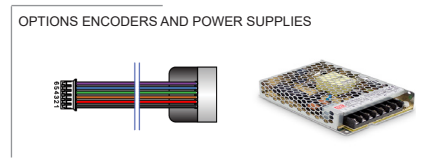


MODEL NO. DESIGNATION EXAMPLE

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



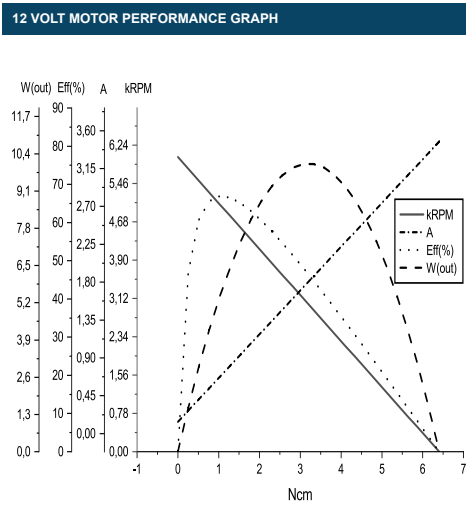
● C = customizations are offered on demand even for smaller quantities. Typical customizations indicated with green dot at column end. Please contact us for any customization request

GEAR MOTOR DATA														C	
Gear reduction		1:5	1:14	1:19	1:27	1:35	1:51	1:71	1:100	1:139	1:189	1:264	1:516	1:721	1:939
Nominal torque ^ gear box limit	mNm	31.4	73.5	98.1	137	186	235	324	461	647	726	981^	981^	981^	981^
Nominal speed	rpm	1000	375	270	193	148	102	73.0	52.0	37.3	27.5	19.7	10.5	7.5	5.7
Peak torque ^ gear box limit	mNm	588	883^	883^	1177^	1177^	1765^	1765^	2354^	2354^	2942^	2942^	2942^	2942^	2942^
Mechanical power	W	2.636	2.027	1.946	1.948	2.027	1.512	1.488	1.510	1.521	1.048	1.014	0.541	0.386	0.293
Efficiency gear head	%	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Length gear box = L	mm	24.5	30.9	30.9	30.9	30.9	37.3	37.3	37.3	37.3	43.7	43.7	43.7	43.7	43.7
Weight	g	163	163	173	173	173	186	186	186	186	200	200	200	200	200

GEAR MOTOR COMBINED DATA		C
Service life brush wear	500 h continuous operation	●
Performance tolerances	% ± 15	
Operating temperature	-10...+60 °C	●
IP code	20	
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 ≤ 0.05 ≤ 0.3	
Shaft axial load	N 24.5	
Radial load	N 34.3	
Press fit force max.	N 98.1	
Backlash no load	° ≤ 2.5	
Bearing type shaft material	Ball bearing AISI 1144	
Motor pinion material shape	Steel straight	●

GEAR BOX SPECIFIC DATA		C
Material gear stage	Ratio 1:5 sintered steel	●
Material > 1:5 ratio / stage	POM first + sintered steel	●
Direction of rotation	CCW or CW by reversed V polarity	
Assembly front bell	mm Maximum screw depth 4.0	



MOTOR SPECIFIC DATA		C
Nominal voltage	V 12 (24V separate data sheet)	●
No load speed	rpm 6000	
Nominal speed	rpm 5200	
Nominal torque	Ncm 0.77	
Nominal current	A ≤ 0.5	
Nominal mechanical power	W 4.93	
Stall torque	Ncm 6.4	
Starting current	A 3.47	
Motor commutation	Carbon brush	●
Motor rotor stator	Iron rotor Ferrit magnet	
Varistor emc	V 19.2-28.8	●
Capacitor emc	V 12	
Resistance	ohm 3.54	
Inductance	mH 2.2	
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	7 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 30 x 12.1	D19+4.5 x W30 x H40 mm	
Harness connector	JST PHR-6 P=2-6P	JST SMR-05V	●
Harness cable	UL1007 AWG24 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	