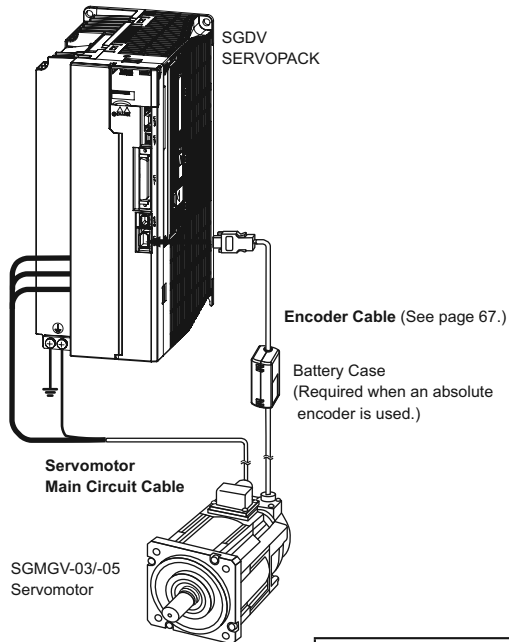


Selecting Main Circuit Cables (SGMGV-03 / -05)

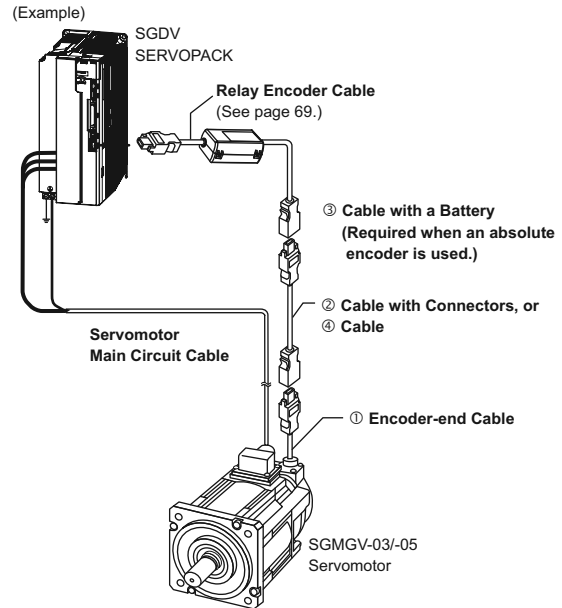
● Cables Connections

- Standard Wiring (Max. encoder cable length: 20 m)



- Encoder Cable Extension from 30 to 50 m

(See page 69.)



⚠ CAUTION

- Separate the servomotor main circuit cable wiring from the I/O signal cable and encoder cable at least 30 cm, and do not bundle or run them in the same duct.
- When the main circuit cable length exceeds 20 m, note that the intermittent duty zone of the Torque-Motor Speed Characteristics will shrink as the line-to-line voltage drops.

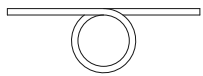
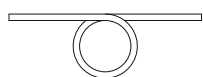
● Servomotor Main Circuit Cable

Servomotor Rated Output	Name	Length	Order No.	Specifications	Details
			Premium (Flexible) Type*		
0.3 kW 0.45 kW	For Servomotor without Holding Brakes	3 m	JZSP-CVM21-03-E		(1)
		5 m	JZSP-CVM21-05-E		
		10 m	JZSP-CVM21-10-E		
		15 m	JZSP-CVM21-15-E		
		20 m	JZSP-CVM21-20-E		
		30 m	JZSP-CVM21-30-E		
		40 m	JZSP-CVM21-40-E		
		50 m	JZSP-CVM21-50-E		
	For Servomotor with Holding Brakes	3 m	JZSP-CVM41-03-E		(2)
		5 m	JZSP-CVM41-05-E		
		10 m	JZSP-CVM41-10-E		
		15 m	JZSP-CVM41-15-E		
		20 m	JZSP-CVM41-20-E		
		50 m	JZSP-CVM41-50-E		
Servomotor-end Connector Kit	—	JZSP-CVM9-1-E	Crimping Type (A crimp tool is required.)	(3)	

*: These flexible cables are provided as standard equipment.

(Cont'd)

Selecting Main Circuit Cables (SGMGV-03 / -05)

Servomotor Rated Output	Name	Length	Order No.		Specifications	Details
			Premium (Flexible) Type*			
0.3 kW 0.45 kW	Cables	For Servomotor without Holding Brakes (4 wires)	5 m	JZSP-CVM29-05-E		(4)
			10 m	JZSP-CVM29-10-E		
			15 m	JZSP-CVM29-15-E		
			20 m	JZSP-CVM29-20-E		
			30 m	JZSP-CVM29-30-E		
			40 m	JZSP-CVM29-40-E		
			50 m	JZSP-CVM29-50-E		
	Cables	For Servomotor with Holding Brakes (6 wires)	5 m	JZSP-CVM49-05-E		(4)
			10 m	JZSP-CVM49-10-E		
			15 m	JZSP-CVM49-15-E		
			20 m	JZSP-CVM49-20-E		
			30 m	JZSP-CVM49-30-E		
			40 m	JZSP-CVM49-40-E		
			50 m	JZSP-CVM49-50-E		

*: These flexible cables are provided as standard equipment.

(1) Wiring Specifications for Servomotors without Holding Brakes

SERVOPACK-end Leads		Servomotor-end Connector	
Wire Color	Signal	Signal	Pin No.
Green/yellow	FG	FG	PE
Blue	Phase W	Phase W	1
White	Phase V	Phase V	2
Red	Phase U	Phase U	3
		-	4
		-	5

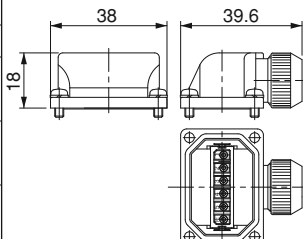
Note: This cable is not shielded.

(2) Wiring Specifications for Servomotor with Holding Brakes

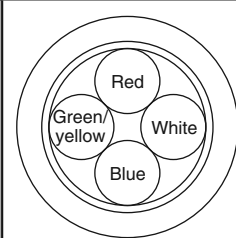
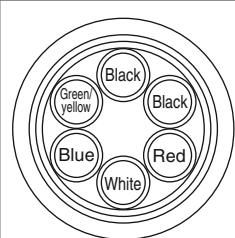
SERVOPACK-end Leads		Servomotor-end Connector	
Wire Color	Signal	Signal	Pin No.
Green/yellow	FG	FG	PE
Blue	Phase W	Phase W	1
White	Phase V	Phase V	2
Red	Phase U	Phase U	3
Black	Brake	Brake	4
Black	Brake	Brake	5

Note: No polarity for connection to a holding brake
Note: This cable is not shielded.

(3) Servomotor-end Connector Kit Specifications

Items	Specifications	External Dimensions mm
Order No.	JZSP-CVM9-1-E (Cables are not included.)	
Applicable Servomotors	SGMGV-03/-05	
Manufacturer	Japan Aviation Electronics Industry, Ltd.	
Plug	JNYFX06SJ3	
Electrical Contact	ST-TMH-S-C1B	
Applicable Wire Size	AWG18 to 22	
Outer Diameter of Insulating Sheath	1.3 dia. to 1.8 dia.	
Crimp Hand tool	CT160-3-TMH5B	
Tool Applicator	350-TMH5B-2B	
Mounting Screw	M3 Pan head screw	
Applicable Cable Outer Diameter	6.9 dia. to 8.3 dia.	

(4) Cable Specifications (Flexible Type)

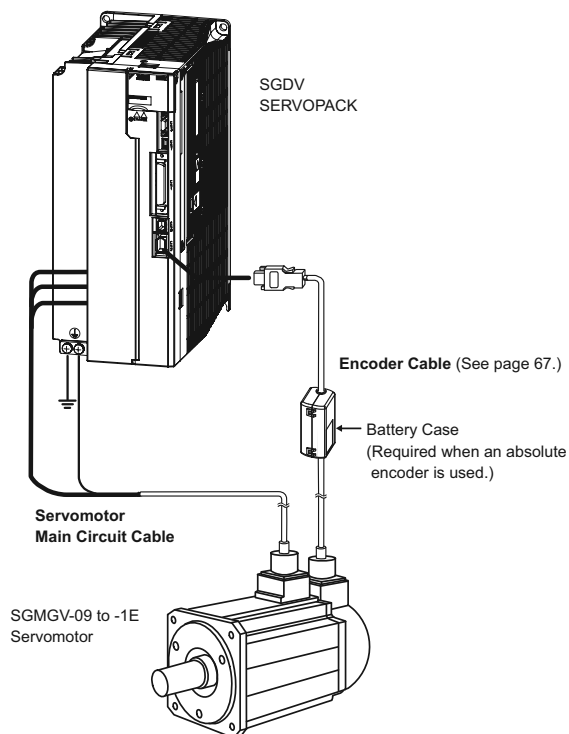
Items	For Servomotor without Holding Brakes (4 wires)	For Servomotor with Holding Brakes (6 wires)
Order No.*	JZSP-CVM29-□□-E	JZSP-CVM49-□□-E
Cable Length	50 m max.	
Specifications	UL2586 (Max. operating temperature: 105°C) AWG20×4C For power line: AWG20 (0.55 mm ²) Outer diameter of insulating sheath: 1.77 dia.	UL2586 (Max. operating temperature: 105°C) AWG20×6C For power line: AWG20 (0.55 mm ²) Outer diameter of insulating sheath: 1.77 dia. For holding brake line: AWG20 (0.55 mm ²) Outer diameter of insulating sheath: 1.77 dia.
Finished Dimensions	7.3±0.3 dia.	7.4±0.3 dia.
Internal Configuration and Lead Color		
Yaskawa Standard Specifications (Standard Length)	Cable length: 5 m, 10 m, 15 m, 20 m, 30 m, 40 m, 50 m	

*: Specify the cable length in □□ of order no.
Example: JZSP-CVM29-□□-05-E (5 m)

Selecting Main Circuit Cables (SGMGV-09 to -1E)

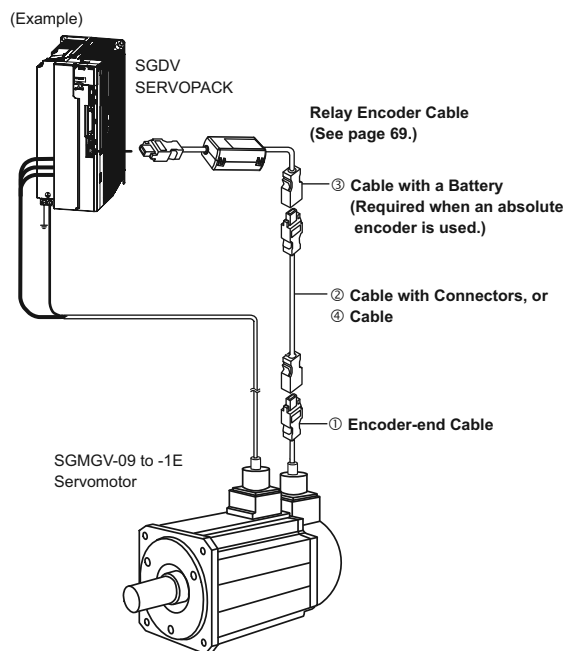
● Cables Connections

- Standard Wiring (Max. encoder cable length: 20 m)



- Encoder Cable Extension from 30 to 50 m

(See page 69.)

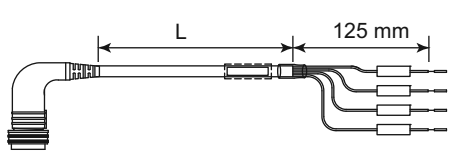
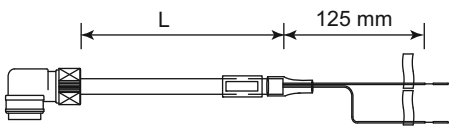
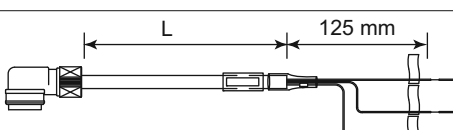


⚠ CAUTION

- Separate the servomotor main circuit cable wiring from the I/O signal cable and encoder cable at least 30 cm, and do not bundle or run them in the same duct.
- When the main circuit cable length exceeds 20 m, note that the intermittent duty zone of the Torque-Motor Speed Characteristics will shrink as the line-to-line voltage drops.

Selecting Main Circuit Cables (SGMGV-09 to -1E)

● Servomotor Main Circuit Cables

Voltage	Servomotor Rated Output	Name	Length	Order No.		Specifications	Details
				Value Type	Premium Type ²		
200V	850W, 1.3kW	Servomotor Power Cable ¹	3 m	B1EV-03(A)-E	B1EP-03(A)-E		(1)
			5 m	B1EV-05(A)-E	B1EP-05(A)-E		
			10 m	B1EV-10(A)-E	B1EP-10(A)-E		
			15 m	B1EV-15(A)-E	B1EP-15(A)-E		
			20 m	B1EV-20(A)-E	B1EP-20(A)-E		
	2.0kW		3 m	B2EV-03(A)-E	B2EP-03(A)-E		
			5 m	B2EV-05(A)-E	B2EP-05(A)-E		
			10 m	B2EV-10(A)-E	B2EP-10(A)-E		
			15 m	B2EV-15(A)-E	B2EP-15(A)-E		
			20 m	B2EV-20(A)-E	B2EP-20(A)-E		
	3.0 to 4.4kW		3 m	B4EV-03(A)-E	B4EP-03(A)-E		
			5 m	B4EV-05(A)-E	B4EP-05(A)-E		
			10 m	B4EV-10(A)-E	B4EP-10(A)-E		
			15 m	B4EV-15(A)-E	B4EP-15(A)-E		
	5.5 to 7.5kW		3 m	B6EV-03(A)-E	B6EP-03(A)-E		
			5 m	B6EV-05(A)-E	B6EP-05(A)-E		
			10 m	B6EV-10(A)-E	B6EP-10(A)-E		
			15 m	B6EV-15(A)-E	B6EP-15(A)-E		
	11 to 15kW		3 m	B7EV-03(A)-E	B7EP-03(A)-E		
			5 m	B7EV-05(A)-E	B7EP-05(A)-E		
10 m		B7EV-10(A)-E	B7EP-10(A)-E				
15 m		B7EV-15(A)-E	B7EP-15(A)-E				
400V	850W, 1.3kW, 2.0kW	3 m	B1EV-03(A)-E	B1EP-03(A)-E		(2)	
		5 m	B1EV-05(A)-E	B1EP-05(A)-E			
		10 m	B1EV-10(A)-E	B1EP-10(A)-E			
		15 m	B1EV-15(A)-E	B1EP-15(A)-E			
		20 m	B1EV-20(A)-E	B1EP-20(A)-E			
	3.0 to 4.4kW	3 m	B3EV-03(A)-E	B3EP-03(A)-E			
		5 m	B3EV-05(A)-E	B3EP-05(A)-E			
		10 m	B3EV-10(A)-E	B3EP-10(A)-E			
		15 m	B3EV-15(A)-E	B3EP-15(A)-E			
		20 m	B3EV-20(A)-E	B3EP-20(A)-E			
	5.5 to 7.5kW	3 m	B5EV-03(A)-E	B5EP-03(A)-E			
		5 m	B5EV-05(A)-E	B5EP-05(A)-E			
		10 m	B5EV-10(A)-E	B5EP-10(A)-E			
		15 m	B5EV-15(A)-E	B5EP-15(A)-E			
		20 m	B5EV-20(A)-E	B5EP-20(A)-E			
	11 to 15kW	3 m	B6EV-03(A)-E	B6EP-03(A)-E			
		5 m	B6EV-05(A)-E	B6EP-05(A)-E			
		10 m	B6EV-10(A)-E	B6EP-10(A)-E			
		15 m	B6EV-15(A)-E	B6EP-15(A)-E			
		20 m	B6EV-20(A)-E	B6EP-20(A)-E			
200V and 400V	850W to 15kW	Holding Brake Cable	3 m	BBEV-03(A)-E	-		(3)
			5 m	BBEV-05(A)-E	-		
			10 m	BBEV-10(A)-E	-		
			15 m	BBEV-15(A)-E	-		
			20 m	BBEV-20(A)-E	-		
	850W to 15kW		3 m	-	BBEP-03(A)-E		
			5 m	-	BBEP-05(A)-E		
			10 m	-	BBEP-10(A)-E		
			15 m	-	BBEP-15(A)-E		
			20 m	-	BBEP-20(A)-E		

¹ Servomotors with holding brakes require a holding brake cable in addition to a power cable.

² Premium cables are intended for use in applications that require CE. B1EP through B5EP have a continuous flex rating and are intended for use in movable sections such as robot arms.

Selecting Main Circuit Cables (SGMGV-09 to -1E)

(1) Wiring Specifications for Servomotors with and without Holding Brakes*

SERVOPACK-end Leads		Servomotor-end Connector	
Wire Label	Signal	Signal	Pin No.
G	FG	FG	D
W	Phase W	Phase W	C
V	Phase V	Phase V	B
U	Phase U	Phase U	A

*For servomotors with holding brakes, the holding brake cable must also be wired.

(2) Wiring Specifications for the Value Type Brake Cable

SERVOPACK-end Leads		Servomotor-end Connector	
Wire Color	Signal	Signal	Pin No.
Black	Brake	Brake	1
Blue	Brake	Brake	2

Note: No polarity for connection to a holding brake.

(3) Wiring Specifications for the Premium Type Brake Cable

SERVOPACK-end Leads		Servomotor-end Connector	
Wire Color	Signal	Signal	Pin No.
Black	Brake	Brake	1
Blue	Brake	Brake	2
Green/Yellow	Shield	NC *	NC *

Note: No polarity for connection to a holding brake.

*Shield is not connected to the servomotor-end connector

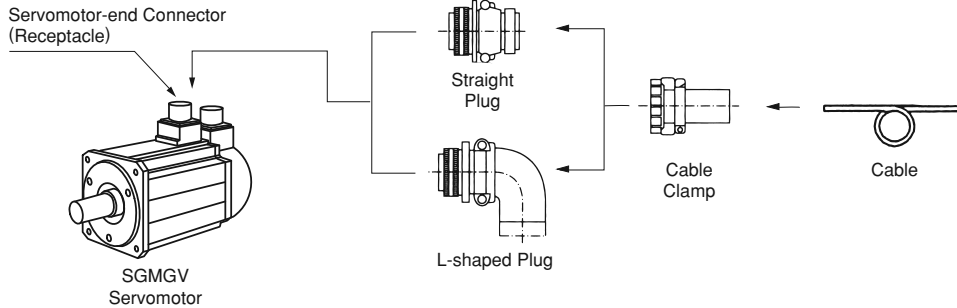
● Customer Cable Assembly

- Customers may assemble the servomotor's main circuit cables and attach connectors to connect the SERVOPACKs and the SGMGV servomotors.
- The connectors specified by Yaskawa are required. Note that the connectors vary depending on the operation environment of servomotors.
- Two types of connectors are available.
 - Standard connectors
 - Protective structure IP67 and European Safety Standards compliant connectors
- Yaskawa does not specify which cables to use. Use appropriate cables for the connectors.

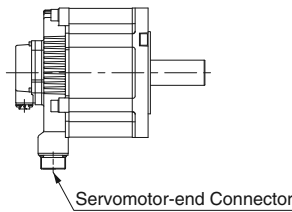
Selecting Main Circuit Cables (SGMGV-09 to -1E)

● Standard Connectors

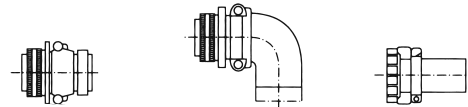
● Connector Configuration



(1) Without Holding Brakes



Servomotor-end Connector
For 0.85 to 15 kW

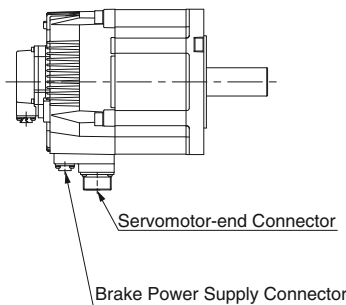


Capacity kW	Servomotor-end Connector (Receptacle)	Cable-end Connector (Not provided by Yaskawa)		
		Straight Plug	L-shaped Plug	Cable Clamp
0.85 1.3 1.8	MS3102A18-10P	MS3106B18-10S	MS3108B18-10S	MS3057-10A
2.9 4.4	MS3102A22-22P	MS3106B22-22S	MS3108B22-22S	MS3057-12A
5.5 to 15	MS3102A32-17P	MS3106B32-17S	MS3108B32-17S	MS3057-20A

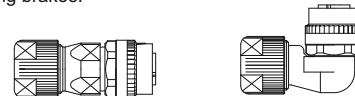
Note: Servomotor-end connectors (receptacles) are RoHS-compliant. Contact the respective connector manufacturers for RoHS-compliant cable-end connectors (not provided by Yaskawa).

(2) With Holding Brakes

0.85 to 15 kW servomotors require servomotor-end connector and brake power supply connector.
The servomotor-end connector is the same as is used for servomotors without holding brakes.

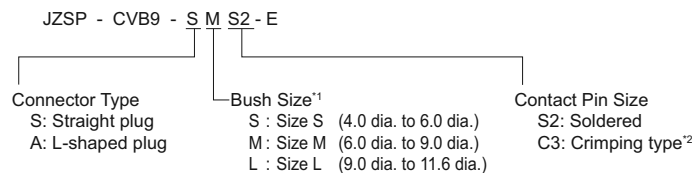


Brake Power Supply Connector
0.85 to 15 kW



Capacity kW	Servomotor-end Connector (Receptacle)	Cable-end Connector (Not provided by Yaskawa)			Manufacturer
		Straight Plug	L-shaped Plug	Manufacturer	
0.85 to 15	CM10-R2P-D	CM10-SP2S-S-D Applicable Cable: 4.0 dia. to 6.0 dia.	CM10-AP2S-S-D Applicable Cable: 4.0 dia. to 6.0 dia.	DDK Ltd.	
		CM10-SP2S-M-D Applicable Cable: 6.0 dia. to 9.0 dia.	CM10-AP2S-M-D Applicable Cable: 6.0 dia. to 9.0 dia.		
		CM10-SP2S-L-D Applicable Cable: 9.0 dia. to 11.6 dia.	CM10-AP2S-L-D Applicable Cable: 9.0 dia. to 11.6 dia.		

To order a brake power supply connector kit (0.85 to 15 kW) with the order no. below, contact your Yaskawa representative.



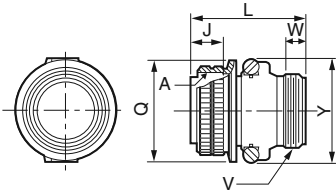
*1: A size-M connector kit is available as a standard equipment.
*2: A crimp tool (model: 357J-50448T) by DDK Ltd. is required.

Selecting Main Circuit Cables (SGMGV-09 to -1E) Units: mm

• Cable-end Connectors

(1) MS3106B□□-□□S :

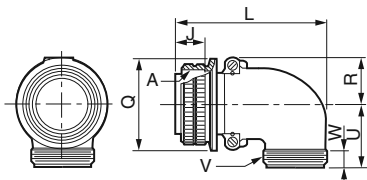
Straight Plug



Shell Size	Joint Screw A	Length of Joint Portion J±0.12	Overall Length L max.	Outer Diameter of Joint Nut Q ⁺⁰ _{-0.38}	Cable Clamp Set Screw V	Effective Screw Length W min.	Maximum Width Y max.
18	1-1/8-18UNEF	18.26	52.37	34.13	1-20UNEF	9.53	42
22	1-3/8-18UNEF	18.26	55.57	40.48	1-3/16-18UNEF	9.53	50
32	2-18UNS	18.26	61.92	56.33	1-3/4-18UNS	11.13	66

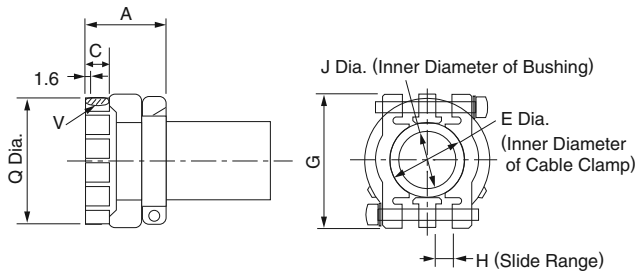
(2) MS3108B□□-□□S :

L-shaped Plug



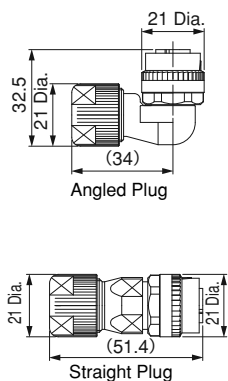
Shell Size	Joint Screw A	Length of Joint Portion J±0.12	Overall Length L max.	Outer Diameter of Joint Nut Q ⁺⁰ _{-0.38}	R ±0.5	U ±0.5	Cable Clamp Set Screw V	Effective Screw Length W min.
18	1-1/8-18UNEF	18.26	68.27	34.13	20.5	30.2	1-20UNEF	9.53
22	1-3/8-18UNEF	18.26	76.98	40.48	24.1	33.3	1-3/16-18UNEF	9.53
32	2-18UNS	18.26	95.25	56.33	32.8	44.4	1-3/4-18UNS	11.13

(3) MS3057-□□A : Cable Clamp with Rubber Bushing



Cable Clamp Type	Applicable Connector Shell Size	Overall Length A±0.7	Effective Screw Length C	E Diameter	G±0.7	H	J Diameter	Set Screw V	Outer Diameter Q±0.7 Dia.	Attached Bushing
MS3057-10A	18	23.8	10.3	15.9	31.7	3.2	14.3	1-20UNEF	30.1	AN3420-10
MS3057-12A	20/22	23.8	10.3	19	37.3	4	15.9	1-3/16-18UNEF	35.0	AN3420-12
MS3057-20A	32	27.8	11.9	31.7	51.6	6.3	23.8	1-3/4-18UNS	51.6	AN3420-20

• Dimensional Drawings of Brake Power Supply

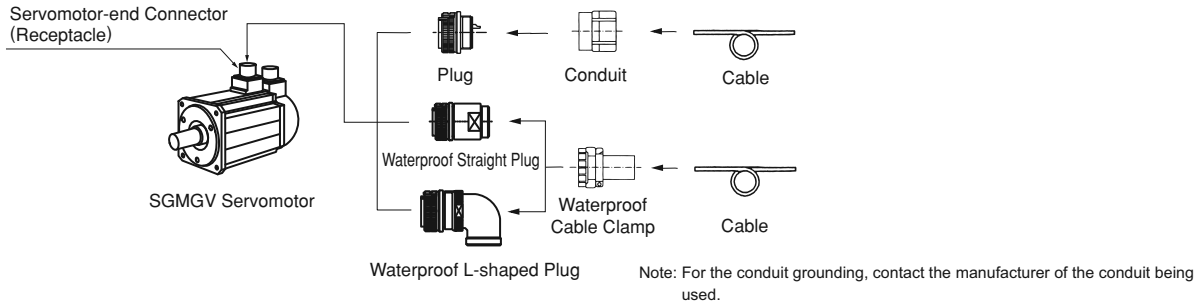


Items	Specifications
Connector Order No.	CM10-□P2S-□-D (Cables are not included.)
Protective Structure	IP67
Manufacturer	DDK Ltd.
Instructions	Angled plug (CM10-AP2S-□-D): TC-573, Straight plug (CM10-SP2S-□-D): TC-583
Electrical Contact Order No.	<p>Electrical contact (100 pcs in one bag)</p> <ul style="list-style-type: none"> □Crimping type: CM10-#22SC(C3)-100, Wire size: AWG16 to 20, Outer diameter of sheath: 1.87 to 2.45 dia., Hand tool: 357J-50448T □Soldered type: CM10-#22SC (S2)-100, Wire size: AWG16 max. <p>Real contact (4000 pcs on one reel)</p> <ul style="list-style-type: none"> □Crimping type: CM10-#22SC(C3)-4000, Wire size: AWG 16 to 20, Outer diameter of sheath: 1.87 to 2.45 dia., Semi-automatic tool: AP-A50541T (product name for one set), AP-A50541T-1 (product name for applicator) <p>Note: The product name of the semi-automatic tool refers to the product name of the press and applicator (crimper) as a set.</p>

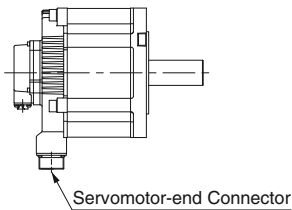
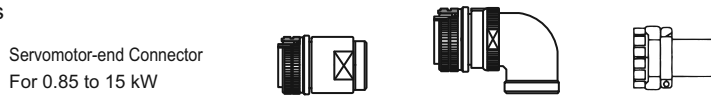
Selecting Main Circuit Cables (SGMGV-09 to -1E)

● Protective Structure IP67 and European Safety Standards Compliant Connector

● Connector Configuration



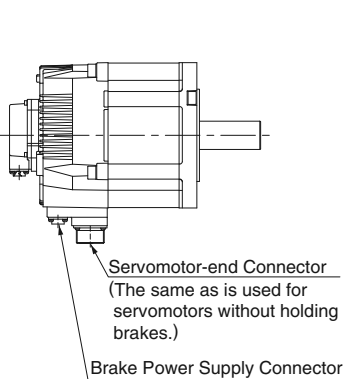
(1) Without Holding Brakes



Capacity kW	Servomotor-end Connector (Receptacle)	Cable-end Connector (Not Provided by Yaskawa)				Manufacturer
		Straight Plug	L-shaped Plug	Cable Clamp	Applicable Cable Diameter (For Reference)	
0.85 1.3 1.8	CE05-2A18-10PD-D	CE05-6A18-10SD-D-BSS	CE05-8A18-10SD-D-BAS	CE3057-10A-1-D	10.5 dia. to 14.1 dia.	DDK Ltd.
				CE3057-10A-2-D	8.5 dia. to 11.0 dia.	
				CE3057-10A-3-D	6.5 dia. to 8.7 dia.	
2.9 4.4	CE05-2A22-22PD-D	CE05-6A22-22SD-D-BSS	CE05-8A22-22SD-D-BAS	CE3057-12A-1-D	12.5 dia. to 16.0 dia.	
				CE3057-12A-2-D	9.5 dia. to 13.0 dia.	
				CE3057-12A-3-D	6.8 dia. to 10.0 dia.	
				CE3057-12A-7-D	14.5 dia. to 17.0 dia.	
5.5 to 15	CE05-2A32-17PD-D	CE05-6A32-17SD-D-BSS	CE05-8A32-17SD-D-BAS	CE3057-20A-1-D	22 dia. to 23.8 dia.	
				CE3057-20A-2-D	24 dia. to 26.6 dia.	
				CE3057-20A-3-D	22 dia. to 22.5 dia.	

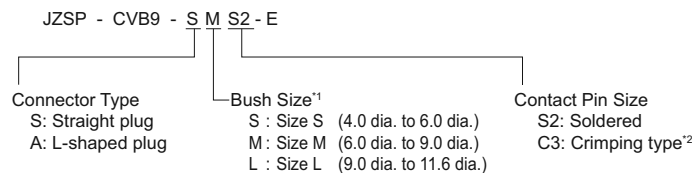
(2) With Holding Brakes

0.85 to 15 kW servomotors require servomotor-end connector and brake power supply connector. The servomotor-end connector is the same as is used for servomotors without holding brakes.



Capacity kW	Servomotor-end Connector (Receptacle)	Cable-end Connector (Not provided by Yaskawa)		Manufacturer
		Straight Plug	L-shaped Plug	
0.85 to 15	CM10-R2P-D	CM10-SP2S-S-D Applicable Cable: 4.0 dia. to 6.0 dia.	CM10-AP2S-S-D Applicable Cable: 4.0 dia. to 6.0 dia.	DDK Ltd.
		CM10-SP2S-M-D Applicable Cable: 6.0 dia. to 9.0 dia.	CM10-AP2S-M-D Applicable Cable: 6.0 dia. to 9.0 dia.	
		CM10-SP2S-L-D Applicable Cable: 9.0 dia. to 11.6 dia.	CM10-AP2S-L-D Applicable Cable: 9.0 dia. to 11.6 dia.	

To order a brake power supply connector kit (0.85 to 15 kW) with the order no. below, contact your Yaskawa representative.



¹: A size-M connector kit is available as a standard equipment.
²: A crimp tool (model: 357J-50448T) by DDK Ltd. is required.

Selecting Encoder Cables

● Encoder Cables (Max. length: 20 m)

■ Non-Stock Items

Name	Length (L)	Order No.		Specifications	Details
		Standard Type	Flexible Type*		
Encoder Cable with Connectors (For Incremental Encoder)	3 m	JZSP-CVP01-03-E	JZSP-CVP11-03-E	<p>SERVOPACK End Encoder End</p> <p>Connector (Crimped) (Molex Japan Co., Ltd.) CM10-SP10S-□-D (DDK Ltd.)</p>	(1)
	5 m	JZSP-CVP01-05-E	JZSP-CVP11-05-E		
	10 m	JZSP-CVP01-10-E	JZSP-CVP11-10-E		
	15 m	JZSP-CVP01-15-E	JZSP-CVP11-15-E		
	20 m	JZSP-CVP01-20-E	JZSP-CVP11-20-E		
	3 m	JZSP-CVP02-03-E	JZSP-CVP12-03-E		
	5 m	JZSP-CVP02-05-E	JZSP-CVP12-05-E		
	20 m	JZSP-CVP02-20-E	JZSP-CVP12-20-E		
Encoder Cable with Connectors (For Absolute Encoder, with a Battery Case)	3 m	JZSP-CVP06-03-E	JZSP-CVP26-03-E	<p>SERVOPACK End Encoder End</p> <p>Connector (Crimped) (Molex Japan Co., Ltd.) CM10-SP10S-□-D (DDK Ltd.)</p> <p>Battery Case (Battery Attached)</p>	(2)
	5 m	JZSP-CVP06-05-E	JZSP-CVP26-05-E		
	10 m	JZSP-CVP06-10-E	JZSP-CVP26-10-E		
	15 m	JZSP-CVP06-15-E	JZSP-CVP26-15-E		
	20 m	JZSP-CVP06-20-E	JZSP-CVP26-20-E		
	3 m	JZSP-CVP07-03-E	JZSP-CVP27-03-E		
	5 m	JZSP-CVP07-05-E	JZSP-CVP27-05-E		
	20 m	JZSP-CVP07-20-E	JZSP-CVP27-20-E		
SERVOPACK-end Connector Kit		JZSP-CMP9-1-E		<p>Soldered</p> <p>(Molex Japan Co., Ltd.)</p>	(3)
Encoder-end Connector Kit **		JZSP-CVP9-3-E		<p>Straight plug</p> <p>(DDK Ltd.)</p>	(4)
		JZSP-CVP9-4-E		<p>L-shaped plug</p> <p>(DDK Ltd.)</p>	
Cables	3 m	JZSP-CMP09-03-E	JZSP-CSP39-03-E		(5)
	5 m	JZSP-CMP09-05-E	JZSP-CSP39-05-E		
	10 m	JZSP-CMP09-10-E	JZSP-CSP39-10-E		
	15 m	JZSP-CMP09-15-E	JZSP-CSP39-15-E		
	20 m	JZSP-CMP09-20-E	JZSP-CSP39-20-E		

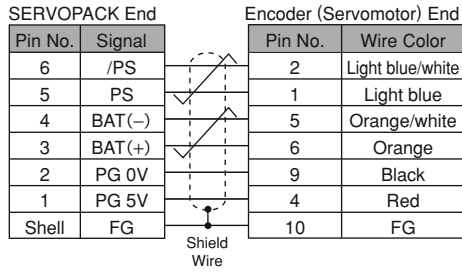
*: Use flexible cables for movable sections such as robot arms.

** : Encoder-end connector kits are protected per IP67. These connectors utilize solder-style pins.

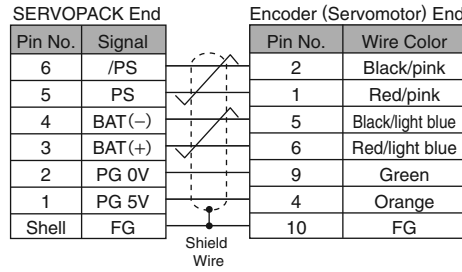
Selecting Encoder Cables

(1) Wiring Specifications for Cable with Connectors (For incremental encoder)

· Standard Type

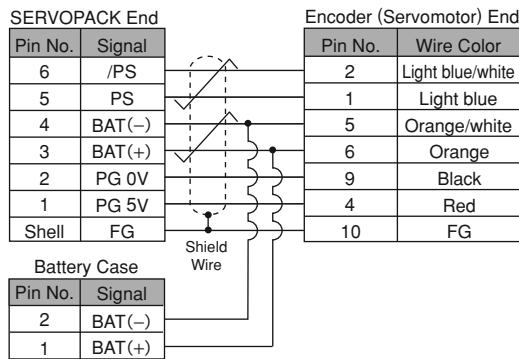


· Flexible Type

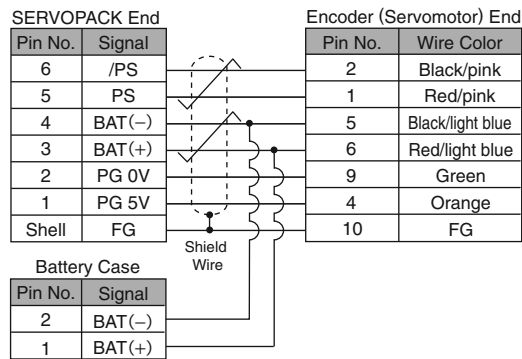


(2) Wiring Specifications for Cable with Connectors (For absolute encoder, with a battery case)

· Standard Type



· Flexible Type



(3) SERVOPACK-end Connector Kit Specifications

Items	Specifications
Order No.	JZSP-CMP9-1-E
Manufacturer	Molex Japan Co., Ltd.
Connector Model (For standard)	55100-0670 (soldered)
External Dimensions (Units: mm)	

Note: The mating connector model on SERVOPACK: 54280-800
The mating connector model on servomotor: 55102-0600

(4) Encoder-end Connector Kit Specifications

Items	Specifications	
Order No.	JZSP-CVP9-3-E	JZSP-CVP9-4-E
Manufacturer	DDK Ltd.	DDK Ltd.
Connector Model	CM10-SP10S-M-D	CM10-AP10S-M-D
Pin Model	CM10-#22SC(S1)	CM10-#22SC(S1)
External Dimensions (Units: mm)		

(5) Cable Specifications

Items	Standard Type	Flexible Type
Order No.*	JZSP-CMP09-□□-E	JZSP-CSP39-□□-E
Cable Length	20 m max.	
Specifications	UL20276 (Max. operating temperature: 80°C) AWG22×2C+AWG24×2P AWG22 (0.33 mm ²) Outer diameter of insulating sheath: 1.15 dia. AWG24 (0.20 mm ²) Outer diameter of insulating sheath: 1.09 dia.	UL20276 (Max. operating temperature: 80°C) AWG22×2C+AWG24×2P AWG22 (0.33 mm ²) Outer diameter of insulating sheath: 1.35 dia. AWG24 (0.20 mm ²) Outer diameter of insulating sheath: 1.21 dia.
Finished Dimensions	6.5 dia.	6.8 dia.
Internal Configuration and Lead Color		
Yaskawa Standards Specifications (Standard Length)	Cable length: 5 m, 10 m, 15 m, 20 m	

*: Specify the cable length in □□ of order no.
Example: JZSP-CMP09-05-E (5 m)

Selecting Encoder Cables

● Encoder Cables (For extending from 30 to 50 m)

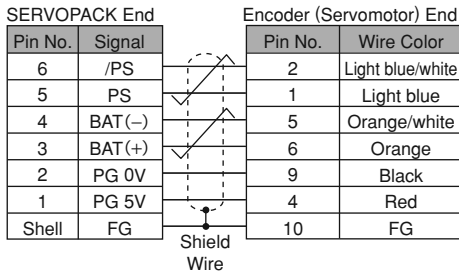
■ Limited Stock Items

Name	Length	Order No.	Specifications	Details
① Encoder-end Cables (For incremental and absolute encoder)	0.3 m	JZSP-CVP01-E	<p>SERVOPACK End 0.3 m Encoder End</p> <p>Plug Connector (Crimped) CM10-SP10S-□-D (Molex Japan Co., Ltd.) (DDK Ltd.)</p>	(1)
		JZSP-CVP02-E	<p>SERVOPACK End 0.3 m Encoder End</p> <p>Plug Connector (Crimped) CM10-AP10S-□-D (Molex Japan Co., Ltd.) (DDK Ltd.)</p>	
② Cable with Connectors (For incremental and absolute encoder)	30 m	JZSP-UCMP00-30-E	<p>SERVOPACK End L Encoder End</p> <p>Connector (Crimped) Socket Connector (Soldered) (Molex Japan Co., Ltd.) (Molex Japan Co., Ltd.)</p>	(2)
	40 m	JZSP-UCMP00-40-E		
	50 m	JZSP-UCMP00-50-E		
③ Cable with a Battery Case (Required when an absolute encoder is used.)	0.3 m	JZSP-CSP12-E*	<p>SERVOPACK End 0.3 m Encoder End</p> <p>Battery Case (Battery attaches!)</p> <p>Connector (Crimped) Socket Connector (Soldered) (Molex Japan Co., Ltd.) (Molex Japan Co., Ltd.)</p>	(3)
④ Cables	30 m	JZSP-CMP19-30-E		(4)
	40 m	JZSP-CMP19-40-E		
	50 m	JZSP-CMP19-50-E		

*: When using an incremental encoder or using an absolute encoder with a battery connected to the host controller, no battery case is required.

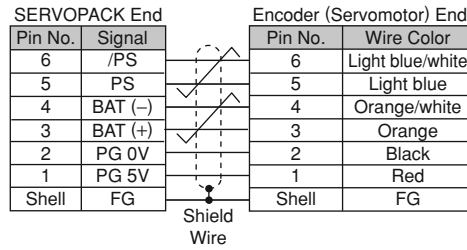
Selecting Encoder Cables

(1) Wiring Specifications for Encoder-end Cable
(For incremental and absolute encoder)

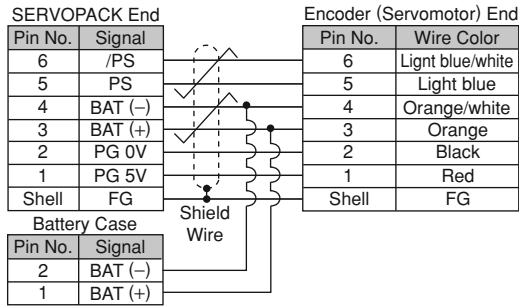


Note: The signals BAT(+) and BAT(-) are used when using an absolute encoder.

(2) Wiring Specifications for Cable with Connectors
(For incremental and absolute encoder)



(3) Wiring Specifications for Cable with a Battery Case
(For absolute encoder)



(4) Cable Specifications

Item	Standard Type
Order No.*	JZSP-CMP19-□□-E
Cable Length	50 m max.
Specifications	UL20276 (Max. operating temperature: 80°C) AWG16×2C+AWG26×2P AWG16 (1.31 mm ²) Outer diameter of insulating sheath: 2.0 dia. AWG26 (0.13 mm ²) Outer diameter of insulating sheath: 0.91 dia.
Finished Dimensions	6.8 dia.
Internal Configuration and Lead Colors	
Yaskawa Standard Specifications (Standard Length)	Cable length: 30 m, 40 m, 50 m

*: Specify the cable length in □□ of order no.
Example: JZSP-CMP19-30-E (30 m)