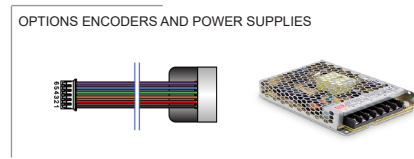


MODEL NO. DESIGNATION EXAMPLE

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



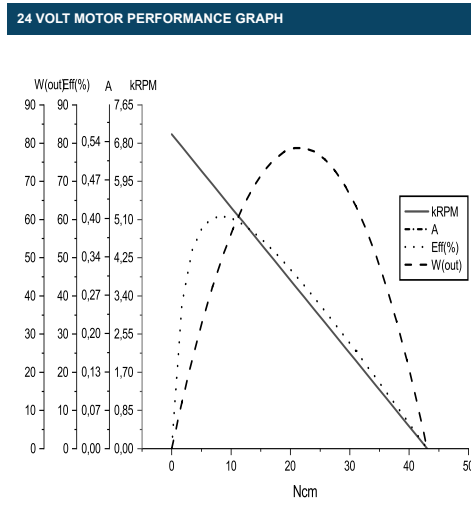
● C = customizations are offered on demand even for smaller quantities. Typical customizations indicated with green dot at column end. Please contact us for any customization request

GEAR MOTOR DATA																				C		
Gear reduction		1:4	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	176	529.6	647.2	784.5	1569	1765	1765	1961	1961	2452^	2452^	2942^	2942^	2942^	2942^	2942^	2942^	2942^	2942^	2942^	
Nominal speed	rpm	1445	420	340	246	122	102	77.5	63.0	47.0	31.0	21.8	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^	2354^	5296^	5296^	5296^	8826	5884	7355	7355	8826^	8826^	8826^	8826^	8826^	8826^	8826^	8826^	8826^	
Mechanical power	W	21.42	16.35	16.17	14.19	12.06	11.34	8.62	7.78	5.81	3.99	2.81	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	
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 24 (12 V separate data sheet)	●
No load speed	rpm 7000	
Nominal speed	rpm 5900	
Nominal torque	Ncm 5.59	
Nominal current	A ≤ 2.1	
Nominal mechanical power	W 15.81	
Stall torque	Ncm 43.05	
Starting current	A 14.08	
Motor commutation	Carbon brush	●
Motor rotor stator	Iron rotor Ferrit magnet	
Varistor emc	V 26-38	●
Capacitor emc	V 24	
Resistance	ohm 1.99	
Inductance	mH 1.7	
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