

Specification
for
General purpose AC Servo
Power supply cable

Type SC-PWC503C□M-■-SB○L

MITSUBISHI ELECTRIC
SYSTEM & SERVICE CO.,LTD

Note

Revision						Drawn	Check	Design	Approved
A	6 Sep.,2022					N.Ito	S.Kariya	TKasahara	D.Fukushima
Send to						Date		Dwg	
						24 june, 2019		X953503D70003-E28A	
						Order			

1. SCOPE

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

- SC-PWC503C□M-■-SBML
- SC-PWC503C□M-■-SBL
- SC-PWC503C□M-■-SBL

※ The Products covered in this specification don't include the toxic substances in RoHS.

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

2. CABLE TYPE

SC - PWC5 03 C □ M - ■ - SB ○ L

Sign	Wire thickness / Bending life
ML	Thin / Standard (For fixed part)
L	Standard / Standard (For fixed part)
LL	Thick / Standard (For fixed part)

Sign	With or without shield
SB	With shield

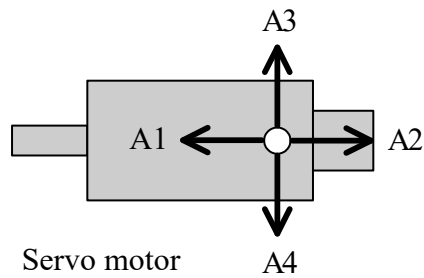
Sign	Cable lead out direction *1
A1	Motor shaft side
A2	Opposite of motor shaft
A3	Left side of motor shaft
A4	Right side of motor shaft

Sign	Length of cable
□	Refer to clause 4

Sign	Connector specifications
03	One-touch locking plug

Sign	Application
PWC5	Power supply cable

*1 : Cable lead out direction (View from cable insertion direction)



A1 : Motor shaft side

A2 : Opposite of motor shaft

A3 : Left side of motor shaft

A4 : Right side of motor shaft

(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.

3. APPLICABLE STANDARDS

Wire part : UL standard (UL 758 : AWM)

UL Style No.	Rated	
2586	105°C	600V

4. APPLICABLE SERVO MOTOR / LENGTH OF CABLE

1 to 100m

※ The maximum cable length differs depending on the motor.

Refer to the CABLE LENGTH SELECTION TABLE "R9535021-018028-010"
for more information.

Refer to the CABLE SELECTION TABLE "R9535021-018028-015" for applicable motors.

5. EXAMPLE OF PRINTING CABLE TYPE NAME

SC-PWC503C□M-■-SB○L ×××××××

※ □ is a figure from 1 to 100.

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

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

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

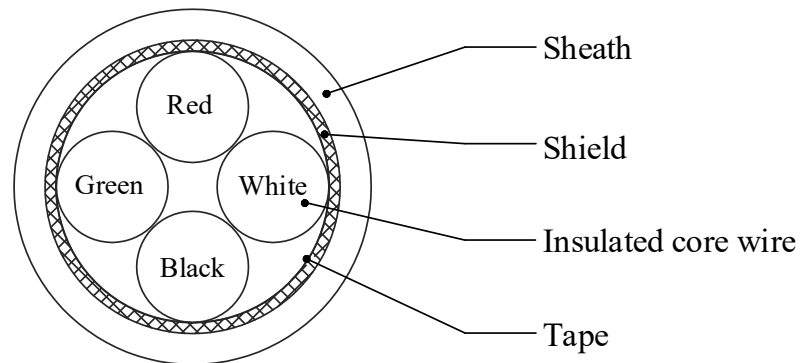
6. STRUCTURE AND CHARACTERISTICS

Item		Unit	Specification		
			ML	L	LL
Wire					
Structure		—	AWG14×4C	AWG12×4C	AWG10×4C
Conductor	Conductor size	—	AWG14	AWG12	AWG10
	Outer diameter	mm	Approx.2.0	Approx.2.5	Approx.3.1
Insulation	Material	—	PVC		
	Outer diameter	mm	Approx.3.7	Approx.4.2	Approx.4.8
Twisted	Number of insulated core wire	—	4C		
Shield	Material	—	Tin coated copper braid		
Sheath	Material	—	Flame resisting PVC		
	color	—	Black		
Overall diameter		mm	Approx. 11.5	Approx. 12.9	Approx. 14.5
Cable weight		kg/km	220	290	400
Electrical characteristics	Insulation resistance	MΩ・km	Over 10		
	Withstand voltage	V / for 5 min	AC2000		
Minimum bend radius		mm	6 times the overall diameter		
Flame retardant		—	UL1581 VW-1		
Connector					
Amplifier side		—			
Motor side	Type		ML : Japan Aviation Electronics Industry, Ltd. JL10-8A22-22SE-EB (Angle plug) JL04-2022CK(12)-R (Waterproof cable clamp)		
			L : Japan Aviation Electronics Industry, Ltd. JL10-8A22-22SE-EB (Angle plug) JL04-2022CK(14)-R (Waterproof cable clamp)		
			LL : Japan Aviation Electronics Industry, Ltd. JL10-8A22-22SE-EB1 (Angle plug) JL04-2428CK(14)-RK (Waterproof cable clamp)		
	IP rating		IP67 ^{*1}		
Cable harness					
Environment	Ambient temperature	℃	0 to 60 (Without freezing)		
	Ambient humidity	%RH	5 to 95 (Without condensation)		
	Ambience	—	Indoors (no direct sunlight), no corrosive gas, inflammable gas, oil mist, or dust		
Electrical characteristics	Insulation resistance	MΩ・km	Over 10		
	Withstand voltage	V/for 1 min	AC2000		

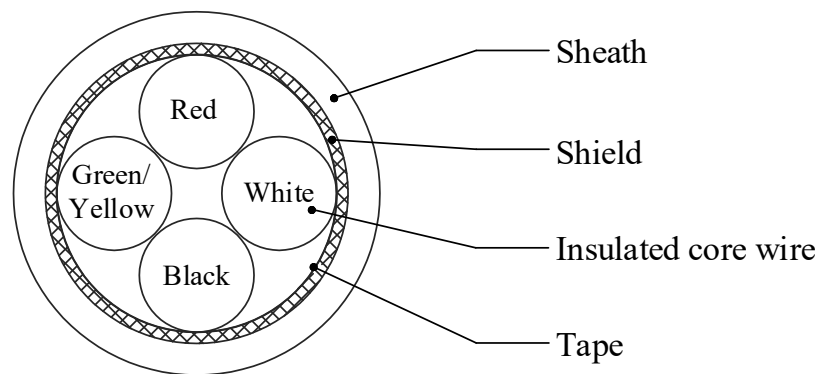
*1 The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/servo motor. If the IP rating of the servo amplifier/servo motor differs from that of these connectors, overall IP rating depends on the lowest of all.

7. STRUCTURAL DRAWING

(1) SC-PWC503C□M-■-SBML



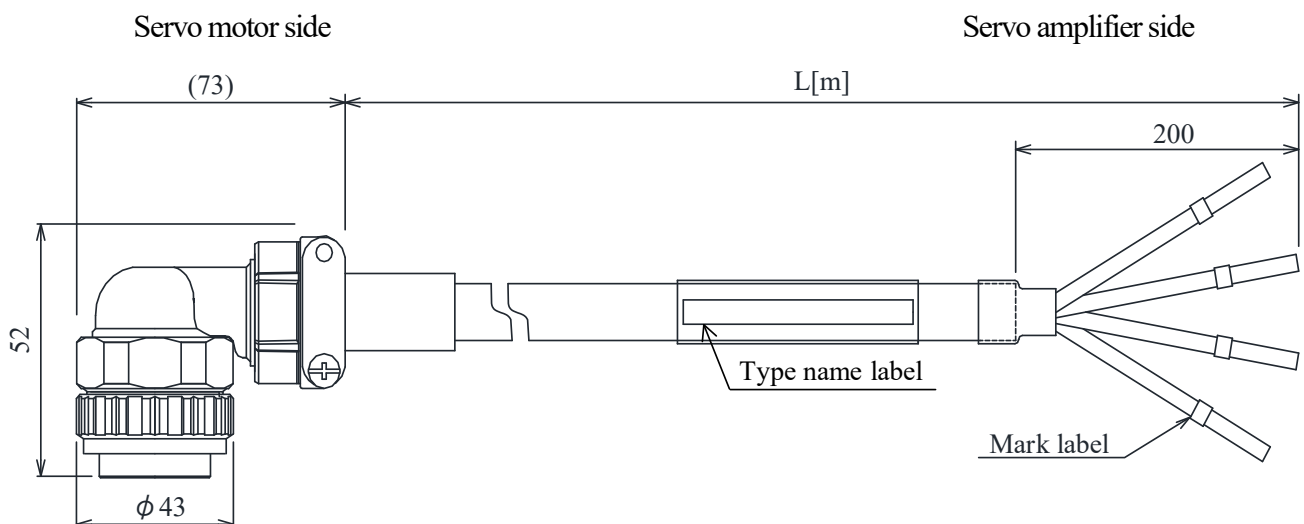
(2) SC-PWC503C□M-■-SBL SC-PWC503C□M-■-SBLL



8. OUTLINE DRAWING

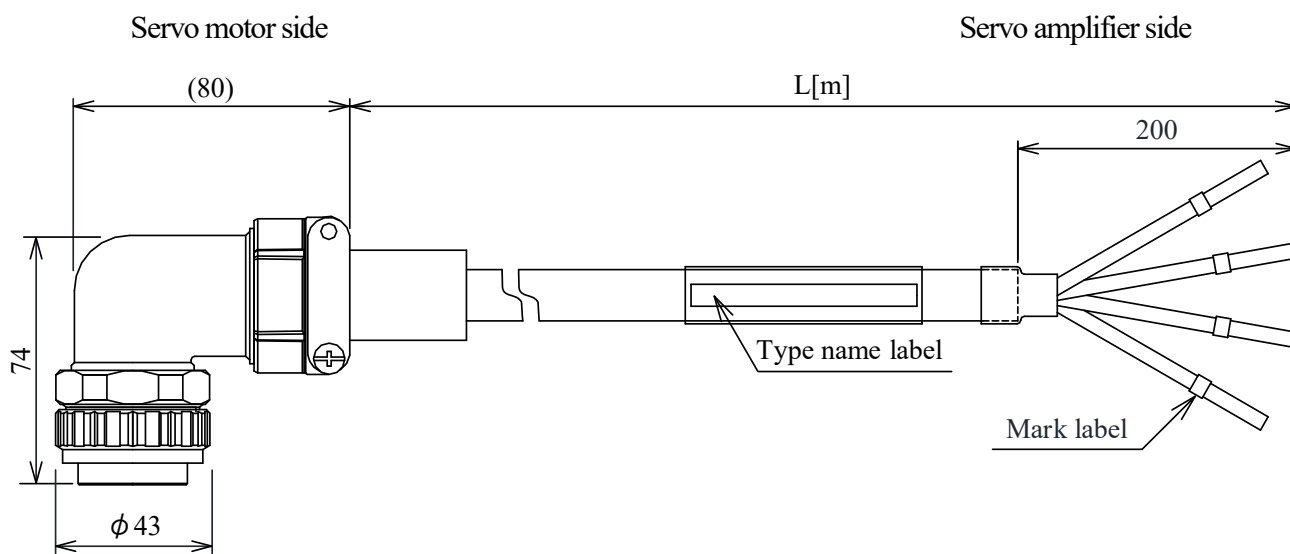
(1) SC-PWC503C□M-■-SBML SC-PWC503C□M-■-SBL

[Unit : mm]



(2) SC-PWC503C□M-■-SBLL

[Unit : mm]



Refer to the following table for mark label and insulation color.

(1) SC-PWC503C□M-■-SBML

Mark label	Insulation color
U	Red
V	White
W	Black
E	Green

(2) SC-PWC503C□M-■-SBL
SC-PWC503C□M-■-SBLL

Mark label	Insulation color
U	Red
V	White
W	Black
E	Green / Yellow