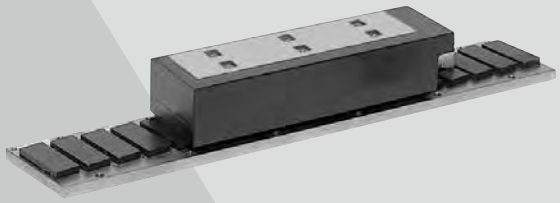
Linear Servomotors

SGLFW

(With F-type iron core)



Model Designations

● Moving Coil

SGL F W - 20 A 090 A P □

Linear Σ Series
Linear Servomotor

Servomotor Type

Code	Specifications
F	F-type iron core

W: Moving Coil

Magnet Height

Voltage
A: 200 VAC
D: 400 VAC

Length of Moving Coil

Hall Sensor

Code	Specifications
P	With hall sensor
Blank	Without hall sensor

Connector for Main Circuit Cable

Code	Specifications	Applicable Model
Blank	Connector by Tyco Electronics AMP K.K.	All models
D	Connector by Interconnectron GmbH	SGLFW-35, -50, -1Z□200B, -1ZD380B

Design Revision Order
A, B, ...

◦ Magnetic Way

SGL F M - 20 324 A □

Linear Σ Series
Linear Servomotor

Servomotor Type

Code	Specifications
F	F-type iron core

M: Magnetic Way

Magnet Height

Length of Magnetic Way

Design Revision Order
A, B, ...

Options

Code	Specifications
Blank	Standard
C	With magnet cover

NOTE: Shaded items are non-stock.

Features

- Direct-feed mechanism for high-speed and high-precision positioning.
- The magnetic attraction force between the moving and stationary members can be used effectively to increase the rigidity of the linear guidance by preloading the linear motion bearings.
- The magnetic preloading on certain types of compliant linear motion bearings can help increase the system's frequency response, improving its deceleration and settling performances.

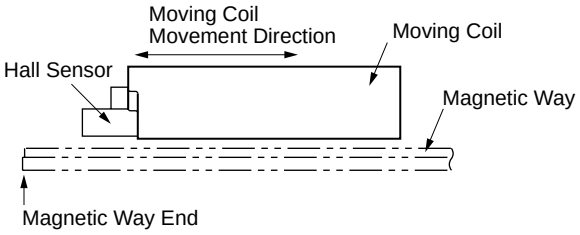
Application Examples

- Feeders and loaders
- Semiconductor equipment
- LCD manufacturing equipment

Precautions on Moving Coil with Hall Sensor

When using a moving coil with a hall sensor, the magnetic way must completely cover the bottom of the hall sensor. Refer to the example showing 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 hall sensor unit. Refer to the following table.

<Correct>



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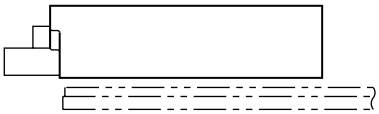
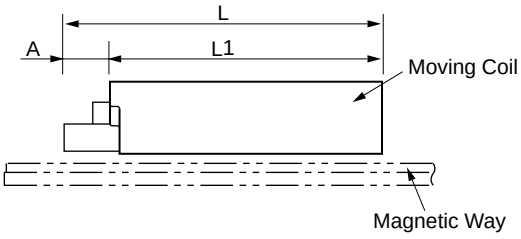


The total length of moving coil with hall sensor



Moving Coil Model SGLFW-	Length of Moving Coil L1 (mm)	Length of Hall Sensor Unit A (mm)	Total Length L (mm)
20A090AP□	91	22	113
20A120AP□	127		149
35□120AP□	127	22	149
35□230AP□	235		257
50□200□P□	215	22	237
50□380□P□	395		417
1Z□200□P□	215	22	237
1Z□380□P□	395		417

Ratings and Specifications

Time Rating: Continuous
Insulation Resistance: 500 VDC, 10 MΩ min.
Ambient Temperature: 0 to 40˚C
Excitation: Permanent magnet
Withstand Voltage: 1500 VAC for one minute
Enclosure: Self-cooled
Ambient Humidity: 20% to 80% (no condensation)
Allowable Winding Temperature: 130˚C (Thermal class B)

200-V Class

Linear Servomotor Model		20A		35A		50A		1ZA	
SGLFW-□		090A	120A	120A	230A	200B	380B	200B	380B
Peak Speed	m/s	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.9
Rated Force*	N	25	40	80	160	280	560	560	1120
Rated Current*	A_{rms}	0.70	0.80	1.4	2.8	5.0	10.0	8.7	17.5
Peak Force*	N	86	125	220	440	600	1200	1200	2400
Peak Current*	A_{rms}	3.0	2.9	4.4	8.8	12.4	25.0	21.6	43.6
Moving Coil Mass	kg	0.7	0.9	1.3	2.3	3.5	6.9	6.4	11.5
Force Constant	N/A_{rms}	36.0	54.0	62.4	62.4	60.2	60.2	69.0	69.0
BEMF Constant	V/(m/s)	12.0	18.0	20.8	20.8	20.1	20.1	23.0	23.0
Motor Constant	$N/\sqrt{W}$	7.9	9.8	14.4	20.4	34.3	48.5	52.4	74.0
Electrical Time Constant	ms	3.2	3.3	3.6	3.6	15.9	15.8	18.3	18.3
Mechanical Time Constant	ms	11.0	9.3	6.2	5.5	3.0	2.9	2.3	2.1
Thermal Resistance (With Heat Sink)	K/W	4.35	3.19	1.57	0.96	0.56	0.38	0.47	0.2
Thermal Resistance (Without Heat Sink)	K/W	7.69	5.02	4.10	1.94	1.65	0.95	1.3	0.73
Magnetic Attraction	N	314	462	809	1590	1650	3260	3300	6520
Applicable SERVOPACK	SGDV-	1R6	1R6	1R6	3R8	5R5	120A	120A	200A

Notes: 1 The items marked with an * and Force and Speed Characteristics (the table on the next page) are the values at a motor winding temperature of 100˚C during operation in combination with a SERVOPACK. The others are at 20˚C.
2 The above specifications show the values under the cooling condition when a heat sink (aluminum board) listed in the following table is mounted on the moving coil.
Heat Sink Size :125 mm × 125 mm × 13 mm: SGLFW-20A090A, -20A120A
254 mm × 254 mm × 25 mm: SGLFW-35A120A, -35A230A
400 mm × 500 mm × 40 mm: SGLFW-50A200B, -50A380B, -1ZA200B
600 mm × 762 mm × 50 mm: SGLFW-1ZA380B

400-V Class

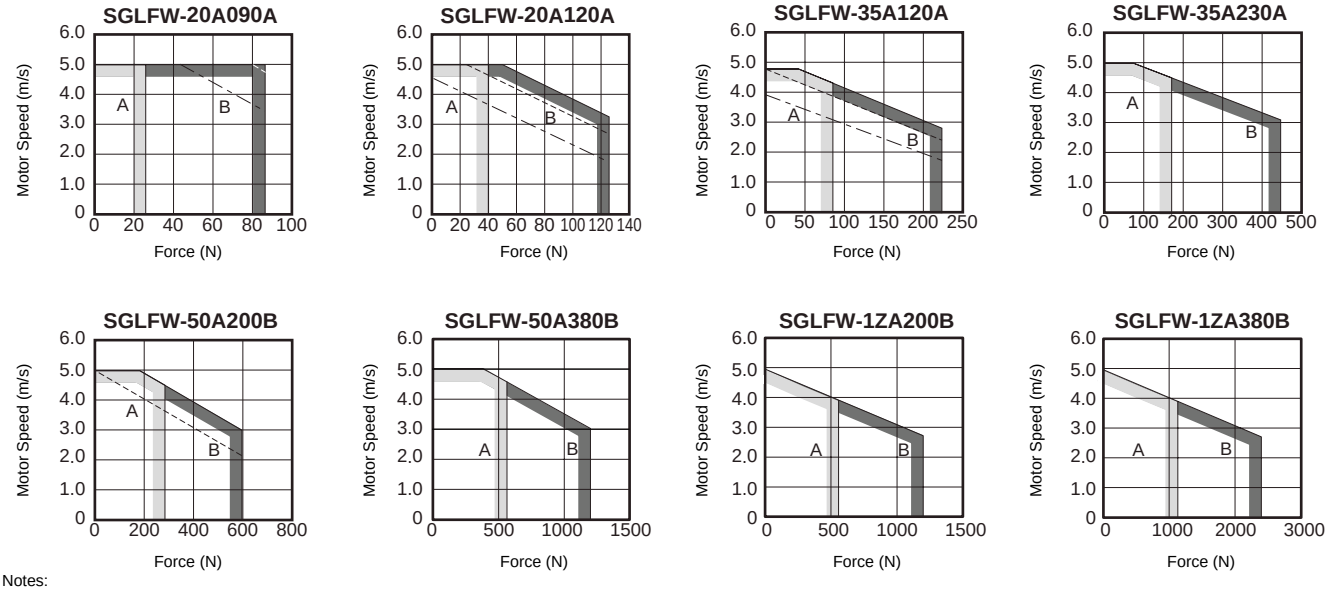
Linear Servomotor Model		35D		50D		1ZD	
SGLFW-□		120A	230A	200B	380B	200B	380B
Peak Speed	m/s	4.5	4.5	5.0	5.0	5.0	5.0
Rated Force*	N	80	160	280	560	560	1120
Rated Current*	A_{rms}	0.6	1.3	2.3	4.5	4.9	9.8
Peak Force*	N	220	440	600	1200	1200	2400
Peak Current*	A_{rms}	2.0	4.0	5.6	11.0	12.3	24.6
Moving Coil Mass	kg	1.3	2.3	3.5	6.9	6.4	11.5
Force Constant	N/A_{rms}	136.0	136.0	134.7	134.7	122.6	122.6
BEMF Constant	V/(m/s)	45.3	45.3	44.9	44.9	40.9	40.9
Motor Constant	$N/\sqrt{W}$	14.2	20.1	33.4	47.2	51.0	72.1
Electrical Time Constant	ms	3.7	3.6	15.0	15.0	17.4	17.2
Mechanical Time Constant	ms	5.2	5.1	3.2	3.2	2.5	2.2
Thermal Resistance (With Heat Sink)	K/W	1.57	0.96	0.56	0.38	0.47	0.2
Thermal Resistance (Without Heat Sink)	K/W	4.1	1.94	1.65	0.95	1.3	0.73
Magnetic Attraction	N	810	1590	1650	3260	3300	6520
Applicable SERVOPACK	SGDV-	1R9D	1R9D	3R5D	5R4D	5R4D	120D

Notes: 1 The items marked with an * and Force and Speed Characteristics (the table on the next page) are the values at a motor winding temperature of 100˚C during operation in combination with a SERVOPACK. The others are at 20˚C.
2 The above specifications show the values under the cooling condition when a heat sink (aluminum board) listed in the following table is mounted on the moving coil.
Heat Sink Size :254 mm × 254 mm × 25 mm: SGLFW-35D120A, -35D230A
400 mm × 500 mm × 40 mm: SGLFW-50D200B, -50D380B, -1ZD200B
600 mm × 762 mm × 50 mm: SGLFW-1ZD380B

Ratings and Specifications

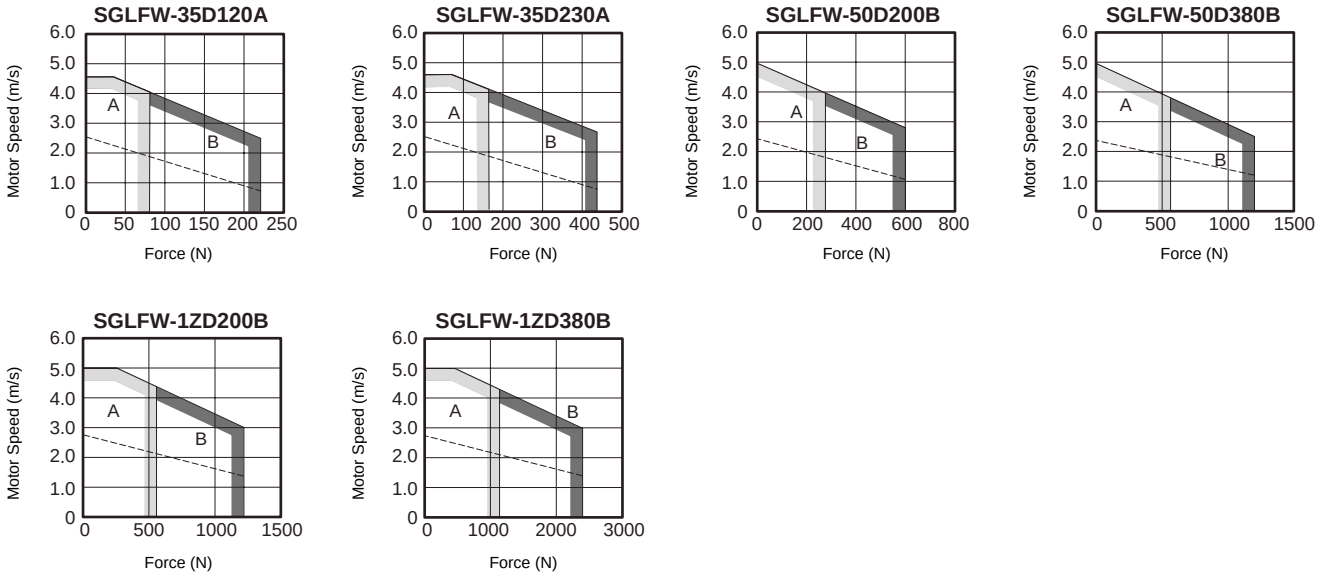
●Force and Speed Characteristics A : Continuous Duty Zone B : Intermittent Duty Zone (Note1)

200-V Class



Notes:
1. When the effective force during intermittent duty is within the rated force, the servomotor can be used within the intermittent duty zone.
2. The solid, dotted, and dashed-dotted lines of the intermittent duty zone indicate the characteristics when a servomotor runs with the following combinations:
   · The solid line: With a three-phase 200 V or a single-phase 230 V SERVOPACK
   · The dotted line: With a single-phase 200 V SERVOPACK
   · The dashed-dotted line: With a single-phase 100 V SERVOPACK

400-V Class



Notes:
1. When the effective force during intermittent duty is within the rated force, the servomotor can be used within the intermittent duty zone.
2. The dotted line indicates the characteristics when a 400-VAC linear servomotor is used with 200-V input power supply. In this case, a serial converter unit is required. Contact your Yaskawa representative for details.

●Mechanical Specifications

(1) Impact Resistance

·Impact acceleration: 196 m/s^2
·Impact occurrences: twice

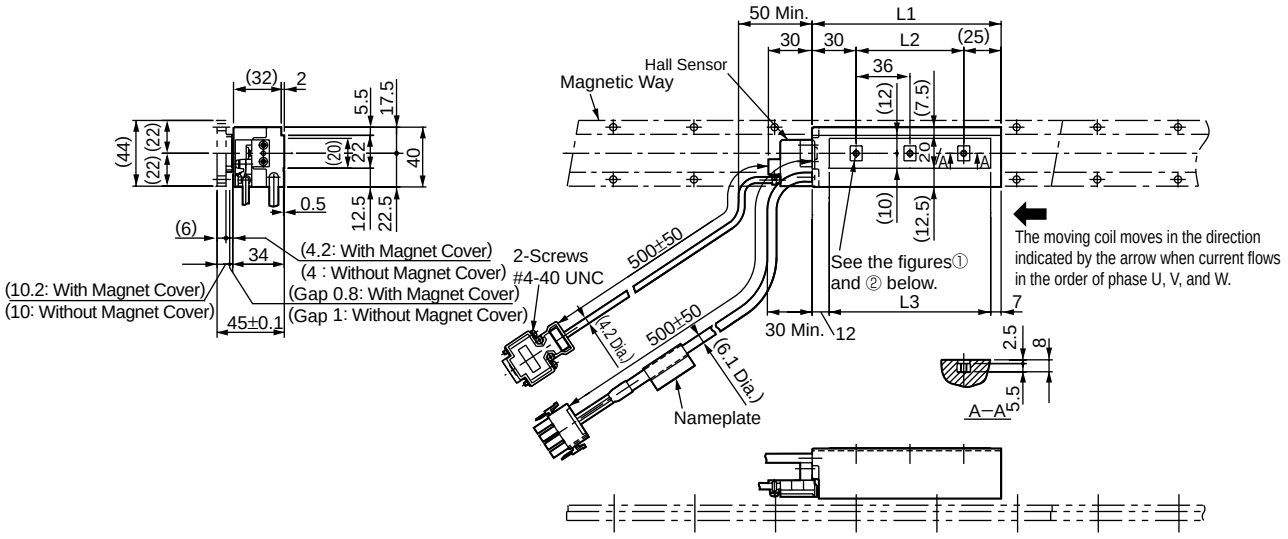
(2) Vibration Resistance

· The linear servomotors will withstand the following vibration acceleration in three directions: Vertical, side to side, and front to back.
· Vibration acceleration: 49 m/s^2

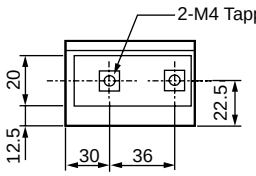
External Dimensions Units: mm

(1) SGLFW-20

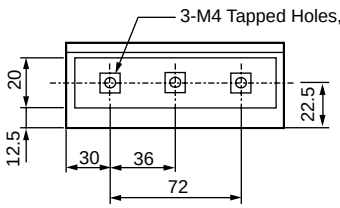
● Moving Coil: SGLFW-20A□□□A□ (With a connector by Tyco Electronics AMP K.K.)



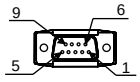
①SGLFW-20A090A□



②SGLFW-20A120A□



Hall Sensor
Connector Specifications



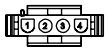
Pin Connector :
17JE-13090-02 (D8C)
by DDK Ltd.

The Mating Connector

Socket Connector:
17JE-13090-02 (D8C)
Stud: 17L-002C or
17L-002C1

Pin No.	Signal
1	+5V (Power supply)
2	Phase U
3	Phase V
4	Phase W
5	0V (Power supply)
6	Not used
7	Not used
8	Not used
9	Not used

Linear Servomotor
Connector Specifications



Plug:350779-1
Pin :350218-3 or
350547-3(No.1 to 3)
350654-1
350669-1(No.4)
by Tyco Electronics AMP K.K.

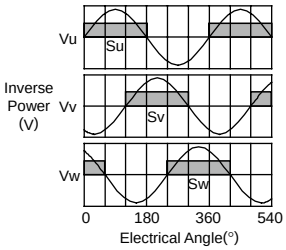
The Mating Connector

Cap : 350780-1
Socket: 350536-3 or
350550-3

Pin No.	Signal	Wire Color
1	Phase U	Red
2	Phase V	White
3	Phase W	Black
4	FG	Green

Hall Sensor Output Signals

When the moving coil moves in the direction indicated by the arrow in the figure, the relationship between the hall sensor output signals Su, Sv, Sw and the inverse power of each motor phase Vu, Vv, Vw becomes as shown in the figure below.

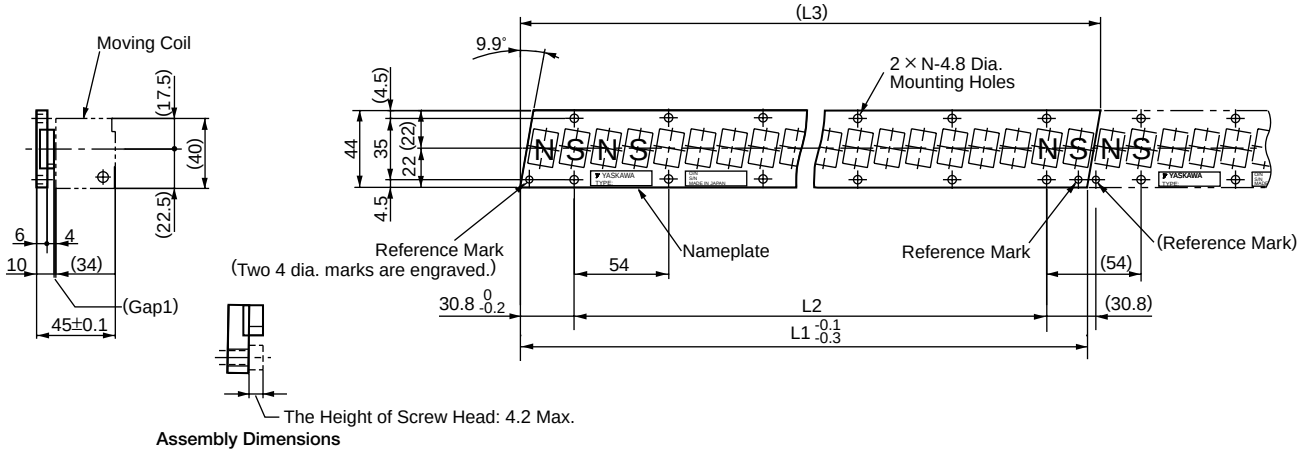


Note: Models compatible with connectors by Interconnectron GmbH are also available.

Moving Coil Model SGLFW-	L1	L2	L3	Approx. Mass kg
20A090A□	91	36	72	0.7
20A120A□	127	72	108	0.9

External Dimensions Units: mm

● Magnetic Way: SGLFM-20□□□A



Assembly Dimensions

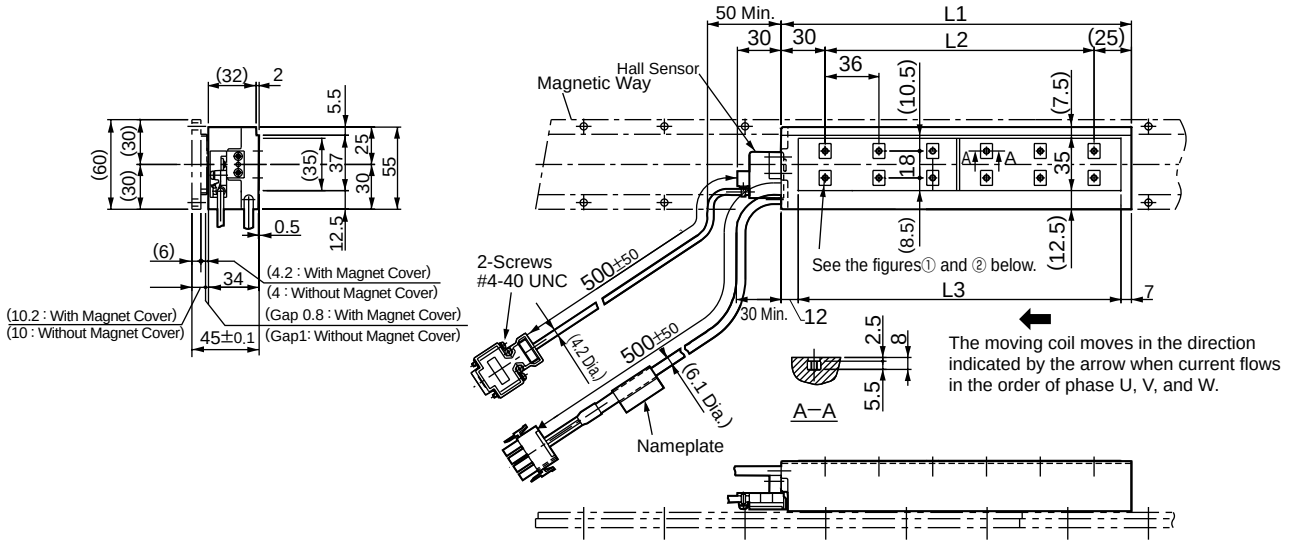
Notes: 1 Multiple SGLFM-20□□□A magnetic ways can be connected. Connect magnetic ways so that the reference marks match one on the other in the same direction as shown in the figure.
2 If you have a pacemaker or any other electronic medical device, do not go near the magnetic way of the linear servomotor.

Magnetic Way Model SGLFM-	$L1^{-0.1}_{-0.3}$	L2	(L3)	N	Approx. Mass kg
20324A	324	270 (54×5)	(331.6)	6	0.9
20540A	540	486 (54×9)	(547.6)	10	1.4
20756A	756	702 (54×13)	(763.6)	14	2

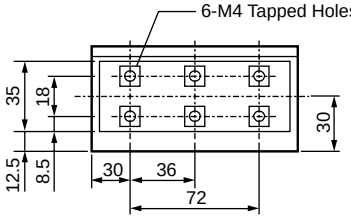
External Dimensions Units: mm

(2) SGLFW-35

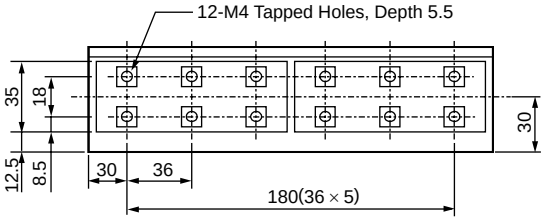
● Moving Coil: SGLFW-35□□□□A□ (With a connector by Tyco Electronics AMP K.K.)



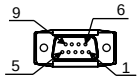
①SGLFW-35□120A□



②SGLFW-35□230A□



Hall Sensor
Connector Specifications



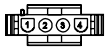
Pin Connector
17JE-23090-02 (D8C)
by DDK Ltd.

The Mating Connector

Socket Connector:
17JE-13090-02(D8C)
Stud:17L-002C or
17L-002C1

Pin No.	Signal
1	+5V (Power supply)
2	Phase U
3	Phase V
4	Phase W
5	0V (Power supply)
6	Not used
7	Not used
8	Not used
9	Not used

Linear Servomotor
Connector Specifications



Plug: 350779-1
Pin : 350218-3 or
350547-3 (No.1 to 3)
350654-1
350669-1 (No.4)
by Tyco Electronics AMP K.K.

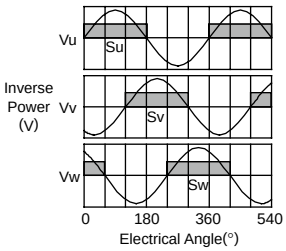
The Mating Connector

Cap : 350780-1
Socket: 350536-3 or
350550-3

Pin No.	Signal	Wire Color
1	Phase U	Red
2	Phase V	White
3	Phase W	Black
4	FG	Green

Hall Sensor Output Signals

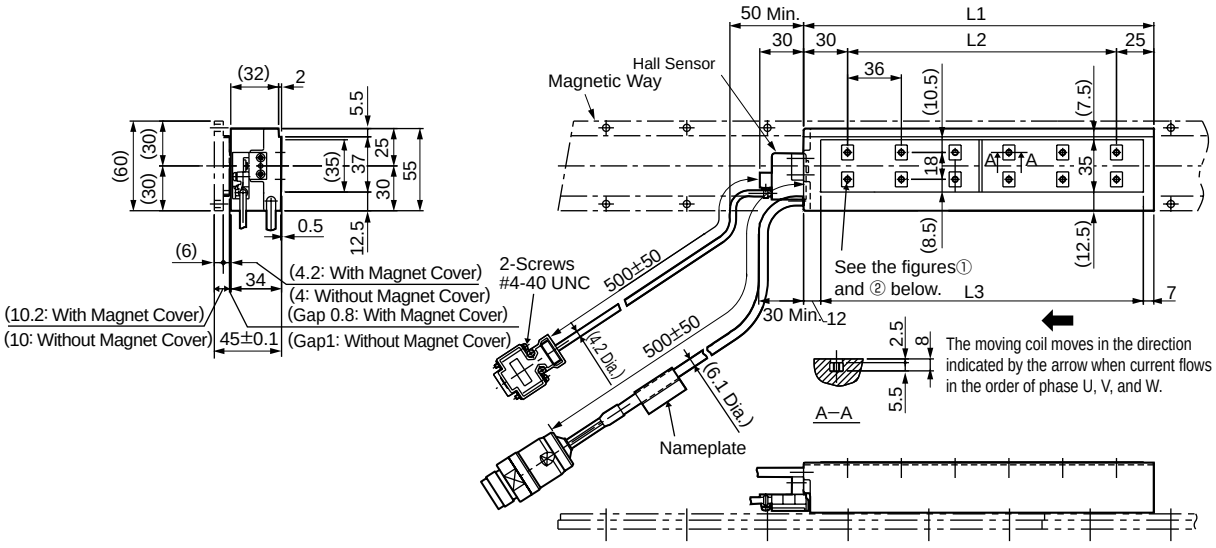
When the moving coil moves in the direction indicated by the arrow in the figure, the relationship between the hall sensor output signals Su, Sv, Sw and the inverse power of each motor phase Vu, Vv, Vw becomes as shown in the figure below.



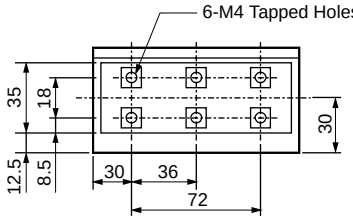
Moving Coil Model SGLFW-	L1	L2	L3	Approx. Mass kg
35□120A□	127	72	108	1.3
35□230A□	235	180	216	2.3

External Dimensions Units: mm

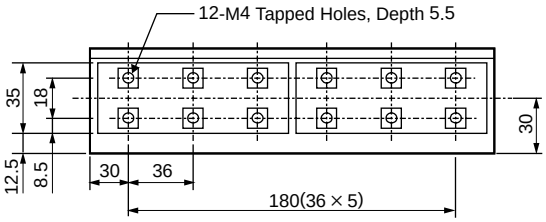
● Moving Coil: SGLFW-35□□□□A□D (With a connector by Interconnectron GmbH)



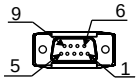
①SGLFW-35□120A□D



②SGLFW-35□230A□D



Hall Sensor
Connector Specifications



Pin Connector :
17JE-23090-02 (D8C)
by DDK Ltd.

The Mating Connector

Socket Connector:
17JE-13090-02 (D8C)
Stud: 17L-002C or
17L-002C1

Pin No.	Signal
1	+5V (Power supply)
2	Phase U
3	Phase V
4	Phase W
5	0V (Power supply)
6	Not used
7	Not used
8	Not used
9	Not used

Linear Servomotor
Connector Specifications

Extension: ARRA06AMRPN182
Pin : 021.279.1020
by Interconnectron GmbH

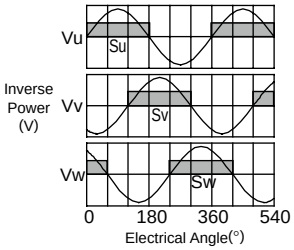
The Mating Connector

Plug : APRA06BFRDN170
Socket: 020.105.1020

Pin No.	Name
1	Phase U
2	Phase V
4	Phase W
5	Not used
6	Not used
⏚	Ground

Hall Sensor Output Signals

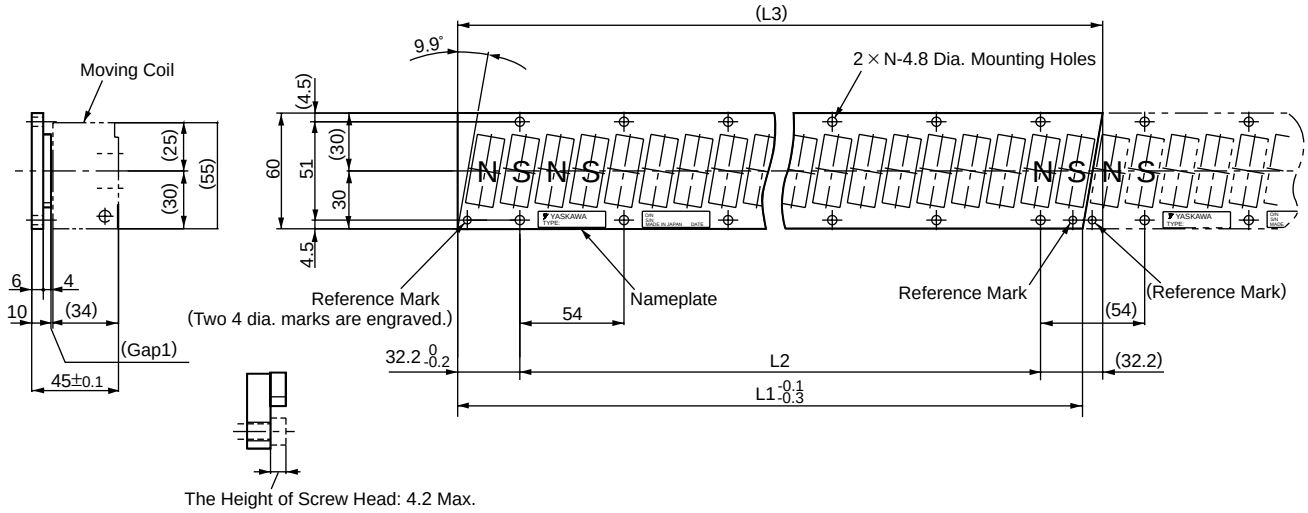
When the moving coil moves in the direction indicated by the arrow in the figure, the relationship between the hall sensor output signals Su, Sv, Sw and the inverse power of each motor phase Vu, Vv, Vw becomes as shown in the figure below.



Moving Coil Model SGLFW-	L1	L2	L3	N	Approx. Mass kg
35□120A□D	127	72	108	6	1.3
35□230A□D	235	180	216	12	2.3

External Dimensions Units: mm

● Magnetic Way: SGLFM-35□□□A



Assembly Dimensions

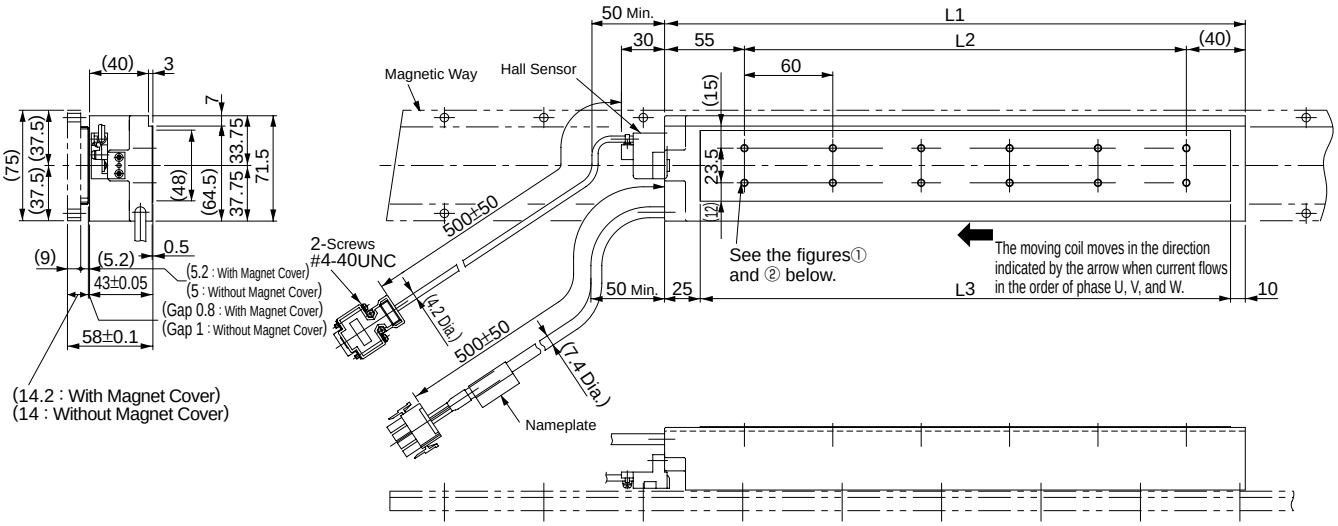
Notes: 1 Multiple SGLFM-35□□□A magnetic ways can be connected. Connect magnetic ways so that the reference marks match one on the other in the same direction as shown in the figure.
2 If you have a pacemaker or any other electronic medical device, do not go near the magnetic way of the linear servomotor.

Magnetic Way Model SGLFM-	$L1^{-0.1}_{-0.3}$	L2	(L3)	N	Approx. Mass kg
35324A	324	270 (54×5)	(334.4)	6	1.2
35540A	540	486 (54×9)	(550.4)	10	2
35756A	756	702 (54×13)	(766.4)	14	2.9

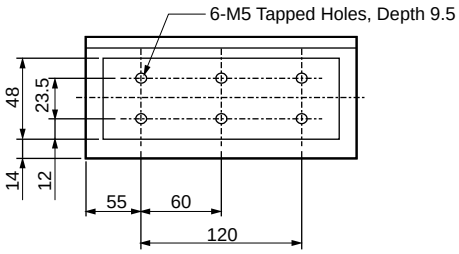
External Dimensions Units: mm

(3) SGLFW-50

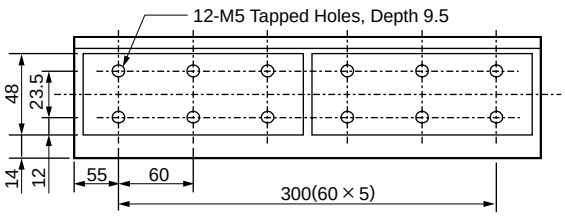
● Moving Coil: SGLFW-50□□□□B□ (With a connector by Tyco Electronics AMP K.K.)



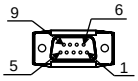
①SGLFW-50□200B□



②SGLFW-50□380B□



Hall Sensor
Connector Specifications



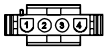
Pin Connector :
17JE-23090-02 (D8C)
by DDK Ltd.

The Mating Connector

Socket Connector:
17JE-13090-02 (D8C)
Stud: 17L-002C or
17L-002C1

Pin No.	Signal
1	+5V (Power supply)
2	Phase U
3	Phase V
4	Phase W
5	0V (Power supply)
6	Not used
7	Not used
8	Not used
9	Not used

Linear Servomotor
Connector Specifications



Plug:350779-1
Pin :350218-3 or
350547-3(No.1 to 3)
350654-1
350669-1(No.4)
by Tyco Electronics AMP K.K.

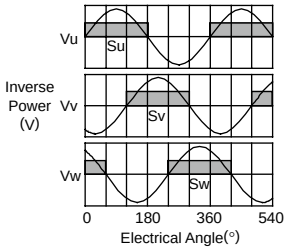
The Mating Connector

Cap : 350780-1
Socket: 350536-3 or
350550-3

Pin No.	Signal	Wire Color
1	Phase U	Red
2	Phase V	White
3	Phase W	Black
4	FG	Green

Hall Sensor Output Signals

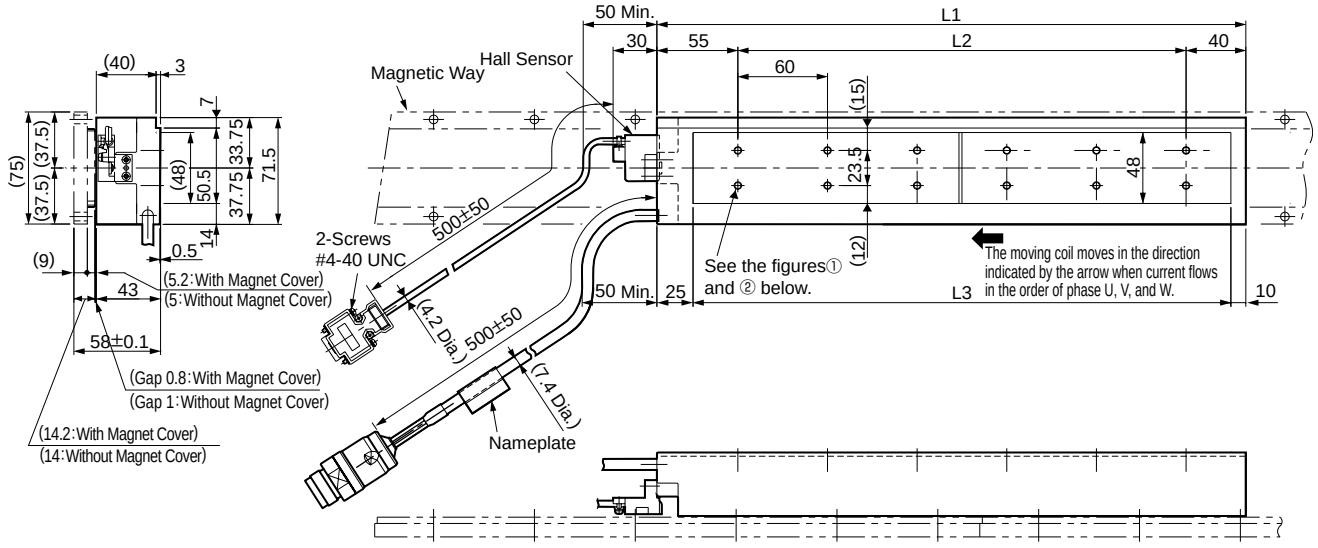
When the moving coil moves in the direction indicated by the arrow in the figure, the relationship between the hall sensor output signals Su, Sv, Sw and the inverse power of each motor phase Vu, Vv, Vw becomes as shown in the figure below.



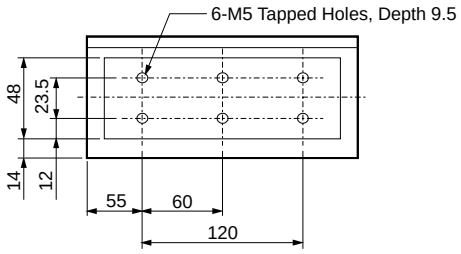
Moving Coil Model SGLFW-	L1	L2	L3	Approx. Mass kg
50□200B□	215	120	180	3.5
50□380B□	395	300	360	6.9

External Dimensions Units: mm

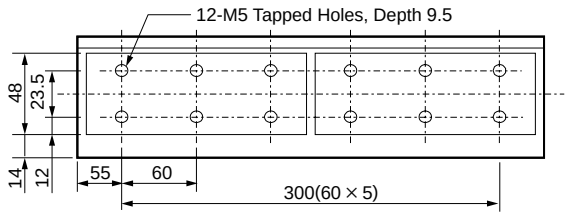
● Moving Coil: SGLFW-50□□□□B□D (With a connector by Interconnectron GmbH)



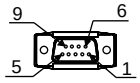
①SGLFW-50□200B□D



②SGLFW-50□380B□D



Hall Sensor
Connector Specifications



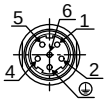
Pin Connector :
17JE-23090-02 (D8C)
by DDK Ltd.

The Mating Connector

Socket Connector:
17JE-13090-02 (D8C)
Stud: 17L-002C or
17L-002C1

Pin No.	Signal
1	+5V (Power supply)
2	Phase U
3	Phase V
4	Phase W
5	0V (Power supply)
6	Not used
7	Not used
8	Not used
9	Not used

Linear Servomotor
Connector Specifications



Extension: ARRA06AMRPN182
Pin : 021.279.1020
by Interconnectron GmbH

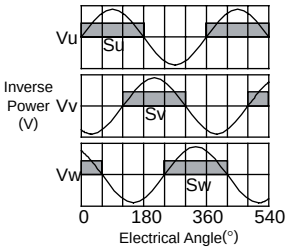
The Mating Connector

Plug : APRA06BFRDN170
Socket: 020.105.1020

Pin No.	Name
1	Phase U
2	Phase V
4	Phase W
5	Not used
6	Not used
⏚	Ground

Hall Sensor Output Signals

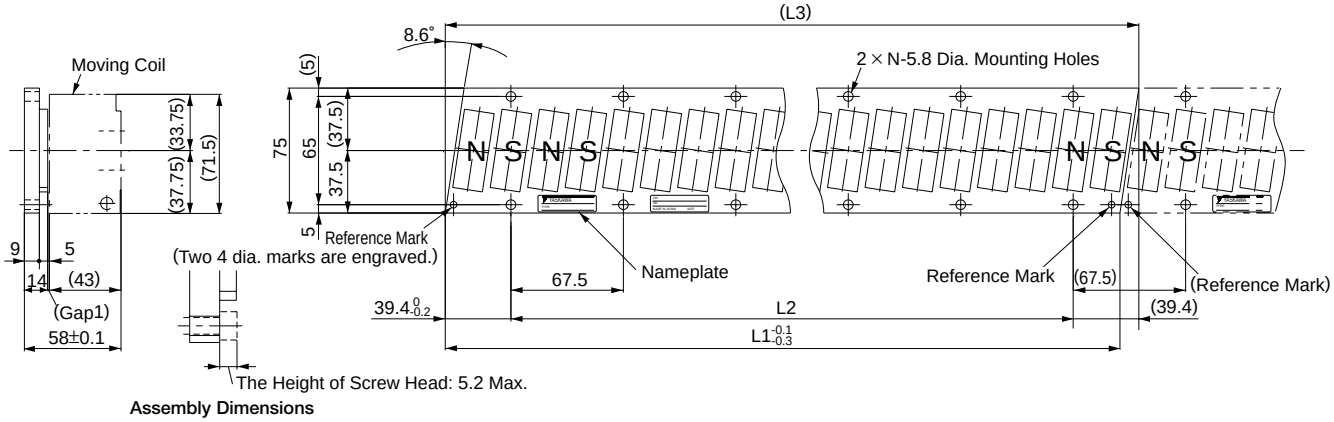
When the moving coil moves in the direction indicated by the arrow in the figure, the relationship between the hall sensor output signals Su, Sv, Sw and the inverse power of each motor phase Vu, Vv, Vw becomes as shown in the figure below.



Moving Coil Model SGLFW-	L1	L2	L3	N	Approx. Mass kg
50□200B□D	215	120	180	6	3.5
50□380B□D	395	300	360	12	6.9

External Dimensions Units: mm

● Magnetic Way: SGLFM-50□□□A



Assembly Dimensions

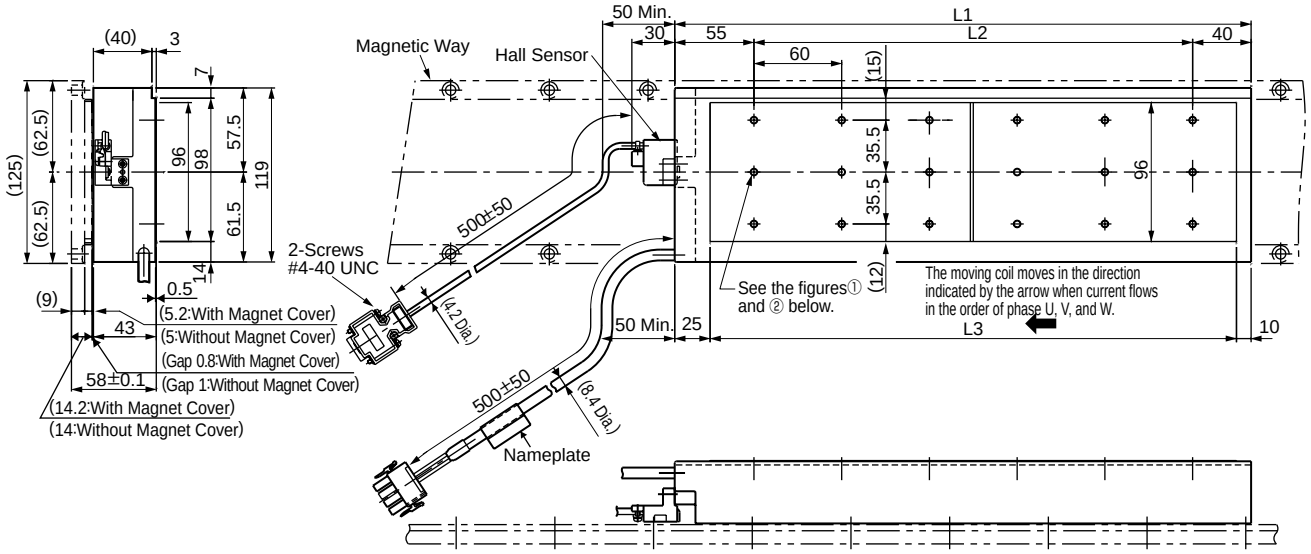
Notes: 1 Multiple SGLFM-50□□□A magnetic ways can be connected. Connect magnetic ways so that the reference marks match one on the other in the same direction as shown in the figure.
2 If you have a pacemaker or any other electronic medical device, do not go near the magnetic way of the linear servomotor.

Magnetic Way Model SGLFM-	$L1^{-0.1}_{-0.3}$	L2	(L3)	N	Approx. Mass kg
50405A	405	337.5 (67.5×5)	(416.3)	6	2.8
50675A	675	607.5 (67.5×9)	(686.3)	10	4.6
50945A	945	877.5 (67.5×13)	(956.3)	14	6.5

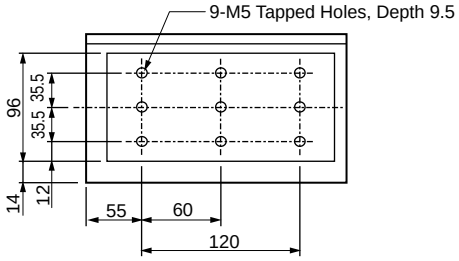
External Dimensions Units: mm

(4) SGLFW-1Z

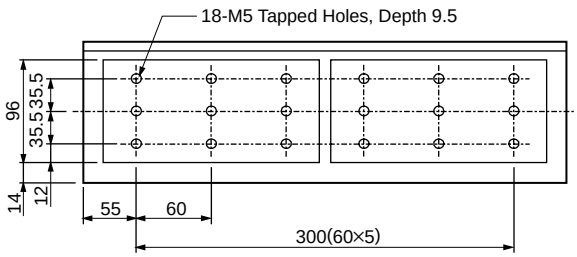
● Moving Coil: SGLFW-1Z□□□□B□ (With a connector by Tyco Electronics AMP K.K.)



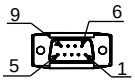
①SGLFW-1Z□200B□



②SGLFW-1Z□380B□



Hall Sensor
Connector Specifications



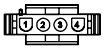
Pin Connector :
17JE-23090-02 (D8C)
by DDK Ltd.

The Mating Connector

Socket Connector:
17JE-13090-02 (D8C)
Stud: 17L-002C or
17L-002C1

Pin No.	Signal
1	+5V (Power supply)
2	Phase U
3	Phase V
4	Phase W
5	0V (Power supply)
6	Not used
7	Not used
8	Not used
9	Not used

Linear Servomotor
Connector Specifications



Plug:350779-1
Pin :350218-3 or
350547-3(No.1 to 3)
350654-1
350669-1(No.4)
by Tyco Electronics AMP K.K.

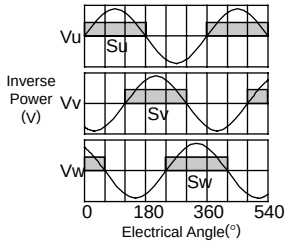
The Mating Connector

Cap : 350780-1
Socket: 350536-3 or
350550-3

Pin No.	Signal	Wire Color
1	Phase U	Red
2	Phase V	White
3	Phase W	Black
4	FG	Green

Hall Sensor Output Signals

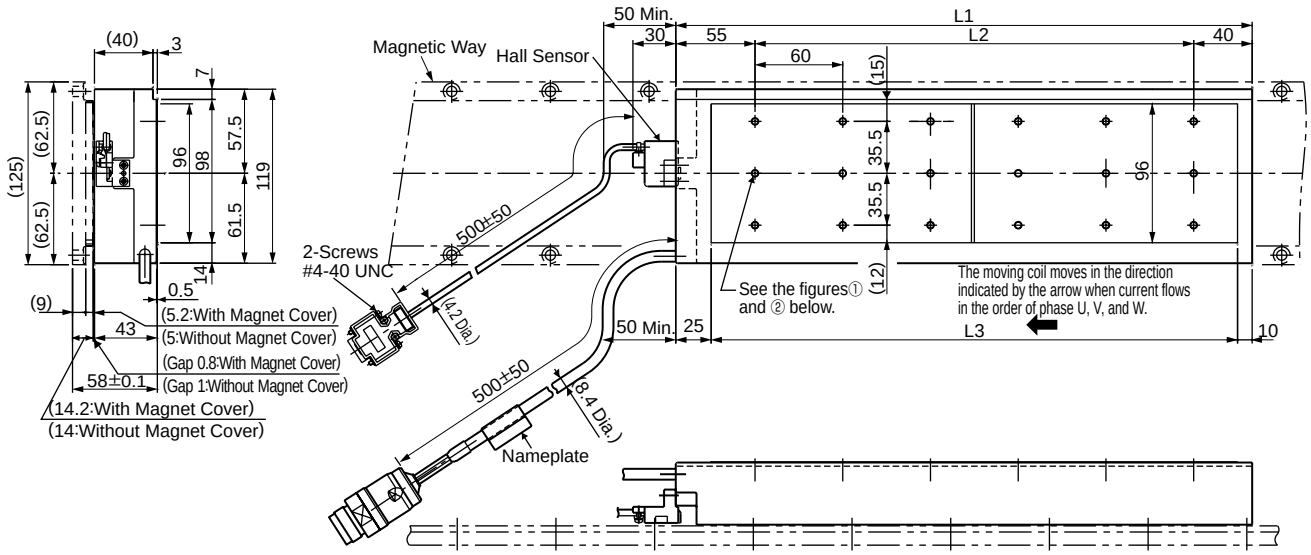
When the moving coil moves in the direction indicated by the arrow in the figure, the relationship between the hall sensor output signals Su, Sv, Sw and the inverse power of each motor phase Vu, Vv, Vw becomes as shown in the figure below.



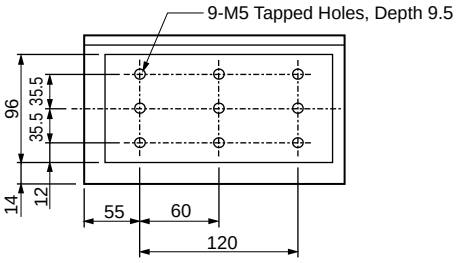
Moving Coil Model SGLFW-	L1	L2	L3	N	Approx. Mass kg
1Z□200B□	215	120	180	9	6.4
1Z□380B□	395	300	360	18	11.5

External Dimensions Units: mm

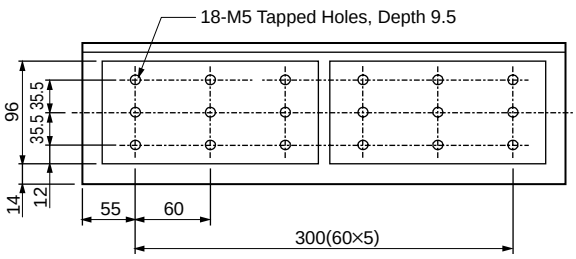
● Moving Coil: SGLFW-1Z□□□□B□D (With a connector by Interconnectron GmbH)



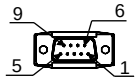
①SGLFW-1Z□200B□D



②SGLFW-1ZD380B□D



Hall Sensor
Connector Specifications



Pin Connector :
17JE-23090-02 (D8C)
by DDK Ltd.

The Mating Connector

Socket Connector:
17JE-13090-02 (D8C)
Stud: 17L-002C or
17L-002C1

Pin No.	Signal
1	+5V (Power supply)
2	Phase U
3	Phase V
4	Phase W
5	0V (Power supply)
6	Not used
7	Not used
8	Not used
9	Not used

Linear Servomotor
Connector Specifications

Extension: ARRA06AMRPN182
Pin : 021.279.1020
by Interconnectron GmbH

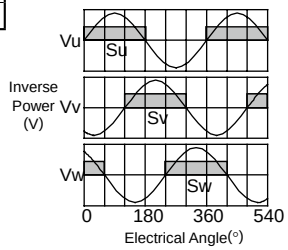
The Mating Connector

Plug : APRA06BFRDN170
Socket: 020.105.1020

Pin No.	Name
1	Phase U
2	Phase V
4	Phase W
5	Not used
6	Not used
⏚	Ground

Hall Sensor Output Signals

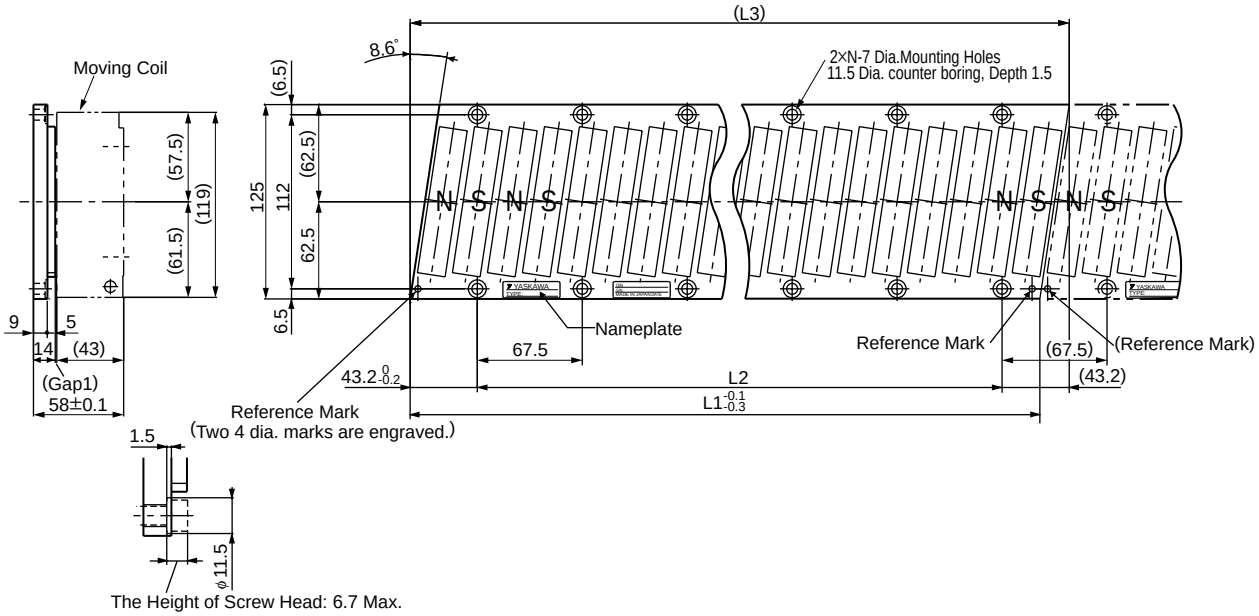
When the moving coil moves in the direction indicated by the arrow in the figure, the relationship between the hall sensor output signals Su, Sv, Sw and the inverse power of each motor phase Vu, Vv, Vw becomes as shown in the figure below.



Moving Coil Model SGLFW-	L1	L2	L3	N	Approx. Mass kg
1Z□200B□D	215	120	180	9	6.4
1ZD380B□D	395	300	360	18	11.5

External Dimensions Units: mm

● Magnetic Way: SGLFM-1Z□□□A



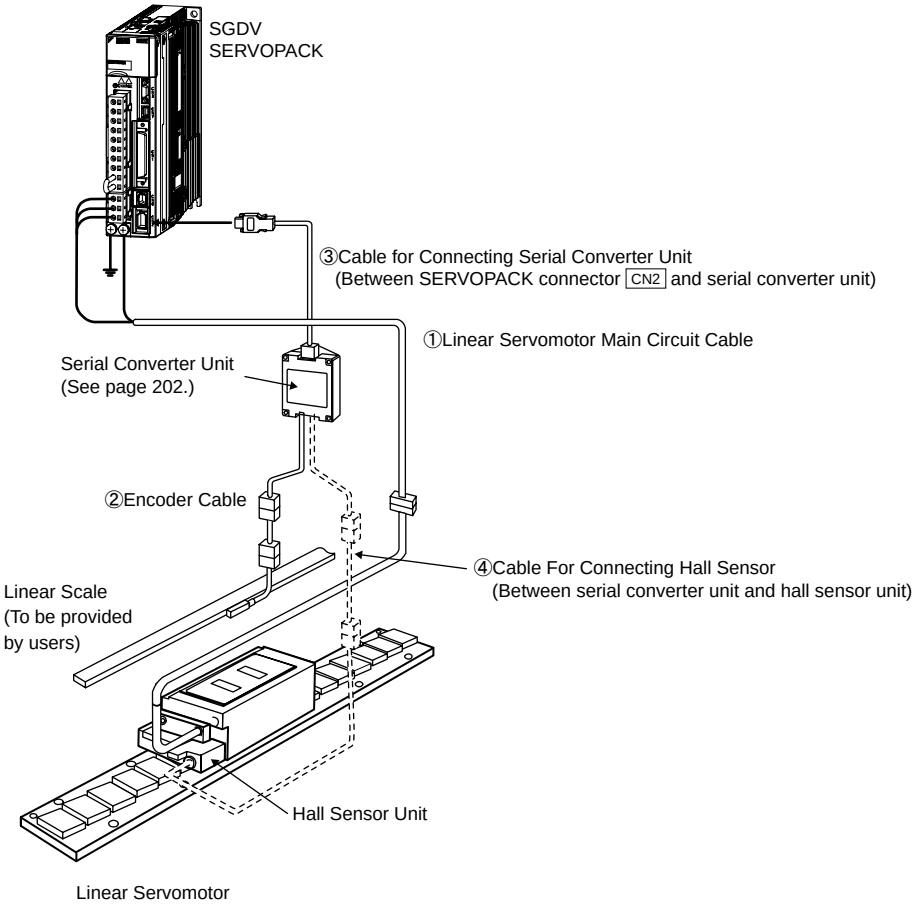
Assembly Dimensions

Notes: 1 Multiple SGLFM-1Z□□□A magnetic ways can be connected. Connect magnetic ways so that the reference marks match one on the other in the same direction as shown in the figure.
2 If you have a pacemaker or any other electronic medical device, do not go near the magnetic way of the linear servomotor.

Magnetic Way Model SGLFM-	$L1^{-0.1}_{-0.3}$	L2	L3	N	Approx. Mass kg
1Z405A	405	337.5 (67.5 × 5)	(423.9)	6	5
1Z675A	675	607.5 (67.5 × 9)	(693.9)	10	8.3
1Z945A	945	877.5 (67.5 × 13)	(963.9)	14	12

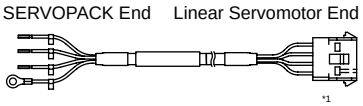
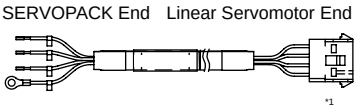
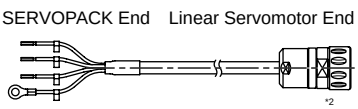
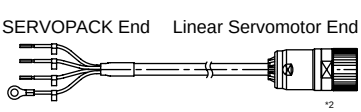
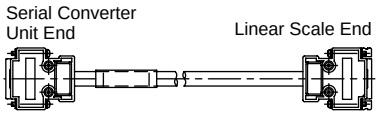
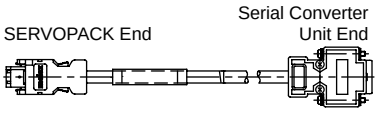
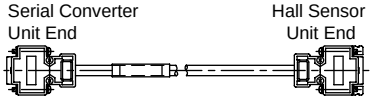
Selecting Cables

●Cables Connections



Selecting Cables

●Cables

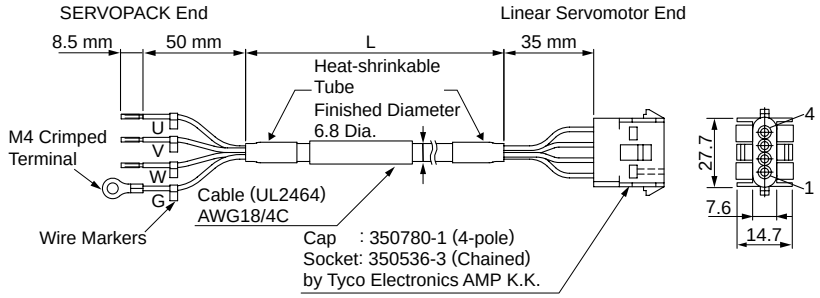
Name	Applicable Linear Servomotor Model	Length	Order No.	Specifications	Details
① Linear Servomotor Main Circuit Cables	SGLFW-20, -35	1 m	JZSP-CLN11-01-E		(1)
		3 m	JZSP-CLN11-03-E		
		5 m	JZSP-CLN11-05-E		
		10 m	JZSP-CLN11-10-E		
		15 m	JZSP-CLN11-15-E		
		20 m	JZSP-CLN11-20-E		
	SGLFW-50, -1Z	1 m	JZSP-CLN21-01-E		(2)
		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		
	SGLFW- □□A□□□□□D	1 m	JZSP-CLN14-01-E		(3)
		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		
	SGLFW- □□D□□□□□D	1 m	JZSP-CLN15-01-E		(4)
		3 m	JZSP-CLN15-03-E		
		5 m	JZSP-CLN15-05-E		
		10 m	JZSP-CLN15-10-E		
		15 m	JZSP-CLN15-15-E		
		20 m	JZSP-CLN15-20-E		
② Cables for Connecting Linear Scales*3	All models	1 m	JZSP-CLL00-01-E		(5)
		3 m	JZSP-CLL00-03-E		
		5 m	JZSP-CLL00-05-E		
		10 m	JZSP-CLL00-10-E		
		15 m	JZSP-CLL00-15-E		
③ Cables for Connecting Serial Converter Units	All models	1 m	JZSP-CLP70-01-E		(6)
		3 m	JZSP-CLP70-03-E		
		5 m	JZSP-CLP70-05-E		
		10 m	JZSP-CLP70-10-E		
		15 m	JZSP-CLP70-15-E		
		20 m	JZSP-CLP70-20-E		
④ Cables for Connecting Hall Sensors	All models	1 m	JZSP-CLL10-01-E		(7)
		3 m	JZSP-CLL10-03-E		
		5 m	JZSP-CLL10-05-E		
		10 m	JZSP-CLL10-10-E		
		15 m	JZSP-CLL10-15-E		

*1: Connector by Tyco Electronics AMP K.K.
*2: Connector by Interconnectron GmbH
*3: When using the serial converter unit, JZDP-G00□-□□□-E, the maximum cable length is 3 m.

NOTE: Shaded items are non-stock.

Selecting Cables

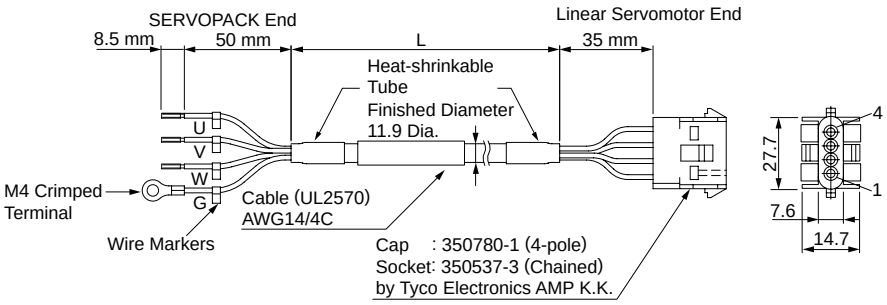
(1) Linear Servomotor Main Circuit Cables: JZSP-CLN11-□□-E



· Wiring Specifications

SERVOPACK-end Leads		Linear Servomotor-end Connector	
Wire Color	Signal	Signal	Pin No.
Red	Phase U	Phase U	1
White	Phase V	Phase V	2
Blue	Phase W	Phase W	3
Green/yellow	FG	FG	4

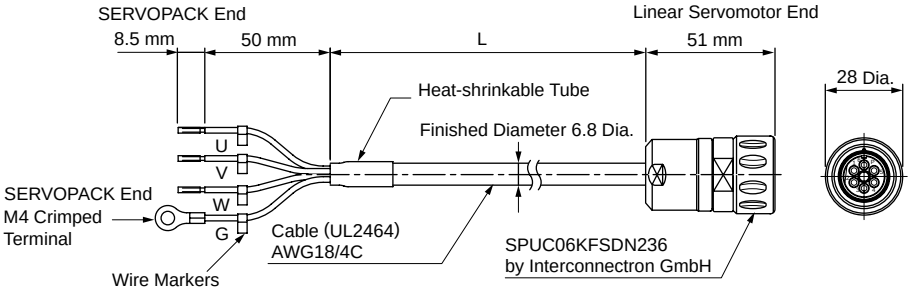
(2) Linear Servomotor Main Circuit Cables: JZSP-CLN21-□□-E



· Wiring Specifications

SERVOPACK-end Leads		Linear Servomotor-end Connector	
Wire Color	Signal	Signal	Pin No.
Red	Phase U	Phase U	1
White	Phase V	Phase V	2
Blue	Phase W	Phase W	3
Green/yellow	FG	FG	4

(3) Linear Servomotor Main Circuit Cables: JZSP-CLN14-□□-E

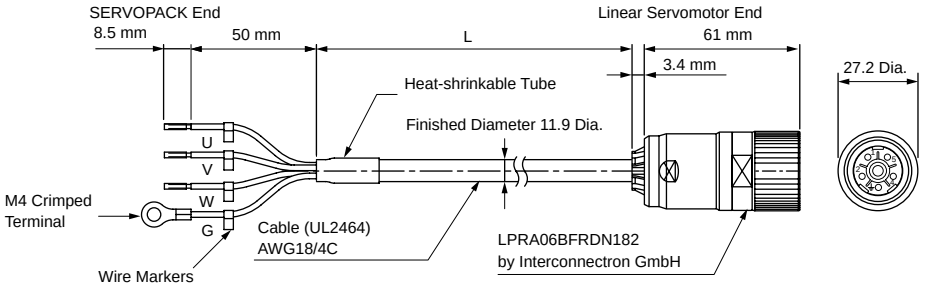


· Wiring Specifications

SERVOPACK-end Leads		Linear Servomotor-end Connector	
Wire Color	Signal	Signal	Pin No.
Black (White 1)	Phase U	Phase U	1
Black (White 2)	Phase V	Phase V	2
Black (White 3)	Phase W	Phase W	3
Green/yellow	FG	—	4
		—	5
		FG	6

(4) Linear Servomotor Main Circuit Cables: JZSP-CLN15-□□-E

· Wiring Specifications



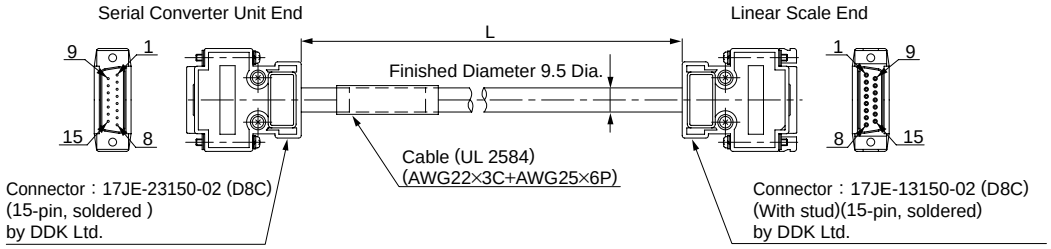
SERVOPACK-end Leads

Wire Color	Signal
Red	Phase U
White	Phase V
Black	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

(5) Cables for Connecting Linear Scales: JZSP-CLL00-□□-E

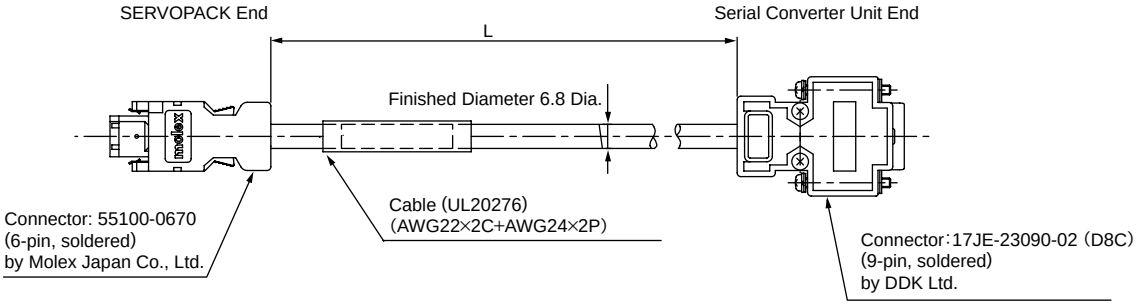


· Wiring Specifications

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

Selecting Cables

(6) Cables for Connecting Serial Converter Units: JZSP-CLP70-□□-E



· Wiring Specifications

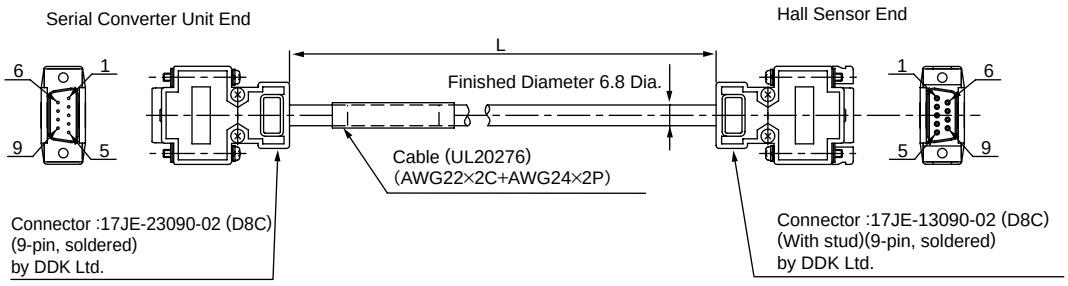
SERVOPACK End

Pin No.	Signal	Wire Color
1	PG5V	Red
2	PG0V	Black
3	–	–
4	–	–
5	PS	Light blue
6	/PS	Light blue/white
Shell	Shield	–

Serial Converter Unit End

Pin No.	Signal	Wire Color
1	+5V	Red
5	0V	Black
3	–	–
4	–	–
2	Phase S output	Light blue
6	Phase /S output	Light blue/white
Case	Shield	–
7	–	–
8	–	–
9	–	–

(7) Cables for Connecting Hall Sensors: JZSP-CLL10-□□-E



· Wiring Specifications

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