

Specification  
for  
General purpose AC Servo  
Long Distance Encoder cable

Type SC-J3ENS4CBL□M-H

MITSUBISHI ELECTRIC  
SYSTEM & SERVICE CO.,LTD

Note

Revision				Drawn	Check	Design	Approved
A	2 September.,2015	D	14 July ,2017	<i>N. Ishii</i>	<i>S. Kaya</i>	<i>I. Minonaga</i>	<i>S. Kuboshira</i>
B	22 Mar.,2016	E	18 Nov.,2019				
C	31 Mar.,2017						
Send to				Date		Dwg	
				29 May.,2012		X903703D50052-E15E	
				Order			

## 1. SCOPE

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

- SC-J3ENS4CBL□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

SC -	J3ENS4	CBL	□	M -	H	
						Sign
						Bending life
					H	Long bending life
						Sign
						Length of cable
					□	Refer to clause 5.
						Sign
						Application
					J3ENS4	4-wire encoder cable for Direct connection *1 ※ Refer to clause 4 for applicable servo motor
						Amplifier side 4-wire encoder cable for relay connection *1 *2

\*1 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.

### \*2 When used for relay connection at the amplifier side

When using this cable for relaying at the amplifier side, for the items (1) to (3) below refer to the specification sheet on the motor side relay cable (below table).

- (1) Combination
- (2) Applicable motor
- (3) Cable length

Bending life	Cable type name	The number of specification sheet
Standard (For fixed part)	SC-J3JSCBL□M-■-L	X903703D50052-E03
Long bending life	SC-J3JSCBL□M-■-H	X903703D50052-E10
	SC-J3ENSJ4CBL□M-H	X903703D50052-E64
	SC-J3ENSJ4CBL□M-■-H	X903703D50052-E65

### 3. APPLICABLE STANDARDS

Wire part : UL standard (UL 758 : AWM)

UL Style No.	Rated	
20276	80°C	30V

### 4. APPLICABLE SERVO MOTOR

HG-SR, HG-RR, HG-UR series motor

HG-JR53, 73, 103, 153, 203, 353, 503,

534, 734, 1034, 1534, 2034, 3534, 5034 motor

HF-SP, HC-LP, HC-RP, HC-UP, HA-LP series motor

HF-JP53, 73, 103, 153, 203, 353, 503,

534, 734, 1034, 1534, 2034, 3534, 5034 motor

### 5. LENGTH OF CABLE

1 to 100m Specified by 1m unit

### 6. EXAMPLE OF PRINTING CABLE TYPE NAME

SC-J3ENS4CBL□M-H ×××××××

※ □ is a figure from 1 to 100.

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

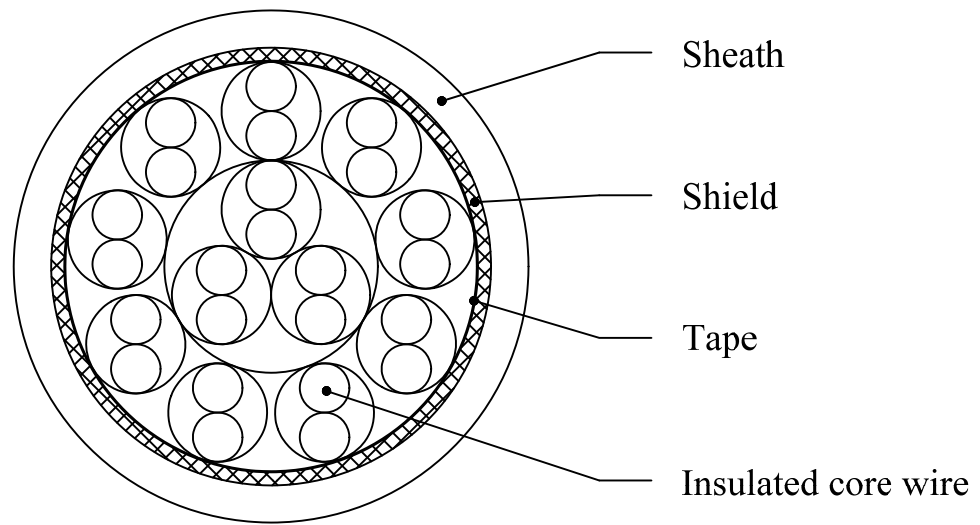
## 7. STRUCTURE AND CHARACTERISTICS

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	1.8
Twisted	Number of pairs (central layer)	—	3P
	Number of pairs (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 Bend Radius		mm	6 times the overall diameter
Bending Life		—	Over one million times <sup>*1</sup> (Bend radius : Minimum bend radius)
Flame Retardant		—	UL1581 VW-1
Connector	Servo amplifier side	Type	3M Japan 36210-0100PL (Receptacle) 36310-3200-008 (Shell kit)
		IP rating	IP20 <sup>*2</sup>
	Servo motor side	Type	DDK Ltd. CMV1-SP10S-M2 (Straight plug)
		IP rating	IP67 <sup>*2</sup>

\*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



## 9. OUTLINE DRAWING

[Unit : mm]

