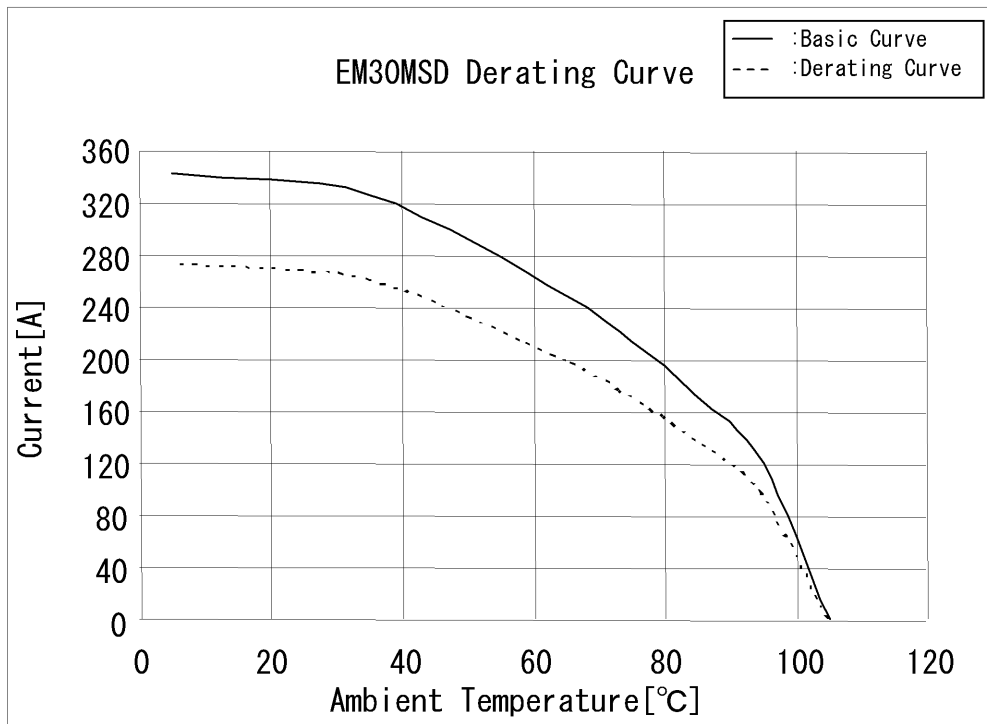


APPLICABLE STANDARD					
RATING	OPERATING TEMPERATURE RANGE	-40 °C TO +105 °C	STORAGE TEMPERATURE RANGE	-10 °C TO +60 °C	
	VOLTAGE	POWER CONTACT : AC/DC 1500 V SIGNAL CONTACT : AC/DC 250 V			
	CURRENT	POWER CONTACT : 200 A(4) SIGNAL CONTACT : 1 A	APPLICABLE CABLE	100 mm ² min (AWG#4/0 min)	
SPECIFICATIONS					
ITEM	TEST METHOD		REQUIREMENTS	QT	AT
CONSTRUCTION					
GENERAL EXAMINATION	VISUALLY AND BY MEASURING INSTRUMENT.		ACCORDING TO DRAWING.	X	X
MARKING	CONFIRMED VISUALLY.			X	X
ELECTRIC CHARACTERISTICS					
CONTACT RESISTANCE(2)	CONTACT SHALL BE MEASURED AT DC 1A. (POWER CONTACT)		0.5 mΩ MAX.	X	X
	CONTACT SHALL BE MEASURED AT DC 1A. (SIGNAL CONTACT INCLUDE GT8E-2S-2C)		90 mΩ MAX.	X	X
INSULATION RESISTANCE	500 V DC.		5000 MΩ MIN.	X	X
VOLTAGE PROOF	4500 V AC. FOR 1 min. (POWER CONTACT)		NO FLASHOVER OR BREAKDOWN.	X	X
	750 V AC. FOR 1 min. (SIGNAL CONTACT)			X	X
MECHANICAL CHARACTERISTICS					
CONNECTOR INSERTION AND WITHDRAWAL FORCES	MEASURED BY APPLICABLE CONNECTOR WITHOUT LOCKING DEVICE.		INSERTION AND WITHDRAWAL FORCES : 100 N MAX.	X	—
MECHANICAL OPERATION	50 TIMES INSERTIONS AND EXTRACTIONS. (BETWEEN EM30MSD PLUG AND RECEPTACLE)		CONTACT RESISTANCE: 0.75 mΩ MAX. (POWER CONTACT) CONTACT RESISTANCE: 150 mΩ MAX. (SIGNAL CONTACT INCLUDE GT8E-2S-2C)	X	—
	30 TIMES INSERTIONS AND EXTRACTIONS. (BETWEEN EM30MSD RECEPTACLE AND GT8E-2S-2C)		CONTACT RESISTANCE: 150 mΩ MAX. (SIGNAL CONTACT INCLUDE GT8E-2S-2C)	X	—
VIBRATION①	FREQUENCY: 10 → 55 → 10 (Hz) (1CYC, 5min), SINGLE AMPLITUDE 0.75 mm, AT 10 CYC, FOR 3 DIRECTIONS.		① NO ELECTRICAL DISCONTINUITY OF 10 μs. ② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS.	X	—
VIBRATION②(RANDOM) (ISO 16750-3, JASO D 014-3)	FREQUENCY RANGE: 10 TO 2000 (Hz), ACCELERATION SPECTRUM DENSITY : 57.9 m/s ² , AT 8 h, FOR 3 DIRECTIONS.		① NO ELECTRICAL DISCONTINUITY OF 10 μs. ② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS.	X	—
SHOCK	IN OPPOSITE DIRECTIONS OF EACH 3 DEMENSION AXIS FOR 3 TIMES AT 490 m/s ² DURATIONS OF PULSE 11 ms.		① NO ELECTRICAL DISCONTINUITY OF 10 μs. ② NO DAMAGE, CRACK AND LOOSENESS OF PARTS.	X	—
ENVIRONMENTAL CHARACTERISTICS					
RAPID CHANGE OF TEMPERATURE	TEMPERATURE -40 → R/T ⁽¹⁾ → +125 → R/T °C TIME 30 → 2 TO 3 → 30 → 2 TO 3 min UNDER 5 CYCLES.		① INSULATION RESISTANCE: 5000 MΩ MIN. ② NO DAMAGE, CRACK AND LOOSENESS OF PARTS.	X	—
DAMP HEAT (STEADY STATE)	EXPOSED AT 40 °C, 90 TO 95 %, 96 h.		① INSULATION RESISTANCE: 50 MΩ MIN (AT HIGH HUMIDITY). ② INSULATION RESISTANCE: 500 MΩ MIN (AT DRY). ③ NO DAMAGE, CRACK AND LOOSENESS OF PARTS.	X	—
CORROSION SALT MIST(3)	EXPOSED IN 5 % SALT WATER SPRAY FOR 48 h.		NO HEAVY CORROSION RUIN THE FUNCTION.	X	—
SEALING(3)	EXPOSED AT A DEPTH OF 2 m FOR 14 DAYS. (IP68 WATERPROOF)		NO WATER PENETRATION INSIDE CONNECTOR.	X	—
AIR TIGHTNESS(3)	APPLY AIR PRESSURE 17.6kPa FOR 0.5min TO INSIDE CONNECTOR.		NO AIR BUBBLES INSIDE CONNECTOR.	X	X
FIG.1 MEASURING POINT OF CONTACT RESISTANCE					
COUNT	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE	
3	DIS-C-003590	TY. SUZUKI	HY. KOBAYASHI	14. 08. 21	
REMARK			APPROVED	SU. OBARA	14. 07. 04
NOTES (1) R/T : ROOM TEMPERATURE			CHECKED	HY. KOBAYASHI	14. 07. 04
(2) MEASURED CONTACT RESISTANCE AT THE POINTS SHOWN IN FIG. 1.			DESIGNED	TY. SUZUKI	14. 07. 02
(3) CORROSION SALT MIST, SEALING AND AIR TIGHTNESS SHALL BE TESTED UNDER MATED CONDITION WITH AN APPLICABLE CONNECTOR.			DRAWN	TY. SUZUKI	14. 07. 02
(4) OPERATING TEMPERTURTE RANGE INCLUDES THE TEMPERATURE RISE BY CURRENT CARRYING.					
Unless otherwise specified, refer to JIS C 5402(IEC 60512).					
Note QT:Qualification Test AT:Assurance Test X:Applicable Test			DRAWING NO.		ELC4-118302-00
HRS	SPECIFICATION SHEET		PART NO.	EM30MSD	
	HIROSE ELECTRIC CO., LTD.		CODE NO.	CL138-0200-0-00	1/2

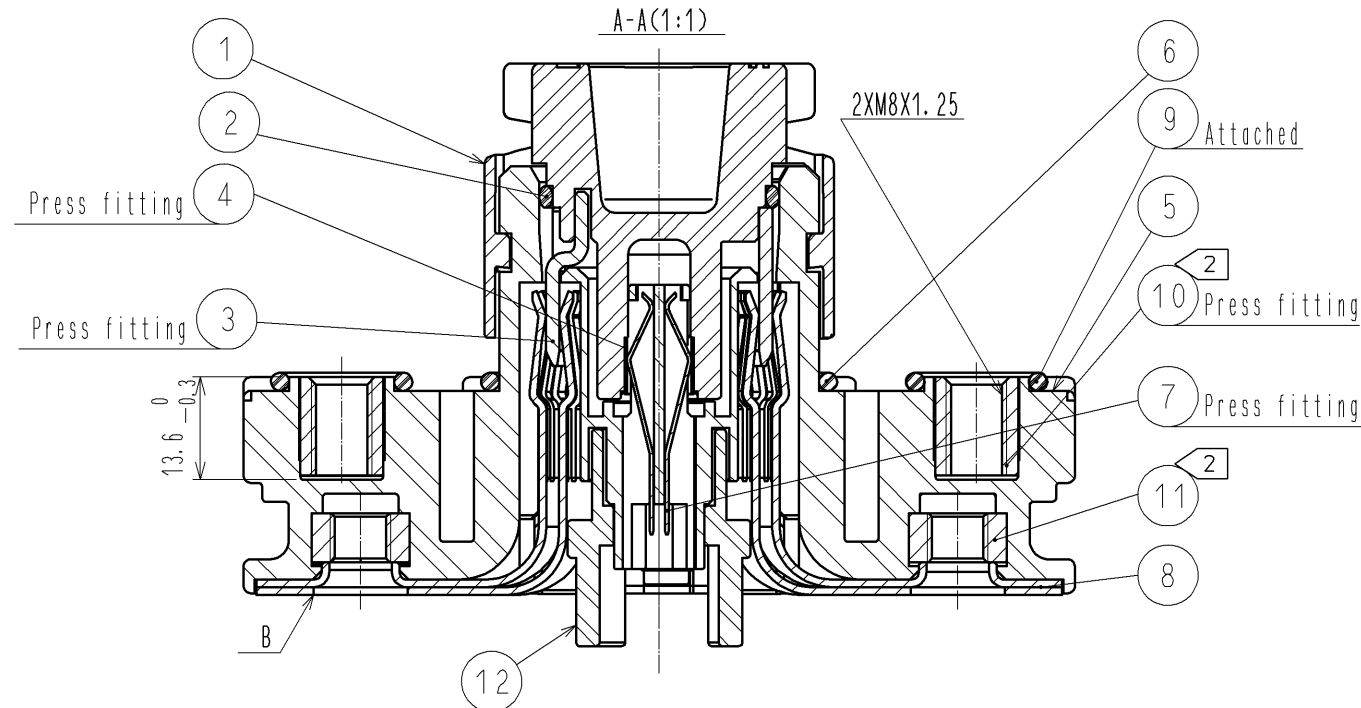
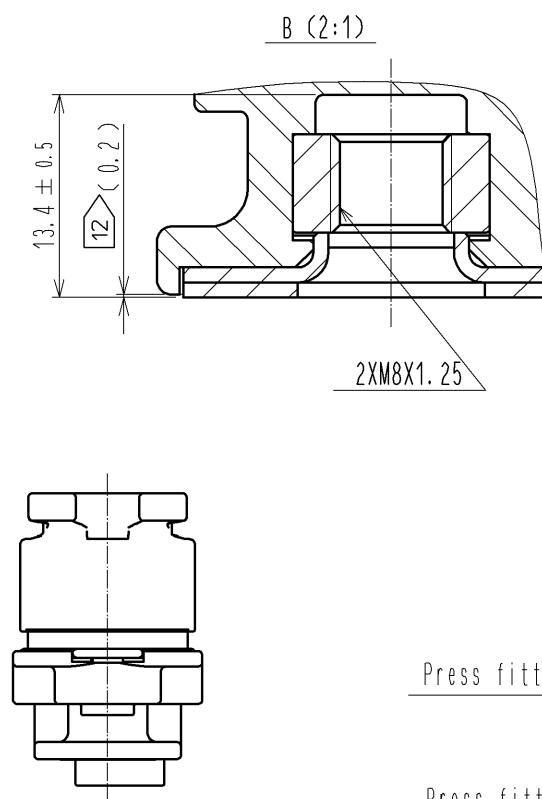
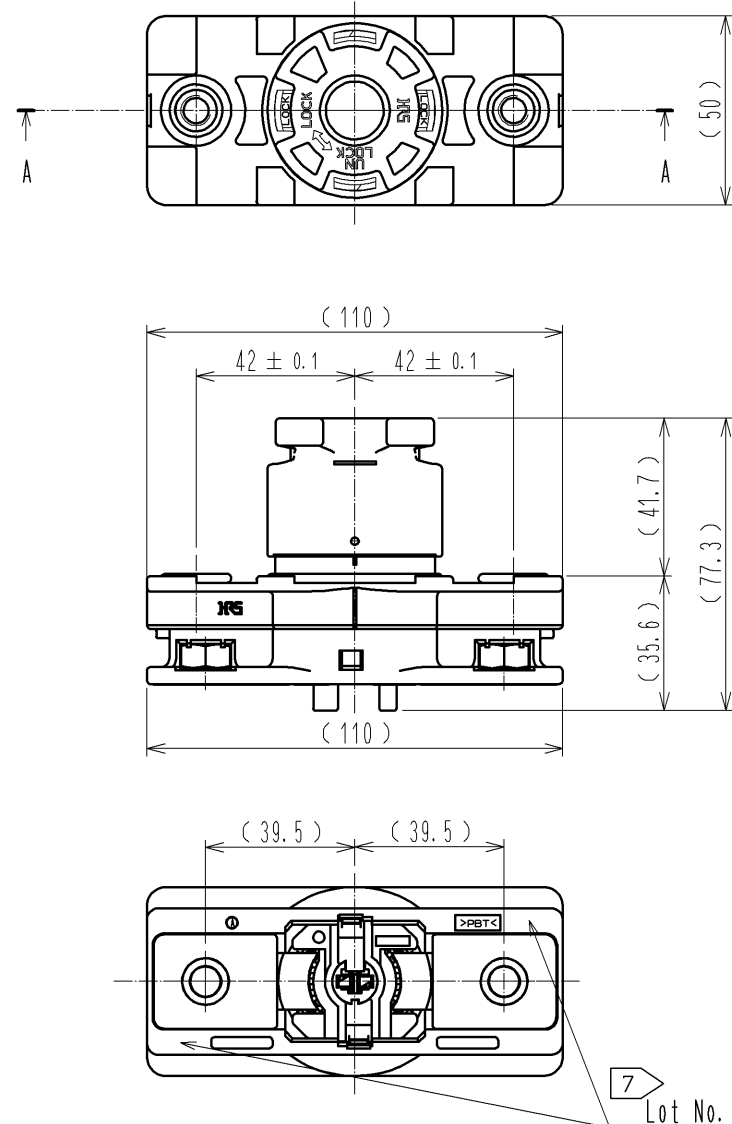
[Reference] 



Measurement method:
Mated plug and receptacle with 100 mm² cable.

Note:
Derating curve could vary depending on cable type and each measurement even under the same conditions.
Therefore, above data are guidelines and not connector specifications.

Note QT:Qualification Test AT:Assurance Test X:Applicable Test		DRAWING NO.		ELC4-118302-00	
	SPECIFICATION SHEET		PART NO.	EM30MSD	
	HIROSE ELECTRIC CO., LTD.		CODE NO.	CL138-0200-0-00	 2/2



- Notes
- 1 Make sure that the O-ring is NOT twisting and properly assembled during this mounting process.
 - 2 Use ring terminal M8 for the power contact.
The recommended tightening torque of Ref No. ⑩ and ⑪ is 6.0 to 6.5 N·m
Recommended bolt size are as follows.
- Ref No. ⑩ : Screw size M8, Pitch 1.25 Length 10 to 12 mm.
(For panel thickness, Refer to the next page Fig.1)
- Ref No. ⑪ : Screw size M8, Pitch 1.25 Length 12 to 15 mm.
(Assume ring terminal thickness $t = 2.5$ to 3 .
When using ring terminal with different thickness, choose appropriate bolt size per the thickness.)
The recommended adhesive : LOCTITE 243 made by HENKEL JAPAN.
 - 3 Mating connector at signal contact side is as follows.

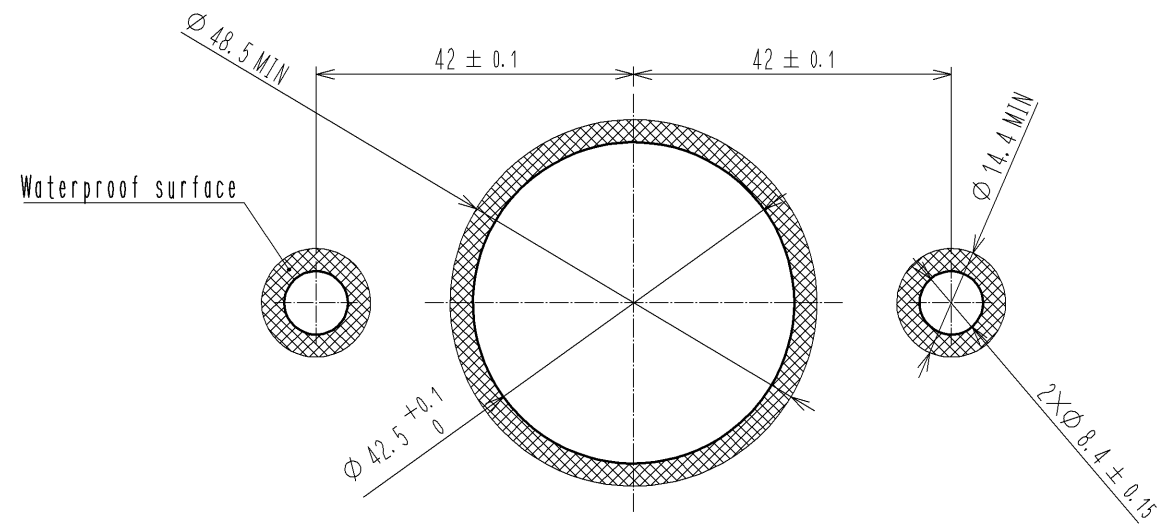
Connector	GT8E-2S-2C	CL758-0030-6-00	
Crimp contact	GT8E-2022SCF	CL758-0033-4-00	For AWG#20~22 Reel contact
	GT8B-2428SCF	CL758-0055-7-00	For AWG#24~28 Reel contact
	GT8E-2022SC	CL758-0101-2-00	For AWG#20~22 Bulk contact

- 4 Fig.1 shows the recommended panel cut out dimensions.
Roughness on the panel surface indicated by  for water sealing must be $\sqrt{Rz} 3.2$
- 5 This product is delivered with the plug and receptacle unmated as shown in Fig. 4.
- 6 Appearance of each of the plug and receptacle are shown in Fig.2
- 7 Lot No. is marked in one the indicated part shown.
- 8 Make sure the locking system firmly completed before using the this product.
Fig.3 indicates rotated position of the plug and the receptacle with locking completed.
Also, 'LOCK' marking on the receptacle can be seen from the plug hole.

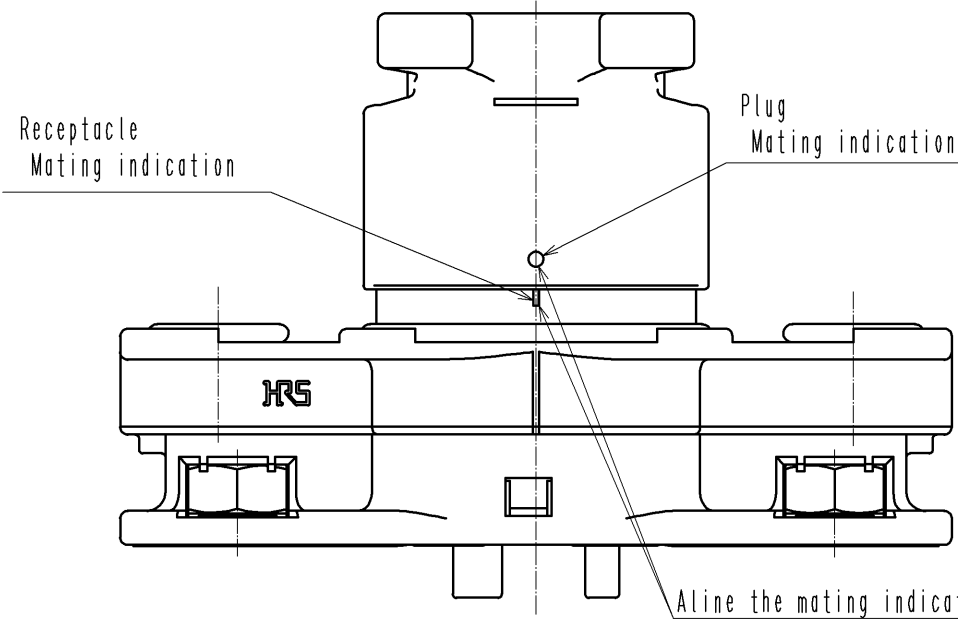
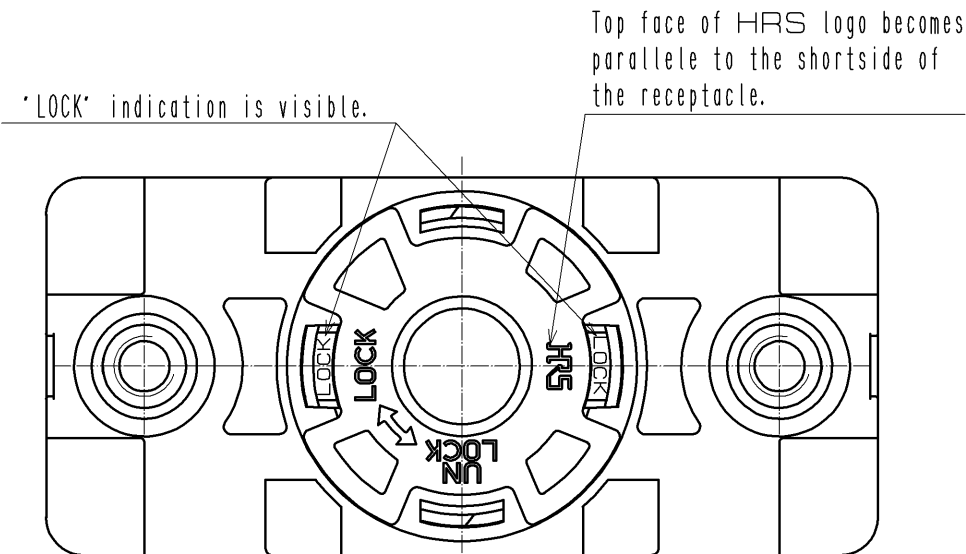
- WARNING
- 9 Never engage/disengage the plug while the power contacts (Ref No. ③ and Ref. No. ⑧) are energized.
Signal contacts are sequentially connected after the power line in the plug engagement, and disconnected before the power line in the disengagement. Therefore, use the product with the circuit to avoid hot-plugging provided.
Mating sequence of power line and signal line are shown in Fig. 1 along with the appearance and circuit of each state.
Rotated position of the plug and the receptacle are is shown as an exapmle.
 - 10 For product handling, refer to the Operation guide ETAD-C0320.
 - 11 Female contact Ref. No. ⑧ is loose before the bolt is attached to Ref. No. ⑪,
and the female contact is movable as shown in Fig. 2. but stabilized to the receptacle after the screw fix.
Therefore the looseness is eliminated for the use and does not affect its performance. (0.2) shown in Fig. ⑧ is the state when the bolt is tightened.
 - 12 Engage the plug to the receptacle after all the assembly including cable wiring are completed for safety.

6	Hydrogenation acrylonitrile butadiene rubber	(Black)	12	Polybutylene terephthalate	(Black) UL94V-0
5	Polybutylene terephthalate	(Orange) UL94V-0	11	Brass	Nickel plating
4	Copper alloy	Tin plating 1μm MIN	10	Brass	Nickel plating
3	Copper	Silver plating 3μm MIN	9	Hydrogenation acrylonitrile butadiene rubber	(Black)
2	Hydrogenation acrylonitrile butadiene rubber	(Black)	8	Copper alloy	Silver plating 3μm MIN
1	Polybutylene terephthalate	(Orange) UL94V-0	7	Copper alloy	Tin plating 1μm MIN
NO.	MATERIAL	FINISH . REMARKS	NO.	MATERIAL	FINISH . REMARKS
UNITS mm		SCALE 1 : 2	COUNT 1		DESCRIPTION OF REVISIONS DIS-C-003590
DESIGNED TY. SUZUKI		CHECKED HY. KOBAYASHI		DATE 14. 08. 21	
APPROVED : SU. OBARA		14. 07. 04		DRAWING NO. EDC3-118302-00	
CHECKED : HY. KOBAYASHI		14. 07. 04		PART NO. EM30MSD	
DESIGNED : TY. SUZUKI		14. 07. 02		CODE NO. CL138-0200-0-00	
DRAWN : TY. SUZUKI		14. 07. 02		1/2	

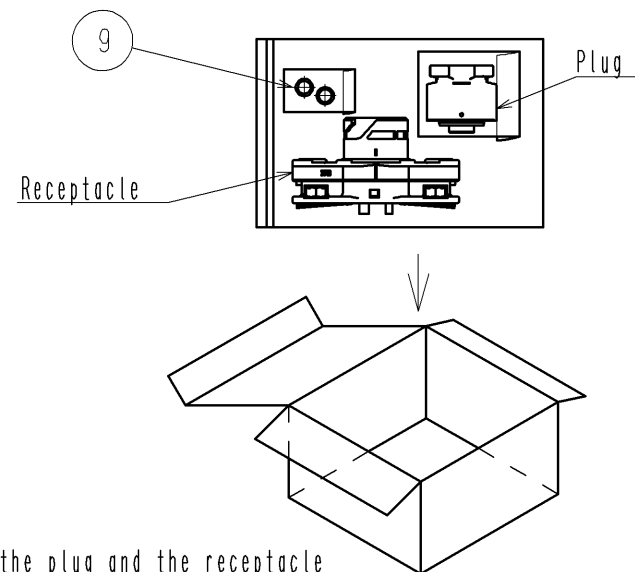
4 Fig.1 The recommended panel dimention (t = 2 to 4.5)



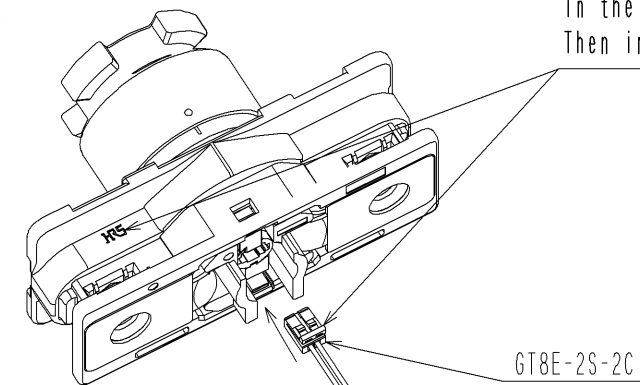
8 Fig.3 State of locked



5 Fig.4 View of packing style



3 View of signal contact side



9 Table.1 Connection Timing (Power line and signal line)

Ⓐ-Ⓑ Power line
Ⓒ-Ⓓ Signal line

State	Before mating	Insertion plug	Rotated and Locked	Unlocked	Unmated
Appearance					
Connection		Power line closed. Signal line open. No power current.	Signal line closed. Power line ON	Signal line open. Power line OFF.	
Circuit diagram					