

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	5 Sept.,2018	<i>N. Sekii</i>	<i>S. Kariya</i>	<i>M. Awamura</i>	<i>D. Takahashi</i>
B	22 Mar.,2016						
C	31 Mar.,2017						
Send to				Date		Dwg	
				29 May.,2012		X903703D50052-E16D	
				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

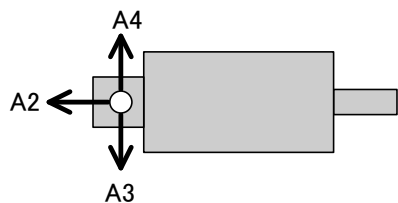
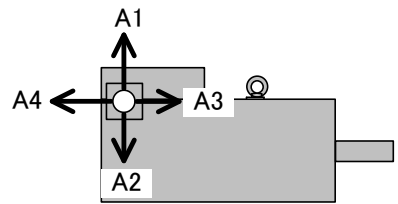
Sign	Bending life	
	H	Long bending life
Sign	Cable lead out direction	
	A1	Cable lead out direction varies depends on motor. ※ Refer to clause 4 for more details.
	A2	
	A3	
A4		
Sign	Length of cable	
	□	Refer to clause 5.
Sign	Application	
	J3ENS4	4-wire encoder cable for direct connection*1 ※ Refer to clause 4 for applicable servo motor

\*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.

## 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 100m Specified by 1m unit

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

SC-J3ENS4CBL□M-■-H ×××××××

- ※ □ is a figure from 1 to 100.
- ※ ■ is cable lead out direction from A1,A2,A3,A4.
- ※ ××××××× are the serial number for seven digits.

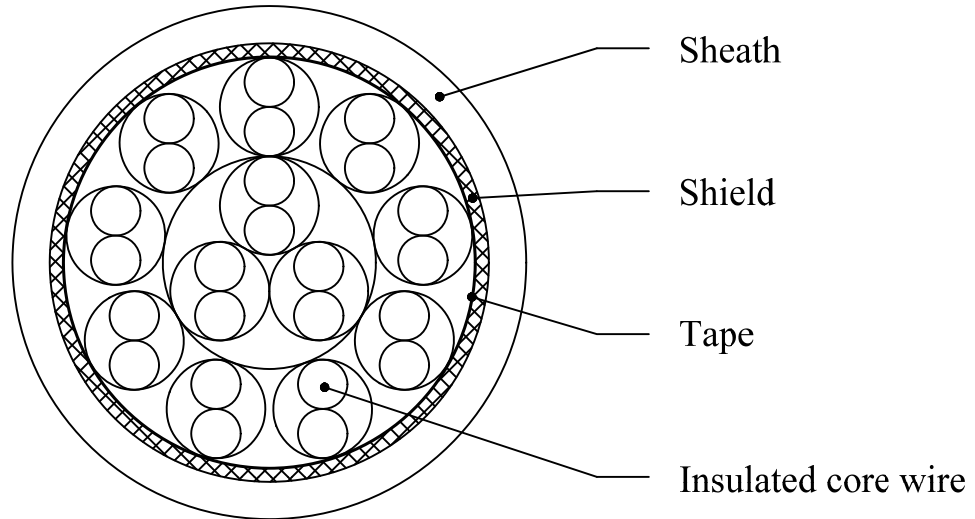
## 7. STRUCTURE AND CHARACTERISTICS

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 radius bend		mm	6 times the overall diameter
Bending life		—	Over one million times <sup>*1</sup> (Bending 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. CM10-AP10S-M (D6) (Angle plug) or CMV1-AP10S-M2 (Angle 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]

