

Specification
for
General purpose AC Servo
Ultra Long Bending Life Encoder cable

Type SC-J3ENSCBL□M-■-S

MITSUBISHI ELECTRIC
SYSTEM & SERVICE CO.,LTD

Note

Revision				Drawn	Check	Design	Approved
A	14 July ,2017			<i>N. Ishii</i>	<i>J. Kariga</i>	<i>M. Awamura</i>	<i>D. Sudo</i>
B	13 Nov.,2017						
C	2 Aug.,2018						
Send to				Date		Dwg	
				22 Mar.,2016		X903703D50052-E51C	
				Order			

1. SCOPE

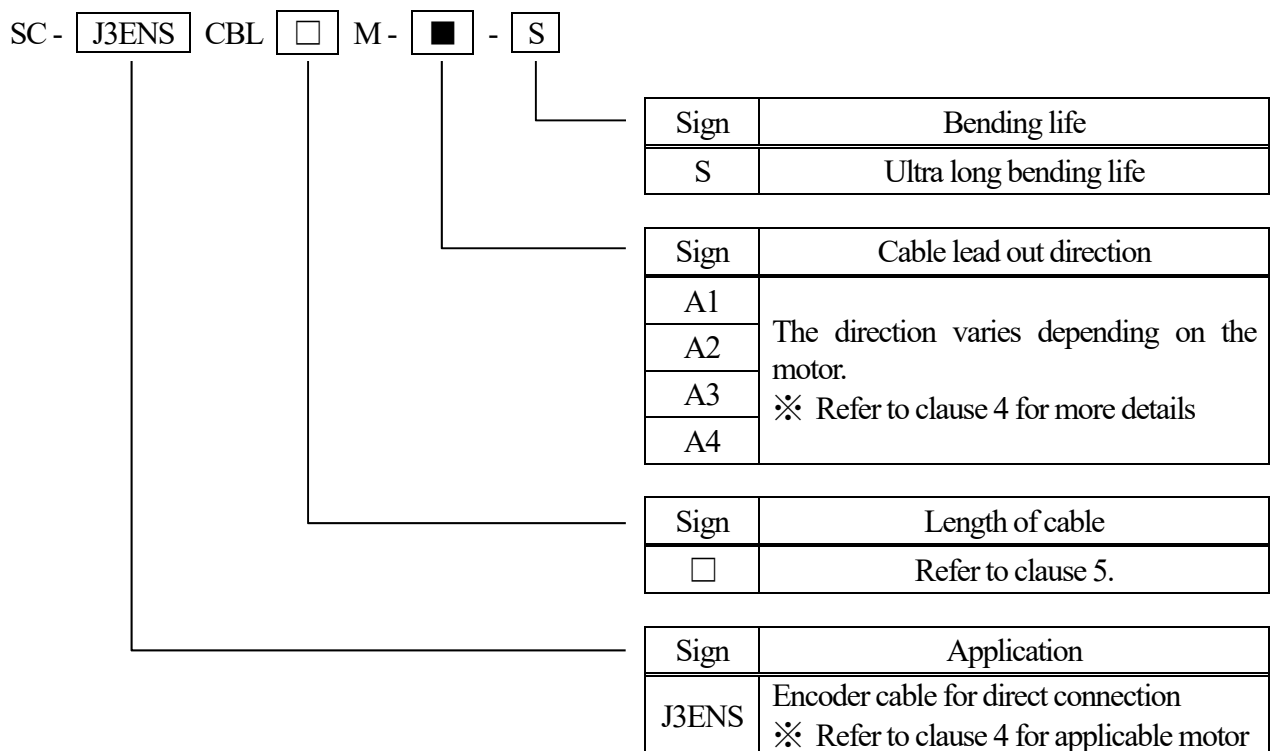
This specification covers the requirements for the General purpose AC Servo Ultra Long Bending Life Encoder cable.

• SC-J3ENSCBL□M-■-S

※ This cable doesn'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



3. APPLICABLE STANDARDS

UL758 AWM STYLE 20276 (wire part)

4. APPLICABLE SERVO MOTOR

Important matter	
Depending on the situation such as installation environment or combination of power supply cable and electromagnetic brake cable, there is a chance not to complete installation. Please make sure the cable lead out direction before your purchase.	
Applicable motor	Cable lead out direction (View from cable insertion direction)
HG-SR, HG-RR, HG-UR series motor HG-JR53, 73, 103, 153, 203, 353, 503, 703, 903, 534, 734, 1034, 1534, 2034, 3534, 5034, 7034, 9034 motor HF-SP, HC-LP, HC-RP, HC-UP series motor HA-LP502, 702 motor HF-JP53, 73, 103, 153, 203, 353, 503, 703, 903, 534, 734, 1034, 1534, 2034, 3534, 5034, 7034, 9034 motor	<p>Please confirm above mentioned important matter when selecting cable lead out direction.</p>
HA-LP series motor ※ Except for HA-LP502, HA-LP702	<p>Please confirm above mentioned important matter when selecting cable lead out direction.</p>

5. LENGTH OF CABLE

1 to 20m Specified by 1m unit

6. EXAMPLE OF PRINTING CABLE TYPE NAME

SC-J3ENSCBL□M-■-S ×××××××

- ※ □ is a figure from 1 to 20.
- ※ ■ is cable lead out direction from A1,A2,A3,A4.
- ※ ××××××× are the serial number for seven digits.

7. STRUCTURE AND CHARACTERISTICS

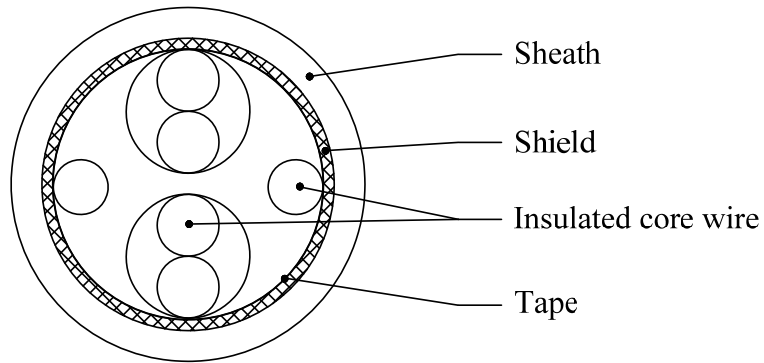
Item		Unit	Specification		
			1~10m		11~20m
Structure		—	AWG24×2C	AWG22×2P	AWG24×7P
Conductor	Conductor size	—	AWG24	AWG22	AWG24
	Outer diameter	mm	Approx. 0.66	Approx. 0.83	Approx.066
Insulation	Material	—	ETFE		
	Outer diameter	mm	Approx. 1.02	Approx. 1.23	Approx.1.02
Twisted pair	Number of pairs	—	—	2P	7P
	Number of insulated core wire	—	2C	2C	2C
Shield	Material	—	Copper alloy braid		
Sheath	Material	—	High elastic PVC		
	Color	—	Black		
Overall diameter		mm	Approx. 7.1		Approx.8.5
Electrical characteristics	Insulation resistance	MΩ · km	Over 500		
	Withstand voltage	V for 1minute	AC500		
Operating temperature range		°C	-10~+60 (without condensation)		
Minimum bend radius		mm	6 times the overall diameter		
Bending life		—	Over 10 million times ^{*1} (Bend radius : Minimum bend radius of each cable)		
Flame Retardant		—	UL1581 VW-1		
Connector	Servo amplifier side	Type	Molex 54599-1016 (Connector set)		
		IP rating	IP20 ^{*2}		
	Servo motor side	Type	DDK. Ltd. CM10-AP10S-M (D6) (Angle plug) or CMV1-AP10S-M2 (Angle plug)		
		IP rating	IP67 ^{*2}		

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

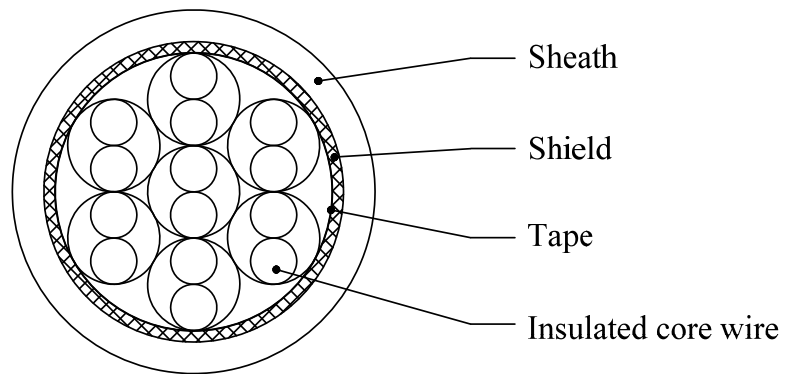
*2 The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/servo motor. If the IP rating of the servo amplifier/servo motor differs from that of these connectors, overall IP rating depends on the lowest of all.

8. STRUCTURAL DRAWING

(1) 1~10m



(2) 11~20m



9. OUTLINE DRAWING

[Unit : mm]

