TRANSMOTEC

SPUR GEAR DC MOTORS | 60x60-90x90 mm 6 - 250W

SDS series

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...

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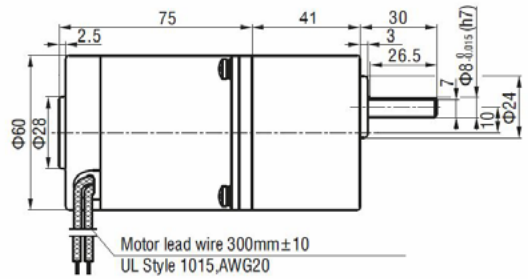
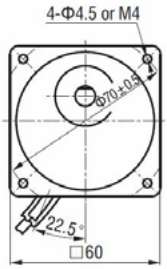
SDS6075A 6W

DRAWING
(mm)





PHOTO

MODEL NO. DESIGNATION

SDS6075A – VOLTAGE – REDUCTION

Torque unit: **mNm** (millinewton meter)
Speed unit: **rpm** (revolutions per minute)

GEAR MOTOR DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Nominal torque 12V	50	60	80	90	120	140	160	200	240	280	280	350	420	510	570	710	760	960	1150	1270	1530	1910	2290	2550
Nominal speed 12V	983	819	590	492	393	328	295	236	197	164	148	118	98	82	74	59	49	39	33	30	25	20	16	15
Nominal torque 24V	50	60	80	90	120	140	160	200	240	280	280	350	420	510	570	710	760	960	1150	1270	1530	1910	2290	2550
Nominal speed 24V	983	819	590	492	393	328	295	236	197	164	148	118	98	82	74	59	49	39	33	30	25	20	16	15
Length (mm)	116																							
Weight (kg)	1																							

Torque unit: **Nm** (newton meter)

GEAR HEAD DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Max. continuous torque	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Efficiency (%)	81	81	81	81	81	81	81	81	81	81	73	73	73	73	73	73	66	66	66	66	66	66	66	66
Radial F 20 mm shaft N	80	80	80	80	80	80	80	80	80	80	180	180	180	180	180	180	180	180	180	180	180	180	180	180
Max. thrust load N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw
Length (mm)	41																							
Weight (kg)	0.4																							

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	Spur geared brush DC motor	Voltage
Insulation Class	Class B (130°C)	Class F (155°C)
EMC filter	No	
Speed tolerance	± 5%	
Cables	AWG20, 300mm ± 10	Harness with connector
Housing materials	Aluminum	
Gears and shaft material	Metal, 40cr alloy steel	Shaft dimensions
Bearings type	Ball bearing	
Operating temperature	-10-…+40 °C	-40-…+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	
UL approval	No	
IP rating	IP20	

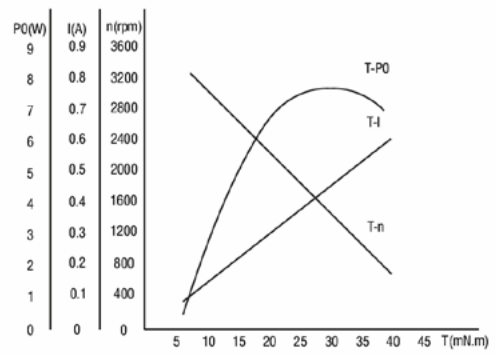
Insulation Resistance
20 MΩ or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.

Temperature Rise
The temperature rise should be lower than 80°C measured by resistance method when the motor is working.

Dielectric Strength
In the circumstance of normal ambient temperature and humidity, there will be no problem to withstand 1.5kV at 50/60hz between the windings and the frame for 1 minute after rated motor operation.

MOTOR DATA		
Nominal voltage (V)	**12**	**24**
No load speed (rpm)	3200	3200
No load current (A)	0.6 Max.	0.3 Max.
Nominal speed (rpm)	2950	2950
Nominal torque (mNm)	19	19
Nominal current (A)	0.8	0.8
Output (W)	6	6
Length (mm)	75	
Weight (kg)	0.6	

MOTOR CHARACTERISTIC CURVE



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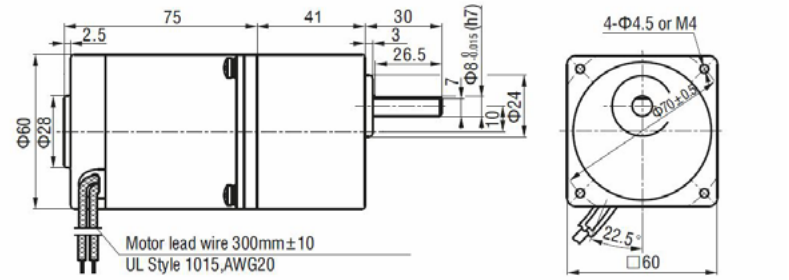
SDS6075B 10W

DRAWING (mm)



PHOTO

MODEL NO. DESIGNATION

SDS6075B – VOLTAGE – REDUCTION

Torque unit: **mNm** (millinewton meter)
Speed unit: **rpm** (revolutions per minute)

GEAR MOTOR DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Nominal torque 12V	80	100	140	170	210	250	280	340	410	500	500	620	740	890	990	1240	1350	1680	2020	2240	2690	3000	3000	3000
Nominal speed 12V	933	778	560	467	373	311	280	224	187	156	140	112	93	78	70	56	47	37	31	28	23	19	16	14
Nominal torque 24V	80	90	130	150	190	230	260	320	390	460	460	580	700	840	930	1160	1250	1750	1880	2090	2510	3000	3000	3000
Nominal speed 24V	1000	833	600	500	400	333	300	240	200	167	150	120	100	83	75	60	50	40	33	30	25	20	17	15
Length (mm)	116																							
Weight (kg)	1.1																							

Torque unit: **Nm** (newton meter)

GEAR HEAD DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Max. continuous torque	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Efficiency (%)	81	81	81	81	81	81	81	81	81	81	73	73	73	73	73	73	66	66	66	66	66	66	66	66
Radial F 20 mm shaft N	80	80	80	80	80	80	80	80	80	80	180	180	180	180	180	180	180	180	180	180	180	180	180	180
Max. thrust load N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw
Length (mm)	41																							
Weight (kg)	0.4																							

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	Spur geared brush DC motor	Voltage
Insulation Class	Class B (130°C)	Class F (155°C)
EMC filter	No	
Speed tolerance	± 5%	
Cables	AWG20, 300mm ± 10	Harness with connector
Housing materials	Aluminum	
Gears and shaft material	Metal, 40cr alloy steel	Shaft dimensions
Bearings type	Ball bearing	
Operating temperature	-10-…+40 °C	-40-…+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	
UL approval	No	
IP rating	IP20	

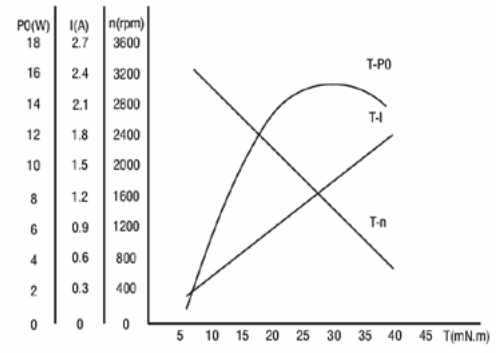
Insulation Resistance
20 MΩ or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.

Temperature Rise
The temperature rise should be lower than 80°C measured by resistance method when the motor is working.

Dielectric Strength
In the circumstance of normal ambient temperature and humidity, there will be no problem to withstand 1.5kV at 50/60hz between the windings and the frame for 1 minute after rated motor operation.

MOTOR DATA		
Nominal voltage (V)	**12**	**24**
No load speed (rpm)	3200	3300
No load current (A)	1 Max.	0.5 Max.
Nominal speed (rpm)	2800	3000
Nominal torque (mNm)	34	32
Nominal current (A)	2	0.9
Output (W)	10	10
Length (mm)	75	
Weight (kg)	0.7	

MOTOR CHARACTERISTIC CURVE



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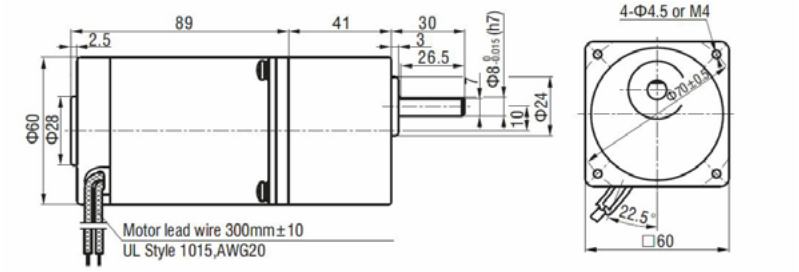
SDS6089A 15W

DRAWING
(mm)



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MODEL NO. DESIGNATION

SDS6089A – VOLTAGE – REDUCTION

Torque unit: **mNm** (millinewton meter)
Speed unit: **rpm** (revolutions per minute)

GEAR MOTOR DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Nominal torque 12V	120	140	190	230	290	350	390	480	580	700	700	870	1040	1250	1390	1740	1880	2350	2820	3000	3000	3000	3000	3000
Nominal speed 12V	983	819	590	492	393	328	295	236	197	164	148	118	98	82	74	59	49	39	33	30	25	20	16	15
Nominal torque 24V	120	140	190	230	290	350	390	480	580	700	700	870	1040	1250	1390	1740	1880	2350	2820	3000	3000	3000	3000	3000
Nominal speed 24V	1000	833	600	500	400	333	300	240	200	167	150	120	100	83	75	60	50	40	33	30	25	20	17	15
Length (mm)	130																							
Weight (kg)	1.3																							

Torque unit: **Nm** (newton meter)

GEAR HEAD DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Max. continuous torque	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Efficiency (%)	81	81	81	81	81	81	81	81	81	81	73	73	73	73	73	73	66	66	66	66	66	66	66	66
Radial F 20 mm shaft N	80	80	80	80	80	80	80	80	80	80	180	180	180	180	180	180	180	180	180	180	180	180	180	180
Max. thrust load N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw
Length (mm)	41																							
Weight (kg)	0.4																							

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	Spur geared brush DC motor	Voltage
Insulation Class	Class B (130°C)	Class F (155°C)
EMC filter	No	
Speed tolerance	± 5%	
Cables	AWG20, 300mm ± 10	Harness with connector
Housing materials	Aluminum	
Gears and shaft material	Metal, 40cr alloy steel	
Bearings type	Ball bearing	
Operating temperature	-10-…+40 °C	-40-…+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	
UL approval	No	
IP rating	IP20	

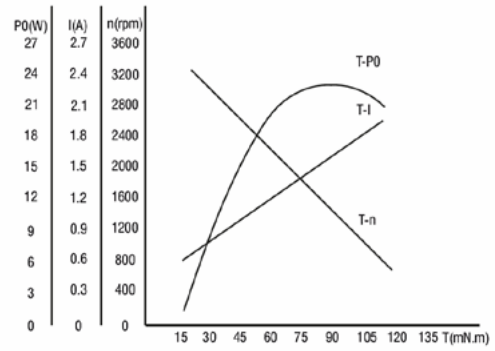
Insulation Resistance
20 MΩ or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.

Temperature Rise
The temperature rise should be lower than 80°C measured by resistance method when the motor is working.

Dielectric Strength
In the circumstance of normal ambient temperature and humidity, there will be no problem to withstand 1.5kV at 50/60hz between the windings and the frame for 1 minute after rated motor operation.

MOTOR DATA		
Nominal voltage (V)	**12**	**24**
No load speed (rpm)	3200	3300
No load current (A)	0.8 Max.	0.4 Max.
Nominal speed (rpm)	2950	3000
Nominal torque (mNm)	48	48
Nominal current (A)	2	1
Output (W)	15	15
Length (mm)	89	
Weight (kg)	0.9	

MOTOR CHARACTERISTIC CURVE



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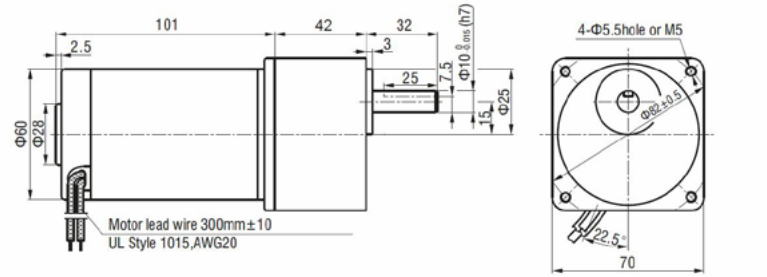
SDS70101A 25W

DRAWING
(mm)



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MODEL NO. DESIGNATION

SDS70101A – VOLTAGE – REDUCTION

Torque unit: **mNm** (millinewton meter)
Speed unit: **rpm** (revolutions per minute)

GEAR MOTOR DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Nominal torque 12V	190	230	320	390	490	580	650	810	970	1170	1170	1460	1750	2100	2340	2920	3170	3960	4750	5000	5000	5000	5000	5000
Nominal speed 12V	1000	833	600	500	400	333	300	240	200	167	150	120	100	83	75	60	50	40	33	30	25	20	17	15
Nominal torque 24V	210	250	350	410	520	620	690	860	1040	1240	1240	1550	1860	2240	2490	3110	3730	4660	5000	5000	5000	5000	5000	5000
Nominal speed 24V	933	778	560	467	373	311	280	224	187	156	140	112	93	78	70	56	47	37	31	28	23	19	16	14
Length (mm)	143																							
Weight (kg)	1.5																							

Torque unit: **Nm** (newton meter)

GEAR HEAD DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Max. continuous torque	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Efficiency (%)	81	81	81	81	81	81	81	81	81	81	73	73	73	73	73	73	66	66	66	66	66	66	66	66
Radial F 20 mm shaft N	120	120	120	120	120	120	120	120	120	120	250	250	250	250	250	250	250	250	250	250	250	250	250	250
Max. thrust load N	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw
Length (mm)	42																							
Weight (kg)	0.5																							

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	Spur geared brush DC motor	Voltage
Insulation Class	Class B (130°C)	Class F (155°C)
EMC filter	No	
Speed tolerance	± 5%	
Cables	AWG20, 300mm ± 10	Harness with connector
Housing materials	Aluminum	
Gears and shaft material	Metal, 40cr alloy steel	Shaft dimensions
Bearings type	Ball bearing	
Operating temperature	-10-…+40 °C	-40-…+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	
UL approval	No	
IP rating	IP20	

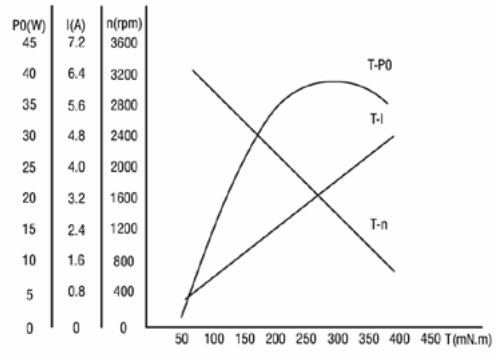
Insulation Resistance
20 MΩ or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.

Temperature Rise
The temperature rise should be lower than 80°C measured by resistance method when the motor is working.

Dielectric Strength
In the circumstance of normal ambient temperature and humidity, there will be no problem to withstand 1.5kV at 50/60hz between the windings and the frame for 1 minute after rated motor operation.

MOTOR DATA		
Nominal voltage (V)	**12**	**24**
No load speed (rpm)	3300	3200
No load current (A)	1 Max.	0.5 Max.
Nominal speed (rpm)	3000	2800
Nominal torque (mNm)	80	85
Nominal current (A)	3.5	1.6
Output (W)	25	25
Length (mm)	101	
Weight (kg)	1	

MOTOR CHARACTERISTIC CURVE



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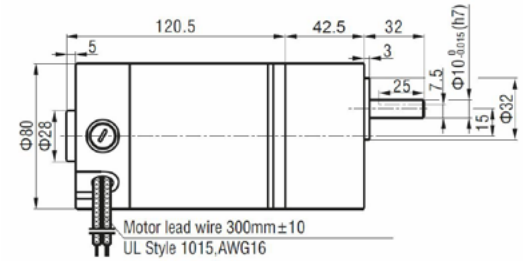
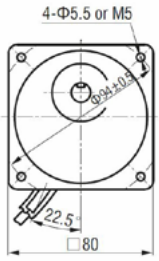
SDS80120A 40W

DRAWING
(mm)





PHOTO

MODEL NO. DESIGNATION

SDS80120A – VOLTAGE – REDUCTION

Torque unit: **mNm** (millinewton meter)
Speed unit: **rpm** (revolutions per minute)

GEAR MOTOR DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	500	600	750
Nominal torque 12V	330	400	550	660	830	990	990	1240	1490	1790	1800	2240	2690	3230	3590	4490	5390	6730	7220	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
Nominal speed 12V	933	778	560	467	373	311	280	224	187	156	140	112	93	78	70	56	47	37	31	28	23	19	16	14	12	10	6	5	4
Nominal torque 24V	310	370	520	620	770	930	1030	1290	1550	1860	2060	2320	2780	3340	3710	4640	5010	6270	7520	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
Nominal speed 24V	1000	833	600	500	400	333	300	240	200	167	150	120	100	83	75	60	50	40	33	30	25	20	17	15	12	10	6	5	4
Length (mm)	163																												
Weight (kg)	2.6																												

Torque unit: **Nm** (newton meter)

GEAR HEAD DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	500	600	750
Max. continuous torque	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Efficiency (%)	81	81	81	81	81	81	73	73	73	73	66	66	66	66	66	66	66	66	59	59	59	59	59	53	53	53	53	53	53
Radial F 20 mm shaft N	150	150	150	150	150	150	150	150	150	150	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Max. thrust load N	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	ccw
Length (mm)	42.5																												
Weight (kg)	0.8																												

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	Spur geared brush DC motor	Voltage
Insulation Class	Class B (130°C)	Class F (155°C)
EMC filter	No	
Speed tolerance	± 5%	
Cables	AWG18	Harness with connector
Housing materials	Aluminum	
Gears and shaft material	Metal, 40cr alloy steel	Shaft dimensions
Bearings type	Ball bearing	
Operating temperature	-10-…+40 °C	-40-…+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	
UL approval	No	
IP rating	IP20	

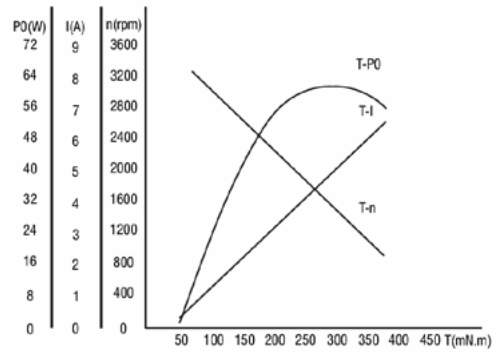
Insulation Resistance
20 MΩ or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.

Temperature Rise
The temperature rise should be lower than 80°C measured by resistance method when the motor is working.

Dielectric Strength
In the circumstance of normal ambient temperature and humidity, there will be no problem to withstand 1.5kV at 50/60hz between the windings and the frame for 1 minute after rated motor operation.

MOTOR DATA		
Nominal voltage (V)	**12**	**24**
No load speed (rpm)	3100	3100
No load current (A)	2.0 Max.	0.8 Max.
Nominal speed (rpm)	2800	3000
Nominal torque (mNm)	136	127
Nominal current (A)	5.2	2.1
Output (W)	40	40
Length (mm)	120	
Weight (kg)	1.8	

MOTOR CHARACTERISTIC CURVE



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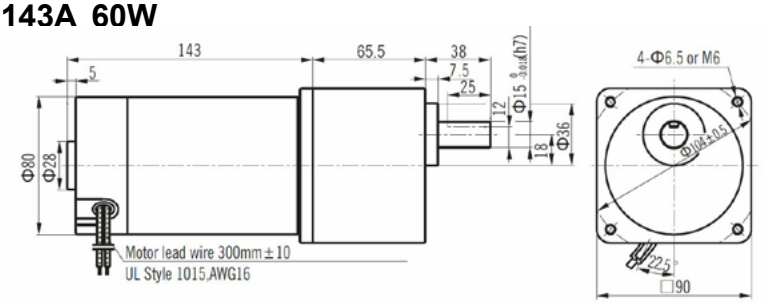
SDS90143A 60W

DRAWING (mm)



PHOTO

MODEL NO. DESIGNATION

SDS90143A – VOLTAGE – REDUCTION

Torque unit: **Nm** (newton meter)
Speed unit: **rpm** (revolutions per minute)

GEAR MOTOR DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Nominal torque 12V	0.5	0.6	0.9	1.1	1.3	1.6	1.6	2	2.4	2.9	2.9	3.6	4.4	5.2	5.8	7.3	8.7	10.9	11.7	13	15.6	19.5	20	20
Nominal speed 12V	867	722	520	433	347	289	260	208	173	144	130	104	87	72	65	52	43	35	29	26	22	17	14	13
Nominal torque 24V	0.5	0.6	0.8	1	1.2	1.5	1.5	1.9	2.2	2.7	2.7	3.4	4	4.8	5.4	6.7	8.1	10.1	12.1	14.5	18.1	20	20	20
Nominal speed 24V	933	778	560	467	373	311	280	224	187	156	140	112	93	78	70	56	47	37	31	28	23	19	16	14
Length (mm)	208.5																							
Weight (kg)	3.7																							

Torque unit: **Nm** (newton meter)

GEAR HEAD DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Max. continuous torque	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Efficiency (%)	81	81	81	81	81	81	73	73	73	73	66	66	66	66	66	66	66	66	59	59	59	59	59	53
Radial F 20 mm shaft N	350	350	350	350	350	350	350	350	350	350	450	450	450	450	450	450	450	450	450	450	450	450	450	450
Max. thrust load N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw
Length (mm)	65.5																							
Weight (kg)	1.5																							

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	Spur geared brush DC motor	Voltage
Insulation Class	Class B (130°C)	Class F (155°C)
EMC filter	No	
Speed tolerance	± 5%	
Cables	AWG16, 300mm ± 10	Harness with connector
Housing materials	Aluminum	
Gears and shaft material	Metal, 40cr alloy steel	Shaft dimensions
Bearings type	Ball bearing	
Operating temperature	-10-…+40 °C	-40-…+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	
UL approval	No	
IP rating	IP20	

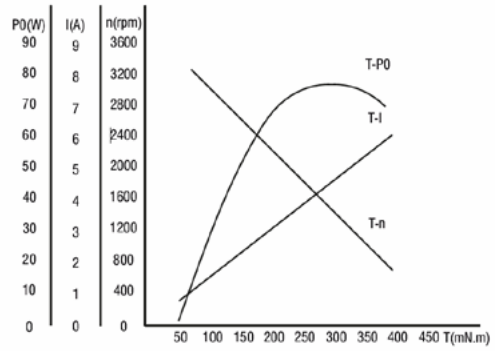
Insulation Resistance
20 MΩ or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.

Temperature Rise
The temperature rise should be lower than 80°C measured by resistance method when the motor is working.

Dielectric Strength
In the circumstance of normal ambient temperature and humidity, there will be no problem to withstand 1.5kV at 50/60hz between the windings and the frame for 1 minute after rated motor operation.

MOTOR DATA		
Nominal voltage (V)	**12**	**24**
No load speed (rpm)	3000	3100
No load current (A)	2.0 Max.	1.0 Max.
Nominal speed (rpm)	2600	2800
Nominal torque (mNm)	220	205
Nominal current (A)	9.0	3.8
Output (W)	60	60
Length (mm)	143	
Weight (kg)	2.2	

MOTOR CHARACTERISTIC CURVE



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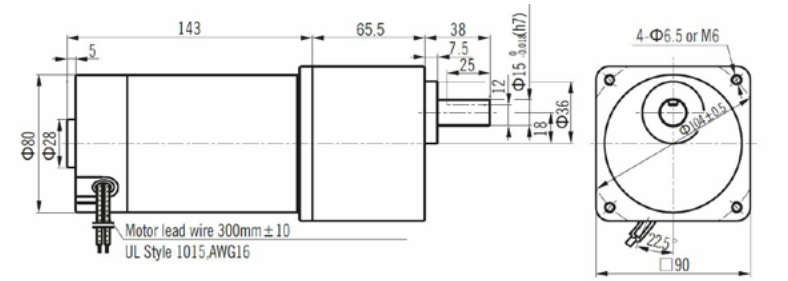
SDS90143B 90W

DRAWING
(mm)



PHOTO

MODEL NO. DESIGNATION

SDS90143B – VOLTAGE – REDUCTION

Torque unit: **Nm** (newton meter)
Speed unit: **rpm** (revolutions per minute)

GEAR MOTOR DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Nominal torque 12V	0.8	1	1.3	1.6	2	2.4	2.4	3	3.6	4.3	4.4	5.5	6.5	7.8	8.7	10.9	13.1	16.3	17.5	19.5	20	20	20	20
Nominal speed 12V	867	722	520	433	347	289	260	208	173	144	130	104	87	72	65	52	43	35	29	26	22	17	14	13
Nominal torque 24V	0.8	0.9	1.2	1.5	1.9	2.2	2.2	2.8	3.4	4	5	6	7.3	8.1	10.1	12.4	15.1	16.3	18.1	20	20	20	20	20
Nominal speed 24V	933	778	560	467	373	311	280	224	187	156	140	112	93	78	70	56	47	37	31	28	23	19	16	14
Length (mm)	208.5																							
Weight (kg)	3.7																							

Torque unit: **Nm** (newton meter)

GEAR HEAD DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Max. continuous torque	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Efficiency (%)	81	81	81	81	81	81	73	73	73	73	66	66	66	66	66	66	66	66	59	59	59	59	59	53
Radial F 20 mm shaft N	350	350	350	350	350	350	350	350	350	350	450	450	450	450	450	450	450	450	450	450	450	450	450	450
Max. thrust load N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw
Length (mm)	65.5																							
Weight (kg)	1.5																							

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	Spur geared brush DC motor	Voltage
Insulation Class	Class B (130°C)	Class F (155°C)
EMC filter	No	
Speed tolerance	± 5%	
Cables	AWG16, 300mm ± 10	Harness with connector
Housing materials	Aluminum	
Gears and shaft material	Metal, 40cr alloy steel	Shaft dimensions
Bearings type	Ball bearing	
Operating temperature	-10-…+40 °C	-40-…+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	
UL approval	No	
IP rating	IP20	

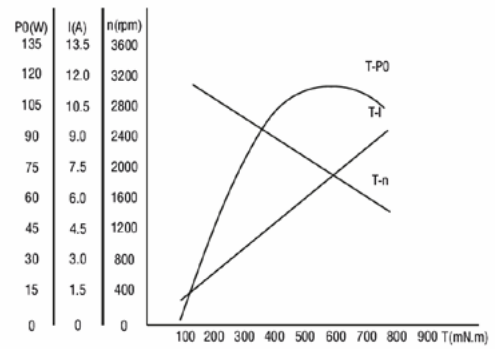
Insulation Resistance
20 MΩ or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.

Temperature Rise
The temperature rise should be lower than 80°C measured by resistance method when the motor is working.

Dielectric Strength
In the circumstance of normal ambient temperature and humidity, there will be no problem to withstand 1.5kV at 50/60hz between the windings and the frame for 1 minute after rated motor operation.

MOTOR DATA		
Nominal voltage (V)	**12**	**24**
No load speed (rpm)	3100	3300
No load current (A)	2.0 Max.	1.0 Max.
Nominal speed (rpm)	2600	2800
Nominal torque (mNm)	330	307
Nominal current (A)	12	5
Output (W)	90	90
Length (mm)	143	
Weight (kg)	2.2	

MOTOR CHARACTERISTIC CURVE



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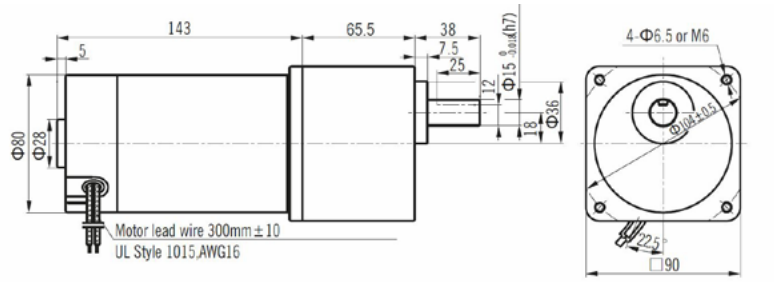
SDS90143C 120W

DRAWING
(mm)



PHOTO

MODEL NO. DESIGNATION

SDS90143C – VOLTAGE – REDUCTION

Torque unit: **Nm** (newton meter)
Speed unit: **rpm** (revolutions per minute)

GEAR MOTOR DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Nominal torque 12V	1.1	1.3	1.9	2.2	2.8	3.3	3.3	4.2	5	6	6.1	7.6	9.1	10.9	12.1	15.1	18.1	20	20	20	20	20	20	20
Nominal speed 12V	833	694	500	417	333	278	250	200	167	139	125	100	83	69	63	50	42	33	28	25	21	17	14	13
Nominal torque 24V	1.1	1.3	1.8	2.1	2.7	3.2	3.2	4	4.8	5.8	5.8	7.2	8.7	10.4	11.6	14.5	17.4	20	20	20	20	20	20	20
Nominal speed 24V	867	722	520	433	347	289	260	208	173	144	130	104	87	72	65	52	53	35	29	26	22	17	14	13
Length (mm)	208.5																							
Weight (kg)	3.7																							

Torque unit: **Nm** (newton meter)

GEAR HEAD DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Max. continuous torque	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Efficiency (%)	81	81	81	81	81	81	73	73	73	73	66	66	66	66	66	66	66	66	59	59	59	59	59	53
Radial F 20 mm shaft N	350	350	350	350	350	350	350	350	350	350	450	450	450	450	450	450	450	450	450	450	450	450	450	450
Max. thrust load N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw
Length (mm)	65.5																							
Weight (kg)	1.5																							

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	Spur geared brush DC motor	Voltage
Insulation Class	Class B (130°C)	Class F (155°C)
EMC filter	No	
Speed tolerance	± 5%	
Cables	AWG16, 300mm ± 10	Harness with connector
Housing materials	Aluminum	
Gears and shaft material	Metal, 40cr alloy steel	Shaft dimensions
Bearings type	Ball bearing	
Operating temperature	-10-…+40 °C	-40-…+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	
UL approval	No	
IP rating	IP20	

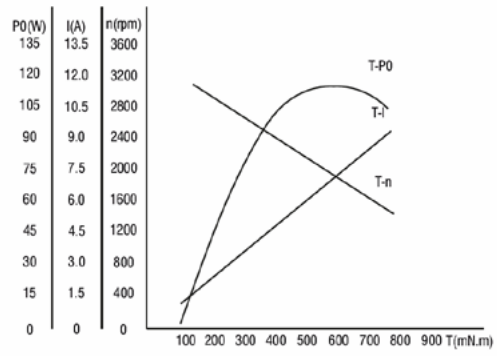
Insulation Resistance
20 MΩ or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.

Temperature Rise
The temperature rise should be lower than 80°C measured by resistance method when the motor is working.

Dielectric Strength
In the circumstance of normal ambient temperature and humidity, there will be no problem to withstand 1.5kV at 50/60hz between the windings and the frame for 1 minute after rated motor operation.

MOTOR DATA		
Nominal voltage (V)	**12**	**24**
No load speed (rpm)	3100	3200
No load current (A)	2.0 Max.	1.0 Max.
Nominal speed (rpm)	2500	2600
Nominal torque (mNm)	458	441
Nominal current (A)	15	7
Output (W)	120	120
Length (mm)	143	
Weight (kg)	2.2	

MOTOR CHARACTERISTIC CURVE



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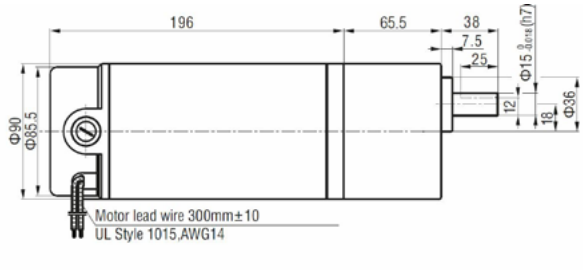
SDS90196A 250W

DRAWING
(mm)



PHOTO

MODEL NO. DESIGNATION

SDS90196A – VOLTAGE – REDUCTION

Torque unit: **Nm** (newton meter)
Speed unit: **rpm** (revolutions per minute)

GEAR MOTOR DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Nominal torque 24V	1.9	2.3	3.2	3.9	4.8	5.8	5.8	7.3	8.7	10.4	10.4	13.1	15.7	18.8	20	20	20	20	20	20	20	20	20	20
Nominal speed 24V	1000	833	600	500	400	333	300	240	200	167	150	120	100	83	75	60	50	40	33	30	25	20	17	15
Length (mm)	261.5																							
Weight (kg)	4.7																							

Torque unit: **Nm** (newton meter)

GEAR HEAD DATA

Reduction	3	3,6	5	6	7,5	9	10	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
Max. continuous torque	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Efficiency (%)	81	81	81	81	81	81	73	73	73	73	66	66	66	66	66	66	66	66	59	59	59	59	59	53
Radial F 20 mm shaft N	500	500	500	500	500	500	600	600	600	600	700	700	700	700	700	700	700	700	700	700	700	700	700	700
Max. thrust load N	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Rotation when in cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	ccw	ccw
Length (mm)	65.5																							
Weight (kg)	1.5																							

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	Spur geared brush DC motor	Voltage
Insulation Class	Class B (130°C)	Class F (155°C)
EMC filter	No	
Speed tolerance	± 5%	
Cables	AWG14, 300mm ± 10	Harness with connector
Housing materials	Aluminum	
Gears and shaft material	Metal, 40cr alloy steel	Shaft dimensions
Bearings type	Ball bearing	
Operating temperature	-10-…+40 °C	-40-…+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE label	No	
UL approval	No	
IP rating	IP20	

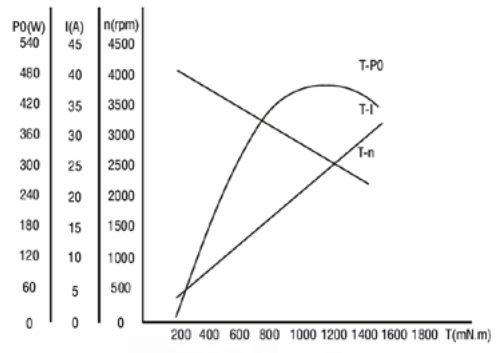
Insulation Resistance
20 MΩ or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.

Temperature Rise
The temperature rise should be lower than 80°C measured by resistance method when the motor is working.

Dielectric Strength
In the circumstance of normal ambient temperature and humidity, there will be no problem to withstand 1.5kV at 50/60hz between the windings and the frame for 1 minute after rated motor operation.

MOTOR DATA	
Nominal voltage (V)	**24**
No load speed (rpm)	3400
No load current (A)	3.0 Max.
Nominal speed (rpm)	3000
Nominal torque (mNm)	796
Nominal current (A)	16
Output (W)	250
Length (mm)	196
Weight (kg)	3.2

MOTOR CHARACTERISTIC CURVE



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