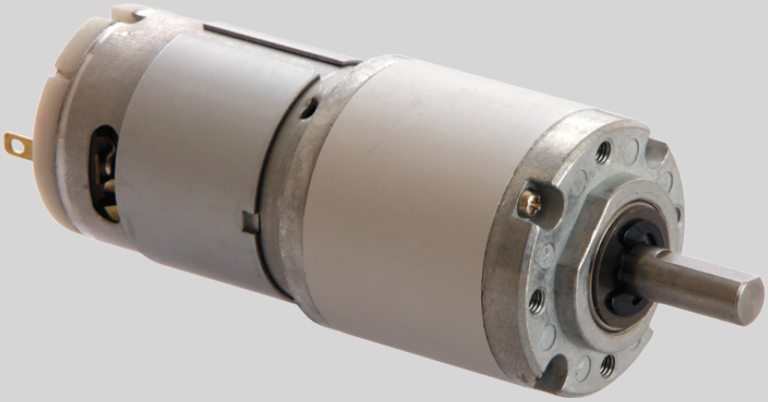
Transmotec

DC MOTORS

PLANETARY GEAR DC MOTORS

Ø 13 mm to 42 mm
0.6 W to 35 W



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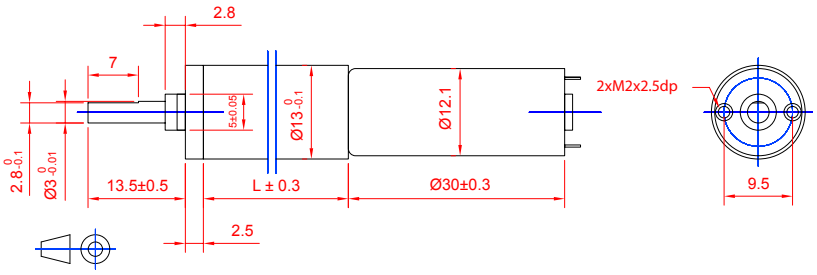
PD1330 Ø13 mm carbon brushes 0.6 W



MODEL NO. DESIGNATIONS

PD1330 – VOLTAGE – RATIO – E

Example: PD1330-2.4-4-E

E = Encoder

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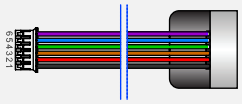

GEAR MOTOR DATA

Reduction	4:1	16:1	64:1	256:1	1024:1	4096:1
Nominal torque 2.4 V (mNm)	2	7.1	24	83	196	196
Nominal speed 2.4 (rpm)	2500	625	156	39.1	10.0	2.8
Nominal torque 2.4 V (mNm)	1.9	6.6	22.8	77	196	196
Nominal speed 3 (rpm)	2500	625	156	39.1	10.0	2.8
Length (mm)	40.2	43.5	46.8	50.1	53.4	56.7
Weight (g)	24	26	28	30	32	34

GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Planetary brush dc gear motor	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Precious meta	
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	No	
Gears	Straight teeth metal gears produced by milling process	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Sleeve bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions and screw holes
Operating temperature	-10-…+60 °C	- 40-…+60 °C
Backlash no load (degrees)	≤ 3	
Radial load 8 mm from gear flange (N)	≤ 5	
Shaft axial load (N)	≤ 5	
Shaft press fit force (N)	≤ 15	
Radial play (mm)	≤ 0.08	
Thrust play (mm)	≤ 0.2	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA

Nominal voltage (V)	2.4	3
No load speed (rpm)	12500	12500
No load current (mA)	≤ 130	≤ 80
Nominal speed (rpm)	10000	10000
Nominal torque (mNm)	0.6	0.55
Nominal current (mA)	≤ 450	≤ 340
Stall torque mNm)	2.7	2.9
Starting current (A)	1.5	1.5
Output (W)	0.6	0.6
Length (mm)	30	30
Weight (g)	13	13

GEAR HEAD DATA

Reduction	4:1	16:1	64:1	256:1	1024:1	4096:1
Max. continous torque (mNm)	78	118	157	177	196	196
Intermittently permissable torque (mNm)	235	353	471	530	588	588
Efficiency %	85	75	65	55	45	40
Length L (mm)	10.2	13.5	16.8	20.1	23.4	26.7
Weight (g)	10.7	12.8	14.9	17	19.1	21.2

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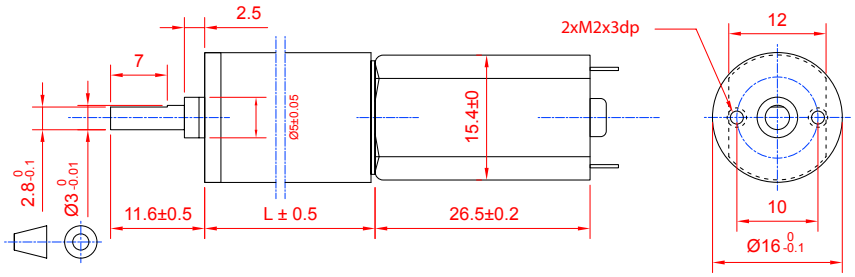
PD1626 12V-24V Ø13 mm carbon brushes 0.5 W



MODEL NO. DESIGNATIONS

PD1626 – VOLTAGE – RATIO – F E

E = Encoder
F = EMC Filter

Example: PD1626-12-4-FE

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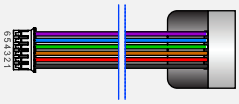

GEAR MOTOR DATA

Reduction	4:1	14:1	19:1	29:1	62:1	72:1	84:1	104:1	128:1	157:1	231:1	316:1	370:1	455:1	561:1	690:1	1014:1	1621:1	1996:1	3027:1
Nominal torque 12 V (mNm)	1,9	5,9	8	12,1	22	26	30	37	46	56	69	95	111	136	168	206	243	294	294	294
Nominal speed 12 (rpm)	1550	443	326	214	100	86	74	60	48	39	26,8	19,6	16,8	13,6	11,1	9,0	6,1	3,8	3,2	2,3
Nominal torque 24 V (mNm)	2,8	8,6	11,7	17,9	32,8	38,1	44	55	68	83	102	139	163	201	245	245	294	294	294	294
Nominal speed 24 (rpm)	2750	786	579	379	177	153	131	106	86	70	48	35	29,7	24,2	19,5	15,9	11,0	7,2	6,1	4,1
Length (mm)	41,55	45,20	45,20	45,20	48,85	48,85	48,85	48,85	48,85	48,85	52,50	52,50	52,50	52,50	52,50	52,50	56,15	56,15	56,15	56,15
Weight (g)	37	41	41	41	45	45	45	45	45	45	49	49	49	49	49	49	53	53	53	53

GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Planetary brush dc gear motor	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Precious meta	
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	
Gears	Straight teeth metal gears produced by milling process	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Sleeve bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions and screw holes
Operating temperature	-10-…+60 °C	- 40-…+60 °C
Backlash no load (degrees)	≤ 3	
Radial load 10 mm from gear flange (N)	≤ 5	
Shaft axial load (N)	≤ 5	
Shaft press fit force (N)	≤ 15	
Radial play (mm)	≤ 0.08	
Thrust play (mm)	≤ 0.2	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	8000	13500
No load current (mA)	≤ 50	≤ 50
Nominal speed (rpm)	6200	11000
Nominal torque (mNm)	0.6	0.9
Nominal current (mA)	≤ 85	≤ 90
Stall torque mNm)	2.6	4.3
Starting current (A)	0.20	0.28
Output (W)	0.4	1
Length (mm)	26.5	26.5
Weight (g)	18	18

GEAR HEAD DATA

Reduction	4:1	14:1	19:1	29:1	62:1	72:1	84:1	104:1	128:1	157:1	231:1	316:1	370:1	455:1	561:1	690:1	1014:1	1621:1	1996:1	3027:1
Max. continous torque (mNm)	98	147	147	147	196	196	196	196	196	196	245	245	245	245	245	245	294	294	294	294
Intermittently permissable torque (mNm)	294	441	441	441	588	588	588	588	588	588	735	735	735	735	735	735	883	883	883	883
Efficiency %	80	70	70	70	60	60	60	60	60	60	50	50	50	50	50	50	40	40	40	40
Length L (mm)	15.05	18.70	18.70	18.70	22.35	22.35	22.35	22.35	22.35	22.35	26.00	26.00	26.00	26.00	26.00	26.00	29.65	29.65	29.65	29.65
Weight (g)	19	23	23	23	27	27	27	27	27	27	31	31	31	31	31	31	35	35	35	35

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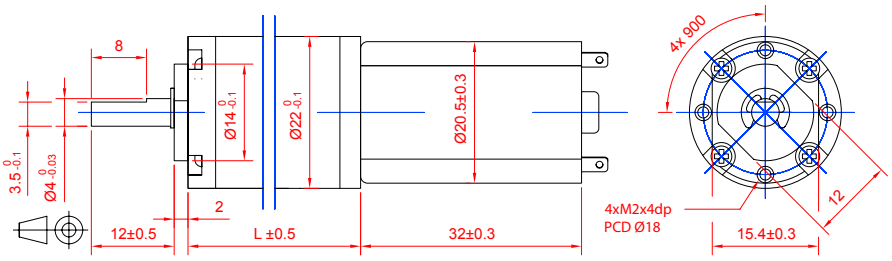
PD2232 Ø22 mm carbon brushes 1.5 W



MODEL NO. DESIGNATIONS

PD2232 - VOLTAGE - RATIO - B - F - E

E = Encoder
F = EMC Filter
B = Ball bearing

Example: PD2232-12-4-BFE

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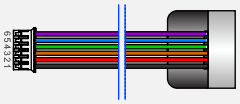

GEAR MOTOR DATA

Reduction	4:1	14:1	16:1	19:1	53:1	62:1	72:1	84:1	104:1	198:1	231:1	270:1	316:1	370:1	455:1	742:1	1014:1	1249:1	1621:1	1996:1
Nominal torque 12 V (mNm)	7	21	24	29	69	80	93	109	135	196	245	245	245	245	245	245	294	294	294	294
Nominal speed 12 (rpm)	1675	479	419	353	126	108	93	80	64	34	29	25	22	19	15,5	9,5	7,4	6,0	4,6	3,8
Nominal torque 24 V (mNm)	7	21	24	29	69	80	93	109	135	196	245	245	245	245	245	245	294	294	294	294
Nominal speed 24 (rpm)	1850	529	463	389	140	119	103	88	71	37	32	28	23,5	21	17,5	10,5	8	6,6	5	4,2
Length (mm)	46	50	50	50	54	54	54	54	54	54	57	57	57	57	57	57	61	61	61	61
Weight (g)	58	62	62	62	66	66	66	66	66	66	71	71	71	71	71	71	75	75	75	75

GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Planetary brush dc gear motor	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Precious meta	
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	
Gears	Straight teeth metal gears produced by milling process	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions and screw holes
Operating temperature	-10-…+60 °C	- 40-…+60 °C
Backlash no load (degrees)	≤ 3	
Radial load 10 mm from gear flange (N)	≤ 10	
Shaft axial load (N)	≤ 6	
Shaft press fit force (N)	≤ 49	
Radial play (mm)	≤ 0.05	
Thrust play (mm)	≤ 0.2	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	8000	9000
No load current (mA)	≤ 70	≤ 40
Nominal speed (rpm)	6700	7400
Nominal torque (mNm)	2.2	2.2
Nominal current (mA)	≤ 200	≤ 110
Stall torque mNm)	13	13
Starting current (A)	0.97	0.55
Output (W)	1.5	1.7
Length (mm)	32	32
Weight (g)	32	32

GEAR HEAD DATA

Reduction	4:1	14:1	16:1	19:1	53:1	62:1	72:1	84:1	104:1	198:1	231:1	270:1	316:1	370:1	455:1	742:1	1014:1	1249:1	1621:1	1996:1
Max. continous torque (mNm)	98	147	147	147	196	196	196	196	196	196	245	245	245	245	245	245	294	294	294	294
Intermittently permissable torque (mNm)	294	441	441	441	588	588	588	588	588	588	735	735	735	735	735	735	883	883	883	883
Efficiency %	80	70	70	70	60	60	60	60	60	60	50	50	50	50	50	50	40	40	40	40
Length L (mm)	14.4	18.05	18.05	18.05	21.7	21.7	21.7	21.7	21.7	21.7	25.35	25.35	25.35	25.35	25.35	25.35	29	29	29	29
Weight (g)	26	30	30	30	34	34	34	34	34	34	39	39	39	39	39	39	43	43	43	43

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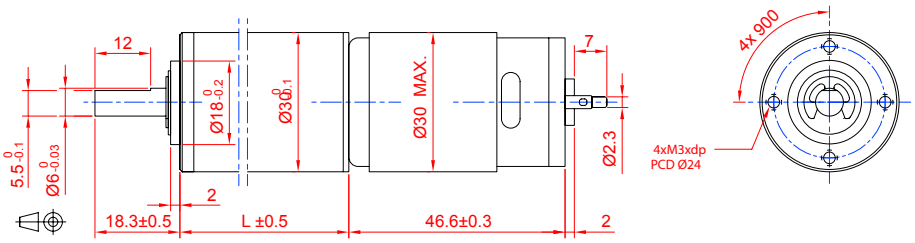
PD3046 Ø30 mm carbon brushes 7 W



MODEL NO. DESIGNATIONS

PD3046 – VOLTAGE – RATIO – B – F – E – C

C = Plastic Encoder Cover
E = Encoder
F = EMC Filter
B = Ball bearing

Example: PD3046-12-5-BFEC

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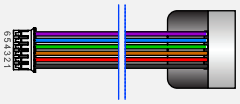

GEAR MOTOR DATA

Reduction	5:1	14:1	19:1	27:1	51:1	71:1	100:1	139:1	189:1	264:1	516:1	721:1
Nominal torque 12 V (mNm)	43	106	143	204	330	460	647	785	981	981	981	981
Nominal speed 12 V (rpm)	1190	425	313	220	117	84	60	45	32	25	13,2	9,6
Nominal torque 24 V (mNm)	51	125	170	241	390	543	765	785	981	981	981	981
Nominal speed 24 V (rpm)	1232	440	324	228	121	87	62	46	34,5	26	13,5	9,8
Length (mm)	70	77	77	77	83	83	83	83	89	89	89	89
Weight (g)	188	201	201	201	216	216	216	216	231	231	231	231
Weight (g)	78	91	91	91	106	106	106	106	121	121	121	121

GEAR MOTOR FEATURES AND STANDARD DATA

		CUSTOMIZATION OPTIONS
Type	Planetary brush dc gear motor	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Precious meta	
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	
Gears	Straight teeth metal gears produced by milling process	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions and screw holes
Operating temperature	-10-…+60 °C	- 40-…+60 °C
Backlash no load (degrees)	≤ 2.15	
Radial load 10 mm from gear flange (N)	≤ 34	
Shaft axial load (N)	≤ 25	
Shaft press fit force (N)	≤ 98	
Radial play (mm)	≤ 0.05	
Thrust play (mm)	≤ 0.3	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	7300	7300
No load current (mA)	≤ 150	≤ 80
Nominal speed (rpm)	5950	6160
Nominal torque (mNm)	11	13
Nominal current (mA)	≤ 900	≤ 500
Stall torque mNm)	84	89
Starting current (A)	5.6	2.9
Output (W)	7	8
Length (mm)	46.6	46.6
Weight (g)	110	110

GEAR HEAD DATA

Reduction	5:1	14:1	19:1	27:1	51:1	71:1	100:1	139:1	189:1	264:1	516:1	721:1
Max. continous torque (mNm)	196	294	294	392	588	588	785	785	981	981	981	981
Intermittently permissable torque (mNm)	588	883	883	1177	1765	1765	2354	2354	2942	2942	2942	2942
Efficiency %	80	70	70	70	60	60	60	60	50	50	50	50
Length L (mm)	23	30	30	30	36.4	36.4	36.4	36.4	42.8	42.8	42.8	42.8
Weight (g)	78	91	91	91	106	106	106	106	121	121	121	121

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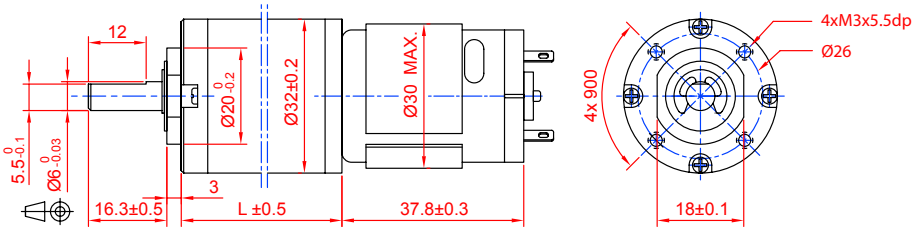
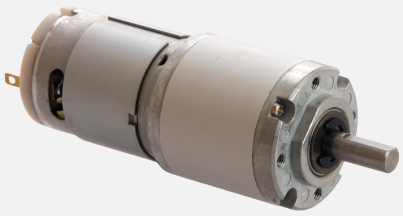
PD3237 Ø32 mm carbon brushes 4 W





MODEL NO. DESIGNATIONS

PD3237 – VOLTAGE – RATIO – B – F – E – C

C = Plastic Encoder Cover
E = Encoder
F = EMC Filter
B = Ball bearing

Example: PD3237-12-5-BFEC

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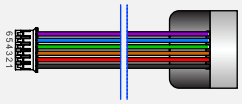

GEAR MOTOR DATA

Reduction	5:1	14:1	19:1	27:1	51:1	71:1	100:1	139:1	189:1	264:1	516:1	721:1
Nominal torque 12 V (mNm)	31	75	102	145	234	326	459	638	723	1010	1177	1177
Nominal speed 12 (rpm)	1058	378	278	196	104	75	53	38	28	20	11,2	8,3
Nominal torque 24 V (mNm)	29	71	97	137	222	309	435	605	686	958	1177	1177
Nominal speed 24 (rpm)	1050	375	276	194	103	74	53	38	28	20	8,3	6,3
Length (mm)	58	65	65	65	71	71	71	71	78	78	78	78
Weight (g)	174	194	194	194	219	219	219	219	245	245	245	245

GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Planetary brush dc gear motor	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Precious meta	
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	
Gears	Straight teeth metal gears produced by milling process	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions and screw holes
Operating temperature	-10-…+60 °C	- 40-…+60 °C
Backlash no load (degrees)	≤ 2.5	
Radial load 10 mm from gear flange (N)	≤ 34	
Shaft axial load (N)	≤ 25	
Shaft press fit force (N)	≤ 98	
Radial play (mm)	≤ 0.05	
Thrust play (mm)	≤ 0.3	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	6500	6500
No load current (mA)	≤ 150	≤ 85
Nominal speed (rpm)	5290	5250
Nominal torque (mNm)	7.6	7.3
Nominal current (mA)	≤ 530	≤ 250
Stall torque mNm)	36	38
Starting current (A)	2.1	1.1
Output (W)	4	4
Length (mm)	37.8	37.8
Weight (g)	73	73

GEAR HEAD DATA

Reduction	5:1	14:1	19:1	27:1	51:1	71:1	100:1	139:1	189:1	264:1	516:1	721:1
Max. continous torque (mNm)	196	392	392	588	785	785	981	981	1177	1177	1177	1177
Intermittently permissable torque (mNm)	588	1177	1177	1765	2354	2354	2942	2942	3530	3530	3530	3530
Efficiency %	80	70	70	70	60	60	60	60	50	50	50	50
Length L (mm)	20.6	27	27	27	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8
Weight (g)	101	121	121	121	146	146	146	146	172	172	172	172

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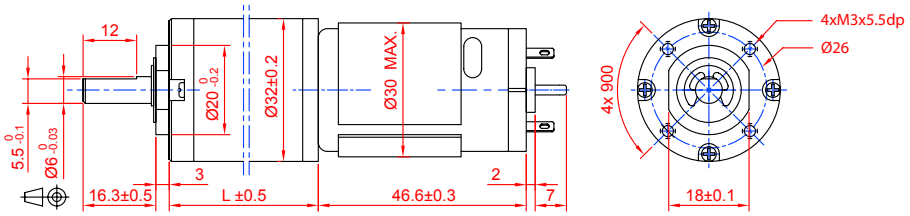
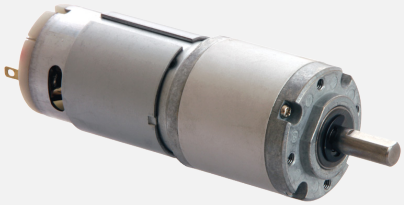
PD3246 Ø32 mm carbon brushes 7 W





MODEL NO. DESIGNATIONS

PD3246 – VOLTAGE – RATIO – B – F – E – C

C = Plastic Encoder Cover
E = Encoder
F = EMC Filter
B = Ball bearing

Example: PD3246-12-5-BFEC

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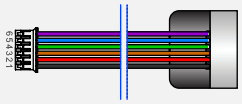

GEAR MOTOR DATA

Reduction	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	939:1
Nominal torque 12 V (mNm)	43	106	143	204	264	330	460	647	900	1019	1177	1177	1177	1177
Nominal speed 12 (rpm)	1190	425	313	220	170	117	84	60	43	31,5	24,0	16,9	9,5	7,2
Nominal torque 24 V (mNm)	51	125	170	241	312	390	543	765	1177	1177	1177	1177	1177	1177
Nominal speed 24 (rpm)	1232	440	324	228	176	121	87	62	45	34,0	25,0	13,0	9,6	7,2
Length (mm)	67,2	73,6	73,6	73,6	73,6	80,0	80,0	80,0	80,0	86,4	86,4	86,4	86,4	86,4
Weight (g)	211	231	231	231	231	256	256	256	256	282	282	282	282	282

GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Planetary brush dc gear motor	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Precious meta	
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	
Gears	Straight teeth metal gears produced by milling process	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions and screw holes
Operating temperature	-10-…+60 °C	- 40-…+60 °C
Backlash no load (degrees)	≤ 2.5	
Radial load 10 mm from gear flange (N)	≤ 34	
Shaft axial load (N)	≤ 25	
Shaft press fit force (N)	≤ 98	
Radial play (mm)	≤ 0.05	
Thrust play (mm)	≤ 0.3	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	7300	7300
No load current (mA)	≤ 150	≤ 80
Nominal speed (rpm)	5950	6160
Nominal torque (mNm)	11	13
Nominal current (mA)	≤ 900	≤ 500
Stall torque mNm)	84	89
Starting current (A)	5.5	2.9
Output (W)	7	8.2
Length (mm)	46.6	46.6
Weight (g)	110	110

GEAR HEAD DATA

Reduction	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	939:1
Max. continous torque (mNm)	196	392	392	588	588	785	785	981	981	1177	1177	1177	1177	1177
Intermittently permissable torque (mNm)	588	1177	1177	1765	1765	2354	2354	2942	2942	3530	3530	3530	3530	3530
Efficiency %	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Length 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)	101	121	121	121	121	146	146	146	146	172	172	172	172	172

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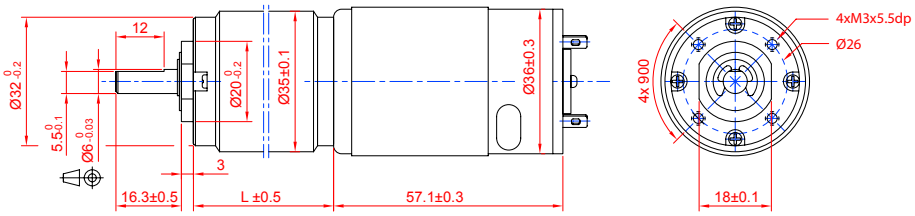
PD3557 Ø35 mm carbon brushes 12 W



MODEL NO. DESIGNATIONS

PD3557 – VOLTAGE – RATIO – B – F – E – C

C = Plastic Encoder Cover
E = Encoder
F = EMC Filter
B = Ball bearing

Example: PD3557-12-5-BFEC

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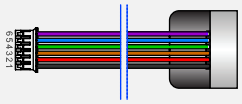

GEAR MOTOR DATA

Reduction	5:1	14:1	19:1	27:1	51:1	71:1	100:1	139:1	189:1	264:1	516:1	721:1
Nominal torque 12 V (mNm)	98	240	326	463	750	785	981	981	1177	1177	1177	1177
Nominal speed 12 (rpm)	986	352	259	183	97	72	52	39	29	21	11	8
Nominal torque 24 V (mNm)	94	231	313	445	720	785	981	981	1177	1177	1177	1177
Nominal speed 24 (rpm)	1030	368	271	191	101	74,5	54	40	29,5	22	11,5	8
Length (mm)	79	86	86	86	92	92	92	92	98	98	98	98
Weight (g)	328	362	362	362	396	396	396	396	430	430	430	430

GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Planetary brush dc gear motor	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Precious meta	
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	
Gears	Straight teeth metal gears produced by milling process	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions and screw holes
Operating temperature	-10-…+60 °C	- 40-…+60 °C
Backlash no load (degrees)	≤ 2.5	
Radial load 10 mm from gear flange (N)	≤ 34	
Shaft axial load (N)	≤ 25	
Shaft press fit force (N)	≤ 98	
Radial play (mm)	≤ 0.05	
Thrust play (mm)	≤ 0.3	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	6000	6000
No load current (mA)	≤ 250	≤ 130
Nominal speed (rpm)	4930	5150
Nominal torque (mNm)	25	24
Nominal current (mA)	≤ 1600	≤ 750
Stall torque mNm)	180	188
Starting current (A)	9.7	5.5
Output (W)	12.7	12.7
Length (mm)	57.1	57.1
Weight (g)	220	220

GEAR HEAD DATA

Reduction	5:1	14:1	19:1	27:1	51:1	71:1	100:1	139:1	189:1	264:1	516:1	721:1
Max. continous torque (mNm)	196	392	392	588	785	785	981	981	1177	1177	1177	1177
Intermittently permissable torque (mNm)	588	1177	1177	1765	2354	2354	2942	2942	3530	3530	3530	3530
Efficiency %	80	70	70	70	60	60	60	60	50	50	50	50
Length L (mm)	22.1	28.5	28.5	28.5	34.9	34.9	34.9	34.9	41.3	41.3	41.3	41.3
Weight (g)	108	142	142	142	176	176	176	176	210	210	210	210

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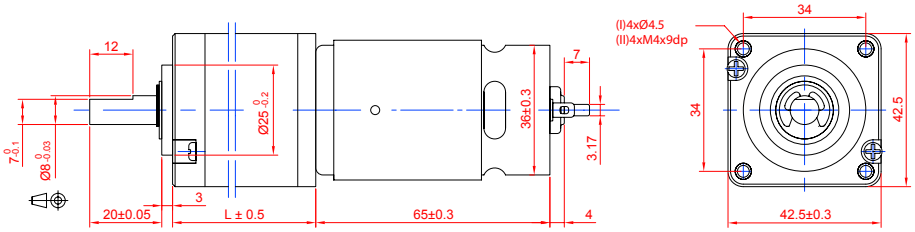
PDS4265 Ø42 mm carbon brushes 15 W



MODEL NO. DESIGNATIONS

PDS4265 – VOLTAGE – RATIO – B – F – E – C

C = Plastic Encoder Cover
E = Encoder
F = EMC Filter
B = Ball bearing

Example: PDS4265-12-4-BFEC

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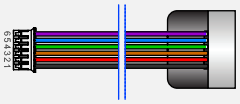

GEAR MOTOR DATA

Reduction	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
Nominal torque 12 V (mNm)	100	308	373	527	923	1149	1479	1958	1961	2452	2452	2942	2942	2942	2942
Nominal speed 12 (rpm)	1273	364	299	212	104	83	60.5	48.9	38	25.4	18.9	11.2	8.8	8	6.5
Nominal torque 24 V (mNm)	88	269	327	461	807	1005	1384	1713	1961	2452	2452	2942	2942	2942	2942
Nominal speed 24 (rpm)	1313	375	309	219	107	86	63	50	39	26.2	18.8	11.2	8.8	8	6.5
Length (mm)	91.15	97.95	97.95	97.95	104.75	104.75	104.75	104.75	104.75	111.45	111.45	111.45	111.45	111.45	111.45
Weight (g)	456	516	516	516	571	571	571	571	571	626	626	626	626	626	626

GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Planetary brush dc gear motor	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Precious meta	
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	
Gears	Straight teeth metal gears produced by milling process	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions and screw holes
Operating temperature	-10-…+60 °C	- 40-…+60 °C
Backlash no load (degrees)	≤ 3	
Radial load 10 mm from gear flange (N)	≤ 78	
Shaft axial load (N)	≤ 29	
Shaft press fit force (N)	≤ 147	
Radial play (mm)	≤ 0.05	
Thrust play (mm)	≤ 0.3	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	6000	6000
No load current (mA)	≤ 350	≤ 170
Nominal speed (rpm)	5090	5250
Nominal torque (mNm)	31	27
Nominal current (mA)	≤ 2100	≤ 900
Stall torque mNm)	269	243
Starting current (A)	15	7
Output (W)	17	15
Length (mm)	65	65
Weight (g)	266	266

GEAR HEAD DATA

Reduction	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
Max. continous torque (mNm)	392	785	785	785	1471	1471	1471	1961	1961	2452	2452	2942	2942	2942	2942
Intermittently permissable torque (mNm)	1177	2354	2354	2354	4413	4413	4413	5884	5884	7355	7355	8826	8826	8826	8826
Efficiency %	80	70	70	70	60	60	60	60	60	50	50	50	50	50	50
Length L (mm)	26.15	32.95	32.95	32.95	39.75	39.75	39.75	39.75	39.75	46.45	46.45	46.45	46.45	46.45	46.45
Weight (g)	190	250	250	250	305	305	305	305	305	360	360	360	360	360	360

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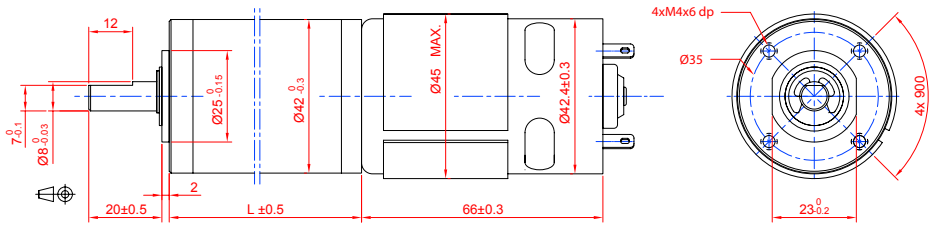
PD4266 Ø42 mm carbon brushes 35 W



MODEL NO. DESIGNATIONS

PD4266 – VOLTAGE – RATIO – B – F – E – C

- C = Plastic Encoder Cover
- E = Encoder
- F = EMC Filter
- B = Ball bearing

Example: PD4266-12-4-BFEC

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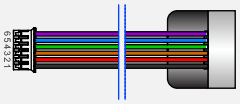

GEAR MOTOR DATA

Reduction	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	3600:1
Nominal torque 12 V (mNm)	220	673	785	785	1765	1765	1765	1961	1961	2452	2452	2942	2942	2942	2942	2942	2942	2942	2942	2942
Nominal speed 12 V (rpm)	1425	407	325	248,0	120,0	98,0	76,0	63,0	45,0	31,0	24,0	13,5	10,9	9,5	8,0	6,5	4,6	2,7	2,3	1,9
Nominal torque 24 V (mNm)	179	548	665	785	1765	1765	1765	1961	1961	2452	2452	2942	2942	2942	2942	2942	2942	2942	2942	2942
Nominal speed 24 V (rpm)	1475	421	347	240,0	122,0	102,0	77,5	63,0	47,0	31,0	23,8	13,5	10,9	9,5	8,0	6,5	4,6	2,7	2,3	1,9
Length (mm)	99	105	105	105	112	112	112	112	112	119	119	119	119	119	119	125	125	125	125	125
Weight (g)	499	551	551	551	591	591	591	591	591	641	641	641	641	641	641	686	686	686	686	686

GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Planetary brush dc gear motor	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Precious meta	
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	
Gears	Straight teeth metal gears produced by milling process	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions and screw holes
Operating temperature	-10-…+60 °C	- 40-…+60 °C
Backlash no load (degrees)	≤ 3	
Radial load 10 mm from gear flange (N)	≤ 78	
Shaft axial load (N)	≤ 29	
Shaft press fit force (N)	≤ 147	
Radial play (mm)	≤ 0.05	
Thrust play (mm)	≤ 0.3	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	7000	7000
No load current (mA)	≤ 900	≤ 500
Nominal speed (rpm)	5700	5900
Nominal torque (mNm)	69	56
Nominal current (mA)	≤ 5500	≤ 2100
Stall torque mNm)	406	422
Starting current (A)	26	13
Output (W)	41	35
Length (mm)	66	66
Weight (g)	360	360

GEAR HEAD DATA

Reduction	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	3600:1
Max. continous torque (mNm)	294	785	785	785	1765	1765	1765	1961	1961	2452	2452	2942	2942	2942	2942	2942	2942	2942	2942	2942
Intermittently permissable torque (mNm)	883	2354	2354	2354	5296	5296	5296	5884	5884	7355	7355	8826	8826	8826	8826	8826	8826	8826	8826	8826
Efficiency %	80	70	70	70	60	60	60	60	60	50	50	50	50	50	50	40	40	40	40	40
Length L (mm)	32.5	39.2	39.2	39.2	45.9	45.9	45.9	45.9	45.9	52.6	52.6	52.6	52.6	52.6	52.6	59.3	59.3	59.3	59.3	59.3
Weight (g)	139	191	191	191	231	231	231	231	231	281	281	281	281	281	281	326	326	326	326	326

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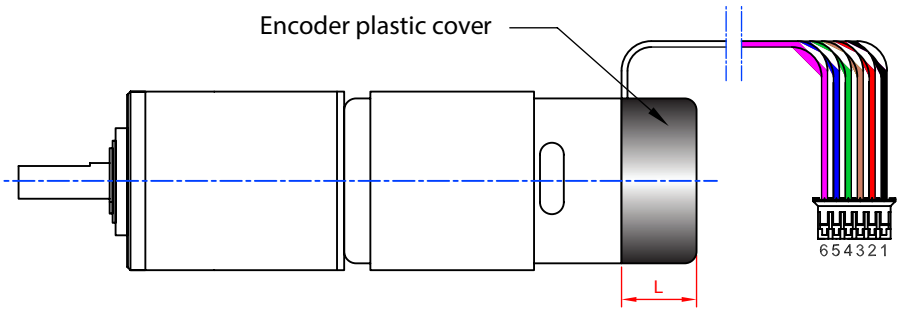
Encoder 6/14/38 counts per revolution 2 channels



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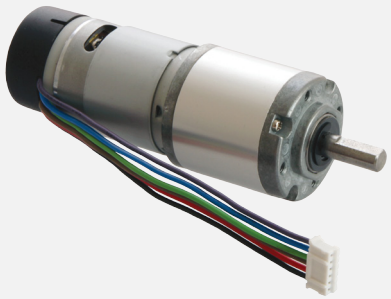
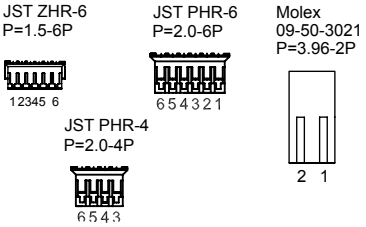


ENCODER FEATURES

	STANDARD	CUSTOMIZATION OPTIONS
Type	Magnetic	Yes
Counts per revolution		Yes
Number of channels	2	1
Harness		Yes
Connector		Yes
Encoder rear cover	Black plastic	Yes
Operating temperature range	-10 to +60°C	
Manufacturing quality standard	ISO9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes
Open collector output (VoutA. VoutB)		

MOTOR AND ENCODER CONNECTION

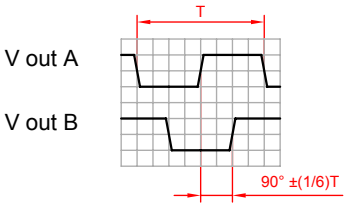
Motor -	1. Black
Motor +	2. Red
Vcc. Hall sensor	3. Brown
GND. Hall sensor	4. Green
V out A. Hall sensor	5. Blue
V out B. Hall sensor	6. Purple



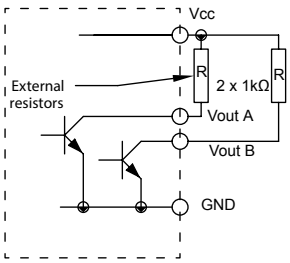
ENCODER DATA

Gear motor model	PD1330	PD1626 6V-9V	PD1626 12V-24V	PD2232	PD3046	PD3237	PD3246	PD3557	PD4266	PDS4265
Hall sensor	UTC KS1816	UTC KS1816	UTC KS1816	UTC KS1816	UTC KS1816	UTC KS1816	UTC KS1816	UTC KS1816	UTC KS1816	UTC KS1816
Number of encoder channels	2	2	2	2	2	2	2	2	2	2
Counts per revolution per channel (CPR)	6	6	6	6	14	14	14	14	38	14
Encoder cable length (mm)	100	100	100	100	100	100	100	100	100	100
Wire gauge (AWG)	AWG26/UL1061	AWG26/UL1061	AWG26/UL1061	AWG24/UL1007	AWG24/UL1007	AWG24/UL1007	AWG24/UL1007	AWG24/UL1007	AWG24/ AWA18/ UL1007	AWG24/UL1007
Cable conector	JST ZHR-6 P=1.5-6P	JST ZHR-6 P=1.5-6P	JST ZHR-6 P=1.5-6P	JST PHR-6 P=2.0-6P	JST PHR-6 P=2.0-6P	JST PHR-6 P=2.0-6P	JST PHR-6 P=2.0-6P	JST PHR-6 P=2.0-6P	JST PHR-4 P=2.0-4P Molex 09-50-3021 P=3.96-2p	JST PHR-6 P=2.0-6P
Encoder plastic rear cover length L (mm)	No cover	No cover	No cover	12.6	12.6	12.6	12.6	13.5	15.5	13.5

Encoder output waye form



Encoder output circut



ENCODER TEST DATA

CHARACTERISTIC	SYMBOLS	TEST CONDITIONS	MIN	REF	MAX	UNITS
Supply voltage	Vcc	---	3.5	-	20	V
Output saturnation voltage	Vce (sat)	Vcc = 14V ; Ic = 20m	-	300	700	mV
Output leakage current	Icex	Vce = 14V ; Vcc = 14	-	< 0.1	10	µA
Supply Current	Ice	Vcc = 20V Output open	-	5	10	mA
Output rise time	tr	Vcc = 14V; R = 820 Ohm; CL = 20pF	-	0.3	1.5	µS
Output fall time	tf	Vcc = 14V; R = 820 Ohm; CL = 20pF	-	0.3	1.5	µS
Phase shift	Φ	---		90 ±(1/6)T		°

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