

VD motor.

VD-49.15-K1



- 3-phase external rotor motor with EC technology
- High poled motor structure for optimum power density
- Basic motor with electronic module K1 for operation on external control electronics
- Very good synchronization characteristics
- Robust mechanical design in IP 54 for industrial applications
- Long lifetime by using precision ball bearings
- Insulation class E
- Electrical connection via cable

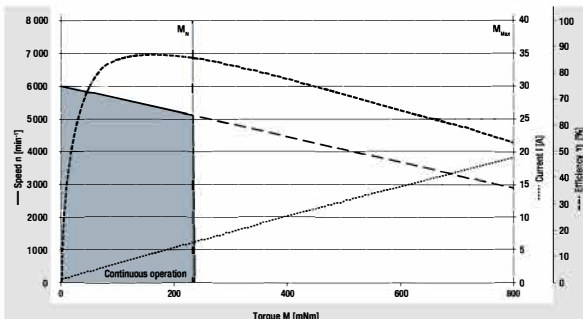
Nominal data			
Type		VD-49.15-K1-B00	VD-49.15-K1-D00
Nominal voltage (U_N)	V DC	24	48
Nominal speed (n_N)*	rpm	4 500	5 300
Nominal torque (M_N)*	mNm	235	245
Nominal current (I_N)*	A	6.10	3.40
Nominal output power (P_N)*	W	110	135
Starting torque (M_{max})	mNm	1 150	1 300
Permissible peak current (I_{max})**	A	30.0	18.5
Speed at no-load operation (n_0)	rpm		6 000
No-load current (I_0)	A	0.47	0.36
Recommended speed control range	rpm		0 ... 6 000
Rotor moment of inertia (J_R)	kgm ² x10 ⁻⁶		108
Motor constant (K_E)	mVs/rad	41.0	80.7
Connection resistance (R_V)	Ω	0.23	0.62
Connection inductance (L_V)	mH	0.17	0.62
Overload protection		To be implemented via the control electronics	
Permissible ambient temperature range (T_U)	$^{\circ}\text{C}$		0 ... +40
Weight	kg		0.59
Order no. (cable type)***	IP 54	937 4915 000	937 4915 001

Subject to alterations

* At T_U max. 40 $^{\circ}\text{C}$
 ** Permissible time for peak current: max. 1 sec. – to be repeated only after complete cool down
 *** Classification of protection class refers to installed state with sealing on the flange side

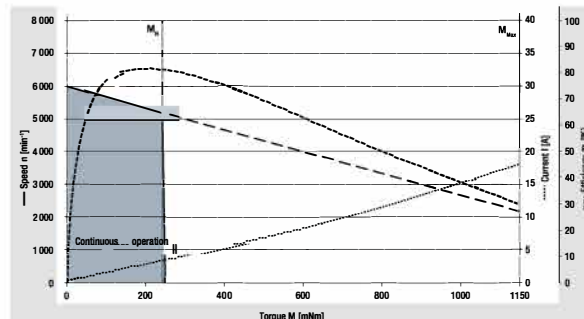
Characteristic curve

VD-49.15-K1-B00 (at 25 $^{\circ}\text{C}$)



¹⁾ Nominal data, see table

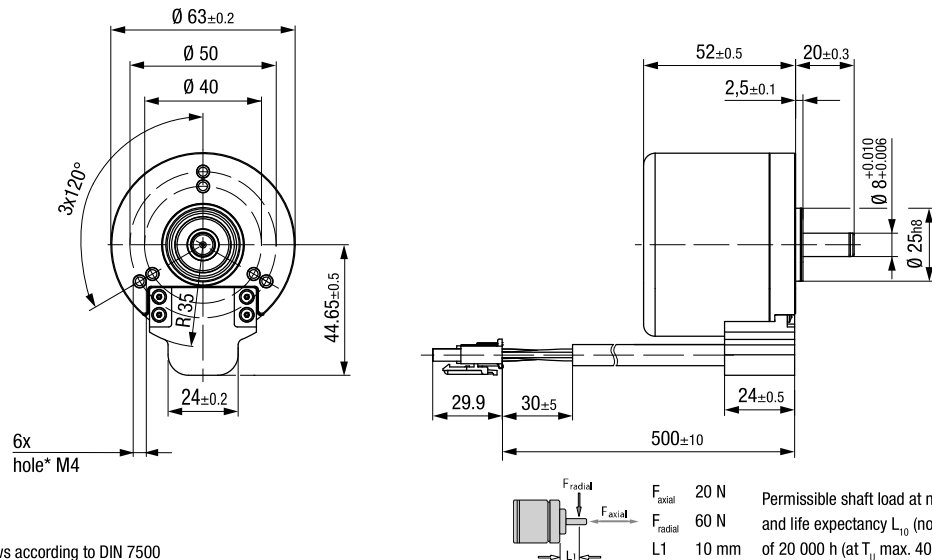
VD-49.15-K1-D00 (at 25 $^{\circ}\text{C}$)



¹⁾ Nominal data, see table

Technical drawing

All dimensions in mm



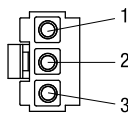
* For thread-rolling screws according to DIN 7500

F_{axial} 20 N Permissible shaft load at nominal speed
 F_{radial} 60 N and life expectancy L_{10} (nominal operation)
 $L1$ 10 mm of 20 000 h (at T_v max. 40°C)

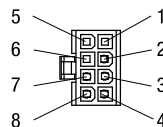
Electrical connection

Supply wire

No.	Color	Function
1	yellow	Phase W
2	violet	Phase V
3	brown	Phase U



Molex plug no. 39-03-6035



Molex plug no. 39-01-2085

Signal wire

No.	Color	Function
1	–	–
2	red	+12 V
3	white	Hall B
4	green	Hall A
5	–	–
6	–	–
7	black	GND
8	gray	Hall C

Modular construction kit

Recommended external control electronics

VTD-XX.XX-K3	Speed (page 34)
VTD-XX.XX-K4S	Position (page 36)
VTD-60.13-K5SB	Position (page 38)

Basic motor



Planetary gearheads

- NoiselessPlus 63 (page 44)
- Performax® 63 (page 46)
- Performax®Plus 63 (page 48)

Crown gearheads

- EtaCrown® 75 (page 50)
- EtaCrown®Plus 63 (page 52)

Spur gearheads

- Compactline 91 (page 56)
- Flatline 85 (page 60)

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