SGLT (Models with T-Type Iron Cores)

Model Designations

Moving Coil

SGL	T	W	-	20	A	170	A	P	□	- E
Sigma-7 Series Linear Servomotors	1st	2nd		3rd + 4th	5th	6th ... 8th	9th	10th	11th	12th digit

1st digit - Servomotor Type

Code	Specification
T	With T-type iron core

2nd digit - Moving Coil/Magnetic Way

Code	Specification
W	Moving Coil

3rd + 4th digit - Magnet Height

Code	Specification
20	20 mm
35	36 mm
40	40 mm
50	51 mm
80	76.5 mm

5th digit - Power Supply Voltage

Code	Specification
A	200 VAC

6th ... 8th digit - Length of Moving Coil

Code	Specification
170	170 mm
320	315 mm
400	394.2 mm
460	460 mm
600	574.2 mm

9th digit - Design Revision Order

Code	Specification
A, B, ...	Revision
H	High-efficiency model

10th digit - Sensor Specifications and Cooling Method

Code	Specifications		Applicable Models
	Polarity Sensor	Cooling Method	
None	None	Self-cooled	All models
C*	None	Water-cooled	SGLTW-40, -80
H*	Yes	Water-cooled	
P	Yes	Self-cooled	All models

11th digit - Connector for Servomotor Main Circuit Cable

Code	Specification	Applicable Models
None	Connector from Tyco Electronics Japan G.K.	SGLTW-20A□□□□□ -35A□□□□□
	MS connector	SGLTW-40A□□□□B□ -80A□□□□B□
	Loose lead wires with no connector	SGLTW-35A□□□H□ -50A□□□H□

12th digit

Code	Specifications
E	RoHS II Suffix

* Contact your YASKAWA representative for the characteristics, dimensions, and other details on servomotors with these specifications.

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combination of codes.

Magnetic Way

SGL	T	M	-	20	324	A	□	- E
Sigma-7 Series Linear Servomotors	1st	2nd		3rd + 4th	5th ... 7th	8th	9th	10th digit

1st digit - Servomotor Type

Code	Specification
T	With T-type iron core

2nd digit - Moving Coil/Magnetic Way

Code	Specification
M	Magnetic Way

3rd + 4th digit - Magnet Height

Code	Specification
20	20 mm
35	36 mm
40	40 mm
50	51 mm
80	76.5 mm

5th ... 7th digit - Length of Moving Coil

Code	Specification
324	324 mm
405	405 mm
540	540 mm
675	675 mm
756	756 mm
945	945 mm

8th digit - Design Revision Order

Code	Specification
A, B, ...	Revision
H	High-efficiency model

9th digit - Options

Code	Specification	Applicable Models
None	Without options	–
C	With magnet cover	All models
Y	With base and magnet cover	SGLTM-20, -35*, -40, -80

10th digit

Code	Specifications
E	RoHS II Suffix

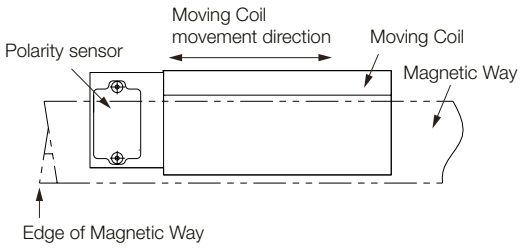
* The SGLTM-35□□□H (high-efficiency models) do not support this specification.

Precautions on Moving Coils with Polarity Sensors

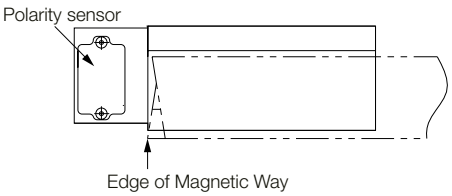
Note

When you use a Moving Coil with a Polarity Sensor, the Magnetic Way must cover the bottom of the polarity sensor. Refer to the example that shows the correct installation.
When determining the length of the Moving Coil's stroke or the length of the Magnetic Way, consider the total length of the Moving Coil and the polarity sensor. Refer to the following table.

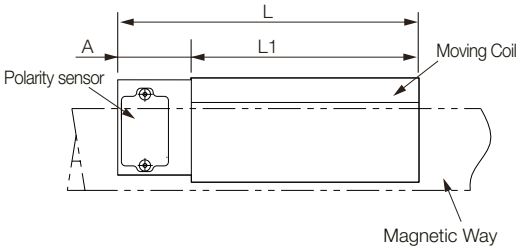
Correct Installation



Incorrect Installation



Total Length of Moving Coil with Polarity Sensor



Moving Coil Model SGLTW-	Length of Moving Coil, L1 [mm]	Length of Polarity Sensor, A [mm]	Total Length, L [mm]
20A170AP□	170	34	204
20A320AP□	315		349
20A460AP□	460		494
35A170AP□	170	34	204
35A320AP□	315		349
35A460AP□	460		494
35A170HP□	170	34	204
35A320HP□	315		349
50A170HP□	170	34	204
50A320HP□	315		349
40A400BH□ 40A400BP□	394.2	26	420.2
40A600BH□ 40A600BP□	574.2	26	600.2
80A400BH□ 80A400BP□	394.2	26	420.2
80A600BH□ 80A600BP□	574.2	26	600.2

Specifications and Ratings

Specifications

Linear Servomotor Moving Coil		Standard Models									High-efficiency Models			
		20A			35A			40A		80A	35A		50A	
Model SGLTW-		170A	320A	460A	170A	320A	460A	400B	600B	400B	600B	170H	320H	170H	320H
Time Rating		Continuous													
Thermal Class		B													
Insulation Resistance		500 VDC, 10 MΩ min.													
Withstand Voltage		1,500 VAC for 1 minute													
Excitation		Permanent magnet													
Cooling Method		Self-cooled													
Protective Structure		IP00													
Environmental Conditions	Ambient Temperature	0°C to 40°C (without freezing)													
	Ambient Humidity	20% to 80% relative humidity (without condensation)													
	Installation Site	• Must be indoors and free of corrosive and explosive gases. • Must be well-ventilated and free of dust and moisture. • Must facilitate inspection and cleaning. • Must have an altitude of 1,000 m or less. • Must be free of strong magnetic fields.													
Shock Resistance	Impact Acceleration Rate	196 m/s^2													
	Number of Impacts	2 times													
Vibration Resistance	Vibration Acceleration Rate	49 m/s^2 (the vibration resistance in three directions, vertical, side-to-side, and front-to-back)													

Ratings

Linear Servomotor Moving Coil		Standard Models										High-efficiency Models			
		20A			35A			40A		80A		35A		50A	
Model SGLTW-		170A	320A	460A	170A	320A	460A	400B	600B	400B	600B	170H	320H	170H	320H
Rated Motor Speed (Reference Speed during Speed Control)*1		3.0	3.0	3.0	2.5	2.5	2.5	1.5	2.0	2.0	2.0	2.5	2.0	2.0	2.0
Maximum Speed*1	m/s	5.0	5.0	5.0	5.0	5.0	5.0	3.1	3.1	2.5	2.5	4.8	4.8	3.2	3.1
Rated Force*1, *2	N	130	250	380	220	440	670	670	1,000	1,300	2,000	300	600	450	900
Maximum Force*1	N	380	760	1,140	660	1,320	2,000	2,600	4,000	5,000	7,500	600	1,200	900	1,800
Rated Current*1	A	2.3	4.4	6.7	3.5	7.0	10.7	7.3	10.9	11.1	17.1	5.1	10.1	5.1	10.2
Maximum Current*1	A	7.7	15.4	23.2	12.1	24.2	36.7	39.4	60.6	57.9	86.9	11.9	23.9	11.8	23.6
Moving Coil Mass	kg	2.5	4.6	6.7	3.7	6.8	10	15	23	24	35	4.9	8.8	6.0	11
Force Constant	N/A	61.0	61.0	61.0	67.5	67.5	67.5	99.1	99.1	126	126	64.0	64.0	95.2	95.2
BEMF Constant	Vrms/ (m/s)/ phase	20.3	20.3	20.3	22.5	22.5	22.5	33.0	33.0	42.0	42.0	21.3	21.3	31.7	31.7
Motor Constant	$N/\sqrt{W}$	18.7	26.5	32.3	26.7	37.5	46.4	61.4	75.2	94.7	116	37.4	52.9	48.6	68.7
Electrical Time Constant	ms	5.9	5.9	5.9	6.9	6.8	6.9	15	15	17	17	15	16	16	17
Mechanical Time Constant	ms	7.1	6.6	6.4	5.2	4.8	4.6	4.0	4.1	2.7	2.6	3.5	3.1	2.5	2.4
Thermal Resistance (with Heat Sink)	K/W	1.01	0.49	0.38	0.76	0.44	0.32	0.24	0.20	0.22	0.18	0.76	0.40	0.61	0.30
Thermal Resistance (without Heat Sink)	K/W	1.82	1.11	0.74	1.26	0.95	0.61	0.57	0.40	0.47	0.33	1.26	0.83	0.97	0.80
Magnetic Attraction*3	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magnetic Attraction on One Side*4	N	800	1,590	2,380	1,400	2,780	4,170	3,950	5,890	7,650	11,400	1,400	2,780	2,000	3,980
Maximum Allowable Payload	kg	25	50	76	44	88	130	280	440	690	1000	33	67	92	190
Maximum Allowable Payload (With External Regenerative Resistor and External Dynamic Brake Resistor)	kg	25	50	76	44	88	130	280	440	690	1000	40	82	95	190
Combined Magnetic Way, SGLTM-		20□□□A□			35□□□A□			40□□□A□		80□□□A□		35□□□H□		50□□□H□	
Combined Serial Converter Unit, JZDP-□□□□-		011	012	013	014	015	016	185	186	187	188	105	106	108	109
Applicable SERVOPACKs	SGD7S-	3R8A	7R6A	120A	5R5A	120A	180A	180A	330A	330A	550A	5R5A	120A	5R5A	120A
	SGD7W- SGD7C-	5R5A	7R6A	–	5R5A	–	–	–	–	–	–	5R5A	–	5R5A	–

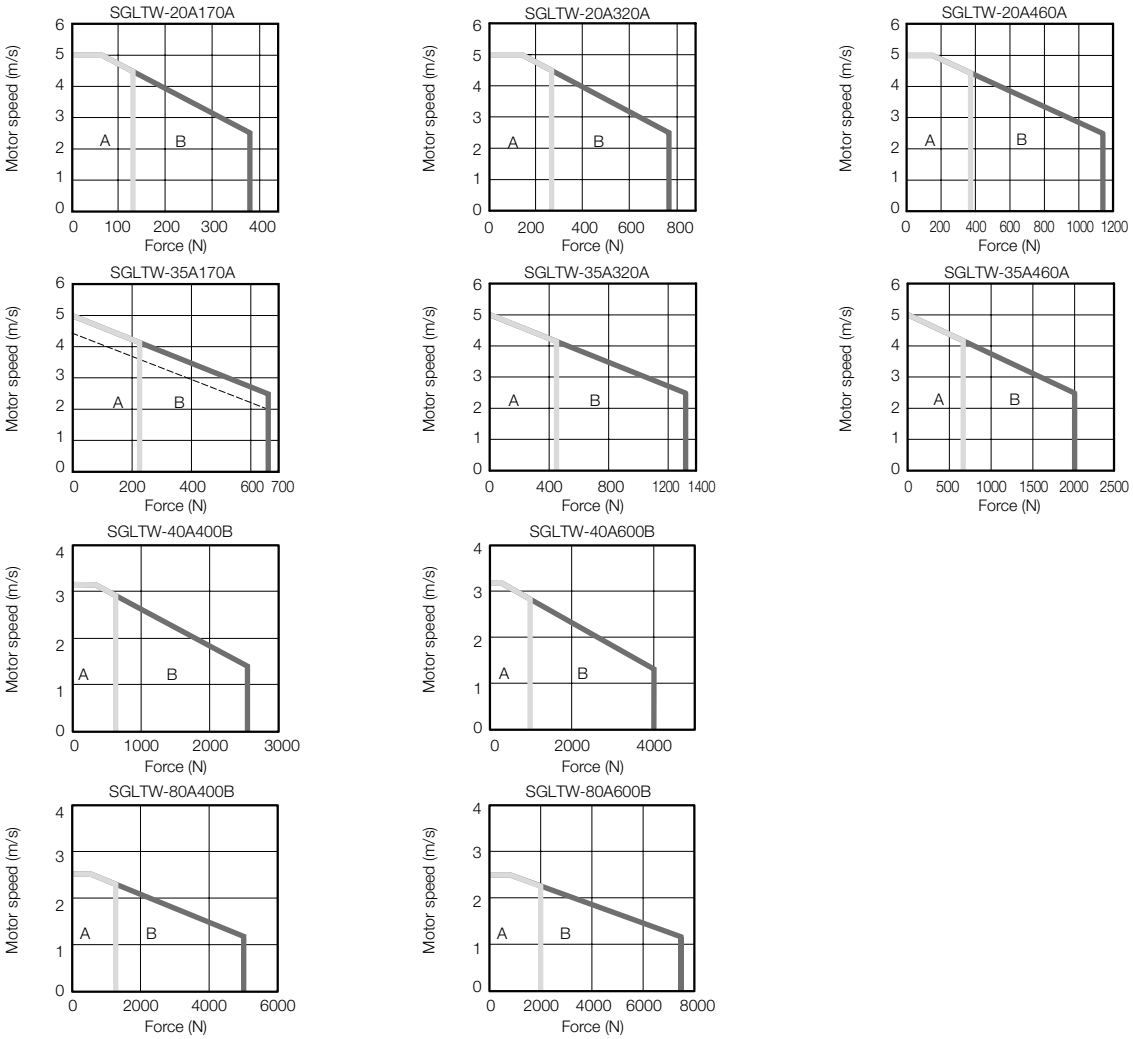
*1. These values are for operation in combination with a SERVOPACK when the temperature of the armature winding is 100°C. The values for other items are at 20°C. These are typical values.
*2. The rated forces are the continuous allowable force values at a ambient air temperature of 40°C with an aluminum heat sink of the dimensions given in the following table.
- Heat Sink Dimensions
  - 254 mm × 254 mm × 25 mm: SGLTW-20A170A and -35A170A
  - 400 mm × 500 mm × 40 mm: SGLTW-20A320A -20A460A, -35A170H, -35A320A, -35A320H, -35A460A, and -50A170H
  - 609 mm × 762 mm × 50 mm: SGLTW-40A400B, -40A600B, -50A320H, -80A400B, and -80A600B

*3. The unbalanced magnetic gap that results from the Moving Coil installation condition causes a magnetic attraction on the Moving Coil.
*4. The value that is given is the magnetic attraction that is generated on one side of the Magnetic Way.

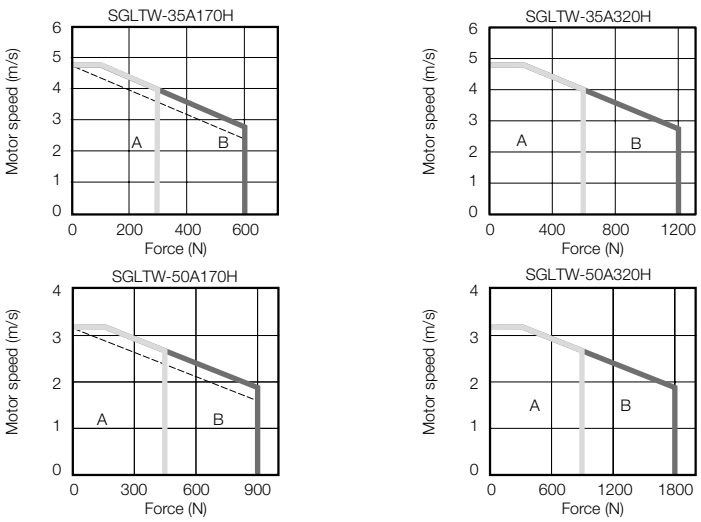
Force-Motor Speed Characteristics

A : Continuous duty zone ———— (solid lines): With three-phase 200-V input
B : Intermittent duty zone - - - - - - - - (dotted lines): With single-phase 200-V input

Standard Models



High-efficiency Models

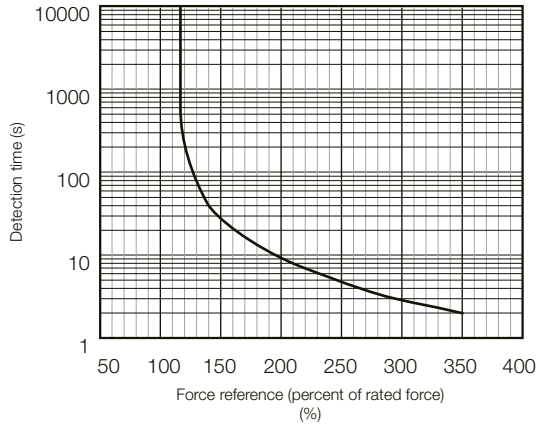


Note:
1. These values (typical values) are for operation in combination with a SERVOPACK when the temperature of the armature winding is 100°C.
2. The characteristics in the intermittent duty zone depend on the power supply voltage.
3. If the effective force is within the allowable range for the rated force, the Servomotor can be used within the intermittent duty zone.
4. If you use a Servomotor under continuous duty zone, the intermittent duty zone in the torque-motor speed characteristics will become smaller because the voltage drop increases.

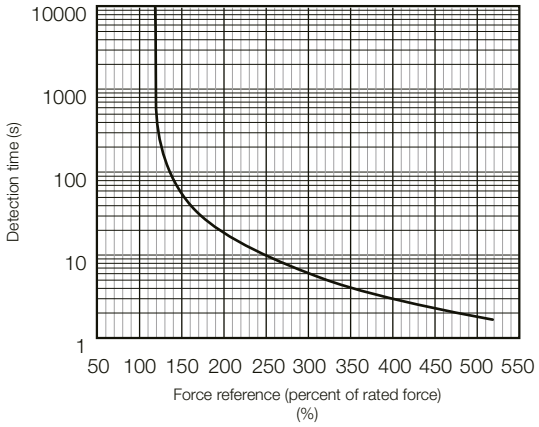
Servomotor Overload Protection Characteristics

The overload detection level is set for hot start conditions with a Servomotor ambient air temperature of 40°C.

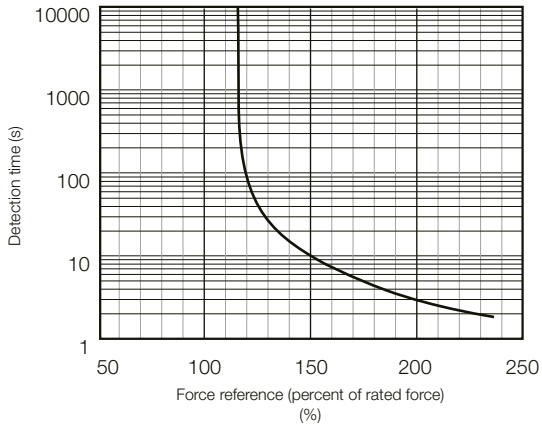
SGLTW-20A□□□A and -35A□□□A



SGLTW-40A□□□B and -80A□□□B



SGLTW-35A□□□H and -50A□□□H

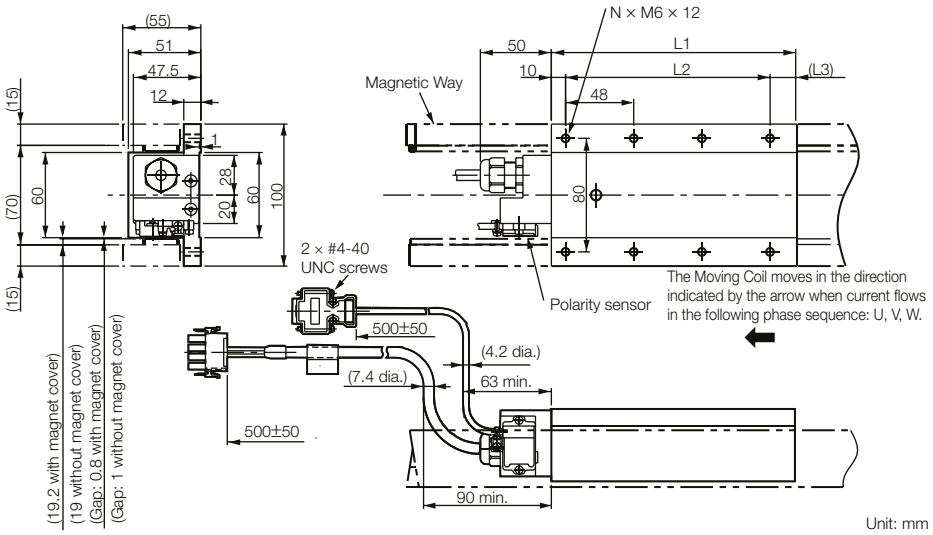


Note:
The above overload protection characteristics do not mean that you can perform continuous duty operation with an output of 100% or higher.
Use the Servomotor so that the effective force remains within the continuous duty zone given in Force-Motor Speed Characteristics.

External Dimensions

SGLTW-20: Standard Models

Moving Coils: SGLTW-20A□□□A□-E

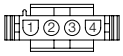


Unit: mm

Moving Coil Model SGLTW-	L1	L2	L3	N	Approx. Mass [kg]
20A170A□	170	144 (48 x 3)	(16)	8	2.5
20A320A□	315	288 (48 x 6)	(17)	14	4.6
20A460A□	460	432 (48 x 9)	(18)	20	6.7

Connector Specifications

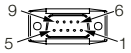
Servomotor Connector



1	Phase U	Red
2	Phase V	White
3	Phase W	Black
4	FG	Green

Plug: 350779-1
Pins: 350218-3 or 350547-3 (No.1 to 3)
350654-1 or 350669-1 (No. 4)
From Tyco Electronics Japan G.K.
Mating Connector
Cap: 350780-1
Socket: 350537-3 or 350550-3

Polarity Sensor Connector

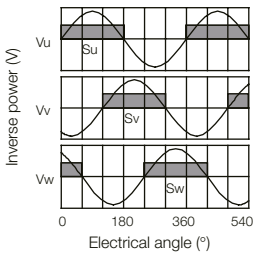


1	+5 V (DC)	6	Not used
2	Phase U	7	
3	Phase V	8	
4	Phase W	9	
5	0 V	–	–

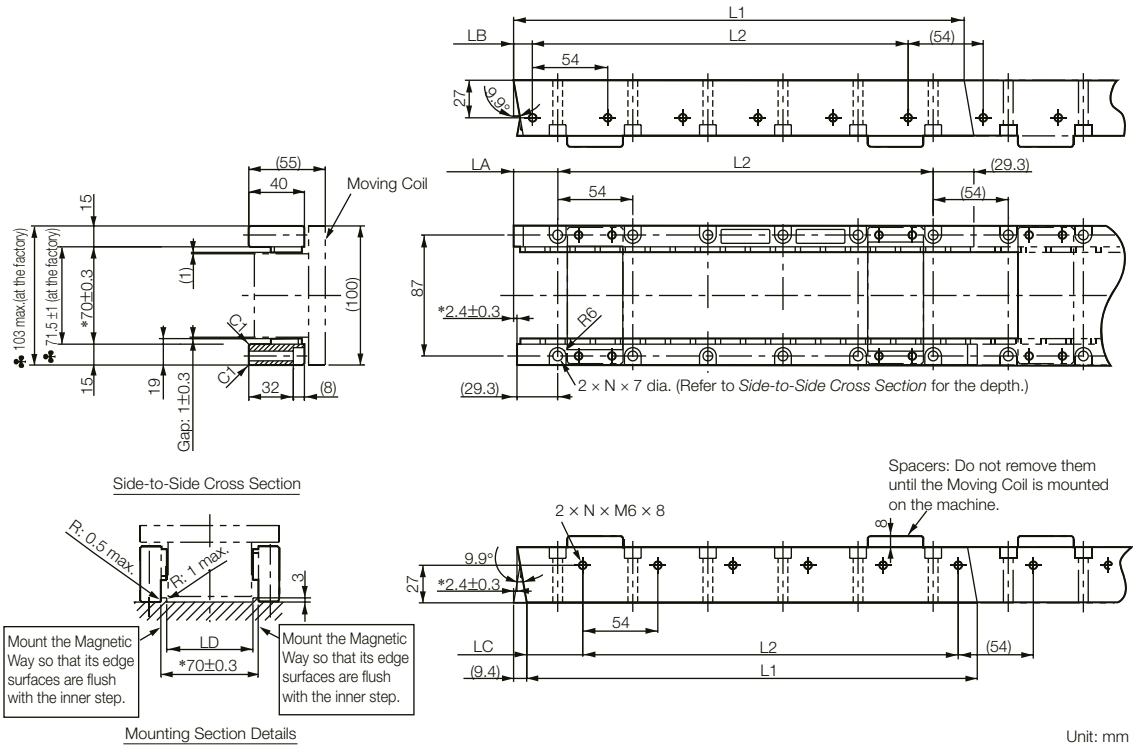
Pin connector: 17JE-23090-02 (D8C)-CG
From DDK Ltd.
Mating Connector
Socket connector: 17JE-13090-02 (D8C)A-CG
Studs: 17L-002C or 17L-002C1

Polarity Sensor Output Signal

The figure on the right shows the relationship between the Su, Sv, and Sw polarity sensor output signals and the inverse power of each motor phase Vu, Vv, and Vw when the Moving Coil moves in the direction indicated by the arrow in the dimensional drawings of the Moving Coil.



Magnetic Ways: SGLTM-20□□□A-E

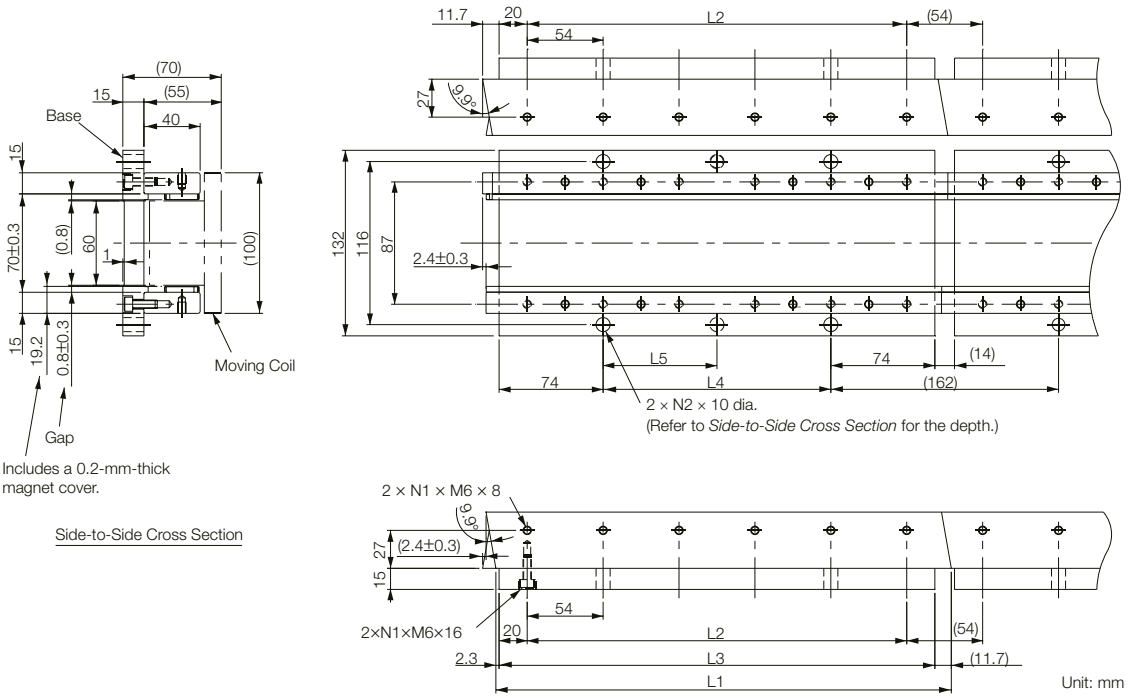


Unit: mm

Note:
1. Two Magnetic Way tracks are used together as a set. For safety, when they are shipped, the two tracks are secured to a mounting spacer made from aluminum.
2. More than one Magnetic Way can be connected.
3. Dimensions with asterisks are the distances between the Magnetic Way tracks. Install the tracks according to the specified dimensions. Observe the dimensions given in Mounting Section Details after installation.
   Dimensions when the Magnetic Way is shipped from the factory are indicated by ♣.
4. Use socket head screws of strength class 10.9 or higher for the Magnetic Way mounting screws. (Do not use stainless steel screws.)

Magnetic Way SGLTM-	L1	L2	LA	LB	LC	LD	N	Approx. Mass [kg]
20324A□	$324^{-0.1}_{-0.3}$	270 (54 × 5)	$31.7^{0}_{-0.2}$	$13.7^{0}_{-0.2}$	$40.3^{0}_{-0.2}$	$62^{+0.6}_{0}$	6	3.4
20540A□	$540^{-0.1}_{-0.3}$	486 (54 × 9)	$31.7^{0}_{-0.2}$	$13.7^{0}_{-0.2}$	$40.3^{0}_{-0.2}$	$62^{+0.6}_{0}$	10	5.7
20756A□	$756^{-0.1}_{-0.3}$	702 (54 × 13)	$31.7^{0}_{-0.2}$	$13.7^{0}_{-0.2}$	$40.3^{0}_{-0.2}$	$62^{+0.6}_{0}$	14	7.9

Magnetic Ways with Bases: SGLTM-20□□□AY-E

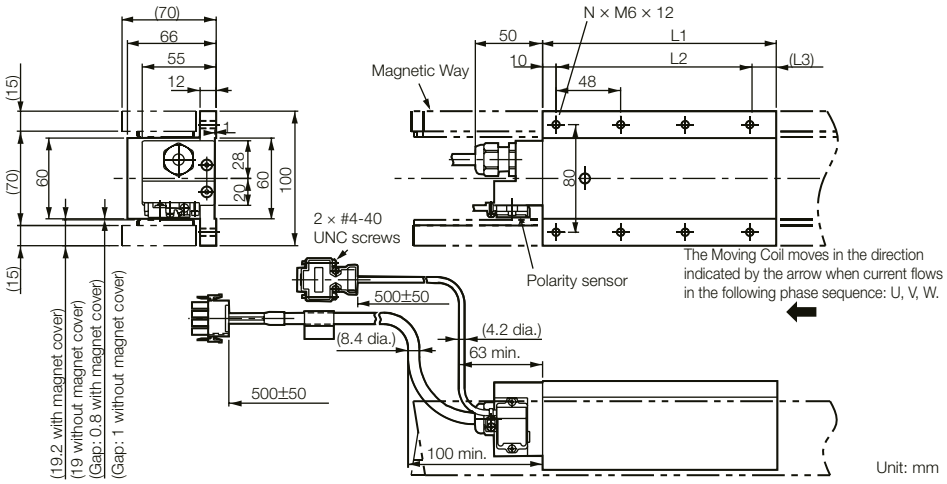


Note: Two Magnetic Way tracks are used together as a set. More than one Magnetic Way can be connected.

Magnetic Way SGLTM-	L1	L2	L3	L4	L5	N1	N2	Approx. Mass [kg]
20324AY	$324^{-0.1}_{-0.3}$	270	310	162	162	6	2	5.1
20540AY	$540^{-0.1}_{-0.3}$	486	526	378	189	10	3	8.5
20756AY	$756^{-0.1}_{-0.3}$	702	742	594	198	14	4	12

SGLTW-35: Standard Models

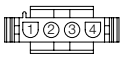
Moving Coils: SGLTW-35A□□□A□-E



Moving Coil Model SGLTW-	L1	L2	(L3)	N	Approx. Mass [kg]
35A170A□	170	144 (48 × 3)	(16)	8	3.7
35A320A□	315	288 (48 × 6)	(17)	14	6.8
35A460A□	460	432 (48 × 9)	(18)	20	6.7

Connector Specifications

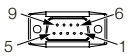
Servomotor Connector



1	Phase U	Red
2	Phase V	White
3	Phase W	Black
4	FG	Green

Plug: 350779-1
Pins: 350218-3 or 350547-3 (No.1 to 3)
350654-1 or 350669-1 (No. 4)
From Tyco Electronics Japan G.K.
Mating Connector
Cap: 350780-1
Socket: 350537-3 or 350550-3

Polarity Sensor Connector

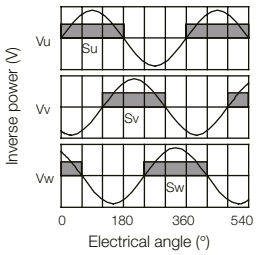


1	+5 V (DC)	6	Not used
2	Phase U	7	
3	Phase V	8	
4	Phase W	9	
5	0 V	–	–

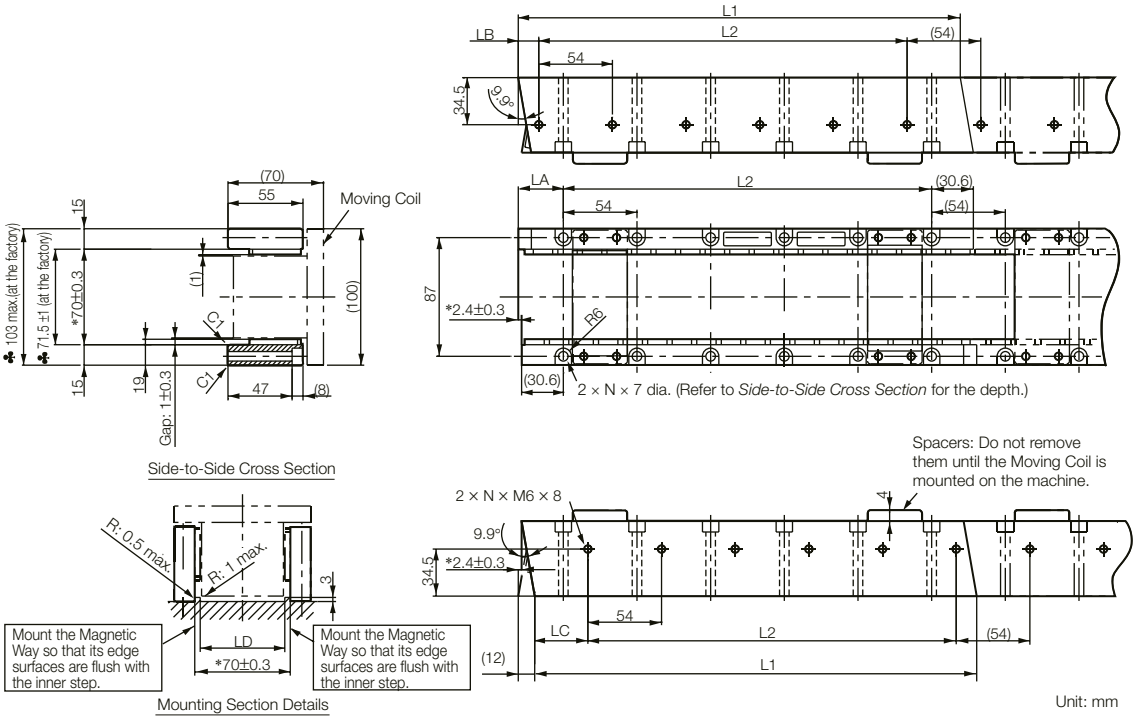
Pin connector: 17JE-23090-02 (D8C)-CG
From DDK Ltd.
Mating Connector
Socket connector: 17JE-13090-02 (D8C)A-CG
Studs: 17L-002C or 17L-002C1

Polarity Sensor Output Signal

The figure on the right shows the relationship between the Su, Sv, and Sw polarity sensor output signals and the inverse power of each motor phase Vu, Vv, and Vw when the Moving Coil moves in the direction indicated by the arrow in the dimensional drawings of the Moving Coil.



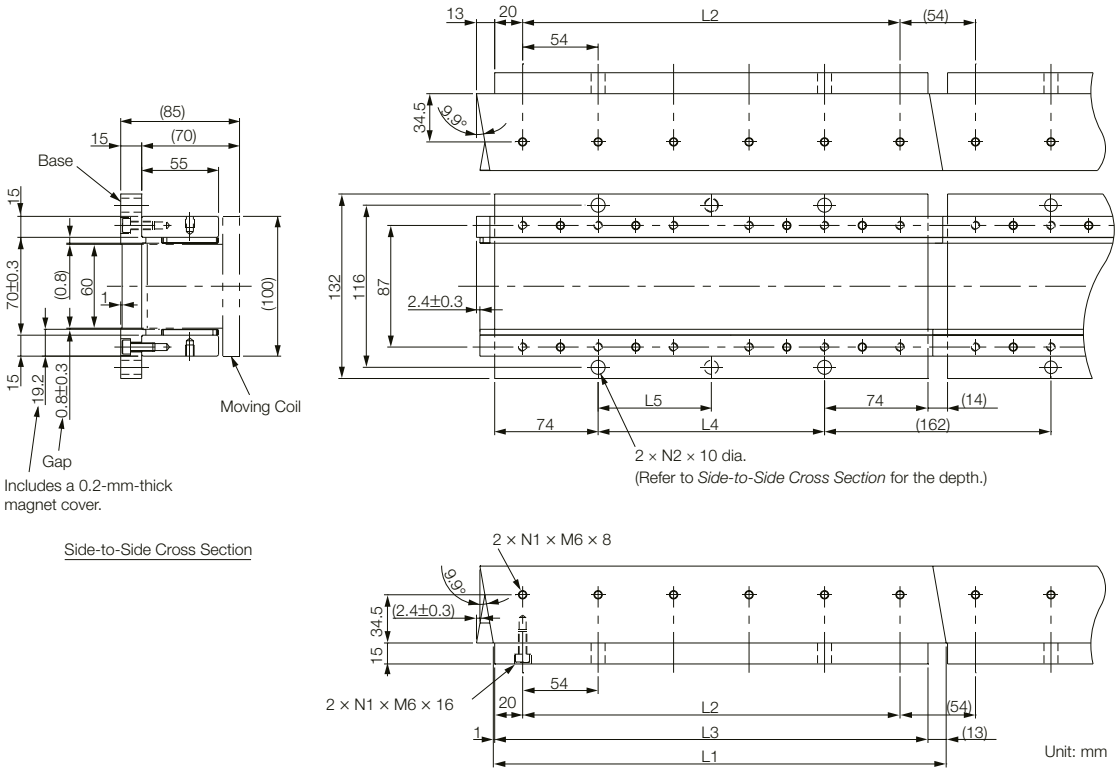
Magnetic Ways: SGLTM-35□□□A□-E



Note:
1. Two Magnetic Way tracks are used together as a set. For safety, when they are shipped, the two tracks are secured to a mounting spacer made from aluminum.
2. More than one Magnetic Way can be connected.
3. Dimensions with asterisks are the distances between the Magnetic Way tracks. Install the tracks according to the specified dimensions. Observe the dimensions given in Mounting Section Details after installation. Dimensions when the Magnetic Way is shipped from the factory are indicated by ♣.
4. Use socket head screws of strength class 10.9 or higher for the Magnetic Way mounting screws. (Do not use stainless steel screws.)

Magnetic Way Model SGLTM-	L1	L2	LA	LB	LC	LD	N	Approx. Mass [kg]
35324A□	$324^{-0.1}_{-0.3}$	270 (54 × 5)	$33^{0}_{-0.2}$	$15^{0}_{-0.2}$	$39^{0}_{-0.2}$	$62^{+0.6}_{0}$	6	4.8
35540A□	$540^{-0.1}_{-0.3}$	486 (54 × 9)	$33^{0}_{-0.2}$	$15^{0}_{-0.2}$	$39^{0}_{-0.2}$	$62^{+0.6}_{0}$	10	8
35756A□	$756^{-0.1}_{-0.3}$	702 (54 × 13)	$33^{0}_{-0.2}$	$15^{0}_{-0.2}$	$39^{0}_{-0.2}$	$62^{+0.6}_{0}$	14	11

Magnetic Ways with Bases: SGLTM-35□□□AY-E

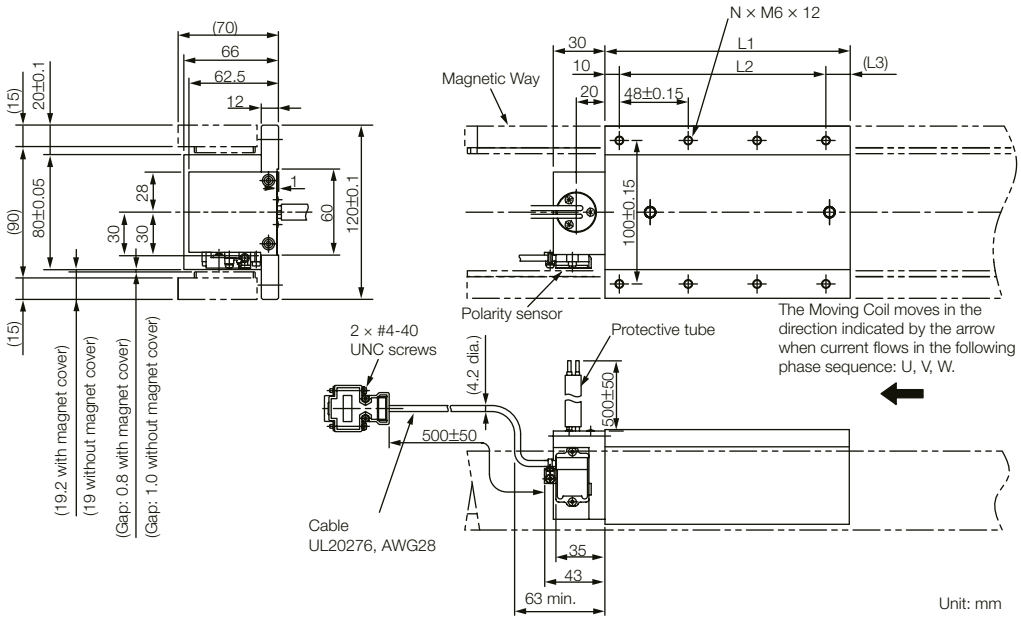


Note: Two Magnetic Way tracks are used together as a set. More than one Magnetic Way can be connected.

Magnetic Way Model SGLTM-	L1	L2	L3	L4	L5	N1	N2	Approx. Mass [kg]
35324AY	$324^{-0.1}_{-0.3}$	270	310	162	162	6	2	6.4
35540AY	$540^{-0.1}_{-0.3}$	486	526	378	189	10	3	11
35756AY	$756^{-0.1}_{-0.3}$	702	742	594	198	14	4	15

SGLTW-35□□□□H□: High-Efficiency Models

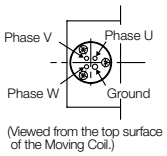
Moving Coils: SGLTW-35A□□□H□-E



Moving Coil Model SGLTW-	L1	L2	L3	N	Approx. Mass [kg]
35A170H□	170	144 (48 × 3)	(16)	8	4.7
35A320H□	315	288 (48 × 6)	(17)	14	8.8

Connector Specifications

Moving Coil Lead



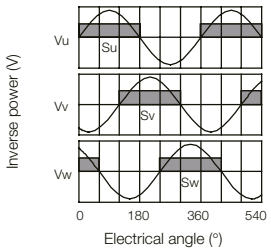
(Viewed from the top surface of the Moving Coil.)

Phase U	Red	U	2 mm²
Phase V	White	V	
Phase W	Black	W	
Ground	Green	–	

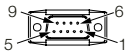
Secure the lead from the Moving Coil of the Linear Servomotor so that it moves together with the Moving Coil.

Polarity Sensor Output Signal

The figure on the right shows the relationship between the Su, Sv, and Sw polarity sensor output signals and the inverse power of each motor phase Vu, Vv, and Vw when the Moving Coil moves in the direction indicated by the arrow in the dimensional drawings of the Moving Coil.



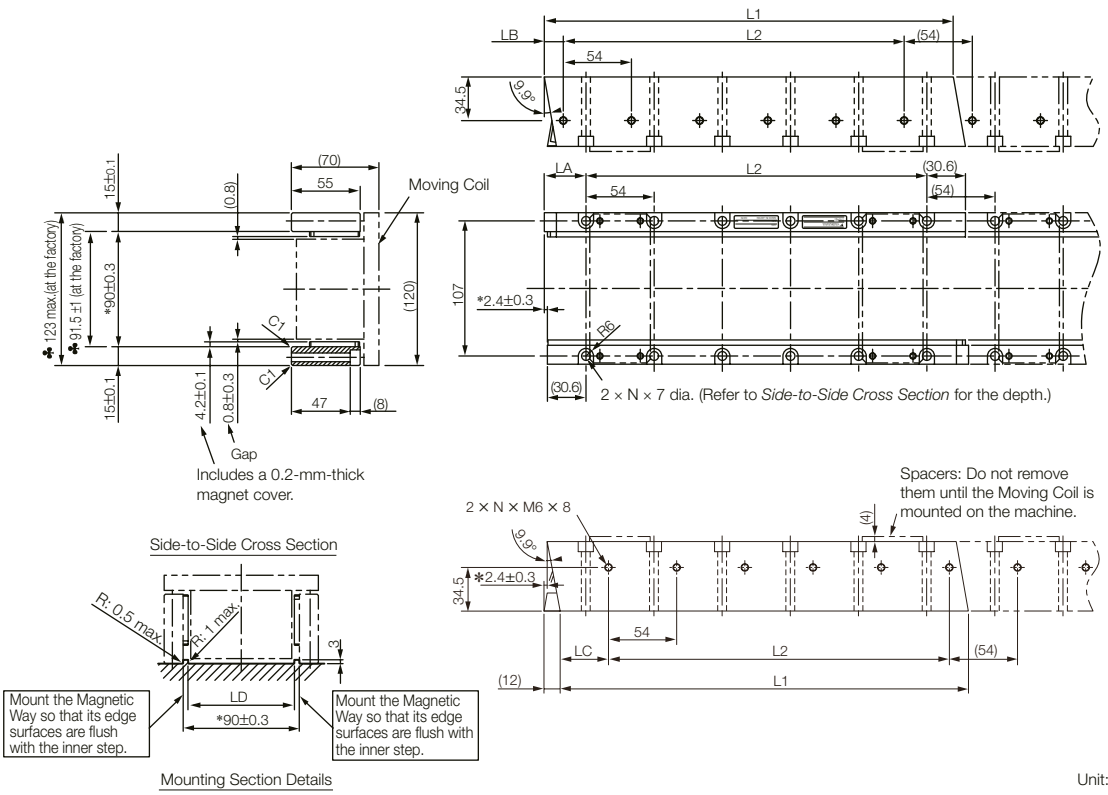
Polarity Sensor Connector



1	+5 V (DC)	6	Not used
2	Phase U	7	
3	Phase V	8	
4	Phase W	9	
5	0 V	–	–

Pin connector: 17JE-23090-02 (D8C)-CG
From DDK Ltd.
Mating Connector
Socket connector: 17JE-13090-02 (D8C)A-CG
Studs: 17L-002C or 17L-002C1

Magnetic Ways: SGLTM-35□□□H□-E

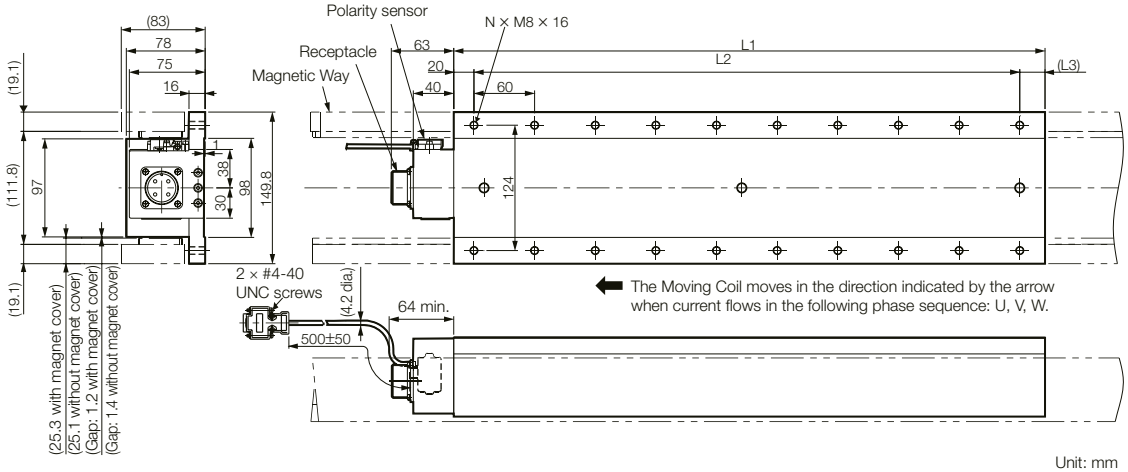


Note:
1. Two Magnetic Way tracks are used together as a set. For safety, when they are shipped, the two tracks are secured to a mounting spacer made from aluminum.
2. More than one Magnetic Way can be connected.
3. Dimensions with asterisks are the distances between the Magnetic Way tracks. Install the tracks according to the specified dimensions. Observe the dimensions given in Mounting Section Details after installation.
   Dimensions when the Magnetic Way is shipped from the factory are indicated by ♣.
4. Use socket head screws of strength class 10.9 or higher for the Magnetic Way mounting screws. (Do not use stainless steel screws.)

Magnetic Way Model SGLTM-	L1	L2	LA	LB	LC	LD	N	Approx. Mass [kg]
35324H□	$324^{-0.1}_{-0.3}$	270 (54 × 5)	$33^{0}_{-0.2}$	$15^{0}_{-0.2}$	$39^{0}_{-0.2}$	$82^{+0.6}_{0}$	6	4.8
35540H□	$540^{-0.1}_{-0.3}$	486 (54 × 9)	$33^{0}_{-0.2}$	$15^{0}_{-0.2}$	$39^{0}_{-0.2}$	$82^{+0.6}_{0}$	10	8
35756H□	$756^{-0.1}_{-0.3}$	702 (54 × 13)	$33^{0}_{-0.2}$	$15^{0}_{-0.2}$	$39^{0}_{-0.2}$	$82^{+0.6}_{0}$	14	11

SGLTW-40: Standard Models

Moving Coils: SGLTW-40A□□□B□-E



Unit: mm

Moving Coil Model SGLTW-	L1	L2	(L3)	N	Approx. Mass [kg]
40A400B□	394.2	360 (60 × 6)	(15)	14	15
40A600B□	574.2	540 (60 × 9)	(15)	20	22

Connector Specifications

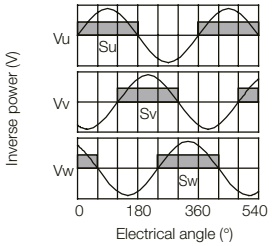
Servomotor Connector

A	Phase U
B	Phase V
C	Phase W
D	Ground

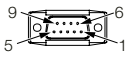
Receptacle: MS3102A-22-22P
From DDK Ltd.
Mating Connector
Right-angle plug: MS3108B22-22S
Straight plug: MS3106B22-22S
Cable clamp: MS3057-12A

Polarity Sensor Output Signal

The figure on the right shows the relationship between the Su, Sv, and Sw polarity sensor output signals and the inverse power of each motor phase Vu, Vv, and Vw when the Moving Coil moves in the direction indicated by the arrow in the dimensional drawings of the Moving Coil.



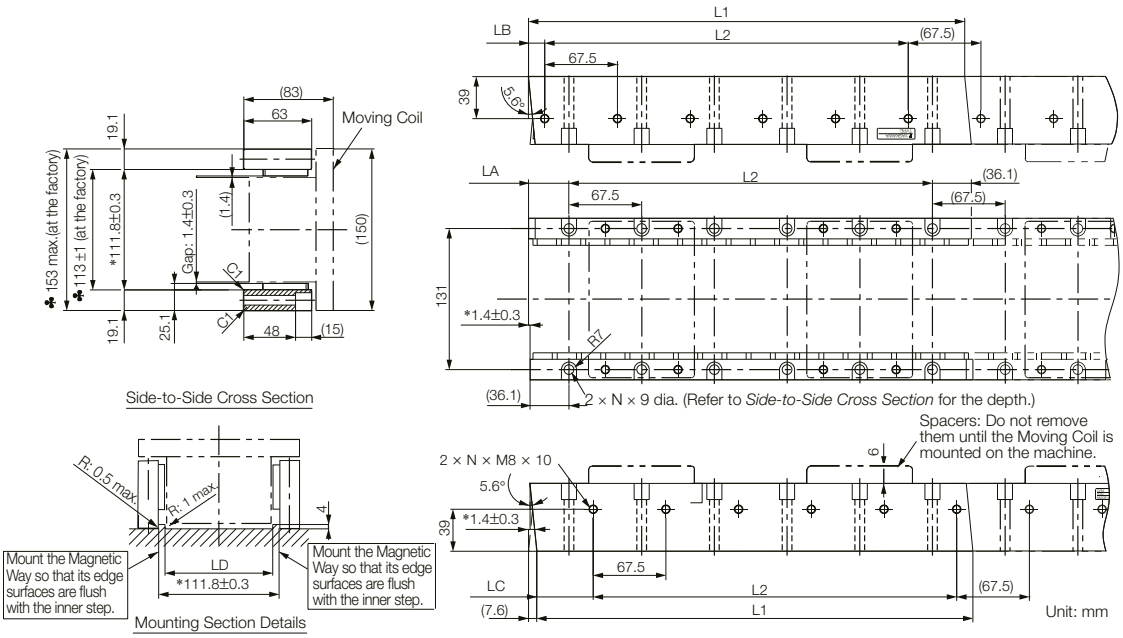
Polarity Sensor Connector



1	+5 V (power supply)	6	Not used
2	Phase U	7	
3	Phase V	8	
4	Phase W	9	
5	0 V (power supply)	–	–

Pin connector: 17JE-23090-02 (D8C)-CG
From DDK Ltd.
Mating Connector
Socket connector: 17JE-13090-02 (D8C)A-CG
Studs: 17L-002C or 17L-002C1

Magnetic Ways: SGLTM-40□□□A□-E

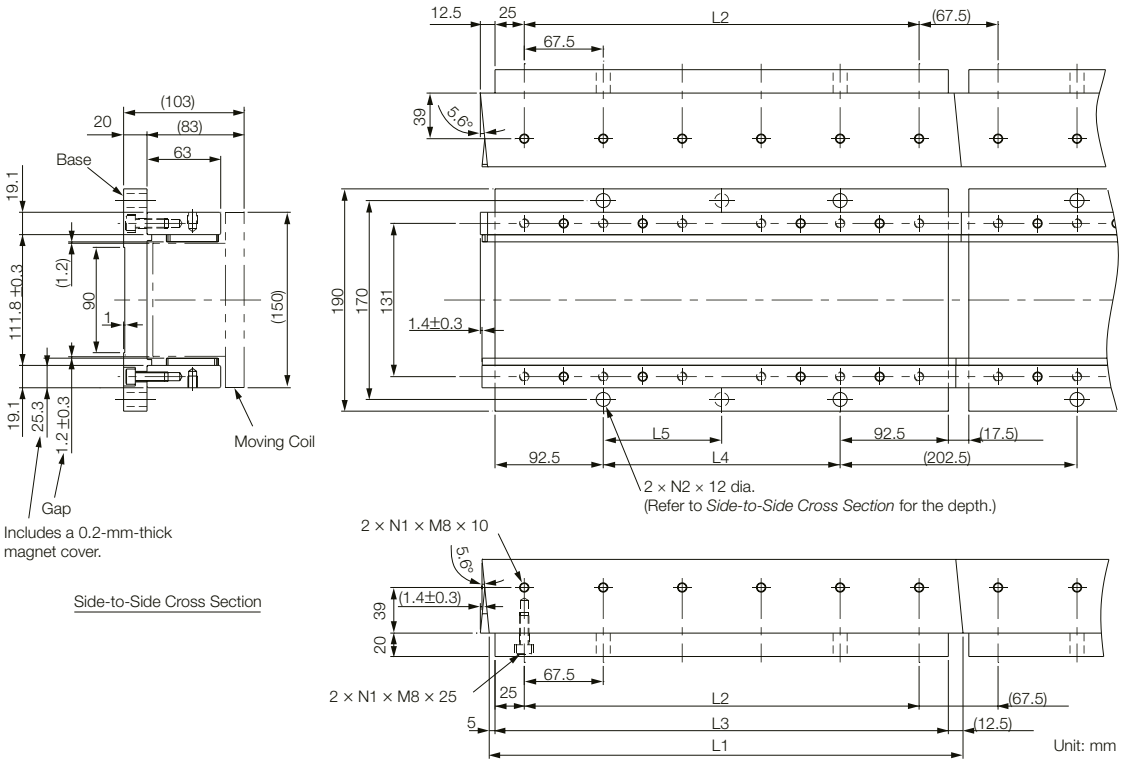


Note:
1. Two Magnetic Way tracks are used together as a set. For safety, when they are shipped, the two tracks are secured to a mounting spacer made from aluminum.
2. More than one Magnetic Way can be connected.
3. Dimensions with asterisks are the distances between the Magnetic Way tracks. Install the tracks according to the specified dimensions. Observe the dimensions given in Mounting Section Details after installation.

   Dimensions when the Magnetic Way is shipped from the factory are indicated by ♣.
4. Use socket head screws of strength class 10.9 or higher for the Magnetic Way mounting screws. (Do not use stainless steel screws.)

Magnetic Way Model SGLTM-	L1	L2	LA	LB	LC	LD	N	Approx. Mass [kg]
40405A□	$405^{-0.1}_{-0.3}$	337.5 (67.5 × 5)	$37.5^{0}_{-0.2}$	$15^{0}_{-0.2}$	$52.2^{0}_{-0.2}$	$100^{+0.6}_{0}$	6	9
40675A□	$675^{-0.1}_{-0.3}$	607.5 (67.5 × 9)	$37.5^{0}_{-0.2}$	$15^{0}_{-0.2}$	$52.5^{0}_{-0.2}$	$100^{+0.6}_{0}$	10	15
40945A□	$945^{-0.1}_{-0.3}$	877.5 (67.5 × 13)	$37.5^{0}_{-0.2}$	$15^{0}_{-0.2}$	$52.5^{0}_{-0.2}$	$100^{+0.6}_{0}$	14	21

Magnetic Ways with Bases: SGLTM-40□□□AY-E

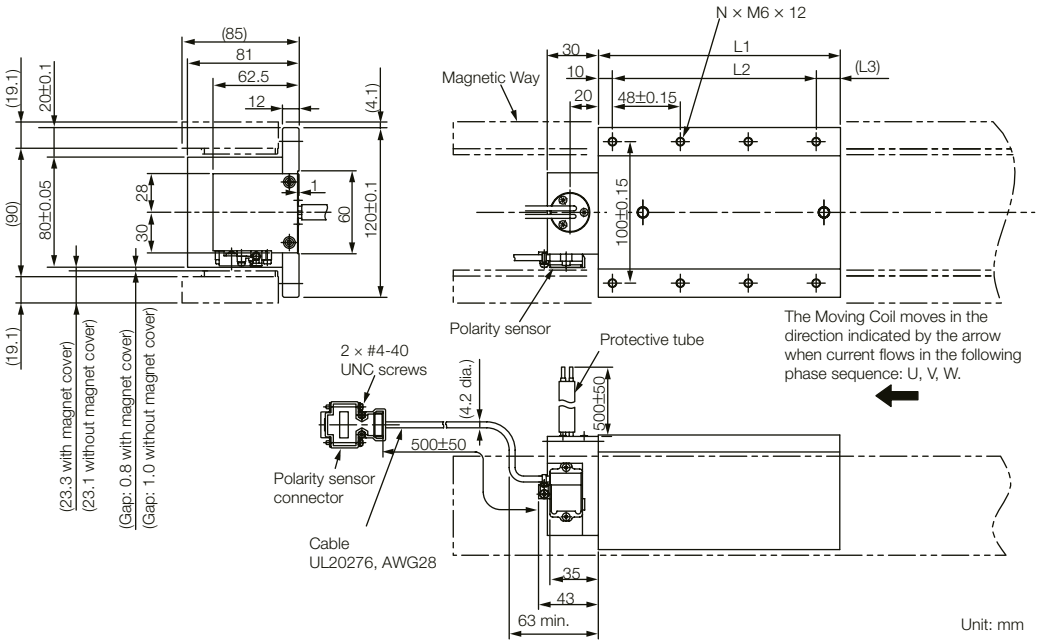


Note: Two Magnetic Way tracks are used together as a set. More than one Magnetic Way can be connected.

Magnetic Way Model SGLTM-	L1	L2	L3	L4	L5	N1	N2	Approx. Mass [kg]
40405AY	$405^{-0.1}_{-0.3}$	337.5	387.5	202.5	202.5	6	2	13
40675AY	$675^{-0.1}_{-0.3}$	607.5	657.5	472.5	236.25	10	3	21
40945AY	$945^{-0.1}_{-0.3}$	877.5	927.5	742.5	247.5	14	4	30

SGLTW-50: High-Efficiency Models

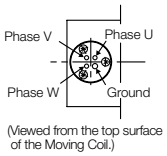
Moving Coils: SGLTW-50A□□□H□-E



Moving Coil Model SGLTW-	L1	L2	(L3)	N	Approx. Mass [kg]
50A170H□	170	144 (48 × 3)	(16)	8	6
50A320H□	315	288 (48 × 6)	(17)	14	11

Connector Specifications

Moving Coil Lead



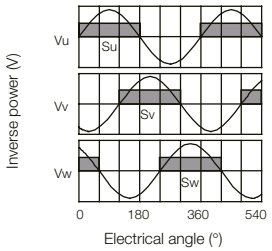
(Viewed from the top surface of the Moving Coil.)

Phase U	Red	U	2 mm²
Phase V	White	V	
Phase W	Black	W	
Ground	Green	–	

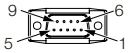
Secure the lead from the Moving Coil of the Linear Servomotor so that it moves together with the Moving Coil.

Polarity Sensor Output Signal

The figure on the right shows the relationship between the Su, Sv, and Sw polarity sensor output signals and the inverse power of each motor phase Vu, Vv, and Vw when the Moving Coil moves in the direction indicated by the arrow in the dimensional drawings of the Moving Coil.



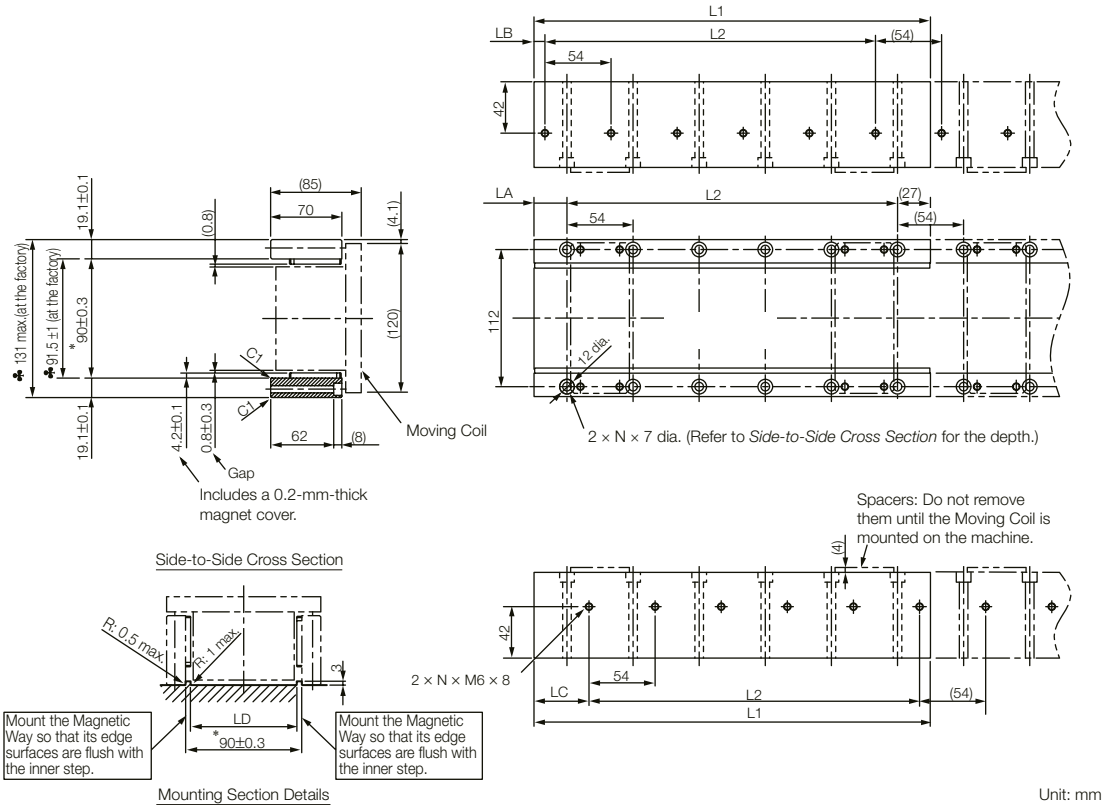
Polarity Sensor Connector



1	+5 V (DC)	6	Not used
2	Phase U	7	
3	Phase V	8	
4	Phase W	9	
5	0 V	–	–

Pin connector: 17JE-23090-02 (D8C)-CG
From DDK Ltd.
Mating Connector
Socket connector: 17JE-13090-02 (D8C)A-CG
Studs: 17L-002C or 17L-002C1

Magnetic Ways: SGLTM-50□□□H□-E



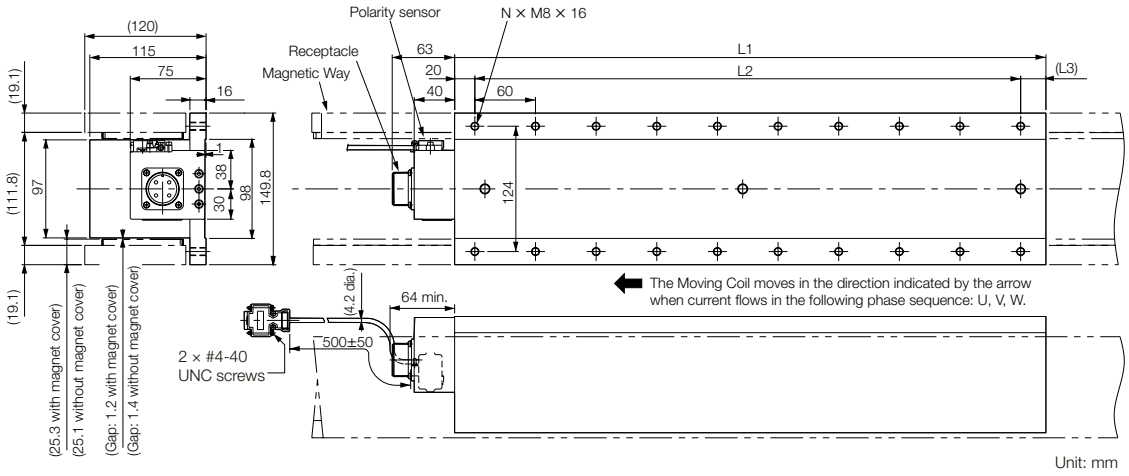
Note:
1. Two Magnetic Way tracks are used together as a set. For safety, when they are shipped, the two tracks are secured to a mounting spacer made from aluminum.
2. More than one Magnetic Way can be connected.
3. Dimensions with asterisks are the distances between the Magnetic Way tracks. Install the tracks according to the specified dimensions. Observe the dimensions given in Mounting Section Details after installation.

   Dimensions when the Magnetic Way is shipped from the factory are indicated by ♣.
4. Use socket head screws of strength class 10.9 or higher for the Magnetic Way mounting screws. (Do not use stainless steel screws.)

Magnetic Way Model SGLTM-	L1	L2	LA	LB	LC	LD	N	Approx. Mass [kg]
50324H□	$324^{-0.1}_{-0.3}$	270 (54 × 5)	$27^{0}_{-0.2}$	$9^{0}_{-0.2}$	$45^{0}_{-0.2}$	$82^{+0.6}_{0}$	6	8
50540H□	$540^{-0.1}_{-0.3}$	486 (54 × 9)	$27^{0}_{-0.2}$	$9^{0}_{-0.2}$	$45^{0}_{-0.2}$	$82^{+0.6}_{0}$	10	13
50756H□	$756^{-0.1}_{-0.3}$	702 (54 × 13)	$27^{0}_{-0.2}$	$9^{0}_{-0.2}$	$45^{0}_{-0.2}$	$82^{+0.6}_{0}$	14	18

SGLTW-80: Standard Models

Moving Coils: SGLTW-80A□□□B□-E



Unit: mm

Moving Coil Model SGLTW-	L1	L2	(L3)	N	Approx. Mass [kg]
80A400B□	394.2	360 (60 × 6)	(15)	14	24
80A600B□	574.2	540 (60 × 9)	(15)	20	35

Connector Specifications

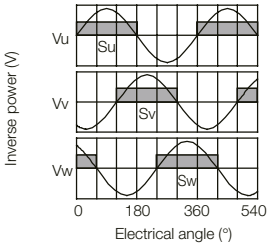
Servomotor Connector

A	Phase U
B	Phase V
C	Phase W
D	Ground

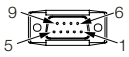
Receptacle: MS3102A-22-22P
From DDK Ltd.
Mating Connector
Right-angle plug: MS3108B22-22S
Straight plug: MS3106B22-22S
Cable clamp: MS3057-12A

Polarity Sensor Output Signal

The figure on the right shows the relationship between the Su, Sv, and Sw polarity sensor output signals and the inverse power of each motor phase Vu, Vv, and Vw when the Moving Coil moves in the direction indicated by the arrow in the dimensional drawings of the Moving Coil.



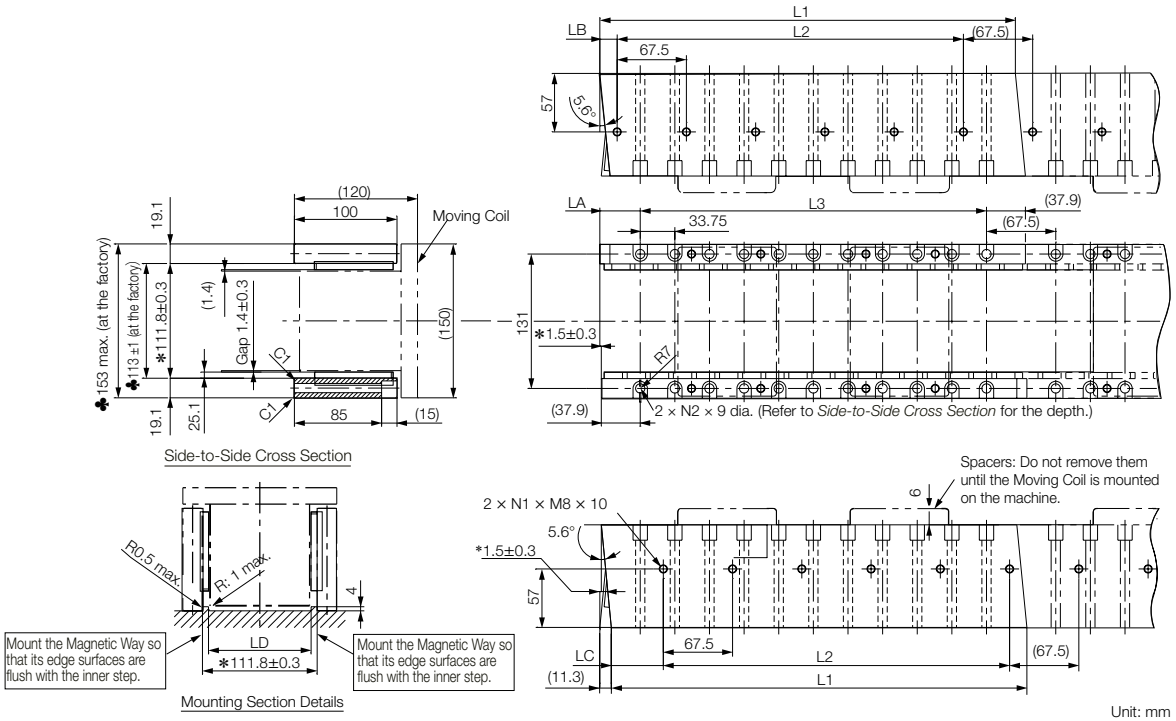
Polarity Sensor Connector



1	+5 V (power supply)	6	Not used
2	Phase U	7	
3	Phase V	8	
4	Phase W	9	
5	0 V (power supply)	–	–

Pin connector: 17JE-23090-02 (D8C)-CG
From DDK Ltd.
Mating Connector
Socket connector: 17JE-13090-02 (D8C)A-CG
Studs: 17L-002C or 17L-002C1

Magnetic Ways: SGLTM-80□□□A□-E

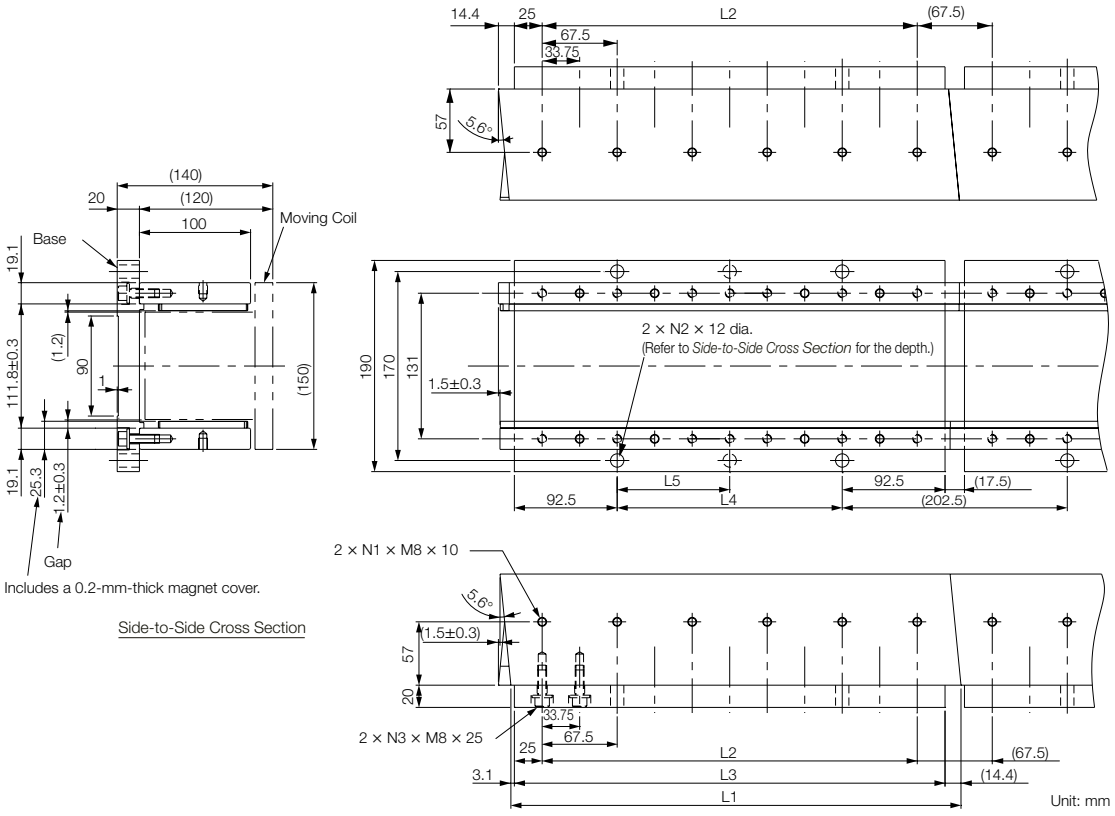


Note:
1. Two Magnetic Way tracks are used together as a set. For safety, when they are shipped, the two tracks are secured to a mounting spacer made from aluminum.
2. More than one Magnetic Way can be connected.
3. Dimensions with asterisks are the distances between the Magnetic Way tracks. Install the tracks according to the specified dimensions. Observe the dimensions given in Mounting Section Details after installation.

   Dimensions when the Magnetic Way is shipped from the factory are indicated by ♣.
4. Use socket head screws of strength class 10.9 or higher for the Magnetic Way mounting screws. (Do not use stainless steel screws.)

Magnetic Way Model SGLTM-	L1	L2	L3	LA	LB	LC	LD	N1	N2	Approx. Mass [kg]
80405A□	$405^{-0.1}_{-0.3}$	337.5 (67.5 × 5)	337.5 (33.75 × 10)	$39.4^{0}_{-0.2}$	$16.9^{0}_{-0.2}$	$50.6^{0}_{-0.2}$	$100^{+0.6}_{0}$	6	11	14
80675A□	$675^{-0.1}_{-0.3}$	607.5 (67.5 × 9)	607.5 (33.75 × 18)	$39.4^{0}_{-0.2}$	$16.9^{0}_{-0.2}$	$50.6^{0}_{-0.2}$	$100^{+0.6}_{0}$	10	19	24
80945A□	$945^{-0.1}_{-0.3}$	877.5 (67.5 × 13)	877.5 (33.75 × 26)	$39.4^{0}_{-0.2}$	$16.9^{0}_{-0.2}$	$50.6^{0}_{-0.2}$	$100^{+0.6}_{0}$	14	27	34

Magnetic Ways: SGLTM-80□□□AY-E



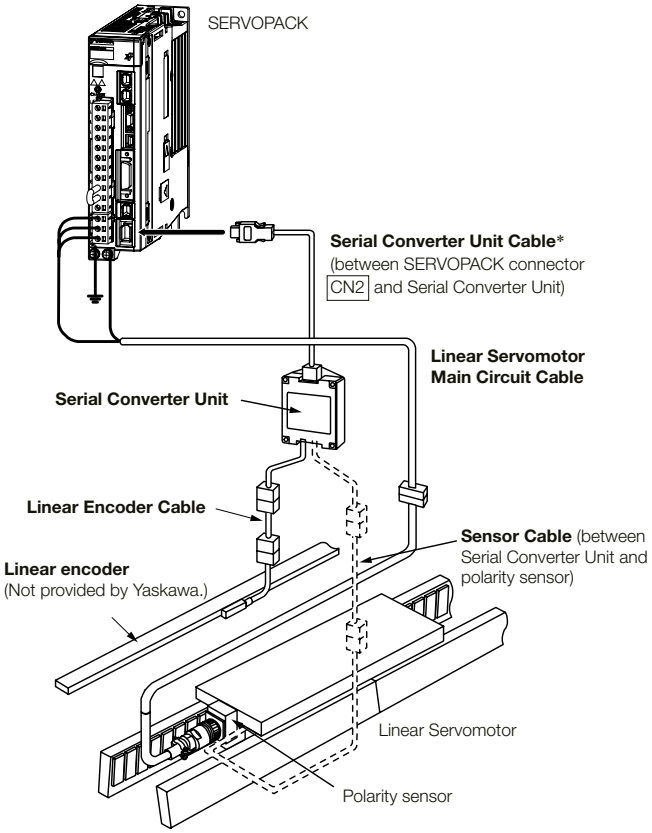
Note: Two Magnetic Way tracks are used together as a set. More than one Magnetic Way can be connected.

Magnetic Way Model SGLTM-	L1	L2	L3	L4	L5	N1	N2	N3	Approx. Mass [kg]
80405AY	$405^{-0.1}_{-0.3}$	337.5	387.5	202.5	202.5	6	2	11	18
80675AY	$675^{-0.1}_{-0.3}$	607.5	657.5	472.5	236.25	10	3	19	31
80945AY	$945^{-0.1}_{-0.3}$	877.5	927.5	742.5	247.5	14	4	27	43

Selecting Cables SGLT

Cable Configurations

To select a Linear Encoder, use Recommended Linear Encoders. Prepare the cable required for the encoder.

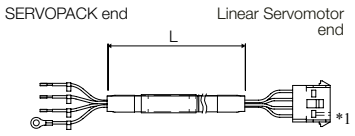
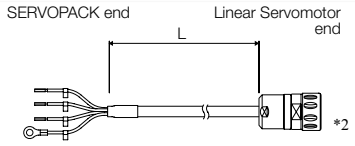
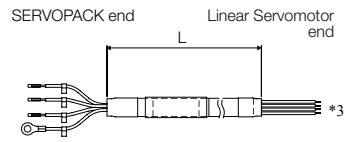


* You can connect directly to an absolute linear encoder.

Note:
Refer to the following manual for the following information.

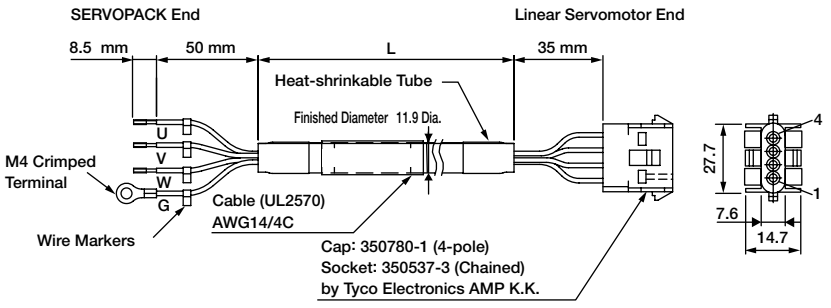
- Cable dimensional drawings and cable connection specifications
- Order numbers and specifications of individual connectors for cables
- Order numbers and specifications for wiring materials
  Sigma-7-Series AC Servo Drive Peripheral Device Selection Manual (Manual No.: SIEP S800001 32)

Linear Servomotor Main Circuit Cables SGLT

Servomotor Model	Length	Order Number	Appearance
SGLTW-20A, -35A	1 m	JZSP-CLN21-01-E	
	3 m	JZSP-CLN21-03-E	
	5 m	JZSP-CLN21-05-E	
	10 m	JZSP-CLN21-10-E	
	15 m	JZSP-CLN21-15-E	
	20 m	JZSP-CLN21-20-E	
SGLTW-□□A□□□□□D	3 m	DP9325254-03G	
	5 m	DP9325254-05G	
	10 m	DP9325254-10G	
	15 m	DP9325254-15G	
	20 m	DP9325254-20G	
SGLTW-40□□□□B□ -80□□□□B□	1 m	JZSP-CLN39-01-E	
	3 m	JZSP-CLN39-03-E	
	5 m	JZSP-CLN39-05-E	
	10 m	JZSP-CLN39-10-E	
	15 m	JZSP-CLN39-15-E	
	20 m	JZSP-CLN39-20-E	

*1. Connector from Tyco Electronics Japan G.K.
*2. Connector from Interconnectron GmbH
*3. A connector is not provided on the Linear Servomotor end. Obtain a connector according to your specifications.
Refer to the next page for information on connectors.

JZSP-CLN21-01-E



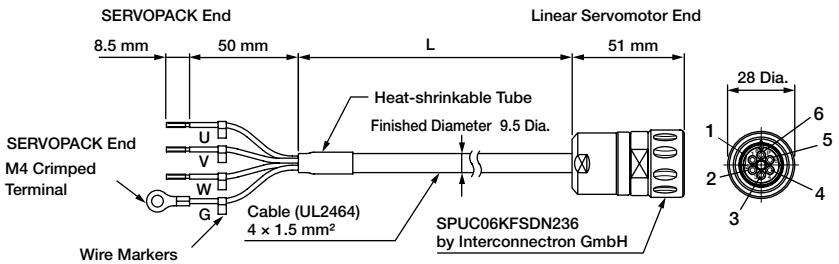
SERVOPACK-end Leads

Wire Color	Signal
Red	Phase U
White	Phase V
Blue	Phase W
Green/yellow	FG

Linear Servomotor-end Connector

Signal	Pin No.
Phase U	1
Phase V	2
Phase W	3
FG	4

DP9325254-□□G



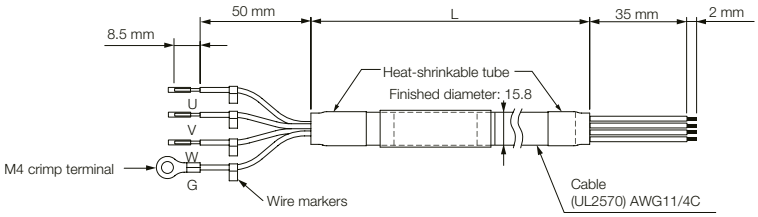
SERVOPACK-end Leads

Wire Color	Signal
Black 1	Phase U
Black 2	Phase V
Black 3	Phase W
Green/yellow	FG

Linear Servomotor-end Connector

Signal	Pin No.
Phase U	1
Phase V	2
Phase W	3
—	4
—	5
FG	6

JZSP-CLN39-□□-E Cables



SERVOPACK Leads

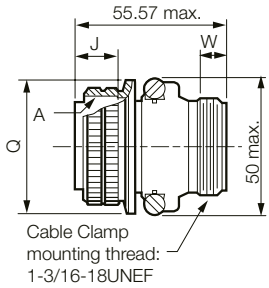
Wire Color	Signal
Red	Phase U
White	Phase V
Blue	Phase W
Green/yellow	FG

Servomotor Connector

Signal	Pin
Phase U	A
Phase V	B
Phase W	C
FG	D

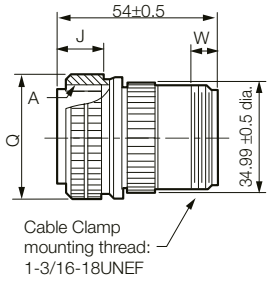
Applicable Servomotor	Connector Provided with Servomotor	Plug		Cable Clamp
		Straight	Right-angle	
SGLTW-40 and -80	MS3102A22-22P	MS3106B22-22S or MS3106A22-22S	MS3108B22-22S	MS3057-12A

MS3106B22-2S: Straight Plug with Two-piece Shell



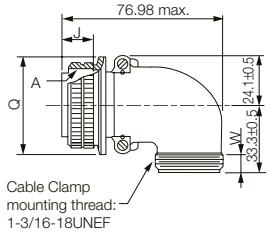
Shell Size	Joint Thread A	Length of Joint J ±0.12	Joint Nut Outer Diameter Q +0/-0.38	Effective Thread Length W min.
22 mm	1-3/8-18UNEF	18.26 mm	40.48 mm	9.53 mm

MS3106A22-2S: Straight Plug with Solid Shell



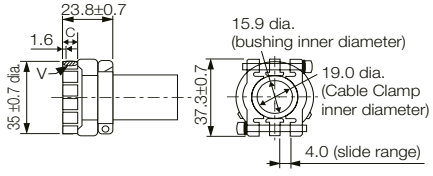
Shell Size	Joint Thread A	Length of Joint J ±0.12	Joint Nut Outer Diameter Q +0/-0.38	Effective Thread Length W min.
22 mm	1-3/8-18UNEF	18.26 mm	40.48 mm	9.53 mm

MS3108B22-2S: Right-angle Plug with Two-piece Shell



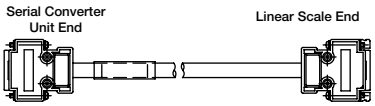
Shell Size	Joint Thread A	Length of Joint J ±0.12	Joint Nut Outer Diameter Q +0/-0.38	Effective Thread Length W min.
22 mm	1-3/8-18UNEF	18.26 mm	40.48 mm	9.53 mm

Dimensional Drawings: MS3057-12A Cable Clamp with Rubber Bushing



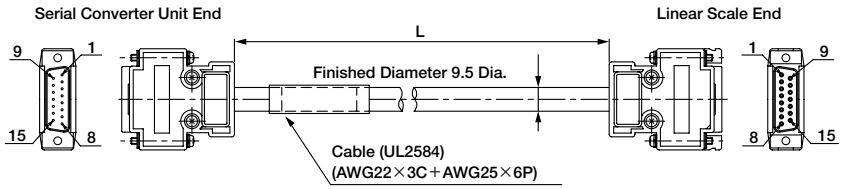
Applicable Connector Shell Size	Effective Thread Length C	Mounting Thread V	Attached Bushing
20.22 mm	10.3 mm	1-3/16-18UNEF	AN3420-12

Cables for connecting Linear Scales SGLT

Servomotor Model	Length	Order Number	Appearance
All Models	1 m	JZSP-CLL00-01-E-G#	
	3 m	JZSP-CLL00-03-E-G#	
	5 m	JZSP-CLL00-05-E-G#	
	10 m	JZSP-CLL00-10-E-G#	
	15 m	JZSP-CLL00-15-E-G#	

Note: When using serial converter unit JZDP-G00□-□□□-E, the maximum cable length is 3 m.
The digit "#" of the order number represents the design revision.

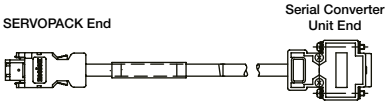
Connector:
17JE-23150-02 (D8C)
(15-pin, soldered)
by DDK Ltd.



Connector:
17JE-13150-02 (D8C)
(With stud)
(15-pin, soldered)
by DDK Ltd.

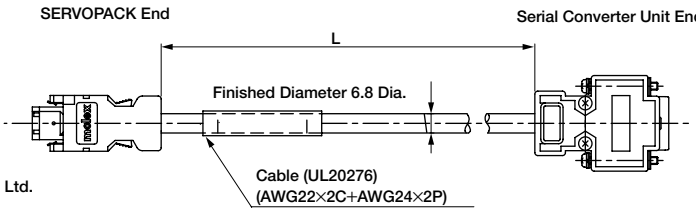
Serial Converter Unit End		Linear Scale End	
Pin No.	Signal	Pin No.	Signal
1	/Cos (V1-)	1	/Cos (V1-)
2	/Sin (V2-)	2	/Sin (V2-)
3	Ref (V0+)	3	Ref (V0+)
4	+5V	4	+5V
5	5Vs	5	5Vs
6	BID	6	BID
7	Vx	7	Vx
8	Vq	8	Vq
9	Cos (V1+)	9	Cos (V1+)
10	Sin (V2+)	10	Sin (V2+)
11	/Ref (V0+)	11	/Ref (V0-)
12	0V	12	0V
13	0Vs	13	0Vs
14	DIR	14	DIR
15	Inner	15	Inner
Case	Shield	Case	Shield

Cables for connecting Serial Converter Units SGLT

Servomotor Model	Length	Order Number	Appearance
All Models	1 m	JZSP-CLP70-01-E-G#	
	3 m	JZSP-CLP70-03-E-G#	
	5 m	JZSP-CLP70-05-E-G#	
	10 m	JZSP-CLP70-10-E-G#	
	15 m	JZSP-CLP70-15-E-G#	
	20 m	JZSP-CLP70-20-E-G#	

Note: When using serial converter unit JZDP-G00□-□□□-E, the maximum cable length is 3 m.
The digit "#" of the order number represents the design revision.

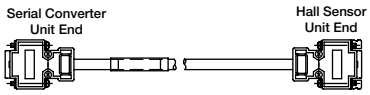
Connector:
55100-0670
(6-pin, soldered)
by Molex Japan Co., Ltd.



Connector:
17JE-23090-02 (D8C)
(9-pin, soldered)
by DDK Ltd.

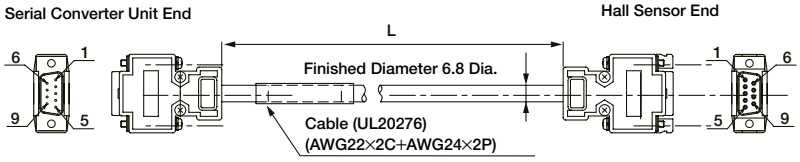
SERVOPACK End			Serial Converter Unit End		
Pin No.	Signal	Wire Color	Pin No.	Signal	Wire Color
1	PG5V	Red	1	+5V	Red
2	PG0V	Black	5	0V	Black
3	-	-	3	-	-
4	-	-	4	-	-
5	PS	Light blue	2	Phase S output	Light blue
6	/PS	Light blue/white	6	Phase /S output	Light blue/white
Shell	Shield	-	Case	Shield	-
			7	-	-
			8	-	-
			9	-	-

Cables for connecting Hall Sensors SGLT

Servomotor Model	Length	Order Number	Appearance
All Models	1 m	JZSP-CLL10-01-E-G#	
	3 m	JZSP-CLL10-03-E-G#	
	5 m	JZSP-CLL10-05-E-G#	
	10 m	JZSP-CLL10-10-E-G#	
	15 m	JZSP-CLL10-15-E-G#	

Note: When using serial converter unit JZDP-G00□-□□□-E, the maximum cable length is 3 m.
The digit "#" of the order number represents the design revision.

Connector:
17JE-23090-02 (D8C)
(9-pin, soldered)
by DDK Ltd.



Connector:
17JE-13090-02 (D8C)
(With stud)
(9-pin, soldered)
by DDK Ltd.

Serial Converter Unit End

Pin No.	Signal
1	+5V
2	Phase U input
3	Phase V input
4	Phase W input
5	0V
6	-
7	-
8	-
9	-
Case	Shield

Hall Sensor End

Pin No.	Signal
1	+5V
2	Phase U input
3	Phase V input
4	Phase W input
5	0V
6	-
7	-
8	-
9	-
Case	Shield