

# ECI motor.

## ECI-63.XX-K4

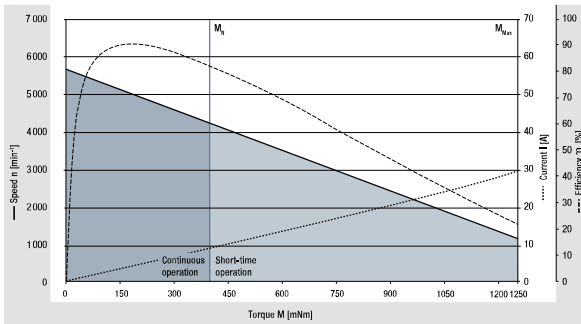


- Drive with completely integrated 4Q operation and control electronics
- Speed, torque or position mode possible
- Selection of operating modes and parameter setting via RS485
- Extensive interface with various inputs and outputs
- Output stage enabled via digital input
- Integrated brake chopper
- Speed set values from  $n=0$  with holding torque up to 5 000 rpm
- Excellent control behavior via field-oriented control with sine commutation
- High efficiency and high power density realized in a compact design
- User-friendly parameter setting with “Kickstart” PC software

Nominal data						
Type		ECI-63.20-K4 -B00	ECI-63.20-K4 -D00	ECI-63.40-K4 -B00	ECI-63.40-K4 -D00	ECI-63.60-K4 -D00
Nominal voltage ( $U_n$ )	V DC	24	48	24	48	48
Permissible supply voltage range ( $U_{ZK}$ )	V DC	18 ... 30	18 ... 53	18 ... 30	18 ... 53	18 ... 53
Max. reverse voltage	V DC	35	58	35	58	58
Nominal speed ( $n_n$ )	rpm	4 000				
Nominal torque ( $M_n$ )**	mNm	425	450	600	750	850
Nominal current ( $I_n$ )**	A	8.50	5.40	12.3	7.20	8.60
Nominal output power ( $P_n$ )**	W	178	188	251	314	356
Starting torque ( $M_{max}$ )	mNm	1 480	1 890	1 500	3 000	2 550
Speed at no-load operation ( $n_0$ )	rpm	5 800	5 800	5 900	5 800	6 000
No-load current ( $I_0$ )	A	0.50	0.50	0.90	0.50	0.60
Recommended speed control range	rpm	0 ... 5 000				
Set value input		analog / PWM / frequency / digital				
Rotor moment of inertia ( $J_R$ )	kgm <sup>2</sup> x10 <sup>-6</sup>	19	19	38	38	57
Function for motor protection at stall		thermal				
Overload protection		integrated				
Permissible ambient temperature range ( $T_a$ )	°C	0 ... +40				
Weight	kg	0.85	0.85	1.15	1.15	1.50
Order no. (wire interface)*	IP 40	932 6320 403	932 6320 405	932 6340 403	932 6340 405	932 6360 405
Order no. (connector interface)*	IP 54	932 6320 400	932 6320 402	932 6340 400	932 6340 402	932 6360 402
Subject to alterations		* Classification of protection class refers to installed state with sealing on the flange side ** At $T_a$ max. 40°C				

**Characteristic curve**

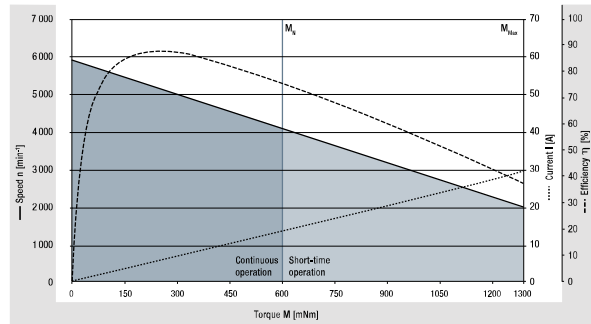
ECl-63.20-K4, 24 V (at 25°C)



<sup>1)</sup> Nominal data, see table

Characteristic curve 48 V on request

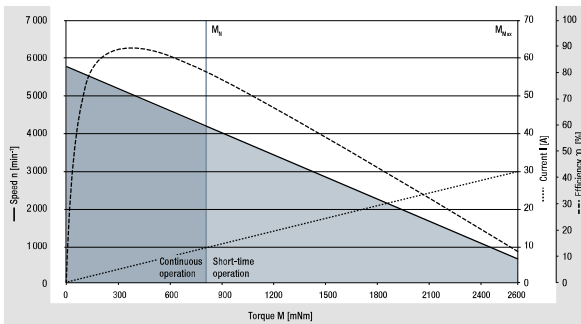
ECl-63.40-K4, 24 V (at 25°C)



<sup>1)</sup> Nominal data, see table

Characteristic curve 48 V on request

ECl-63.60-K4, 48 V (at 25°C)



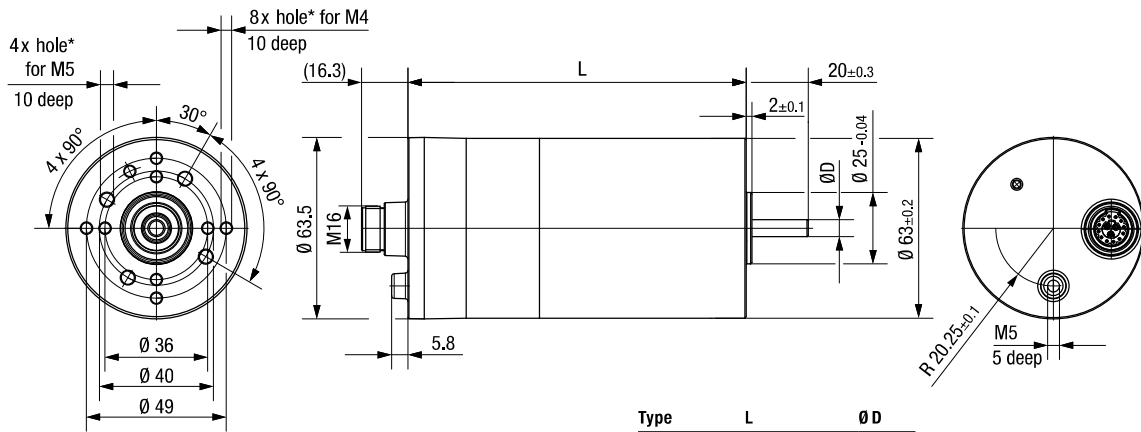
<sup>1)</sup> Nominal data, see table

# ECI motor.

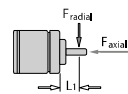
## ECI-63.XX-K4

### Technical drawing

All dimensions in mm



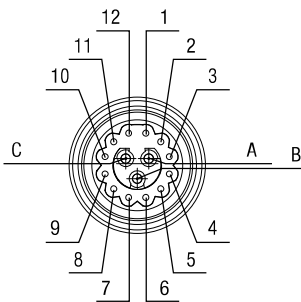
Type	L	Ø D
ECI-63.20	118,5 ± 0,3	6 <sub>g5</sub>
ECI-63.40	138,5 ± 0,3	6 <sub>g5</sub>
ECI-63.60	158,5 ± 0,3	10 <sub>g5</sub>



$F_{axial}$  150 N  
 $F_{radial}$  150 N  
 $L1$  20 mm  
 Permissible shaft load at nominal speed and life expectancy  $L_{10}$  (nominal operation) of 20 000 h (at  $T_u$  max. 40°C)

\* For thread-rolling screws according to DIN 7500

### Electrical connection



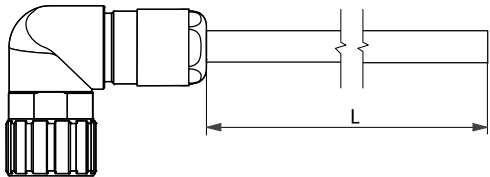
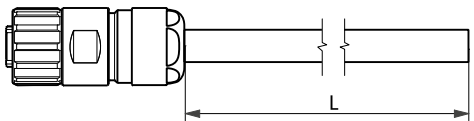
	Wire color	Pin	Configuration	Function	Recommended AWG
Signal	white	1	D-IN-A	NPN 24 V	24
	brown	2	D-IN-B	NPN 24 V	
	green	3	D-IN-1	NPN 24 V	
	yellow	4	D-IN-2	NPN 24 V / analog 0 ... 10 V / brake	
	gray	5	D-OUT-1	PNP 24 V	
	pink	6	D-OUT-2	PNP 24 V	
	blue	7	D-OUT-3*	PNP 24 V	
	red	8	A-IN-1	0 ... 10 V (differential)	
	black	9	A-IN-GND	GND for analog IN 1 (differential)	
	violet	10	RS485 A (+)	Progr. bus	
	gray / pink	11	RS485 B (-)	Progr. bus	
	red / blue	12	$U_{Logic}$	Logic power supply (24 V)	
Power	gray	A	Ballast	Ballast resistor	16
	brown	B	$U_{ZK}$	Power supply	
	black	C	GND	Power / signal GND	

\* Output (OUT 3) is only available on ECI-63.XX-K4

**Cable**

Type	Length L (mm)	Order no.
Cable (12+3 Pins)	1 000 ±30	992 0160 034
Cable (12+3 Pins)	3 000 ±30	992 0160 035

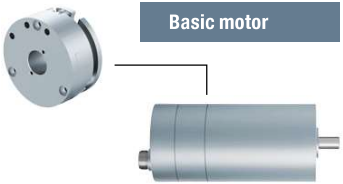

Type	Length L (mm)	Order no.
Cable (12+3 Pins)	1 000 ±30	992 0160 036
Cable (12+3 Pins)	3 000 ±30	992 0160 037



For self-assembly, cables can be obtained from Hummel:

- Hummel cable connector M16 for cable Ø 8-11 mm, Tightening torque: 5 Nm (Order no. 7.810.500.000)
- Hummel crimp insert series M16, socket 12+3 with special coding (Order no. 7K11886034)
- Hummel crimp contact socket 3 x, power, crimp range 0.5 - 1.5 mm<sup>2</sup> (Order no. 7.010.981.202)
- Hummel crimp contact socket 12 x, signal, crimp range 0.08 - 0.34 mm<sup>2</sup> (Order no. 7.010.980.802)

**Modular construction kit**

<p><b>Brake system</b> Spring-applied brake, integrated Brake module ECl 63-K4 (p. 76)</p>	<p><b>Basic motor</b></p> 	<p><b>Planetary gearheads</b> NoiselessPlus 63 (page 52) Performax® 63 (page 56) Performax®Plus 63 (page 60) Optimax 63 (page 62)</p>
<p><b>Commissioning tool</b> "Kickstart" (page 74)</p>		
		<p><b>Crown gearheads</b> EtaCrown® 75 (page 66) EtaCrown®Plus 63 (page 70)</p>

**Cable**  
Connection cables have to be ordered separately

For motor-gearbox combinations, depending on the choice of the single components, the maximum allowable torque (gearbox) can be exceeded or respectively not reached.