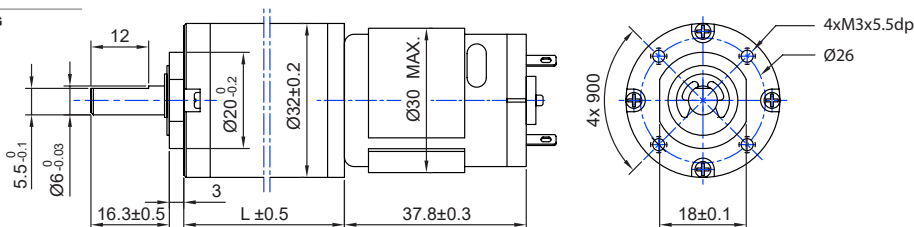


DRAWING
(mm)

PHOTO



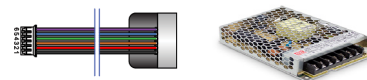
MODEL NO. DESIGNATION EXAMPLE

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

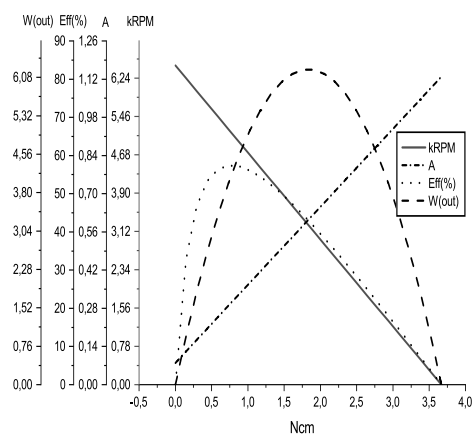


● C = customizations are offered on demand even for smaller quantities. Typical customizations indicated with green dot at column end. Please contact us for any customization request

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	29.4	73.5	98.1	137	226	324	451	637	716	981	1177^	1177^
Nominal speed	rpm	995	373	270	195	104	74.0	53.0	38.0	28.0	20.0	11.2	8.3
Peak torque ^ gear box limit	mNm	588	1177	1177^	1765	2354	2354^	2942	2942^	3530	3530^	3530^	3530^
Mechanical power	W	2.459	2.016	1.946	1.968	1.478	1.509	1.506	1.526	1.052	1.030	0.692	0.513
Efficiency gear head	%	80	70	70	70	60	60	60	60	50	50	50	50
Length gear box = L	mm	20.6	27.0	27.0	27.0	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8
Weight	g	174	194	194	194	219	219	219	219	245	245	245	245

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	24.5		Material > 1:5 ratio / stage	POM first + sintered steel	●	
Operating temperature	-10...+60 °C	●		Radial load	N	34.3		Direction of rotation	CCW or CW by reversed V polarity		
IP code	20			Press fit force max.	N	98.1		Assembly front bell	mm	Maximum screw depth 4.0	
Manufacturing standard	ISO9001 ISO 14001 TS16949			Backlash no load	°	≤ 2.5					
Compliance	RoHS and REACH			Bearing type shaft material		Ball bearing AISI 1144					
Label CE UL	CE no UL no			Motor pinion material shape		Steel straight	●				

24 VOLT MOTOR PERFORMANCE GRAPH



MOTOR SPECIFIC DATA

Nominal voltage	V	24 (12 V separate data sheet)	●
No load speed	rpm	6500	
Nominal speed	rpm	5290	
Nominal torque	Ncm	0.72	
Nominal current	A	≤ 0.25	
Nominal mechanical power	W	3.97	
Stall torque	Ncm	3.67	
Starting current	A	1.13	
Motor commutation		Carbon brush	●
Motor rotor stator		Iron rotor Ferrit magnet	
Varistor emc	V	26-38	●
Capacitor emc	V	24	
Resistance	ohm	23.86	
Inductance	mH	12.9	
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
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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		