

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	15 Mar.,2022			N. Ito	S. Harizon	M. Muramura	D. Takahashi
Send to				Date		Dwg	
				31 Mar.,2017		X903703D50052-F56A	
				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

PWC5J	CBL	□	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)
PWC5J	CBL	□	M	■	-	○L	Sign	Cable lead out direction
							A1	The direction varies depending on the motor. ※ Refer to clause 4 for more details.
							A2	
							A3	
							A4	
PWC5J	CBL	□	M	■	-	○L	Sign	Length of cable
							□	Refer to clause 5.
PWC5J	CBL	□	M	■	-	○L	Sign	Application
							PWC5J	Motor side power supply cable for relay connection *1 ※ Refer to clause 6 for applicable motor

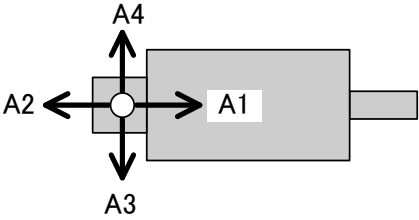
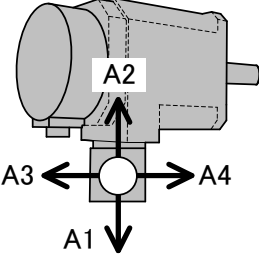
- \*1 Please use it with amplifier side power supply cable.  
Refer to clause 6 for confirming the combination and cable length.

### 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. CABLE LEAD OUT DIRECTION

Applicable servo motor	Cable lead out direction (View from cable insertion direction)
HG-SR121, 201, 202, 2024, 3524, 301, 352, 5024, 502 motor HF-SP121, 201, 202, 2024, 3524, 301, 352, 5024, 502 motor	
HG-JR353, 503 motor HF-JP353, 503 motor	

(Note) Depending on the situation such as installation environment or combination of cables and connectors, there is a chance not to complete installation. (Even though it's mentioned above) Please make sure the cable lead out direction before your purchase.

### 5. LENGTH OF CABLE

1 to 50m Specified by 1m unit

## 6. CABLE LENGTH FOR RELAY CONNECTION

This is the relay connecting cable length when the amplifier side cable length is 10 m or less.

Please inquire separately for combinations other than the table below and relay connection cable length.

【Condition】 Amplifier side relay cable length : 10 m or less

Applicable motor	Combination		Total cable length
	Amplifier side	Motor side	
HG-SR121,3524 HF-SP121	SC-PWC5CBL□M-ML SC-PWC5CBL□M-MH	SC-PWC5JCBL□M-■-L	50m or less
HG-SR201、202 HF-SP3524	SC-PWC5CBL□M-ML SC-PWC5CBL□M-MH	SC-PWC5JCBL□M-■-LL	50m or less
HF-SP201 (*1)	SC-PWC5CBL□M-ML	SC-PWC5JCBL□M-■-LL	45m or less
	SC-PWC5CBL□M-MH	SC-PWC5JCBL□M-■-LL	40m or less
HF-SP202 (*1)	SC-PWC5CBL□M-ML	SC-PWC5JCBL□M-■-LL	50m or less
	SC-PWC5CBL□M-MH	SC-PWC5JCBL□M-■-LL	45m or less
HG-SR2024 HF-SP2024	SC-PWC5CBL□M-ML SC-PWC5CBL□M-MH	SC-PWC5JCBL□M-■-ML	50m or less
HG-SR301,352	SC-PWC5CBL□M-L SC-PWC5CBL□M-H	SC-PWC5JCBL□M-■-XL	50m or less
HF-SP301,352	SC-PWC5CBL□M-L SC-PWC5CBL□M-H	SC-PWC5JCBL□M-■-XL	45m or less
HG-SR502 (*1)	SC-PWC5CBL□M-LL	SC-PWC5JCBL□M-■-XL	40m or less
	SC-PWC5CBL□M-LH	SC-PWC5JCBL□M-■-XL	35m or less
HF-SP502	SC-PWC5CBL□M-LL SC-PWC5CBL□M-LH	SC-PWC5JCBL□M-■-XL	35m or less
HG-SR5024 HF-SP5024	SC-PWC5CBL□M-L SC-PWC5CBL□M-H	SC-PWC5JCBL□M-■-LL	50m or less
HG-JR353 (*1)	SC-PWC5CBL□M-L	SC-PWC5JCBL□M-■-XL	45m or less
	SC-PWC5CBL□M-H	SC-PWC5JCBL□M-■-XL	40m or less
HF-JP353	SC-PWC5CBL□M-L SC-PWC5CBL□M-H	SC-PWC5JCBL□M-■-XL	45m or less
HG-JR503 HF-JP503	SC-PWC5CBL□M-LL SC-PWC5CBL□M-LH	SC-PWC5JCBL□M-■-XL	30m or less

\*1 Total cable length varies depending on the bending life of amplifier side relay cable.

## 7. EXAMPLE OF PRINTING CABLE TYPE NAME

SC-PWC5JCBL□M-■-○L ××××××××

※ □ is a figure from 1 to 50.

※ ■ is cable lead out direction from A1, A2, A3, A4.

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

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

## 8. 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		℃	-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 MANUFACTURING CO.LTD,*4 C2KD2422 (KEIGLAND Type C2)			
	Servo motor side	Type	ML : DDK Ltd. CE05-8A22-22SD-D-BAS(R1) (Angle plug) CE3057-12A-2-D(R1) (Waterproof cable clamp)			
			L,LL : DDK Ltd. CE05-8A22-22SD-D-BAS(R1) (Angle plug) CE3057-12A-1-D(R1) (Waterproof cable clamp)			
			XL : DDK Ltd. CE05-6A22-22SD-D (Plug)*3 Nippon Flex Co., Ltd.*4 ACA-24RL-MS22F (MS type 90℃ connector) or SANKEI MANUFACTURING CO.LTD,*4 C29KD2422 (KEIGLAND Type C2)			
	IP rating	IP67*1				
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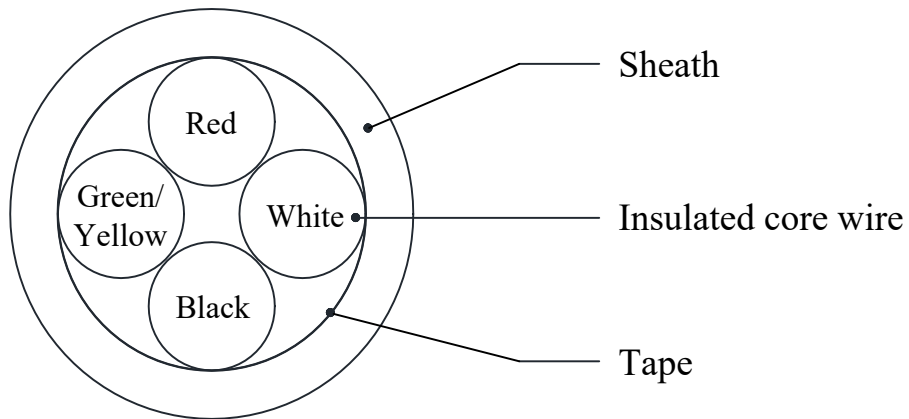
\*1 The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/servo motor. If the IP rating of the servo amplifier/servo motor differs from that of these connectors, overall IP rating depends on the lowest of all.

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

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

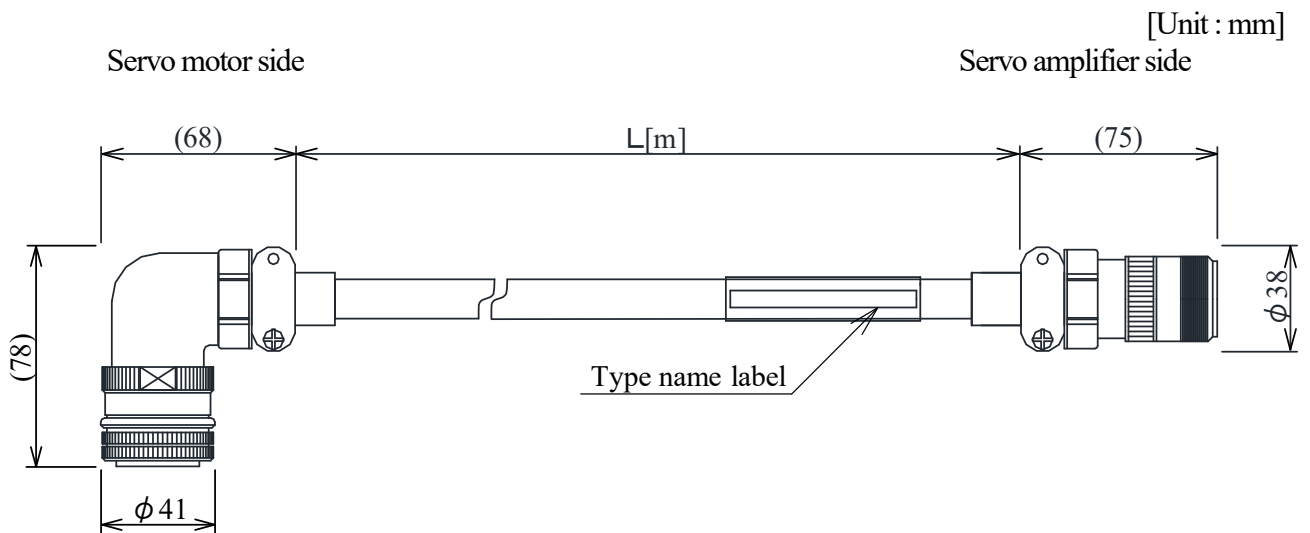
\*4 Due to the discontinuation of production of Nippon Flex clamps, we will switch to Sankei Seisakusho products after the inventory of Nippon Flex products is exhausted.

### 9. STRUCTURAL DRAWING



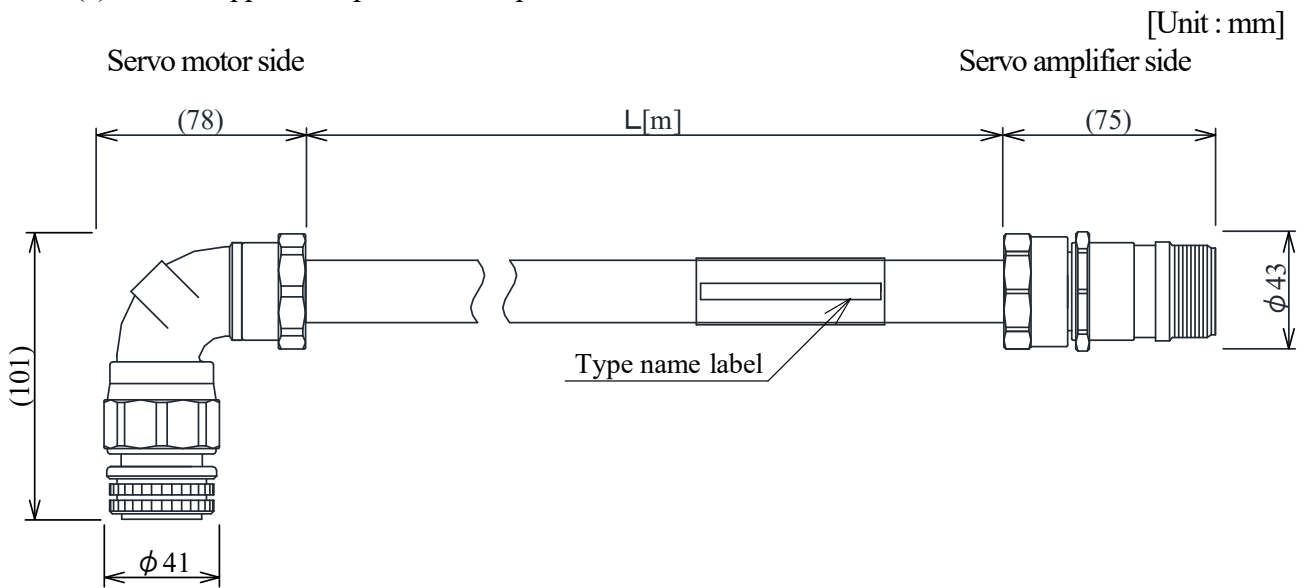
### 10. OUTLINE DRAWING

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

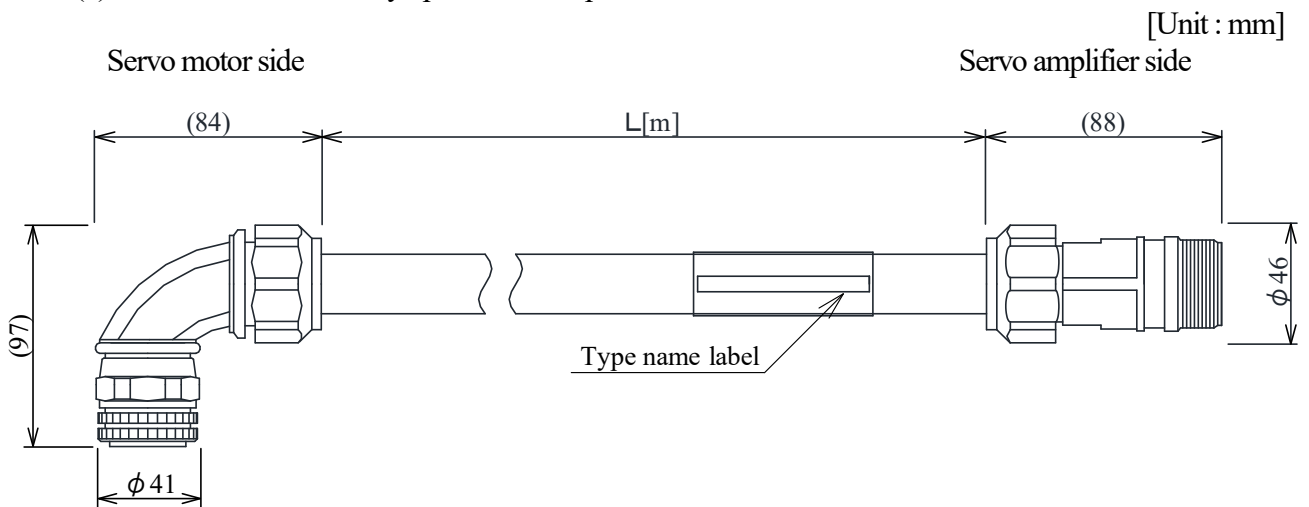


## (2) SC-PWC5JCBL□M-■-XL

## (2)-1 Uses Nippon Flex products clamp



## (2)-2 Uses Sankei Seisakusyo products clamp



### 11. SYSTEM CONFIGURATION DIAGRAM

