EC motor - VarioDrive C

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**M3G112-GA53-77**
Motor	**M3G112-GA**

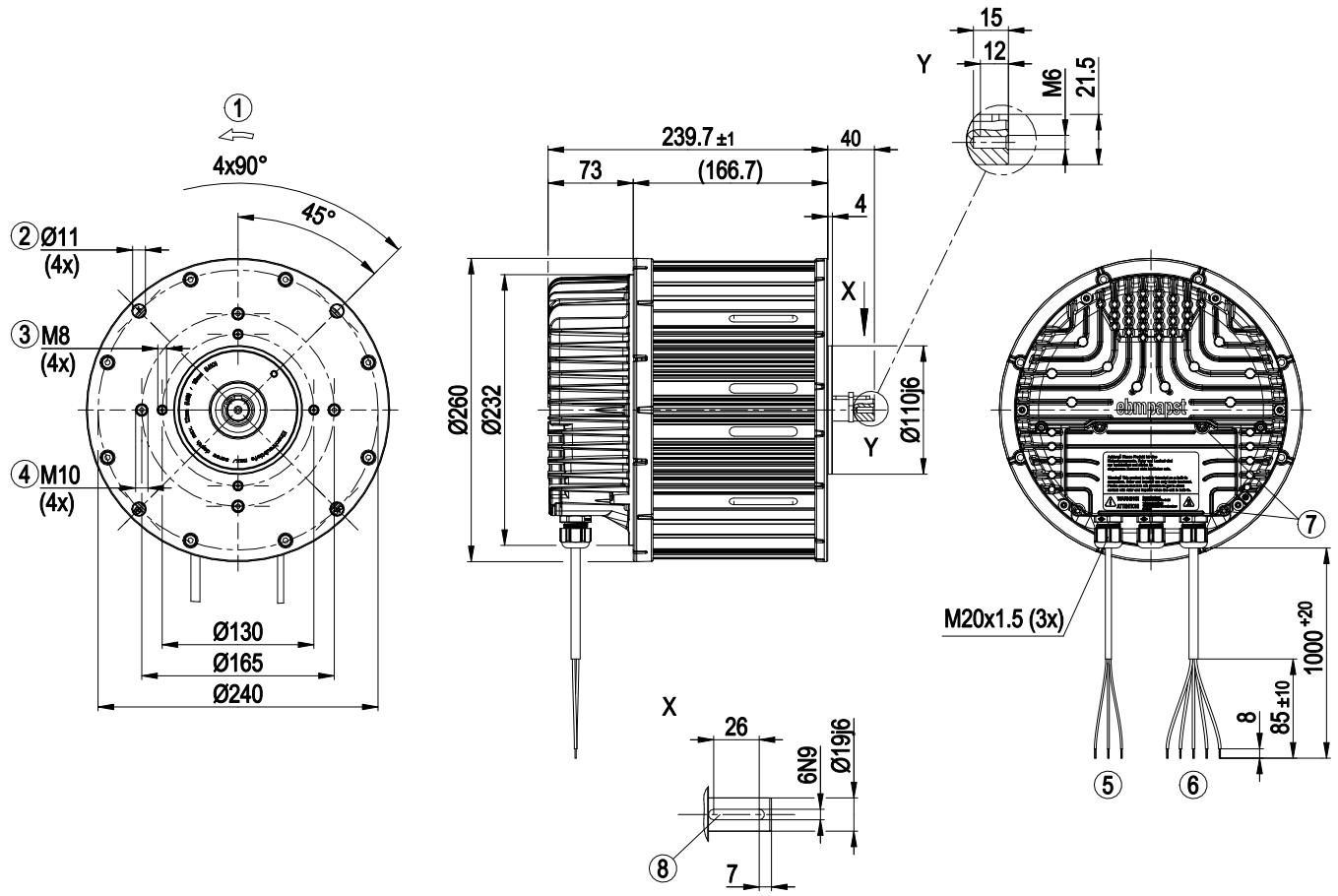
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed (rpm)	min^{-1}	3000
Power input	W	1330
Power output	W	1100
Current draw	A	5.8
Rated torque	Ncm	350
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Technical features

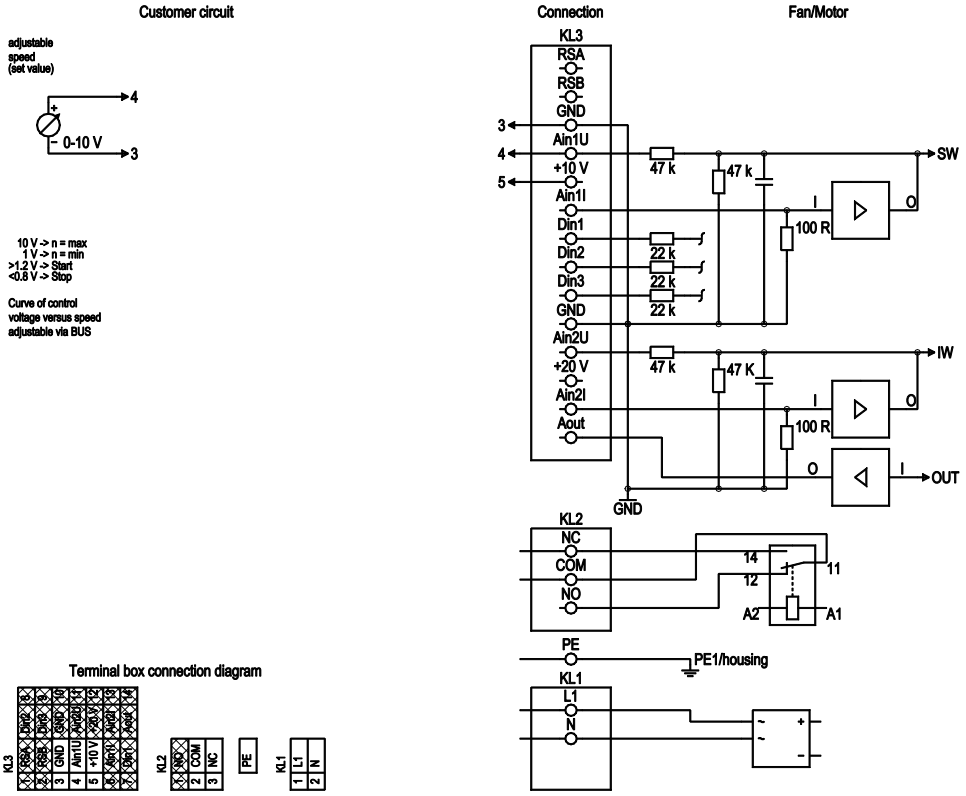
Mass	14.8 kg
Size	112 mm
Material of electronics housing	Die-cast aluminium
Housing material	Die-cast aluminium
Direction of rotation	Counter-clockwise, seen on shaft
Type of protection	IP 55
Insulation class	"B"
Humidity (F)/environmental protection class (H)	H0 - dry environment
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Any
Cooling bore / aperture	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Tach output - Input for sensor 0-10 V or 4-20 mA - Alarm relay - Integrated PID controller - Motor current limit - PFC, active - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	EAC

Product drawing



1	Direction of rotation anticlockwise, viewed towards shaft
2	Through-hole for screw M10
3	Thread reach max. 12 mm
4	Thread reach max. 16 mm
5	Connection line PVC AWG22, 3x crimped core-end sleeves
6	Connection line PVC AWG18, 5x crimped core-end sleeves
7	Tightening torque 3.5±0.5 Nm
8	Groove depth 3.5 mm

Connection screen



grey shaded => not brought out via leads

No.	Conn.	Designation	Colour	Function / assignment
KL1	1	L1	black 1	Mains connection, power supply; see technical data for nominal voltage range
KL1	2	N	blue 2	Mains connection, power supply; see technical data for nominal voltage range
PE		PE	green/yellow	Earth connection, PE connection
KL2	1	NO		Status relay, floating status contact, make for failure
KL2	2	COM	white 1	Status relay, floating status contact, changeover contact, common connection, contact rating 250 VAC/max. 2 A (AC1)/min. 10 mA
KL2	3	NC	white 2	Status relay, floating status contact, break for failure
KL3	1	RSA		Bus connection RS-485, RSA, MODBUS RTU; SELV
KL3	2	RSB		Bus connection RS-485, RSB, MODBUS RTU; SELV
KL3	3	GND	blue 1	Reference earth for control interface; SELV
KL3	4	Ain1 U	yellow	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only for use as alternative to input Ain1; SELV
KL3	5	+10 V	red	Fixed voltage output 10 VDC, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometer); SELV
KL3	6	Ain1 I		Analogue input 1, set value: 4-20 mA; Ri = 100 Ω, parametrisable curve, only for use as alternative to input Ain1 U; SELV
KL3	7	Din1		Digital input 1: Enabling of electronics, Enabling: Pin open or applied voltage 5-50 VDC Disabling: Bridge to GND or applied voltage <1 VDC Reset function: Triggers software reset after a level change to <1 VDC; SELV
KL3	8	Din2		Digital input 2: Parameter set 1/2 switching, depending on EEPROM setting, the valid/used parameter set can be selected via the bus or via the digital input DIN2. Parameter set 1: Pin open or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage <1 VDC; SELV

No.	Conn.	Designation	Colour	Function / assignment
KL3	9	Din3		Digital input 3: Controller function of integrated controller, depending on EEPROM setting, the controller function of the integrated controller can be selected via the bus or the digital input Din 3 normal: pin open or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage <1 VDC; SELV
KL3	10	GND		Signal ground for control interface, SELV
KL3	11	Ain2 U		Analogue input 2, actual value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain2; SELV
KL3	12	+ 20 V		Fixed voltage output 20 VDC, +20 V +25/-10%, max. 50 mA, short-circuit-proof, power supply for ext. devices (e.g. sensors); SELV Alternatively: +24 VDC input for parametrisation without mains power
KL3	13	Ain2 I		Analogue input 2, actual value: 4-20 mA, Ri = 100 Ω, parametrisable curve, only for use as alternative to input Ain2 U; SELV
KL3	14	Aout		Analogue output 0-10 VDC, max. 5 mA, output of the current motor level control coefficient / motor speed parametrisable curve; SELV

Charts: Speed (rpm)