

Specification
for
General purpose AC Servo
Long Bending Life Power supply cable

Type SC-PWC5JCBL□M-■-○H

MITSUBISHI ELECTRIC
SYSTEM & SERVICE CO.,LTD

Note

Revision				Drawn	Check	Design	Approved
A	15 Mar.,2022			N. Ito	S. Kuriyori	M. Asumura	D. Tsubouchi
Send to				Date		Dwg	
				31 Mar.,2017		X903703D50052-F57A	
				Order			

1. SCOPE

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

- SC-PWC5JCBL□M-■-MH
- SC-PWC5JCBL□M-■-H
- SC-PWC5JCBL□M-■-LH
- SC-PWC5JCBL□M-■-XH

※ 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 - ■ - ○H

Sign	Wire thickness / Bending life
MH	Thin / Long Bending Life
H	Standard / Long Bending Life
LH	Thick / Long Bending Life
XH	Extra thick / Long Bending Life

Sign	Cable lead out direction
A1	The direction varies depending on the motor. ※ Refer to clause 4 for more details.
A2	
A3	
A4	

Sign	Length of cable
□	Refer to clause 5.

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.

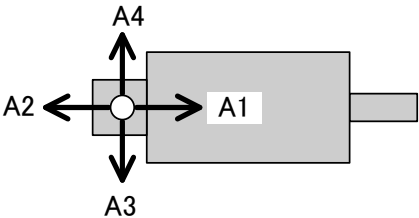
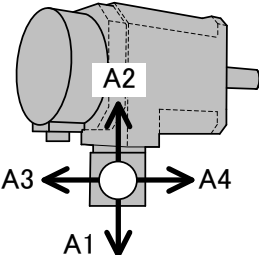
Refer to clause 6 for confirming the combination and cable length.

3. APPLICABLE STANDARDS

Wire part : UL standard (UL 758 : AWM)

UL Style No.	Rated	
2586	105°C	600V

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-SR121,2024,3524 HF-SP121,2024,	SC-PWC5CBL□M-ML SC-PWC5CBL□M-MH	SC-PWC5JCBL□M-■-H	50m or less
HG-SR201 HF-SP3524	SC-PWC5CBL□M-ML SC-PWC5CBL□M-MH	SC-PWC5JCBL□M-■-LH	50m or less
HF-SP201	SC-PWC5CBL□M-ML SC-PWC5CBL□M-MH	SC-PWC5JCBL□M-■-LH	40m or less
HG-SR202 (*1)	SC-PWC5CBL□M-ML	SC-PWC5JCBL□M-■-LH	50m or less
	SC-PWC5CBL□M-MH	SC-PWC5JCBL□M-■-LH	45m or less
HF-SP202	SC-PWC5CBL□M-ML SC-PWC5CBL□M-MH	SC-PWC5JCBL□M-■-LH	45m or less
HG-SR301,352	SC-PWC5CBL□M-L SC-PWC5CBL□M-H	SC-PWC5JCBL□M-■-XH	50m or less
HF-SP301,352	SC-PWC5CBL□M-L SC-PWC5CBL□M-H	SC-PWC5JCBL□M-■-XH	45m or less
HG-SR502	SC-PWC5CBL□M-LL SC-PWC5CBL□M-LH	SC-PWC5JCBL□M-■-XH	35m or less
HF-SP502	SC-PWC5CBL□M-LL SC-PWC5CBL□M-LH	SC-PWC5JCBL□M-■-XH	30m or less
HG-SR5024 HF-SP5024	SC-PWC5CBL□M-L SC-PWC5CBL□M-H	SC-PWC5JCBL□M-■-LH	50m or less
HG-JR353 HF-JP353	SC-PWC5CBL□M-L SC-PWC5CBL□M-H	SC-PWC5JCBL□M-■-XH	40m or less
HG-JR503 HF-JP503 (*1)	SC-PWC5CBL□M-LL	SC-PWC5JCBL□M-■-XH	30m or less
	SC-PWC5CBL□M-LH	SC-PWC5JCBL□M-■-XH	25m 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-■-○H ××××××××

※ □ 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			
			MH	H	LH	XH
Structure		—	AWG15×4C	AWG12×4C	AWG10×4C	AWG9×4C
Conductor	Conductor size	—	AWG15	AWG12	AWG10	AWG9
	Outer diameter	mm	Approx. 2.0	Approx. 2.6	Approx. 3.0	Approx. 4.8
Insulation	Material	—	ETFE		PVC	
	Outer diameter	mm	Approx. 2.6	Approx. 3.4	Approx. 4.7	Approx. 7.6
Stranding	Number of insulation core wire	—	4C			
Sheath	Material	—	Flame Retardant PVC			
	Color	—	Black			
Overall diameter		mm	Approx. 8.6	Approx. 10.9	Approx. 14	Approx. 22.1
Cable weight		kg/km	140	230	340	670
Electrical characteristics	Insulation resistance	MΩ・km	Over 100		Over 10	
	Withstand voltage	V for 1minute	AC2000*3			
Operating temperature range		℃	-10～+60 (without condensation)			
Minimum Radius Bend		mm	6 times the overall diameter			
Bending life		—	Over 1 million times*1 (bend radius: minimum bend radius of each cable)			
Flame Retardant		—	UL1581 VW-1			
Connector	Servo amplifier side	Type	MH : DDK Ltd.	D/MS3101A22-22P(D263) (Cable receptacle) CE3057-12A-3-D(R1) (Waterproof cable clamp) CE02-22BS-S-D(R1) (Waterproof back shell)		
			H : DDK Ltd.	D/MS3101A22-22P(D263) (Cable receptacle) CE3057-12A-2-D(R1) (Waterproof cable clamp) CE02-22BS-S-D(R1) (Waterproof back shell)		
			LH : DDK Ltd.	D/MS3101A22-22P(D263) (Cable receptacle) CE3057-12A-1-D(R1) (Waterproof cable clamp) CE02-22BS-S-D(R1) (Waterproof back shell)		
			XH : DDK Ltd. Nippon Flex Co., Ltd.*5	D/MS3101A22-22P(D263) (Cable receptacle)*4 ACS-24RL-MS22F (MS type straight connector) or SANKEI MANUFACTURING CO.LTD,*5 C2KD2422 (KEIGLAND Type C2)		
		IP rating	IP67*2			
	Servo motor side	Type	MH : DDK Ltd.	CE05-8A22-22SD-D-BAS(R1) (Angle plug) CE3057-12A-3-D(R1) (Waterproof cable clamp)		
			H : DDK Ltd.	CE05-8A22-22SD-D-BAS(R1) (Angle plug) CE3057-12A-2-D(R1) (Waterproof cable clamp)		
			LH : DDK Ltd.	CE05-8A22-22SD-D-BAS(R1) (Angle plug) CE3057-12A-1-D(R1) (Waterproof cable clamp)		
			XH : DDK Ltd. Nippon Flex Co., Ltd.*5	CE05-6A22-22SD-D(R1) (Plug)*4 ACA-24RL-MS22F (MS type 90℃ connector) or SANKEI MANUFACTURING CO.LTD,*5 C29KD2422 (KEIGLAND Type C2)		
		IP rating	IP67*2			

*1 It is a test outcome, and not a guaranteed value. (The performance is different according to customer's environment.)

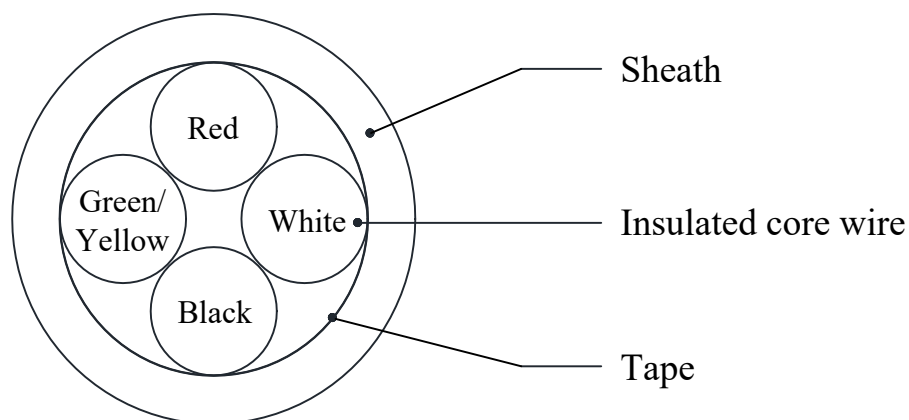
*2 The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/servo motor. If the IP rating of the servo amplifier/servo motor differs from that of these connectors, overall IP rating depends on the lowest of all.

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

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

*5 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



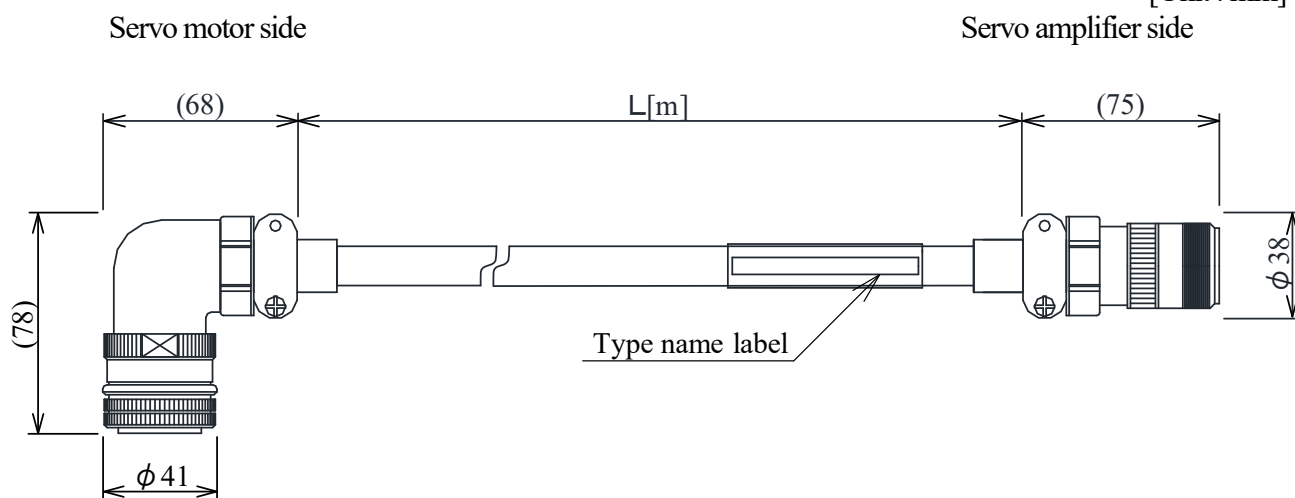
10. OUTLINE DRAWING

(1) SC-PWC5JCBL□M-■-MH

SC-PWC5JCBL□M-■-H

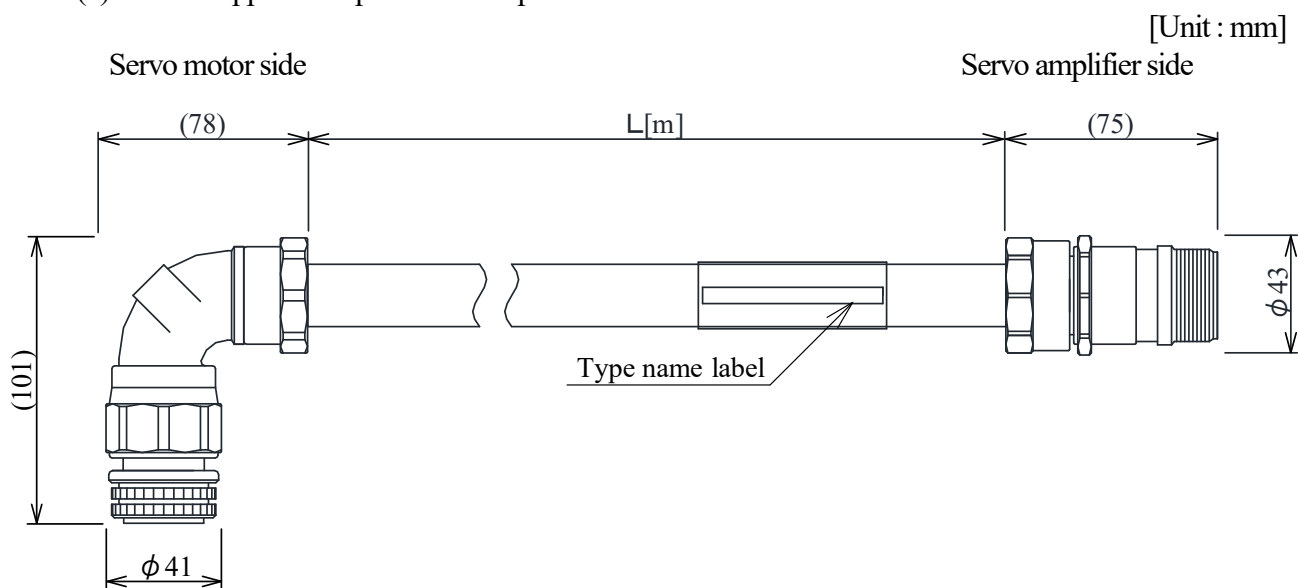
SC-PWC5JCBL□M-■-LH

[Unit : mm]

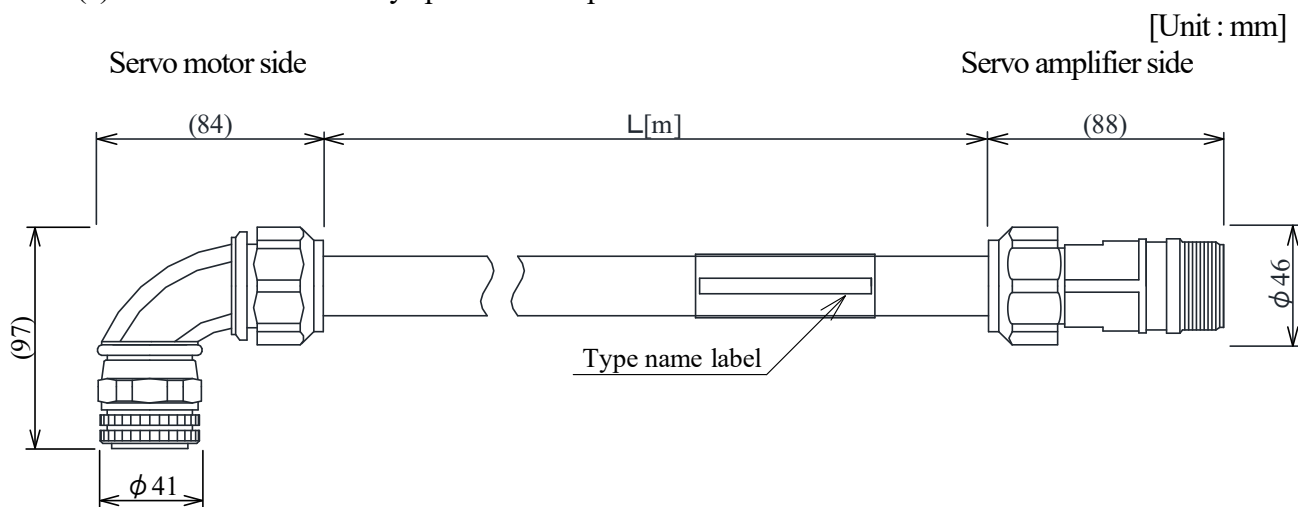


(2) SC-PWC5JCBL□M-■-XH

(2)-1 Uses Nippon Flex products clamp



(2)-2 Uses Sankei Seisakusyo products clamp



11. SYSTEM CONFIGURATION DIAGRAM

