

# SGLT Servomotors

## Model Designations

### Moving Coil



**1st digit** Servomotor Type

Code	Specification
T	With T-type iron core

**5th digit** Power Supply Voltage

Code	Specification
A	200 VAC

**10th digit** Sensor Specification and Cooling Method

Code	Specifications		Applicable Models
	Polarity Sensor (Hall Sensor)	Cooling Method	
None	None	Self-cooled	All models
C*1	None	Water-cooled	SGLTW-40, -80
H*1	Yes	Water-cooled	
P	Yes	Self-cooled	All models

**2nd digit** Moving Coil/Magnetic Way

Code	Specification
W	Moving coil

**6th+7th+8th digits** Length of Moving Coil

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

**3rd+4th digits** Magnet Height

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

**9th digit** Design Revision Order

A, B ...  
H: High-efficiency model

**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** EU Directive Certification

Code	Specification
E	Certified
None	Not certified

\*1 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 combinations of codes.

## Magnetic Way

S G L T M - 20 324 A □

Linear $\Sigma$ series linear servomotors	1st digit	2nd digit	3rd+4th digits	5th+6th+7th digits	8th digit	9th digit
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**1st digit** Servomotor Type  
(Same as for the moving coil.)

**2nd digit** Moving Coil/Magnetic Way

Code	Specification
M	Magnetic way

**3rd+4th digits** Magnet Height  
(Same as for the moving coil.)

**5th+6th+7th digits** Length of Magnetic Way

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

**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*1, -40, -80

**8th digit** Design Revision Order

A, B ...  
H: High-efficiency model

\*1 The SGLTM-35□□□H (high-efficiency models) do not support this specification.

**Note:**

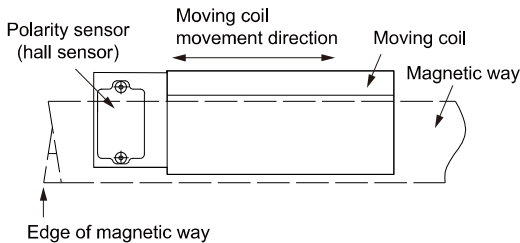
This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

## Precautions on Moving Coils with Polarity Sensors (Hall Sensor)

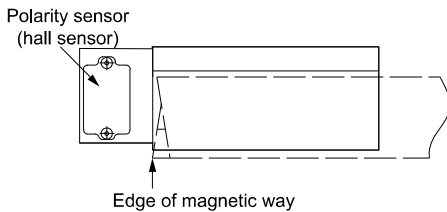
When you use a moving coil with a polarity sensor (hall sensor), the magnetic way must cover the bottom of the polarity sensor (hall sensor). Refer to the example that shows the correct installation.

When determining the length of the moving coil's stroke or the length of the magnetic way, consider the total length (L) of the moving coil and the polarity sensor (hall sensor). Refer to the following table.

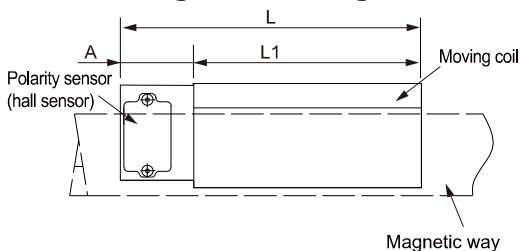
<Correct>



<Incorrect>



### ■ Total Length of Moving Coil with Polarity Sensor (Hall Sensor)



Moving Coil Model SGLTW-	Length of Moving Coil L1 [mm]	Length of Polarity Sensor (Hall 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

## Ratings and Specifications

### Specifications

Linear Servomotor Moving Coil Model SGLTW-	Standard Models										High-efficiency Models			
	20A			35A			40A		80A		35A		50A	
	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													

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Linear Servomotor Moving Coil Model SGLTW-		Standard Models										High-efficiency Models			
		20A			35A			40A		80A		35A		50A	
		170A	320A	460A	170A	320A	460A	400B	600B	400B	600B	170H	320H	170H	320H
Environmental Conditions	Surrounding Air Temperature	0°C to 40°C (with no freezing)													
	Surrounding Air Humidity	20% to 80% relative humidity (with no 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	196 m/s <sup>2</sup>													
	Number of Impacts	2 times													
Vibration Resistance	Vibration Acceleration	49 m/s <sup>2</sup> (the vibration resistance in three directions, vertical, side-to-side, and front-to-back)													

## Ratings

Linear Servomotor Moving Coil Model SGLTW-		Standard Models										High-efficiency Models			
		20A			35A			40A		80A		35A		50A	
		170A	320A	460A	170A	320A	460A	400B	600B	400B	600B	170H	320H	170H	320H
Rated Motor Speed (Reference Speed during Speed Control) *1	m/s	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	1000	1300	2000	300	600	450	900
Maximum Force *1	N	380	760	1140	660	1320	2000	2600	4000	5000	7500	600	1200	900	1800
Rated Current *1	Arms	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	Arms	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/Arms	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	V <sub>rms</sub> /(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/√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

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Linear Servomotor Moving Coil Model SGLTW-		Standard Models										High-efficiency Models			
		20A			35A			40A		80A		35A		50A	
		170A	320A	460A	170A	320A	460A	400B	600B	400B	600B	170H	320H	170H	320H
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 One Side *4	N	800	1590	2380	1400	2780	4170	3950	5890	7650	11400	1400	2780	2000	3980
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	SGDXS-	3R8A	7R6A	120A	5R5A	120A	180A	180A	330A	330A	550A	5R5A	120A	5R5A	120A
	SGDXW-	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 surrounding 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, 35A170A
- 400 mm × 500 mm × 40 mm: SGLTW-20A320A, 20A460A, 35A170H, 35A320A, 35A320H, 35A460A, 50A170H
- 609 mm × 762 mm × 50 mm: SGLTW-40A400B, 40A600B, 50A320H, 80A400B, 80A600B

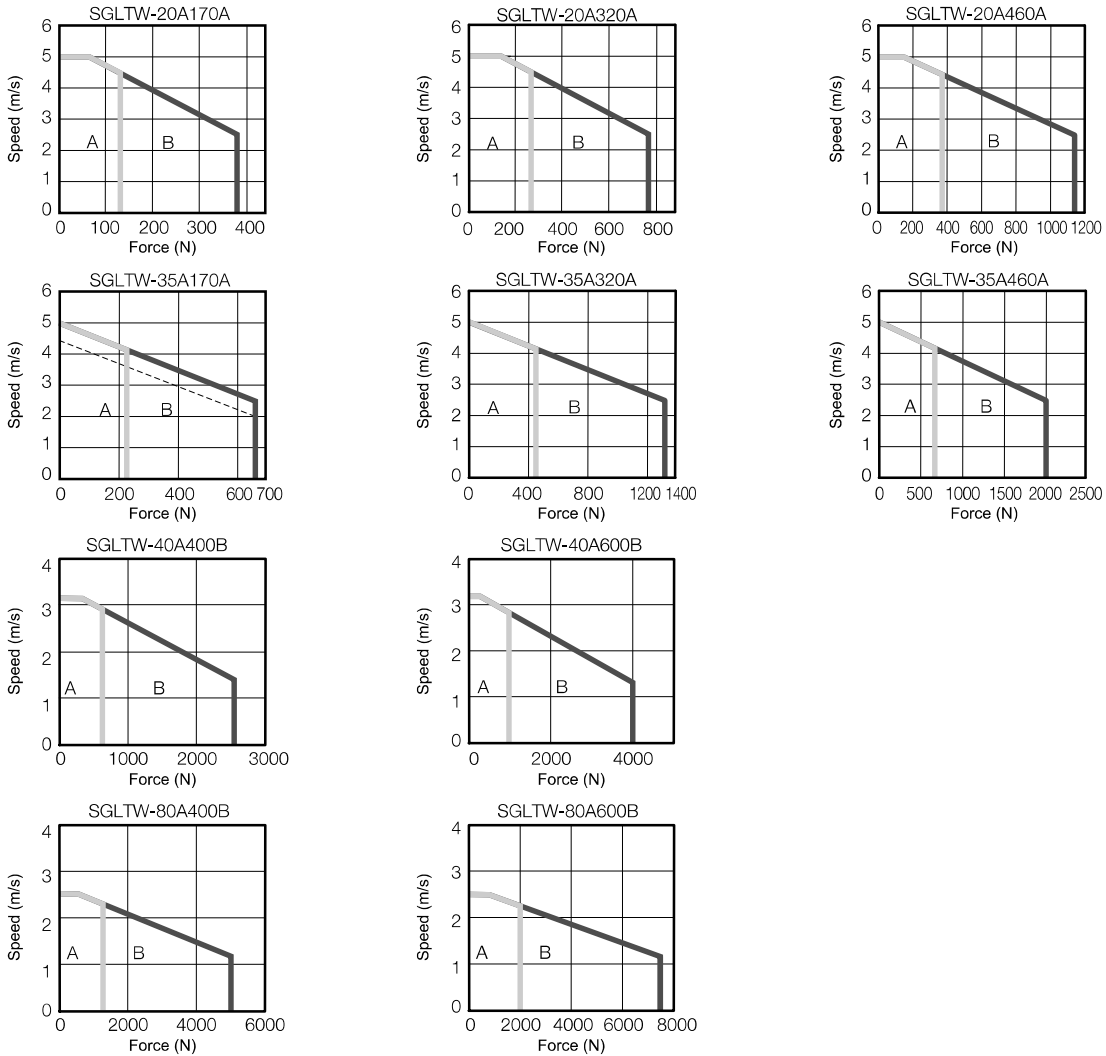
\*3 The unbalanced magnetic gap that results from the moving coil installation condition causes a magnetic attraction on the moving coil.

\*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

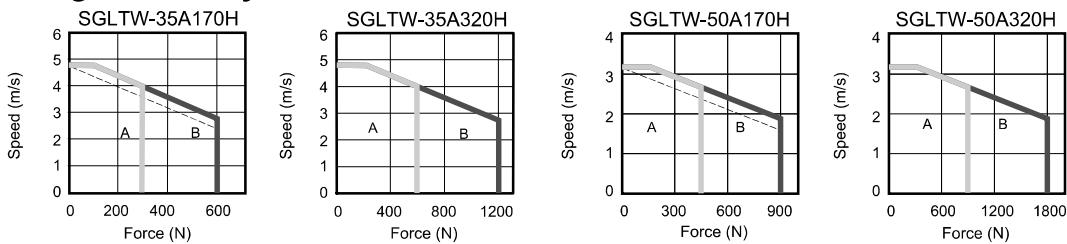
### Standard Models



#### Note:

1. These values are for operation in combination with a SERVOPACK when the temperature of the armature winding is 100°C. These are typical values.
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 main circuit cable that exceeds 20 m, the intermittent duty zone in the torque-motor speed characteristics will become smaller because the voltage drop increases.

### High-efficiency Models



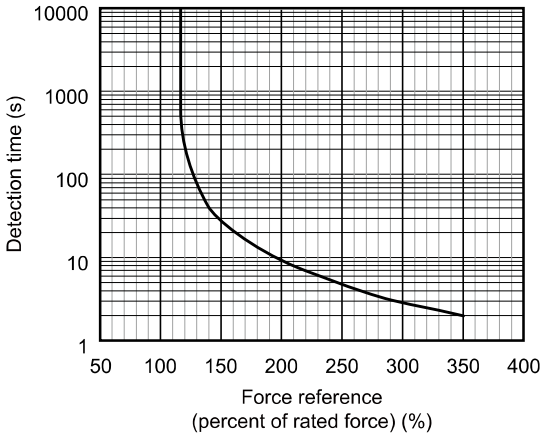
**Note:**

1. These values are for operation in combination with a SERVOPACK when the temperature of the armature winding is 100°C. These are typical values.
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 main circuit cable that exceeds 20 m, the intermittent duty zone in the torque-motor speed characteristics will become smaller because the voltage drop increases.

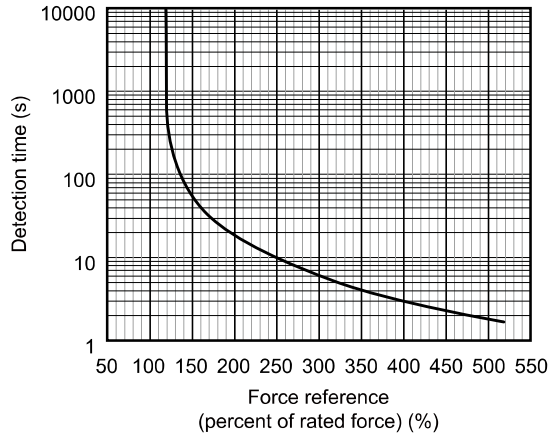
## Servomotor Overload Protection Characteristics

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

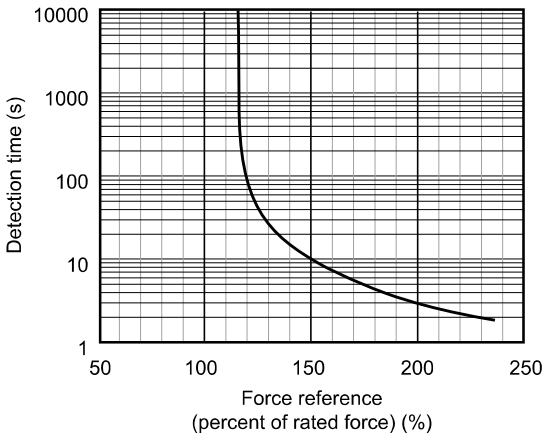
SGLTW-20A□□□A and 35A□□□A



SGLTW-40A□□□B and 80A□□□B



SGLTW-35A□□□H and 50A□□□H



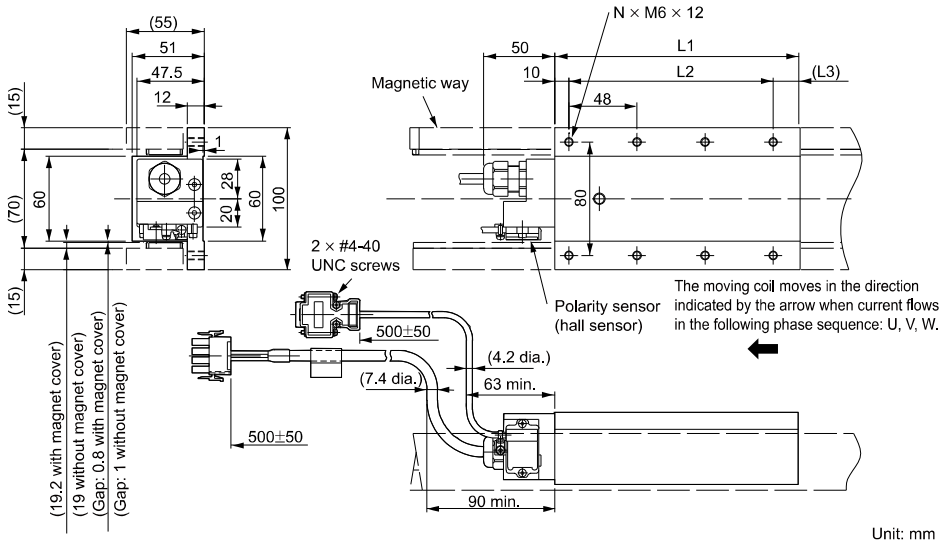
**Note:**

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 on page 357](#).

## External Dimensions

### SGLTW-20: Standard Models

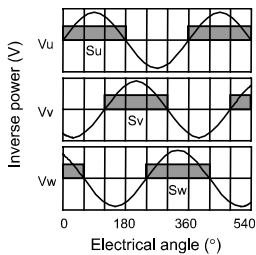
#### ■ Moving Coils: SGLTW-20A□□□A□



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

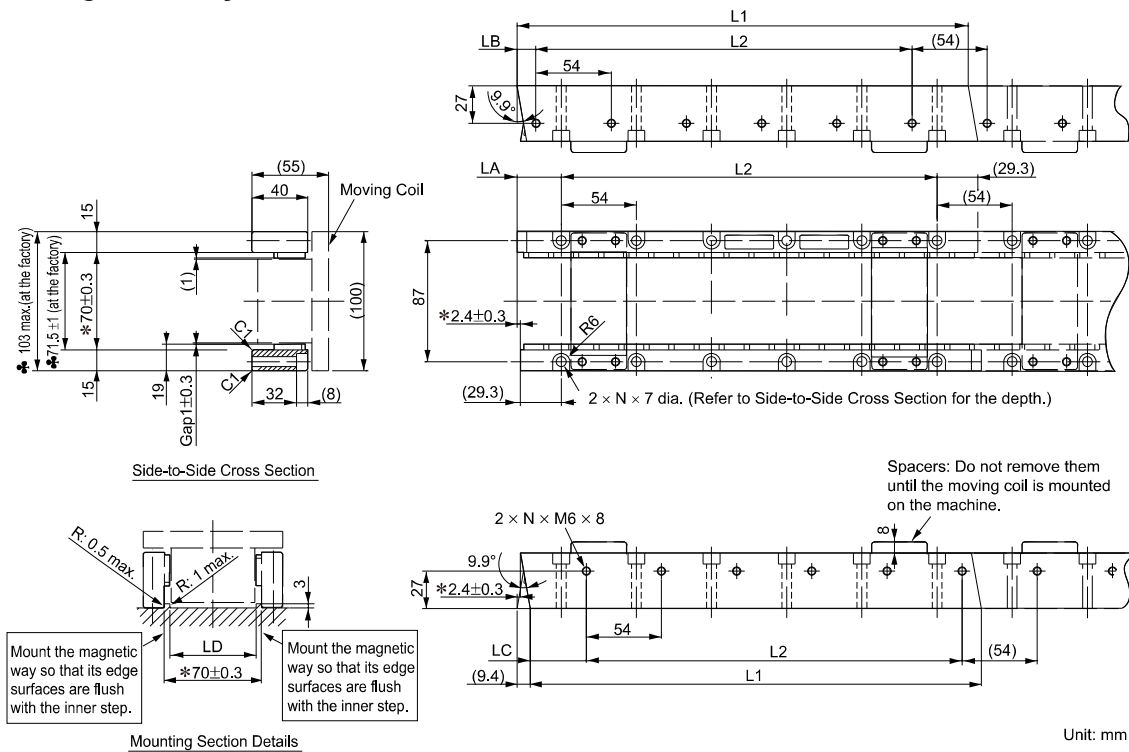
#### ◆ Polarity Sensor (Hall Sensor) Output Signal

The figure on the right shows the relationship between the  $S_u$ ,  $S_v$ , and  $S_w$  polarity sensor (hall sensor) output signals and the inverse power of each motor phase  $V_u$ ,  $V_v$ , and  $V_w$  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

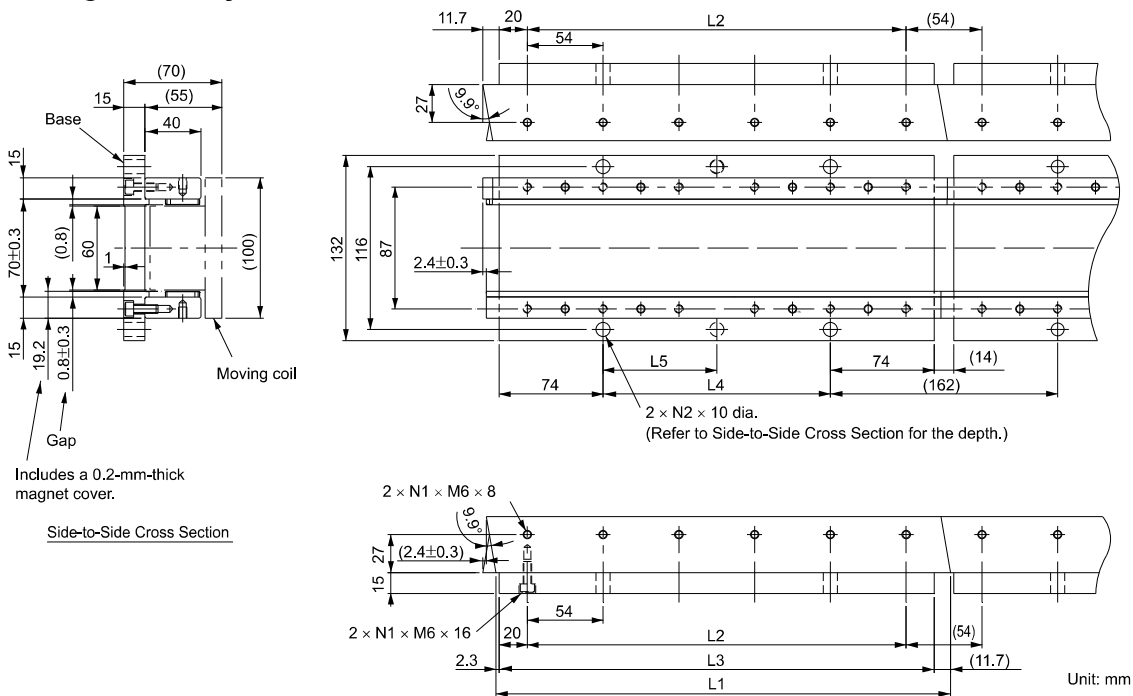


### Note:

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]
20324A□	324 <sup>-0.1</sup> <sub>0.3</sub>	270 (54 × 5)	31.7 <sup>0</sup> <sub>-0.2</sub>	13.7 <sup>0</sup> <sub>-0.2</sub>	40.3 <sup>0</sup> <sub>-0.2</sub>	62 <sup>+0.6</sup> <sub>0</sub>	6	3.4
20540A□	540 <sup>-0.1</sup> <sub>0.3</sub>	486 (54 × 9)	31.7 <sup>0</sup> <sub>-0.2</sub>	13.7 <sup>0</sup> <sub>-0.2</sub>	40.3 <sup>0</sup> <sub>-0.2</sub>	62 <sup>+0.6</sup> <sub>0</sub>	10	5.7
20756A□	756 <sup>-0.1</sup> <sub>0.3</sub>	702 (54 × 13)	31.7 <sup>0</sup> <sub>-0.2</sub>	13.7 <sup>0</sup> <sub>-0.2</sub>	40.3 <sup>0</sup> <sub>-0.2</sub>	62 <sup>+0.6</sup> <sub>0</sub>	14	7.9

### ■ Magnetic Ways with Bases: SGLTM-20□□□AY



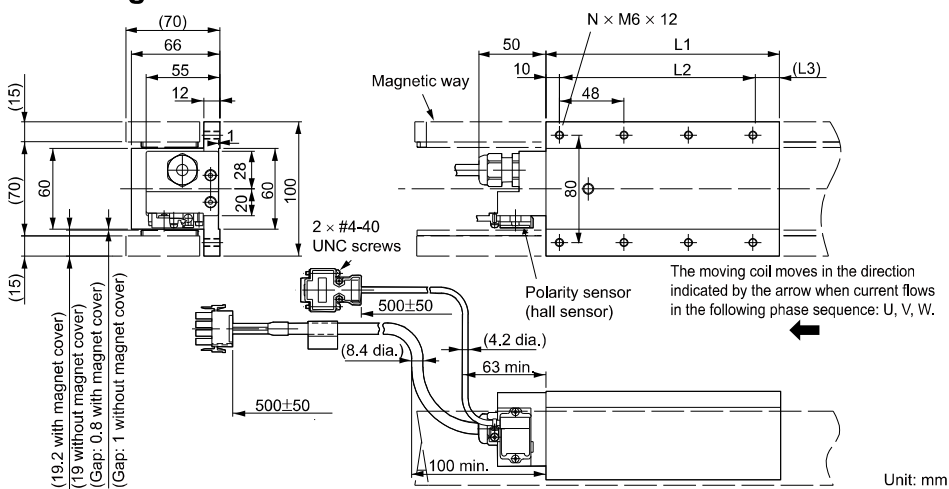
**Note:**

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]
20324AY	324 <sup>-0.1</sup> <sub>0.3</sub>	270	310	162	162	6	2	5.1
20540AY	540 <sup>-0.1</sup> <sub>0.3</sub>	486	526	378	189	10	3	8.5
20756AY	756 <sup>-0.1</sup> <sub>0.3</sub>	702	742	594	198	14	4	12

### SGLTW-35: Standard Models

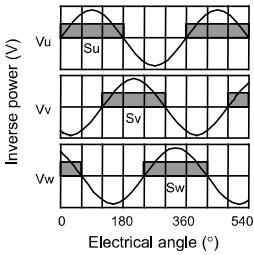
#### ■ Moving Coils: SGLTW-35A□□□A□



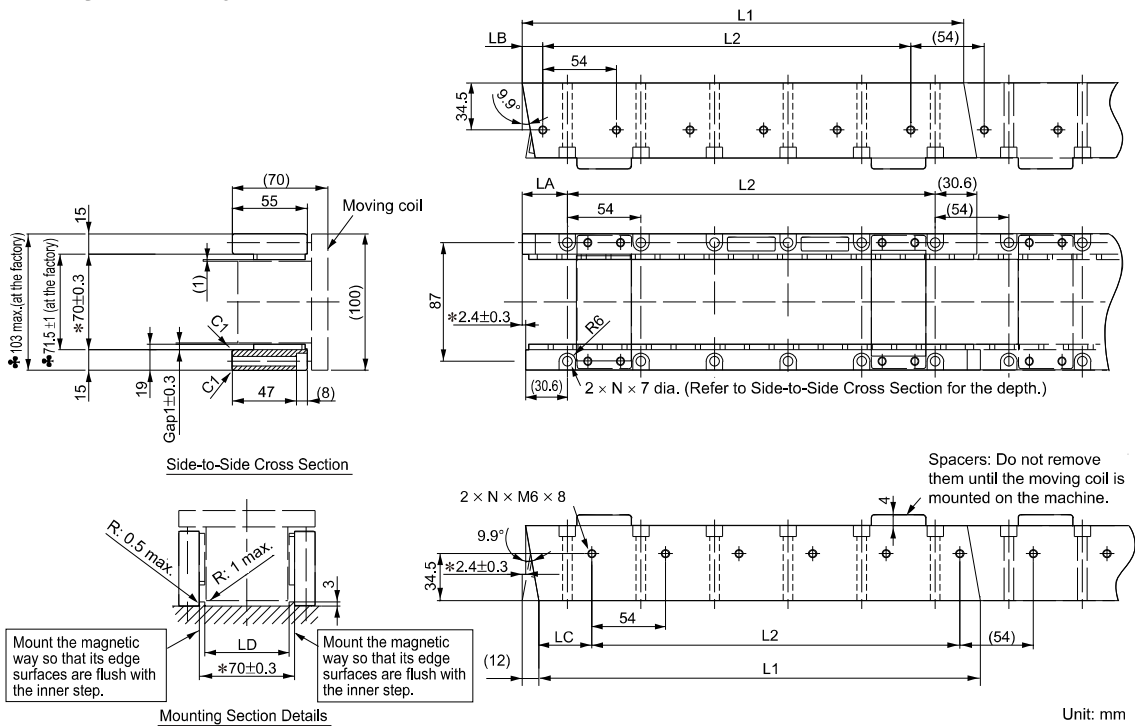
Moving Coil Model SGLTW-	L1	L2	(L3)	N	Approx. Mass [kg]
35A170A□	170	144 (48 × 3)	(16)	8	3.7
35A320A□	315	288 (48 × 6)	(17)	14	6.8
35A460A□	460	432 (48 × 9)	(18)	20	10

### ◆ Polarity Sensor (Hall Sensor) Output Signal

The figure on the right shows the relationship between the Su, Sv, and Sw polarity sensor (hall 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□

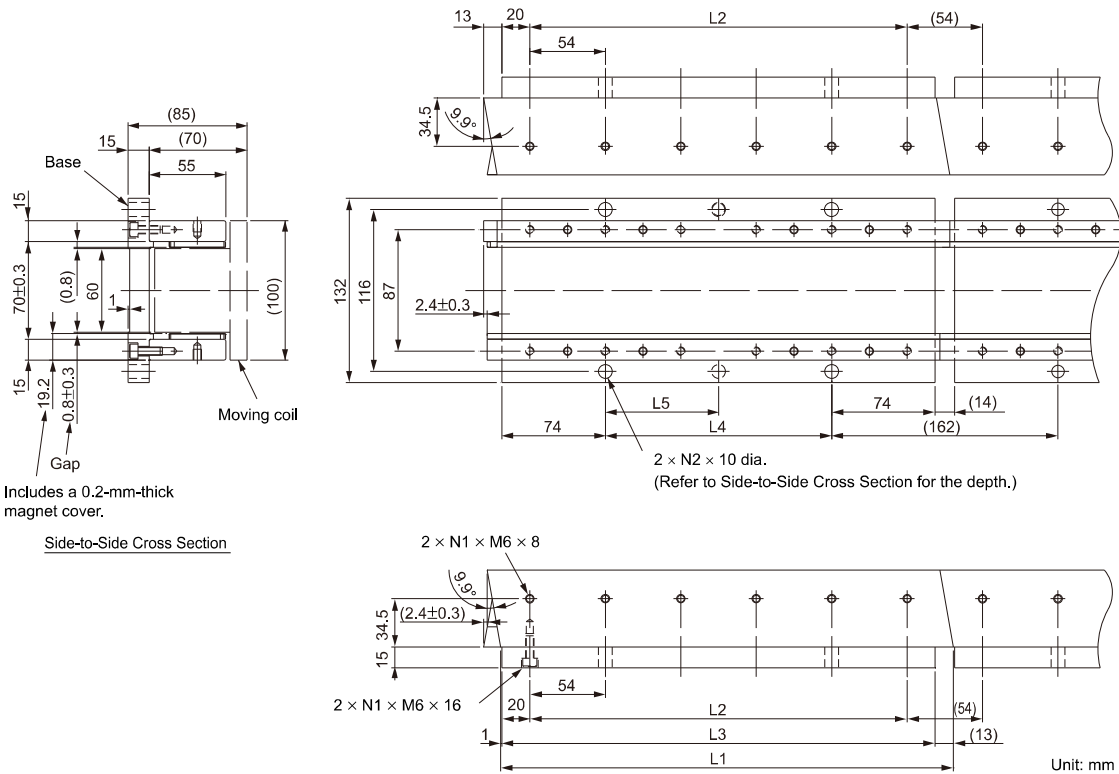


#### Note:

- 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.
- More than one magnetic way can be connected.
- 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 ♣.
- 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 <sup>-0.1</sup> <sub>0.3</sub>	270 (54 × 5)	33 <sup>0</sup> <sub>0.2</sub>	15 <sup>0</sup> <sub>0.2</sub>	39 <sup>0</sup> <sub>0.2</sub>	62 <sup>+0.6</sup> <sub>0</sub>	6	4.8
35540A□	540 <sup>-0.1</sup> <sub>0.3</sub>	486 (54 × 9)	33 <sup>0</sup> <sub>0.2</sub>	15 <sup>0</sup> <sub>0.2</sub>	39 <sup>0</sup> <sub>0.2</sub>	62 <sup>+0.6</sup> <sub>0</sub>	10	8
35756A□	756 <sup>-0.1</sup> <sub>0.3</sub>	702 (54 × 13)	33 <sup>0</sup> <sub>0.2</sub>	15 <sup>0</sup> <sub>0.2</sub>	39 <sup>0</sup> <sub>0.2</sub>	62 <sup>+0.6</sup> <sub>0</sub>	14	11

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



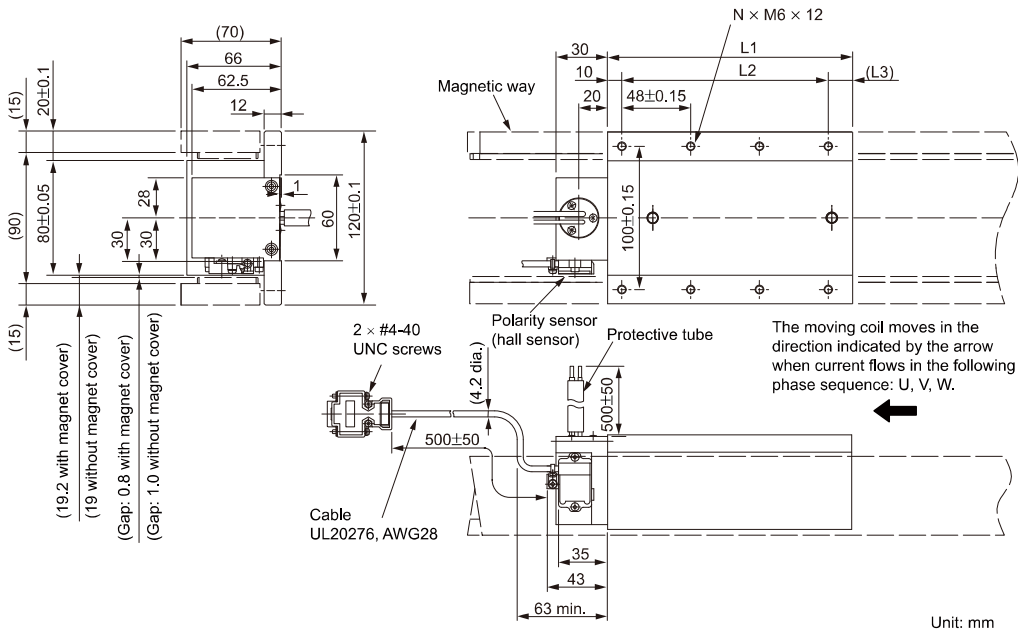
**Note:**

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 <sup>-0.1</sup> <sub>0.3</sub>	270	310	162	162	6	2	6.4
35540AY	540 <sup>-0.1</sup> <sub>0.3</sub>	486	526	378	189	10	3	11
35756AY	756 <sup>-0.1</sup> <sub>0.3</sub>	702	742	594	198	14	4	15

## SGLTW-35□□□□H□: High-efficiency Models

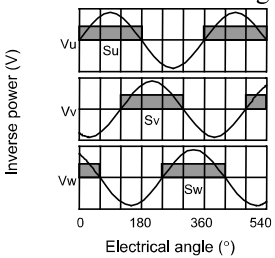
### ■ Moving Coils: SGLTW-35A□□□□H□



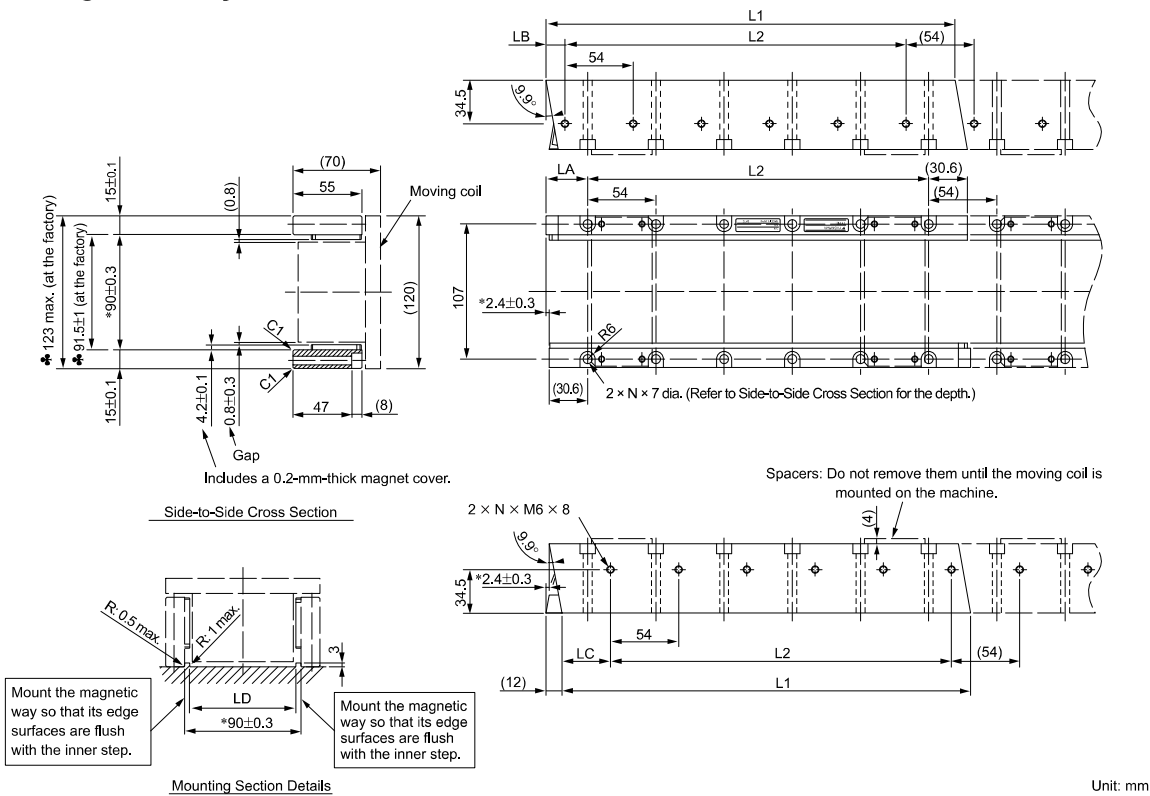
Moving Coil Model SGLTW-	L1	L2	L3	N	Approx. Mass [kg]
35A170H□	170	144 (48 × 3)	(16)	8	4.7
35A320H□	315	288 (48 × 6)	(17)	14	8.8

### ■ Polarity Sensor (Hall Sensor) Output Signal

The figure on the right shows the relationship between the  $S_u$ ,  $S_v$ , and  $S_w$  polarity sensor (hall sensor) output signals and the inverse power of each motor phase  $V_u$ ,  $V_v$ , and  $V_w$  when the moving coil moves in the direction indicated by the arrow in the dimensional drawings of the moving coil.



■ Magnetic Ways: SGLTM-35□□□H□



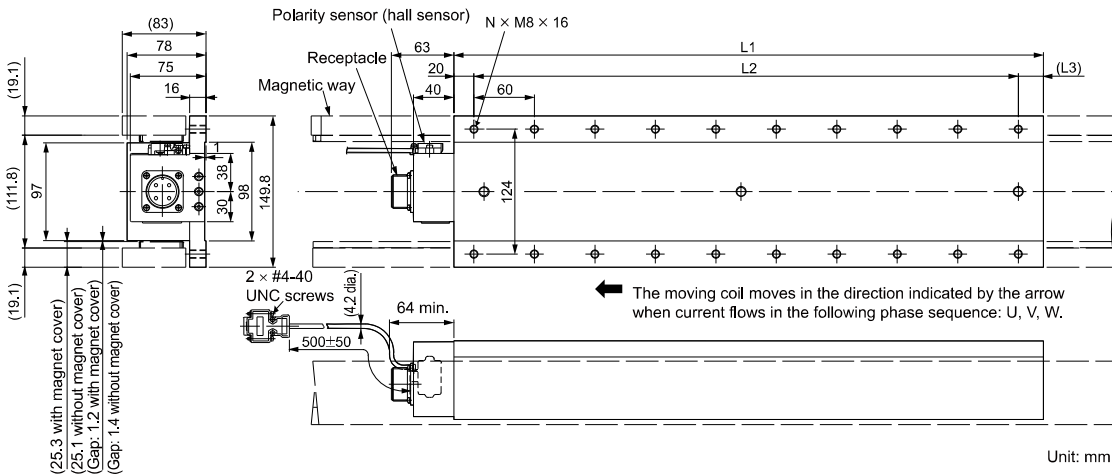
**Note:**

- 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.
- More than one magnetic way can be connected.
- 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 ♣.
- 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 <sup>-0.1</sup> <sub>-0.3</sub>	270 (54 × 5)	33 <sup>0</sup> <sub>-0.2</sub>	15 <sup>0</sup> <sub>-0.2</sub>	39 <sup>0</sup> <sub>-0.2</sub>	82 <sup>+0.6</sup> <sub>0</sub>	6	4.8
35540H□	540 <sup>-0.1</sup> <sub>-0.3</sub>	486 (54 × 9)	33 <sup>0</sup> <sub>-0.2</sub>	15 <sup>0</sup> <sub>-0.2</sub>	39 <sup>0</sup> <sub>-0.2</sub>	82 <sup>+0.6</sup> <sub>0</sub>	10	8
35756H□	756 <sup>-0.1</sup> <sub>-0.3</sub>	702 (54 × 13)	33 <sup>0</sup> <sub>-0.2</sub>	15 <sup>0</sup> <sub>-0.2</sub>	39 <sup>0</sup> <sub>-0.2</sub>	82 <sup>+0.6</sup> <sub>0</sub>	14	11

## SGLTW-40: Standard Models

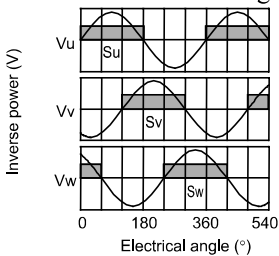
### ■ Moving Coils: SGLTW-40A□□□B□



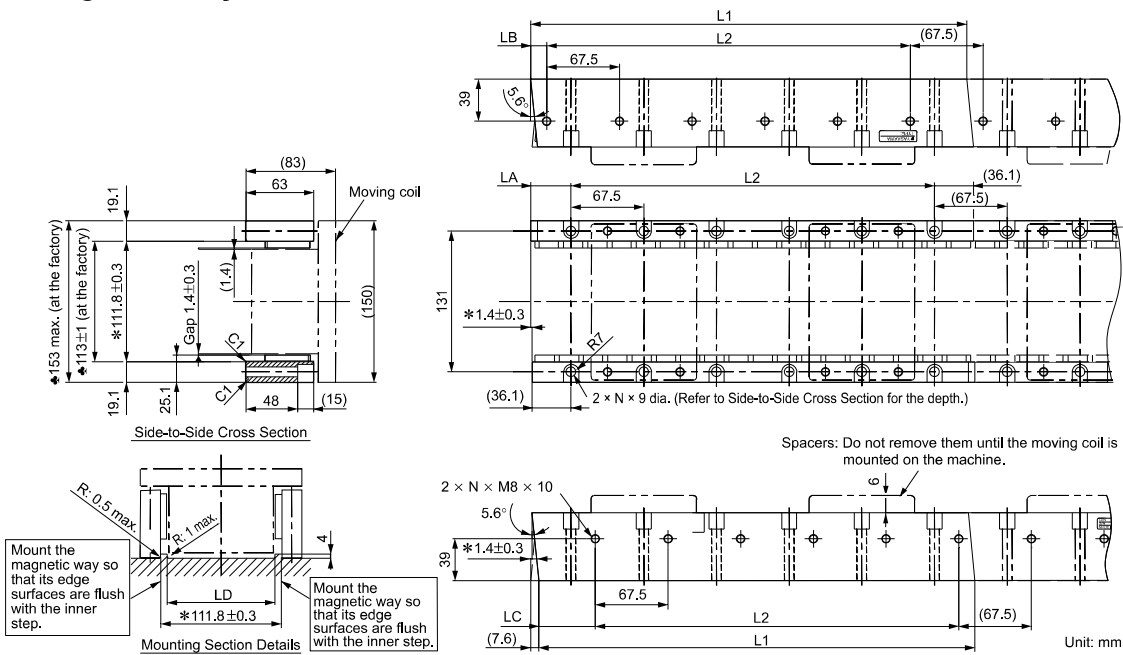
Moving Coil Model SGLTW-	L1	L2	(L3)	N	Approx. Mass [kg]
40A400B□	394.2	360 (60 × 6)	(15)	14	15
40A600B□	574.2	540 (60 × 9)	(15)	20	22

### ◆ Polarity Sensor (Hall Sensor) Output Signal

The figure on the right shows the relationship between the  $S_u$ ,  $S_v$ , and  $S_w$  polarity sensor (hall sensor) output signals and the inverse power of each motor phase  $V_u$ ,  $V_v$ , and  $V_w$  when the moving coil moves in the direction indicated by the arrow in the dimensional drawings of the moving coil.



■ Magnetic Ways: SGLTM-40□□□A□



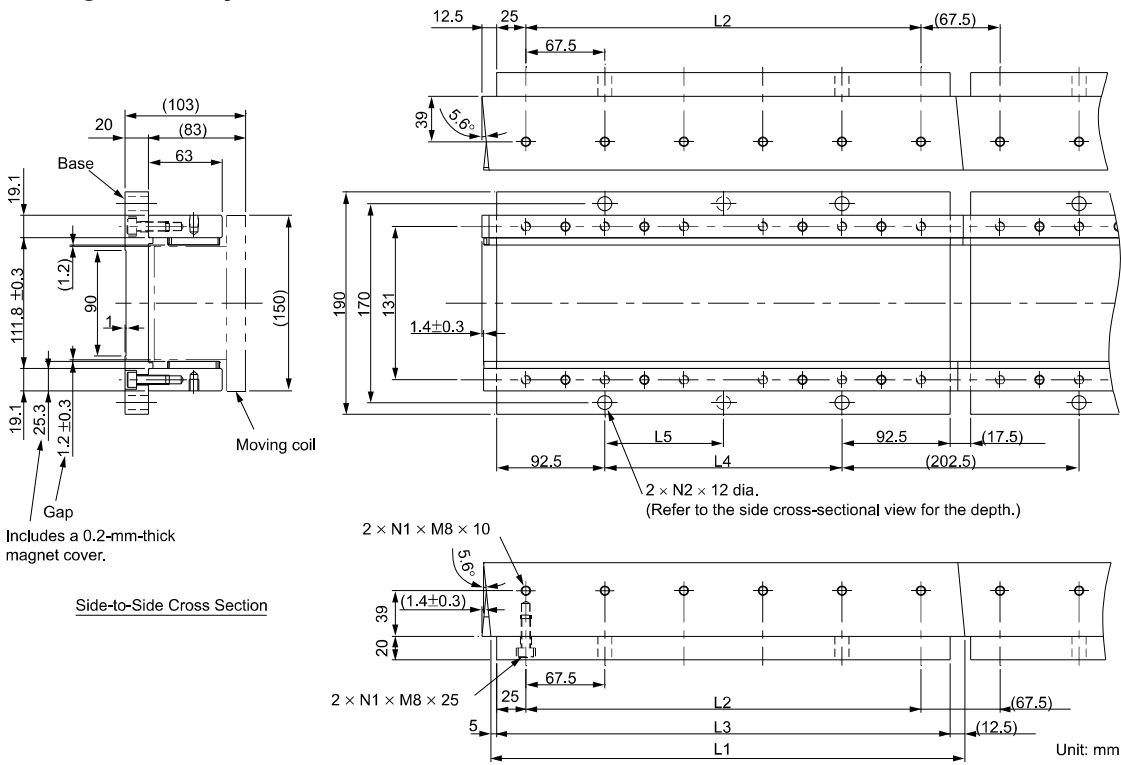
**Note:**

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□	40 <sup>-0.1</sup> <sub>-0.3</sub>	337.5 (67.5 × 5)	37.5 <sup>0</sup> <sub>-0.2</sub>	15 <sup>0</sup> <sub>-0.2</sub>	52.5 <sup>0</sup> <sub>-0.2</sub>	100 <sup>+0.6</sup> <sub>0</sub>	6	9
40675A□	67 <sup>-0.1</sup> <sub>-0.3</sub>	607.5 (67.5 × 9)	37.5 <sup>0</sup> <sub>-0.2</sub>	15 <sup>0</sup> <sub>-0.2</sub>	52.5 <sup>0</sup> <sub>-0.2</sub>	100 <sup>+0.6</sup> <sub>0</sub>	10	15
40945A□	94 <sup>-0.1</sup> <sub>-0.3</sub>	877.5 (67.5 × 13)	37.5 <sup>0</sup> <sub>-0.2</sub>	15 <sup>0</sup> <sub>-0.2</sub>	52.5 <sup>0</sup> <sub>-0.2</sub>	100 <sup>+0.6</sup> <sub>0</sub>	14	21



### ■ Magnetic Ways with Bases: SGLTM-40□□□AY



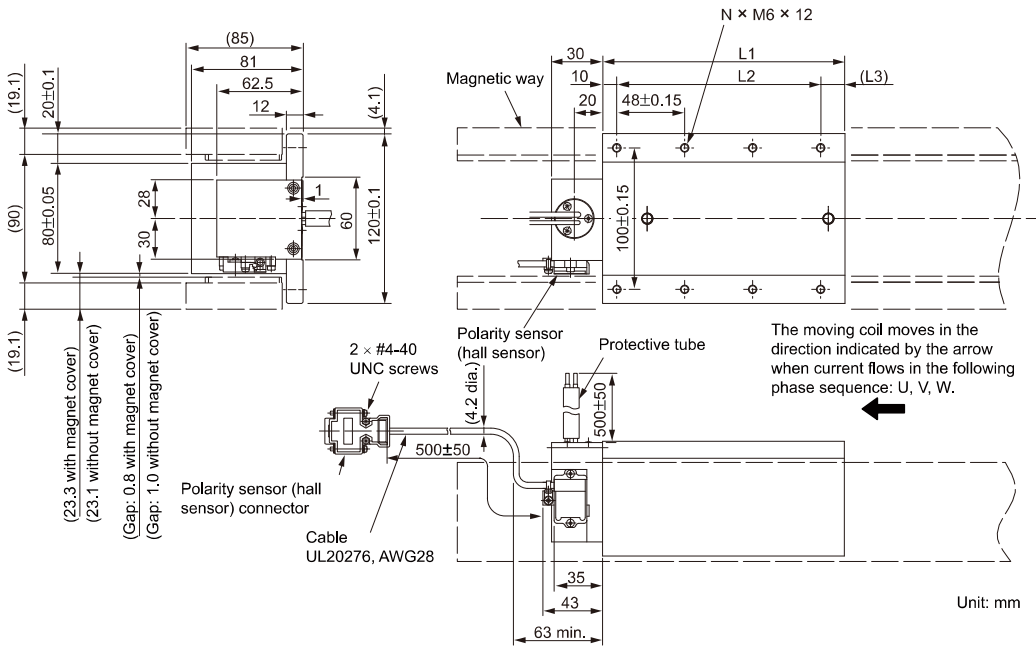
**Note:**

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 <sup>-0.1</sup> <sub>-0.3</sub>	337.5	387.5	202.5	202.5	6	2	13
40675AY	675 <sup>-0.1</sup> <sub>-0.3</sub>	607.5	657.5	472.5	236.25	10	3	21
40945AY	945 <sup>-0.1</sup> <sub>-0.3</sub>	877.5	927.5	742.5	247.5	14	4	30

## SGLTW-50: High-efficiency Models

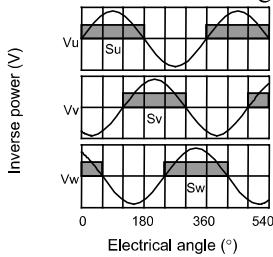
### ■ Moving Coils: SGLTW-50A□□□H□



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

### ◆ Polarity Sensor (Hall Sensor) Output Signal

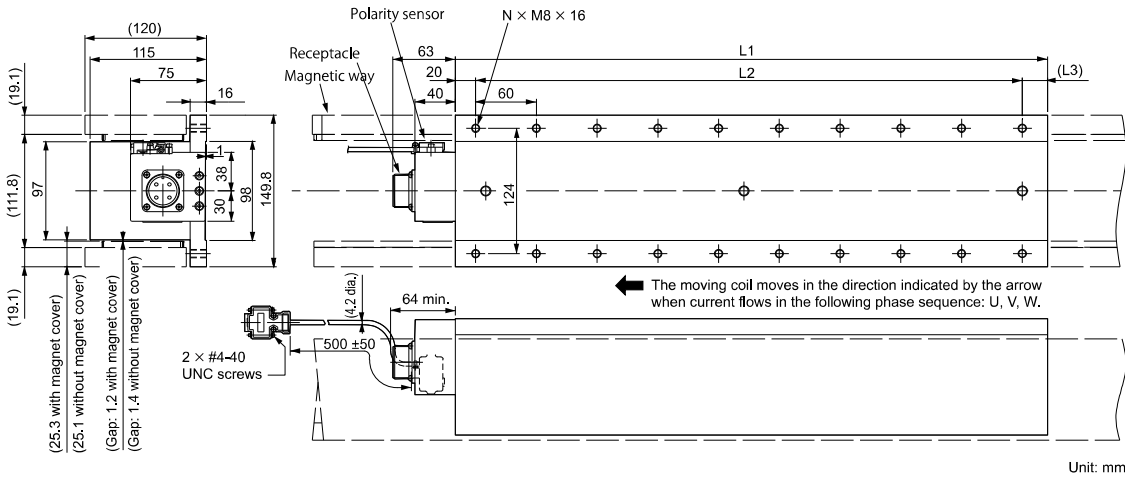
The figure on the right shows the relationship between the  $S_u$ ,  $S_v$ , and  $S_w$  polarity sensor (hall sensor) output signals and the inverse power of each motor phase  $V_u$ ,  $V_v$ , and  $V_w$  when the moving coil moves in the direction indicated by the arrow in the dimensional drawings of the moving coil.





## SGLTW-80: Standard Models

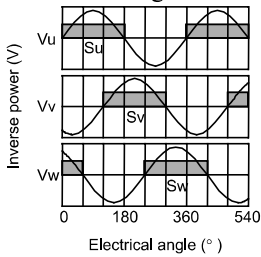
### ■ Moving Coils: SGLTW-80A□□□B□



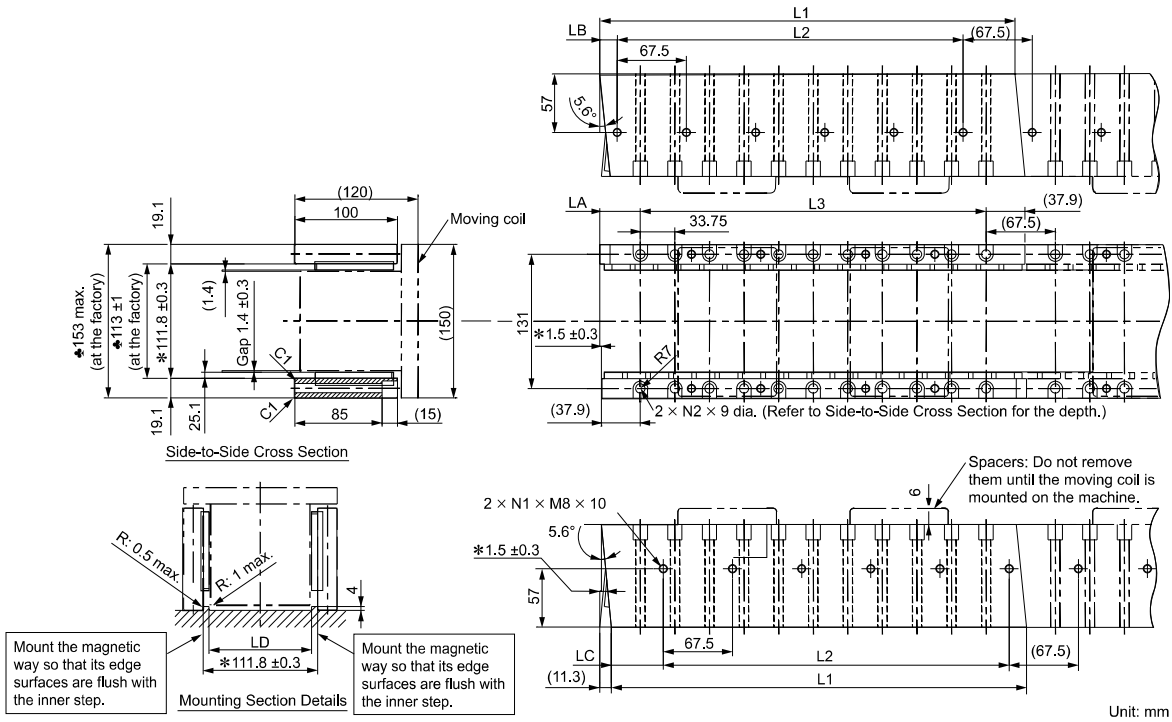
Moving Coil Model SGLTW-	L1	L2	L3	N	Approx. Mass [kg]
80A400Bo	394.2	360 (60 × 6)	(15)	14	24
80A600Bo	574.2	540 (60 × 9)	(15)	20	35

### ◆ Polarity Sensor Output Signal

The figure on the right shows the relationship between the  $S_u$ ,  $S_v$ , and  $S_w$  polarity sensor output signals and the inverse power of each motor phase  $V_u$ ,  $V_v$ , and  $V_w$  when the moving coil moves in the direction indicated by the arrow in the dimensional drawings of the moving coil.



■ Magnetic Ways: SGLTM-80□□□A□

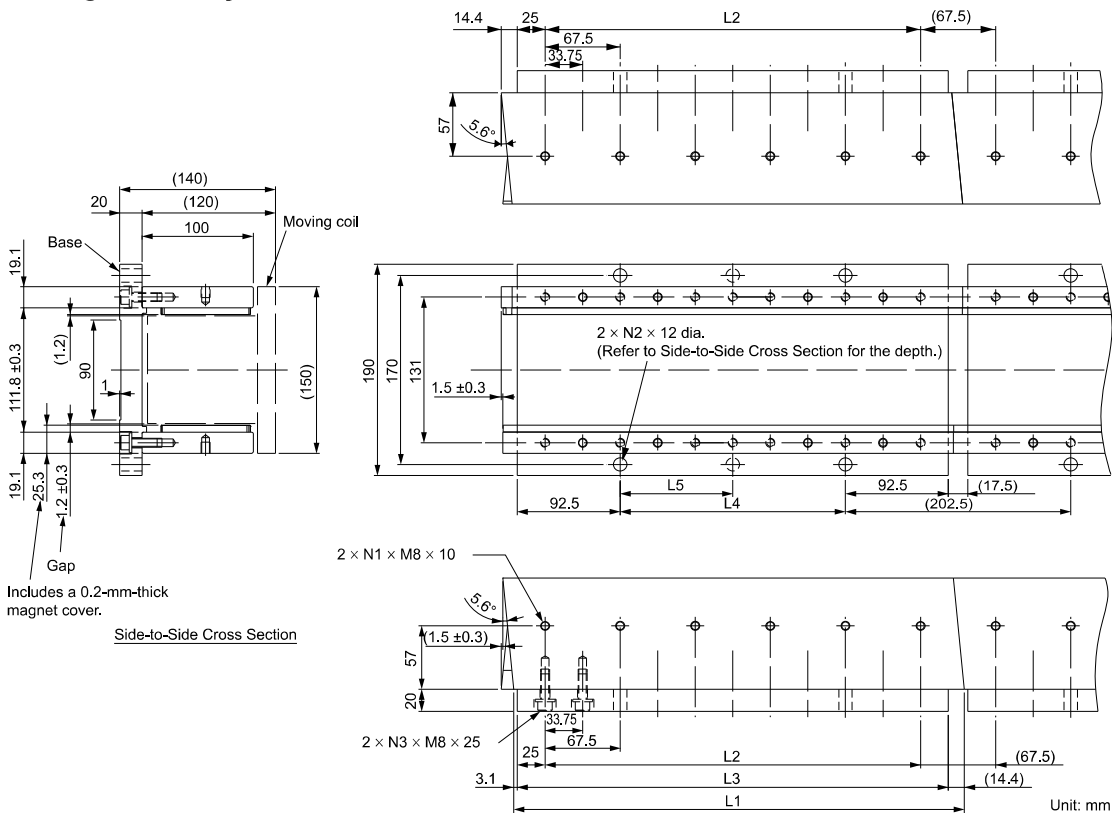


**Note:**

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]
80405Ao	405 <sup>-0.1</sup> <sub>-0.3</sub>	337.5 (67.5 × 5)	337.5 (33.75 × 10)	39.4 <sup>0</sup> <sub>-0.2</sub>	16.9 <sup>0</sup> <sub>-0.2</sub>	50.6 <sup>0</sup> <sub>-0.2</sub>	100 <sup>+0.6</sup> <sub>0</sub>	6	11	14
80675Ao	675 <sup>-0.1</sup> <sub>-0.3</sub>	607.5 (67.5 × 9)	607.5 (33.75 × 18)	39.4 <sup>0</sup> <sub>-0.2</sub>	16.9 <sup>0</sup> <sub>-0.2</sub>	50.6 <sup>0</sup> <sub>-0.2</sub>	100 <sup>+0.6</sup> <sub>0</sub>	10	19	24
80945Ao	945 <sup>-0.1</sup> <sub>-0.3</sub>	877.5 (67.5 × 13)	887.5 (33.75 × 26)	39.4 <sup>0</sup> <sub>-0.2</sub>	16.9 <sup>0</sup> <sub>-0.2</sub>	50.6 <sup>0</sup> <sub>-0.2</sub>	100 <sup>+0.6</sup> <sub>0</sub>	14	27	34

## ■ Magnetic Ways with Bases: SGLTM-80□□□AY



### Note:

Two magnetic way tracks are used together as a set. More than one magnetic way can be connected.

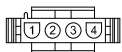
Magnetic Way Model SGLTM-	L1	L2	L3	L4	L5	N1	N2	N3	Approx. Mass [kg]
80405AY	405 <sup>-0.1</sup> <sub>0.3</sub>	337.5	387.5	202.5	202.5	6	2	11	18
80675AY	675 <sup>-0.1</sup> <sub>0.3</sub>	607.5	657.5	472.5	236.25	10	3	19	31
80945AY	945 <sup>-0.1</sup> <sub>0.3</sub>	877.5	927.5	742.5	247.5	14	4	27	43

## Connector Specifications

### SGLTW-20: Standard Models

#### ■ SGLTW-20A□□□A□

• Servomotor Connector



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

Plug: 350779-1

Pins: 350218-3 or 350547-3 (No.1 to 3)

350654-1 or 350669-1 (No. 4)

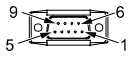
From Tyco Electronics Japan G.K.

Mating Connector

Cap: 350780-1

Socket: 350537-3 or 350550-3

• Polarity Sensor (Hall Sensor) Connector



1	+5 V (DC)	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

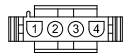
Socket connector: 17JE-13090-02 (D8C) A-CG

Studs: 17L-002C or 17L-002C1

## SGLTW-35: Standard Models

### ■ GLTW-35A□□□A□

• Servomotor Connector



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

Plug: 350779-1

Pins: 350218-3 or 350547-3 (No.1 to 3)

350654-1 or 350669-1 (No. 4)

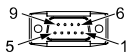
From Tyco Electronics Japan G.K.

Mating Connector

Cap: 350780-1

Socket: 350537-3 or 350550-3

• Polarity Sensor (Hall Sensor) Connector



1	+5 V (DC)	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

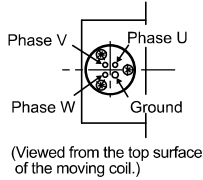
Socket connector: 17JE-13090-02 (D8C) A-CG

Studs: 17L-002C or 17L-002C1

## SGLTW-35□□□H□: High-efficiency Models

### ■ SGLTW-35A□□□H□

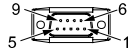
- Servomotor Connector



Phase U	Red	U	2 mm <sup>2</sup>
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



1	+5 V (DC)	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

## SGLTW-40: Standard Models

### ■ SGLTW-40A□□□B□

- Servomotor Connector



A	Phase U	C	Phase W
B	Phase V	D	Ground

Receptacle: MS3102A-22-22P

From DDK Ltd.

Mating Connector

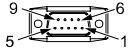
Right-angle plug: MS3108B22-22S

Straight Plug: MS3106B22-22S

Cable Clamp: MS3057-12A

- Polarity Sensor (Hall Sensor) Connector





1	+5 V (DC)	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

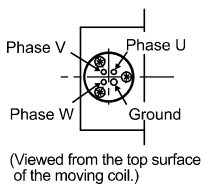
Socket connector: 17JE-13090-02 (D8C) A-CG

Studs: 17L-002C or 17L-002C1

## SGLTW-50: High-efficiency Models

### ■ SGLTW-50A□□□H□

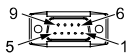
• Servomotor Connector



Phase U	Red	U	2 mm <sup>2</sup>
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



1	+5 V (DC)	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

## SGLTW-80: Standard Models

### ■ SGLTW-80A□□□B□

- Servomotor Connector



A	Phase U	C	Phase W
B	Phase V	D	Ground

Receptacle: MS3102A-22-22P

From DDK Ltd.

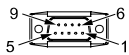
Mating Connector

Right-angle plug: MS3108B22-22S

Straight Plug: MS3106B22-22S

Cable Clamp: MS3057-12A

- Polarity Sensor (Hall Sensor) Connector



1	+5 V (DC)	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

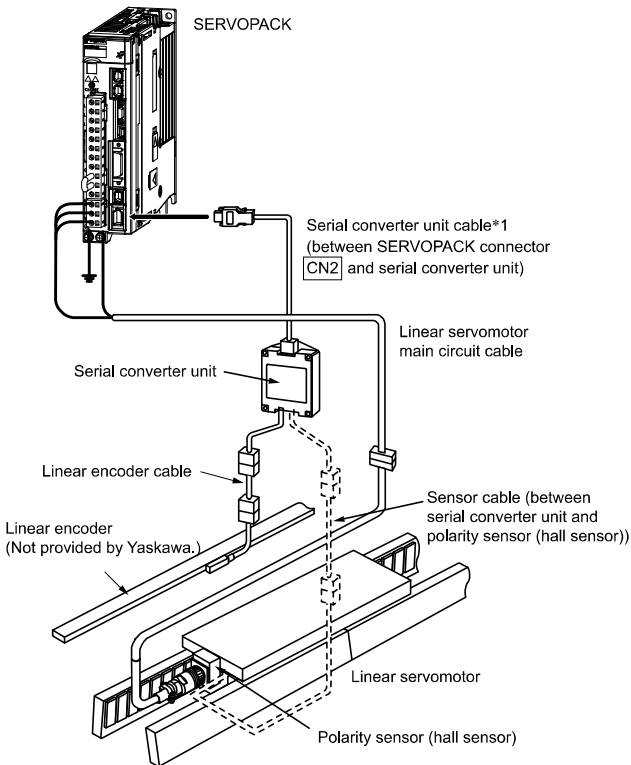
Studs: 17L-002C or 17L-002C1

## Selecting Cables

### Equipment Configurations

Refer to [Recommended Linear Encoders on page 382](#) to select a linear encoder.

Prepare the cable required for the encoder.



\*1 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

Σ-X-Series AC Servo Drive Peripheral Device Selection Manual (Manual No.: SIEP C710812 12)

## Linear Servomotor Main Circuit Cables

★ 翻訳不要

Linear Servomotor Model	Length (L)	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	1 m	JZSP-CLN14-01-E	
	3 m	JZSP-CLN14-03-E	
	5 m	JZSP-CLN14-05-E	
	10 m	JZSP-CLN14-10-E	
	15 m	JZSP-CLN14-15-E	
	20 m	JZSP-CLN14-20-E	

Continued on next page.

Continued from previous page.

★翻訳不要

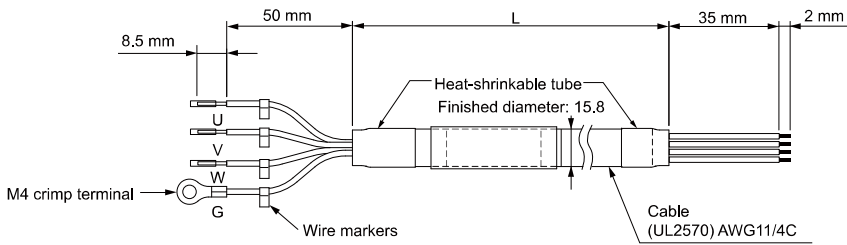
Linear Servomotor Model	Length (L)	Order Number	Appearance
SGLTW-40□□□□B□, SGLTW-80□□□□B□	1 m	JZSP-CLN39-01-E	
	3 m	JZSP-CLN39-03-E	
	5 m	JZSP-CLN39-05-E	
	10 m	JZSP-CLN39-10-E	
	15 m	JZSP-CLN39-15-E	
	20 m	JZSP-CLN39-20-E	

\*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-CLN39-□□-E Cables



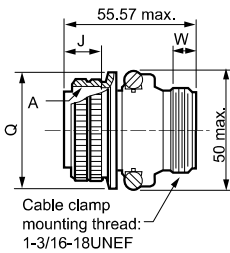
### ◆ Wiring Specifications

SERVOPACK Leads		Servomotor Connector	
Wire Color	Signal	Signal	Pin
Red	Phase U	Phase U	A
White	Phase V	Phase V	B
Blue	Phase W	Phase W	C
Green/yellow	FG	FG	D

### ◆ JZSP-CLN39 Cable Connectors

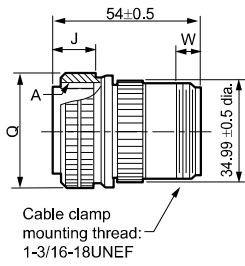
Applicable Linear Servomotor	Connector Provided with Linear Servomotor	Plug		Cable Clamp
		Straight	Right-Angle	
SGLTW-40 or -80	MS3102A22-22P	MS3106B22-22S or MS3106A22-22S	MS3108B22-22S	MS3057-12A

### ◆ MS3106B22-2S: Straight Plug with Two-Piece Shell



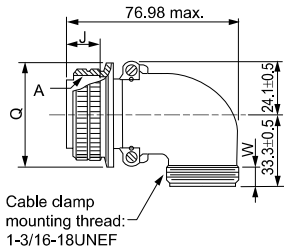
Shell Size	Joint Thread A	Length of Joint $J \pm 0.12$	Joint Nut Outer Diameter Q	Effective Thread Length W min.
22	1-3/8-18UNEF	18.26	40.48	9.53

◆ **MS3106A22-2S: Straight Plug with Solid Shell**



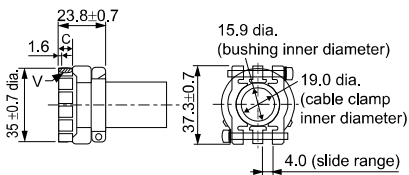
Shell Size	Joint Thread A	Length of Joint J ± 0.12	Joint Nut Outer Diameter Q	Effective Thread Length W min.
22	1-3/8-18UNEF	18.26	40.48	9.53

◆ **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	Effective Thread Length W min.
22	1-3/8-18UNEF	18.26	40.48	9.53

◆ **MS3057-12A: Cable Clamp with Rubber Bushing**



Applicable Connector Shell Size	Effective Thread Length C	Mounting Screws V	Attached Bushing Name
20,22	10.3	1-3/16-18UNEF	AN3420-12