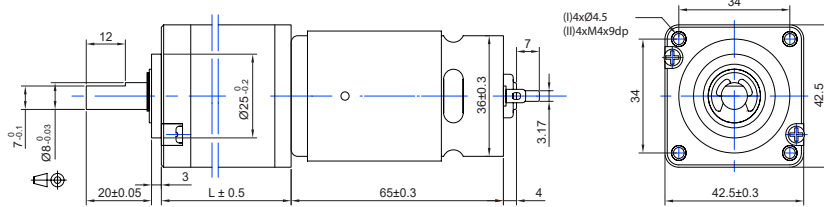


DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION EXAMPLE



1 - 2 - 3 - 4

- 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

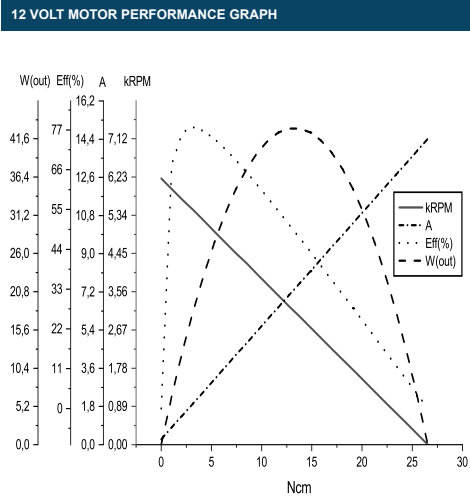
OPTIONS ENCODERS AND POWER SUPPLIES



● 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															
		1:4	1:14	1:17	1:24	1:49	1:61	1:84	1:104	1:144	1:212	1:294	1:504	1:624	1:720	1:864	
Gear reduction		1:4	1:14	1:17	1:24	1:49	1:61	1:84	1:104	1:144	1:212	1:294	1:504	1:624	1:720	1:864	
Nominal torque ^ gear box limit	mNm	98.1	294.2	353.0	509.9	902.2	1079	1471	1863	1961	2452	2452 ^A	2942 ^A	2942 ^A	2942 ^A	2942 ^A	
Nominal speed	rpm	1250	363	293	212	103	83.5	60.5	49.0	38.0	25.4	18.9	11.2	8.8	8.0	8.8	
Peak torque ^ gear box limit	mNm	1177	2354	2354 ^A	2354 ^A	4413	4413 ^A	4413 ^A	5884	5884 ^A	7355	7355 ^A	8826	8826 ^A	8826 ^A	8826 ^A	
Mechanical power	W	10.297	7.849	7.603	7.946	5.854	5.675	5.607	5.752	4.695	3.269	2.433	1.730	1.359	1.236	1.359	
Efficiency gear head	%	80	70	70	70	60	60	60	60	60	50	50	50	50	50	50	
Length gear box = L	mm	26.2	33.0	33.0	33.0	39.8	39.8	39.8	39.8	39.8	46.5	46.5	46.5	46.5	46.5	46.5	
Weight	g	456	516	516	516	571	571	571	571	571	626	626	626	626	626	626	

GEAR MOTOR COMBINED DATA			GEAR BOX SHAFT DATA			GEAR BOX SPECIFIC DATA		
Service life brush wear	500 h continuous operation	●	Radial play thrust play	mm	≤ 0.05 ≤ 0.3	Material gear stage	Ratio 1:4 sintered steel	●
Performance tolerances	% ± 15		Shaft axial load	N	29.4	Material > 1:4 ratio / stage	POM first + sintered steel	●
Operating temperature	-10...+60 °C	●	Radial load	N	78.5	Direction of rotation	CCW or CW by reversed V polarity	
IP code	10		Press fit force max.	N	147.1	Assembly front bell	mm	Maximum screw depth 9.0
Manufacturing standard	ISO9001 ISO 14001 TS16949		Backlash no load	°	≤ 3.0			
Compliance	RoHS and REACH		Bearing type shaft material		Ball bearing SCM435			
Label CE UL	CE no UL no		Motor pinion material shape		Steel straight			



MOTOR SPECIFIC DATA		C
Nominal voltage	V	12 (24 V separate data sheet) ●
No load speed	rpm	6000
Nominal speed	rpm	5090
Nominal torque	Ncm	3.13
Nominal current	A	≤ 2.1
Nominal mechanical power	W	17.09
Stall torque	Ncm	26.54
Starting current	A	14.41
Motor commutation		Carbon brush ●
Motor rotor stator		Iron rotor Ferrit magnet ●
Varistor emc	V	13-18.4 ●
Capacitor emc	V	12
Resistance	ohm	0.85
Inductance	mH	0.68
Insulation class		F ●

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 Optical	see below

ACCESSORIES		
Power supplies LRS	V	3.3 - 48 separate data sheet

ENCODER OPTIONS	MAGNETIC HALL SENSOR	OPTICAL SENSOR	C
Pulses per revolution	14 x 2	(100 200 256 360 400 500) x 2	●
Channels phase shift		2 90° ±(1/6)T	
Encoder rear cover	Cover cap in ABS plastic	Zink alloy	
Sensor technical data	Refer externally to brand and part UTC-SK1816		
Size	Ø 42.5 x 15.5 mm	D19+10 x W30 x H40 mm	
Harness connector	JST PHR-4 P=2-4P	Molex 09-50-3021 P=2-6P	JST SMR-05V ●
Harness cable	UL1007 AWG26 100 mm	UL1007 AWG18 100 mm	UL2464 AWG24x4C 195 mm ●
Connection	BLK M- RED M+	BRN Vcc GRN GND BLU A VIO B	RED Vcc GRN GND BLK A WHT B
Supply voltage Vcc	min.3.5 ref - max. 20 V		5 ±10% V
Supply Current Ice	Vcc 20V open output min. - ref. 5 max. 10 mA		
Open collector output	Requires external output resistors		
Output current / channel			± 20 mA