KNX – SAMSUNG NASA GATEWAY

USER MANUAL

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Product Code: CR-CG-SMG-KNX-01

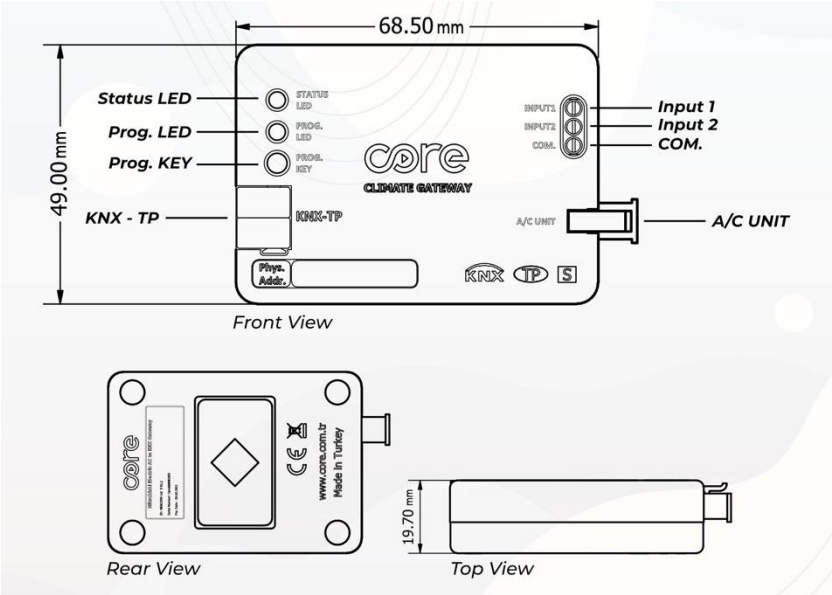
CONTENTS

1. PRESENTATION

Core KNX-SAMSUNG NASA Gateway allows to monitor and control of LG air conditioners via KNX Systems. HVAC Compatibility List can be downloaded from:

https://core.com.tr/wp-content/uploads/2024/09/Core_KNX_SMGNASA_Compatibility_List_v3.0.pdf

DIMENSIONS



MAIN FEATURES

- Reduced dimensions of 68.5mm x 49mm x 19.7mm, it can easily fits inside the indoor units. With the cable that comes with the device, a quick and faultless installation can be done.
- Can be configured with the standard ETS application.
- With different KNX DPT (Bit, Byte) objects, it can work in harmony with most of the KNX thermostats in the market.
- Indoor unit's setpoint temperature, operation mode, fan speed, vane controls, ... functions can be controlled bidirectionally, and their status can be monitored.
- A more efficient air conditioning can be achieved by sending the ambient temperature provided by product groups such as thermostats, switches, etc. containing ambient temperature sensors to the indoor unit.
- Error codes on the indoor unit can be reported.
- With the help of fixing apparatus and internal magnets that come with the device, precise installation can be done.
- To prevent wrong or faulty connections, industrial grade connector type is selected with pin-matching structure.

2. DEVICE CONNECTION AND CONFIGURATION

2.1. CONNECTION

The device comes with a cable for direct connection to the Internal Electronic Board of the Air Conditioner Indoor Unit.

⚠ The device should not be connected to the air conditioner with any cable rather than the one that comes with it.

CONNECTION TO THE INDOOR UNIT:

- Disconnect the main power from the AC unit.
- Open the front cover of the indoor unit to access the internal controller board.
- Find the **F3-F4** terminal
- Connect **Yellow and Green** cables on the installation cable supplied with the device to F3 and F4 terminals on the air conditioner (cables can be connected in any direction due to no polarity), and the black connector to the A/C Unit connector of the device.

⚠ Cutting the cable, shortening it or making any other physical modifications may cause the device not to work properly.

CONNECTION TO THE KNX BUS:

- Disconnect power of the KNX bus.
- Connect to the KNX TP-1 (EIB) Bus Line using the device's standard KNX connector (red/black), respect polarity.
- Reconnect power of the KNX bus.

CONNECTION DIAGRAM:

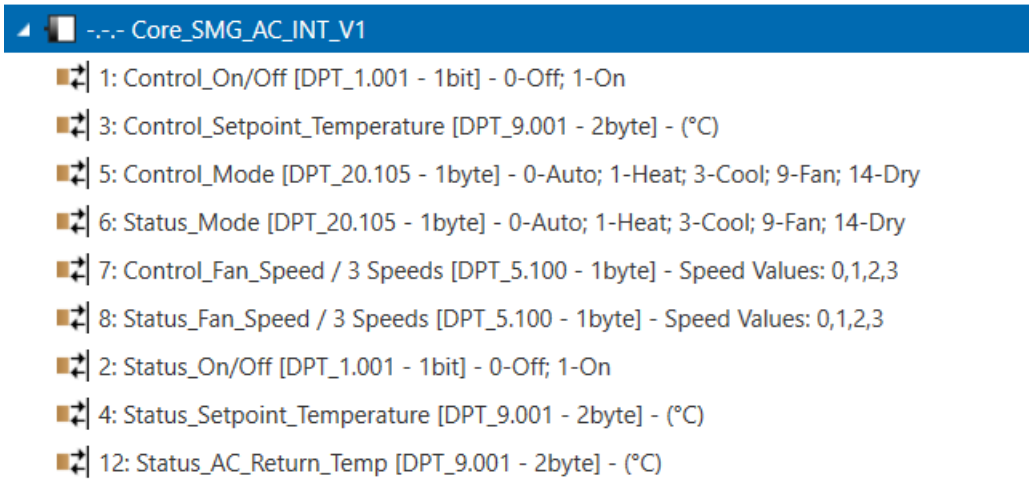
2.2. CONFIGURATION

Core KNX-ME Gateway is a fully compatible KNX device that must be configured and set up using the standard KNX configuration tool ETS. The ETS database for this device can be downloaded from ETS online catalog.

3. ETS PARAMETERS

3.1. INTRODUCTION

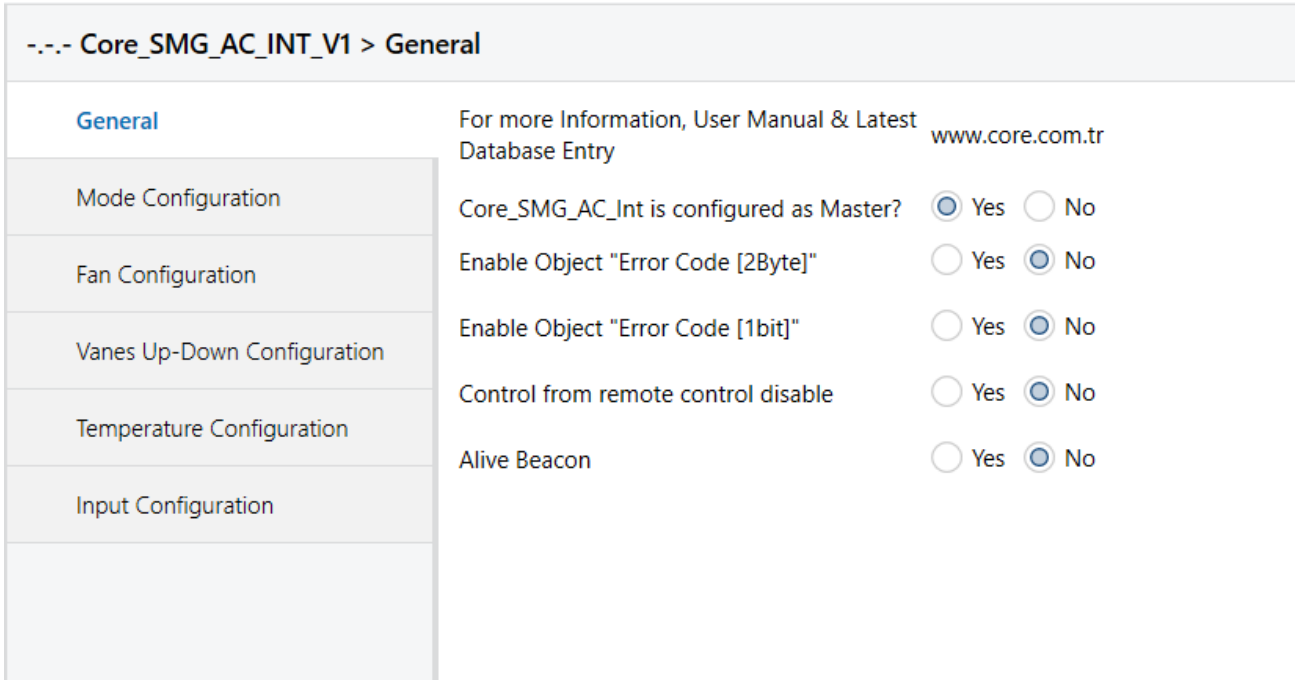
Following group objects are accessible by default when the device project is loaded into the ETS application, or the device is included in an existing project.



With the default group objects and specified data types, basic functions such as on/off, control modes, fan speed, target temperature and ambient temperature of the indoor unit can be controlled, and their instantaneous values can be read.

3.2. GENERAL

This tab contains the following parameter settings. ETS product file, installation and user manuals are accessible via the specified web address.

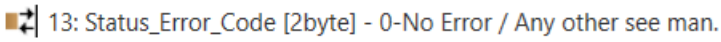


3.2.1 CORE_SMG_AC_INT IS CONFIGURED AS MASTER? (MASTER/SLAVE)

With this parameter, it is selected whether Core KNX-LG gateway or wired remote controller of air conditioner (if used) will be the master. If Core KNX-LG gateway is selected as master, wired remote controller must be in slave mode. If wired remote controller will not be used, Core KNX-LG gateway must be selected as master. By default, Core KNX-LG gateway is selected as master.

3.2.2 ENABLE OBJECT "ERROR CODE [2 BYTE]"

Error conditions that may occur on the indoor unit can be read through this group object. It is disabled by default. When enabled,



Group object becomes available for use. A value of '0' means that there is no error. Possible error codes are given in Appendix-2.

3.2.3 ENABLE OBJECT "ERROR CODE [1 BIT]"

This group object indicates whether there is an error or no error on the indoor unit. It is disabled by default. When enabled,

Group object becomes available for use. A value of '0' means that there is no error. A value of "1" means there is error.

3.2.4 CONTROL FROM REMOTE CONTROL DISABLE

With this parameter, changes from the remote controller can be enabled or disabled. If set to "Yes" all the actions performed through the remote controller will be disabled. If set to "No" the remote controller will work as usually.

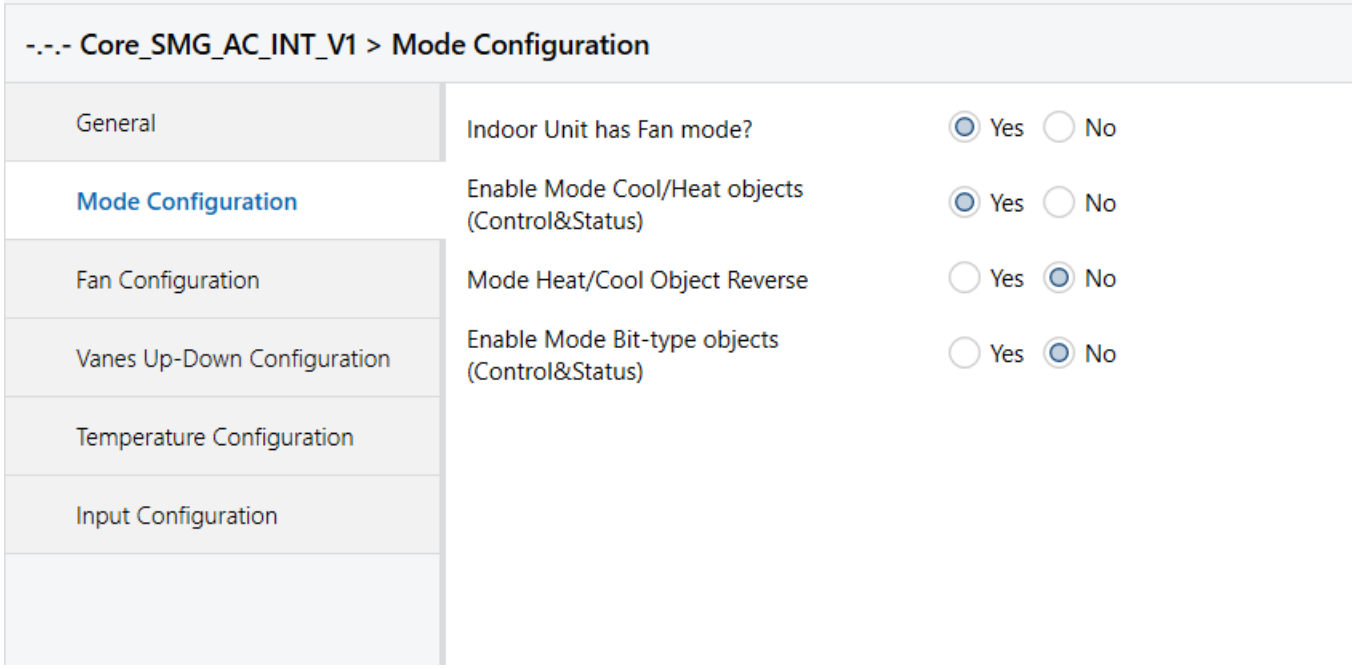
3.2.5 ALIVE BEACON

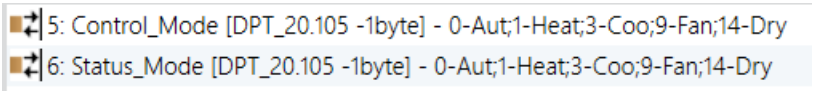
Parameter used to observe that the device and the application are running. It is disabled by default. When activated,

Blue segment of the Programming LED will flash with the defined millisecond time interval.

3.3. MODE CONFIGURATION

Contains the parameters related to the operating modes of the indoor unit. Default parameter settings are as specified.





With the values written to DPT 20.105 Byte type Control_Mode group object, '0' Auto, '1' Heating, '3' Cooling, '9' Fan and '14' Dry/Dehumidification mode can be activated. When the indoor unit switches to the specified operating mode, feedback will be sent via Status_Mode group object. Operation mode info can also be obtained by reading the same group object.

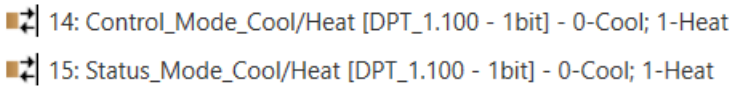
3.3.1 INDOOR UNIT HAS FAN MODE

If there is no 'FAN' mode among the operation modes of the indoor unit connected to the gateway device, this mode can be disabled with the specified parameter. By default, 'FAN' mode is marked as active.

For detailed information about the operating modes of your indoor unit, please review your product manual.

3.3.2 ENABLE MODE COOL/HEAT OBJECTS

With this parameter, group object that allows switching between Heating and Cooling modes can be activated. It is disabled by default. When enabled, following group objects become available.

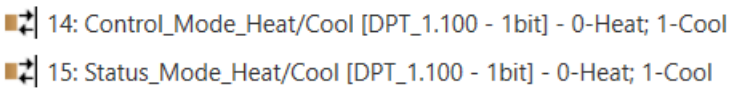


Cooling mode can be activated with the value '0' written to the 1-Bit Control_Mode group object. When the indoor unit switches to the specified operating mode, a feedback with the value '0' will be sent via the Status_Mode object.

Heating mode can be activated with the '1' value written to the 1-Bit Control_Mode group object. When the indoor unit switches to the specified operating mode, a feedback with the value '1' will be sent via the Status_Mode object.

3.3.2.1 ENABLE MODE COOL/HEAT OBJECT REVERSE

With this parameter, group object that allows switching between Heating and Cooling modes can be inverted.

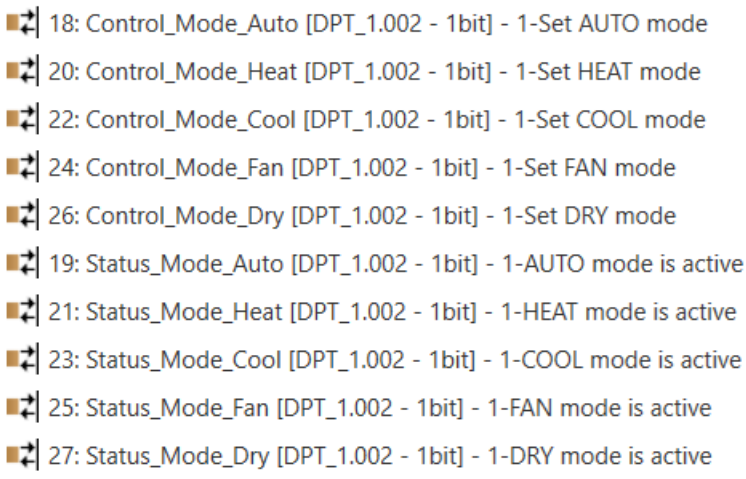


Cooling mode can be activated with the value '1' written to the 1-Bit Control_Mode group object. When the indoor unit switches to the specified operating mode, a feedback with the value '1' will be sent via the Status_Mode object.

Heating mode can be activated with the '0' value written to the 1-Bit Control_Mode group object. When the indoor unit switches to the specified operating mode, a feedback with the value '0' will be sent via the Status_Mode object.

3.3.3 ENABLE MODE BIT-TYPE OBJECTS

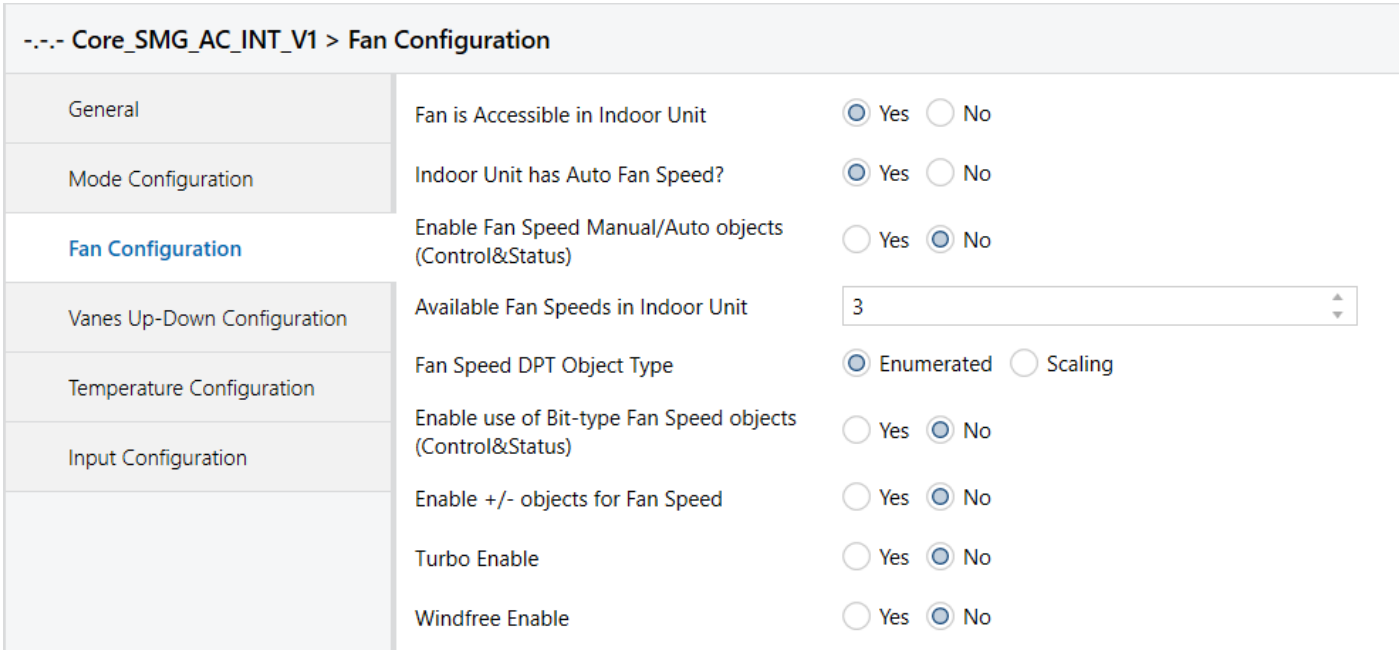
With this parameter, 1-Bit group objects can be activated for each operating mode. It is disabled by default. When enabled, the specified group objects become available.



The specified operating mode can be activated with the value '1' written to the 1-Bit Control_Mode group object which belongs to the relevant operating mode. When the indoor unit switches to the specified operation mode, a feedback with the value of '1' will be sent via the relevant Status_Mode object.

3.4. FAN CONFIGURATION

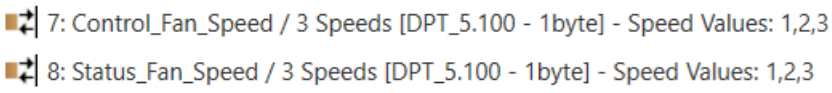
This tab contains the parameters related to the Fan Speed controls of the indoor unit. Default parameter settings are as specified.



3.4.1 FAN IS ACCESSIBLE IN INDOOR UNIT

This parameter lets choose if the indoor unit has Fan Speed controls available or not.

When disabled, all parameters and group objects related to Fan Speed controls will also be disabled. It is enabled by default and the specified group objects are available for use.



3.4.2 AVAILABLE FAN SPEEDS IN INDOOR UNIT

Number of different available speed values defined for fan control can be selected via this parameter. The number of related group objects and their settings are updated according to this parameter.

For detailed information about Fan Speed values supported by your indoor unit, please review your product manual.

3.4.3 FAN SPEED DPT OBJECT TYPE

With this parameter, DPTs of Byte type group objects used in fan speed control can be changed. It is possible to switch between Scaling (DPT_5.001) and Enumerated (DPT_5.010) data types.

Since the Byte type group objects related to Fan Speed are the same, the values they accept will vary according to the selected fan speed steps and DPT. For example, when Fan Speed steps are selected as '3' and data type is selected as Enumerated (DPT_5.010), values '1', '2' or '3' will be accepted as Fan Speed. In the same scenario, when '0' is sent, the minimum Fan speed value will be treated as '1' (If Auto Fan Speed is not selected) and when a value greater than '3' is sent, the maximum Fan speed value will be treated as '3'.

When Scaling (DPT_5.001] is selected as DPT, Byte type Control_Fan_Speed and Status_Fan_Speed objects will appear as specified depending on the selected Fan Speed steps.

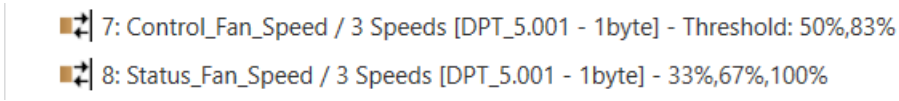
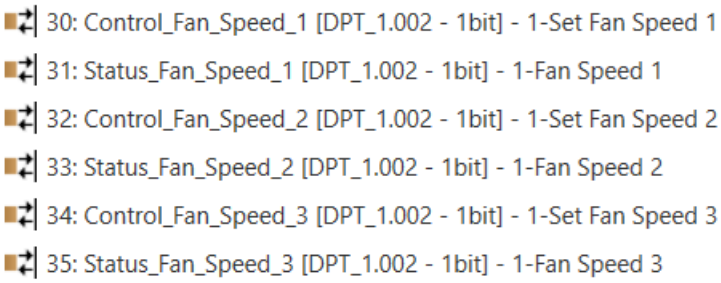


Table containing the ranges that can be sent to the Control_Fan_Speed object for each Fan Speed of the Scaling (DPT_5.001) data type and the return values of the Status_Fan_Speed object is given below.

	FAN Speed 1	*FAN Speed 2*	*FAN Speed 3*	*FAN Speed 4*	*FAN Speed 5*
Control	*0-74%*	*75-100%*			
Status	*50%*	*100%*			
Control	*0-49%*	*50-82%*	*83-100%*		
Status	*33%*	*67%*	*100%*		

3.4.4 ENABLE USE OF BIT-TYPE FAN SPEED OBJECTS

With this parameter, 1-Bit group objects can be activated for each Fan Speed. It is disabled by default. When activated, the specified group objects become available according to the selected fan speed steps.



Specified Fan Speed can be activated with the value of '1' written to the 1-Bit Control_Fan_Speed group object of the relevant Fan Speed.

When the indoor unit switches to the selected Fan Speed, feedback with the value of '1' will be sent via the related Status_Fan_Speed object.

3.4.5 INDOOR UNIT HAS AUTO FAN SPEED

With this parameter, if there is an Automatic mode for the Fan Speed, it can be activated. It is disabled by default. When enabled, Automatic Fan Speed can be activated with the value '0' written to the 1-Byte Control Fan Speed group object of the relevant Fan Speed. When the indoor unit switches to Automatic Fan Speed, a feedback with the value '0' will be sent via the related Status Fan Speed object.

7: Control_Fan_Speed / 3 Speeds [DPT_5.010 - 1byte] - Speed Values;0,1,2,3

8: Status_Fan_Speed / 3 Speeds [DPT_5.010 - 1byte] - Speed Values;0,1,2,3

Or

7: Control_Fan_Speed / 3 Speeds [DPT_5.001 -1byte] - 0-Auto; Threshold:50%,83%

8: Status_Fan_Speed / 3 Speeds [DPT_5.001 -1byte] - 0-Auto; 33%,67%,100%

3.4.5.1 ENABLE FAN SPEED MANUAL/AUTO OBJECTS

When activated, the specified group objects become available

28: Control_Fan_Speed_Manual/Auto [DPT_1.002 -1bit] - 0-Manual; 1-Auto

29: Status_Fan_Speed_Manual/Auto [DPT_1.002 -1bit] - 0-Manual; 1-Auto

Automatic Fan Speed can be activated with the value '1' written to the 1-Bit Control_Fan_Speed_Manual/Auto group object of the relevant Fan Speed. When the indoor unit switches to Automatic Fan Speed, a feedback with the value '1' will be sent via the related Status_Fan_Speed_Manual/Auto object.

3.4.6 ENABLE +/- OBJECTS FOR FAN SPEED

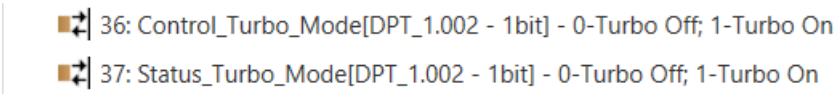
With this parameter, 1-Bit group object can be activated. It is disabled by default. When activated, the specified group object becomes available.

40: Control_Fan_Speed +/- [DPT_1.008 - 1bit] - 0-Up; 1-Down

Fan speed changes to next level with the value “1” and to previous level with the value “0” written to the 1-Bit Control_Fan_Speed -/+ object. Fan speed level change continues cyclically according to each value written to the object. (For example, if indoor unit has 3 fan speed and auto speed, the changes of fan speed with each value “1” will be as follows: 0>1>2>3>0>1>…)

3.4.7 TURBO ENABLE

With this parameter, 1-Bit group objects can be activated. It is disabled by default. When activated, the specified group objects become available.



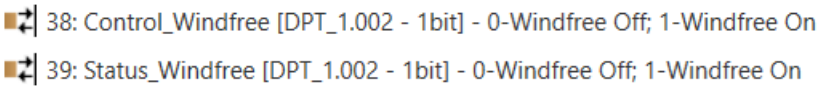
Turbo Mode can be activated with the value '1' written to the 1-Bit Control Turbo Mode group object. When the indoor unit activates turbo mode, a feedback with the value '1' will be sent via the related Status Turbo Mode object.

Fan speed control is disabled when indoor unit is in turbo mode.

For detailed information about turbo mode, please review your product manual.

3.4.8 WINDFREE ENABLE

With this parameter, 1-Bit group objects can be activated. It is disabled by default. When activated, the specified group objects become available.



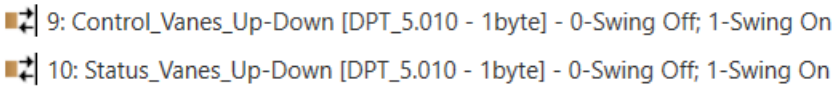
Windfree feature can be activated with the value '1' written to the 1-Bit Control Windfree group object. When the indoor unit activates windfree feature, a feedback with the value '1' will be sent via the related Status Windfree object.

Windfree feature is disabled when indoor unit is in heating mode.

For detailed information about windfree feature, please review your product manual.

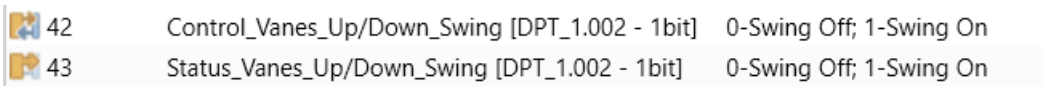
3.5. VANES UP-DOWN CONFIGURATION

Group objects that control the up and down periodically movement of the vanes of the indoor unit can be activated with this parameter. It is disabled by default, when enabled,



Group objects will become available. The value '1' sent to the Control Vanes Up-Down object starts the up-down periodically movement of the vanes, while the value '0' will stops periodically movement. When the indoor unit switches to the corresponding control value, feedback will be sent via Status Vanes Up-Down object.

It is possible to enable 1 bit objects for swing. When enabled,



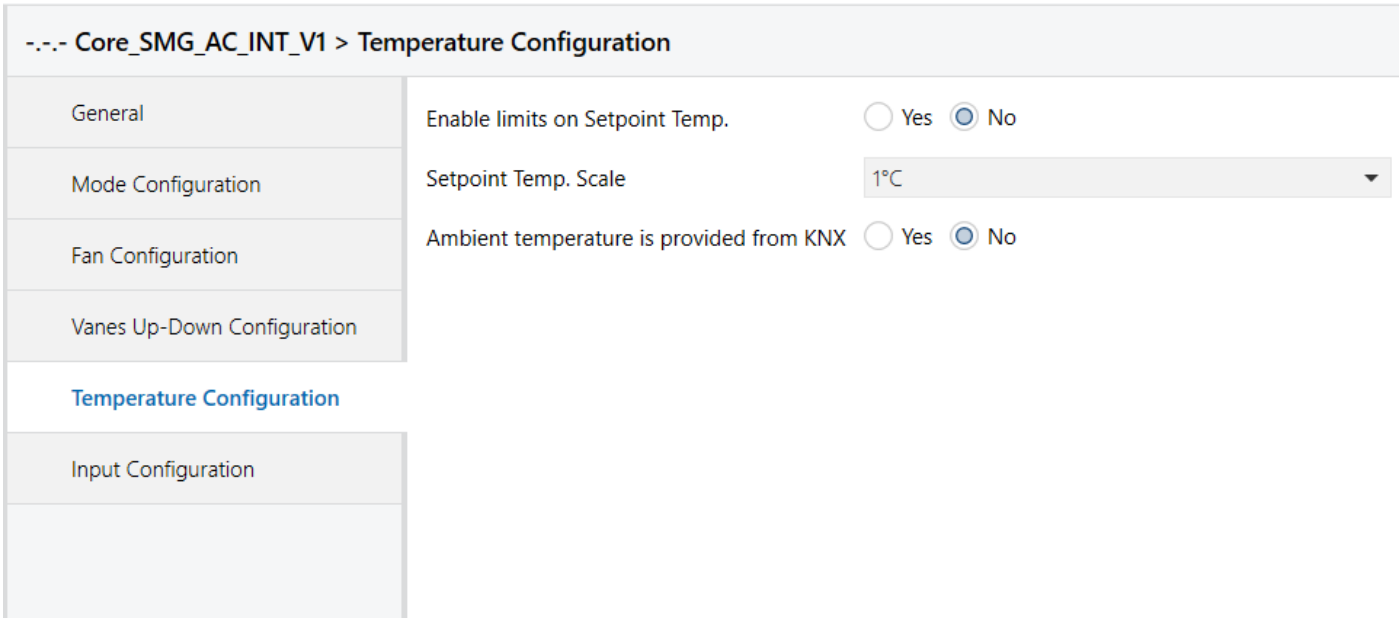
Swing can be activated with the value of '1' written to the 1-Bit Control_Up/Down_Swing group object.

When the indoor unit switches to the swing, feedback with the value of '1' will be sent via the Status_Up/Down_Swing object.

⚠ Please refer to your product manual for the availability of the up-down vanes in your indoor unit.

3.6. TEMPERATURE CONFIGURATION

Contains controls related to Target Temperature and Ambient Temperature. By default, the Parameter tab appears as follows.



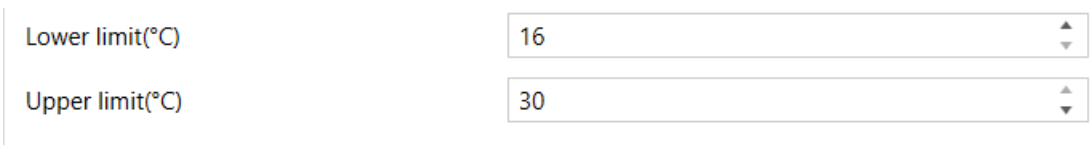
3.6.1 SETPOINT TEMP. SCALE

Steps of the Target Temperature values are determined by this parameter. By default, the increment-decrement step is 1°C. For example, if this parameter is selected as 1°C and the Target Temperature value is sent as '23.5°C', Setpoint Temp. will be '24°C'; If 0.5°C is selected and '23.5°C' is sent, it will be processed as '23.5°C'.

Please refer to your product manual for the Target Temperature increment-decrement steps supported by your indoor unit.

3.6.2 ENABLE LIMITS ON SETPOINT TEMP.

The minimum and maximum Target Temperature values can be restricted with this parameter. It is disabled by default. When activated,

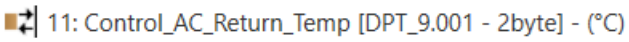


Minimum and maximum Target Temperature values can be selected. Every value that is below the determined minimum value will be considered as the minimum value and any value that is above the specified maximum value will also be processed as the maximum value.

⚠ Please refer to your product manual for the minimum and maximum Target Temperature values supported by your indoor unit.

3.6.3 AMBIENT TEMPERATURE IS PROVIDED FROM KNX

It is the parameter that determines the source of the ambient temperature value processed by the indoor unit. It is disabled by default; in this case the indoor unit reads the ambient temperature through its internal sensor. When the parameter is selected as active, the specified group object becomes available,

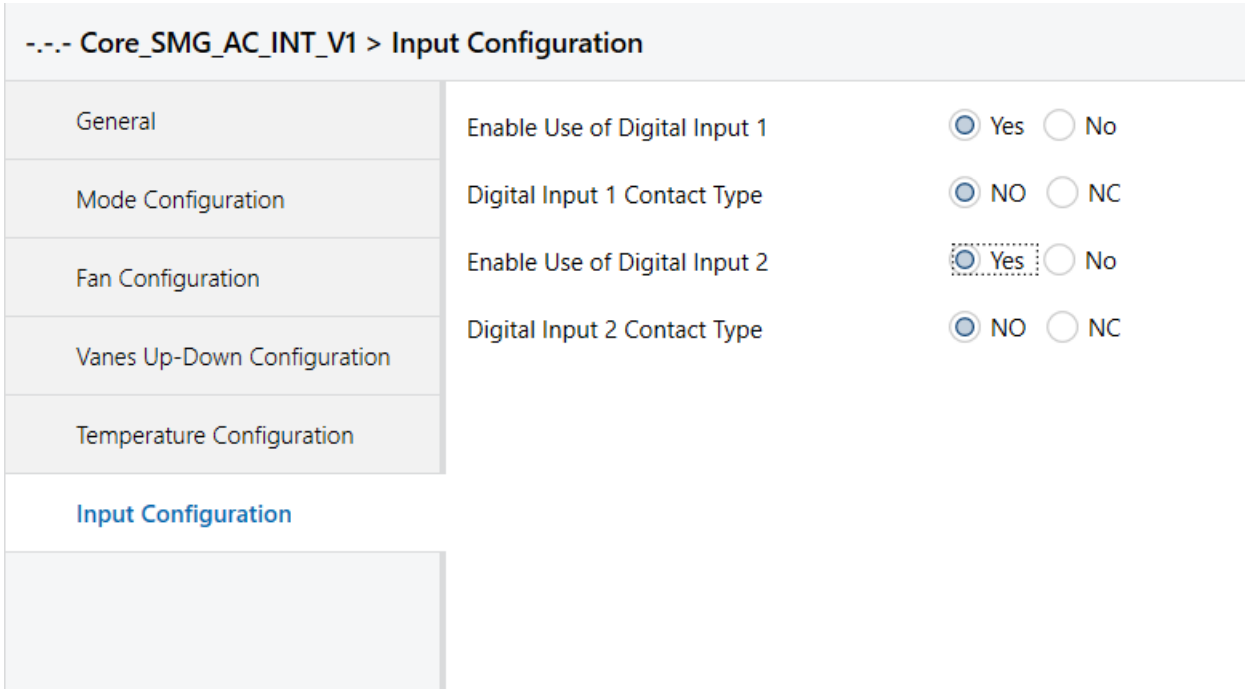


Ambient temperature data to be processed by the indoor unit can be written externally to this group object.

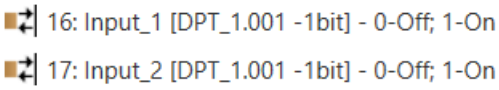
⚠ Please review your product manual to determine if your indoor unit supports this feature.

3.7. INPUT CONFIGURATION

Tab contains the parameter settings of two dry contact inputs on the device.



By default, these inputs are disabled. When activated, the contact type of each input Normally Open (NO) and Normally Closed (NC) selection parameters are also displayed and the specified group objects become available for use,



Input 1. According to the contact type, when the input is activated, the red segment of the Status LED on the device will become active. Also, '0' or '1' information will be sent over the group object of this input in case of status changes.

Input 2. According to the contact type, when the input is activated, the green segment of the Status LED on the device will become active. Also, '0' or '1' information will be sent over the group object of this input in case of status changes.

4. APPENDIX 1 - COMMUNICATION OBJECTS TABLE

TOPIC	OBJ NO	NAME	LENGTH	DATAPOINT TYPE		FLAGS					FUNCTION
				DPT NAME	DPT ID	C	R	W	T	U	
On/Off	1	Control_On/Off	1 Bit	DPT_Switch	1.001	C	R	W		U	0-Off; 1-On
	2	Status_On/Off	1 Bit	DPT_Switch	1.001	C	R		T		0-Off; 1-On
Setpoint Temp.	3	Control_Setpoint_Temperature	2 Byte	DPT_Value_Temp	9.001	C	R	W		U	(°C)
	4	Status_Setpoint_Temperature	2 Byte	DPT_Value_Temp	9.001	C	R		T		(°C)
Mode	5	Control_Mode	1 Byte	DPT_HVACContrMode	20.105	C	R	W		U	0-Aut;1-Heat;3-Coo;9-Fan;14-Dry
	6	Status_Mode	1 Byte	DPT_HVACContrMode	20.105	C	R		T		0-Aut;1-Heat;3-Coo;9-Fan;14-Dry
	14	Control_Mode_Cool/Heat	1 Bit	DPT_Heat/Cool	1.100	C	R	W		U	0-Cool;1-Heat
	15	Status_Mode_Cool/Heat	1 Bit	DPT_Heat/Cool	1.100	C	R		T		0-Cool;1-Heat
	18	Control_Mode_Auto	1 Bit	DPT_Bool	1.002	C	R	W		U	1-Set AUTO mode
	19	Status_Mode_Auto	1 Bit	DPT_Bool	1.002	C	R		T		1-AUTO mode is active
	20	Control_Mode_Heat	1 Bit	DPT_Bool	1.002	C	R	W		U	1-Set HEAT mode
	21	Status_Mode_Heat	1 Bit	DPT_Bool	1.002	C	R		T		1-HEAT mode is active
	22	Control_Mode_Cool	1 Bit	DPT_Bool	1.002	C	R	W		U	1-Set COOL mode
	23	Status_Mode_Cool	1 Bit	DPT_Bool	1.002	C	R		T		1-COOL mode is active
	24	Control_Mode_Fan	1 Bit	DPT_Bool	1.002	C	R	W		U	1-Set FAN mode
	25	Status_Mode_Fan	1 Bit	DPT_Bool	1.002	C	R		T		1-FAN mode is active
	26	Control_Mode_Dry	1 Bit	DPT_Bool	1.002	C	R	W		U	1-Set DRY mode
	27	Status_Mode_Dry	1 Bit	DPT_Bool	1.002	C	R		T		1-DRY mode is active

Fan Speed	7	Control_Fan_Speed / 3 Speeds	1 Byte	DPT_Enumerated	5.010	C	R	W		U	Speed Values;1,2,3
	7	Control_Fan_Speed / 3 Speeds	1 Byte	DPT_Scaling	5.001	C	R	W		U	Threshold:50%,83%
	8	Status_Fan_Speed / 3 Speeds	1 Byte	DPT_Enumerated	5.010	C	R		T		Speed Values;1,2,3
	8	Status_Fan_Speed / 3 Speeds	1 Byte	DPT_Scaling	5.001	C	R		T		33%,67%,100%
	28	Control_Fan_Speed_Manual/Aut o	1 Bit	DPT_Bool	1.002	C	R	W		U	1-Auto
	29	Status_Fan_Speed_Manual/Auto	1 Bit	DPT_Bool	1.002	C	R		T		1-Auto
	30	Control_Fan_Speed_1	1 Bit	DPT_Bool	1.002	C	R	W		U	1-Set Fan Speed 1
	31	Status_Fan_Speed_1	1 Bit	DPT_Bool	1.002	C	R		T		1- Fan Speed 1
	32	Control_Fan_Speed_2	1 Bit	DPT_Bool	1.002	C	R	W		U	1-Set Fan Speed 2
	33	Status_Fan_Speed_2	1 Bit	DPT_Bool	1.002	C	R		T		1- Fan Speed 2
	34	Control_Fan_Speed_3	1 Bit	DPT_Bool	1.002	C	R	W		U	1-Set Fan Speed 3
	35	Status_Fan_Speed_3	1 Bit	DPT_Bool	1.002	C	R		T		1- Fan Speed 3
	36	Control_Turbo_Mode	1 Bit	DPT_Bool	1.002	C	R	W		U	0-Turbo Off, 1-Turbo On
	37	Status_ Turbo_Mode	1 Bit	DPT_Bool	1.002	C	R		T		0-Turbo Off, 1-Turbo On
	38	Control_Windfree	1 Bit	DPT_Bool	1.002	C	R	W		U	0-Windfree Off, 1-Windfree On
	39	Status_Windfree	1 Bit	DPT_Bool	1.002	C	R		T		0-Windfree Off, 1-Windfree On
	40	Control_Fan_Speed +/-	1 Bit	DPT_Up/Down	1.008	C	R	W		U	0=Up,1=Down
	40	Control_Fan_Speed +/-	1 Bit	DPT_Step	1.007	C	R	W		U	0=Decrease,1=Increase
Vanes Up-Down	9	Control_Vanes Up-Down	1 Byte	DPT_Enumerated	5.010	C	R	W		U	0-Swing Off, 1-Swing On
	10	Status_Vanes Up-Down	1 Byte	DPT_Enumerated	5.010	C	R		T		0-Swing Off, 1-Swing On
	42	Control_Vanes Up-Down_Swing	1 Bit	DPT_Bool	1.002	C	R	W		U	0-Swing Off, 1-Swing On
	43	Status_Vanes Up-Down_Swing	1 Bit	DPT_Bool	1.002	C	R		T		0-Swing Off, 1-Swing On

Ambient Temp.	11	Control_AC_Return_Temp	2 Byte	DPT_Value_Temp	9.001	C	R	W		U	(°C)
	12	Status_AC_Return_Temp	2 Byte	DPT_Value_Temp	9.001	C	R		T		(°C)
Error	13	Status_Error_Code	2 Byte	Enumerated		C	R		T		0-No Error / Any other see man.
	41	Error_Code/Alarm	1 Bit	DPT_Alarm	1.005	C	R		T		0-No Error, 1-Error
Inputs	16	Input 1	1 Bit	DPT_Switch	1.001	C	R		T		0-Off;1-On
	17	Input 2	1 Bit	DPT_Switch	1.001	C	R		T		0-Off;1-On

5. APPENDIX 2 - TABLE OF ERROR CODES

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	101	DVM,DPM,DVS:Outdoor Unit Communication Error (Case": Indoor unit can't receive communication SINGLE: Indoor Unit Panel - Main communication error	
	102	Outdoor Unit-> communication error to Indoor Unit	
	103	Communication Error Between Indoor Unit Panel and Main	
	104	Communication error: "IF<-> Indoor unit" some disconnect in Indoor unit (communicating) only [GHP-R22] For [GHP-R22]	For GHP-R22
	105	Communication Error in between sensing space module and Indoor unit	
	106	Communication Error Between LCD and Panel	Verdi
	107	Communication Error Between LCD Outdoor Unit	Verdi
	108	Error due to repeated address setting (When 2 or more devices has same address within the network)	
	109	Communication error that indoor address is not completed.Check communication wire between indoor and outdoor, outdoor unit quantity, indoor address setting status.K3 reset.Reset OMS. Communication address not confirmed Other outdoor unit	The communication addre&<is: not confinned. (NASA only)
	121	Error of ROOM Temperature Sensor in Indoor unit shorVopen	
	122	Error of Evaporator_in Sensor of Indoor unit shorVopen	
	123	Error of Evaporator_out Sensor of Indoor unitshorVopen	
	124	Indoor Unit Communication Error (Indoor Unit-> outdoor unit Communication Error displayed in Outdoor unit)	
	125	Eva_mid2 Sensor of Indoor unit shorVopen	
	127	[GHP-R22] Indoor Temperature (Suction Temperature) Sensor breakaway Error	For GHP-R22
	128	Breakaway of Indoor unit Evaporator_inSensor	
	129	Breakaway of Indoor unit Evaporator_out Sensor	
	130	Breakaway of evaporator in and evaporator out sensors in indoor unit at the same time	
	131	Sub(Electronic) Heater Sensor 1 Error	
	132	Sub(Electronic) Heater Sensor 2 Error	
	133	Sub(Electronic) Heater Sensor 3 Error	
	134	Shutter Sensor Error (In case of model which have two shutter, upper Error Aurora)	
	135	Perfect Fan Sensor Error	
	136	Shutter Sensor Error (In case, model which have two shutter Error in bottom : Aurora)	Aurora Bottom Sensor
	137	voe SENSOR OPEN/SHORT ERROR	
	138	GAS SENSOR OPEN/SHORT ERROR	
	139	ERV CO2 SENSOR OPEN/SHORTERROR	
	140	Indoor Dust sensor Error	
	141	IAQ CO2 SENSOR OPEN/SHORT ERROR	

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	142	Indoor Unit Humid Sensor short/open	
	143	Sensing space Sensor Error	
	144	Eva2_in Sensor of Indoor Unit short/open	Sensor attached duct of Eva2 for India
	145	Eva2_out Sensor of Indoor Unit short/open	Sensor attached duct of Eva2 for India
	146	EEV Inlet Sensor short/open	Sensor for EEV to know overheating rate
	147	Indoor Eva2_inSensor break away Error	Sensor attached duct of Eva2 for India
	148	Indoor Eva2_out Sensor break away Error	Sensor attached duct of Eva2 for India
	149	AHU Master Indoor room sensor setting error	AHU
	150	**RESERVED(DMS-SNET3 Error)**	Refer to Error History
	151	Open error of electoronic expansion valve in indoor unit(2nd)	
	152	Close error of electoronic expansion valve in indoor unit(2nd)	
	153	Dectect Indoor float s/w 2nd	
	154	Indoor unit Fan Error	
	155	Indoor unit Fan2 Error	
	156	Indoor unit (EEV2) open error 2nd	Duct of Indoor unit EEV2 for India
	157	Indoor unit (EEV2) close error 2nd	Duct of Indoor unit EEV2 for India
	158	UDoor upper operation Error	(check Photo Sensor or operating Relay Error)
	159	UDoor lower operation Error	(check Photo Sensor or operating Relay Error)
	161	Cooling and Heating mixed operating Error	
	162	Outdoor unit EEPROM error	
	163	EEPROM OPTION SETTING ERROR	
	165	Elect Discharge Temp Protect Error	
	166	Electric motor related to no windError	
	167	Unsing peripheral in Indoor Unit Option DIP S/W set Error	
	168	IAQ Safety S/W Open Error	
	169	AHU EEV Fault detection error	AHU

SEG1	SEG2, 3, 4	ERROR MESSAGE	NOTE
	170	Error; Fahrenheit /Celsius degree usesame time (Indoor Unit which selected Celsius)	07.03 Applied DVM for Trane No applied for Domestic Europe
	174	ERV + heat exchanger inlet temperature sensor short/ open	ERV+
	175	Outdoor built-in indoor temperature sensor short/ open error	ERV+
	177	In hydro box, take place emerency signal Error	hydro box - Error display in outdoor unit
	180	MCU SOL Valve cooling/heating opening 1st at the same time	
	181	MCU SOL Valve cooling/heating opening 1st at the same time	
	185	missconnect power line to Indoor Unit communication line	
	186	sMPI(SPI) Feedback Error	
	187	K1Filter Feedback Error	
	190	While in checking pipe,no change Temp in Eva_in or change Temp Eva_in of other Indoor unit	
	191	While in checking pipe,no change Temp in Eva_out or change Temp Eva_out of other Indoor unit	
	192	Indoor Unit COVER OPEN (Indoor unit switch for safety	
	193	Indoor Panel Zero-Crossing Error	
	194	Indoor Main Zero-Crossing Error	
	195	IAQ safety S/W Open Error	
	198	Error due to disconnected thermal fuse of indoor unit	
	199	Error in Display Status of No pipe checking	
	201	After complete Tracking 5 times, missmatching of the indoor unit numbers set with those communicated error (some of indoor unit disconnection)	
	202	System Down (All Indoor unit Short) due to Communication Error	
	203	Outdoor Unit Communication Error Between MAIN-- SUB	
	204	After completing Tracking 5 times,there is different witha number of set MCU and communicated MCU	
	205	Communication Error on all PBA within the outdoor unit C-Box, communication cable error Communication Error Between Outdoor Unit Inv Micom -- Fan Motor Micom	
	206	Communication Error Between Outdoor Unit Main PBA - Sub PBA	
	206-C001	HUB PBA communication error	
	206-C002	FAN PBA communication error	
	206-C003	INV1 PBA communication error	
	206-C004	INV2 PBA communication error	
	21O	Can NOT communicate withMCU over 2 min	

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	211	Indoor unit connected withconfluence kit without conlinunity	
	212	Indoor unit connected withconfluence kit and setting address wasoverlapped morethan 3	
	213	MCU address not matched with indoor unit address	
	214	MCU address not matched with outdoor unit address	
	215	Rotary switch for indoor unit address in MCU was over lapped among MCUs	
	216	DIP switch for indoor unit setting was ON position even though indoor unit was not connected	
	217	DIP switch for indoor unit setting was OFF position even though indoor unit was connected	
	218	Setting number of indoor unit in MCU is larger than installed indoor units.	
	219	Error on temperature sensor located on MCU intercooler inlet (Short or Open) MCU Over Cooling In Sensor Open/Short	
	220	Error on temperature sensor located on MCU intercooler outlet (Short or Open) MCU Over Cooling Out Sensor Open/Short	
	221	OUT temperature SENSOR ERROR (OPEN/SHORT) - ERROR LEVEL: more than 4.9V(-50'C), less than 0.4V(93'C)	
	226	OUT_temperature temperature Sensor breakaway Error	
	231	COND_OUTMain temperature SENSOR ERROR (OPEN/SHORT) - ERROR LEVEL: More than 4.9V(-50'C), less than 0.4V(93'C)"	
	236	COND_OUTSub1 temperature SENSOR ERROR (OPEN/SHORT) - ERROR LEVEL: More than 4.9V(-50'C),less 0.4V(93'C)"	
	237	COND temperature SENSOR ERROR (OPEN/SHORT) - ERROR LEVEL: More than 4.9V(-50'C), less than 0.4V(93'C)	
	241	COND_MIDor COND OUT Sensor of Outdoor Unit breakaway Error	
	242	Outdoor Unit Heater Error	
	246	COND_OUT 1 breakaway	
	251	PWM DISCHARGE temperature SENSOR ERROR (OPEN/SHORT) - ERROR detect Condition: detect Outdoor temperature more than -1O'C - ERROR LEVEL: More than 4.95V(-30'C),less than 0.5V(151'C)	
	256	Fixed COMP 1 DCHRG SENSOR ERROR (OPEN/SHORT) - ERROR detect Condition: detect Outdoor temperature more than - ERROR LEVEL: More than 4.95V(-30'C),less than 0.5V(151'C)	
	257	Fixed COMP 2 DCHRG SENSOR ERROR (OPEN/SHORT) - ERROR detect Condition: detect Outdoor temperature more than -1O'C - ERROR LEVEL: more than 4.95V(-30'C),less than 0.5V(151'C)"	
	258	Fixed COMP 3 DCHRG SENSOR ERROR (OPEN/SHORT) - ERROR detect Condition: Outdoor temperature more than -1O detect 'C - ERROR LEVEL: more than 4.95V(-30'C),less than 0.5V(151'C)	
	261	Digital COMP_discharge Sensor breakaway Error	
	262	Fixd COMP1 _dischargeSensor breakaway Error	

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	263	Fixd COMP2_dischargeSensor breakaway Error	
	264	Fixd COMP3_dischargeSensor breakaway Error	
	265	SUMP temperature sensor breakaway (Main)	
	266	SUMP temperature sensor breakaway (Sub1)	
	267	High Pressure SENSOR breakaway ERROR	
	268	SUMP temperature sensor breakaway (Sub3)	
	269	SUCTION Sensor breakaway	
	270	Suction 2 temperature sensor is detached	
	271	Digital COMP Sump_temperature Digital SENSOR ERROR (OPEN/SHORT) - ERROR detect Condition: detect outdoor temperature -10°C - ERROR LEVEL: more than 4.95V(-30'C), less than 0.5V(151'C)"	
	276	FIXED COMP1 Sump_temperature SENSOR ERROR (OPEN/SHORT) - ERROR detect Condition: detect outdoor temperature more than -10°C - ERROR LEVEL: more than 4.95V(-30'C), less than 0.5V(151'C)"	
	277	FIXED COMP2 Sump_temperature SENSOR ERROR (OPEN/SHORT) - ERROR detect Condition: detect outdoor temperature -10°C - ERROR LEVEL: more than 4.95V(-30'C), less than 0.5V(151'C)"	
	278	FIXED COMP3 Sump_temperatureFIXED 3 SENSOR ERROR (OPEN/SHORT) - ERROR detect Condition: detect outdoor temperature more than -10°C - ERROR LEVEL: more than 4.95V(-30'C), less than 0.5V(151'C)	
	291	High pressure SENSOR ERROR (OPEN/SHORT)while in operating COMP only, detect (shortError:less than 0.4v, Error detect),(OPENError: over 4.2v, Error detect)(DVM 4 HP Switch)	
	296	Low Pressure SENSOR ERROR (OPEN/SHORT)while in operating COMP only, detect (shortError:less than 0.4v, Error detect),(OPENError:over 4.7v, Error detect)"(DVM 4 LP Switch)	
	301	High Pressure SENSOR breakaway ERROR	
	306	Low Pressure SENSOR breakaway ERROR	
	307	Oil Balance Sensor SHORT/OPEN	
	308	SUCTION Sensor SHORT/OPEN	
	309	Oil Balace Sensor2 Sensor SHORT/OPEN	
	310	Oil Balance Sensor3Sensor SHORT/OPEN	
	311	Double pipe Sensor SHORT/OPEN	
	312	Main Cooling Sol Valve Open Error	
	313	4-Way Valve operation Error	
	314	Oil Balace Sensor4 SHORT/OPEN	
	315	CT1 Sensor Short or Open	
	316	CT2 Sensor Short or Open	

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	317	CT3 Sensor Short or Open	
	320	OLP Sensor SHORT/ OPEN	
	321	EVI INLET Sensor SHORT/OPEN	
	322	EVI OUTLET Sensor SHORT/OPEN	
	323	Error on suction sensor 2 (Short or Open	
	324	Outdoor Unit Fan Motor Current Sensor SHORT/ OPEN	
	325	Outdoor Unit Fan2 Motor Current Sensor SHORT/ OPEN	
	326	Error on Total suction sensor (Short or Open)	
	330	Outdoor plumbing inlet sensor out O time (TA_O)	
	331	Outdoor sensor out once the entrance pipe (TA_1)	
	332	2, the inlet pipe outdoor sensor out (TA_2)	
	333	Three times the inlet pipe outdoor sensor out (TA_3)	
	334	Outdoor four times the inlet pipe sensor out (TA_4)	
	335	Outdoor pipe exit sensor out O time (TB_O)	
	336	1 outdoor sensor out pipe outlet (TB_1)	
	337	Outdoor sensor out two times pipe outlet (TB_2)	
	338	Outdoor sensor out three times pipe outlet (TB_3)	
	339	Outdoor sensor out four pipe outlet (TB_4)	
	346	Error due to operation failure of Fan2	
	347	Motor wire of Fan2 is not connected	
	348	Lock error on Fan2 of outdoor unit	
	353	Error due to overheated motor of outdoor unit's Fan2	
	355	Error due to overheated 1PM of Fan2.	
	361	2 CT1 inverter compressor start failure, or a low-current	
	364	Error due to over-current of inverter compressor 2. 2 DC Peak Inverter compressor stop.	
	365	V-limit error of inverter compressor 2. 2 inverter compressor overload stops (30A or more).	
	366	Error due to over voltage /low voltage of inverter PBA2. Less than 2 DC Link Voltage 150V 41OV inverter over.	
	367	Error due to unconnected wireof compressor 2. Inverter compressor rotation over 2 Wire dependence or compressor	
	368	Output current sensor error of inverter PBA2. 2 Comp inverter current sensor error.	
	369	DC voltage sensor error of inverter PBA2. 2 DC Link Inverter Sensor Error.	
	371	2 inverter outdoor unit EEPROM Read / Write error (OTP error)	

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	374	Heat sink temperature sensor error of inverter PBA2. 2 inverter heat sink temperature sensor error.	
	378	Hall IC connection error of Fan2. Outdoor fan 2 1PM H / W OC	
	383	Error due to special overcurrent of Fan2	
	385	Error due to input current of inverter 2. 2 inverter input current sensor Error.	
	386	Over-voltage/low-voltage error of Fan2	
	387	Outdoor fan 2 Hall Sensor Error	
	389	V-limit error on Fan2 of compressor	
	391	Fan Controller 2 EEPROM Read / Write Error	
	393	Output current sensor error of Fan2. Fan Controller 2 Current sensor error.	
	396	DC voltage sensor error of Fan2. Fan Controller 2 DC Link sensor error.	
	399	Heat sink temperature sensor error of Fan2. 2 fan controller heatsink temperature sensor error.	
	400	Error due to overheat caused by contact failure on 1PM of Inverter PBA2	
	401	Outdoor Freezing detect 1	
	402	Outdoor Freezing detect 2	
	403	Outdoor Freezing detect 3 - Freeze COMP DOWN	
	404	Outdoor overload 1 Protection Control Error	
	405	Outdoor overload 2 Protection Control Error	
	406	Outdoor overload 3 Protection Control Error	
	407	COMP down due to High PressureSensor Protection Control 1	
	408	COMP down due to High PressureSensor Protection Control 2	
	409	COMP down due to High PressureSensor Protection Control 3	
	410	COMP down due to Low PressureSensor Protection Control 1	
	411	COMP down due to Low PressureSensor Protection Control 2	
	412	COMP down due to Low PressureSensor Protection Control 3	
	413	Outdoor SUMP DOWN_1Protection Control	
	414	Outdoor SUMP DOWN_2Protection Control	
	415	Outdoor SUMP DOWN_3Protection Control	
	416	Outdoor DischargeTemperature _1 Protection Control	
	417	Outdoor DischargeTemperature _2 Protection Control	
	418	Outdoor DischargeTemperature _3 Protection Control	
	419	Outdoor EEV#1 opening 6th Self-Check Error	

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	420	Outdoor EEV#2 opening 6th Self-Check Error	
	421	Outdoor EEV#3 opening 6th Self-Check Error	
	422	Outdoor EEV#1 closing 6th Self-Check Error	
	423	Outdoor EEV#2 closing 6th Self-Check Error	
	424	Outdoor EEV#3 closing 6th Self-Check Error	
	425	Outdoor Reverse Phase or Missing Phase detect 1 Error	
	426	Outdoor Reverse Phase or Missing Phase detect 2 Error	
	427	Outdoor Reverse Phase or Missing Phase detect 3 Error	
	428	COMP down by Compression Ratio control Error 1	
	429	COMP down by Compression Ratio control Error 2	
	430	COMP down by Compression Ratio control Error 3	
	431	Oil Balance Valve1 Error	
	432	Oil Balance Valve2 Error	
	433	Oil Balance Valve3 Error	
	434	Oil Balance Valve opening Error (In DVM PLUS 2, HotGasValve Opening Error)	
	435	Water Cooling Flow SwitchError	
	436	Evaporator Protect for Freeze and Burst Error	
	437	Oil Balance Valve Closing Error(In DVM PLUS 2, HotGasValveOpening Error)	
	438	EVI EEV Opening Error	
	439	Error due to refrigerant leakage	
	440	Forbid Heat mode operation when outdoor temperature is over 30'C	
	441	Forbid Cooling Mode when OutdoorTemperature ia less than ·5'C	
	442	Forbid an operation during heat mode with refrigerant charging operation whenout door temperature is over 15'C	
	443	Before Cooling working, less than Low Pressure 1K(inability to re-operate)	
	445	CCH is detached. CCH Self-Check Error (CCHmalfunction Or Sump Sensor miss connection).	
	446	Error due to operation failure of Fan1. Fan Controller 1 Fan failed maneuver.	
	447	Motor wire of Fan1 is not connected. Fan controller wiring 1 Wire U.S.	
	448	Lock error on Fan1. Fan Controller 1 Lock error.	
	450	COND High Temperature(Protection Control) Every Time	
	451	Low Pressure Switch Low Pressure(Protection Control)	
	452	Instant power off Error (delete when COMP re-operate) Outdoor Zero-Crossing Error	

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	453	Outdoor Fan high temperature! Error	
	454	OutdoorFan RPM Error (more than 2500rpm and the difference that target velocity compare with practical velocity is more than 1OOrpm per 1OSEC, more than 1O times)	
	455	OutdoorFan IPM(Internal PCB Module) high temperature Error	
	456	OutdoorFan Overcurrent Error	
	457	OutdoorFan Reversed direction of the wind Error	
	458	Outdoor unit Fan (Fan Error) Or CT1 over currency	
	459	Outdoor unit 1PM Fault Error Or CT2 over currency	
	460	Outdoor unit communication-power disconnected detect Or CT3 over currency	
	461	Inverter COMP operating failure Or CT1 low currency	
	462	All currency control COMP Stop Or CT2 low currency	
	463	OLP Temperature control COMP Stop Or CT3 low currency	
	464	DC Peak COMP stop	
	465	COMP Overload stop(over 30A)	
	466	DC Link voltage less than 150V,over 41OV	
	467	COMP revolute error Or COMP Wire In-connection	
	468	Inv Comp Current Sensor Error	
	469	DC Link Sensor Error	
	470	Outdoor unit EEPROM Read/Write Error	
	471	Outdoor unit EEPROM Read/Write Error(OTP error)	
	472	Outdoor unit Zero crossing Error	
	473	inverter Comp Lock Error	
	474	Heat sink temperature sensor error of inverter PBA1	
	475	Outdoor unit BLOC Fan 2 Error Or OutdoorFan2 RPM Error (more than 2500rpm and the difference that target velocity compare with practical velocity is more than 1OOrpm per 1OSEC, more than 1O times)	
	476	4wAY Error detect	Self-Check, After 6 times, COMP DOWN
	477	Control for protecting liquid refigerant	
	478	Error due to over current of Fan1. OutdoorFan 1PM H/W OC.	
	479	4WAY miss connection detect Error	PAC Fixed
	480	Fixed Comp 1 Siege OLP Protection Control(leakage for refrigerant Error)	
	481	Comp1 operating Error	Duct for India
	482	Comp2 operating Error	Duct for India

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	483	Overvoltage of H/W Detect DC Link	INV
	484	PFC Overload (overcurrent) Error	
	485	Error due to input current of inverter 1. Input current Sensor Error.	
	486	Error due to over voltage/low voltage of Fan. Outdoor Fan DC-Link Voltage Under/Over Error.	
	487	Hall IC error of Fan1. Outdoor Fan Hall Sensor Error.	
	489	V-limit error on Fan1 of compressor	
	490	Outdoor Temperature O deegree & Indoor Temperature less than O deegree prohibition to operate	ERV Ventilation System
	491	Fan Controller1 EEPROM Read/Write Error	
	492	Outdoor Fan2 1PM H/W OC	
	493	Output current sensor error of Fan1. Fan Controller1 Current Sensor Error.	
	494	Delayed time Error due to OutdoorFan2 Fan Error	
	495	Outdoor Fan2 Overheat Error	
	496	DC voltage sensor error of Fan1. Fan Controller1 DC Link Sensor Error.	
	497	Outdoor Fan2 Overcurrent Error	
	498	Outdoor Fan2 IPM(Internal PCB Module) Overheat Error	
	499	Heat sink temperature sensor error of Fan1. Fan Controller1 Heat Sink Temp Sensor Error.	
	500	1PM Overheat Error for Inverter COMP	
	503	Error due to alert the user to check if the service valve is closed	
	504	Error due to self diagnosis of compressor operation	
	505	Error due to self diagnosis of high pressure sensor	
	506	Error due to self diagnosis of low pressure sensor	
	512	**RESERVED(DMS-SNET3 Error)**	Refer to Error History
	551	Defrost working	
	552	Low Discharge Pressure	
	553	equability operation	
	554	loading_failure/ total Leakage of Refrigerant of Outdoor Unit	side of COMP1 of Duct for India
	555	Recovery of oil	
	556	Outdoor Unit power set option Error	
	557	When □PMmode, Product option are not same between indoor units	
	559	indoor Unit operating stop due to detect unknown error in Outdoor Unit	

	ERROR MESSAGE		NOTE
	560	Outdoor Unit Switch option setting error(not applied)	
	561	Outdoor Unit SA(SUPPLY AIR) FAN RPM	
	562	Outdoor Unit RA(ROOM AIR) FAN RPM	
	563	indoor Unit mixed install error	
	564	IAQ Clean Fan Error	
	565	Miss connection Error between Comp and power wire - power line of Eva1 connect with Comp2 or power line of Eva2 connect with Comp1	Duct for India
	570	Boot Code Check FAIL	
	573	Error due to using single type outdoor unit in a module installation	
	574	Total Leakage of Refrigerant of Outdoor Unit 2	Comp2 side of Duct for India
	575	Total Leakage of Refrigerant of Outdoor Unit 3 (Comp1, Comp2 bot detected)	Duct for India both detect
	601	Wire LCD <-> Indoor Unit Communication Error	
	602	Master Wire LCD <-> Slave Wire LCD Communication Error	
	603	Communication Packet Error (Baudrate / different communication type)	
	604	Wire LCD <-> Indoor Unit Tracking Error over 10 times	
	605	7 Day Scheduler <-> Wire LCD ,CAURCommunication Error	
	606	Wire LCD COM1/COM2 Cross Install Error	
	607	Wile Wire LCD Master-Master installation,Communication Error	
	608	External linkage ERV Controller No installation Error	
	609	External linkage Indoor No installation Error	
	610	CAUR <-> Transmitter Communication Error	
	611	OMS <-> CAUR Communication Error	
	612	OMS <-> PEAK Transmitter Communication Error	
	613	OMS<-> PIM/SIMTransmitter Communication Error	
	614	Amount of eletricity syste <-> PIM/SIMTransmitter Communication Error	
	615	Transmitter <-> Indoor unit Communication Error (After complete Transmitter Tracking, for 2min some indoor unit can't communicate.)	
	616	Transmitter<-> Outdoor unit Communication Error (After completeTransmitter Tracking, for 2min outdoor unit can't communicate)	
	617	Peak power Transmitter<-> Demand Controller Communication Error, Demand Transmitter <-> Amount of eletricity system communication Error	
	618	ERV Controller+indoor unit (16EA) over Max install number Error	

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	619	celcius/fahrenheit indoor unit mixed install Error (out of indoor unit connected with New wire LCD, "Celcious/Fahrenheit" indoor unit mixed install)	
	620	New Wire Remote controller "celcious/Fahrenheit" Set Error (Dip S/W #4 Set Error)	
	621	New Wire Remote controller Master/Slave Dip Switch option Set Error (Difference with set option of Master and Slave)	
	622	Demand Controller/ select the type of amount of electricity system Error	
	623	Demand Transmitter PT/ CT ratio set Error	
	624	Demand Transmitter data receive error from amount of electricity	
	625	Master OMS ? Slave OMS Communication Error	
	626	ERV linkage wire remote controller(AWR-WEOO) ERV separate installation Error (not connect indoor unit and, only ERV be installed) indoor unit linkage wire remocontroller(AWR-VH10) indoor unit separate installation Error (not connect indoor unit and, only ERV be installed)	
	627	While in linkage control! Master/Slave Wire Remote controller, Slave Wire Remote controller 2EA installation Error (Installing Wire Remocontroller set slave in Master Wire Remocontroller 2EA at the same time)	
	628	OMS <-> Transmitter Communication Error	
	629	OMS <-> DOC Communication Error	
	630	ERV wire remote controller normal ventilation option set Error - Check normal ventilation option set only. - ERV normal ventilation No option, use Wire Remote controller option normal ventilation	
	631	ERVWire Remote controller auto ventilation option set Error - Check set auto ventilation only - ERV auto ventilation no option, use wire remote controller auto ventilation	
	632	Error when input the pulse except set the value of Pulse Width by PIM 1. less than 20ms , 2. over 400ms , 3. over range of set pulse width, 4. repeated purse over 3min	
	652	While COM 1 Dual Master installation Commnunication Error	
	653	temperature Sensor Open/Short Error	
	654	FRAM Error or damper Error(ERV model)	
	655	RESERVED(DMS-SNET3 Error)	Refer to Error History
	656	RESERVED(DMS-SNET3Error)	Refer to Error History
	701	float 1st	
	702	Indoor EEV clsosing 1st	
	703	Indoor EEV opening 1st	
	720	Outdoor EEV#1 opening Self-Check Every time error	
	721	Outdoor EEV#2 opening Self-Check Every time error	
	722	Outdoor EEV#3 opening Self-Check Every time error	
	723	Outdoor EEV#1 closing Self-Check Every time error	
	724	Outdoor EEV#2 closing Self-Check Every time error	

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	725	Outdoor EEV#3 closing Self-Check Every time error	
	768	RESERVED(DMS-SNET3)	Error History
	801	[GHP-R410A] communication error: "IF<-> Outdoor unit": Disconnection	
	802	[GHP-R410A] communication error: "Outdoor unit<-> IF": Disconnection	
	803	[GHP-R41DA] communication error: "IF<-> Indoor unit" some disconnect in Indoor unit (communicating)	
	804	[GHP-R41DA] communication error Among outdoor unit	
	805	[GHP-R41DA] Error setting ourdoor unit organization	
	806	[GHP-R41DA] Remocon Sensor disconnecVshort circuit	
	807	[GHP-R41DA] outdoor liquid pipe Sensor disconnecVshort circuit	
	808	[GHP-R41DA] outdoor Unit - overcooling heat exchanger entry temp thermystor disconnecVshort circuit	
	809	[GHP-R41 OA]COMP suction temp overheat	
	810	[GHP-R41DA] COMP suction superheat not soar	
	811	[GHP-R41DA] refrigerant high pressure Switchdisconnect	
	812	[GHP-R41DA] Gas EEV Output error	
	813	[GHP-R41DA] refrigerant low pressure Sensor error(2nd)	
	814	[GHP-R41DA] refrigerant high pressure Sensor error 1	
	815	[GHP-R41DA] refrigerant high pressure Sensor error 2 (value of high pressure sensor less than standard lowpressure)	
	816	[GHP-R41DA] Water Pump operation failure	
	817	[GHP-R41DA] Water Pump a number of revolute error	
	818	[GHP-R41DA] IPM(outdoor unit FAN operating Driver) error	
	819	[GHP-R41DA] outdoor heat exchange Fan 1 operating failure	
	820	[GHP-R41DA] outdoor heat exchange Fan 2 operating failure	
	821	[GHP-R41DA] outdoor heat exchange Fan 3 operating failure	
	822	[GHP-R41DA] outdoor heat exchange Fan 1 a number of revolute error	
	823	[GHP-R41DA] outdoor heat exchange Fan 2 a number of revolute error	
	824	[GHP-R41DA] outdoor heat exchange Fan 3 a number of revolute error	
	825	[GHP-R41DA] outdoor Unit - heat exchange Fan error	
	826	[GHP-R41DA] outdoor Unit -Accum exit temp thermystor 1 disconnecVshort circuit	
	827	[GHP-R41DA] outdoor Unit -Accum exit temp thermystor 2 disconnecVshort circuit	
	828	[GHP-R41DA] outdoor unit Unit - refrigerant low pressure Switch disconnect	
	829	[GHP-R41DA] refrigerant low pressure error	

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	830	[GHP-R410A] three phase error	
	831	[GHP-R410A] one phase power part error	
	832	[GHP-R41 OA] Main - Sub MICOM Program Version Unmatch	
	833	[GHP-R41 OA] indoor unit connection number Over	
	834	[GHP-R41 OA] indoor unit connection capacity Over	
	835	[GHP-R41 OA] outdoor-indoor connection Unmatch	
	836	[GHP-R41 OA] Outdoor Unit -Regular Inspection	
	837	[GHP-R410A] Refrigerant High pressure error 1	
	838	[GHP-R410A] Refrigerant High pressure error 2	
	841	[GHP-R41 OA] Outdoor Unit Gas Temp Thermistor shorVdisconnection	
	843	[GHP-R41 OA] Engine water temp Sensor shorVdisconnection	
	844	[GHP-R41 OA] Engine discharge temp Sensor disconnection	
	845	[GHP-R41OA] Engine fluid pressure error	
	846	[GHP-R410A] Engine Fluid pressure Switch disconnected	
	847	[GHP-R410A] Engine over revolute 1	
	848	[GHP-R410A] Engine over revolute 2	
	849	[GHP-R41 OA] Starter Error	
	850	[GHP-R41 OA] Engine a number of revolute control error	
	851	[GHP-R410A] Engine Stop	
	852	[GHP-R41OA] IGUNAITA(firer) low voltage	
	853	[GHP-R41OA] IGUNAITA(firer) disconnect	
	854	[GHP-R41OA] IGUNAITA(firer) over voltage	
	855	[GHP-R410A] Engine discharge temp Error	
	856	[GHP-R41 OA] Engine water temp overheat	
	857	[GHP-R41 OA] Engine operation failure	
	858	[GHP-R410A] Engine cooling	
	859	[GHP-R41OA] Engine insufficient operating revolute	
	860	[GHP-R41 OA] Engine a number of revolute Haunting Error	
	861	[GHP-R41 OA] COMP discharge temperature overheat	
	862	[GHP-R41 OA] Compressor Discharge temperature Sensor1 shorVdisconnection	
	863	[GHP-R41 OA] Compressor Discharge temperature Sensor2 shorVdisconnection	

SEG1	SEG2, 3,4	ERROR MESSAGE	NOTE
	864	[GHP-R41 OA] Compressor Discharge temperature Sensor3 shorVdisconnection	
	865	[GHP-R41 OA] Compressor Discharge temperature Sensor4 shorVdisconnection	
	866	[GHP-R41 OA] Compressor nhale temperature Sensor1 shorVdisconnection	
	867	[GHP-R41 OA] Compressor suction temperature Sensor2 shorVdisconnection	
	868	[GHP-R22] Outdoor Unit -Accum Entrance Temperature Sensor shorVdisconnection	
	869	[GHP-R22] Outdoor Unit - refrigerants Gas pipe temperature Sensor shorVdisconnection	
	870	[GHP-R22] Outdoor Unit - comp lubricating oil insufficiency error	
	871	[GHP-R22] Outdoor Unit - Refrigerant overfill error	
	872	[GHP-R22] Outdoor Unit - Compressor induction temperature error	
	873	[GHP-R22] Engine cooling system Error	
	874	[GHP-R22] Engine Oil System error	
	875	[GHP-R22] Engine power system Error	
	876	[GHP-R22] Engine operating/control system Error	
	880	[GHP-R41 OA] Outdoor Unit - Engine Temp of Cooling water low	
	881	[GHP-R41 OA] Outdoor Unit - leakage of Engine oil	
	882	[GHP-R41 OA] Outdoor Unit - Lack of Comp oil	
	883	[GHP-R41 OA] Outdoor Unit - starter Trans voltage short	
	901	Water Inlet Sensor(Tw1) SHORT/ OPEN	
	902	Water Outlet Sensor(Tw3) SHORT/ OPEN	
	903	PHE Sensor(Tw2) SHORT/ OPEN	
	904	Water TANK Sensor SHORT/ OPEN	
	905	SOLAR Sensor SHORT/ OPEN	
	907	Prevention hydro unit from freezing burst	1Time Check circulating water flow
	908/909	Prevention the hydro unit from freezing	Check circulating water flow 3Times
	910	Breakaway of water out temperature sensor	Check the location and connection state of water out temperature sensor
	911	Less water flow than the minimum water flow (Differential water pressure/Flow Swtich Open Error	
	912	Flow Swtich Close Error	

SEG1	SEG2, 3, 4	ERROR MESSAGE	NOTE
	918	No feedback interlock signal of pump operation	
	971	Open or short of the room temperature sensor (Water law application based on room temperature)	
	972	Open or short of water in pressure sensor	Check the PCB connection status and whether the sensor is defective or not
	973	Open or short of water out pressure sensor	
	974	Open of short of external water out temperature sensor	
	UP	Trial operation incompleted (UnPrepared) - It will be cleared when trial operation was executed for 1 hour or when automatic inspection is completed	