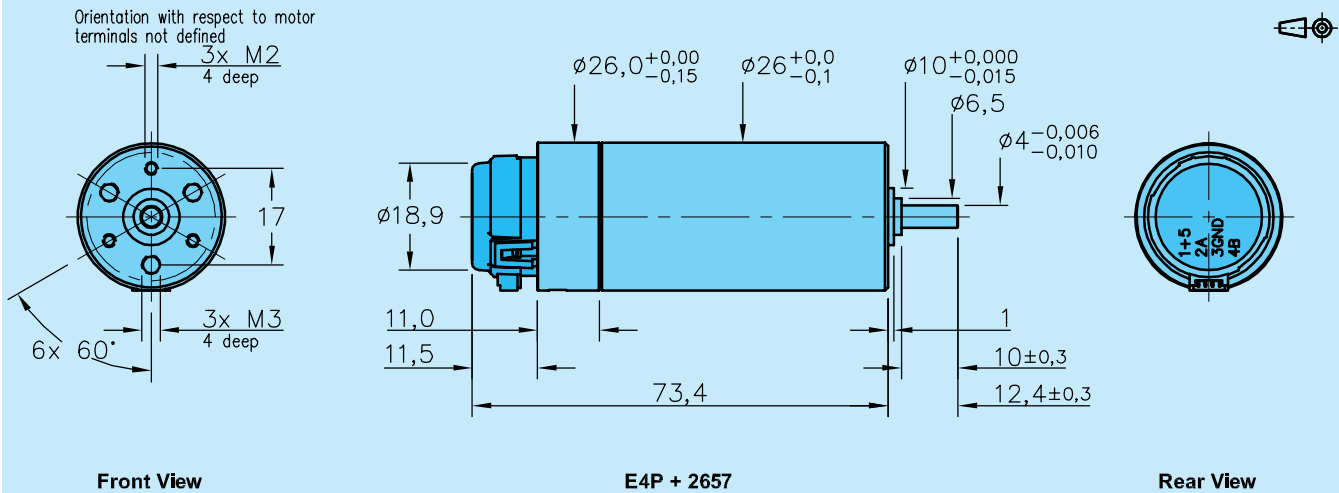


E4P

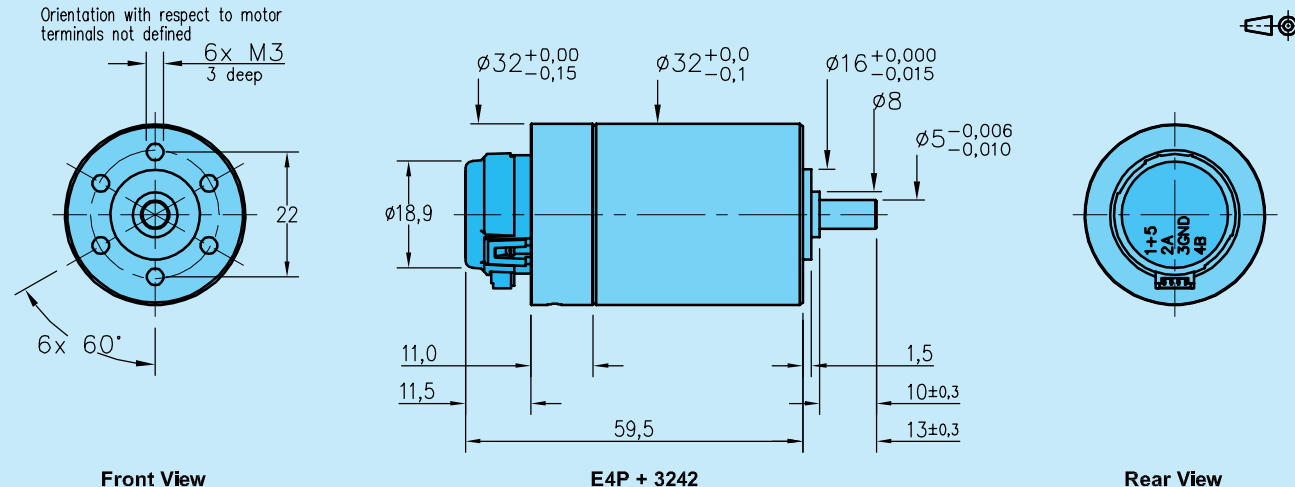
DC-Micromotor 2642 CR ... W with encoder E4P



DC-Micromotor 2657 CR ... W with encoder E4P



DC-Micromotor 3242 CR ... G with encoder E4P



E4P

DC-Micromotor 3257 CR...G with encoder E4P

