

Specification  
for  
General purpose AC Servo  
Long Bending Life Encoder cable

Type SC-ENECBL□M-H-MTH

MITSUBISHI ELECTRIC  
SYSTEM & SERVICE CO.,LTD

Note

Revision				Drawn	Check	Design	Approved
A	19 Aug.,2021			<i>n. Ito</i>	<i>S. Kojima</i>	<i>T. Harahara</i>	<i>D. Subashina</i>
Send to				Date		Dwg	
				22 Mar.,2016		X903703D50052-E87A	
				Order			

## 1. SCOPE

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

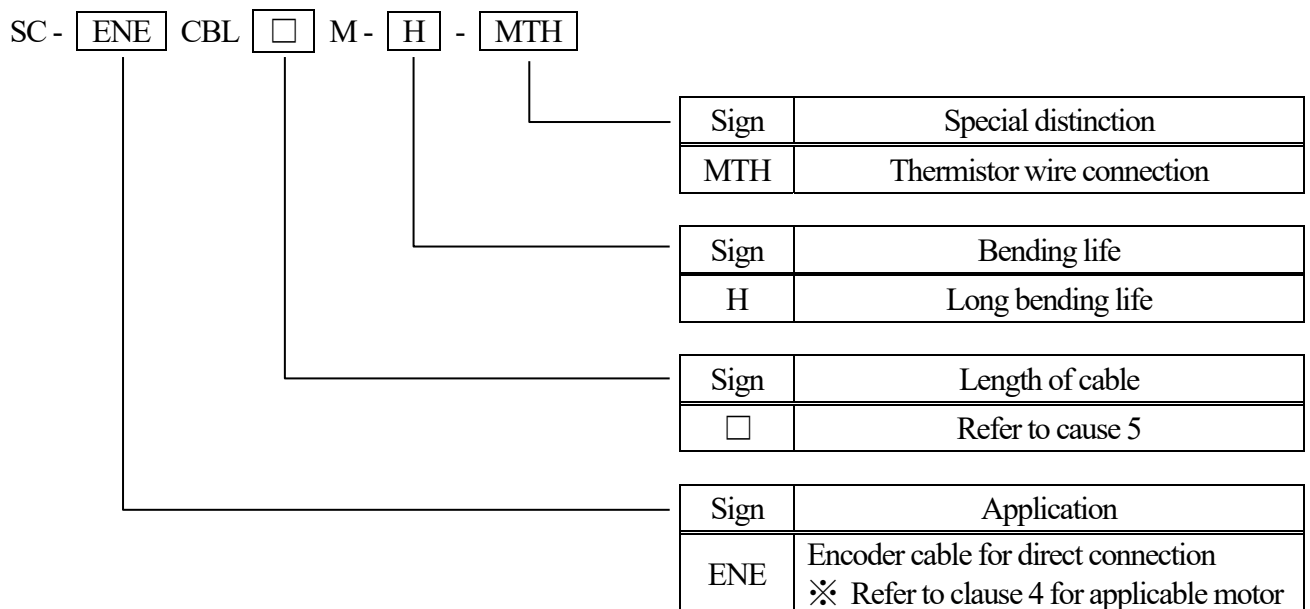
• SC-ENECBL□M-H-MTH

※ Please note that the product specifications described in this specification are subject to change without notice for improvement.

※ If you need copy exactly, please contact our Sales Department.

Copy exactly ... Products made in the same process, same parts

## 2. CABLE TYPE



## 3. APPLICABLE STANDARDS

Wire part : UL standard (UL 758 : AWM)

Length of cable	UL Style No.	Rated	
1~10m	2517	105°C	300V
11~50m	2464	80°C	

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

• This cable doesn't include the toxic substances in RoHS.

## 4. APPLICABLE SERVO MOTOR

HG-JR601, 801, 12K1, 15K1, 20K1, 25K1, 30K1, 37K1

6014, 8014, 12K14, 15K14, 20K14, 25K14, 30K14, 37K14

701M, 11K1M, 15K1M, 22K1M, 30K1M, 37K1M

701M4, 11K1M4, 15K1M4, 22K1M4, 30K1M4, 37K1M4, 45K1M4, 55K1M4 motor

## 5. LENGTH OF CABLE

1 to 50m specified by 1m unit

## 6. EXAMPLE OF PRINTING CABLE TYPE NAME

SC-ENECBL□M-H-MTH ×××××××

※ □ is a figure from 1 to 50

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

## 7. STRUCTURE AND CHARACTERISTICS

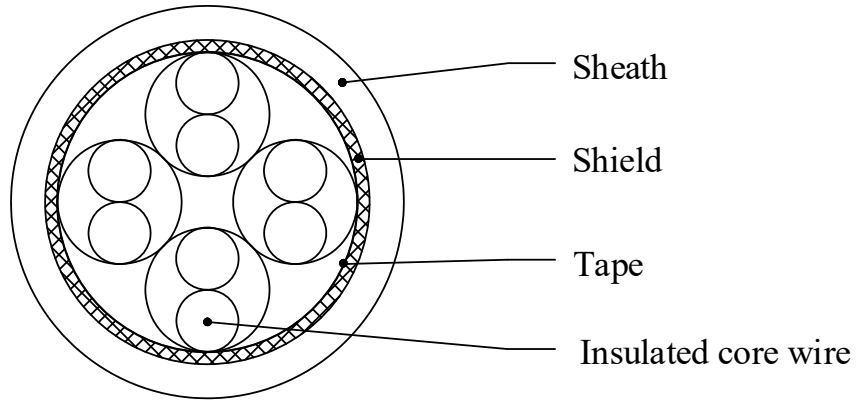
Item		Unit	Specification	
			1~10m	11~50m
Structure		—	AWG25×4P	AWG25×7P
Conductor	Conductor size	—	AWG25	
	Outer diameter	mm	Approx. 0.5	
Insulation	Material	—	ETFE	
	Outer diameter	mm	Approx. 1.0	
Twisted pair	Number of insulated core wire	—	2C	
	Outer diameter	mm	Approx. 2.0	
Twisted	Number of pairs	—	4P	7P
Shield	Material	—	Tin coated copper braid	
Sheath	Material	—	Flame resisting PVC	
	Color	—	Black	
Overall diameter		mm	Approx. 6.9	Approx. 8.3
Cable weight		kg/km	70	95
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 1 million times <sup>*1</sup> (bending radius: minimum bending radius of each cable)	
Flame Retardant		—	UL1581 VW-1	
Connector	Servo amplifier side	Type	Molex Japan LLC 54599-1016 (Connector set) or 3M Japan Limited 36210-0100PL (Receptacle) 36310-3200-008 (Shell kit)	
		IP rating	IP20 <sup>*2</sup>	
	Servo motor side	Type	DDK Ltd. D/MS3106A20-29S (D190) (Plug) CE02-20BS-S-D(R1) (Back shell) CE3057-12A-3-D(R1) (Cable crump)	
		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.)

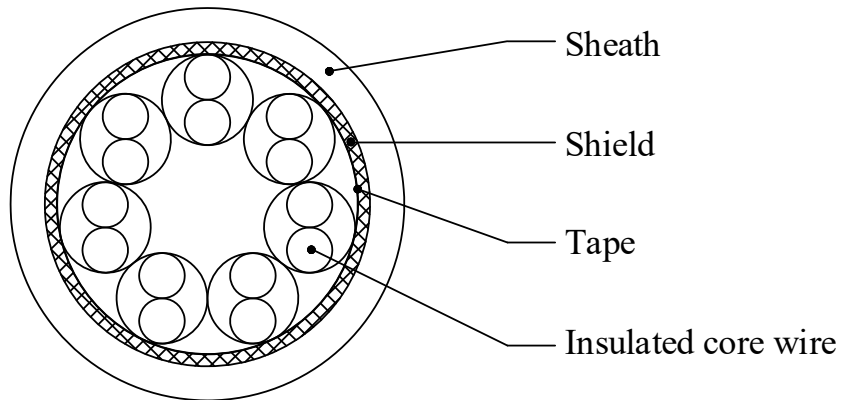
\*2 The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/servo motor. If the IP rating of the servo amplifier/servo motor differs from that of these connectors, overall IP rating depends on the lowest of all.

### 8. STRUCTURAL DRAWING

(1) 1~10m



(2) 11~50m



### 9. OUTLINE DRAWING

[Unit : mm]

