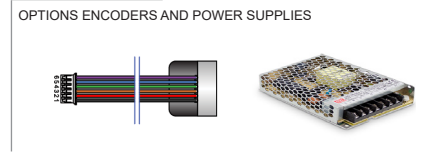


- 1 = empty → sleeve bearing
- 1B = ball bearing
- 2F = emc filter varistor / capacitor
- 3E = magnetic encoder
- 4 = empty → no encoder rear cover cap
- 4C = magnetic encoder rear cover cap



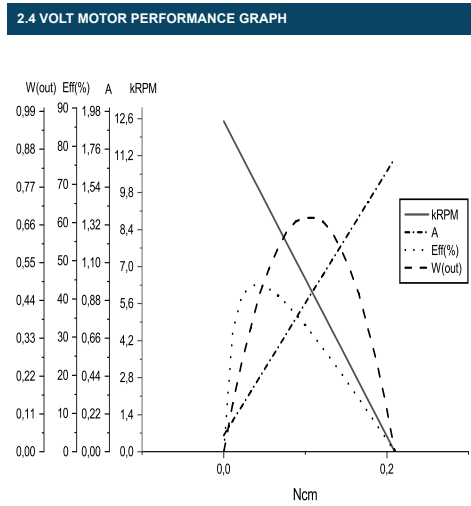
● C = customizations are offered on demand even for smaller quantities. Typical customizations indicated with green dot at column end. Please contact us for any customization request

GEAR MOTOR DATA								C
Gear reduction		1:4	1:16	1:64	1:256	1:1024	1:4096	
Nominal torque ^ gear box limit	mNm	2.0	6.9	24	82	196^	196^	
Nominal speed	rpm	2400	600	150	38	10	2.8	
Peak torque ^ gear box limit	mNm	235	353	471	530	588^	588^	
Mechanical power	W	0.420	0.324	0.251	0.181	0.093	0.023	
Efficiency gear head	%	85	75	65	55	45	40	
Length gear box = L	mm	10.3	13.6	16.9	20.2	23.5	26.8	
Weight	g	24.2	26.3	28.4	30.5	32.6	34.7	

GEAR MOTOR COMBINED DATA		C
Service life brush wear	500 h continuous operation	●
Performance tolerances	% ± 15	
Operating temperature	-10...+60 °C	●
IP code	30	
Manufacturing standard	ISO9001 ISO 14001 TS16949	
Compliance	RoHS and REACH	
Label CE UL	CE no UL no	

GEAR BOX SHAFT DATA		C
Radial play thrust play	mm ≤ 0.08 ≤ 0.2	
Shaft axial load	N 4.9	
Radial load	N 4.9	
Press fit force max.	N 14.7	
Backlash no load	° ≤ 3	
Bearing type shaft material	Sleeve bearing SUS303	
Motor pinion material shape	Brass straight	●

GEAR BOX SPECIFIC DATA		C
Material gear stage	Ratio 1:4 brass	●
Material > 1:4 ratio / stage	POM first + brass	●
Direction of rotation	CW or CCW by reversed V polarity	
Assembly front bell	mm Maximum screw depth 2.5	



MOTOR SPECIFIC DATA		C
Nominal voltage	V 2.4 (3V separate data sheet)	●
No load speed	rpm 12500	
Nominal speed	rpm 10125	
Nominal torque	Ncm 0.043	
Nominal current	A ≤ 0.39	
Nominal mechanical power	W 0.46	
Stall torque	Ncm 0.23	
Starting current	A 1.7	
Motor commutation	Metal brush	●
Motor rotor stator	Iron rotor Ferrit magnet	
Varistor emc	V 1.5 - 3.5	●
Capacitor emc	No	
Resistance	ohm 1.7-2.5	
Inductance	mH 0.31	
Insulation class	B	●

GEAR MOTOR RANGE STANDARD AVAILABILITY	
Nominal voltage	V 2.4 - 24 separate data sheet
Nominal mechanical power	W 0.023 - 25 separate data sheet
Diameter	mm 12 - 42 separate data sheet
Feedback encoder	Hall see below

ACCESSORIES

Power supplies LRS	V 3.3 - 48	separte data sheet
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ENCODER OPTIONS	MAGNETIC HALL SENSOR	C
Pulses per revolution	3 x 2	●
Channels phase shift	2 90° ±(1/6)T	
Encoder rear cover	No cover	
Sensor technical data	Refer externally to brand and part UTC-SK1816	
Size	Ø 7 x 6 mm	
Harness connector	JST ZHR-6 P=1.5-6P	●
Harness cable	UL1061 AWG26 100 mm	●
Connection	BLK M- RED M+ BRN Vcc GRN GND BLU A VIO B	
Supply voltage Vcc	min.3.5 ref - max. 20 V	
Supply Current Ice	Vcc 20V open output min. - ref. 5 max. 10 mA	
Open collector output	Requires external output resistors	