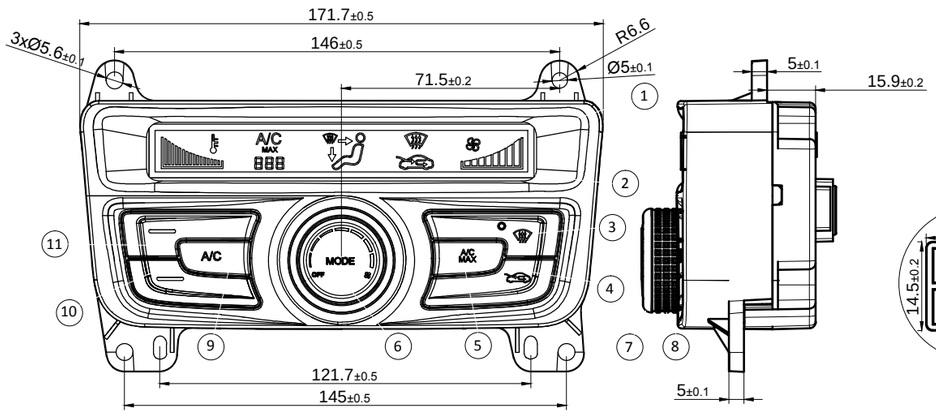
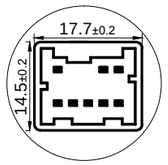
DWG NO. : TH254-27500C
PART NO. : TH254-27500C
SHEET : 1/2

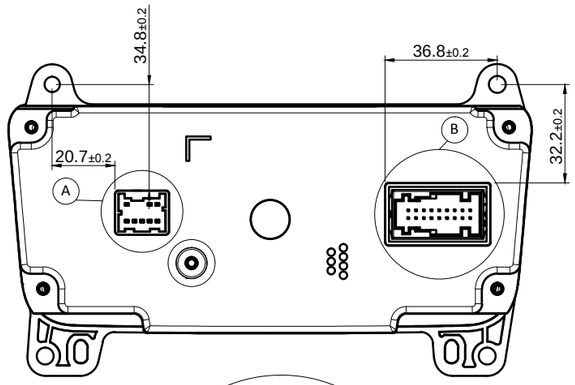
RELEASED
No. : 21370259
Date : 1394/04/16
By : Engineering Specification Office
S 2 01

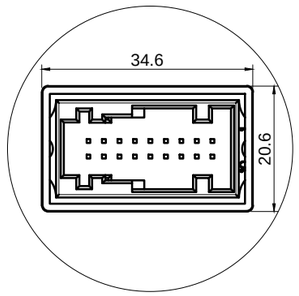
A.I.R.I.C
DWG. NO. TH254-27500C
S-1-16





Detail A
Scale 1:1





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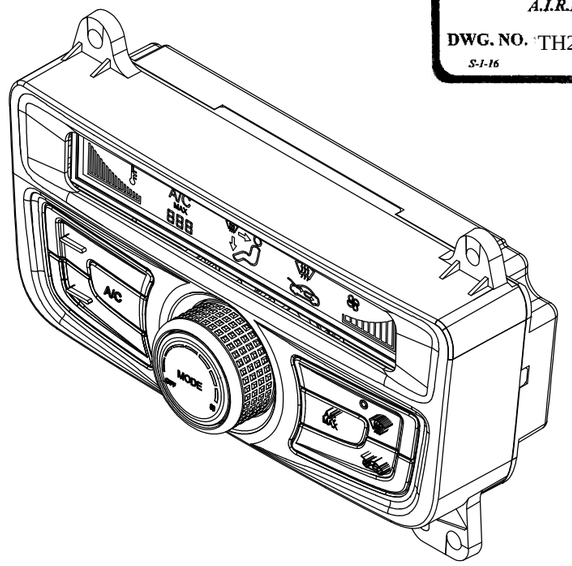
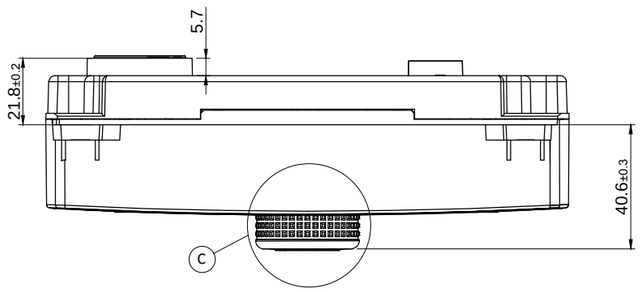
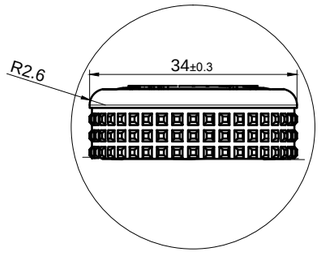
Scale 1:1





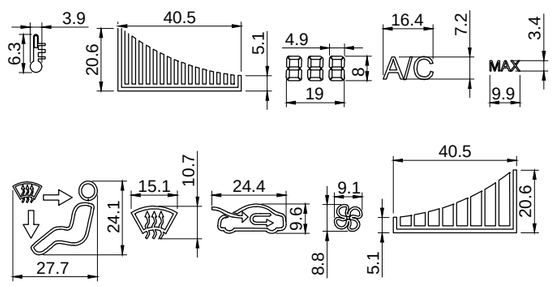


Detail C
Scale 1:1

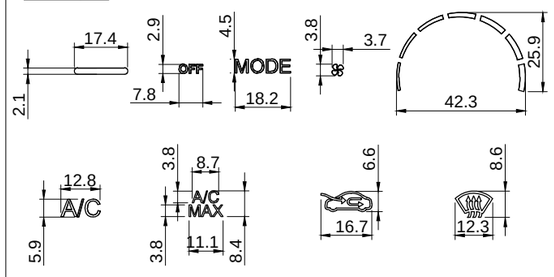
Technical requirements

1. Specification is based on MES PS61190 and ISO 16750-1,3,4
2. Grain code : MT 9126
3. Paint Code : RAL DESIGN 000 15 00
4. Standard test Conditions:
   - Power supply Voltage : 14.4 v Dc
   - Environmental Conditions:
     - Temperature : 23±5°C
     - Humidity : 50±25%
5. Operating voltage range : 10~16 V
6. Button illumination color : White (X=0.33,Y=0.33); brightness 5±2 cd
7. Switch Type : Silicon Rubber
8. Material test item : B620200
   Desired Code : 1/0/2/0/0/3/1/0/0
9. Paint test item : B155050
10. EMC test items : ECE R10
11. Long term heat resistance : 400 hr @ 85±2 °C
After 72 and 400 hr from the beginning the test check for discoloration, deformation, dent, crack, creep, loose joint, peel off and etc. During 400 hr check the function of ETC every 24 hr
12. LED Specifications :
    - Color : White
    - Rated voltage (V_F) : 2.7~2.8 V (@ I_F= 5 mA)
    - Rated Current (I_F) : 5 mA, max 25 mA
    - Viewing Angle (θ) : 140°
    - Luminous Intensity (I_u) : 45~112 mcd (@ I_F= 5 mA)
    - Operating Temperature (T_{opr}) : -40~+85°C
    - Storage Temperature (T_{stg}) : -40~+90°C
    - Power Dissipation (P_d) : 110 mW
    - Reverse Voltage (V_R) : 5 V
13. The LEDs must be endure 1000hr continues lightening ,after that the luminous power change shall be within 10%
14. The Connecting and disconnecting force of the connector shall be measure based on the PSA B217050,SPEC 10.2.1&10.2.2
15. The operating waveform forces for buttons and switches are the same as which is defined in below tables

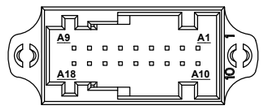
Display Logo
Scale 1:1



Button Logo
Scale 1:1

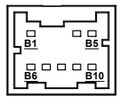


Pin Configuration



AMP 1379102-1
AMP 1379100-2

Pin	PIN	Remark
A1	MODE FB	Mode Actuator Feedback
A2	+5 V	+5 V Output
A3	GND	The Ground of Car (for Actuators)
A4	MODE+	Mode Actuator +
A5	MODE-	Mode Actuator -
A6	TEMP FB	Airmix Actuator Feedback
A7	TEMP+	Airmix Actuator +
A8	TEMP-	Airmix Actuator -
A10	BLOWER FB	Blower Signal Feedback
A11	BLOWER PWM	Blower PWM Control Signal
A13	FRESH	Fresh/Rec Actuator (Fresh Position)
A14	REC	Fresh/Rec Actuator (RecPosition)
A16	AC REQ	Compressor Request Signal



YAZAKI 7282-5985

Pin	PIN	Remark
B1	GND	The Ground of Car
B4	ILL-	The Lamplight -
B5	ILL+	The Lamplight +
B6	IGN	Ignition Line

Knob Button Switching Specification	
Switching Principle	Switch
Peak Force	3.5±1 N
Return Force	0.3 N/Min
Travel	1.3+0.2/-0.3 mm
Life	30000 cycles

Button Switching Specification	
Switching Principle	Rubber Mat
Peak Force	3.0±1 N
Return Force	0.5 N/min
Travel	1.3±0.2 mm
Life	30000 cycles

11	FJ51115401	Temp (+) Cap	1	PC	Grain MT 9126
10	FJ51115501	Temp (-) Cap	1	PC	Grain MT 9126
9	FJ51115201	A/C Cap	1	PC	Grain MT 9126
8	FJ51116401	Blower Control Knob	1	PC	
7	FJ51116501	Knob Deco Ring	1	PC	Silver Color
6	FJ51116601	Mode Cap	1	PC	Grain MT 9126
5	FJ51115001	A/C Max Cap	1	PC	Grain MT 9126
4	FJ51115101	Rec Cap	1	PC	Grain MT 9126
3	FJ51115301	Def Cap	1	PC/PMMA	Grain MT 9126
2	FJ51116301	Lens	1	PMMA	
1	FJ51114901	Ornamental Panel	1	PC + ABS	Grain MT 9126
ROW	CROUSE CODE	PART DESCRIPTION	QTY	Material	COMMENT

SAZEH GOSTAR SAIPA

STA:	REVISION:	DATE:	NAME:	PROJECT: S 232	DATE :1394/04/06
DRW.	Y.Tamhidi	Crouse		SUBJECT: HVAC CONTROL ASSY, AUTOMATIC	ISO 128
CHECK	M.H.Gharavian	Crouse			UNIT: mm
CONF	H.Akbari	Crouse		PART NO: TH254-27500C	SCALE: 1:2
APP.				DRAWING NO: TH254-27500C	SHEET: 1/2
TOLERANCES ACCORDING TO: ISO 2768-m				ROUGHNESS:	MAT. -

DWG NO. : TH254-27500C
PART NO. : TH254-27500C
SHEET : 2/2

Key Functions

Name	Key LOGO	Function
FSD Button		Bring HVAC to FSD State. Also can turn ON/OFF the ETC
A/C MAX Button	A/C MAX	Bring HVAC to A/C MAX State. Also can turn ON/OFF the ETC
A/C Button	A/C	Make the compressor ON or OFF. Also can make the ETC ON
Air Intake Button		Change the source of input air (Fresh/Recirculation)
Mode Change	MODE	Change the Mode flap position based on pre-defined order
Temp +/-		Change the temperature flap position
Blower +/-		Change the Blower Speed. Also can make the ETC ON or OFF

Display Functions

Name	Key LOGO	Function
FSD LOGO		Show the current situation of FSD mode
FSD Lamp		The yellow lamp indicates if the FSD mode is on
Air Intake LOGO		This mean that the air intake damper is set to recirculation mode
		This mean that the air intake damper is set to fresh mode
MODE LOGO		Its indicate that the mode damper position is set to face mode
		Its indicate that the mode damper position is set to face/foot mode
		Its indicate that the mode damper position is set to foot mode
		Its indicate that the mode damper position is set to foot/screen mode
		Its indicate that the mode damper position is set to screen mode
A/C LOGO	A/C	Its indicate that the compressor is on
MAX LOGO	MAX	Shows the current status of MAX mode
Temp LOGO		Shows the current position of air mix damper. (each of 16 level)
Blower LOGO		Shows the current status of blower (each of 8 steps)

Definition

- FSD : its one of the pre-determined steps which is try to remove frost from front screen. It use some pre-detremined configurations for flaps, blower and compressor state.
- A/C MAX : its one of the pre-determined steps which is try give maximum cooling capability for the passengers. It use some pre-detremined configurations for flaps, blower and compressor state
- A/C button : It changes the compressor state. it can turn it on or off
- Air intake Button : It determine the source of input air : fresh or recirculation
- Mode Button : it changes the path of air when it comes out from HVAC. The changes are done based on pre-determined order : Face >> Face/Foot >> Foot >> Foot/Screen >> Screen >> Foot
- Temperature Change Buttons : These buttons change the air mix damper position. They allow to change the portion of hot air in outlet.
- Blower Change : This button change the blower speed based on the pre-detremined settings. The ETC is able to set run the blower motor in 8 different working conditions

Pre-determined values

In some special cases the ETC use the pre-determined values :

- First use or reset:
  - * FSD = OFF
  - * A/C MAX = OFF
  - * A/C = ON
  - * MODE = Face
  - * Temperature = 4th level
  - * Air Intake = Fresh
  - * Blower Level = 6th level
- FSD state:
  - * FSD = ON
  - * A/C MAX = OFF
  - * A/C = ON
  - * MODE = Screen
  - * Temperature = No change
  - * Air Intake = Fresh
  - * Blower Level = 8th level
- A/C MAX State:
  - * FSD = OFF
  - * A/C MAX = ON
  - * A/C = ON
  - * MODE = Face
  - * Temperature = 1st level
  - * Air Intake = Recirculation
  - * Blower Level = 8th level

Function Description

The detail information about the functions is listed in below table

Key	Pre-Conditions	Action
FSD Button	Case # 01 : ETC = ON , FSD = OFF Case # 02 : ETC = OFF Case # 03 : ETC = ON , FSD = ON	Action # 01 : ETC goes to the FSD settings Action # 02 : Makes the ETC ON and also goes to FSD settings. Pressing again will turn off the ETC Action # 03 : ETC goes to pervious working condition from FSD
A/C MAX Button	Case # 01 : ETC = ON , MAX = OFF Case # 02 : ETC = OFF Case # 03 : ETC = ON , MAX = ON	Action # 01 : ETC goes to the MAX settings Action # 02 : Makes the ETC ON and also goes to MAX settings. Pressing again will turn off the ETC Action # 03 : goes to pervious working condition from MAX
FSD Button	Case # 01 : ETC = ON , A/C = OFF Case # 02 : ETC = OFF Case # 03 : ETC = ON , A/C = ON Case # 04 : ETC = ON, FSD = ON , A/C = ON Case # 05 : ETC = ON, FSD =ON , A/C =OFF	Action # 01 : Make the compressor on Action # 02 : Make the ETC on, also set the compressor to on Action # 03 : Make the compressor off Action # 04 : Cause to start the ECO FSD mode (FSD without compressor) Action # 05 : Cause to back to normal FSD mode (FSD with compressor)
Air Intake Button	Case # 01 : ETC = ON Case # 02 : ETC = OFF , Display = OFF Case # 03 : ETC = OFF , Display = ON Case # 04 : ETC = ON, MAX or FSD = ON	Action # 01 : Change the air intake damper position Action # 02 : Turn on the ETC display. But there is no ventilation Action # 03 : Change the air intake damper position and update the display Action # 04 : Make the FSD or MAX off. Other setting will not change
Mode Button	Case # 01 : ETC = ON Case # 02 : ETC = OFF , Display = OFF Case # 03 : ETC = OFF , Display = ON Case # 04 : ETC = ON, MAX or FSD = ON	Action # 01 : Change the mode damper position based on pre-defined order Action # 02 : Turn on the ETC display. But there is no ventilation Action # 03 : Change the mode damper position and update the display Action # 04 : Make the FSD or MAX off. Change the mode damper position based on pre-defined order. Other setting will not change
Temp + Button	Case # 01 : ETC = ON Case # 02 : ETC = OFF	Action # 01 : Will change the temperature set of HVAC if it is possible. The other settings will not change. The MAX mode will be off. The FSD mode remains ON if it was on Action # 02 : This command will change the temperature if it is possible. But Nothing Will be shown. The display remains off
Temp - Button	Case # 01 : ETC = ON Case # 02 : ETC = OFF	Action # 01 : Will change the temperature set of HVAC if it is possible. The other settings will not change. The FSD mode remains on if it was on Action # 02 : This command will change the temperature if it is possible. But Nothing Will be shown. The display remains off
Blower + Button	Case # 01 : ETC = ON Case # 02 : ETC = OFF	Action # 01 : Will change the blower speed if it is possible. The other settings will not change. Action # 02 : Turns the ETC on using the pre-reserved settings
Blower - Button	Case # 01 : ETC = ON , Blower Speed > 1 Case # 02 : ETC = ON , Blower Speed = 1 Case # 03 : ETC = OFF , Display = ON	Action # 01 : Will change the blower speed. The other settings will not change. The MAX mode and FSD mode will be off if they were on before. Action # 02 : Turns off the ETC. Action # 03 : Will turn off the siplay

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No. : 21370259
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By : Engineering Specification Office
S 2.01

A.I.R.I.C
DWG. NO. TH254-27500C
S-1-16

SAZEH GOSTAR SAIPA

STA:	REVISION:	DATE:	NAME:	PROJECT: S 232	DATE :1394/04/06
DRW.	Y.Tamhidi		Crouse	SUBJECT: HVAC CONTROL ASSY, AUTOMATIC	ISO 128
CHECK	M.H.Gharavian		Crouse		UNIT: mm
CONF	H.Akbari		Crouse	PART NO: TH254-27500C	SCALE: 1:2
APP.				DRAWING NO: TH254-27500C	SHEET: 2/2
TOLERANCES ACCORDING TO: ISO 2768-m				ROUGHNESS:	MAT. -