

ECI Motor

ECI-42.XX-K1



- Highly dynamic 3-phase internal rotor motor with EC technology
- Robust, noise-optimized ball bearing system for a long service life
- High efficiency and high power density realized in a compact design
- Basic motor with electronic module K1 for operation with external drive electronics
- Low cogging torque

Nominal data

Type		ECI-42.20-K1 B00	ECI-42.20-K1 D00	ECI-42.40-K1 B00	ECI-42.40-K1 D00
Nominal voltage (U_N)	V DC	24	48	24	48
Nominal speed (n_N)**	rpm	4 000**	4 000**	4 000**	4 000**
Nominal torque (M_N)**	mNm	110**	110**	220**	220**
Nominal current (I_N)**	A	2.5**	1.3**	5.1**	2.6**
Nominal output power (P_N)**	W	46**	46**	92**	92**
Free-running speed (n_L)	rpm	5 900	5 900	5 700	5 700
Permanent holding torque (M_{H0})	mNm	110	110	220	220
Permiss. peak current (I_{max})***	A	14***	7***	21***	10.5***
Motor constant (K_E)	mVs/rad	40.9	84.2	42.8	83.9
Terminal resistance (R_L)	Ω	0.9	3.25	0.39	1.5
Terminal inductance (L_L)	mH	1.1	4.5	0.5	1.84
Starting torque (M_{max})	mNm	480	480	960	960
Ambient temperature range (T_U)	$^{\circ}\text{C}$	0...+40	0...+40	0...+40	0...+40
Rotor moment of inertia (J_R)	$\text{kgm}^2 \times 10^{-6}$	3.42	3.42	6.7	6.7
Motor mass (m)	kg	0.33	0.33	0.48	0.48
Order number (IP 40)	Litenausführung	932 4220 122	932 4220 123	932 4240 122	932 4240 123

Subject to change

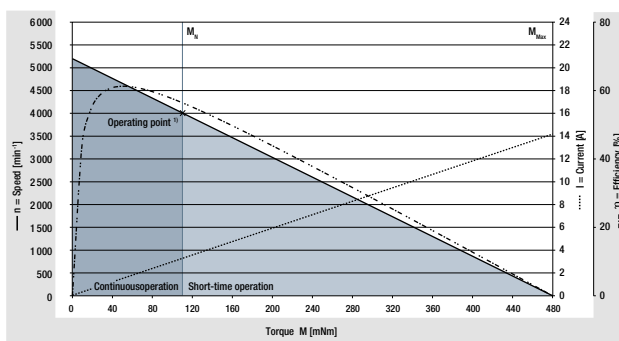
* Classification of degree of protection refers to installed state with sealing on the flange side

** At TU max. 40 $^{\circ}\text{C}$ / 104 $^{\circ}\text{F}$

*** Permissible time for peak current: max. 5 sec. – to be repeated only after complete cool down

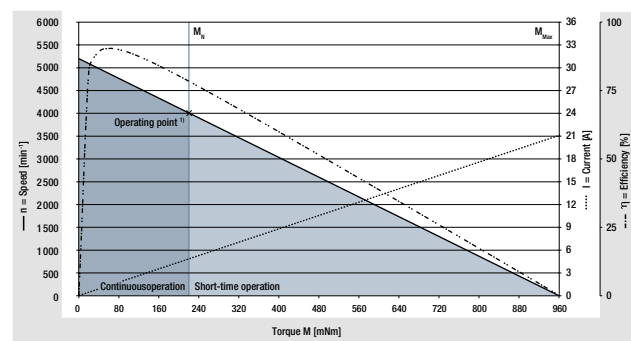
Characteristic curve

ECI-42.20, 24 V (at 25 $^{\circ}\text{C}$ / 77 $^{\circ}\text{F}$)



¹⁾ Nominal data, see table above

ECI-42.40, 24 V (at 25 $^{\circ}\text{C}$ / 77 $^{\circ}\text{F}$)

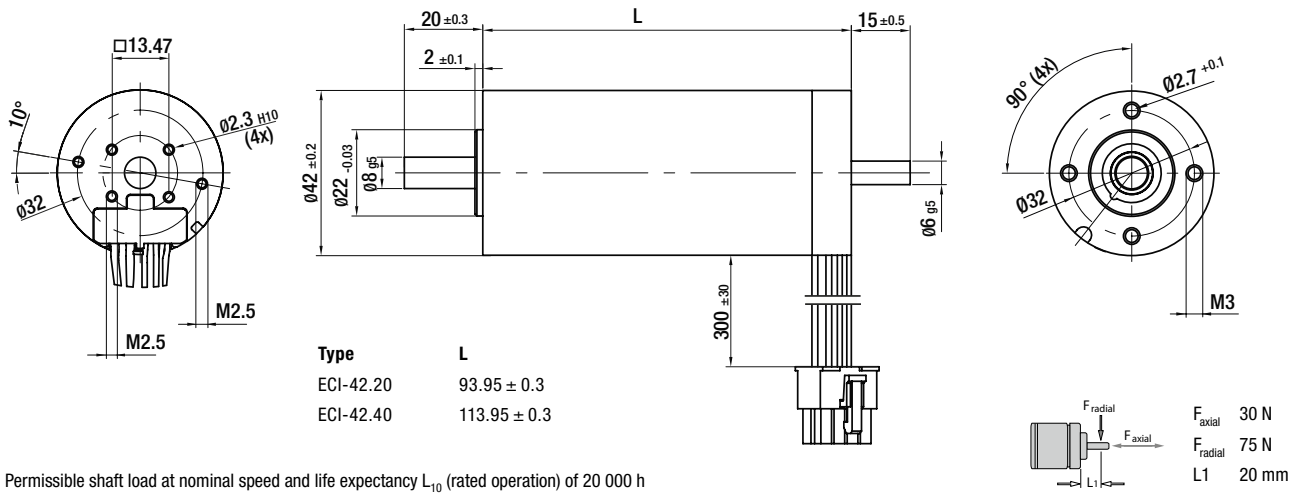


¹⁾ Nominal data, see table above

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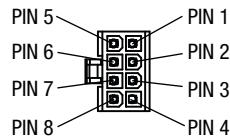
Technical drawing



Electrical connection

Signal wire

No.	Colour	Function
4	green	Hall A
3	white	Hall B
8	grey	Hall C
2	red	UB
7	black	GND



Molex pin
No. 39-01-2085

Supply wire

No.	Colour	Function
1	yellow	Phase W
5	purple	Phase V
6	brown	Phase U

Modular construction kit

Brake system

Principle spring applied brake	
BFK 457-01	
Braking torque Nm	0.12

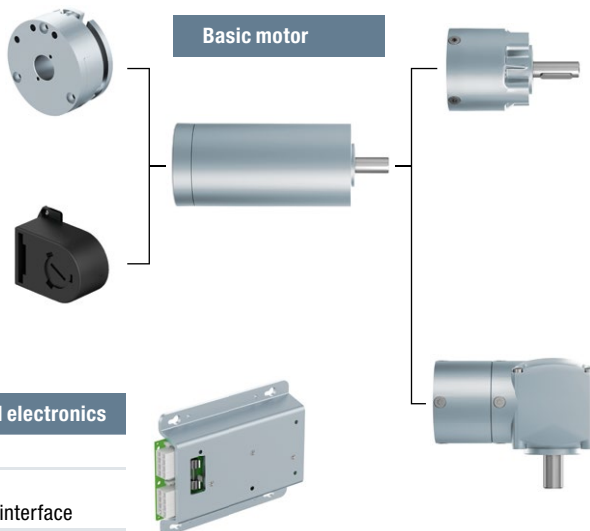
Encoder system

Optical incremental encoder	
HEDS 5500	
Impulse / rotation Z	512

Recommended external control electronics

VT-D	Speed control
VT-MI-14	Positioning control with CANopen Bus-interface

Basic motor



Planetary gearhead

Noiseless Plus 42	
Torque (M_N) Nm	bis 4.1
Reductions i	4.3:1 - 121:1
Performax® 42	
Torque (M_N) Nm	bis 5.6
Reductions i	3.18:1 - 102:1
Performax®Plus 42	
Torque (M_N) Nm	bis 12.1
Reductions i	3.18:1 - 102:1

Crown gearhead

EtaCrown® 52	
Torque (M_N) Nm	bis 3.5
Reductions i	4:1 - 113:1
EtaCrown®Plus 42	
Torque (M_N) Nm	bis 10
Reductions i	54:1 - 289:1

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