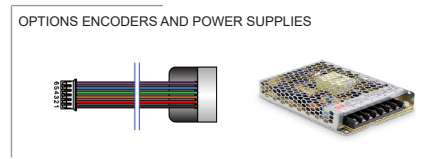


**MODEL NO. DESIGNATION EXAMPLE**

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



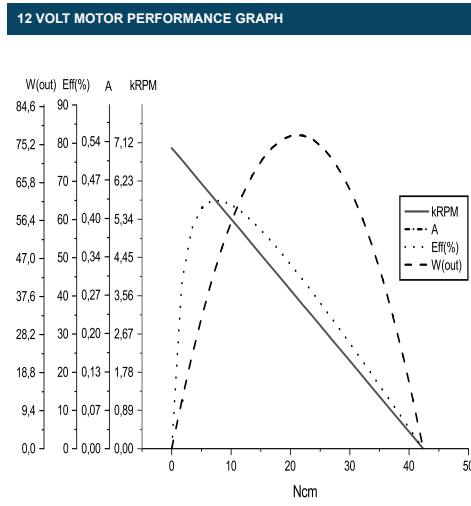
● C = customizations are offered on demand even for smaller quantities. Typical customizations indicated with green dot at column end. Please contact us for any customization request

GEAR MOTOR DATA																				C			
Gear reduction		1:4	1:14	1:17	1:24	1:49	1:61	1:84	1:104	1:144	1:212	1:294	1:504	1:624	1:720	1:864	1:1062	1:1470	1:2500	1:3000	1:3600		
Nominal torque   ^ gear box limit	mNm	215.7	637.4	784.5	784.5	1765 <sup>A</sup>	1765 <sup>A</sup>	1765 <sup>A</sup>	1961 <sup>A</sup>	1961 <sup>A</sup>	2452 <sup>A</sup>	2452 <sup>A</sup>	2942 <sup>A</sup>	2942 <sup>A</sup>	2942 <sup>A</sup>	2942 <sup>A</sup>	2942 <sup>A</sup>	2942 <sup>A</sup>	2942 <sup>A</sup>	2942 <sup>A</sup>	2942 <sup>A</sup>	2942 <sup>A</sup>	
Nominal speed	rpm	1400	405	325	248	120	98.0	76.0	63.0	45.0	31.0	22.0	13.5	10.9	9.5	8.0	6.5	4.6	2.7	2.3	1.9		
Peak torque   ^ gear box limit	mNm	883	2354	2354 <sup>A</sup>	2354 <sup>A</sup>	5296	5296 <sup>A</sup>	5296 <sup>A</sup>	8826	5884	7355	7355 <sup>A</sup>	8826	8826 <sup>A</sup>	8826 <sup>A</sup>	8826 <sup>A</sup>	8826 <sup>A</sup>	8826 <sup>A</sup>	8826 <sup>A</sup>	8826 <sup>A</sup>	8826 <sup>A</sup>	8826 <sup>A</sup>	
Mechanical power	W	25.37	18.97	18.74	14.30	13.34	10.90	8.45	7.78	5.56	3.99	2.83	2.09	1.68	1.47	1.24	0.80	0.57	0.33	0.28	0.23		
Efficiency gear head	%	80	70	70	70	60	60	60	60	60	50	50	50	50	50	50	40	40	40	40	40	40	
Length gear box = L	mm	32.5	39.2	39.2	39.2	45.9	45.9	45.9	59.2	45.9	52.6	52.6	59.9	59.9	59.9	59.9	59.9	59.9	59.9	59.9	59.9		
Weight	g	499	551	551	551	591	591	591	591	591	641	641	641	641	641	641	686	686	686	686	686		

GEAR MOTOR COMBINED DATA		C
Service life brush wear	500 h continuous operation	●
Performance tolerances	% ± 15	
Operating temperature	-10...+60 °C	●
IP code	10	
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 29.4	
Radial load	N 78.5	
Press fit force max.	N 147.1	
Backlash no load	° ≤ 3.0	
Bearing type   shaft material	Ball bearing   SCM435	
Motor pinion material   shape	Steel   straight	●

GEAR BOX SPECIFIC DATA		C
Material gear stage	Ratio 1:4 sintered steel	●
Material 1:14-1:24 ratio / stage	POM first + steel	●
Material > 1:24 ratio / stage	POM first + sintered steel + steel last	
Direction of rotation	CCW or CW by reversed V polarity	
Assembly front bell	mm Maximum screw depth 6.0	



MOTOR SPECIFIC DATA		C
Nominal voltage	V 12 (24 V separate data sheet)	●
No load speed	rpm 7000	
Nominal speed	rpm 5700	
Nominal torque	Ncm 6.86	
Nominal current	A ≤ 5.5	
Nominal mechanical power	W 41.3	
Stall torque	Ncm 42.36	
Starting current	A 26.88	
Motor commutation	Carbon brush	●
Motor rotor   stator	Iron rotor   Ferrit magnet	
Varistor emc	V 26-38	●
Capacitor emc	V 12	
Resistance	ohm 0.52	
Inductance	mH 0.4	
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	14 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 42.5 x 15.5 mm	D19+10 x W30 x H40 mm	
Harness connector	JST PHR-4 P=2-4P	Molex 09-50-3021 P=2-6P	●
Harness cable	UL1007 AWG26 100 mm	UL1007 AWG18 100 mm	●
Connection	BLK M-   RED M+	BRN Vcc   GRN GND   BLU A   VIO 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