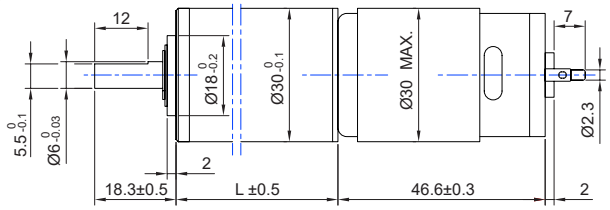
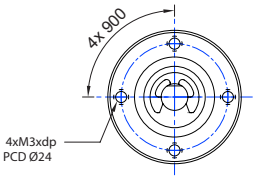
PD3046 | Ø 30 mm | 12V | planetary brush dc gear motor

DRAWING (mm)





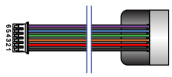
PHOTO

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

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

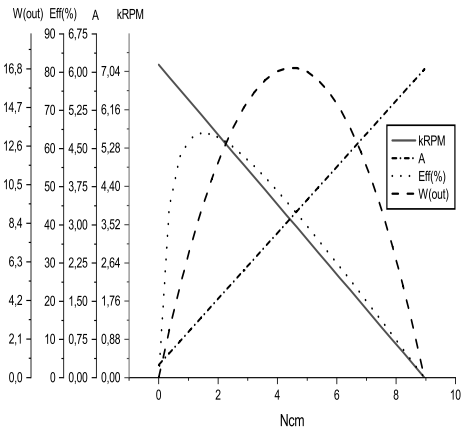
GEAR MOTOR DATA													C
Gear reduction		1:5	1:14	1:19	1:27	1:51	1:71	1:100	1:139	1:189	1:264	1:516	1:721	
Nominal torque | ^ gear box limit	mNm	44.1	108	147	206	333	461	647	785	981^	981^	981^	981^	
Nominal speed	rpm	1120	430	310	221	117	83.0	60.0	45.0	32.0	25.0	13.2	9.6	
Peak torque | ^ gear box limit	mNm	588	883^	883^	1177^	1765^	1765^	2354^	2354^	2942^	2942^	2942^	2942^	
Mechanical power	W	4.152	3.409	3.352	3.345	2.458	2.410	2.447	2.224	1.648	1.287	0.680	0.494	
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 continous 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	

12 VOLT MOTOR PERFORMANCE GRAPH



MOTOR SPECIFIC DATA			C
Nominal voltage	V	12 (24V separate data sheet)	●
No load speed	rpm	7400	
Nominal speed	rpm	5950	
Nominal torque	Ncm	1.08	
Nominal current	A	≤ 0.90	
Nominal mechanical power	W	7.0	
Stall torque	Ncm	8.95	
Starting current	A	6.06	
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			
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	separte 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	

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