

DC Motor Ø 48

1.13.018.XXX



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Design	
Commutator	Copper/12-segments
RFI Protection	2 chokes
Insulation class	Winding H, otherwise A
Protection class	IP20
Commutation	carbon brushes
Armature	straight slot
Magnet system	Permanent magnets, 2-pole
Bearings	brush end self-aligning bearing, drive end ball bearing (model 1.13.018.101/102) or self-aligning bearing (model 1.13.018.077/078)
Housing	Steel, corrosion protected
End shields	zinc die-cast on both sides

Type 1.13.018.XXX			077	078	101	102
Characteristics*						
Rated voltage	V	V	12	24	12	24
Rated power	P_N	W	25	25	25	25
Rated torque	T_N	mNm	80	80	80	80
Rated speed	n_N	rpm	3000	3000	3000	3000
Rated current	I_N	A	3.4	1.7	3.4	1.7

No load characteristics*						
No load speed	n_o	rpm	4000	4000	3900	4000
No load current	I_o	A	0.50	0.28	0.50	0.22

Starting characteristics*						
Starting torque	T_s	mNm	350	350	350	350
Starting current	I_s	A	13	6.0	13	6.0

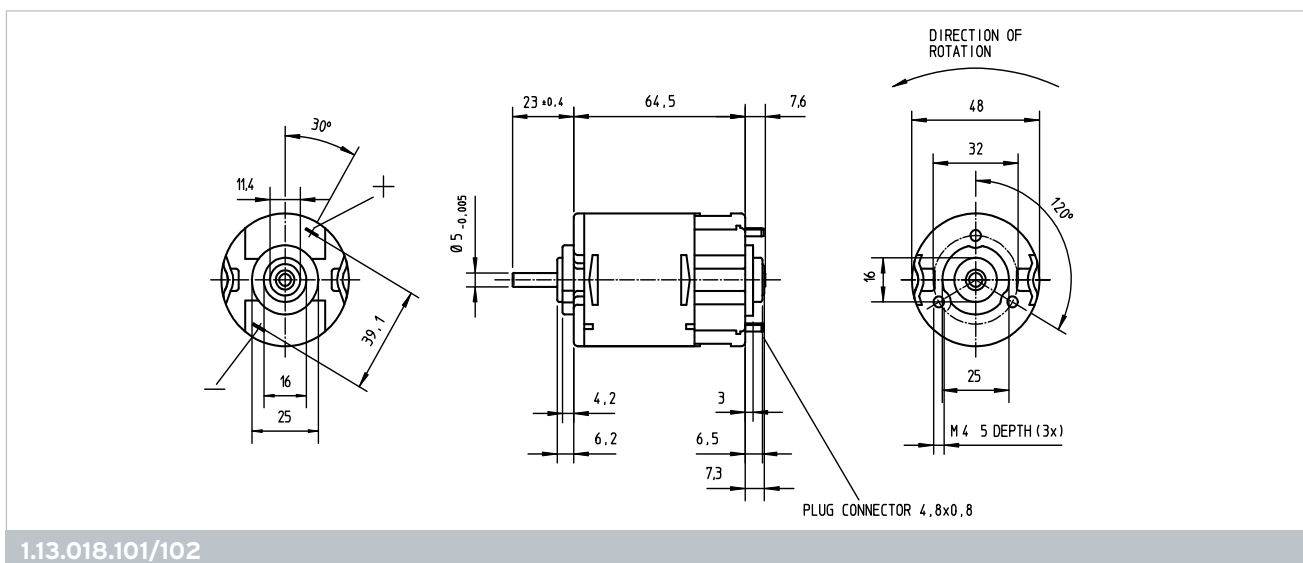
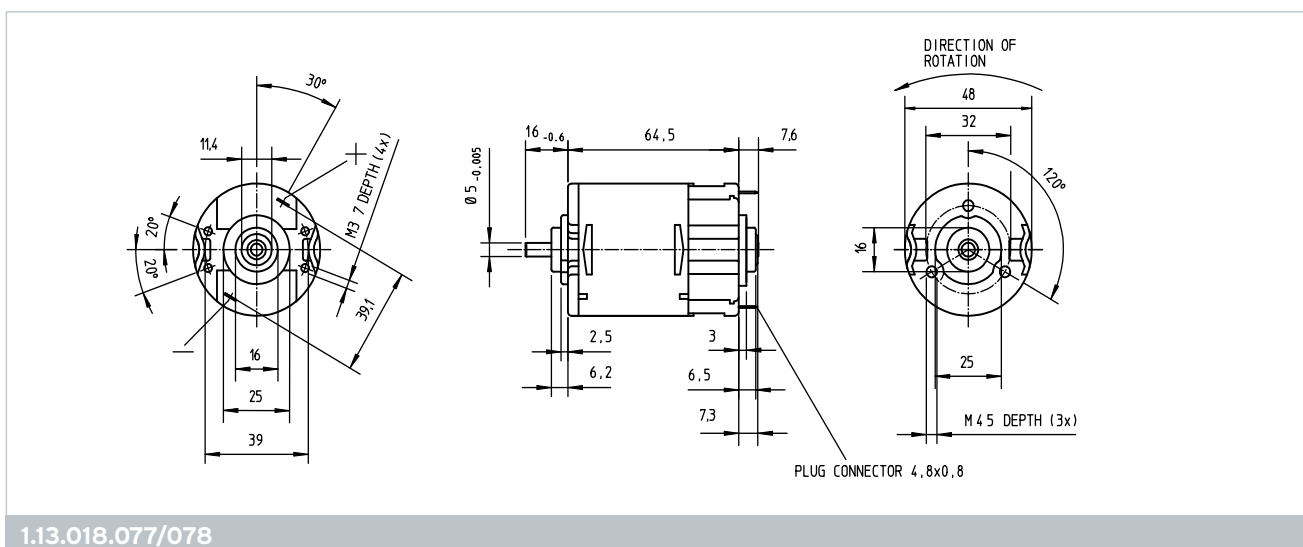
Performance characteristics*						
max. Output power	P_{max}	W	31	31	31	31
max. Constant torque	T_{max}	mNm	56	56	56	56

Motor parameters*						
Weight	G	g	425	425	425	425
Rotor inertia	J	gcm^2	142	142	142	142
Terminal resistance	R	Ohm	1.1	3.9	1.0	3.9
Mech. time constant	τ_m	ms	20	20	20	20
Electr. time constant	τ_e	ms	1.1	1.1	1.1	1.1
Speed regulation constant	R_m	rpm/mNm	13	13	13	13
Torque constant	k_t	mNm/A	28	56	28	56
Thermal resistance	R_{th1}	K/W	5	5	5	5
Thermal resistance	R_{th2}	K/W	5	5	5	5
Axial play		mm	0.02-0.05	0.02 - 0.05	< 0.01	< 0.01
Direction of rotation	bidirectional					

Operational conditions

Temperature range	T	°C	-10 - +70	
Axial force	F_A	N	1.13.018.101/102	25
			1.13.018.077/078	10
Radial force, 15 mm from mounting surface	F_R	N	1.13.018.101/102	100
			1.13.018.077/078	50

* at 25° C



Customized versions

The following modifications are available upon request:

- ▶ Speed adjustment by winding change
- ▶ Addition of wire harnesses
- ▶ Modification of shaft length on both ends
- ▶ Modification of shaft configuration (flat, groove, etc.)
- ▶ Assembly of gears, pinions, worms, etc.
- ▶ Assembly of adapters and mounting plates