

Actuators

DC motor, brush-type

Quasi-absolute position detection, CANopen

MSQA 46 G62



MSQA 46 G62 connection radial

Features

- Actuator / CANopen
- Brush-type DC motor
- Quasi-absolute position detection
- Nominal power output 44 W
- 2 inputs programmable
- Fieldbus loops possible
- Separate communication and power supply

Technical data - electrical ratings

Voltage supply	24 VDC $\pm 10\%$
Current consumption	≤ 4 A
Nominal current	2.9 A
Starting current	Charging current capacitor 56 μ F
Operating current type	≤ 30 mA
Initializing time	≤ 1000 ms after power on
Positioning resolution motor	90 °
Positioning accuracy motor	± 45 °
Number of turns	1073 mio / 30 bit
Undervoltage interruption	≤ 18 V
Terminating resistor	Manually set by DIP switch
Loop controller	Integrated position and speed regulator (1Q)
Sensing method	Magnetic
Reverse polarity protection	Bus electronics
Excess temperature protection	110 °C (final power output circuit)
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4

Technical data - mechanical design

Dimensions (flange)	$\varnothing 69$ mm
Shaft	$\varnothing 10$ mm
Operating speed	≤ 3300 rpm
Nominal speed	2800 rpm
Nominal power output	44 W
Nominal torque	0.153 Nm
Starting torque	≤ 0.22 Nm
Service life	3000 h
Protection DIN EN 60529	IP 42
Ambient temperature	-15...+40 °C
Isolation class	F (+155 °C, DIN EN 60034-1)
Connection	Connector
Number of stages	2...4
Resistance	DIN EN 60068-2-6 Vibration DIN EN 60068-2-27 shock
Shaft surface	Key
Material	Housing: zinc diecast, steel and aluminium
S1 continuous operation	DIN EN 60034-1
S3 intermittent operation	Power-on time 25 %, run time 1 min
Information	Nominal data at +40 °C ambient temperature for gearless motor. Service life at operating factor = 1.

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Part number

MSQA 46C2P	92-G62BT6	
		Gear reducer
		010 10 : 1
		015 15 : 1
		020 20 : 1
		049 49 : 1
		117 117 : 1
	Connecting direction	
A	Axial	
R	Radial	

Accessories

Connectors and cables

10123167	Female connector M9, 5-pin, straight, shielded, 5 m cable
10123171	Female connector M9, 5-pin, shielded, angled, 5 m cable, voltage supply and I/Os
10158249	Cable with male/female M12, 5-pin, angled, A-coded, 2 m
10156842	Cable with male/female M12, 5-pin, angled, A-coded, 5 m
10159388	Cable with male/female M12, 5-pin, shielded, straight, A-coded, 0.3 m (stub line)
10161398	Cable with male/female M12, 5-pin, shielded, straight, A-coded, 2 m
10161399	Cable with male/female M12, 5-pin, shielded, straight, A-coded, 5 m
10158246	Female connector M12, CAN, angled, A-coded, 2 m cable
10153968	Female connector M12, 5-pin, A-coded, straight
10145021	Female connector M12, 5-pin, CAN, angled
10153969	Cable connector M12, CAN, 5-pin, straight
10156584	Cable connector M12, 5-pin, CAN, angled
10153972	T-junction M12 CAN (1 male/2 female)
10153974	Terminating resistor CAN
10154968	Female connector D-SUB, 9-pin, CAN, angled, with terminating resistor

Programming accessories

10147362	CD-ROM with GSD-/EDS-/XML files and user manuals
10147798	USB-to-CAN adaptor

Motor-gearing-combination

Gear ratio	Torque nominal (Nm)		Rotational speed (rpm)		Admitted shaft load (N)		Weight (kg)	Positioning resolution (°)	Recordable revolutions	Max. transmission play (°)	Mmax gear (Nm)	Gear efficiency approx.
	S1	S3	S1	S3	axial	radial						
10.4	1.4	1.9	264	246	22	220	1.6	8.6	103 Mio	0.6	5.5	0.90
15.4	2.1	2.9	179	166	22	220	1.6	5.8	69.7 Mio	0.6	5.5	0.90
20.5	2.8	3.8	134	125	22	220	1.6	4.4	52.3 Mio	0.6	5.5	0.90
48.9	6.4	8.6*	56.2	52.4	22	220	1.6	1.8	21.9 Mio	0.9	6.5	0.85
117.0	14.6*	19.7*	23.4	21.8	22	220	1.6	0.7	9.1 Mio	1.2	7.0	0.81

* Note: Mmax gear

Further motor - gear combinations upon request.

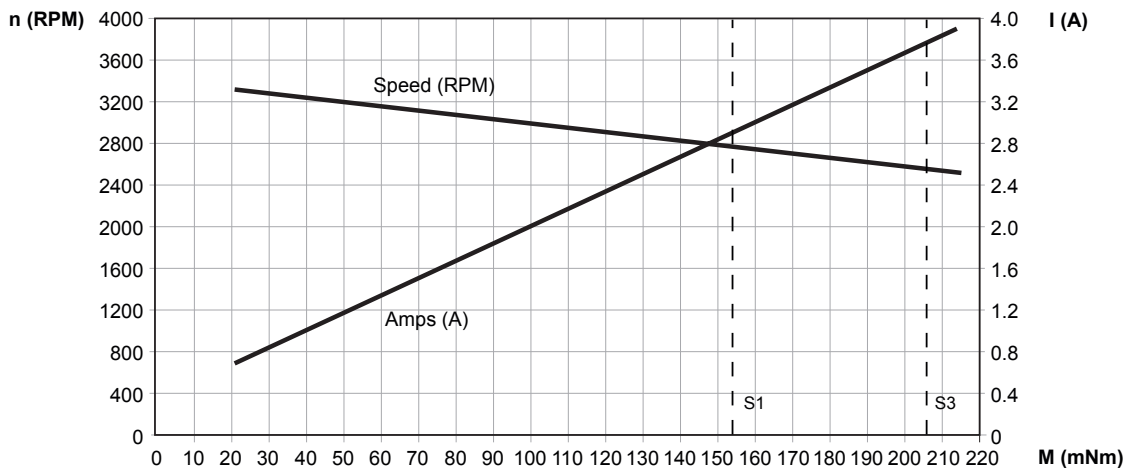
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Characteristic load curve motor without gears



Terminal assignment

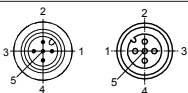
Connector – M9, 5-pin

Connector	Signal	Description
Pin 1	0 VME	0 VDC voltage s. motor / electronic
Pin 2	+VsM	+24 VDC voltage supply motor
Pin 3	Input 2	Input programmable
Pin 4	+VsE	+24 VDC voltage supply electronic
Pin 5	Input 1	Input programmable
	Shield	Housing



Connector male / female – M12, 5-pin, A-coded

Connector	Signal	Description
Pin 1	n.c.	–
Pin 2	+VsE	+24 VDC voltage supply electronic
Pin 3	CAN_GND / CAN Ground / 0 VE	0 VDC voltage supply electronic
Pin 4	CAN_H	Bus (dominant HIGH)
Pin 5	CAN_L	Bus (dominant LOW)
	Shield	Housing



Technical data - communication

Interface	CANopen
Output circuit	CAN bus standard ISO / DIS 11898
Profile conformity	CANopen CiA DS 301 V4.02, DSP 305 V1.0, DSP 402 V2.0
Cyclic data transfer	PDO
Node Guarding	Node Guarding, Life Guarding, Heartbeat
Transmission rate	10...1000 kbit/s
Galvanic insulation bus	No
Inputs	2 digitally programmable
Switching frequency	<500 Hz
Inputs	
Setting switch	Manual setting of bus address, baud rate and terminating resistor
Operating modes	Position-controlled operation, Referencing
Diagnostic functions	Temperature control Self-diagnosis Position error
Programming software	Yes
Default settings	50 kbit/s, Node ID 1, terminating resistor OFF

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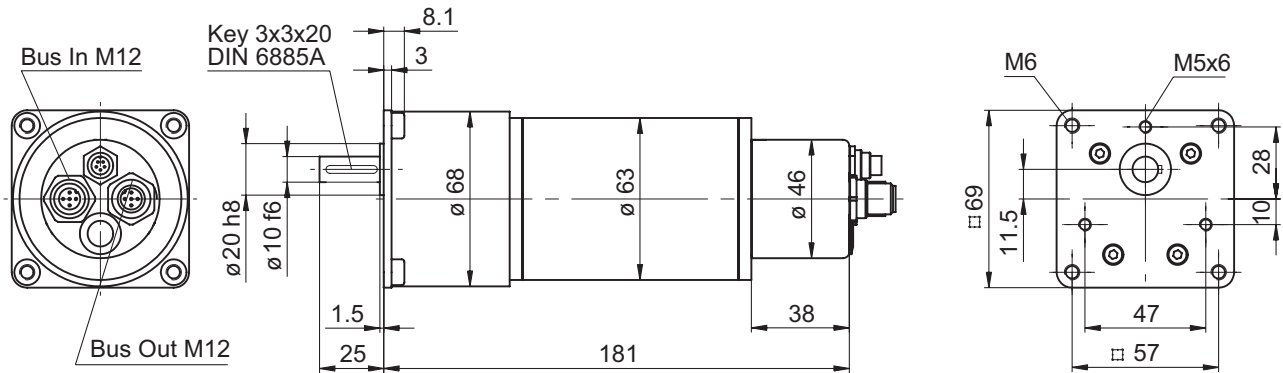
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Dimensions

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