Specification
for
General purpose AC Servo
Encoder / Power supply brake cable

Type SC-AEPB3J1C0.3M-■-L

MITSUBISHI ELECTRIC
SYSTEM & SERVICE CO.,LTD

Note

Revision				Drawn	Check	Design	Approved
				N. Ishii	S. Kariya	S. Minenaga	[illegible]

Send to								Date	Dwg
								24 Apr., 2019	X953503D70003-E00
								Order	

1. SCOPE

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

・SC-AEPB3J1C0.3M-■-L

※ The Products covered in this specification don't include the toxic substances in RoHS2 (Lead, Mercury, Cadmium, Hexavalent Chromium, PBDE, PBB, HBCDD, DEHP, BPP, DBP).

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

2. CABLE TYPE

SC - AEPB | 3 | J1 | C | 0.3M | - | ■ | - | L

Sign	Bending life
L	Standard (For fixed part)

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

Sign	Length of cable
0.3M	0.3m

Sign	Relay connection side connector specifications
J1	Encoder side : IP20 relay Power supply / bake side : Discrete wires

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

Sign	Application
AEPB	Encoder / Power supply brake cable

3. APPLICABLE STANDARDS

Wire part : UL standard (UL 758 : AWM)

Application department	UL Style No.	Rated	
Encoder cable side	20276	80℃	30V
Power supply / brake cable side	2586	105℃	600V

4. LENGTH OF CABLE

0.3m

5. EXAMPLE OF PRINTING CABLE TYPE NAME

SC-AEPB3J1C0.3M-■-L ×××××××

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

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

6. STRUCTURE AND CHARACTERISTICS

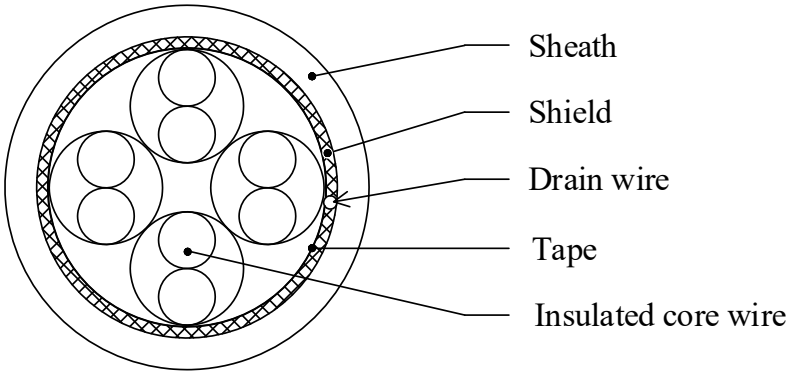
Item		Unit	Specification		
			For encoder	For power supply / brake	
Structure		—	AWG24×4P	AWG18×4C＋AWG24×2C	
Conductor	Conductor size	—	AWG24	AWG18	AWG24
	Outer diameter	mm	Approx.0.6	Approx.1.3	Approx.0.6
Insulation	Material	—	PVC	ETFE	
	Outer diameter	mm	Approx.1.1	Approx.1.8	Approx.1.0
Twisted pair	Number of insulated core wire	—	2C	—	
	Outer diameter	mm	2.2	—	
Twisted	Number of pairs	—	4P	—	—
	Number of insulated core wire	—	—	4C	2C
Drain wire		—	Tin coated copper wire	—	
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	
Electrical characteristics	Insulation resistance	MΩ・km	Over 10	Over 100	
	Withstand voltage	V / for 1 min	AC500	AC1800	
Operating temperature range		℃	-10～+60 (without condensation)	-10～+60 (without condensation)	
Minimum bend radius		mm	6 times the overall diameter	6 times the overall diameter	
Flame retardant		—	UL1581 VW-1	UL1581 VW-1	

Connector				
Amplifier side	Encoder side	Type	Tyco Electronics Japan Ltd. 1-172169-9 (Housing plug) 316454-1 (Cable clamp)	
		IP rating	IP20*1	
	Power supply/ brake side	—	Discrete wires	
Motor side		Type	Hirose Electric Co., Ltd. MT50W-8D/2D4ES-CVLD(7.5) (Connector set)	
		IP rating	IP65*1	

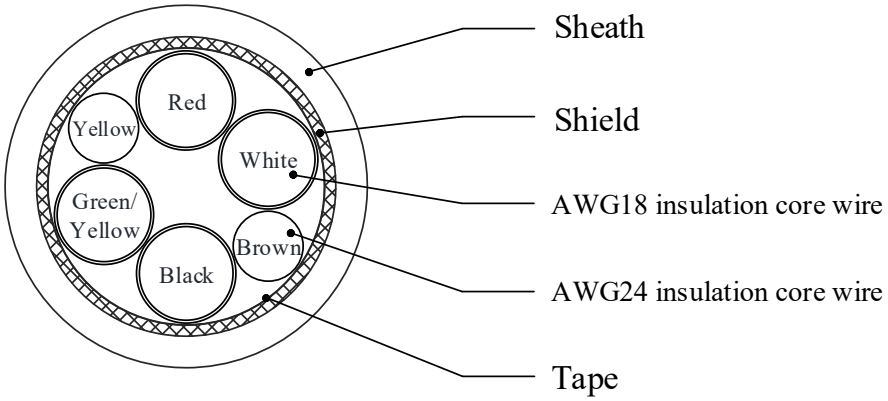
*1 The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/servo motor. If the IP rating of the servo amplifier/servo motor differs from that of these connectors, overall IP rating depends on the lowest of all.

7. STRUCTURAL DRAWING

7.1 For encoder

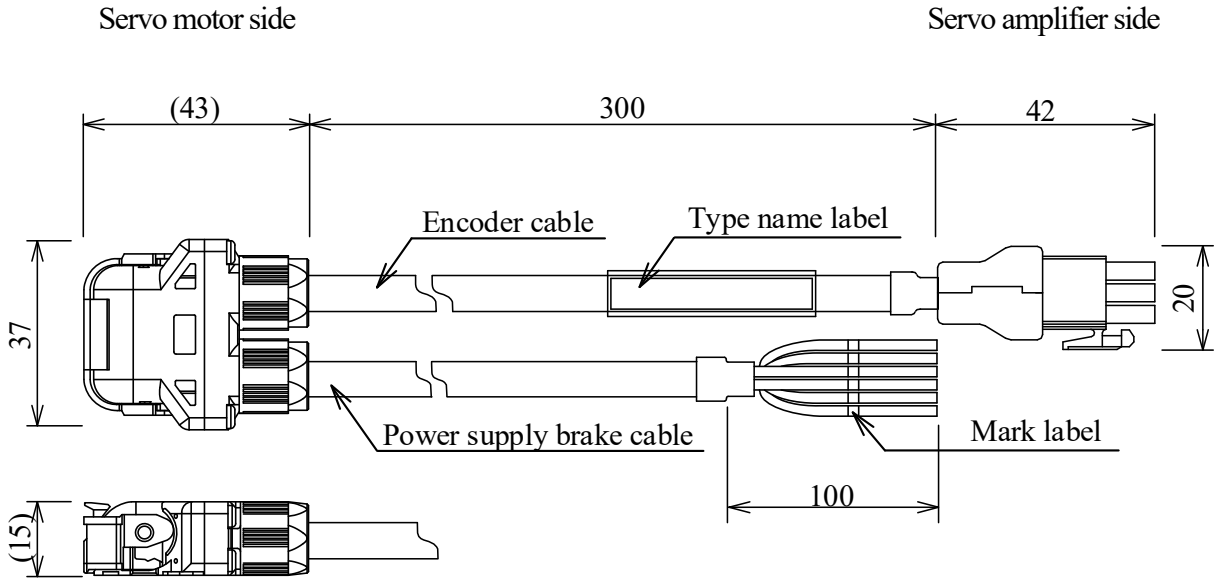


7.2 For power supply / brake



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 brake cable.

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

Application	Mark label	Insulation color
For motor power supply	U	Red
	V	White
	W	Black
	E	Green / Yellow
For brake circuit	B1	Yellow
	B2	Brown