

Specification
for
General purpose AC Servo
Power supply cable

Type SC-PWC503C□M-■-SB○H

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-E29A | |
| | | | | | | Order | | | |
| | | | | | | | | | |
| | | | | | | | | | |

1. SCOPE

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

- SC-PWC503C□M-■-SBMH
- SC-PWC503C□M-■-SBH
- SC-PWC503C□M-■-SBLH

※ 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 ○ H

| Sign | Wire thickness / Bending life |
|------|-------------------------------|
| MH | Thin / Long bending life |
| H | Standard / Long bending life |
| LH | Thick / Long bending life |

| Sign | With or without shield |
|------|------------------------|
| SB | With shield |

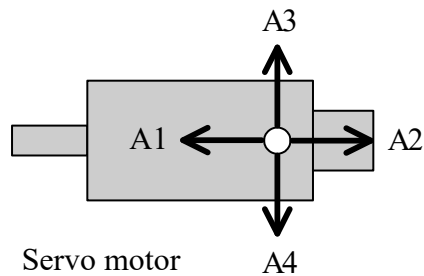
| Sign | Cable lead out direction *1 |
|------|-----------------------------|
| A1 | Motor shaft side |
| A2 | Opposite of motor shaft |
| A3 | Left side of motor shaft |
| A4 | Right side of motor shaft |

| 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○H xxxxxxx

※ □ is a figure from 1 to 100.

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

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

※ xxxxxxx are the serial number for seven digits.

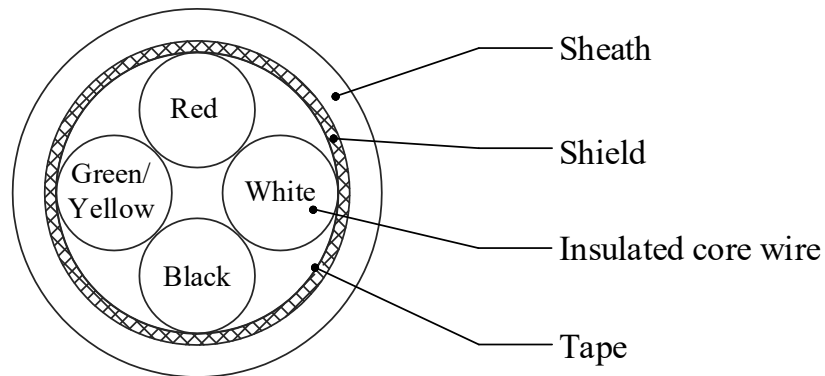
6. STRUCTURE AND CHARACTERISTICS

| Item | | Unit | Specification | | |
|----------------------------|-------------------------------|---------------|--|--------------|--------------|
| | | | MH | H | LH |
| Wire | | | | | |
| Structure | | — | AWG15×4C | AWG12×4C | AWG10×4C |
| Conductor | Conductor size | — | AWG15 | AWG12 | AWG10 |
| | Outer diameter | mm | Approx.2.0 | Approx.2.6 | Approx.3.0 |
| Insulation | Material | — | ETFE | | PVC |
| | Outer diameter | mm | Approx.2.8 | Approx.3.4 | Approx.4.7 |
| Twisted | Number of insulated core wire | — | 4C | | |
| Shield | Material | — | Tin coated copper braid | | |
| Sheath | Material | — | Flame resisting PVC | | |
| | color | — | Black | | |
| Overall diameter | | mm | Approx. 9.9 | Approx. 11.5 | Approx. 14.8 |
| Cable weight | | kg/km | 180 | 260 | 410 |
| Electrical characteristics | Insulation resistance | MΩ・km | Over 100 | | Over 10 |
| | Withstand voltage | V / for 5 min | AC2000 | | |
| Minimum bend radius | | mm | 6 times the overall diameter | | |
| Bending life | | — | Over 1 million times*1 (by Minimum bend radius) | | |
| Flame retardant | | — | UL1581 VW-1 | | |
| Connector | | | | | |
| Amplifier side | | — | | | |
| Motor side | Type | | MH , H : Japan Aviation Electronics Industry, Ltd. JL10-8A22-22SE-EB (Angle plug) JL04-2022CK(12)-R (Waterproof cable clamp) | | |
| | | | LH: Japan Aviation Electronics Industry, Ltd. JL10-8A22-22SE-EB1 (Angle plug) JL04-2428CK(14)-RK (Waterproof cable clamp) | | |
| | IP rating | | IP67*2 | | |
| 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 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.

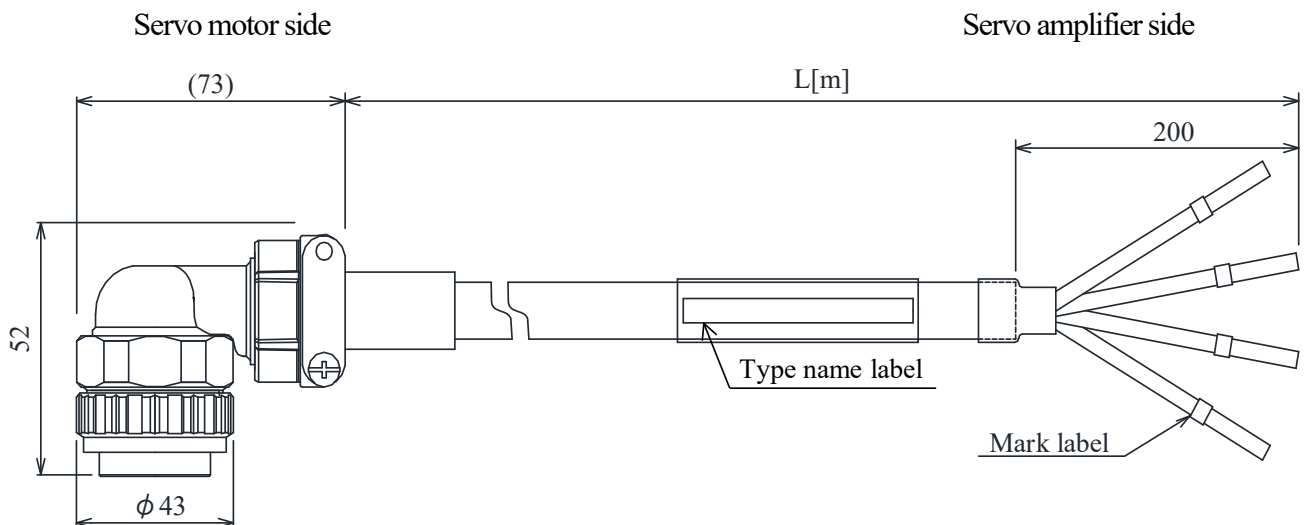
7. STRUCTURAL DRAWING



8. OUTLINE DRAWING

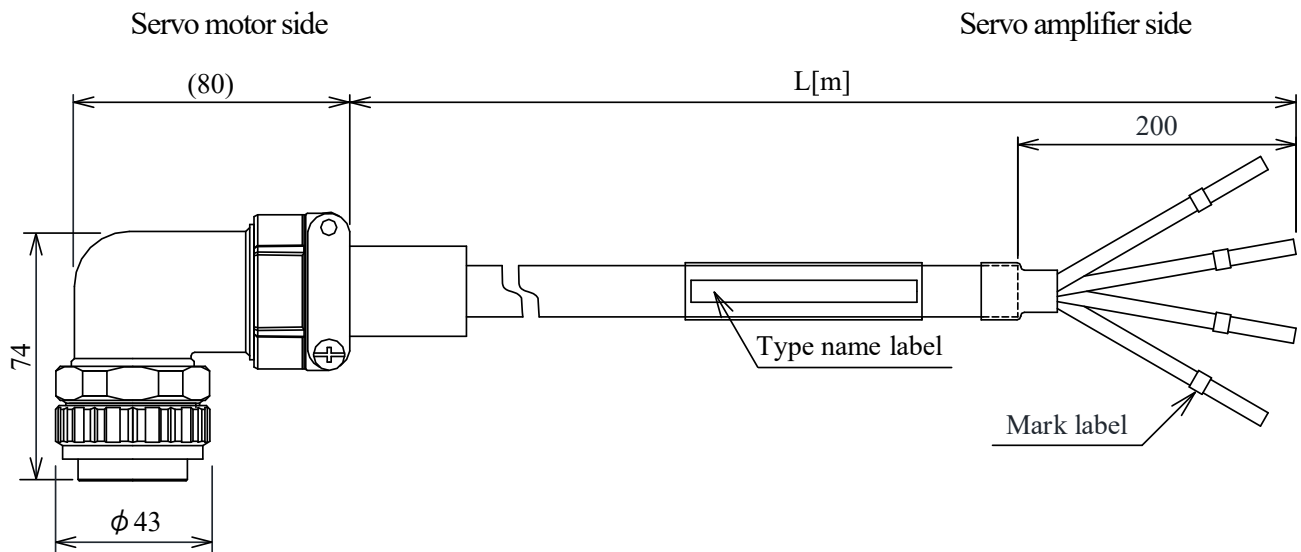
- (1) SC-PWC503C□M-■-SBMH
SC-PWC503C□M-■-SBH

[Unit : mm]



(2) SC-PWC503C□M-■-SBLH

[Unit : mm]



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

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