

Specification  
for  
General purpose AC Servo  
Long Distance Encoder cable

Type SC-J3ENSJ4CBL □M-■-H

MITSUBISHI ELECTRIC  
SYSTEM & SERVICE CO.,LTD

Note

Revision		Drawn	Check	Design	Approved
A	31 Mar.,2017	<i>N. Ishii</i>	<i>S. Kanaga</i>	<i>M. Aizawa</i>	<i>D. Takashima</i>
B	5 Sept.,2018				
Send to		Date		Dwg	
		22Mar.,2016		X903703D50052-E65B	
		Order			

## 1. SCOPE

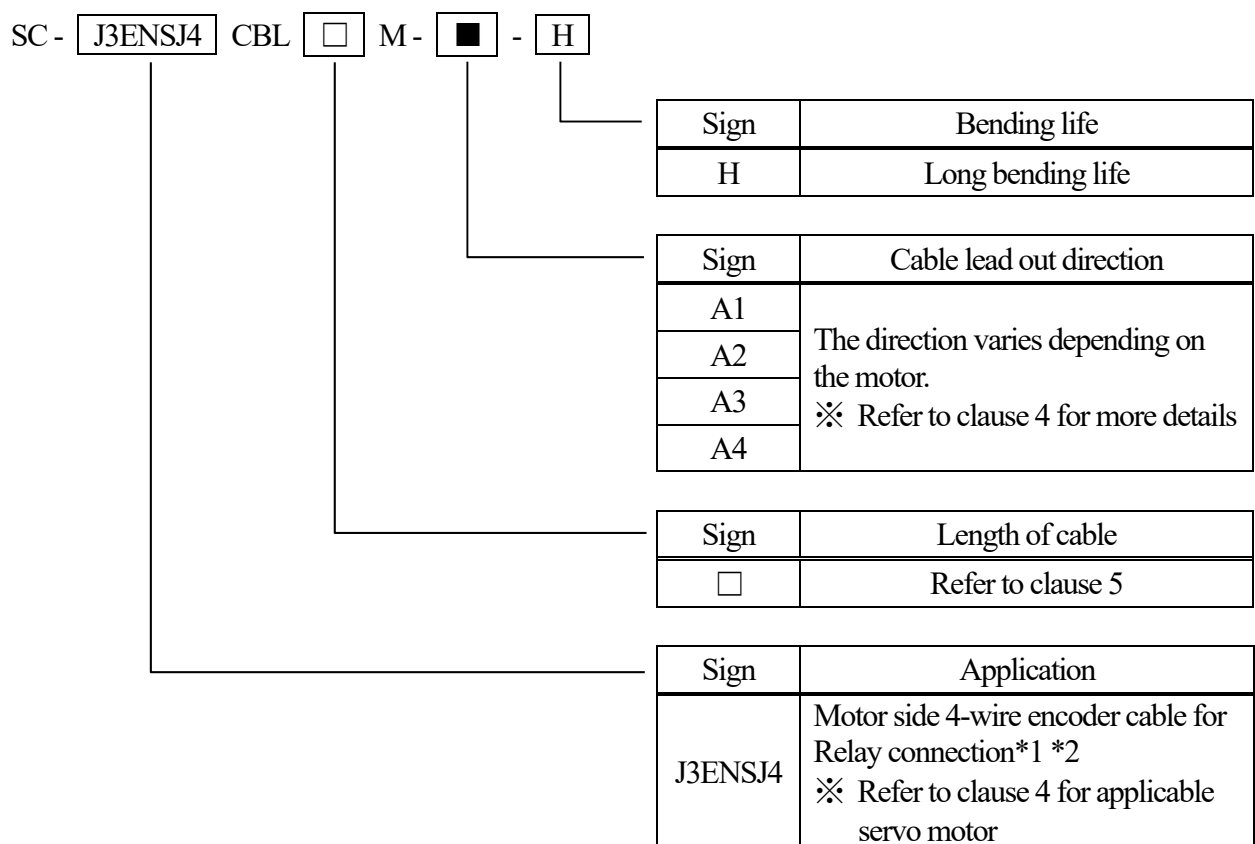
This specification covers the requirements for the General purpose AC Servo Long Distance Encoder cable.

- SC-J3ENSJ4CBL□M-■-H

※ 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



\*1 Please use it with amplifier side encoder cable.

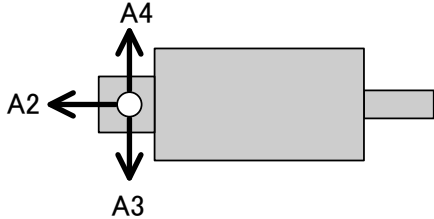
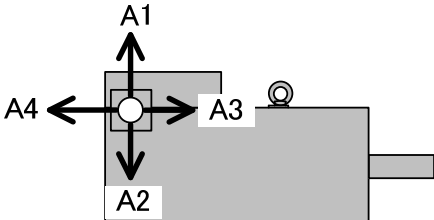
Refer to clause 6 for confirming the combination and cable length.

\*2 This cable is available in 4-wire type. Parameter setting is required to use the 4-wire type encoder cable. Refer to "SERVO AMPLIFIER INSTRUCTION MANUAL issued by Mitsubishi Electric Corporation" for more details.

## 3. APPLICABLE STANDARDS

UL758 AWM STYLE 20276 (wire part)

#### 4. APPLICABLE SERVO MOTOR

Important matter	
<p>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.</p>	
Applicable servo motor	Cable lead out direction (View from cable insertion direction)
<p>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>	 <p>Please confirm above mentioned important matter when selecting cable lead out direction.</p>
<p>HA-LP series motor                      ※Except for HA-LP502, HA-LP702</p>	 <p>Please confirm above mentioned important matter when selecting cable lead out direction.</p>

#### 5. LENGTH OF CABLE

1 to 85m Specified by 1m unit

#### 6. LENGTH OF CABLE FOR RELAY CONNECTION

Combination		Total cable length
Amplifier side	Motor side	
SC-J3ENS4CBL□M-H	SC-J3ENSJ4CBL□M-■-H	90m or less

#### 7. EXAMPLE OF PRINTING CABLE TYPE NAME

SC-J3ENSJ4CBL□M-■-H    ×××××××

- ※ □ is a figure from 1 to 85.
- ※ ■ is cable lead out direction from A1,A2,A3,A4.
- ※ ××××××× are the serial number for seven digits.

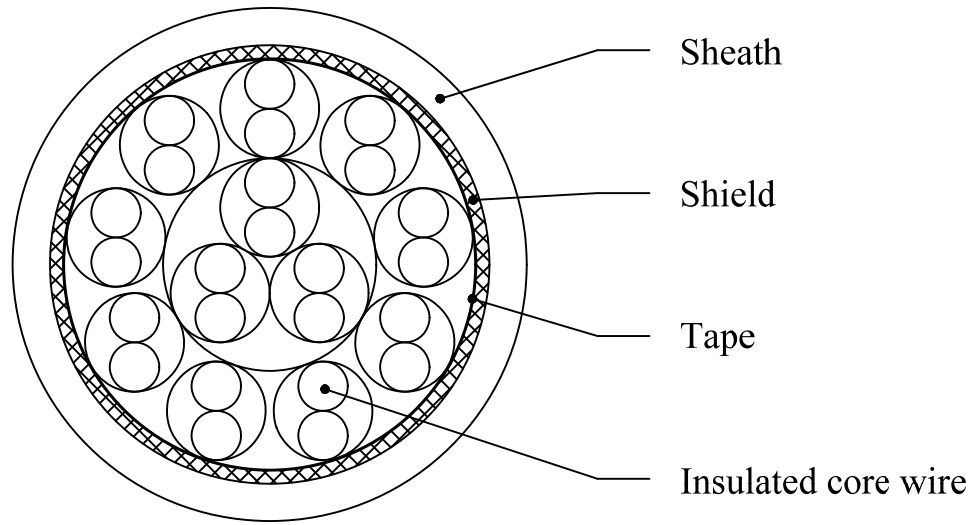
## 8. STRUCTURE AND CHARACTERISTICS

Item		Unit	Specification
Structure		—	AWG25×12P
Conductor	Conductor size	—	AWG25
	Outer diameter	mm	Approx. 0.58
Insulation	Material	—	ETFE
	Outer diameter	mm	Approx. 0.88
Twisted pair	Number of insulated core wire	—	2C
	Outer diameter	mm	Approx.1.8
Twisted	central layer	—	3P
	the first layer	—	9P
Shield	Material	—	Tin coated copper braid
Sheath	Material	—	Flame resisting PVC
	Color	—	Black
Overall diameter		mm	Approx. 8.9
Electrical characteristics	Insulation resistance	MΩ · km	Over 100
	Withstand voltage	V for 1 minute	AC500
Operating temperature range		°C	-10~+60 (without condensation)
Minimum Radius Bend		mm	6 times the overall diameter
Bending Life		—	Over one million times*1 (Bending radius : Minimum bend radius)
Flame Retardant		—	UL1581 VW-1
Connector	Servo amplifier side	Type	DDK Ltd. CM10-CR10P-M (Cable receptacle) or CMV1-CR10P-M2 (Cable receptacle)
		IP rating	IP67*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.)

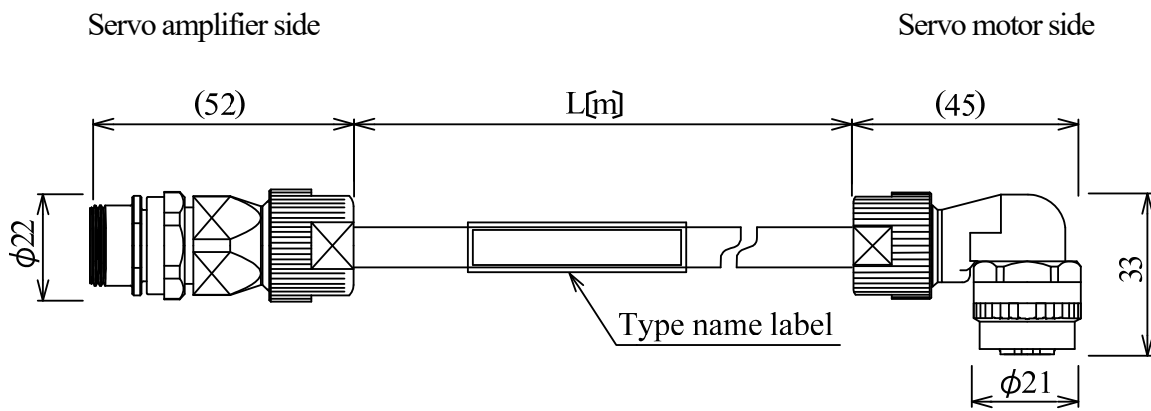
\*2 The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/servo motor. If the IP rating of the servo amplifier/servo motor differs from that of these connectors, overall IP rating depends on the lowest of all.

### 9. STRUCTURAL DRAWING



### 10. OUTLINE DRAWING

[Unit : mm]



### 11. SYSTEM CONFIGURATION DIAGRAM

