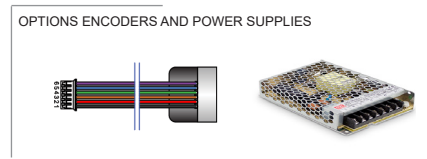


**MODEL NO. DESIGNATION EXAMPLE**

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



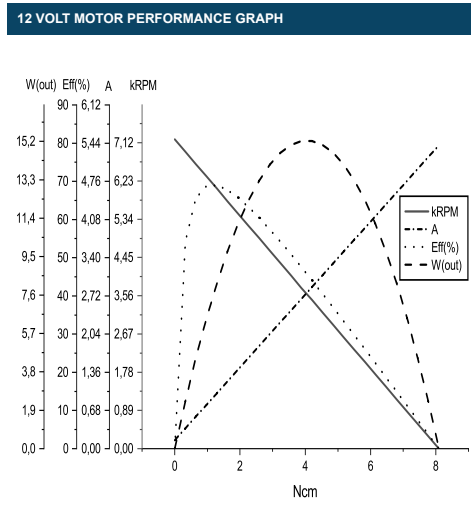
● C = customizations are offered on demand even for smaller quantities. Typical customizations indicated with green dot at column end. Please contact us for any customization request

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	44.1	107.9	147.1	205.9	264.8	333.4	460.9	647.2	892.4	980.7	1177^	1177^	1177^	1177^
Nominal speed	rpm	1140	430	310	221	170	117	83.0	60.0	44.0	32.0	24.0	12.9	9.5	7.2
Peak torque   ^ gear box limit	mNm	588	1177	1177^	1765	1765^	2354	2354^	2942	2942^	3530	3530^	3530^	3530^	3530^
Mechanical power	W	4.226	3.409	3.352	3.345	3.308	2.458	2.410	2.447	2.474	1.648	1.483	0.797	0.587	0.445
Efficiency gear head	%	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Length gear box = L	mm	20.6	27.0	27.0	27.0	27.0	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8	39.8
Weight	g	211	231	231	231	231	256	256	256	256	282	282	282	282	282

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 (24 V separate data sheet)	●
No load speed	rpm 7200	
Nominal speed	rpm 5950	
Nominal torque	Ncm 1.07	
Nominal current	A ≤ 0.15	
Nominal mechanical power	W 7.0	
Stall torque	Ncm 8.09	
Starting current	A 5.4	
Motor commutation	Carbon brush	●
Motor rotor   stator	Iron rotor   Ferrit magnet	
Varistor emc	V 19.2-28.8	●
Capacitor emc	V 12	
Resistance	ohm 2.5	
Inductance	mH 1.05	
Insulation class	F	●

GEAR MOTOR RANGE STANDARD AVAILABILITY		C
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