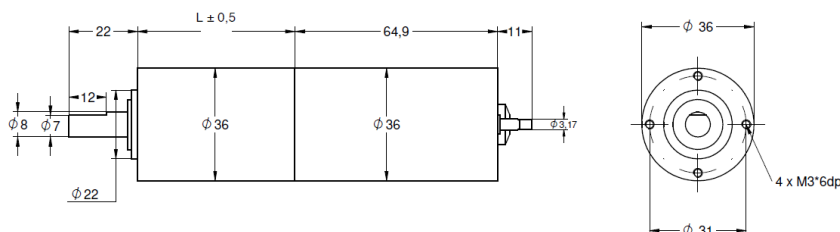


DRAWING
(mm)

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

PD1230 - VOLTAGE - REDUCTION - B - F - E - C

OPTIONS ENCODERS AND POWER SUPPLIES

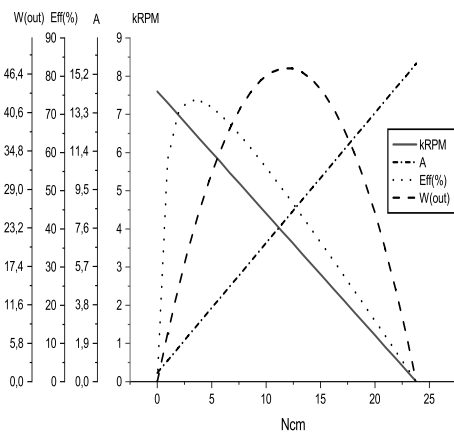


● C = customizations are offered on demand even for smaller quantities. Typical customizations indicated with green dot at column end. Please contact us for any customization request

GEAR MOTOR DATA													C
Gear reduction		1:5	1:14	1:19	1:27	1:51	1:71	1:100	1:139	1:189	1:264	1:516	1:721
Nominal torque ^ gear box limit	mNm	107.9	245.2	353.0	490.3	804.1	1128	1569	1961	2452^	2452^	2942^	2942^
Nominal speed	rpm	1250	475	340	243	129	92.0	66.0	47.2	34.8	25.1	13.2	9.5
Peak torque ^ gear box limit	mNm	883	2354	2354^	2942	5296	5296^	5884	5884^	7355	7355^	8826	8826^
Mechanical power	W	11.327	5.111	5.268	8.758	6.535	6.536	5.491	4.909	4.479	3.231	2.039	1.467
Efficiency gear head	%	80	70	70	70	60	60	60	60	50	50	50	50
Length gear box = L	mm	33.1	41.8	41.8	41.8	50.5	50.5	50.5	50.5	59.2	59.2	59.2	59.2
Weight	g	354	394	394	394	434	434	434	434	474	474	474	474

GEAR MOTOR COMBINED DATA			C	GEAR BOX SHAFT DATA			C	GEAR BOX SPECIFIC DATA			C
Service life brush wear	500 h continuous operation		●	Radial play thrust play	mm	≤ 0.05 ≤ 0.3		Material gear stage	Ratio 1:5 sintered steel		●
Performance tolerances	% ± 15			Shaft axial load	N	29.4		Material > 1:5 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	40			Press fit force max.	N	147.1		Assembly front bell	mm	Maximum screw depth 5.5	
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	●				

12 VOLT MOTOR PERFORMANCE GRAPH



MOTOR SPECIFIC DATA			C
Nominal voltage	V	12 (24 V separate data sheet)	●
No load speed	rpm	7500	
Nominal speed	rpm	6570	
Nominal torque	Ncm	2.65	
Nominal current	A	≤ 2.05	
Nominal mechanical power	W	18.23	
Stall torque	Ncm	23.81	
Starting current	A	15.74	
Motor commutation		Carbon brush	●
Motor rotor stator		Iron rotor Ferrit magnet	
Varistor emc	V	13-18.4	●
Capacitor emc	V	12	
Resistance	ohm	0.77	
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		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 36 x 13.5				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			