



SPUR GEAR DC MOTORS | Ø 27 - 43 mm 0.25 - 12.8W

Transmotec sell a broad range of geared DC motors in standard and customized configurations. Our motors are often available with gear heads, encoders and wire harnesses. Transmotec is the ideal supplier source especially to instrument and apparatus builders. We keep a high number of motors in stock for immediate delivery.

Customizations include:

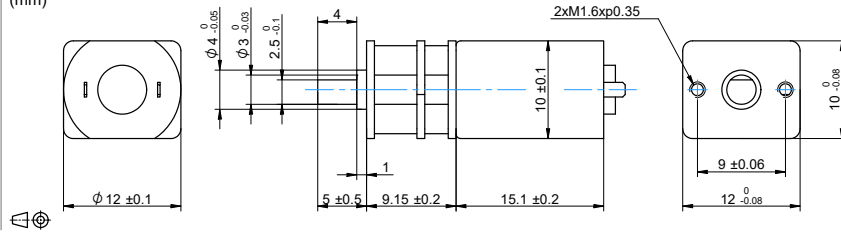
- ✓ Customized harness
- ✓ Shaft configuration
- ✓ Winding configuration
- ✓ And more...

TABLE OF CONTENTS

Model	Voltage	Diameter	Power	Page
SDS1215	3V / 6V	12mm	0.3W / 0.5W	1
SDS1220	3V / 6V	12mm	0.4W / 0.6W	2
SDS1319	6V / 12V	13mm	0.4W / 0.4W	3
SDS1327	6V / 12V	13mm	0.5W / 0.4W	4
SDS1427	12V / 24V	14mm	0.4W / 1W	5
SDC2718	12V	27mm	0.3W	6
SDC2730	12V / 24V	27mm	0.8W / 0.7W	7
SD3039	12V / 24V	30mm	4W / 4W	8
SDC3729	12V / 24V	37mm	3W / 3W	9
SD3729	12V / 24V	37mm	3W / 3W	10
SD3757	12V / 24V	37mm	13W / 13W	11
SDS4360	12V / 24V	43mm	13W / 13W	12
Encoders (6/14 counts per revolution, 2 channels)				13

SDS1215 / Ø 12mm / 0.29W / 0.46W

DRAWING (mm)



PHOTO



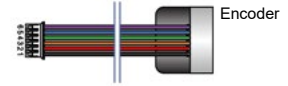
MODEL NO. DESIGNATION

SDS1215 - VOLTAGE - REDUCTION - F - E

Example: SDS1215-12-10

F = EMC Filter
E = Encoder

ADDITIONAL



GEAR MOTOR DATA

Reduction	10:1	19:1	29:1	60:1	76:1	102:1	134:1	197:1	235:1	298:1
Nominal torque 3 V (mNm) *	1.5	2.5	3.9	7.4	9.8	11.8	15.2	22.6	27	34.3
Nominal speed 3 V (rpm) *	1400	720	480	230	180	135	100	70	59	46
Nominal torque 6 V (mNm) *	2.4	3.9	5.9	11.3	14.7	19.6	23.1	33.8	40.2	51.0
Nominal speed 6 V (rpm) *	1450	770	510	245	195	145	110	75	63	50
Length (mm)	24.25	24.25	24.25	24.25	24.25	24.25	24.25	24.25	24.25	24.25
Weight (g)	11	11	11	11	11	11	11	11	11	11

* Nominal speed and nominal torque have a tolerance of $\pm 15\%$

GEAR HEAD DATA

Reduction	10:1	19:1	29:1	60:1	76:1	102:1	134:1	197:1	235:1	298:1
Max. continuous torque (mNm)	19.6	29.4	29.4	49.1	49.1	78.5	78.5	98.1	98.1	98.1
Intermittently permissible torque (mNm)	58.9	88.3	88.3	147.2	147.2	235.44	235.44	294.3	294.3	294.3
Efficiency (%)	81	73	73	66	66	66	59	59	59	59
Length (mm)	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
Height (mm)	2.5	2.1	2.1	2.5	2.5	2.5	2.1	2.1	2.1	2.1
Weight (g)	4	4	4	4	4	4	4	4	4	4

GEAR MOTOR FEATURES AND STANDARD DATA

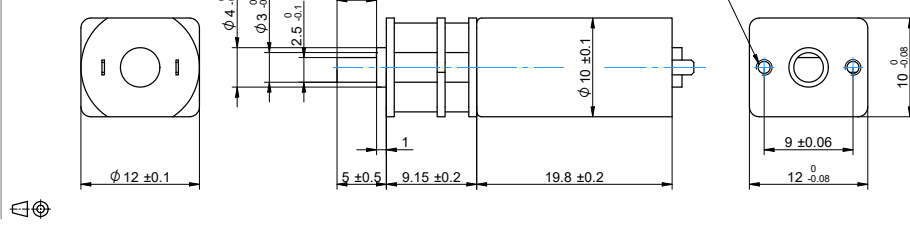
	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur geared brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	No	
Gears	Metal	
Motor pinion gear	Metal	
Bearing	Sleeve	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magnetic encoder (to order as option)	Through shaft dimensions
Operating temperature	-10-...+60 °C	-40-...+60 °C
Backlash no load	$\leq 1.5^\circ$	
Radial load 5 mm from gear flange	≤ 3.9 N	
Shaft axial load	≤ 1.96 N	
Shaft press fit force max.	≤ 19.6 N	
Radial play	≤ 0.06 mm	
Thrust play	≤ 0.2 mm	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA

Nominal voltage (V)	3	6
No load speed (rpm)	16000	18000
No load current (mA)	≤ 80	≤ 50
Nominal speed (rpm)	14000	14900
Nominal torque (mNm)	0.29	0.39
Nominal current (mA)	≤ 250	≤ 170
Stall torque (mNm)	1.2	1.4
Starting current (A)	1.5	0.8
Output (W)	0.29	0.46
Length (mm)	15.1	15.1
Weight (g)	5.5	5.5

SDS1220 / Ø 12mm / 0.41W / 0.61W

DRAWING (mm)



PHOTO



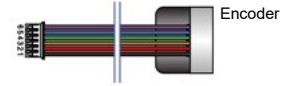
MODEL NO. DESIGNATION

SDS1220 - VOLTAGE - REDUCTION - F - E

Example: SDS1220-3-10

F = EMC Filter
E = Encoder

ADDITIONAL



GEAR MOTOR DATA										
Reduction	10:1	19:1	29:1	60:1	76:1	102:1	134:1	197:1	235:1	298:1
Nominal torque 3 V (mNm) *	2.4	3.9	5.9	11.3	14.7	19.6	23.1	33.8	40.7	51.5
Nominal speed 3 V (rpm) *	1300	700	460	225	175	132	100	68	47	45
Nominal torque 6 V (mNm) *	2.9	5.4	7.8	15.2	19.6	26.5	29.4	45.1	52	68.7
Nominal speed 6 V (rpm) *	1500	780	510	250	195	145	112	76	64	50
Length (mm)	29.25	29.25	29.25	29.25	29.25	29.25	29.25	29.25	29.25	29.25
Weight (g)	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5

* Nominal speed and nominal torque have a tolerance of $\pm 15\%$

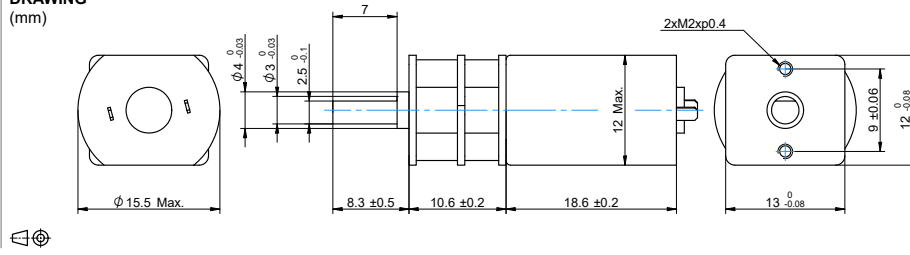
GEAR HEAD DATA										
Reduction	10:1	19:1	29:1	60:1	76:1	102:1	134:1	197:1	235:1	298:1
Max. continuous torque (mNm)	19.6	29.4	29.4	49.1	49.1	78.5	78.5	98.1	98.1	98.1
Intermittently permissible torque (mNm)	58.9	88.3	88.3	147.2	147.2	235.4	235.4	294.3	294.3	294.3
Efficiency (%)	81	73	73	66	66	66	59	59	59	59
Length (mm)	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9
Height (mm)	2.5	2.1	2.1	2.5	2.5	2.5	2.1	2.1	2.1	2.1
Weight (g)	4	4	4	4	4	4	4	4	4	4

GEAR MOTOR FEATURES AND STANDARD DATA		
	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur geared brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	No	
Gears	Metal	
Motor pinion gear	Metal	
Bearing	Sleeve	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magnetic encoder (to order as option)	Through shaft dimensions
Operating temperature	-10-...+60 °C	-40-...+60 °C
Backlash no load	$\leq 1.5^\circ$	
Radial load 5 mm from gear flange	≤ 3.9 N	
Shaft axial load	≤ 1.96 N	
Shaft press fit force max.	≤ 19.6 N	
Radial play	≤ 0.06 mm	
Thrust play	≤ 0.2 mm	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA		
Nominal voltage (V)	3	6
No load speed (rpm)	16000	18000
No load current (mA)	≤ 90	≤ 65
Nominal speed (rpm)	13500	15000
Nominal torque (mNm)	0.29	0.39
Nominal current (mA)	≤ 310	≤ 250
Stall torque (mNm)	1.6	2.4
Starting current (A)	1.2	1
Output (W)	0.41	0.61
Length (mm)	19.8	19.8
Weight (g)	7.5	7.5

SDS1319 / Ø 13mm / 0.39W / 0.4W

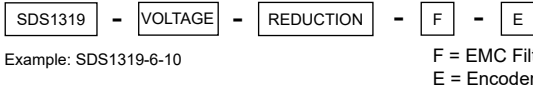
DRAWING (mm)



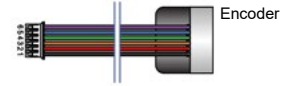
PHOTO



MODEL NO. DESIGNATION



ADDITIONAL



GEAR MOTOR DATA											
Reduction	10:1	21:1	34:1	59:1	75:1	105:1	146:1	203:1	257:1	294:1	360:1
Nominal torque 6 V (mNm) *	2.9	5.9	9.8	15.2	19.6	26.5	33.4	46.1	58.9	67.7	82.4
Nominal speed 6 V (rpm) *	950	445	270	160	125	91	65	47	37	32	26
Nominal torque 12 V (mNm) *	3.4	6.9	10.8	17.2	21.6	30.4	37.3	52	66.7	76.5	93.2
Nominal speed 12 V (rpm) *	870	400	255	145	116	83	59	43	34	29	24
Length (mm)	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5
Weight (g)	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3

* Nominal speed and nominal torque have a tolerance of ± 15%

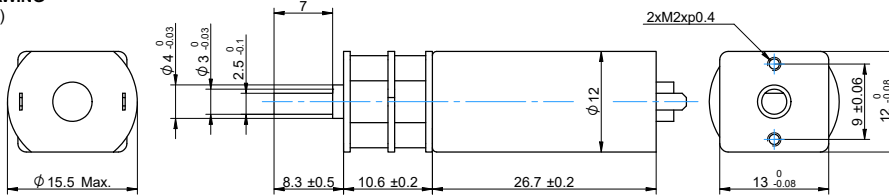
GEAR HEAD DATA											
Reduction	10:1	21:1	34:1	59:1	75:1	105:1	146:1	203:1	257:1	294:1	360:1
Max. continuous torque (mNm)	19.62	29.43	29.43	49.05	49.05	78.48	78.48	98.1	98.1	98.1	98.1
Intermittently permissible torque (mNm)	58.86	88.29	88.29	147.15	147.15	235.44	235.44	294.3	294.3	294.3	294.3
Efficiency (%)	81	73	73	66	66	66	59	59	59	59	59
Length (mm)	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
Height (mm)	3.4	2.4	2.4	3.4	3.4	3.4	2.4	2.4	2.4	2.4	2.4
Weight (g)	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3

GEAR MOTOR FEATURES AND STANDARD DATA		
	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur geared brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	No	
Gears	Metal	
Motor pinion gear	Copper	
Bearing	Sleeve	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magnetic encoder (to order as option)	Through shaft dimensions
Operating temperature	-10-...+60 °C	-40-...+60 °C
Backlash no load	≤ 1.5°	
Radial load 5 mm from gear flange	≤ 3.9 N	
Shaft axial load	≤ 1.96 N	
Shaft press fit force max.	≤ 19.6 N	
Radial play	≤ 0.06 mm	
Thrust play	≤ 0.2 mm	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA		
Nominal voltage (V)	6	12
No load speed (rpm)	11500	11700
No load current (mA)	≤ 50	≤ 30
Nominal speed (rpm)	9600	8750
Nominal torque (mNm)	0.39	4.4
Nominal current (mA)	≤ 140	≤ 100
Stall torque (mNm)	2.3	1.7
Starting current (A)	0.5	0.3
Output (W)	0.39	0.4
Length (mm)	18.6	18.6
Weight (g)	10	10

SDS1327 / Ø 13mm / 0.5W / 0.39W

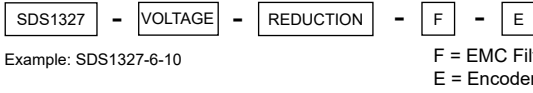
DRAWING (mm)



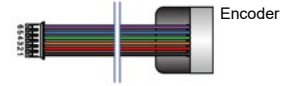
PHOTO



MODEL NO. DESIGNATION



ADDITIONAL



GEAR MOTOR DATA											
Reduction	10:1	21:1	34:1	59:1	75:1	105:1	146:1	203:1	257:1	294:1	360:1
Nominal torque 6 V (mNm) *	5.4	10.8	17.7	28	35.8	50	62.3	86.3	98.1	98.1	98.1
Nominal speed 6 V (rpm) *	350	300	190	110	86	62	44	32	25	23	19
Nominal torque 12 V (mNm) *	4.4	8.8	14.7	23.1	29.4	41.2	51	71.6	90.3	98.1	98.1
Nominal speed 12 V (rpm) *	620	290	180	100	82	59	42	30	24	21	18
Length (mm)	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6
Weight (g)	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3

* Nominal speed and nominal torque have a tolerance of ± 15%

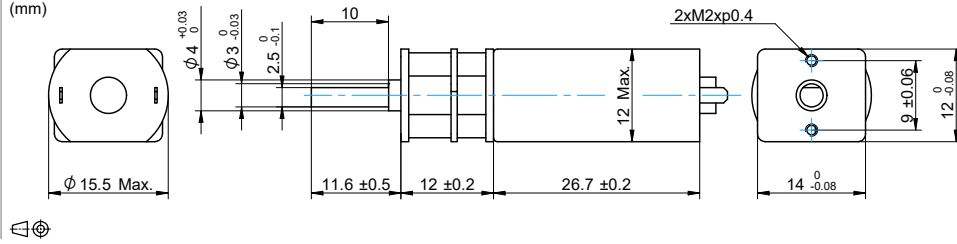
GEAR HEAD DATA											
Reduction	10:1	21:1	34:1	59:1	75:1	105:1	146:1	203:1	257:1	294:1	360:1
Max. continuous torque (mNm)	19.62	29.43	29.43	49.05	49.05	78.48	78.48	98.1	98.1	98.1	98.1
Intermittently permissible torque (mNm)	58.86	88.29	88.29	147.15	147.15	235.44	235.44	294.3	294.3	294.3	294.3
Efficiency (%)	81	73	73	66	66	66	59	59	59	59	59
Length (mm)	14.15	14.15	14.15	14.15	14.15	14.15	14.15	14.15	14.15	14.15	14.15
Height (mm)	3.4	2.4	2.4	3.4	3.4	3.4	2.4	2.4	2.4	2.4	2.4
Weight (g)	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3

GEAR MOTOR FEATURES AND STANDARD DATA		
	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur geared brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	No	
Gears	Metal	
Motor pinion gear	Copper	
Bearing	Sleeve	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magnetic encoder (to order as option)	Through shaft dimensions
Operating temperature	-10...+60 °C	-40...+60 °C
Backlash no load	≤ 1.5°	
Radial load 5 mm from gear flange	≤ 3.9 N	
Shaft axial load	≤ 1.96 N	
Shaft press fit force max.	≤ 19.6 N	
Radial play	≤ 0.06 mm	
Thrust play	≤ 0.2 mm	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA		
Nominal voltage (V)	6	12
No load speed (rpm)	8000	8000
No load current (mA)	≤ 65	≤ 50
Nominal speed (rpm)	6550	6200
Nominal torque (mNm)	0.7	0.6
Nominal current (mA)	≤ 160	≤ 85
Stall torque (mNm)	2.8	2.0
Starting current (A)	0.7	0.3
Output (W)	0.5	0.39
Length (mm)	26.7	26.7
Weight (g)	18	18

SDS1427 / Ø 14mm / 0.39W / 1W

DRAWING (mm)



PHOTO



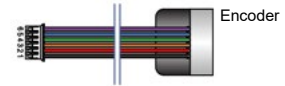
MODEL NO. DESIGNATION

SDS1427 - VOLTAGE - REDUCTION - F - E

Example: SDS1427-12-10

F = EMC Filter
E = Encoder

ADDITIONAL



GEAR MOTOR DATA					
Reduction	6:1	36:1	62:1	123:1	209:1
Nominal torque 12 V (mNm) *	2.9	13.7	23.5	43.2	73.6
Nominal speed 12 V (rpm) *	100	170	100	50	29
Nominal torque 24 V (mNm) *	3.9	16.1	19.4	22.7	26
Nominal speed 24 V (rpm) *	1800	300	175	89	53
Length (mm)	50.3	50.3	50.3	50.3	50.3
Weight (g)	24.2	24.2	24.2	24.2	24.2

* Nominal speed and nominal torque have a tolerance of $\pm 15\%$

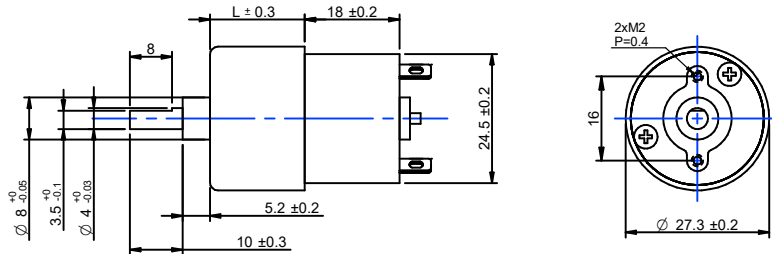
GEAR HEAD DATA					
Reduction	6:1	36:1	62:1	123:1	209:1
Max. continuous torque (mNm)	19.62	29.43	49.05	78.48	98.1
Intermittently permissible torque (mNm)	58.86	88.29	147.15	235.44	294.3
Efficiency (%)	81	66	66	59	59
Length (mm)	23.6	23.6	23.6	23.6	23.6
Height (mm)	4.1	4.1	4.1	2.9	2.9
Weight (g)	6.2	6.2	6.2	6.2	6.2

GEAR MOTOR FEATURES AND STANDARD DATA		
	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur geared brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	No	
Gears	Metal	
Motor pinion gear	Copper	
Bearing	Sleeve	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magnetic encoder (to order as option)	Through shaft dimensions
Operating temperature	-10...+60 °C	-40...+60 °C
Backlash no load	$\leq 1.5^\circ$	
Radial load 5 mm from gear flange	≤ 3.9 N	
Shaft axial load	≤ 1.96 N	
Shaft press fit force max.	≤ 19.6 N	
Radial play	≤ 0.06 mm	
Thrust play	≤ 0.2 mm	
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)	0.60	0.88
Nominal current (mA)	≤ 85	≤ 90
Stall torque (mNm)	2.0	3.5
Starting current (A)	0.3	0.4
Output (W)	0.394	1.026
Length (mm)	26.7	26.7
Weight (g)	18	18

SDC2718 / Ø 27mm / 0.25W

DRAWING (mm)



PHOTO



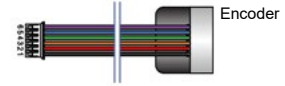
MODEL NO. DESIGNATION

SDC2718 - VOLTAGE - REDUCTION - F - E

Example: SDC2718-12-10

F = EMC Filter
E = Encoder

ADDITIONAL



GEAR MOTOR DATA

Reduction	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 12 V (mNm) *	5	6	9	12	17	23	30	38	43	44	50	59	74	94	106	118	147	147	147	147
Nominal speed 12 V (rpm) *	390	260	180	130	88	65	51	39	35	25	22	19	15	12	10.5	7.5	5.6	5	4.9	4
Length (mm)	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	37	37	37	37	37
Weight (g)	62	63	63	64	64	64	64	65	65	65	65	65	65	65	65	66	66	66	66	66

* Nominal speed and nominal torque have a tolerance of $\pm 15\%$

GEAR HEAD DATA

Reduction	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
Max. continuous torque (mNm)	29	39	39	59	59	78	78	98	98	118	118	118	118	118	118	147	147	147	147	147
Intermittently permissible torque (mNm)	88	118	118	177	177	235	235	294	294	353	353	353	353	353	353	441	441	441	441	441
Efficiency (%)	81	73	73	65	65	65	65	65	65	50	50	50	50	50	50	40	40	40	40	40
Length (mm)	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	19.3	19.3	19.3	19.3	19.3
Weight (g)	33	34	34	35	35	35	35	36	36	36	36	36	36	36	36	37	37	37	37	37

GEAR MOTOR FEATURES AND STANDARD DATA

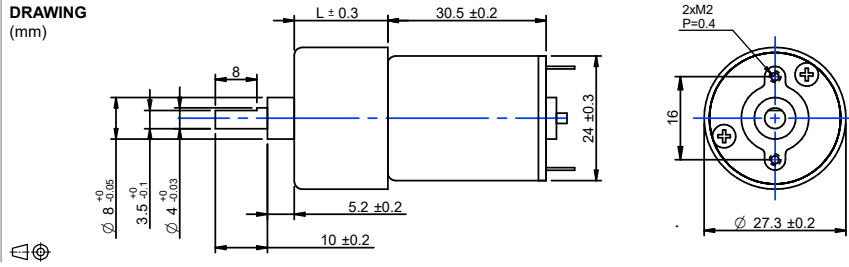
	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur gear brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	Yes
Gears	Straight teeth metal gears produced by	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Sleeve bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions
Operating temperature	-10-...+60 °C	-40-...+60 °C
Backlash no load	$\leq 2^\circ$	
Radial load 10 mm from gear flange	≤ 2.9 N	
Shaft axial load	≤ 1.96 N	
Shaft press fit force max.	≤ 19.6 N	
Radial play	≤ 0.05 mm	
Thrust play	≤ 0.3 mm	
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA

Nominal voltage (V)	12
No load speed (rpm)	5200
No load current (mA)	≤ 30
Nominal speed (rpm)	4000
Nominal torque (mNm)	0.59
Nominal current (mA)	≤ 60
Stall torque (mNm)	3.3
Starting current (A)	0.18
Output (W)	0.25
Length (mm)	18
Weight (g)	29

SDC2730 / Ø 27mm / 0.75W / 0.68W

DRAWING (mm)



PHOTO



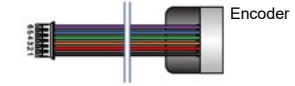
MODEL NO. DESIGNATION

SDC2730 - VOLTAGE - REDUCTION - F - E

Example: SDC2730-12-10

F = EMC Filter
E = Encoder

ADDITIONAL



GEAR MOTOR DATA

Reduction	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 12 V (mNm) *	16	22	31	39	57	78	78	98	98	118	118	118	118	118	118	147	147	147	147	147
Nominal speed 12 V (rpm) *	340	230	160	110	80	59	46	36	33	21.5	20	18	14.5	12	10.5	7.5	5.7	5.1	4.5	3.7
Nominal torque 24 V (mNm) *	15	21	29	37	54	74	78	98	98	118	118	118	118	118	118	147	147	147	147	147
Nominal speed 24 V (rpm) *	325	220	153	105	77	56	44	34	33	22	20	18.0	14.5	11.5	10.5	7.5	5.6	5.0	4.5	3.6
Length (mm)	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	50	50	50	50	50
Weight (g)	75	76	76	77	77	77	77	78	78	78	78	78	78	78	78	79	79	79	79	79

* Nominal speed and nominal torque have a tolerance of $\pm 15\%$

GEAR HEAD DATA

Reduction	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
Max. continuous torque (mNm)	29	39	39	59	59	78	78	98	98	118	118	118	118	118	118	147	147	147	147	147
Intermittently permissible torque (mNm)	88	118	118	177	177	235	235	294	294	353	353	353	353	353	353	441	441	441	441	441
Efficiency (%)	81	73	73	65	65	65	65	65	65	50	50	50	50	50	50	40	40	40	40	40
Length (mm)	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	19.3	19.3	19.3	19.3	19.3
Weight (g)	33	34	34	35	35	35	35	36	36	36	36	36	36	36	36	37	37	37	37	37

GEAR MOTOR FEATURES AND STANDARD DATA

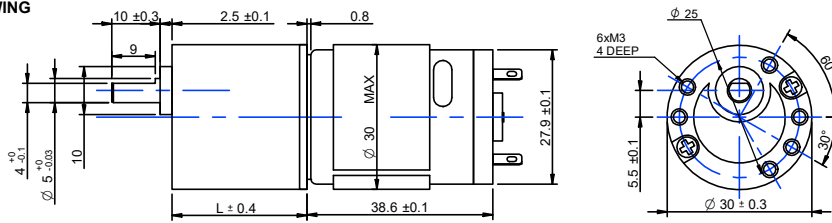
	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur gear brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	Yes
Gears	Straight teeth metal gears produced by	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Sleeve bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magnetic encoder (to order as option)	Through shaft dimensions
Operating temperature	-10...+60 °C	-40...+60 °C
Backlash no load	$\leq 2^\circ$	
Radial load 10 mm from gear flange	≤ 2.9 N	
Shaft axial load	≤ 2 N	
Shaft press fit force max.	≤ 19.6 N	
Radial play	≤ 0.05 mm	
Thrust play	≤ 0.3 mm	
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)	4500	4500
No load current (mA)	≤ 50	≤ 30
Nominal speed (rpm)	3560	3400
Nominal torque (mNm)	2	1.9
Nominal current (mA)	≤ 150	≤ 65
Stall torque (mNm)	8.6	9.4
Starting current (A)	0.42	0.24
Output (W)	0.75	0.68
Length (mm)	30.5	30.5
Weight (g)	42	42

SD3039 / Ø 30mm / 4.22W / 4W

DRAWING (mm)



PHOTO



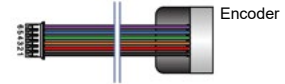
MODEL NO. DESIGNATION

SD3039 - VOLTAGE - REDUCTION - F - E - C

Example: SD3039-12-10

F = EMC Filter
E = Encoder
C = Plastic encoder cover

ADDITIONAL



GEAR MOTOR DATA

Reduction	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 12 V (mNm) *	98	147	147	196	196	294	294	294	392	392	441	441	441	441	441	441	441	441	441	441
Nominal speed 12 V (rpm) *	255	168	150	107	91	73	62	56	46.3	37.5	32	28.8	24	19.5	15.2	12.1	10.4	7.7	6.9	6.3
Nominal torque 24 V (mNm) *	96	144	147	196	196	294	294	294	392	392	441	441	441	441	441	441	441	441	441	441
Nominal speed 24 V (rpm) *	258	168	150	107	91	73	62	56	46.3	37.4	31.8	28.7	24	19.5	15.1	12.1	10.3	7.7	6.9	6.3
Length (mm)	62	62	62	62	62	62	62	62	67	67	67	67	67	67	67	67	67	67	67	67
Weight (g)	162	162	162	162	162	162	162	162	171	171	171	171	171	171	171	171	171	171	171	171

* Nominal speed and nominal torque have a tolerance of ± 15%

GEAR HEAD DATA

Reduction	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
Max. continuous torque (mNm)	98	147	147	196	196	294	294	294	392	392	441	441	441	441	441	441	441	441	441	441
Intermittently permissible torque (mNm)	294	441	441	588	588	883	883	883	1177	1177	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324
Efficiency (%)	66	66	66	66	66	66	66	66	53	53	53	53	53	53	53	53	53	53	53	53
Length (mm)	23	23	23	23	23	23	23	23	28	28	28	28	28	28	28	28	28	28	28	28
Weight (g)	89	89	89	89	89	89	89	89	98	98	98	98	98	98	98	98	98	98	98	98

GEAR MOTOR FEATURES AND STANDARD DATA

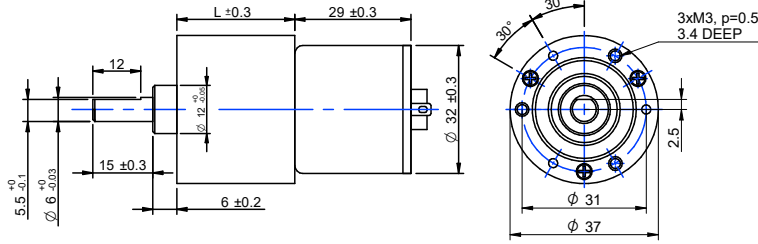
	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur gear brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	Yes
Gears	Straight teeth metal gears produced by	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Sleeve bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions
Operating temperature	-10...+60 °C	-40...+60 °C
Backlash no load	≤ 2°	
Radial load 10 mm from gear flange	7.9 N	
Shaft axial load	5.9 N	
Shaft press fit force max.	≤ 98 N	
Radial play	≤ 0.05 mm	
Thrust play	≤ 0.35 mm	
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)	7.65	7.26
Nominal current (mA)	≤ 530	≤ 250
Stall torque (mNm)	35.8	37
Starting current (A)	2.1	1
Output (W)	4.22	4
Length (mm)	38.6	38.6
Weight (g)	73	73

SDC3729 / Ø 37mm / 3.14W / 3.17W

DRAWING (mm)



PHOTO



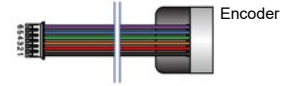
MODEL NO. DESIGNATION

SDC3729 - VOLTAGE - REDUCTION - F - E - C

Example: SDC3729-12-10

F = EMC Filter
E = Encoder
C = Plastic encoder cover

ADDITIONAL



GEAR MOTOR DATA

Reduction	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 12 V (mNm) *	29	69	90	121	218	261	362	435	543	588	588	588	588	588	588	588	588	588	588	588
Nominal speed 12 V (rpm) *	800	310	245	155	90	67	49	41	33	28	24	21.5	17.6	12.3	9.1	7.8	6.3	3.2	1.6	1
Nominal torque 24 V (mNm) *	30	71	94	125	225	270	374	450	561	588	588	588	588	588	588	588	588	588	588	588
Nominal speed 24 V (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
Length (mm)	51	54	54	56	56	59	59	59	59	59	61	61	61	61	61	64	64	64	66	66
Weight (g)	172	178	178	184	184	192	192	192	192	192	196	196	196	196	196	203	203	203	206	206

* Nominal speed and nominal torque have a tolerance of $\pm 15\%$

GEAR HEAD DATA

Reduction	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
Max. continuous torque (mNm)	98	196	196	294	392	490	490	588	588	588	588	588	588	588	588	588	588	588	588	588
Intermittently permissible torque (mNm)	294	588	588	883	1177	1471	1471	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765
Efficiency (%)	81	73	73	66	66	59	59	59	59	59	53	53	53	53	53	48	48	48	43	43
Length (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)	97	103	103	109	109	117	117	117	117	117	121	121	121	121	121	128	128	128	131	131

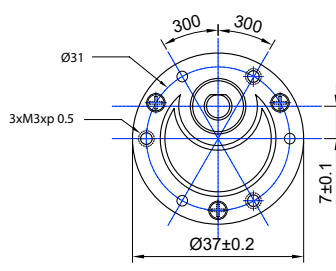
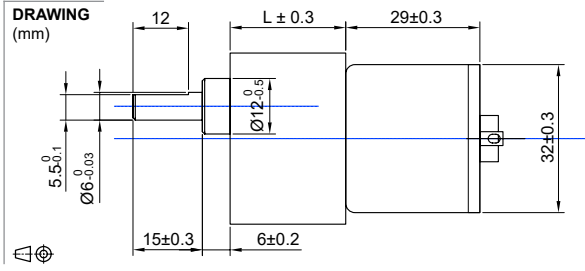
GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur gear brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	Yes
Gears	Straight teeth metal gears produced by	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
Operating temperature	-10...+60 °C	-40...+60 °C
Backlash no load	$\leq 2^\circ$	
Radial load 10 mm from gear flange	≤ 9.81 N	
Shaft axial load	≤ 6.9 N	
Shaft press fit force max.	≤ 49 N	
Radial play	≤ 0.05 mm	
Thrust play	≤ 0.35 mm	
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)	6200	6200
No load current (mA)	≤ 120	≤ 60
Nominal speed (rpm)	5100	5000
Nominal torque (mNm)	5.9	6.1
Nominal current (mA)	≤ 470	≤ 210
Stall torque (mNm)	33	31
Starting current (A)	2	0.9
Output (W)	3.14	3.17
Length (mm)	29	29
Weight (g)	75	75

SD3729 / Ø 37mm / 3.14W / 3.17W



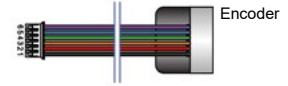
MODEL NO. DESIGNATION

SD3729 - VOLTAGE - REDUCTION - F - E - C

Example: SD3729-12-10

F = EMC Filter
E = Encoder
C = Plastic encoder cover

ADDITIONAL



GEAR MOTOR DATA																				
Reduction	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 12 V (mNm) *	48	78	129	195	234	292	350	389	418	522	588	588	588	588	588	588	588	588	588	588
Nominal speed 12 V (rpm) *	490	270	168	100	84	67	57	51	42.5	34	29	26.0	22	19	11.2	9.5	8	6	4.1	2
Nominal torque 24 V (mNm) *	49	80	134	201	242	302	362	403	432	540	588	588	588	588	588	588	588	588	588	588
Nominal speed 24 V (rpm) *	480	250	160	98	83	65	56	50	41.5	33	28.5	26	22	19	11	9.3	7.9	5.9	4	2
Length (mm)	49	51	51	54	54	54	54	54	56	56	56	56	56	56	59	59	59	59	61	61
Weight (g)	161	168	168	175	175	175	175	175	181	181	181	181	181	181	187	187	187	187	195	195

* Nominal speed and nominal torque have a tolerance of ± 15%

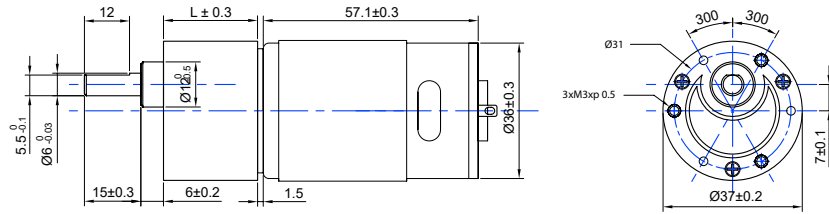
GEAR HEAD DATA																				
Reduction	10:1	18:1	30:1	50:1	60:1	75:1	90:1	100:1	120:1	150:1	180:1	200:1	250:1	300:1	500:1	600:1	750:1	1000:1	1500:1	3000:1
Max. continous torque (mNm)	98	98	196	294	294	392	392	588	588	588	588	588	588	588	588	588	588	588	588	588
Intermittently permissible torque (mNm)	294	294	588	883	883	1177	1177	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765
Efficiency (%)	81	73	73	66	66	66	66	66	59	59	59	59	59	59	53	53	53	53	48	48
Length (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)	86	93	93	100	100	100	100	100	106	106	106	106	106	106	112	112	112	112	120	120

GEAR MOTOR FEATURES AND STANDARD DATA		
	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur gear brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	Yes
Gears	Straight teeth metal gears produced by	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
Operating temperature	-10-...+60 °C	-40-...+60 °C
Backlash no load	≤2°	
Radial load 10 mm from gear flange	≤9.81 N	
Shaft axial load	6.9 N	
Shaft press fit force max.	≤196 N	
Radial play	≤0.05 mm	
Thrust play	≤0.35 mm	
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)	6200	6200
No load current (mA)	≤ 120	≤ 60
Nominal speed (rpm)	5100	5000
Nominal torque (mNm)	5.9	6.1
Nominal current (mA)	≤ 470	≤ 210
Stall torque (mNm)	34	31
Starting current (A)	2	0,9
Output (W)	3.14	3.17
Length (mm)	29	29
Weight (g)	75	75

SD3757 / Ø 37mm / 12.8W / 12.7W

DRAWING (mm)



PHOTO



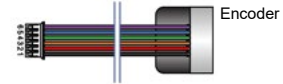
MODEL NO. DESIGNATION

SD3757 - VOLTAGE - REDUCTION - F - E - C

Example: SD3757-12-10

F = EMC Filter
E = Encoder
C = Plastic encoder cover

ADDITIONAL



GEAR MOTOR DATA

Reduction	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 12 V (mNm) *	98	98	196	294	294	392	392	588	588	588	588	588	588	588	588	588	588	588	588	588
Nominal speed 12 V (rpm) *	528	313	185	109	95	76	63	55	47	36	31.5	29	22.5	19.5	11.5	9.8	8	5.9	3.9	2
Nominal torque 24 V (mNm) *	98	98	196	294	294	392	392	588	588	588	588	588	588	588	588	588	588	588	588	588
Nominal speed 24 V (rpm) *	532	315	186	111	69	77	64	55.5	48	36	32	29.5	23	20	11.8	9.9	8	6	4	2
Length (mm)	77	79	79	82	82	82	82	82	84	84	84	84	84	84	87	87	87	87	89	89
Weight (g)	306	313	313	320	320	320	320	320	326	326	326	326	326	326	332	332	332	332	340	340

* Nominal speed and nominal torque have a tolerance of ± 15%

GEAR HEAD DATA

Reduction	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
Max. continous torque (mNm)	98	98	196	294	294	392	392	588	588	588	588	588	588	588	588	588	588	588	588	588
Intermittently permissible torque (mNm)	294	294	588	883	883	1177	1177	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765	1765
Efficiency (%)	81	73	73	66	66	66	66	66	59	59	59	59	59	59	53	53	53	53	48	48
Length (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)	86	93	93	100	100	100	100	100	106	106	106	106	106	106	112	112	112	112	120	120

GEAR MOTOR FEATURES AND STANDARD DATA

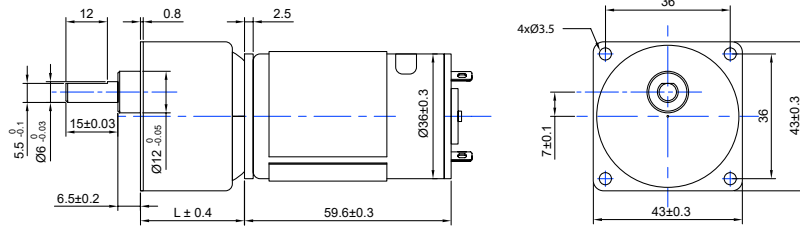
	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur gear brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	Yes
Gears	Straight teeth metal gears produced by	Plastic
Motor pinion gear	Bakelite	Metal
Bearing	Sleeve bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magetic encoder (to order as option)	Through shaft dimensions
Operating temperature	-10...+60 °C	-40...+60 °C
Backlash no load	≤ 2°	
Radial load 10 mm from gear flange	≤ 9.81 N	
Shaft axial load	≤ 6.86 N	
Shaft press fit force max.	≤ 196 N	
Radial play	≤ 0.05 mm	
Thrust play	≤ 0.35 mm	
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)	24.5	23.5
Nominal current (mA)	≤ 1600	≤ 750
Stall torque (mNm)	180	189
Starting current (A)	9,7	5
Output (W)	12.8	12.7
Length (mm)	57.1	57.1
Weight (g)	220	220

SDS4360 / Ø 43mm / 12.8W / 12.7W

DRAWING (mm)



PHOTO



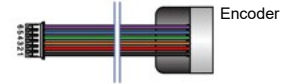
MODEL NO. DESIGNATION

SDS4360 - VOLTAGE - REDUCTION - F - E - C

Example: SDS4360-12-10

F = EMC Filter
E = Encoder
C = Plastic encoder cover

ADDITIONAL



GEAR MOTOR DATA

Reduction	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 12 V (mNm) *	98	268	294	392	392	392	490	490	490	686	686	686	686	686	686	686	686	686	686	686
Nominal speed 12 V (rpm) *	519	321	275	198	172	145	103	91	72.5	61	54	46	37	31	28.2	22.5	19.2	16	14.5	11.8
Nominal torque 24 V (mNm) *	98	257	294	392	392	392	490	490	490	686	686	686	686	686	686	686	686	686	686	686
Nominal speed 24 V (rpm) *	530	340	283	207	176	149	107	92	73	61	54	46	37	31	28.5	23	19.1	16.2	14.5	11.8
Length (mm)	84	86	86	86	86	86	89	89	89	89	89	89	89	91	91	91	91	91	91	91
Weight (g)	330	336	336	336	336	336	345	345	345	345	345	345	345	350	350	350	350	350	350	350

* Nominal speed and nominal torque have a tolerance of ± 15%

GEAR HEAD DATA

Reduction	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
Max. continous torque (mNm)	98	294	294	392	392	392	490	490	490	686	686	686	686	686	686	686	686	686	686	686
Intermittently permissible torque (mNm)	294	883	883	1177	1177	1177	1471	1471	1471	2059	2059	2059	2059	2059	2059	2059	2059	2059	2059	2059
Efficiency (%)	81	73	73	73	73	73	66	66	66	66	66	66	66	59	59	59	59	59	59	59
Length (mm)	23.9	26.4	26.4	26.4	26.4	26.4	28.9	28.9	28.9	28.9	28.9	28.9	28.9	31.4	31.4	31.4	31.4	31.4	31.4	31.4
Weight (g)	110	116	116	116	116	116	125	125	125	125	125	125	125	130	130	130	130	130	130	130

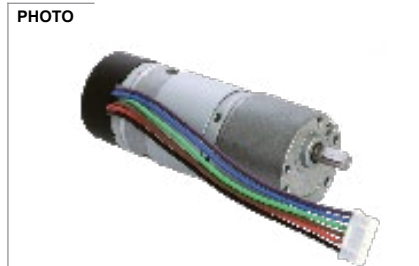
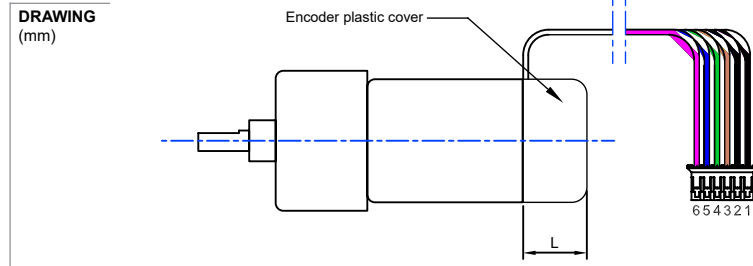
GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Spur gear brush DC motor	
Motor type	Iron core, commutation	Winding parameters
Motor terminals	Soldering ears	Wiring harnesses, cables and connectors
EMC filter	Yes	Yes
Gears	Straight teeth metal gears produced by	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
Operating temperature	-10...+60 °C	-40...+60 °C
Backlash no load	≤ 2°	
Radial load 10 mm from gear flange	≤ 9.81 N	
Shaft axial load	≤ 6.86 N	
Shaft press fit force max.	≤ 196 N	
Radial play	≤ 0.05 mm	
Thrust play	≤ 0.35 mm	
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)	24.5	23.5
Nominal current (mA)	≤ 1600	≤ 750
Stall torque (mNm)	176	186
Starting current (A)	10	5
Output (W)	12.8	12.7
Length (mm)	59.6	59.6
Weight (g)	220	220

SDS4360 / Ø 43mm / 12.8W / 12.7W



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 (V out A, V out B)

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

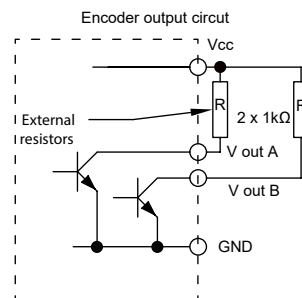
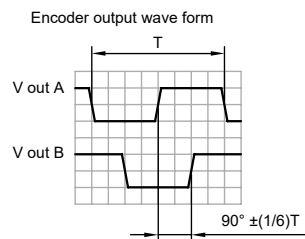
CONNECTOR

JST PHR-6
P=2.0-6P



MOTOR AND ENCODER CONNECTION

Gear motor model	SDS12	SDS13, SDS14	SDC2718, SDC2730,	SDC3729, SD3729	SD3757, SDS4360
Hall sensor	UTC SK1816	UTC SK1816	UTC SK1816	UTC SK1816	UTC SK1816
Number of channels	2	2	2	2	2
Counts per revolution per channel (CPR)	6	6	6	14	14
Pulses per revolution per channel (PPR)	3	3	3	7	7
Encoder cable length (mm)	100	100	100	100	100
Wire gauge (AWG)	AWG24/UL1007	AWG24/UL1007	AWG24/UL1007	AWG24/UL1007	AWG24/UL1007
Cable connector	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
Encoder rear cover cover length (mm)	-	-	12.6	14.3	13.5



MOTOR AND ENCODER CONNECTION

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