TRANSMOTEC

BRUSHED DC SPUR GEAR MOTORS | 3 - 24 V 34 - 690 mNm

MULTI-SERIES

We offer a broad range of high quality brushed DC spur gear motors in standard and customized configurations. Our customer-centric approach makes us the ideal supplier for your project, especially to instrument and apparatus builders. In addition, we offer immediate delivery, thanks to always having a high number of motors in stock.

Customizations include:

- ✓ Customized harness
- ✓ Winding configuration
- ✓ Shaft configuration
- ✓ And more...

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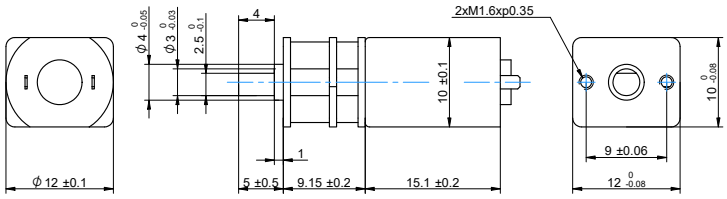
SDS1215 | □ 12 mm | 3 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



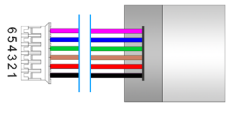
PHOTO

MODEL NO. DESIGNATION

SDS1215 - VOLTAGE - GEAR RATIO - F E

Example: SDS1215-3-10-FE

ACCESSORIES



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

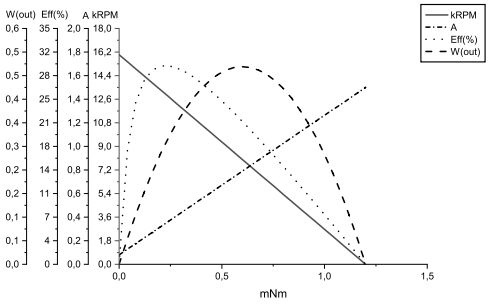
GEAR MOTOR DATA											C
Gear ratio		10:1	19:1	29:1	60:1	76:1	102:1	134:1	197:1	235:1	298:1	
Nominal torque | ^ gearbox limit	mNm	1.5	2.5	3.9	7.4	9.8	12	15	23	27	34	
Nominal speed	rpm	1400	720	480	230	180	135	100	70	59	46	
Peak torque	mNm	59	88	88	150	150	240	240	290	290	290	
Nominal power	W	0.22	0.19	0.19	0.18	0.18	0.17	0.16	0.16	0.16	0.16	
Gearbox efficiency	%	81	73	73	66	66	66	59	59	59	59	
Gearbox length | L	mm	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	
Weight	g	11	11	11	11	11	11	11	11	11	11	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 1.5	
Radial load	N	≤ 3.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.06	
Thrust play	mm	≤ 0.2	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	0.8	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	3	
No load speed	rpm	16000	
No load current	mA	≤ 80	
Nominal speed	rpm	14000	
Nominal torque	mNm	0.29	
Nominal current	mA	≤ 250	
Nominal power	W	0.29	
Stall torque	mNm	1.2	
Starting current	A	1.5	
Motor commutation		Prec.m.[3]	
Motor rotor		Iron	
Motor stator		Neody.[4]	
Varistor EMC	V	6 - 9	
Capacitor EMC	V	None	
Resistance	Ω	2.8	
Inductance	mH	0.52	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 7 | Length 6	
Harness connector		JST ZHR-6 P=1.5-6P	●
Harness cable		AWG26 | UL1061	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

NOTES

1. 5 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Precious metal.
4. Neodymium.

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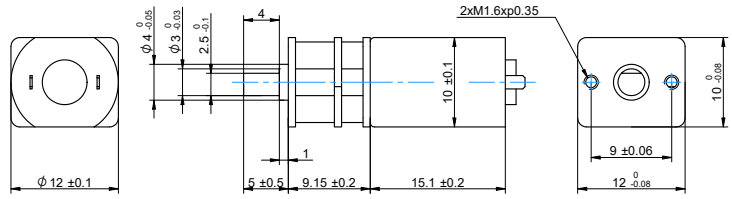
SDS1215 | □ 12 mm | 6 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



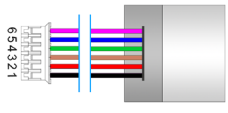
PHOTO

MODEL NO. DESIGNATION

SDS1215 - VOLTAGE - GEAR RATIO - F E

Example: SDS1215-6-10-FE

ACCESSORIES



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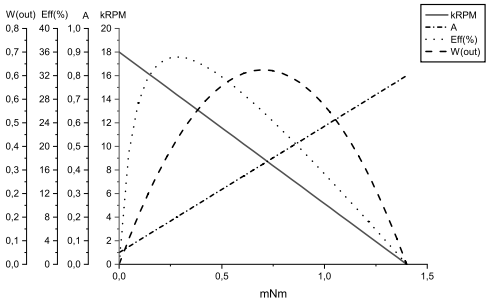
GEAR MOTOR DATA											C
Gear ratio		10:1	19:1	29:1	60:1	76:1	102:1	134:1	197:1	235:1	298:1	
Nominal torque | ^ gearbox limit	mNm	2.4	3.9	5.9	11	15	20	23	34	40	51	
Nominal speed	rpm	1500	770	510	250	200	150	110	75	63	50	
Peak torque	mNm	59	88	88	150	150	240	240	290	290	290	
Nominal power	W	0.38	0.32	0.32	0.29	0.29	0.29	0.26	0.26	0.26	0.26	
Gearbox efficiency	%	81	73	73	66	66	66	59	59	59	59	
Gearbox length | L	mm	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	
Weight	g	11	11	11	11	11	11	11	11	11	11	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 1.5	
Radial load	N	≤ 3.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.06	
Thrust play	mm	≤ 0.2	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	0.8	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	6	
No load speed	rpm	18000	
No load current	mA	≤ 50	
Nominal speed	rpm	15000	
Nominal torque	mNm	0.39	
Nominal current	mA	≤ 170	
Nominal power	W	0.46	
Stall torque	mNm	1.4	
Starting current	A	0.8	
Motor commutation		Prec.m.[3]	
Motor rotor		Iron	
Motor stator		Neody.[4]	
Varistor EMC	V	9 - 14	
Capacitor EMC	V	None	
Resistance	Ω	11	
Inductance	mH	1.7	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 5 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Precious metal.
4. Neodymium.

MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 7 | Length 6	
Harness connector		JST ZHR-6 P=1.5-6P	●
Harness cable		AWG26 | UL1061	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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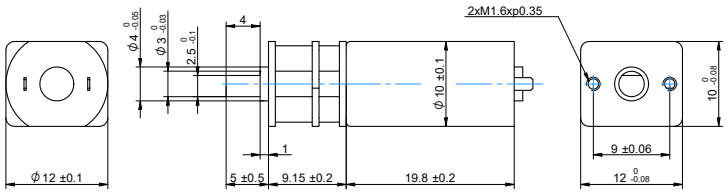
SDS1220 | □ 12 mm | 3 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



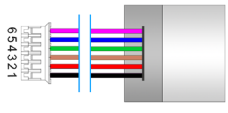
PHOTO

MODEL NO. DESIGNATION

SDS1220	-	VOLTAGE	-	GEAR RATIO	-	F	E

Example: SDS1220-3-10-FE

ACCESSORIES



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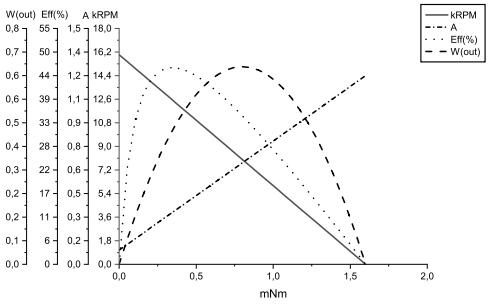
GEAR MOTOR DATA											C
Gear ratio		10:1	19:1	29:1	60:1	76:1	102:1	134:1	197:1	235:1	298:1	
Nominal torque | ^ gearbox limit	mNm	2.4	3.9	5.9	11	15	20	23	34	41	52	
Nominal speed	rpm	1300	700	460	230	175	130	100	68	47	45	
Peak torque	mNm	59	88	88	150	150	240	240	290	290	290	
Nominal power	W	0.33	0.29	0.28	0.26	0.26	0.26	0.24	0.24	0.24	0.24	
Gearbox efficiency	%	81	73	73	66	66	66	59	59	59	59	
Gearbox length | L	mm	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	
Weight	g	12	12	12	12	12	12	12	12	12	12	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 1.5	
Radial load	N	≤ 3.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.06	
Thrust play	mm	≤ 0.2	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	0.8	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	3	
No load speed	rpm	16000	
No load current	mA	≤ 90	
Nominal speed	rpm	14000	
Nominal torque	mNm	0.29	
Nominal current	mA	≤ 310	
Nominal power	W	0.41	
Stall torque	mNm	1.6	
Starting current	A	1.2	
Motor commutation		Prec.m.[3]	
Motor rotor		Iron	
Motor stator		Neody.[4]	
Varistor EMC	V	6 - 9	
Capacitor EMC	V	None	
Resistance	Ω	1.4	
Inductance	mH	0.24	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 5 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Precious metal.
4. Neodymium.

MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 7 | Length 6	
Harness connector		JST ZHR-6 P=1.5-6P	●
Harness cable		AWG26 | UL1061	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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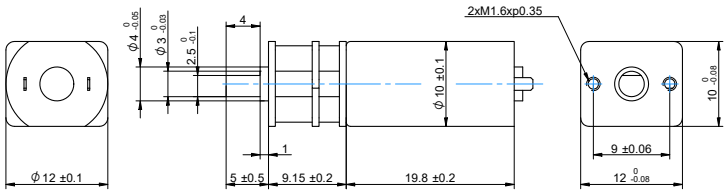
SDS1220 | □ 12 mm | 6 V | BRUSHED DC SPUR GEAR MOTOR

RoHS Reach

DRAWING (mm)



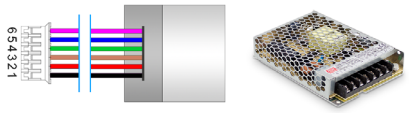
PHOTO

MODEL NO. DESIGNATION

SDS1220 - VOLTAGE - GEAR RATIO - F E

Example: SDS1220-6-10-FE

ACCESSORIES



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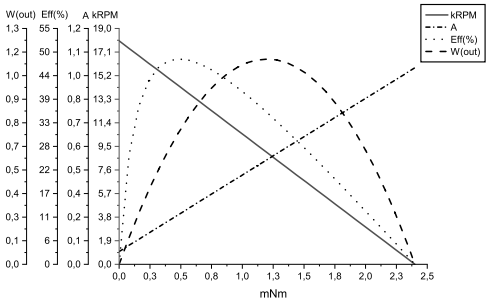
GEAR MOTOR DATA											C
Gear ratio		10:1	19:1	29:1	60:1	76:1	102:1	134:1	197:1	235:1	298:1	
Nominal torque | ^ gearbox limit	mNm	2.9	5.4	7.8	15	20	27	29	45	52	69	
Nominal speed	rpm	1500	780	510	250	200	150	110	76	64	50	
Peak torque	mNm	59	88	88	150	150	240	240	290	290	290	
Nominal power	W	0.46	0.44	0.42	0.39	0.39	0.39	0.33	0.33	0.33	0.33	
Gearbox efficiency	%	81	73	73	66	66	66	59	59	59	59	
Gearbox length | L	mm	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.15	
Weight	g	12	12	12	12	12	12	12	12	12	12	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 1.5	
Radial load	N	≤ 3.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.06	
Thrust play	mm	≤ 0.2	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	0.8	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	6	
No load speed	rpm	18000	
No load current	mA	≤ 65	
Nominal speed	rpm	15000	
Nominal torque	mNm	0.39	
Nominal current	mA	≤ 250	
Nominal power	W	0.61	
Stall torque	mNm	2.4	
Starting current	A	1	
Motor commutation		Prec.m.[3]	
Motor rotor		Iron	
Motor stator		Neody.[4]	
Varistor EMC	V	9 - 14	
Capacitor EMC	V	None	
Resistance	Ω	6.3	
Inductance	mH	1.2	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 5 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Precious metal.
4. Neodymium.

MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 7 | Length 6	
Harness connector		JST ZHR-6 P=1.5-6P	●
Harness cable		AWG26 | UL1061	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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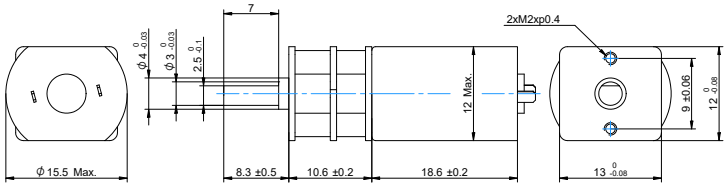
SDS1319 | □ 13 mm | 6 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



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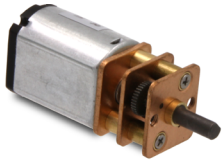
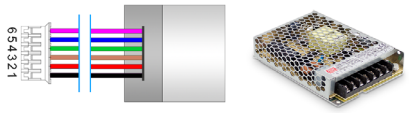


MODEL NO. DESIGNATION

SDS1319 - VOLTAGE - GEAR RATIO - F E

Example: SDS1319-6-10-FE

ACCESSORIES



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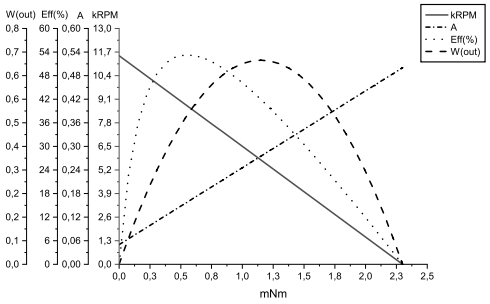
GEAR MOTOR DATA												C
Gear ratio		10:1	21:1	34:1	59:1	75:1	105:1	146:1	203:1	257:1	294:1	360:1	
Nominal torque | ^ gearbox limit	mNm	2.9	5.9	9.8	15	20	27	33	46	59	68	82	
Nominal speed	rpm	950	450	270	160	130	91	65	47	37	32	26	
Peak torque	mNm	59	88	88	150	150	240	240	290	290	290	290	
Nominal power	W	0.29	0.28	0.28	0.25	0.25	0.25	0.22	0.22	0.22	0.22	0.22	
Gearbox efficiency	%	81	73	73	66	66	66	59	59	59	59	59	
Gearbox length | L	mm	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	11	
Weight	g	15	15	15	15	15	15	15	15	15	15	15	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 1.5	
Radial load	N	≤ 3.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.06	
Thrust play	mm	≤ 0.2	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	0.8	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	6	
No load speed	rpm	12000	
No load current	mA	≤ 50	
Nominal speed	rpm	9600	
Nominal torque	mNm	0.39	
Nominal current	mA	≤ 140	
Nominal power	W	0.39	
Stall torque	mNm	2.3	
Starting current	A	0.5	
Motor commutation		Prec.m.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	11 - 17	
Capacitor EMC	V	None	
Resistance	Ω	12	
Inductance	mH	2.6	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 5 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Precious metal.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 7 | Length 6	
Harness connector		JST ZHR-6 P=1.5-6P	●
Harness cable		AWG26 | UL1061	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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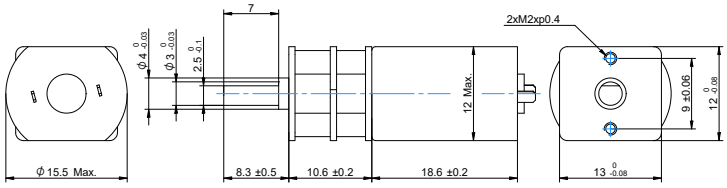
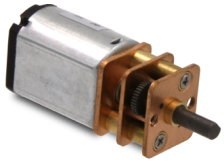
SDS1319 | □ 13 mm | 12 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



PHOTO

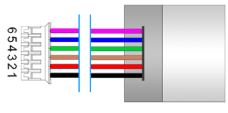


MODEL NO. DESIGNATION

SDS1319 - VOLTAGE - GEAR RATIO - F E

Example: SDS1319-12-10-FE

ACCESSORIES



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

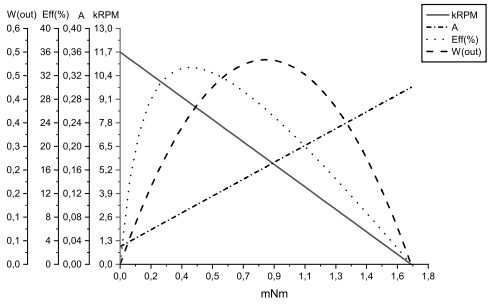
GEAR MOTOR DATA												C
Gear ratio		10:1	21:1	34:1	59:1	75:1	105:1	146:1	203:1	257:1	294:1	360:1	
Nominal torque | ^ gearbox limit	mNm	3.4	6.9	11	17	22	30	37	52	67	77	93	
Nominal speed	rpm	870	400	260	150	120	83	59	43	34	29	24	
Peak torque	mNm	59	88	88	150	150	240	240	290	290	290	290	
Nominal power	W	0.31	0.30	0.30	0.27	0.28	0.26	0.23	0.23	0.24	0.23	0.23	
Gearbox efficiency	%	81	73	73	66	66	66	59	59	59	59	59	
Gearbox length | L	mm	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	11	
Weight	g	15	15	15	15	15	15	15	15	15	15	15	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 1.5	
Radial load	N	≤ 3.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.06	
Thrust play	mm	≤ 0.2	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	0.8	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	12	
No load speed	rpm	12000	
No load current	mA	≤ 30	
Nominal speed	rpm	8800	
Nominal torque	mNm	4.4	
Nominal current	mA	≤ 100	
Nominal power	W	0.4	
Stall torque	mNm	1.7	
Starting current	A	0.3	
Motor commutation		Prec.m.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	17 - 26	
Capacitor EMC	V	None	
Resistance	Ω	45	
Inductance	mH	9.5	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 5 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Precious metal.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 7 | Length 6	
Harness connector		JST ZHR-6 P=1.5-6P	●
Harness cable		AWG26 | UL1061	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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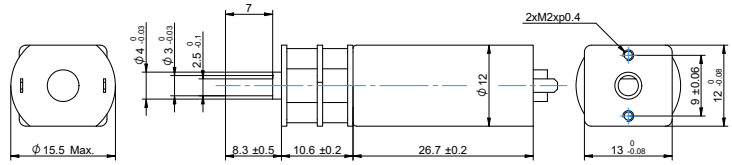
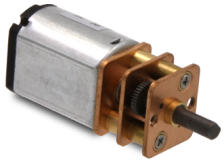
SDS1327 | □ 13 mm | 6 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



PHOTO

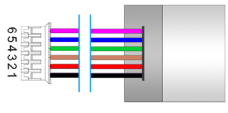


MODEL NO. DESIGNATION

SDS1327 - VOLTAGE - GEAR RATIO - F E

Example: SDS1327-6-10-FE

ACCESSORIES



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

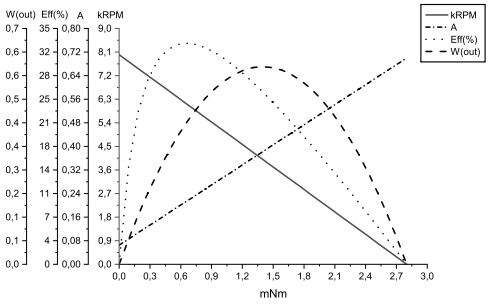
GEAR MOTOR DATA												C
Gear ratio		10:1	21:1	34:1	59:1	75:1	105:1	146:1	203:1	257:1	294:1	360:1	
Nominal torque | ^ gearbox limit	mNm	5.4	11	18	28	36	50	62	86	98^	98^	98^	
Nominal speed	rpm	660	300	190	110	86	62	44	32	25	23	19	
Peak torque	mNm	59	88	88	150	150	240	240	290	290	290	290	
Nominal power	W	0.37	0.35	0.35	0.32	0.32	0.32	0.29	0.29	0.26	0.24	0.19	
Gearbox efficiency	%	81	73	73	66	66	66	59	59	59	59	59	
Gearbox length | L	mm	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	11	
Weight	g	23	23	23	23	23	23	23	23	23	23	23	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 1.5	
Radial load	N	≤ 3.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.06	
Thrust play	mm	≤ 0.2	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	0.8	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	6	
No load speed	rpm	8000	
No load current	mA	≤ 65	
Nominal speed	rpm	6600	
Nominal torque	mNm	0.7	
Nominal current	mA	≤ 160	
Nominal power	W	0.5	
Stall torque	mNm	2.8	
Starting current	A	0.7	
Motor commutation		Prec.m.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	9 - 14	
Capacitor EMC	V	None	
Resistance	Ω	10	
Inductance	mH	2.7	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 5 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Precious metal.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 7 | Length 6	
Harness connector		JST ZHR-6 P=1.5-6P	●
Harness cable		AWG26 | UL1061	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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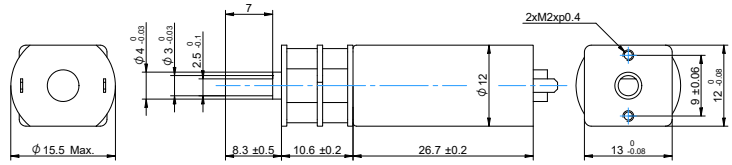
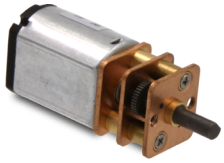
SDS1327 | □ 13 mm | 12 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



PHOTO

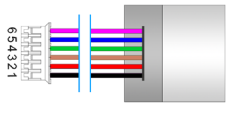


MODEL NO. DESIGNATION

SDS1327 - VOLTAGE - GEAR RATIO - F E

Example: SDS1327-12-10-FE

ACCESSORIES



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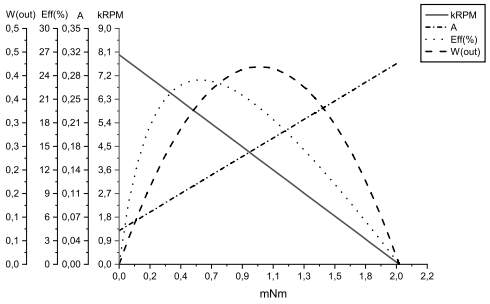
GEAR MOTOR DATA												C
Gear ratio		10:1	21:1	34:1	59:1	75:1	105:1	146:1	203:1	257:1	294:1	360:1	
Nominal torque | ^ gearbox limit	mNm	4.4	8.8	15	23	29	41	51	72	90	98^	98^	
Nominal speed	rpm	620	290	180	100	82	59	42	30	24	21	18	
Peak torque	mNm	59	88	88	150	150	240	240	290	290	290	290	
Nominal power	W	0.29	0.27	0.27	0.24	0.24	0.24	0.22	0.22	0.22	0.22	0.18	
Gearbox efficiency	%	81	73	73	66	66	66	59	59	59	59	59	
Gearbox length | L	mm	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	11	
Weight	g	23	23	23	23	23	23	23	23	23	23	23	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 1.5	
Radial load	N	≤ 3.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.06	
Thrust play	mm	≤ 0.2	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	0.8	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	12	
No load speed	rpm	8000	
No load current	mA	≤ 50	
Nominal speed	rpm	6200	
Nominal torque	mNm	0.6	
Nominal current	mA	≤ 85	
Nominal power	W	0.39	
Stall torque	mNm	2	
Starting current	A	0.3	
Motor commutation		Prec.m.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	15 - 22	
Capacitor EMC	V	None	
Resistance	Ω	55	
Inductance	mH	9.3	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 5 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Precious metal.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 7 | Length 6	
Harness connector		JST ZHR-6 P=1.5-6P	●
Harness cable		AWG26 | UL1061	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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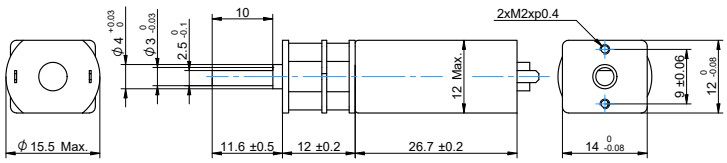
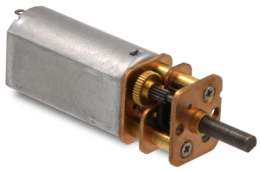
SDS1427 | □ 14 mm | 12 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



PHOTO

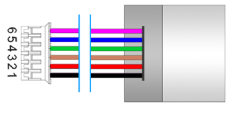


MODEL NO. DESIGNATION

SDS1427 - VOLTAGE - GEAR RATIO - F E

Example: SDS1427-12-10-FE

ACCESSORIES



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

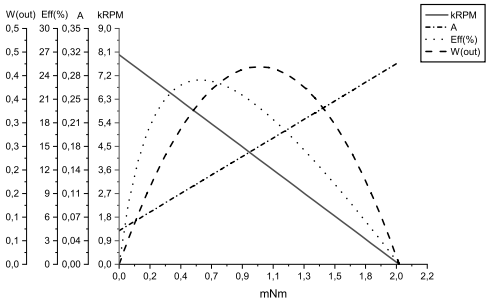
GEAR MOTOR DATA							C
Gear ratio		6:1	36:1	62:1	123:1	209:1	
Nominal torque | ^ gearbox limit	mNm	2.9	14	24	43	74	
Nominal speed	rpm	1000	170	100	50	29	
Peak torque	mNm	59	88	150	240	290	
Nominal power	W	0.3	0.25	0.25	0.23	0.22	
Gearbox efficiency	%	81	66	66	59	59	
Gearbox length | L	mm	12	12	12	12	12	
Weight	g	24	24	24	24	24	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 1.5	
Radial load	N	≤ 3.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.06	
Thrust play	mm	≤ 0.2	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	1.0	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	12	
No load speed	rpm	8000	
No load current	mA	≤ 50	
Nominal speed	rpm	6200	
Nominal torque	mNm	0.60	
Nominal current	mA	≤ 85	
Nominal power	W	0.39	
Stall torque	mNm	2	
Starting current	A	0.3	
Motor commutation		Prec.m.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	17 - 26	
Capacitor EMC	V	None	
Resistance	Ω	56	
Inductance	mH	9.6	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 5 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Precious metal.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 7 | Length 6	
Harness connector		JST ZHR-6 P=1.5-6P	●
Harness cable		AWG26 | UL1061	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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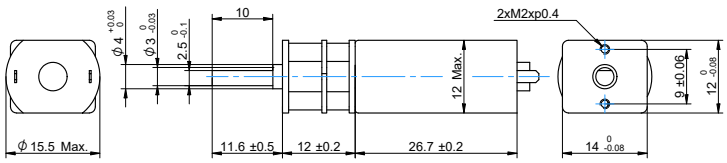
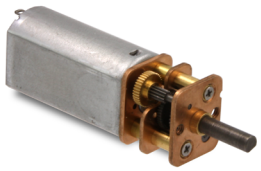
SDS1427 | □ 14 mm | 24 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



PHOTO

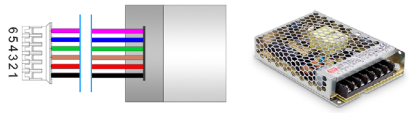


MODEL NO. DESIGNATION

SDS1427	-	VOLTAGE	-	GEAR RATIO	-	F	E

Example: SDS1427-24-10-FE

ACCESSORIES



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

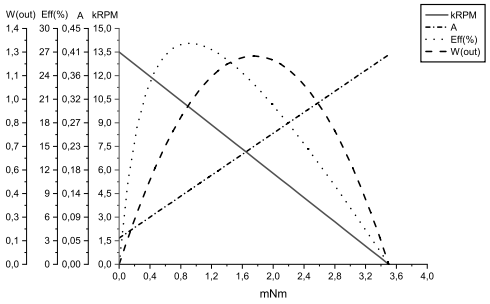
GEAR MOTOR DATA							C
Gear ratio		6:1	36:1	62:1	123:1	209:1	
Nominal torque | ^ gearbox limit	mNm	3.9	16	19	23	26	
Nominal speed	rpm	1800	300	180	89	53	
Peak torque	mNm	59	88	150	240	290	
Nominal power	W	0.74	0.50	0.36	0.21	0.14	
Gearbox efficiency	%	81	66	66	59	59	
Gearbox length | L	mm	12	12	12	12	12	
Weight	g	24	24	24	24	24	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 1.5	
Radial load	N	≤ 3.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.06	
Thrust play	mm	≤ 0.2	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	1.0	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	24	
No load speed	rpm	14000	
No load current	mA	≤ 50	
Nominal speed	rpm	11000	
Nominal torque	mNm	0.88	
Nominal current	mA	≤ 90	
Nominal power	W	1	
Stall torque	mNm	3.5	
Starting current	A	0.4	
Motor commutation		Prec.m.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	30 - 50	
Capacitor EMC	V	None	
Resistance	Ω	75	
Inductance	mH	16	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 5 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Precious metal.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 7 | Length 6	
Harness connector		JST ZHR-6 P=1.5-6P	●
Harness cable		AWG26 | UL1061	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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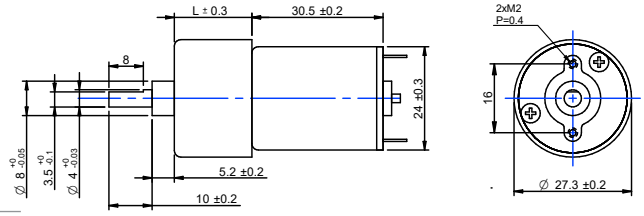
SDC2730 | Ø 27 mm | 12 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



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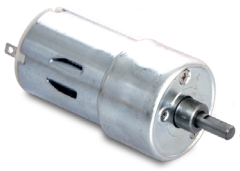
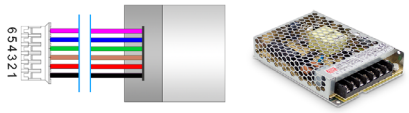


MODEL NO. DESIGNATION

SDC2730 - VOLTAGE - GEAR RATIO - F E

Example: SDC2730-12-10-FE

ACCESSORIES



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

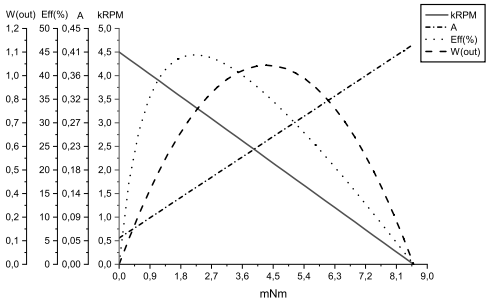
GEAR MOTOR DATA																				C
Gear ratio		10:1	15:1	21:1	30:1	44:1	60:1	77:1	100:1	112:1	150:1	170:1	200:1	250:1	320:1	360:1	500:1	700:1	800:1	900:1	1150:1	
Nominal torque | ^ gearbox limit	mNm	16	22	31	39	57	78^	78^	98^	98^	120^	120^	120^	120^	120^	120^	150^	150^	150^	150^	150^	
Nominal speed	rpm	340	230	160	110	80	59	46	36	33	22	20	18	15	12	11	7.5	5.7	5.1	4.5	3.7	
Peak torque	mNm	88	120	120	180	180	240	240	290	290	350	350	350	350	350	350	440	440	440	440	440	
Nominal power	W	0.57	0.53	0.52	0.45	0.48	0.48	0.38	0.37	0.34	0.28	0.25	0.23	0.19	0.15	0.14	0.12	0.09	0.08	0.07	0.06	
Gearbox efficiency	%	81	73	73	65	65	65	65	65	65	50	50	50	50	50	50	40	40	40	40	40	
Gearbox length | L	mm	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17	17.3	17.3	17.3	17.3	19.3	19.3	19.3	19.3	19.3	
Weight	g	75	76	76	77	77	77	77	78	78	78	78	78	78	78	78	79	79	79	79	79	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load	N	≤ 2.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.05	
Thrust play	mm	≤ 0.3	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	0.8	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	12	
No load speed	rpm	4500	
No load current	mA	≤ 50	
Nominal speed	rpm	3600	
Nominal torque	mNm	2	
Nominal current	mA	≤ 150	
Nominal power	W	0.75	
Stall torque	mNm	8.6	
Starting current	A	0.42	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	13 - 18	
Capacitor EMC	V	None	
Resistance	Ω	32	
Inductance	mH	12	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 30 | Length 12.1	
Harness connector		JST PHR-6 P=2.0-6P	●
Harness cable		AWG24 | UL1007	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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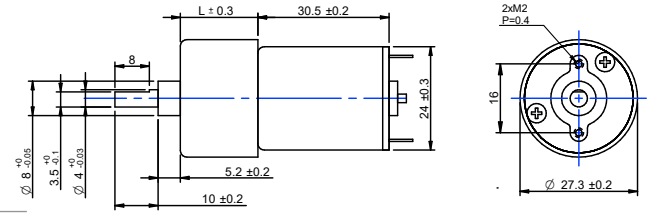
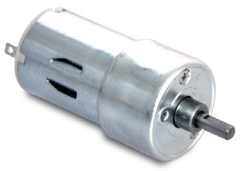
SDC2730 | Ø 27 mm | 24 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



PHOTO

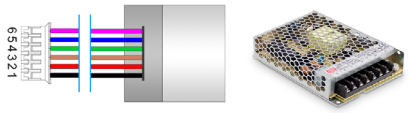


MODEL NO. DESIGNATION

SDC2730 - VOLTAGE - GEAR RATIO - F E

Example: SDC2730-24-10-FE

ACCESSORIES



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

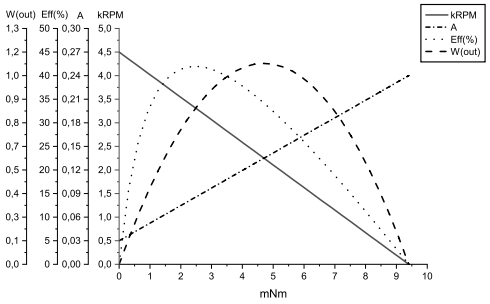
GEAR MOTOR DATA																				C
Gear ratio		10:1	15:1	21:1	30:1	44:1	60:1	77:1	100:1	112:1	150:1	170:1	200:1	250:1	320:1	360:1	500:1	700:1	800:1	900:1	1150:1	
Nominal torque | ^ gearbox limit	mNm	15	21	29	37	54	74	78^	98^	98^	120^	120^	120^	120^	120^	120^	150^	150^	150^	150^	150^	
Nominal speed	rpm	330	220	150	110	77	56	44	34	33	22	20	18	15	12	11	7.5	5.6	5	4.5	3.6	
Peak torque	mNm	88	120	120	180	180	240	240	290	290	350	350	350	350	350	350	440	440	440	440	440	
Nominal power	W	0.52	0.48	0.46	0.43	0.44	0.43	0.36	0.35	0.34	0.28	0.25	0.23	0.19	0.15	0.14	0.12	0.09	0.08	0.07	0.06	
Gearbox efficiency	%	81	73	73	65	65	65	65	65	65	50	50	50	50	50	50	40	40	40	40	40	
Gearbox length | L	mm	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17	17.3	17.3	17.3	17.3	19.3	19.3	19.3	19.3	19.3	
Weight	g	75	76	76	77	77	77	77	78	78	78	78	78	78	78	78	79	79	79	79	79	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load	N	≤ 2.9	
Shaft axial load	N	≤ 2	
Shaft press fit force max.	N	≤ 20	
Radial play[1]	mm	≤ 0.05	
Thrust play	mm	≤ 0.3	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	0.8	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	24	
No load speed	rpm	4500	
No load current	mA	≤ 30	
Nominal speed	rpm	3400	
Nominal torque	mNm	1.9	
Nominal current	mA	≤ 65	
Nominal power	W	0.68	
Stall torque	mNm	9.4	
Starting current	A	0.24	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	27 - 45	
Capacitor EMC	V	None	
Resistance	Ω	110	
Inductance	mH	45	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		3 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		None	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 30 | Length 12.1	
Harness connector		JST PHR-6 P=2.0-6P	●
Harness cable		AWG24 | UL1007	●
Harness length	mm	100	
Connection		BLK M- | RED M+ | BRN Vcc | GRN GND | BLU A | VIO B	
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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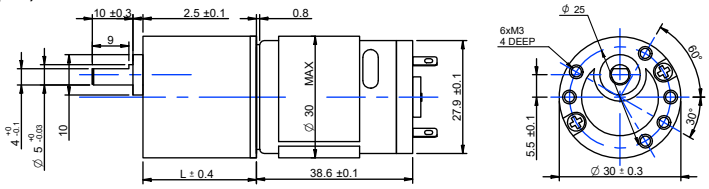
SD3039 | Ø 30 mm | 12 V | BRUSHED DC SPUR GEAR MOTOR

RoHS Reach

DRAWING (mm)



PHOTO

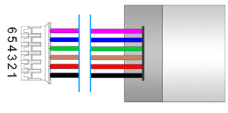
MODEL NO. DESIGNATION

SD3039 - VOLTAGE - GEAR RATIO - F - EC

Example: SD3039-12-20-FEC

F = EMC Filter
EC = Encoder with cover

ACCESSORIES



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

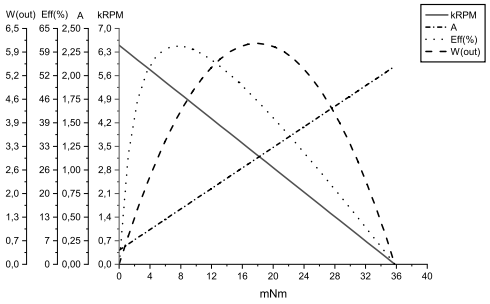
GEAR MOTOR DATA																					C
Gear ratio		20:1	30:1	36:1	50:1	60:1	75:1	90:1	100:1	120:1	150:1	180:1	200:1	250:1	300:1	400:1	500:1	600:1	810:1	900:1	1000:1	
Nominal torque | ^ gearbox limit	mNm	98^	150^	150^	200^	200^	290^	290^	290^	390^	390^	440^	440^	440^	440^	440^	440^	440^	440^	440^	440^	
Nominal speed	rpm	260	170	150	110	91	73	62	56	46	38	32	29	24	20	15	12	10	7.7	6.9	6.3	
Peak torque	mNm	290	440	440	590	590	880	880	880	1180	1180	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	
Nominal power	W	2.7	2.7	2.4	2.3	1.9	2.2	1.9	1.7	1.9	1.6	1.5	1.3	1.1	0.92	0.69	0.55	0.46	0.35	0.32	0.29	
Gearbox efficiency	%	66	66	66	66	66	66	66	66	53	53	53	53	53	53	53	53	53	53	53	53	
Gearbox length | L	mm	23	23	23	23	23	23	23	23	28	28	28	28	28	28	28	28	28	28	28	28	
Weight	g	160	160	160	160	160	160	160	160	170	170	170	170	170	170	170	170	170	170	170	170	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load[1]	N	7.9	
Shaft axial load	N	5.9	
Shaft press fit force max.	N	≤ 98	
Radial play	mm	≤ 0.05	
Thrust play	mm	≤ 0.35	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bakelite, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	4	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	12	
No load speed	rpm	6500	
No load current	mA	≤ 150	
Nominal speed	rpm	5300	
Nominal torque	mNm	7.7	
Nominal current	mA	≤ 530	
Nominal power	W	4.2	
Stall torque	mNm	36	
Starting current	A	2.1	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	13 - 18	
Capacitor EMC	V	50	
Resistance	Ω	5.7	
Inductance	mH	3.4	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

	MAGNETIC ENCODER DATA	C	OPTICAL SENSOR DATA	C
Pulses per revolution	3 x 2	●	(100 | 200 | 256 | 360 | 400 | 500) x 2	
Channels	2		2	
Phase shift °	90 ± (1/6)T		90 ± (1/6)T	
Encoder rear cover material	ABS plastic		Zink alloy	
Sensor technical data	Refer externally to brand and part UTC-SK1816.		-	
Size mm	Diameter 30 | Length 12.1		Width 30 | Height 40 | Length 23.5	
Harness connector	JST PHR-6 P=2.0-6P	●	JST SMR-05V	●
Harness cable	AWG24 | UL1007	●	AWG24 | UL2464	●
Harness length mm	100	●	195	●
Connection	1. BLK M- | 2. RED M+ | 3. BRN Vcc | 4. GRN GND | 5. BLU A | 6. VIO B	●	1. BLK A | 2. RED Vcc | 3. WHT B | 4. EMPTY | 5. GRN GND	●
Supply voltage V	Min. 5 | Max. 20		5 ± 10%	
Supply current mA	Ref. 5 | Max. 10		-	
Open collector output	Requires external output resistors.		-	
Output current per channel mA	-		± 20	

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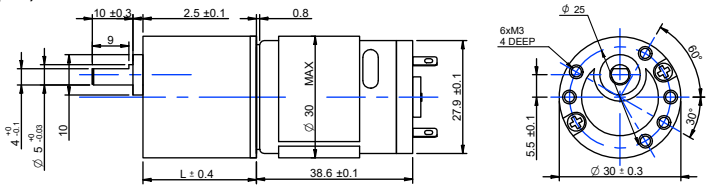
SD3039 | Ø 30 mm | 24 V | BRUSHED DC SPUR GEAR MOTOR

RoHS Reach

DRAWING (mm)



PHOTO

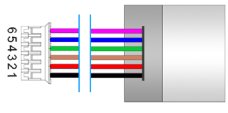
MODEL NO. DESIGNATION

SD3039 - VOLTAGE - GEAR RATIO - F - EC

Example: SD3039-24-20-FEC

F = EMC Filter
EC = Encoder with cover

ACCESSORIES



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

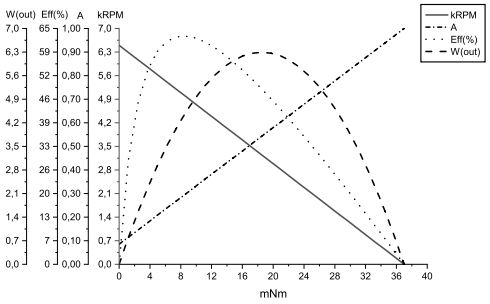
GEAR MOTOR DATA																					C
Gear ratio		20:1	30:1	36:1	50:1	60:1	75:1	90:1	100:1	120:1	150:1	180:1	200:1	250:1	300:1	400:1	500:1	600:1	810:1	900:1	1000:1	
Nominal torque | ^ gearbox limit	mNm	96	140	150^	200^	200^	290^	290^	290^	390^	390^	440^	440^	440^	440^	440^	440^	440^	440^	440^	440^	
Nominal speed	rpm	260	170	150	110	91	73	62	56	46	37	32	29	24	20	15	12	10	8	7	6	
Peak torque	mNm	290	440	440	590	590	880	880	880	1180	1180	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	
Nominal power	W	2.6	2.5	2.3	2.2	1.9	2.2	1.9	1.7	1.9	1.5	1.5	1.3	1.1	0.9	0.7	0.56	0.48	0.36	0.32	0.29	
Gearbox efficiency	%	66	66	66	66	66	66	66	66	53	53	53	53	53	53	53	53	53	53	53	53	
Gearbox length | L	mm	23	23	23	23	23	23	23	23	28	28	28	28	28	28	28	28	28	28	28	28	
Weight	g	160	160	160	160	160	160	160	160	170	170	170	170	170	170	170	170	170	170	170	170	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load[1]	N	7.9	
Shaft axial load	N	5.9	
Shaft press fit force max.	N	≤ 98	
Radial play	mm	≤ 0.05	
Thrust play	mm	≤ 0.35	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bakelite, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	4	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	24	
No load speed	rpm	6500	
No load current	mA	≤ 85	
Nominal speed	rpm	5300	
Nominal torque	mNm	7.3	
Nominal current	mA	≤ 250	
Nominal power	W	4	
Stall torque	mNm	37	
Starting current	A	1	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	26 - 38	
Capacitor EMC	V	50	
Resistance	Ω	24	
Inductance	mH	13	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

		MAGNETIC ENCODER DATA	C	OPTICAL SENSOR DATA	C
Pulses per revolution		3 x 2	●	(100 | 200 | 256 | 360 | 400 | 500) x 2	
Channels		2		2	
Phase shift	°	90 ± (1/6)T		90 ± (1/6)T	
Encoder rear cover material		ABS plastic		Zink alloy	
Sensor technical data		Refer externally to brand and part UTC-SK1816.		-	
Size	mm	Diameter 30 | Length 12.1		Width 30 | Height 40 | Length 23.5	
Harness connector		JST PHR-6 P=2.0-6P	●	JST SMR-05V	●
Harness cable		AWG24 | UL1007	●	AWG24 | UL2464	●
Harness length	mm	100	●	195	●
Connection		1. BLK M- | 2. RED M+ | 3. BRN Vcc | 4. GRN GND | 5. BLU A | 6. VIO B	●	1. BLK A | 2. RED Vcc | 3. WHT B | 4. EMPTY | 5. GRN GND	●
Supply voltage	V	Min. 5 | Max. 20		5 ± 10%	
Supply current	mA	Ref. 5 | Max. 10		-	
Open collector output		Requires external output resistors.		-	
Output current per channel	mA	-		± 20	

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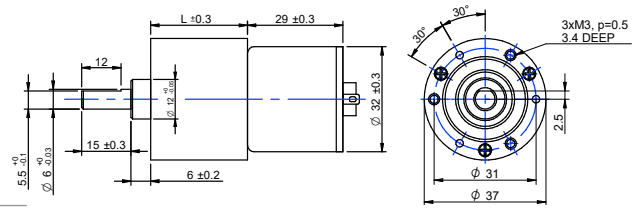
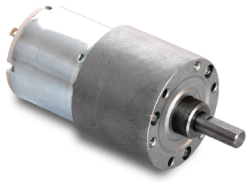
SDC3729 | Ø 37 mm | 12 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



PHOTO



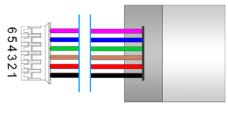
MODEL NO. DESIGNATION

SDC3729 - VOLTAGE - GEAR RATIO - F EC

Example: SDC3729-12-6-FEC

F = EMC Filter
EC = Encoder with cover

ACCESSORIES



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

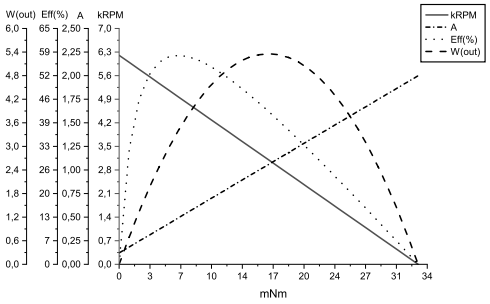
GEAR MOTOR DATA																				C
Gear ratio		6:1	16:1	21:1	31:1	56:1	75:1	104:1	125:1	156:1	188:1	219:1	250:1	312:1	469:1	625:1	750:1	938:1	1875:1	3750:1	5625:1	
Nominal torque | ^ gearbox limit	mNm	29	69	90	120	220	260	360	440	540	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	
Nominal speed	rpm	800	310	250	160	90	67	49	41	33	28	24	22	18	12	9.1	7.8	6.3	3.2	1.6	1	
Peak torque	mNm	290	590	590	880	1200	1500	1500	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Nominal power	W	2.4	2.2	2.4	2.0	2.1	1.8	1.8	1.9	1.9	1.7	1.5	1.4	1.1	0.74	0.56	0.48	0.39	0.20	0.10	0.06	
Gearbox efficiency	%	81	73	73	66	66	59	59	59	59	59	53	53	53	53	53	48	48	48	43	43	
Gearbox length | L	mm	21.8	24.6	24.6	27.1	27.1	29.5	29.5	29.5	29.5	29.5	32	32	32	32	32	34.5	34.5	34.5	37	37	
Weight	g	170	180	180	180	180	190	190	190	190	190	200	200	200	200	200	200	200	200	210	210	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load[1]	N	≤ 9.8	
Shaft axial load	N	≤ 6.9	
Shaft press fit force max.	N	≤ 49	
Radial play	mm	≤ 0.05	
Thrust play	mm	≤ 0.35	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bakelite, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	3.4	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	12	
No load speed	rpm	6200	
No load current	mA	≤ 120	
Nominal speed	rpm	5100	
Nominal torque	mNm	5.9	
Nominal current	mA	≤ 470	
Nominal power	W	3.1	
Stall torque	mNm	33	
Starting current	A	2	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	13 - 18	
Capacitor EMC	V	50	
Resistance	Ω	6.6	
Inductance	mH	7.2	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		7 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		ABS plastic	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 30 | Length 12.1	
Harness connector		JST PHR-6 P=2.0-6P	●
Harness cable		AWG24 | UL1007	●
Harness length	mm	100	●
Connection		1. BLK M- | 2. RED M+ | 3. BRN Vcc | 4. GRN GND | 5. BLU A | 6. VIO B	●
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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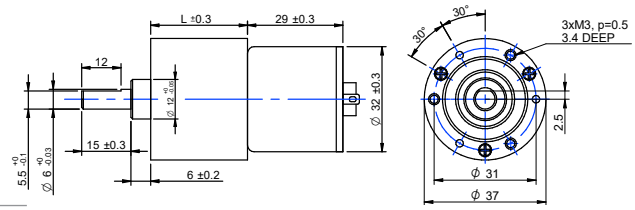
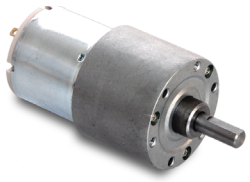
SDC3729 | Ø 37 mm | 24 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



PHOTO



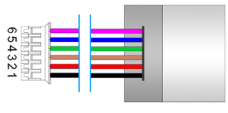
MODEL NO. DESIGNATION

SDC3729 - VOLTAGE - GEAR RATIO - F EC

Example: SDC3729-24-6-FEC

F = EMC Filter
EC = Encoder with cover

ACCESSORIES



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

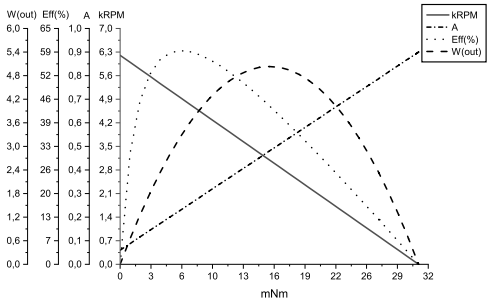
GEAR MOTOR DATA																				C
Gear ratio		6:1	16:1	21:1	31:1	56:1	75:1	104:1	125:1	156:1	188:1	219:1	250:1	312:1	469:1	625:1	750:1	938:1	1875:1	3750:1	5625:1	
Nominal torque | ^ gearbox limit	mNm	30	71	94	130	230	270	370	450	560	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	
Nominal speed	rpm	780	308	240	150	87	65	48	40	32	27	23.5	21.5	17.5	12	9	7.8	6.2	3.2	1.6	1	
Peak torque	mNm	290	590	590	880	1200	1500	1500	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Nominal power	W	2.5	2.3	2.4	2.0	2.1	1.8	1.9	1.9	1.9	1.7	1.5	1.3	1.1	0.74	0.56	0.48	0.38	0.20	0.10	0.06	
Gearbox efficiency	%	81	73	73	66	66	59	59	59	59	59	53	53	53	53	53	48	48	48	43	43	
Gearbox length | L	mm	21.8	24.6	24.6	27.1	27.1	29.5	29.5	29.5	29.5	29.5	32	32	32	32	32	34.5	34.5	34.5	37	37	
Weight	g	170	180	180	180	180	190	190	190	190	190	200	200	200	200	200	200	200	200	210	210	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load[1]	N	≤ 9.8	
Shaft axial load	N	≤ 6.9	
Shaft press fit force max.	N	≤ 49	
Radial play	mm	≤ 0.05	
Thrust play	mm	≤ 0.35	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bronze, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	3.4	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	24	
No load speed	rpm	6200	
No load current	mA	≤ 60	
Nominal speed	rpm	5000	
Nominal torque	mNm	6.1	
Nominal current	mA	≤ 210	
Nominal power	W	3.2	
Stall torque	mNm	31	
Starting current	A	0.9	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	27 - 45	
Capacitor EMC	V	100	
Resistance	Ω	29	
Inductance	mH	34	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		7 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		ABS plastic	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 30 | Length 12.1	
Harness connector		JST PHR-6 P=2.0-6P	●
Harness cable		AWG24 | UL1007	●
Harness length	mm	100	●
Connection		1. BLK M- | 2. RED M+ | 3. BRN Vcc | 4. GRN GND | 5. BLU A | 6. VIO B	●
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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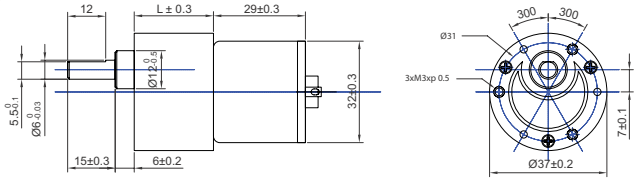
SD3729 | Ø 37 mm | 12 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



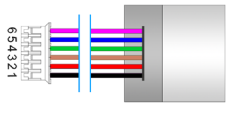
PHOTO

MODEL NO. DESIGNATION

SD3729 - VOLTAGE - GEAR RATIO - F EC

Example: SD3729-12-10-FEC

ACCESSORIES



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

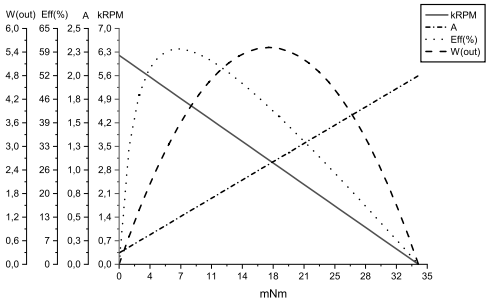
GEAR MOTOR DATA																				C
Gear ratio		10:1	18:1	30:1	50:1	60:1	75:1	90:1	100:1	120:1	150:1	180:1	200:1	250:1	300:1	500:1	600:1	750:1	1000:1	1500:1	3000:1	
Nominal torque | ^ gearbox limit	mNm	48	78	130	200	230	290	350	390	420	520	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	
Nominal speed	rpm	490	270	170	100	84	67	57	51	43	34	29	26	22	19	11	9.5	8	6	4.1	2	
Peak torque	mNm	290	290	590	880	880	1200	1200	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Nominal power	W	2.5	2.2	2.3	2.1	2.0	2.0	2.1	2.1	1.9	1.9	1.8	1.6	1.4	1.2	0.68	0.59	0.49	0.37	0.25	0.12	
Gearbox efficiency	%	81	73	73	66	66	66	66	66	59	59	59	59	59	59	53	53	53	53	48	48	
Gearbox length | L	mm	19.5	22	22	24.5	24.5	24.5	24.5	24.5	27	27	27	27	27	27	29.5	29.5	29.5	29.5	32	32	
Weight	g	160	170	170	180	180	180	180	180	180	180	180	180	180	180	190	190	190	190	200	200	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load[1]	N	≤ 9.8	
Shaft axial load	N	≤ 6.9	
Shaft press fit force max.	N	≤ 200	
Radial play	mm	≤ 0.05	
Thrust play	mm	≤ 0.35	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bakelite, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	3.4	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	12	
No load speed	rpm	6200	
No load current	mA	≤ 120	
Nominal speed	rpm	5100	
Nominal torque	mNm	5.9	
Nominal current	mA	≤ 470	
Nominal power	W	3.1	
Stall torque	mNm	34	
Starting current	A	2	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	13 - 18	
Capacitor EMC	V	50	
Resistance	Ω	6.6	
Inductance	mH	7.2	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		7 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		ABS plastic	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 30 | Length 12.1	
Harness connector		JST PHR-6 P=2.0-6P	●
Harness cable		AWG24 | UL1007	●
Harness length	mm	100	●
Connection		1. BLK M- | 2. RED M+ | 3. BRN Vcc | 4. GRN GND | 5. BLU A | 6. VIO B	●
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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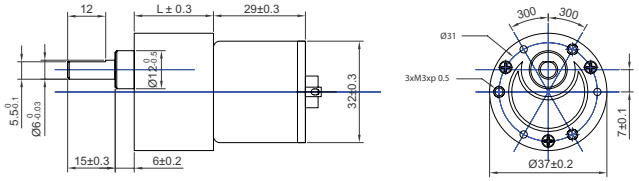
SD3729 | Ø 37 mm | 24 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



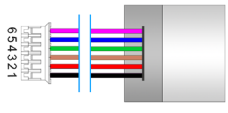
PHOTO

MODEL NO. DESIGNATION

SD3729 - VOLTAGE - GEAR RATIO - F EC

Example: SD3729-24-10-FEC

ACCESSORIES



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

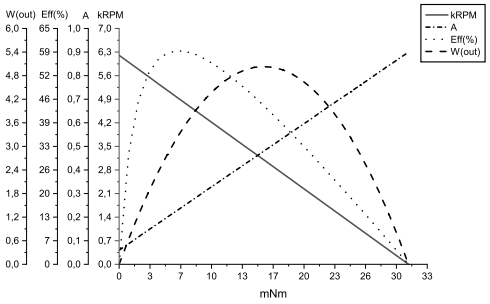
GEAR MOTOR DATA																				C
Gear ratio		10:1	18:1	30:1	50:1	60:1	75:1	90:1	100:1	120:1	150:1	180:1	200:1	250:1	300:1	500:1	600:1	750:1	1000:1	1500:1	3000:1	
Nominal torque | ^ gearbox limit	mNm	49	80	130	200	240	300	360	400	430	540	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	
Nominal speed	rpm	480	250	160	98	83	65	56	50	42	33	29	26	22	19	11	9.3	7.9	5.9	4	2	
Peak torque	mNm	290	290	590	880	880	1200	1200	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Nominal power	W	2.5	2.1	2.2	2.1	2.1	2.0	2.1	2.1	1.9	1.9	1.8	1.6	1.4	1.2	0.68	0.57	0.49	0.36	0.25	0.12	
Gearbox efficiency	%	81	73	73	66	66	66	66	66	59	59	59	59	59	59	53	53	53	53	48	48	
Gearbox length | L	mm	19.5	22	22	24.5	24.5	24.5	24.5	24.5	27	27	27	27	27	27	29.5	29.5	29.5	29.5	32	32	
Weight	g	160	170	170	180	180	180	180	180	180	180	180	180	180	180	190	190	190	190	200	200	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load[1]	N	≤ 9.8	
Shaft axial load	N	≤ 6.9	
Shaft press fit force max.	N	≤ 200	
Radial play	mm	≤ 0.05	
Thrust play	mm	≤ 0.35	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bakelite, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	3.4	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	24	
No load speed	rpm	6200	
No load current	mA	≤ 60	
Nominal speed	rpm	5000	
Nominal torque	mNm	6.1	
Nominal current	mA	≤ 210	
Nominal power	W	3.2	
Stall torque	mNm	31	
Starting current	A	0.9	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	27 - 45	
Capacitor EMC	V	100	
Resistance	Ω	29	
Inductance	mH	34	
Insulation class		B	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

MAGNETIC ENCODER DATA			C
Pulses per revolution		7 x 2	●
Channels		2	
Phase shift	°	90 ± (1/6)T	
Encoder rear cover material		ABS plastic	
Sensor technical data		Refer externally to brand and part UTC-SK1816.	
Size	mm	Diameter 30 | Length 12.1	
Harness connector		JST PHR-6 P=2.0-6P	●
Harness cable		AWG24 | UL1007	●
Harness length	mm	100	●
Connection		1. BLK M- | 2. RED M+ | 3. BRN Vcc | 4. GRN GND | 5. BLU A | 6. VIO B	●
Supply voltage	V	Min. 5 | Max. 20	
Supply current	mA	Ref. 5 | Max. 10	
Open collector output		Requires external output resistors.	
Output current per channel	mA	-	

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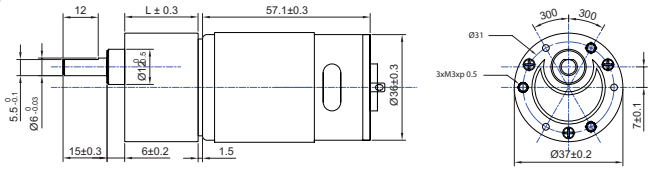
SD3757 | Ø 37 mm | 12 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



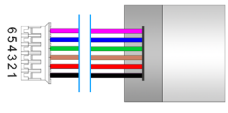
PHOTO

MODEL NO. DESIGNATION

SD3757 - VOLTAGE - GEAR RATIO - F EC

Example: SD3757-12-10-FEC

ACCESSORIES



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

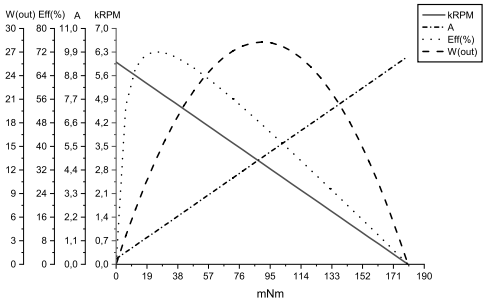
GEAR MOTOR DATA																					C
Gear ratio		10:1	18:1	30:1	50:1	60:1	75:1	90:1	100:1	120:1	150:1	180:1	200:1	250:1	300:1	500:1	600:1	750:1	1000:1	1500:1	3000:1	
Nominal torque | ^ gearbox limit	mNm	98^	98^	200^	290^	290^	390^	390^	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	
Nominal speed	rpm	530	310	190	110	95	76	63	55	47	36	32	29	23	20	12	9.8	8	5.9	3.9	2	
Peak torque	mNm	290	290	590	880	880	1200	1200	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Nominal power	W	5.4	3.2	4.0	3.3	2.9	3.1	2.6	3.4	2.9	2.2	2.0	1.8	1.4	1.2	0.74	0.61	0.49	0.36	0.24	0.12	
Gearbox efficiency	%	81	73	73	66	66	66	66	66	59	59	59	59	59	59	53	53	53	53	48	48	
Gearbox length | L	mm	19.5	22	22	24.5	24.5	24.5	24.5	24.5	27	27	27	27	27	27	29.5	29.5	29.5	29.5	32	32	
Weight	g	310	310	310	320	320	320	320	320	330	330	330	330	330	330	330	330	330	330	340	340	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load[1]	N	≤ 9.8	
Shaft axial load	N	≤ 6.9	
Shaft press fit force max.	N	≤ 200	
Radial play	mm	≤ 0.05	
Thrust play	mm	≤ 0.35	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bakelite, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	3.4	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	12	
No load speed	rpm	6000	
No load current	mA	≤ 250	
Nominal speed	rpm	4900	
Nominal torque	mNm	25	
Nominal current	mA	≤ 1600	
Nominal power	W	13	
Stall torque	mNm	180	
Starting current	A	9.7	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	13 - 18	
Capacitor EMC	V	50	
Resistance	Ω	1.2	
Inductance	mH	1	
Insulation class		F	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

	MAGNETIC ENCODER DATA	C	OPTICAL SENSOR DATA	C
Pulses per revolution	7 x 2	●	(100 | 200 | 256 | 360 | 400 | 500) x 2	
Channels	2		2	
Phase shift °	90 ± (1/6)T		90 ± (1/6)T	
Encoder rear cover material	ABS plastic		Zink alloy	
Sensor technical data	Refer externally to brand and part UTC-SK1816.		-	
Size mm	Diameter 36 | Length 13.5		Width 30 | Height 40 | Length 23.5	
Harness connector	JST PHR-6 P=2.0-6P	●	JST SMR-05V	●
Harness cable	AWG24 | UL1007	●	AWG24 | UL2464	●
Harness length mm	100	●	195	●
Connection	1. BLK M- | 2. RED M+ | 3. BRN Vcc | 4. GRN GND | 5. BLU A | 6. VIO B	●	1. BLK A | 2. RED Vcc | 3. WHT B | 4. EMPTY | 5. GRN GND	●
Supply voltage V	Min. 5 | Max. 20		5 ± 10%	
Supply current mA	Ref. 5 | Max. 10		-	
Open collector output	Requires external output resistors.		-	
Output current per channel mA	-		± 20	

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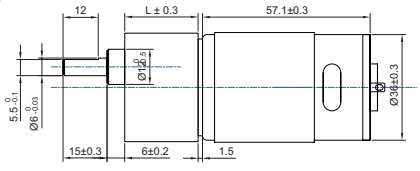
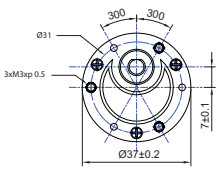
SD3757 | Ø 37 mm | 24 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)





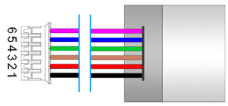
PHOTO

MODEL NO. DESIGNATION

SD3757 - VOLTAGE - GEAR RATIO - F EC

Example: SD3757-24-10-FEC

ACCESSORIES



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

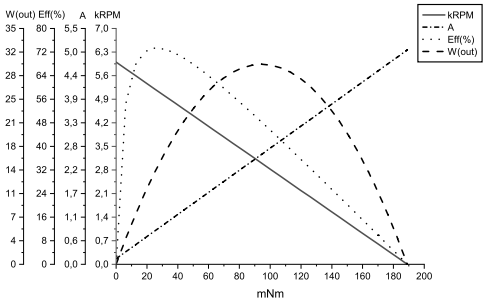
GEAR MOTOR DATA																					C
Gear ratio		10:1	18:1	30:1	50:1	60:1	75:1	90:1	100:1	120:1	150:1	180:1	200:1	250:1	300:1	500:1	600:1	750:1	1000:1	1500:1	3000:1	
Nominal torque | ^ gearbox limit	mNm	98^	98^	200^	290^	290^	390^	390^	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	590^	
Nominal speed	rpm	530	320	190	110	69	77	64	56	48	36	32	30	23	20	12	9.9	8	6	4	2	
Peak torque	mNm	290	290	590	880	880	1200	1200	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Nominal power	W	5.4	3.3	4.0	3.3	2.1	3.1	2.6	3.5	3.0	2.2	2.0	1.9	1.4	1.2	0.74	0.61	0.49	0.37	0.25	0.12	
Gearbox efficiency	%	81	73	73	66	66	66	66	66	59	59	59	59	59	59	53	53	53	53	48	48	
Gearbox length | L	mm	19.5	22	22	24.5	24.5	24.5	24.5	24.5	27	27	27	27	27	27	29.5	29.5	29.5	29.5	32	32	
Weight	g	310	310	310	320	320	320	320	320	330	330	330	330	330	330	330	330	330	330	340	340	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load[1]	N	≤ 9.8	
Shaft axial load	N	≤ 6.9	
Shaft press fit force max.	N	≤ 200	
Radial play	mm	≤ 0.05	
Thrust play	mm	≤ 0.35	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bakelite, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	3.4	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	24	
No load speed	rpm	6000	
No load current	mA	≤ 130	
Nominal speed	rpm	5200	
Nominal torque	mNm	24	
Nominal current	mA	≤ 750	
Nominal power	W	13	
Stall torque	mNm	189	
Starting current	A	5	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[3]	
Varistor EMC	V	27 - 45	
Capacitor EMC	V	50	
Resistance	Ω	5.3	
Inductance	mH	9	
Insulation class		F	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

	MAGNETIC ENCODER DATA	C	OPTICAL SENSOR DATA	C
Pulses per revolution	7 x 2	●	(100 | 200 | 256 | 360 | 400 | 500) x 2	
Channels	2		2	
Phase shift °	90 ± (1/6)T		90 ± (1/6)T	
Encoder rear cover material	ABS plastic		Zink alloy	
Sensor technical data	Refer externally to brand and part UTC-SK1816.		-	
Size mm	Diameter 36 | Length 13.5		Width 30 | Height 40 | Length 23.5	
Harness connector	JST PHR-6 P=2.0-6P	●	JST SMR-05V	●
Harness cable	AWG24 | UL1007	●	AWG24 | UL2464	●
Harness length mm	100	●	195	●
Connection	1. BLK M- | 2. RED M+ | 3. BRN Vcc | 4. GRN GND | 5. BLU A | 6. VIO B	●	1. BLK A | 2. RED Vcc | 3. WHT B | 4. EMPTY | 5. GRN GND	●
Supply voltage V	Min. 5 | Max. 20		5 ± 10%	
Supply current mA	Ref. 5 | Max. 10		-	
Open collector output	Requires external output resistors.		-	
Output current per channel mA	-		± 20	

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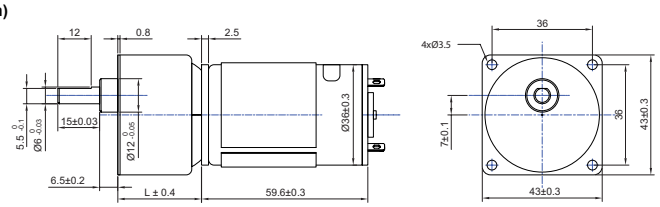
SDS4360 | □ 43 mm | 12 V | BRUSHED DC SPUR GEAR MOTOR

DRAWING (mm)



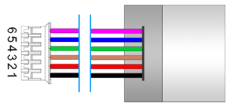
PHOTO

MODEL NO. DESIGNATION

SDS4360 - VOLTAGE - GEAR RATIO - F EC

Example: SDS4360-12-10-FEC

ACCESSORIES



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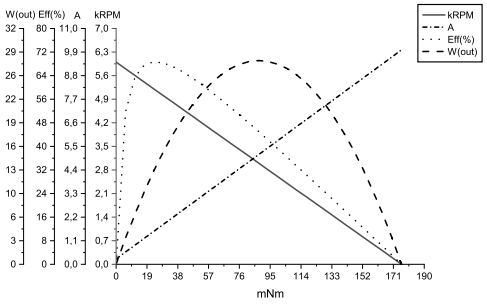
GEAR MOTOR DATA																					C
Gear ratio		10:1	15:1	18:1	25:1	30:1	36:1	50:1	60:1	75:1	90:1	100:1	120:1	150:1	180:1	200:1	250:1	300:1	360:1	400:1	500:1	
Nominal torque | ^ gearbox limit	mNm	98^	270^	290^	390^	390^	390^	490^	490^	490^	690^	690^	690^	690^	690^	690^	690^	690^	690^	690^	690^	
Nominal speed	rpm	520	320	280	200	170	150	100	91	73	61	54	46	37	31	28	23	19	16	15	12	
Peak torque	mNm	290	880	880	1200	1200	1200	1500	1500	1500	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	
Nominal power	W	5.3	9.0	8.5	8.2	6.9	6.1	5.1	4.7	3.7	4.4	3.9	3.3	2.7	2.2	2.0	1.7	1.4	1.2	1.1	0.87	
Gearbox efficiency	%	81	73	73	73	73	73	66	66	66	66	66	66	66	59	59	59	59	59	59	59	
Gearbox length | L	mm	23.9	26.4	26.4	26.4	26.4	26.4	28.9	28.9	28.9	28.9	29	28.9	28.9	31.4	31.4	31.4	31.4	31.4	31.4	31.4	
Weight	g	330	340	340	340	340	340	350	350	350	350	350	350	350	350	350	350	350	350	350	350	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load[1]	N	≤ 9.8	
Shaft axial load	N	≤ 6.9	
Shaft press fit force max.	N	≤ 200	
Radial play	mm	≤ 0.05	
Thrust play	mm	≤ 0.35	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage[2]		Bakelite, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	None	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	12	
No load speed	rpm	6000	
No load current	mA	≤ 250	
Nominal speed	rpm	4900	
Nominal torque	mNm	25	
Nominal current	mA	≤ 1600	
Nominal power	W	13	
Stall torque	mNm	180	
Starting current	A	10	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	13 - 18	
Capacitor EMC	V	50	
Resistance	Ω	1.2	
Inductance	mH	1	
Insulation class		F	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

	MAGNETIC ENCODER DATA	C	OPTICAL SENSOR DATA	C
Pulses per revolution	7 x 2	●	(100 | 200 | 256 | 360 | 400 | 500) x 2	
Channels	2		2	
Phase shift °	90 ± (1/6)T		90 ± (1/6)T	
Encoder rear cover material	ABS plastic		Zink alloy	
Sensor technical data	Refer externally to brand and part UTC-SK1816.		-	
Size mm	Diameter 36 | Length 13.5		Width 30 | Height 40 | Length 23.5	
Harness connector	JST PHR-6 P=2.0-6P	●	JST SMR-05V	●
Harness cable	AWG24 | UL1007	●	AWG24 | UL2464	●
Harness length mm	100	●	195	●
Connection	1. BLK M- | 2. RED M+ | 3. BRN Vcc | 4. GRN GND | 5. BLU A | 6. VIO B	●	1. BLK A | 2. RED Vcc | 3. WHT B | 4. EMPTY | 5. GRN GND	●
Supply voltage V	Min. 5 | Max. 20		5 ± 10%	
Supply current mA	Ref. 5 | Max. 10		-	
Open collector output	Requires external output resistors.		-	
Output current per channel mA	-		± 20	

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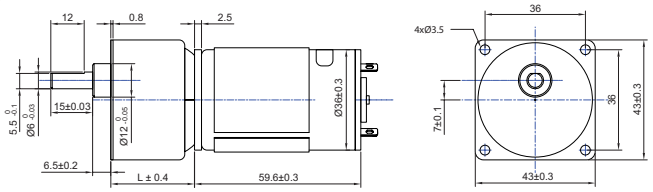
SDS4360 | □ 43 mm | 24 V | BRUSHED DC SPUR GEAR MOTOR

RoHS Reach

DRAWING (mm)



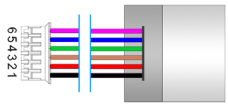
PHOTO

MODEL NO. DESIGNATION

SDS4360 - VOLTAGE - GEAR RATIO - F EC

Example: SDS4360-24-10-FEC

ACCESSORIES



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

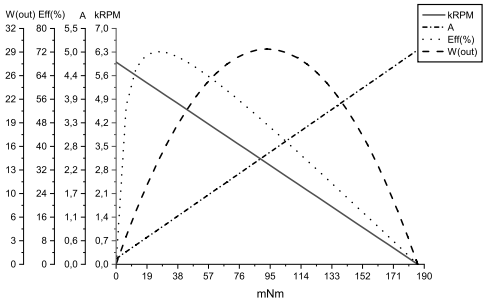
GEAR MOTOR DATA																				C
Gear ratio		10:1	15:1	18:1	25:1	30:1	36:1	50:1	60:1	75:1	90:1	100:1	120:1	150:1	180:1	200:1	250:1	300:1	360:1	400:1	500:1	
Nominal torque | ^ gearbox limit	mNm	98^	260	290^	390^	390^	390^	490^	490^	490^	690^	690^	690^	690^	690^	690^	690^	690^	690^	690^	690^	
Nominal speed	rpm	530	340	280	210	180	150	110	92	73	61	54	46	37	31	29	23	19	16	15	12	
Peak torque	mNm	290	880	880	1200	1200	1200	1500	1500	1500	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	
Nominal power	W	5.4	9.3	8.5	8.6	7.4	6.1	5.6	4.7	3.7	4.4	3.9	3.3	2.7	2.2	2.1	1.7	1.4	1.2	1.1	0.87	
Gearbox efficiency	%	81	73	73	73	73	73	66	66	66	66	66	66	66	59	59	59	59	59	59	59	
Gearbox length | L	mm	23.9	26.4	26.4	26.4	26.4	26.4	28.9	28.9	28.9	28.9	29	28.9	28.9	31.4	31.4	31.4	31.4	31.4	31.4	31.4	
Weight	g	330	340	340	340	340	340	350	350	350	350	350	350	350	350	350	350	350	350	350	350	

OTHER GEAR MOTOR DATA			C
Service life	h	500	
Performance tolerances	%	±15	
Operating temperature	°C	-10 to 60	●
IP rating		IP20	
Manufacturing standard		ISO 9001 | ISO 14001 | TS 16949	
CE label | UL label		No | No	●

GEARBOX DATA			C
Backlash no load	°	≤ 2	
Radial load[1]	N	≤ 9.8	
Shaft axial load	N	≤ 6.9	
Shaft press fit force max.	N	≤ 200	
Radial play	mm	≤ 0.05	
Thrust play	mm	≤ 0.35	
Bearing type		Sleeve bearing	
Shaft material		Carbon steel AISI 1144	
Motor pinion material		Bronze	●
Motor pinion shape		Straight	
Material gear stage		Bakelite, steel	●
Direction of rotation		CW or CCW by reversed V polarity	
Assembly front bell	mm	None	

BRUSHED DC MOTOR DATA			C
Nominal voltage	V	24	
No load speed	rpm	6000	
No load current	mA	≤ 130	
Nominal speed	rpm	5200	
Nominal torque	mNm	24	
Nominal current	mA	≤ 750	
Nominal power	W	13	
Stall torque	mNm	190	
Starting current	A	5	
Motor commutation		Carb.b.[3]	
Motor rotor		Iron	
Motor stator		Ferr.m.[4]	
Varistor EMC	V	27 - 45	
Capacitor EMC	V	50	
Resistance	Ω	5.3	
Inductance	mH	9	
Insulation class		F	

BRUSHED DC MOTOR DATA GRAPH



NOTES

1. 10 mm from gear flange.
2. Contact us for information regardng gear stage material of a specific gear ratio.
3. Carbon brush.
4. Ferrite magnet.

		MAGNETIC ENCODER DATA	C	OPTICAL SENSOR DATA	C
Pulses per revolution		7 x 2	●	(100 | 200 | 256 | 360 | 400 | 500) x 2	
Channels		2		2	
Phase shift	°	90 ± (1/6)T		90 ± (1/6)T	
Encoder rear cover material		ABS plastic		Zink alloy	
Sensor technical data		Refer externally to brand and part UTC-SK1816.		-	
Size	mm	Diameter 36 | Length 13.5		Width 30 | Height 40 | Length 23.5	
Harness connector		JST PHR-6 P=2.0-6P	●	JST SMR-05V	●
Harness cable		AWG24 | UL1007	●	AWG24 | UL2464	●
Harness length	mm	100	●	195	●
Connection		1. BLK M- | 2. RED M+ | 3. BRN Vcc | 4. GRN GND | 5. BLU A | 6. VIO B	●	1. BLK A | 2. RED Vcc | 3. WHT B | 4. EMPTY | 5. GRN GND	●
Supply voltage	V	Min. 5 | Max. 20		5 ± 10%	
Supply current	mA	Ref. 5 | Max. 10		-	
Open collector output		Requires external output resistors.		-	
Output current per channel	mA	-		± 20	

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