Specification
for
General purpose AC Servo
Encoder / Power supply cable

Type SC-AEP3J2TC□M-■-H

MITSUBISHI ELECTRIC
SYSTEM & SERVICE CO.,LTD

Note

Revision				Drawn	Check	Design	Approved
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Send to								Date	Dwg
								6 Sep.,2022	X953503D70003-E75
								Order	

1. SCOPE

This specification covers the requirements for the General purpose AC Servo Encoder / Power supply cable.
・SC-AEP3J2TC□M-■-H

※ 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 - AEP | 3 | J2 | T | C | □ | M - | ■ | - | H

Sign	Bending life
H	Long bending life

Sign	Cable lead out direction
A1	Motor shaft side
A2	Opposite of motor shaft

Sign	Length of cable
□	Refer to clause 4

Sign	Communication method
T	Two-wire type

Sign	Relay connection side connector specifications
J2	IP67 relay connector

Sign	Motor connection side connector specifications
3	1 connector / 2 cables (Power supply cable with shield)

Sign	Application
AEP	Encoder / Power supply cable

3. APPLICABLE STANDARDS

Wire part : UL standard (UL 758 : AWM)

Application department	UL Style No.	Rated	
Encoder cable side	20276	80°C	30V
Power supply cable side	2586	105°C	600V

4. APPLICABLE SERVO MOTOR / LENGTH OF CABLE

1 to 5m

※Refer to the CABLE SELECTION TABLE "R9535021-018028-015" and CABLE LENGTH SELECTION TABLE "R9535021-018028-010" for applicable motors, connection cables and total cable length.

5. EXAMPLE OF PRINTING CABLE TYPE NAME

SC-AEP3J2TC□M-■-H ×××××××

※ □ is a figure from 1 to 5.
※ ■ is cable lead out direction from A1, A2.
※ ××××××× are the serial number for seven digits.

6. STRUCTURE AND CHARACTERISTICS

(1) Wire

Item		Unit	Specification	
			For encoder	For power supply
Structure		—	AWG22×3P	AWG18×4C
Conductor	Conductor size	—	AWG22	AWG18
	Outer diameter	mm	Approx.0.8	Approx.1.4
Insulation	Material	—	ETFE	ETFE
	Outer diameter	mm	Approx.1.2	Approx.1.9
Twisted pair	Number of insulated core wire	—	2C	—
	Outer diameter	mm	Approx. 2.3	—
Twisted	Number of pairs	—	3P	—
	Number of insulated core wire	—	—	4C
Shield	Material	—	Tin coated copper braid	Tin coated copper braid
Sheath	Material	—	Flame resisting PVC	Flame resisting PVC
	color	—	Black	Black
Overall diameter		mm	Approx. 7.5	Approx. 7.5
Cable weight		kg/km	80	90
Electrical characteristics	Insulation resistance	MΩ・km	Over 100	Over 100
	Withstand voltage	V / for 1 min	AC500	AC2000
Minimum bend radius		mm	6 times the overall diameter	6 times the overall diameter
Bending life		—	Over 1 million times[*1] (by Minimum bend radius)	Over 1 million times[*1] (by Minimum bend radius)
Flame retardant		—	UL1581 VW-1	UL1581 VW-1

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

(2) Connector

Amplifier side	Encoder side	Type	DDK Ltd. CMV1-CR10P-M2 (Cable receptacle)
		IP rating	IP67[*2]
	Power supply side	Type	DDK Ltd. D/MS3101A18-10P(D263) (Cable receptacle) CE02-18BS-S-D(R1) (Waterproof straight back shell) CE3057-10A-3-D(R1) (Cable clamp)
		IP rating	IP67[*2]
Motor side		Type	Hirose Electric Co., Ltd. MT50W-8D/2D4ES-CVLD(7.5) (Connector set)
		IP rating	IP65[*2]

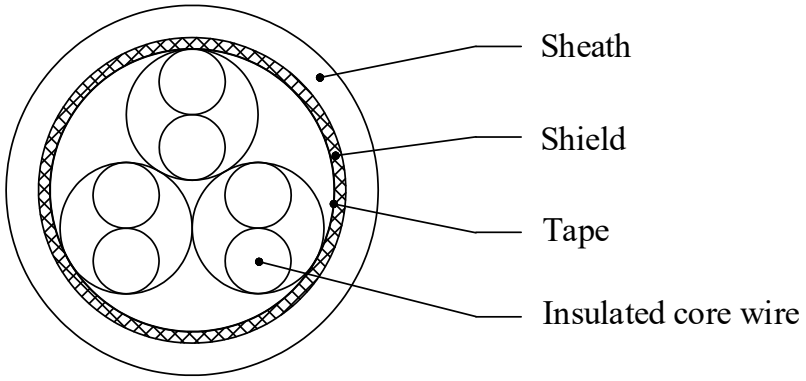
*2 The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/servo motor. If the IP rating of the servo amplifier/servo motor differs from that of these connectors, overall IP rating depends on the lowest of all.

(3) Cable harness

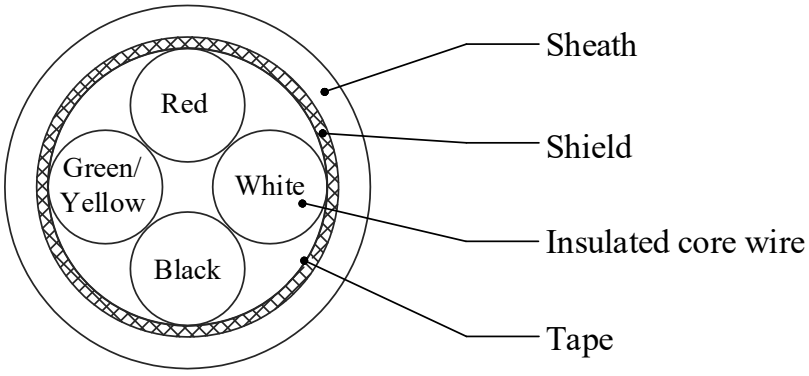
Environment	Ambient temperature	℃	0 to 60 (Without freezing)
	Ambient humidity	%RH	5 to 95 (Without condensation)
	Ambience	—	Indoors (no direct sunlight), no corrosive gas, inflammable gas, oil mist, or dust
Electrical characteristics	Insulation resistance	MΩ・km	Over 10
	Withstand voltage	V / for 1 min	For encoder : AC500 For power supply : AC1800

7. STRUCTURAL DRAWING

7.1. For encoder

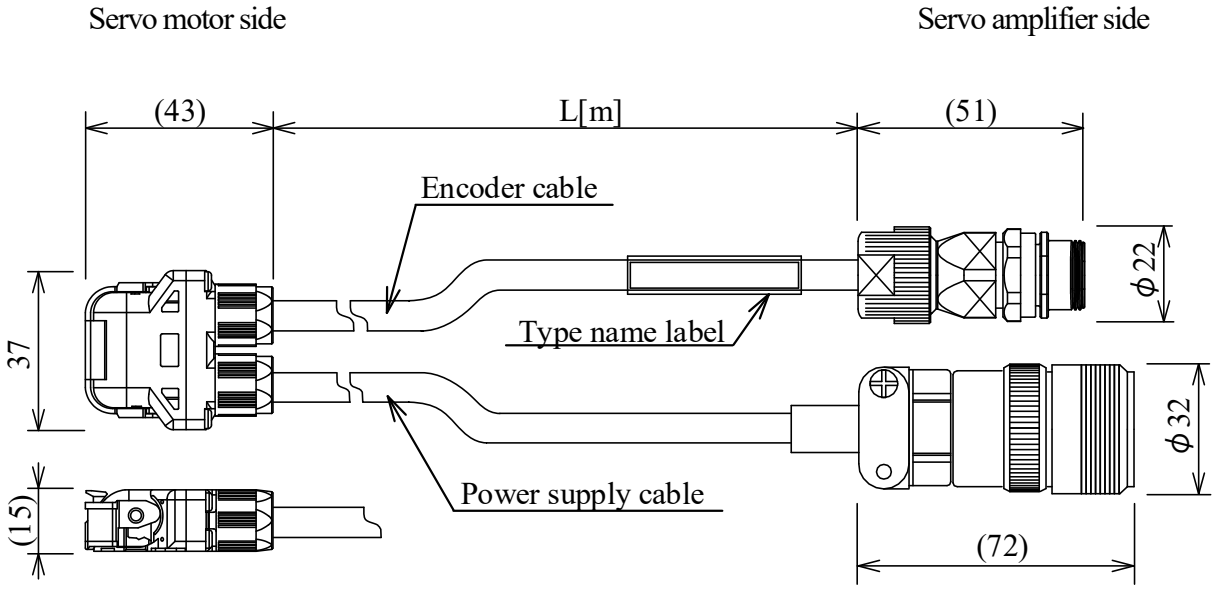


7.2. For power supply



8. OUTLINE DRAWING

[Unit : mm]



※ This outline drawing is for the cable lead out direction “A1”.
The cable lead out direction “A2” reverses the position of the encoder cable and the power supply cable.