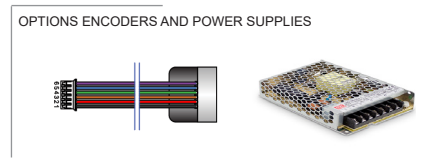


**MODEL NO. DESIGNATION EXAMPLE**

1 - 2 - 3 - 4

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

- 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



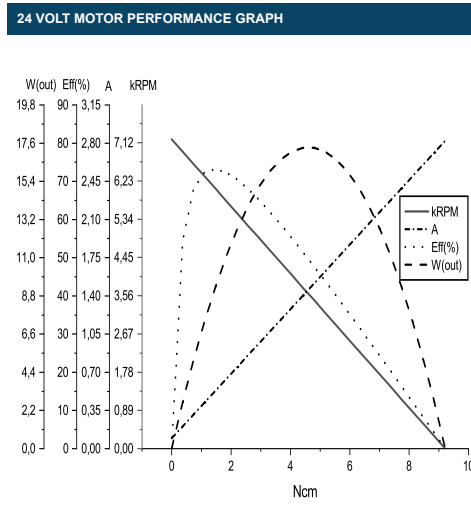
● C = customizations are offered on demand even for smaller quantities. Typical customizations indicated with green dot at column end. Please contact us for any customization request

GEAR MOTOR DATA												C	
Gear reduction		1:5	1:14	1:19	1:27	1:51	1:71	1:100	1:139	1:189	1:264	1:516	1:721
Nominal torque   ^ gear box limit	mNm	53.0	118	167	235	392	539	765	785	981^	981^	981^	981^
Nominal speed	rpm	1150	445	320	229	212	87.0	62.0	46.0	34.5	26.0	13.5	9.8
Peak torque   ^ gear box limit	mNm	588	883	883	1177	1765	1765^	2354	2354^	2942	2942^	2942	2942^
Mechanical power	W	5.116	3.849	3.921	3.961	5.239	2.956	2.988	2.274	1.776	1.339	0.695	0.505
Efficiency gear head	%	80	70	70	70	60	60	60	60	50	50	50	50
Length gear box = L	mm	23.6	36.4	36.4	30.0	42.8	42.8	36.4	36.4	42.8	42.8	42.8	42.8
Weight	g	188	188	201	201	216	216	216	216	231	231	231	231

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	24 (12 V separate data sheet)	●
No load speed	rpm	7400	
Nominal speed	rpm	6160	
Nominal torque	Ncm	1.27	
Nominal current	A	≤ 0.5	
Nominal mechanical power	W	8.29	
Stall torque	Ncm	9.22	
Starting current	A	2.82	
Motor commutation		Carbon brush	●
Motor rotor   stator		Iron rotor   Ferrit magnet	
Varistor emc	V	26-38	●
Capacitor emc	V	24	
Resistance	ohm	8.77	
Inductance	mH	4.1	
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	