

Specification
for
General purpose AC Servo
Power supply cable

Type SC-PWC5JCBL□M-○L

MITSUBISHI ELECTRIC
SYSTEM & SERVICE CO.,LTD

Note

Revision				Drawn	Check	Design	Approved
A	21 Apr.,2020			<i>N. Ito</i>	<i>S. Kariya</i>	<i>M. Kuamura</i>	<i>D. T. Sakuma</i>
B	16 Mar.,2022						
Send to				Date		Dwg	
				31 Mar.,2017		X903703D50052-F54B	
				Order			

1. SCOPE

This specification covers the requirements for the General purpose AC Servo Power supply cable.

- SC-PWC5JCBL□M-ML
- SC-PWC5JCBL□M-L
- SC-PWC5JCBL□M-LL
- SC-PWC5JCBL□M-XL

※ The Products covered in this specification don't include the toxic substances in RoHS (Lead, Mercury, Cadmium, Hexavalent Chromium, PBDE, PBB).

※ UL's Wiring Harnesses Traceability program provides traceability for this cable.

2. CABLE TYPE

SC - PWC5J CBL □ M - ○L

M - ○L	Sign	Wire thickness / Bending life
	ML	Thin / Standard (For fixed part)
	L	Standard / Standard (For fixed part)
	LL	Thick / Standard (For fixed part)
	XL	Extra thick / Standard (For fixed part)
CBL □	Sign	Length of cable
	□	Refer to clause 4.
PWC5J	Sign	Application
	PWC5J	Motor side power supply cable for relay connection *1 ※ Refer to clause 5 for applicable motor

*1 This cable cannot be used alone.

Use the following cables in combination as a relay cable on the amplifier side.

Cable type name	Specifications management number
SC-PWC5CBL□M-○L	X903703D50052-H23
SC-PWC5CBL□M-○H	X903703D50052-H31
SC-PWC5CBL□M(-■)-○L-S1	X903703D50052-D39
SC-PWC5CBL□M(-■)-○H-S1	X903703D50052-D40

3. APPLICABLE STANDARDS

Wire part : UL standard (UL 758 : AWM)

Wire thickness	UL Style No.	Rated	
ML(Thin)	2501	105°C	600V
L (Standard)			
LL (Thick)	2586		
XL(Extra thick)			

4. LENGTH OF CABLE

1 to 50m Specified by 1m unit

※ Cable length varies depending on the servo motor to be combined and the cable on the amplifier side.

5. APPLICABLE SERVO MOTOR

○ : Selectable, × : Not selectable

Applicable servo motor		Wire thickness			
MR-J4 compatible	MR-J3 compatible	ML	L	LL	XL
HG-SR121	HF-SP121	○	○	○	○
HG-SR201	HF-SP201				
HG-SR202	HF-SP202				
HG-SR2024	HF-SP2024				
HG-SR3524	HF-SP3524				
HG-SR301	HF-SP301	×	○	○	○
HG-SR352	HF-SP352				
HG-SR5024	HF-SP5024				
HG-JR353	HF-JP353				
HG-SR502	HF-SP502	×	×	○	○
HG-JR503	HF-JP503				

(Caution!) The applicability of the applicable motor and wire thickness (○ · ×) in the above table applies only to the cables in this specification. It does not apply to the SC-PWC5CBL series of direct connection / amplifier side relay cables.

6. EXAMPLE OF PRINTING CABLE TYPE NAME

SC-PWC5JCBL□M-○L ××××××××

※ □ is a figure from 1 to 50.

※ ○ is wire thickness from M, none, L, X.

※ ×××××××× are the serial number for seven or eight digits.

7. STRUCTURE AND CHARACTERISTICS

Item		Unit	Specification			
			ML	L	LL	XL
Structure		—	AWG14×4C	AWG12×4C	AWG10×4C	AWG8×4C
Conductor	Conductor size	—	AWG14	AWG12	AWG10	AWG8
	Outer diameter	mm	Approx. 2.0	Approx. 2.5	Approx. 3.1	Approx. 4.5
Insulation	Material	—	PVC			
	Outer diameter	mm	Approx. 3.7	Approx. 4.2	Approx. 4.8	Approx. 7.3
Stranding	Number of insulation core wire	—	4C			
Sheath	Material	—	Flame Retardant PVC			
	Color	—	Black			
Overall diameter		mm	Approx. 12.2	Approx. 13.6	Approx. 13.7	Approx. 21.3
Cable weight		kg/km	210	280	330	670
Electrical characteristics	Insulation esistance	MΩ · km	Over 10			
	Withstand voltage	V for 1minute	AC2000*2			
Operating temperature range		°C	-10~+60 (without condensation)			
Minimum Radius Bend		mm	6 times the overall diameter			
Flame Retardant		—	UL1581 VW-1			
Connector	Servo amplifier side	Type	ML : DDK Ltd. D/MS3101A22-22P(D263) (Cable receptacle) CE3057-12A-2-D(R1) (Waterproof cable clamp) CE02-22BS-S-D(R1) (Waterproof back shell)			
			L,LL : DDK Ltd. D/MS3101A22-22P(D263) (Cable receptacle) CE3057-12A-1-D(R1) (Waterproof cable clamp) CE02-22BS-S-D(R1) (Waterproof back shell)			
			XL : DDK Ltd. D/MS3101A22-22P(D263) (Cable receptacle)*3 Nippon Flex Co., Ltd.*4 ACS-24RL-MS22F (MS type straight connector) or Sankei Seisakusho Co., Ltd.*4 C2KD2422 (KEIGLAND Type C2)			
		IP rating	IP67*1			
	Servo motor side	Type	ML : DDK Ltd. CE05-6A22-22SD-D-BSS(R1) (Straight plug) CE3057-12A-2-D(R1) (Waterproof cable clamp)			
			L,LL : DDK Ltd. CE05-6A22-22SD-D-BSS(R1) (Straight plug) CE3057-12A-1-D(R1) (Waterproof cable clamp)			
			XL : DDK Ltd. CE05-6A22-22SD-D(R1) (Plug)*3 Nippon Flex Co., Ltd.*4 ACS-24RL-MS22F (MS type straight connector) or Sankei Seisakusho Co., Ltd.*4 C2KD2422 (KEIGLAND Type C2)			
		IP rating	IP67*1			

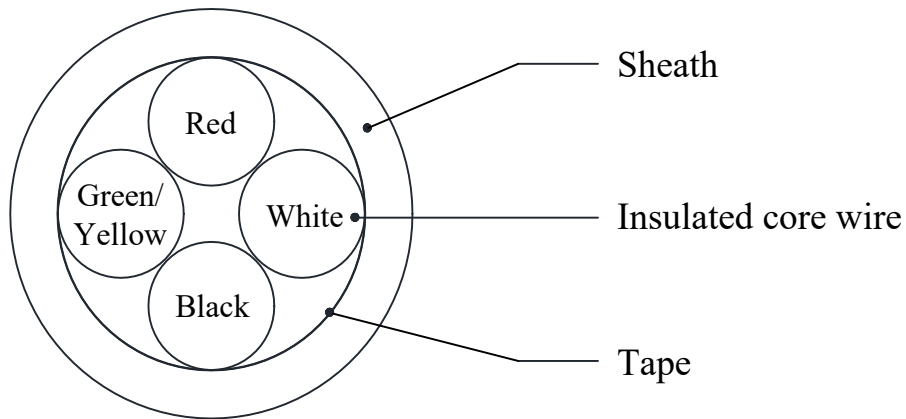
*1 The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/servo motor. If the IP rating of the servo amplifier/servo motor differs from that of these connectors, overall IP rating depends on the lowest of all.

*2 In addition, the cable material alone is tested for a withstand voltage of 2000V / 5 minutes.

*3 The plug and receptacle is used in common for Nippon Flex product and Sankei Seisakusho product clamps.

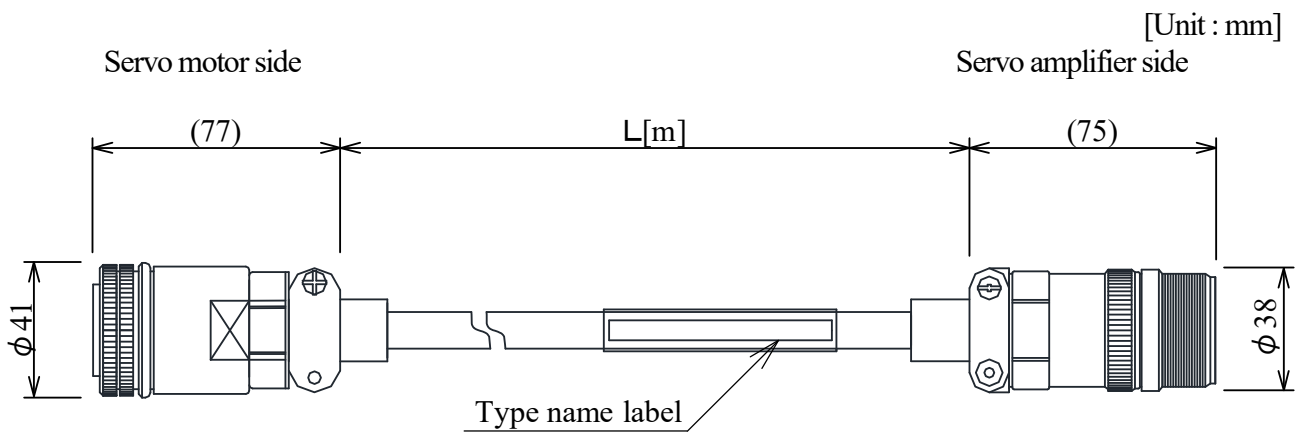
*4 Due to the discontinuation of production of Nippon Flex clamps, we will switch to Sankei Seisakusho products after the inventory of Nippon Flex products is exhausted.

8. STRUCTURAL DRAWING



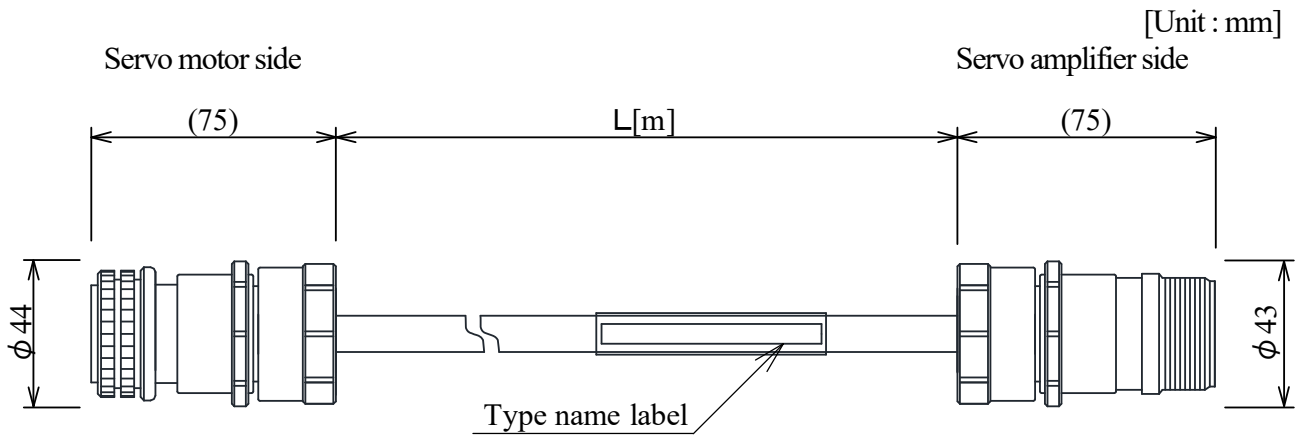
9. OUTLINE DRAWING

- (1) SC-PWC5JCBL□M-ML
- SC-PWC5JCBL□M-L
- SC-PWC5JCBL□M-LL



(2) SC-PWC5JCBL□M-XL

(2)-1 Uses Nippon Flex products clamp



(2)-2 Uses Sankei Seisakusyo products clamp

