



Tile Series OLED Panel (KNX) User Manual

(Applicable model: M/PTOL6.1)

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Update History

The form below contains the information of every update. The latest version contains all the updates of all former versions.

No.	Version	Update Information	Date
1	V1.0.0	Initial release	Nov.12, 2019



1 Introduction

This user manual offers the information on configuring Tile Series OLED Panel (KNX) (hereinafter referred to as "Tile Panel"). The following tools might be included:

- Tile Series Multifunctional Panel (KNX) and corresponding power interface (Model: M/PTCI.1)
- > A computer with ETS5 software
- ➢ KNX USB interface (Model: M/USB.1)
- > KNX power supply and auxiliary power supply
- > KNX project files
- Dedicated KNX cable(s)

Note:

- ① Please refer to the datasheet attached to the product for the information of installation, wiring, specifications, etc.
- ② The pictures in this user manual are for reference only and the actual product should prevail.



1.1 Import Data

1.1.1 Import Database to ETS (.knxprod)

1. Import Catalogs: click "Catalogs" → "Import…" in the main page of ETS5 software and select local database files with the suffix of .knxprod, as shown in Figure 1-1.

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3 Recent Products								
Manufacturers 🔹								
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						_		
	•			ETS V	ersion ETS 5.6.4 (Build	1 842) 1 Licer	nse Demo Apps 0 ac	tive 🔡

Figure 1-1 Import catalog



2. Create Projects: as shown in Figure 1-2, in "Your Projects" tab from ETS5 software's "Overview" page, click "+" to create projects. After editing project name, please keep other setting items by default.



Figure 1-2 Create projects



3. Add Devices to Projects:

① After creating a project, the project page will show up by default. Click "Buildings" and select "Topology", as shown in Figure 1-3.

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Figure 1-3 Add devices to projects (1)



② Figure 1-4 shows "Topology" page, click the arrow beside "Add Areas" and select "Devices", and the catalog page will show up below.

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Figure 1-4 Add devices to projects (2)



③ As shown in Figure 1-5, click "HDL" in "Manufactures" column and select devices to be added to the project on the right. Drag devices to the above area (Method 1) or click "Add" button to add devices after clicking the location needed to add projects below (Method 2).

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Figure 1-5 Add devices to projects (3)



1.1.2 Import Projects (.knxproj)

As shown in Figure 1-6. Open ETS5 and click "Import project" button of "Your Project" tab of "Overview" page and import obtained KNX project files with the suffix of .knxproj/.pr5. After importing projects, added/created projects will be listed below. Double click to edit.



Figure 1-6 Import projects



1.2 Open Configuration Window

Double click the project to be configured. Click "Workspace" \rightarrow "Open New Panel" \rightarrow "Topology" to open the window, as shown in Figure 1-7.



Figure 1-7 Open configuration window



2 General Setting

In topology skeleton on the left side of topology page, click devices to be set, and select "General" in "Parameter" option, as shown in Figure 2-1.

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>	1.1.1 M/PTOL6.1 > General							
1.1 #	General	System delay(2255s)	2	÷ ^ O				
所建支	Functions	Heartbeat telegram	Disable					
洴		Lunguage setting for LCD	English Chinsese					
		Screen brightness	Level (100%)	•				
		=>Default Led brightness:						
		Red led brightness(ON)	Level (100%)	.				
		Green led brightness(ON)	Level (100%)	-				
		Blue led brightness(ON)	Level (100%)	-				
		Red led brightness(Dim ON)	Level (05%)	-				
		Green led brightness(Dim ON)	Level (05%)	-				
		Blue led brightness(Dim ON)	Level (05%)	-				
		Red led brightness(Dim OFF)	Level (05%)	•				
		Green led brightness(Dim OFF)	Level (05%)	•				
	Devices Parameter			•				
	HDL USB Interface 🔺 1.1 新建支线			Last used workspace				

Figure 2-1 General Setting

The setting items are explained below:

- 1. System delay: time-delay function, namely a delay time between powering on the device and activating the system, which ranges from 2 to 255s.
- 2. Heartbeat telegram: to choose to send "1", "0", or "1, 0" cyclically.
 - > Telegram is sent time interval: to set the interval of sending heartbeat telegram.
- 3. Language setting for LCD: to set the language for the panel.
- 4. Screen brightness: to adjust screen brightness.



- 5. Red/Green/Blue LED brightness (ON/OFF) (invalid for now): to set button backlight color via adjusting RGB value.
- 6. Red/Green/Blue LED brightness (Dim ON/OFF) (invalid for now): to set button backlight brightness via adjusting RGB value.
- 7. Change brightness via EIB: to enable changing panel brightness via EIB.
- 8. Sleep time enable: to enable panel sleep function. After enabled, set sleep delay time in "Sleep time".
- 9. Enable slave clock (invalid for now)
- 10. Lock button via EIB (invalid for now)
- 11. Temperature show mode: to select displayed temperature unit, including "Degrees Celsius" and "Degrees Fahrenheit".
- 12. The local temperature correction: to choose to correct temperature, which ranges from 10° C to + 10° C (accurate to 0.1° C).
- 13. Temperature report enable: to choose whether to send temperature report. After enabled, select sending temperature signal mode in "Send temperature to bus", including "Report when changed", "Report cyclic" and "Read from bus". When "Report cyclic" is selected, change "Temperature report period" below, which ranges from 1 to 65535s.
- 14. The local humidity correction: to choose to correct local humidity data, which ranges from -10% to +10%.
- 15. Humidity report enable: to enable sending humidity report.
 - Send humidity to bus: to select the sending period or source, including "Report cyclic", "Report when changed" and "Read from bus".



3 Select Functions

Click "Functions" label in the parameter list to enable/disable panel functions, as shown in Figure 3-1.

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> 	1.1.1 M/PTOL6.1 > Functions							
1.1 新	General	=>Functions page:						
建支线	Functions	FCU enable	O Disable	🗌 Enable				
err	†	Floor heating/cooling 1 enable	O Disable	🗌 Enable				
		Floor heating/cooling 2 enable	O Disable	🔵 Enable				
		Air-condition enable	O Disable	C Enable				
		FanA enable	O Disable	C Enable				
		Fan B enable	O Disable	🔵 Enable				
		Fan C enable	O Disable	🔵 Enable				
		Fan D enable	O Disable	C Enable				
		Environment_monitor(only show to fan page)	O Disable	C Enable				
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	HDE 030 Interface - I.I 新建文級			Last used workspace	·			

Figure 3-1 Select function

Tile Panel supports:

- 1. FCU enable: to enable FCU.
- 2. Floor heating/cooling 1/2 enable: to enable floor heating/cooling 1/2.
- 3. Air-condition enable: to enable air conditioner function.
- 4. Fan A/B/C/D: to enable fan A/B/C/D.
- 5. Environment monitor (only show to fan page): to enable displaying environment data in fan page.

4 Air Conditioner (FCU) Setting

4.1 Air Conditioner (FCU) Setting

Click "FCU" label in the parameter list to open the page, as shown in Figure 4-1.

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>	1.1.1 M/PTOL6.1 > [FCU]				
1.1 新建	General	Show environment monitor	 Setpoint and actual temperature Setpoint and actual temperature, humidity 		
大法	runctions	->Switch show time(2255s)	10	*	
	[FCU]	Set for comfort temperature[MIN](099C)	21C	•	
	Ţ	Set for comfort temperature[MAX] (099C)	30C	•	
		Actual temperature(Celsius degree)	Local sensor Via EIB		
		HVAC-System	2-pipe system 🔘 4-pipe system		
		->HVAC control mode type	1bit Command 1byte mode		
		->HVAC mode type	1bit Command 1byte mode		
		Fan speed	3-Fan speed	•	
		->Fan control type	1bit object 1byte object		
		-> Default Value: 1bit object	1bit object 1byte object		
		The status operation after power on	🔵 Unchange 🔘 Recovery		
		Delay for status recovery(2255s)	5	* *	÷
	Devices Parameter				
	HDL USB Interface 🔺 1.1 新建支线		Last used w	orkspace	

Figure 4-1 FCU setting

The setting items are explained below:

- 1. FCU functions selection: to select FCU function, including "Fan", "Heating" and "Cooling".
- 2. Show environment monitor: to select environment monitor data to be displayed. "Setpoint and actual temperature" means the preset and actual temperature, while "Setpoint and actual temperature, humidity" means the preset temperature, actual temperature and the humidity.
 - Switch show time: to set switch time between displaying environment monitor data, which ranges from 2 to 255s.



- 3. Set for comfort temperature [MIN/MAX]: to set the maximum/minimum comfort temperature, which both range from 0 to 99°C.
- 4. Actual temperature: to select to obtain actual temperature from "Local sensor" or via EIB.
- 5. HVAC-System: to select HVAC system type, including "2-pipe system" and "4-pipe system".
- 6. HVAC control mode type: to select HVAC control type, including "1-bit command" and "1byte mode".
- 7. HVAC mode type: to select HVAC mode type, including "1-bit command" and "1-byte mode".
- 8. Fan speed: to enable up to 3 fan speed levels.
- 9. Fan control type: to select fan control type. "1-bit object" is to control objects via 1-bit object while "1-byte object" is to control objects via 1-byte object.
- 10. The status operation after power on: to select the operation after FCU is powered on, including "Unchange" and "Recovery". If the latter is selected, the delay time of recovering status can be set in "delay for status recovery" below, which ranges from 2 to 255s.
- 11. LED status (invalid for now): to select LED status, including "Flashing", "Press=ON, Release=OFF" and "Press=OFF, Release=ON".
- 12. Output control the relay actuator: to enable "Output control the relay actuator". After enabled, click "Heat and Cool output" label on the left to configure in detail, as shown in the following part.

4.2 FCU Output Control the Relay Actuator Setting (Heat and Cool

Output)

User may select to enable "Output control the relay actuator" in FCU setting and "Heat and Cool output" label can show up. Click the label to set, as shown in Figure 4-2.

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	🔉 Close Project 🛛 🎸 Undo 🛛 🐴 R	edo 🚔 Reports 🔛 Workplace 🔻	Catalogs Diagnostics					
Т	ppology 🔻		·	• 🗖 🗡 🧹				
+	Add Channels 💌 🗙 Delete ± Dow	mload 🛛 🔹 🕜 Help 🌛 Highlight Changes 🛛	Default Parameters					
> 	1.1.1 M/PTOL6.1 >>Heat and 0	Cool output						
: 1.1 新	General	Setpoint:		=				
建支线	Functions	Temperature hysteresis(0.1C)	20	A T				
	[FCU]	Stop heating/cooling	O Yes No					
	>Heat and Cool output	[Heat]						
		[-]Reduced temperature on standby mode(010C)	2	A V				
		[-]Reduced temperature on night mode (010C)	4	A T				
		Operation on protection mode	O Normal working O Stop working					
		HVAC mode at power on	Last mode	-				
		[Cool]						
		[+]Increased temperature on standby mode(010C)	2	A V				
		[+]Increased temperature on night mode (010C)	4	A V				
		Operation on protection mode	O Normal working O Stop working					
		HVAC mode at power on	Last mode	r .				
	Devices Parameter							
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Figure 4-2 FCU output setting

The setting items are explained below:

- 1. Temperature hysteresis
- 2. Stop heating/cooling

Heat Setting

- 3. Reduced temperature on standby/night mode: to set the reduced temperature when the panel is in standby/night mode, which ranges from 0 to 10℃.
- 4. Operation on protection mode: to select the operation after the protection mode is activated, including "Normal working" and "Stop working".
- 5. HVAC mode at power on: to select the mode after air conditioner is powered on, including "Last mode", "Comfort mode", "Standby mode", "Night mode" and "Protection mode".





- 6. Increased temperature on standby/night mode: to set the increased temperature when the panel is in standby/night mode, which ranges from 0 to 10℃.
- 7. Operation on protection mode: to select the operation after protection mode is activated, including "Normal working" and "Stop working".
- 8. HVAC mode at power on: to select the mode after air conditioner is powered on, including "Last mode", "Comfort mode", "Standby mode", "Night mode" and "Protection mode".

Fan Setting

- 9. Fan output control type: to select fan output control type, including "Changeover" and "Step".
- 10. Starting characteristic of fan: to select the default fan speed after air conditioner is powered on.
- 11. Duration time at starting speed: to set the duration time of running air conditioner at the default speed.
- 12. Changeover delay between fan speeds: to set the delay time between one fan speed and another fan speed.
- 13. Duration on fan speed
- 14. Auto fan speed 1: if temperature deviation<=: when the actual temperature is not higher than the set temperature, run fan speed 1.
- 15. Auto fan speed 2: if temperature deviation<=: when the actual temperature is not higher than the set temperature, run fan speed 2.
- 16. Auto fan speed 3: else: to run fan speed 3 under the circumstances except "Auto fan speed 1: if temperature deviation<=:" and "Auto fan speed 2: if temperature deviation<=:".
- 17. Fan speed when over setpoint temperature (for automatic fan speed): to run fan speed 1 or turn off fan speed when the actual temperature is higher than the set temperature.

Heat/Cool Valve Setting

- 18. Control type: to select control type, including "Two-step control" and "PWM control". If the latter is selected, the details can be set below.
 - Heating/Cooling speed (For PI)
 - PWM period
 - Minimum/Maximum PWM valve

5 Floor Heating/Cooling Setting

5.1 Floor Heating/Cooling Setting

Tile Panel supports a total of 2 floor heating/cooling modules. After enabled, "Floor Heating/Cooling" label shows up on the left. Click to open as shown in Figure 5-1.

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+	Add	Channels 🛛 🔻	🗙 Delete 🛨 Dov	vnload 🛛 🔻 🕜 Help 🤌 Highlight Changes	Default Parameters					
> 	1.1	.1 M/PTOL6.1	> [Floor Heatin	g/Cooling A]						
1.1		General		Set for comfort temperature[MIN](099C	21C	- ^ O				
所建支线		Functions		Set for comfort temperature[MAX] (099C)	30C	- ×				
	ſ	[Floor Heating	/Cooling A]	Actual temperature(Celsius degree)	O Local sensor ○ Via EIB					
		1	•	Display the temperature of the outdoor (Celsius degree)	Disable Enable					
				Show environment monitor	Setpoint and actual temperature					
				->Switch show time(2255s)	10	÷				
				The status operation after power on	Read status	•				
				Delay for status read(2255s)	5	÷				
				LED status	Press="ON",Release="OFF"	•				
				=>Enable mode.						
				Normal mode	🔵 Disable 🔘 Enable					
				Day mode	O Disable O Enable					
				Night mode	O Disable O Enable					
	Dev	vices Para	imeter		<u>∧ · · · ∧ · · ·</u>	~				
	HDL U	ISB Interface	▲ 1.1 新建支线			Last used workspace				

Figure 5-1 Floor heating/cooling setting

The setting items are explained below:

- 1. Set for comfort temperature [MIN/MAX]: to set the maximum/minimum comfort temperature, which both range from 0 to 99°C.
- 2. Actual temperature: to select to obtain actual temperature from "Local sensor" or via EIB.

If "EIB" is selected, correct temperature data read by the panel below, which ranges from -5 $^\circ\!C$ to +5 $^\circ\!C$.



- 3. Display the temperature of the outdoor: to enable displaying outdoor temperature. After enabled, the details can be set below.
 - > Temperature correction value of the outdoor: to correct outdoor temperature data, which ranges from -5° C to $+5^{\circ}$ C.
 - Temperature monitoring time interval of the outdoor: to select the interval of obtaining outdoor temperature in seconds.
- 4. Show environment monitor: to enable displaying environment monitor data.
 - Switch show time: to set switch time between displaying environment monitor data, which ranges from 2 to 255s.
- 5. The status operation after power on: to select the operation after floor heating is powered on, including "Unchange" or "Recovery". If the latter two are selected, user can set the delay time of recovering/reading status in "Delay for status recovery/read" below.
- 6. LED status (invalid for now): to select LED status, including "Flashing", "Press=ON, Release=OFF" and "Press=OFF, Release=ON".
- 7. Enable mode: to enable mode, including "Normal mode", "Day mode", "Night mode" and "Away mode".
- 8. Output control the relay actuator: to enable "Output control the relay actuator". After enabled, click "FH Output" label on the left to configure in detail, as shown in the following part.



5.2 Floor Heating Output Setting (FH Output)

User can select to enable "Output control the relay actuator" in floor heating/cooling setting and "FH Output" label can show up. Click the label to set, as shown in Figure 5-2.

Ħ	ETS5™ - Tile Series OLED				×
	ETS Edit Workplace Commission	ning Diagnostics Extras Window		^	0
	g Close Project 🧳 Undo 🛝 🛛	Redo 📇 Reports 🔛 Workpla	ace 🔻 📃 Catalogs 🛛 🔤 Diagnostics		
Т	opology 🔻			∧ □ ×	<
+	• Add Channels 🔹 🗙 Delete 🛨 Dov	wnload 🛛 🔻 🕜 Help 🤌 Highlight Cha	nges Default Parameters		
>	1.1.1 M/PTOL6.1 >>FH Output	t			
1.1 新	General	Heating or cooling mode	◯ Heating ◎ Cooling		Ŏ
愛	Functions	Temperature hysteresis(0.1C)	20	*	
淵	[Floor Heating/Cooling A]	Stop heating	Ves No		
	. SEU Output	Enable safety protect	O No Ves		
	Devices Parameter	Control type	 Two-step(ON/OFF) control PWM control 		
	HDL USB Interface 🔺 1.1 新建支线			Last used workspace	

Figure 5-2 FH output setting

The setting items are explained below:

- 1. Heating or cooling mode
- 2. Temperature hysteresis
- 3. Stop heating
- 4. Enable safety protect: to enable safety protection function. After enabled, the details can be set below.
 - Temperature source: to choose to obtain actual temperature from "Local sensor" or via EIB.
 - > Active/Cancel protection: to set the temperature for activating/canceling protection,



which both range from 0 to $99^{\circ}C$.

- Active/Cancel operation: to set the operation of activating/canceling protection, including "Unchange", "ON" and "OFF".
- 5. Control type: to select control type, including "Two-step control" and "PWM control". If the latter is selected, the details can be set below.
 - Floor heating/cooling speed (For PI)
 - PWM control object: Objects are controlled by PWM output. "1 bit object" is to control objects via 1-bit object PWM output duty ratio, while "1 byte object" is to control objects via 1-byte object PWM output duty ratio.
 - > PWM period
 - Minimum/Maximum PWM valve



6 Air-condition Setting

6.1 Air-condition Setting

After enabled, click "Air-condition" label to set, as shown in Figure 6-1.

	ETS5™ - Tile Series OLED			- • •
	TS Edit Workplace Commission	ing Diagnostics Extras Window		^ ()
	🔉 Close Project 🛛 🏠 Undo 🛛 🐴 R	edo 📄 Reports 🔛 Workplace 🔻	Catalogs Diagnostics	
Тс	opology 🔻			^ □ × <
+	Add Channels 🔹 🗙 Delete 🛨 Dow	mload 🔹 🕜 Help 🌛 Highlight Changes	Default Parameters	
>	1.1.1 M/PTOL6.1 > [Air-condition	1		
1.1 #	General	Set for comfort temperature[MIN](099C	21C	• ^ O
所建支线	Functions	Set for comfort temperature[MAX] (099C)	30C	- ×
611-	[Air-condition]	Actual temperature(Celsius degree)	Local sensor Via EIB	
		Show environment monitor	 Setpoint and actual temperature Setpoint and actual temperature,humidity 	
		->Switch show time(2255s)	10	* *
		=>Fan speed:		
		->Fan speed control type	1bit object 1byte object	
		Automatic speed	Inactive O Active	
		Low speed	Inactive O Active	
		Medium speed	Inactive O Active	
		Hight speed	Inactive O Active	
		=>Wind swing:		=
		Wind swina		¥
	Devices / Parameter HDL USB Interface ▲ 1.1 新建支线		Last used w	orkspace

Figure 6-1 Air-condition setting

The setting items are explained below:

- 1. Set for comfort temperature [MIN/MAX]: to set the maximum/minimum comfort temperature, which both range from 0 to 99°C.
- 2. Actual temperature: to select to obtain actual temperature from "Local sensor" or via EIB. If "EIB" is selected, correct temperature data read by the panel below, which ranges from -5° C to $+5^{\circ}$ C.
- 3. Show environment monitor: to select environment monitor data to be displayed. "Setpoint and actual temperature" means the set and actual temperature, while "Setpoint and



actual temperature, humidity" means the set temperature, actual temperature and the humidity.

Switch show time: to set switch time between displaying environment monitor data, which ranges from 2 to 255s.

Fan Speed Setting

- 4. Fan speed control type: to select fan speed control type. "1-bit object" is to control objects via 1-bit object while "1-byte object" is to control objects via 1-byte object. If "1 byte object" is selected, the details can be set below:
 - > Auto speed value: to set the fan speed of auto mode.
 - > Low/Medium/High speed value: to set the fan speed value of different levels.
- 5. Auto speed: to enable adjusting fan speed automatically.
- 6. Low/Medium/High speed: to enable the fan speed of different levels.

Wind Swing Setting

7. Wind swing: to enable/disable wind swing.

Air condition Mode

- 8. Control mode type: to select air conditioner control type. "1 bit object" is to control objects via 1-bit object while "1 byte object" is to control objects via 1-byte object. If "1 byte object" is selected, the details can be set below:
 - Automatic heating/cooling value
 - Cooling value
 - Heating value
 - Dehumidification value
 - Fan value
- 9. Automatic heating/cooling
- 10. Only cooling
- 11. Only heating
- 12. Only dehumidification
- 13. Only fan



Air Condition Status Setting

- 14. The status operation after power on: to select the operation after air conditioner is powered on, including "Unchange" and "Recovery". If "Recovery" is selected, set the delay time of recovering status in "Delay for status recovery" below.
- 15. The status operation after AC switch ON: to select the operation after air conditioner is turned on, including "Unchange" or "Recovery". If "Recovery" is selected, set the delay time of recovering status in "Delay for status recovery" below.
- 16. LED status (invalid for now): to select LED status, including "Flashing", "Press=ON, Release=OFF" and "Press=OFF, Release=ON".
- 17. Output control the relay actuator: to enable "Output control the relay actuator". After enabled, click "AC Output" label on the left to configure in detail, as shown in the following part.

6.2 AC Output Control the Relay Actuator Setting (AC Output)

User can select to enable "Output control the relay actuator" in air conditioner setting and "AC Output" label can show up. Click the label to set, as shown in Figure 6-2.

Ħ	ETS5™ - Tile Series OLED				×
I	TS Edit Workplace Commission	ing Diagnostics Extras Window		^	0
	🔉 Close Project 🛛 🎸 Undo 🛛 🐴 R	edo 🚔 Reports 🔛 Workplace 🔻	Catalogs Diagnostics		
Тс	pology 🔻			▲ 🗇 🗙	<
+	Add Channels 💌 🗙 Delete ± Dow	mload 🔹 🕜 Help 🌛 Highlight Changes 🛛	Default Parameters		
>	1.1.1 M/PTOL6.1 >>AC Output	t			
目1.1 新	General	Setpoint:		^	
建支約	Functions	Temperature hysteresis(0.1C)	20	\$	·
नाह	[Air-condition]	Stop heating/cooling	O Yes O No		
	>AC Output	Fan:			
	1	->Fan output control type	O Changeover O Step		
		Starting characteristic of fan	Switch on at speed 1	•	
		Duration time at starting speed(2255s)	2	* *	
		Changeover delay between fan speeds(s)	0.5	•	
		Auto fan speed1:if temperature deviation <=	2C	•	
		Auto fan speed2:else if temperature deviation <=	4C	•	
		Auto fan speed3:else	Speed 3		
		Fan speed when over setpoint temperature(for automatic fan speed)	On speed 1 OFF		
		Heat valve:		,	
	Devices / Parameter				
	HDL USB Interface 🔺 1.1 新建支线		Last used	workspace	

Figure 6-2 AC output setting



The setting items are explained below:

- 1. Temperature hysteresis
- 2. Stop heating/cooling

Fan Output Control Setting (Fan)

- 3. Fan output control type: to select fan output control type, including "Changeover" and "Step".
- 4. Starting characteristic of fan: to select the default fan speed after air conditioner is powered on.
- 5. Duration time at starting speed: to set the duration time of running air conditioner at the default speed.
- 6. Changeover delay between fan speeds: to set the delay time between one fan speed and another fan speed.
- 7. Auto fan speed 1: if temperature deviation<=: when the actual temperature is not higher than the set temperature, run fan speed 1.
- 8. Auto fan speed 2: if temperature deviation<=: when the actual temperature is not higher than the set temperature, run fan speed 2.
- 9. Auto fan speed 3: else: run fan speed 3 under the circumstances except "Auto fan speed 1: if temperature deviation<=:" and "Auto fan speed 2: if temperature deviation<=:".
- 10. Fan speed when over setpoint temperature (for automatic fan speed): to run fan speed 1 or turn off fan speed when the actual temperature is higher than the set temperature.

Heat/Cool Valve Setting

- 11. Control type: to select control type, including "Two-step control" and "PWM control". If the latter is selected, the details can be set below.
 - Heating/Cooling speed (For PI)
 - > PWM period
 - Minimum/Maximum PWM valve



7 Fan Setting

7.1 Fan Setting

Tile Panel supports a total of 4 fan systems. After enabled, "Fan" label shows up on the left. Click to set as shown in Figure 7-1.

	ETS5™ - Tile Series OLED				×
l	TS Edit Workplace Commission	ing Diagnostics Extras Window		^	0
	🔉 Close Project 🛛 🎸 Undo 🛝 F	Redo 🚔 Reports 🔛 Workplace 🔻	Catalogs Diagnostics		
То	pology 🔻			∧ □ ×	<
+	Add Channels 🔹 🗙 Delete 🛨 Dow	vnload 🛛 🔹 🕜 Help 🥒 Highlight Changes	Default Parameters		
> 	1.1.1 M/PTOL6.1 > [Fan A]				
1.1 5	General	Fan speed	3-Fan speed	•	Ŏ
新建支援	Functions	->Fan control type	1bit object 1byte object		٢
8#	[Fan A]	->Fan status type	1bit object 1byte object		
	(Shirty	->Active speed automatic	Inactive O Active		
	T	->Active speed stop	O Inactive O Active		
		The status operation after power on	O Unchange 🔘 Recovery		
		Delay for status recovery(2255s)	5	*	
		LED status	Press="ON",Release="OFF"	•	
		=>Output control:			
		Output control the relay actuator	Disable		
	Devices Parameter				
	HDL USB Interface 🔺 1.1 新建支线			Last used workspace	

Figure 7-1 Fan setting

The setting items are explained below:

- 1. Fan speed: to enable up to 3 fan speed levels.
- Fan control type: to select fan control type. "1 bit object" is to control objects via 1-bit object while "1 byte object" is to control objects via 1-byte object. If the latter is selected, the details of object value can be set below, including "Speed automatic value", "Speed n value" and "Speed stop value".
- 3. Fan status type: to select fan status type.



- 4. Active speed automatic: to enable activating automatic fan speed.
- 5. Active speed stop: to enable activating/deactivating fan speed.
- 6. The status operation after power on: to select the operation after fan is powered on, including "Unchange" or "Recovery". If the latter is selected, set the delay time of recovering status in "Delay for status recovery" below.
- 7. Output control the relay actuator: to enable "Output control the relay actuator". After enabled, click "Fan Output" label on the left to configure in details, as shown in the following part.

7.2 Fan Output Setting

User may select to enable "Output control the relay actuator" in fan setting and "Fan Output" label can show up. Click the label to set, as shown in Figure 7-2.



Ħ	ETS5™ - Tile Series OLED			- • •
	ETS Edit Workplace Commission	ing Diagnostics Extras Window		^ (
	👩 Close Project 🛛 🎸 Undo 🛛 🐴 R	edo 🚔 Reports 📕 Workplace 🔻	Catalogs Diagnostics	
Т	opology 🔻			∧ □ × <
+	• Add Channels 🔹 🗙 Delete 🛨 Dow	nload 🔹 🕜 Help 🌛 Highlight Changes	Default Parameters	
>	1.1.1 M/PTOL6.1 >>Fan Outpu	t A		
1.新	General	Fan:		•••••
建支线	Functions	->Fan output control type	O Changeover O Step	
	[Fan A]	Starting characteristic of fan	Switch on at speed 1	-
	>Fan Output A	Duration time at starting speed(2255s)	2	* *
		Changeover delay between fan speeds(s)	0.5	•
	HDI USB Interface			t used workspace
	TIDE 030 Interface - I.I 新建文級		Las	used workspace

Figure 7-2 Fan output setting

The setting items are explained below:

- 1. Fan output control type: to select fan output control type, including "Changeover" and "Step".
- 2. Starting characteristic of fan: to select the default fan speed after fan is powered on.
- 3. Duration time at starting speed: to set the duration time of running fan speed at the default speed.
- 4. Changeover delay between fan speeds: to set the delay time between one fan speed and another fan speed.

8 Environment Monitor Setting

User may select "Environment monitor" label in the parameter list, as shown in Figure 8-1.

Note:

Environment monitor result only shows up in fan page.

Ħ	ETS5™ - Tile Series OLED			
	ETS Edit Workplace Commission	ning Diagnostics Extras Window		^ (
	🔉 Close Project 🖌 Undo 🛝	Redo 🚔 Reports 📰 Workplace 🔻	📃 Catalogs 🛛 🔤 Diagnostics	
Тс	opology 🔽			∧ ∂ × <
+	Add Channels 🛛 🛪 🗙 Delete 🛨 Do	wnload 🛛 🔻 🕜 Help 🥒 Highlight Changes	Default Parameters	E
>	1.1.1 M/PTOL6.1 > Environment	_monitor		
1.1	General	Show to page(PM2.5, CO2 and TVOC)	Note:only show to fan page	
新建支	Functions	PM2.5 show enable	O Disable C Enable	<u>م</u>
浙	Environment menitor	PM2.5	Via EIB	
	Environment_monitor	CO2 show enable	O Disable O Enable	
	T	CO2	Via EIB	
		TVOC show enable	O Disable C Enable	
		TVOC	Via EIB	
	Devices Parameter			
	HDL USB Interface 1.1 新建支线			Last used workspace

Figure 8-1 Environment monitor setting

Tile Panel supports a total of 3 kinds of environment data, including PM2.5, CO₂ and TVOC, the setting way of which are similar. * in the following contents represents one of 3 kinds of data.

- 1. * show enable: to enable displaying monitoring data.
- 2. * show position: to set the position for displaying monitoring data, including on the left/in the middle/on the right of the screen.

9 Download Data to the Panel

9.1 Interface Setting

If users need to download data to the panel, KNX interface is necessary.

After connecting KNX interface to a computer via USB, click "Bus" tab in ETS' main page, "HDL USB Interface" will show up in "Discovered Interface". Double click to add and the interface will show up in "Current Interface", as shown in Figure 9-1.

ETS5™ ETS			
Overview Bus	Catalogs Settings		KNX
- Connections			🖨 USB
Interfaces	Individual Address: 0.2.255		Name
Options	4 Configuradotarfacas		HDL USB Interface
			Manufacturer
- Monitor	La Discovered Interfaces		HDL
Group Monitor			Medium
Bus Monitor			ТР
			Individual Address
 Diagnostics 			0.2.255 Address free?
Unload Device			Max telegram length (APDU):
Device Info			220
 Individual Addresses 			
Programming Mo			
Individual Addres			
Line Scan			
			Test Select
		ETS Version ETS 5.6.4 (B	uild 842) 1 License Demo Apps 0 active

Figure 9-1 Interface setting



9.2 Download Data

Right click on the database to be downloaded to the panel and select "Download". Keep pressing the top left button and bottom right button to enable the programming mode of the panel. The information on the right side of ETS indicates the process of downloading, as shown in Figure 9-2.

Close I	Project 🥜 Undo	🐴 Redo 🛛 🚔 Reports 📄	Workpl	ace *		Cata	logs 🖉	Diagnos	tics	
ology -							^	ð ×	Propertie	s
Add Char	nnels 🔹 🗙 Delete 🖠	💺 Download 💌 🚯 Info 🔹	•	Se	arch			Q	₽ Find and	Replace
Num	ber * Name	Object Function	Length	C F	и и т	U	Data Type	Priority	Workspa	ces
2 11	External temperatur	e Remote temperature for outdoor	2 bytes	C -	WT	U		Low	Tada Itar	25
2 12	General	PM2.5	2 bytes	с -	WT	17		Low	O lodo iter	115
₹13	General	CO2	2 bytes	с -	WT	<u>32</u>		Low	Pending	Operations
 ∤ 14	General	TVOC	2 bytes	с -	WT	-		Low	Active	History
									Clear Histo	orv
									▶ Downle	oad(All): Finished

Figure 9-2 Download data



10 Object Instruction

KNX communication objects are used for receiving and sending data. The length of these objects is from 1 to 14 bits according to different function settings. Each object has a flag with communication property.

- 1. "C"-Communication, representing that communication objects are connected normally via the bus.
- 2. "R"-Read, representing that communication object value can be read via the bus.
- 3. "W"-Write, representing that communication object value can be rewritten via the bus.
- 4. "T"-Transmit, representing that communication objects have transmit function. When this object value is modified, send the message.
- 5. "U"-Update, representing that communication object value can be updated via the bus response message.

Objects "	Objects "General"										
1	General	Heartheat telegram	1 bit	C	-	-	Т	-	enable	任	
2	General	Change RGB Led brightness	3 bytes	c	R	W	T	U	RGB value	íÆ.	
3	General	Change RED Led brightness	1 byte	c	R	W	Т	U	percentag	低	
4	General	Change GREEN Led brightness	1 byte	С	R	W	Т	U	percentag	低	
5	General	Change BLUE Led brightness	1 byte	С	R	W	т	U	percentag	低	
6	General	Oled brightness	1 byte	С	-	W	Т	U	percentag	低	
7	General	Lock buttons	1 bit	С	-	W	Т	U	enable	低	
10	Slave clock	Network datetime	8 bytes	С	-	W	Т	U	date time	低	
11	Slave clock	Network date	3 bytes	С	-	W	Т	U	date	低	
12	Slave clock	Network time	3 bytes	С	-	W	Т	U	time of day	低	
13	General	Local temperature report	2 bytes	С	R	-	Т	U	temperatu	低	
14	General	Local humidity report	2 bytes	С	R	-	Т	U	humidity (%)低	
No.	Name	Function			Fla	ag			Dat	ta Tyj	be
4	Conorol				0	<u>т</u>			DP	T1.00)3
Ĩ	General	Heartbeat telegram			C	I				1 bit	
This obje	ct can be activated	by selecting "Send value "0" o	cyclical	ly, S	Sen	d va	alue	e "1	" cyclically	or Se	nd value
"1/0" inve	erted cyclically" in th	e parameter "Heartbeat Teleg	gram", v	whic	ch i	s us	sed	for	checking i	f the	device is
connecte	d to the system nor	mally.							Ū		
		Change RGB / RED /							DPT	232.6	600
2-6	General	GREEN / BLUE / OLED		C	; W	ľ	J		3	bytes	6

10.1 Objects "General"



		brightness		DPT5.001						
				1 byte						
These c	These objects are used for adjusting panel brightness.									
7	Conoral	Look buttons	CWTU	DPT1.003						
1	General	EOCK DUILONS		1 bit						
This object is used for enabling locking buttons.										
10.12				DPT19.001						
	Slave lock	Notwork data time		8 bytes						
		Network date	СМТП	DPT11.001						
10-12		Network time		3 bytes						
				DPT10.001						
				3 bytes						
These c	bjects are used for in	dicating slave clock status. "Net	work date time" is to	display time and date.						
"Networ	k date" is only to disp	lay date. "Network time" is only t	o display time.							
12	Conoral	Lagal tomporature report	СРТИ	DPT9.001						
13	General	Local temperature report	CRIU	2 bytes						
This obj	ect is used for reporti	ng local temperature.								
14	Conoral	Local humidity roport	CPTU	DPT9.007						
14	General			2 bytes						
This obj	ect is used for reporti	ng local humidity.								

10.2 Objects "HVAC"

Objects function status--"HVAC"

20	HVAC	Switch C	N/OFF						CWTU	DPT1.001 1 bit
No	. Name	Func	tion						Flag	Data Type
54	HVAC Output	Relay-Fan speed3	1 b	it	0			W	T - switch	
53	HVAC Output	Relay-Fan speed2	1 b	it	0	-		W	T - switch	
52	HVAC Output	Relay-Fan speed1	1 b	it	0			W	T - switch	
51	HVAC Output	Relay-Cooling	1 b	it	0			W	T - switch	
50	HVAC Output	Heating PWM value	1 b	yte	0	: -	-	W	T - percenta	ge (0100%)
45	HVAC Fan	Status fan speed automatic	1 bit	С	-	W	Т	U	enable	低
43	HVAC Fan	Status fan speed 3	1 bit	С	-	W	Т	U	switch	低
42	HVAC Fan	Status fan speed 2	1 bit	C	-	W	Т	U	switch	低
41	HVAC Fan	Status fan speed 1	1 bit	С	-	W	т	U	switch	低
40	HVAC Fan	Fan speed 3	1 bit	С	-	W	т	U	switch	低
39	HVAC Fan	Fan speed 2	1 bit	С	-	W	Т	U	switch	低
38	HVAC Fan	Fan speed 1	1 bit	С	-	W	т	U	switch	低
36	HVAC Fan	Fan speed automatic	1 bit	С	-	W	Т	U	enable	低
35	HVAC mode	ON CMD for building protection	1 bit	c	-	W	Т	U	switch	低
34	HVAC mode	ON CMD for night mode	1 bit	c	-	w	Ť	U	switch	低
33	HVAC mode	ON CMD for standby mode	1 bit	c	_	w	т	U	switch	(III.
30	HVAC control mode	ON CMD for comfort mode	1 bit	c		w	т	11	switch	105 /07
29	HVAC control mode	Activation of cooling mode	1 bit	6	-	W	т	11	enable	
20	HVAC control mode	Activation of realing mode	1 bit	c	-	W	т	11	enable	
27	HVAC control mode	Automatic neating/cooling mode	1 DIT	c	-	W	т	0	enable	125
25	HVAC Setpoint	Instantaneous setpoint temp.	2 bytes	C	-	W	T	0	temperature (*C)) 1比
24	HVAC Setpoint	Base setpoint temperature	2 bytes	C	-	W	Ť	U	temperature (°C)) 1氏
23	HVAC Actual temper	Frost/heat alarm error signal	1 bit	C	-	W	T	U	alarm	低
22	HVAC Actual temper	Actual temp. error signal	1 bit	C	-	W	Т	U	alarm	低
21	HVAC Actual temper	Actual temperature	2 bytes	С	-	W	Т	U	temperature (°C)	低
20	HVAC	Switch ON/OFF	1 bit	C	-	W	Т	U	switch	低
45	HVAC Fan	Status fan speed automatic	1 bit	C	-	w	1	U	enable	1版
44	HVAC Fan	Status fan speed	1 byte	C	-	W	T	0	counter pulses (0255) 1低
37	HVAC Fan	Fan speed with % value	1 byte	C	-	W	Т	U	percentage (01	00%) 低
36	HVAC Fan	Fan speed automatic	1 bit	С	-	W	Т	U	enable	低
31	HVAC mode	HVAC mode (byte)	1 byte	С	-	W	Т	U	HVAC mode	低
26	HVAC control mode	HVAC control mode (byte)	1 byte	С	-	W	Т	U	HVAC control m	ode 低
25	HVAC Setpoint	Instantaneous setpoint temp.	2 bytes	С	-	W	Т	U	temperature (°C) 低
24	HVAC Setpoint	Base setpoint temperature	2 bytes	С	-	W	Т	U	temperature (°C) 低
23	HVAC Actual temper	Frost/heat alarm error signal	1 bit	С	-	W	Т	U	alarm	低
22	HVAC Actual temper	Actual temp. error signal	1 bit	С	-	W	Т	U	alarm	低
21	HVAC Actual temper	Actual temperature	2 bytes	С	-	W	т	U	temperature (°C) 低
20	1117-05	Switch Ony On	T DIL	<u> </u>	-	VV.		0	SWITCH	1 Ma



21	HVAC Fan	Temperature from EIB	CWTU	DPT9.001 2 bytes					
This object is	used for indicatin	g temperature data obtained via EIB.							
37-40	HVAC Fan	Fan speed automatic Fan speed with % value Fan speed 1/2/3	CWTU	DPT1.003 1 bit DPT5.001 1 byte DPT1.001 1 bit					
These objects are used for controlling air conditioner fan speed.									
41-45	HVAC Fan	Status fan speed 1/2/3 Status fan speed Status fan speed automatic	CWTU	DPT1.001 1 bit DPT5.010 1 byte DPT1.003 1 bit					
These objects are used for indicating air conditioner fan speed.									
46	HVAC Valve Heating	Trigger valve purge	CWT	DPT1.017 1 bit					
This object is	used for triggerin	g the self-cleaning function of heating/c	ooling valve.						
47	HVAC Valve Heating	Status valve purge	CWTU	DPT1.003 1 bit					
This object is	used for indicatin	g the self-cleaning function status of he	ating/cooling va	lve.					
21	HVAC Actual temperature	Actual temperature	CWTU	DPT9.001 2 bytes					
This object is	used for indicatin	g actual temperature.							
22,23	HVAC Actual temperature	Actual temp. error signal Frost/heat alarm error signal	CWTU	DPT1.005 1bit					
These objects goes wrong.	are used for sen	iding error signal to the bus when local t	emperature/fros	st/over-heating					
24	HVAC Setpoint	Base setpoint temperature	CWTU	DPT9.001 2 bytes					
This object is	used for setting to	emperature/instantaneous temperature.							
25	HVAC Setpoint	Instantaneous setpoint temp.	CWTU	DPT9.001 2 bytes					
This object is "Standby", "Ni	used for returning ight", "Building pr	g to the set temperature of different mod otection", etc.	le, including "Co	omfort",					
26-30	HVAC control mode	HVAC control mode (byte) Activation of Automatic heating/cooling mode/	CWTU	DPT20.105 1 byte DPT1.003					



		heating mode/cooling mode/		1bit					
		fan only							
These objects	These objects are used for controlling air conditioner control mode, including "Automatic heating/								
cooling mode'	, "Only heating",	"Only cooling" and "Only fan".							
		HVAC mode (byte)		DPT20.102					
21.25		ON CMD for		1 byte					
31-35	HVAC Mode	comfort/standby/night/building	0 10	DPT1.001					
		protection mode		1 bit					
These objects	are used for con	trolling air conditioner mode, including "	Comfort/Standb	y/Night/					
Building prote	ction mode".								
		Relay-Heating / Relay-Cooling /							
50-54	HVAC Output	Heating PWM value/Cooling PWM	СWТ	1 hit					
		value / Relay-Fan speed 1/2/3		1 Dit					
These objects are used for outputting air conditioner work mode, including "Heating/Cooling/Heating									
PWM value/Cooling PWM value/Fan speed 1/2/3".									

10.3 Objects "Floor Heating 0/1"

Obje	Objects function status"Floor Heating"											
(Take	(Take "Floor Heating 0" as an example)											
56	Floor Heating	g 0	Pipe pressure protection		1 bit	С	-	W	Т	U	switch	低
57	Floor Heating	g 0	Actual temperatur	re	2 bytes	С	-	W	т	U	temperature (°C)	低
58	Floor Heating	g 0	Actual temp. error	r signal	1 bit	С	-	W	Т	U	alarm	低
59	Floor Heating	g 0	Outdoor tempera	ture	2 bytes	С	-	W	Т	U	temperature (°C)	低
60	Floor Heating	g 0	Normal-mode set	point Temp.	2 bytes	С	-	W	Т	U	temperature (°C)	低
61	Floor Heating	g 0	Day-mode setpoir	nt Temp.	2 bytes	С	-	W	Т	U	temperature (°C)	低
62	Floor Heating	g 0	Night-mode setpo	pint Temp.	2 bytes	С	-	W	Т	U	temperature (°C)	低
63	Floor Heating	g 0	Away-mode setpo	oint Temp.	2 bytes	С	-	W	Т	U	temperature (°C)	低
64	Floor Heating	g 0	Preset 1 Temp. for	timer mode	2 bytes	С	-	W	т	U	temperature (°C)	低
65	Floor Heating	g 0	Time of day for pr	reset 1	3 bytes	С	-	W	Т	U	time of day	低
66	Floor Heating	g 0	Start/Stop heating	for preset1	1 bit	С	-	W	т	U	start/stop	低
67	Floor Heating	g 0	Preset 2 Temp. for	timer mode	2 bytes	С	-	W	т	U	temperature (°C)	低
68	Floor Heating	g 0	Time of day for pr	reset 2	3 bytes	С	-	W	Т	U	time of day	低
69	Floor Heating	g 0	Start/Stop heating	for preset2	1 bit	С	-	W	Т	U	start/stop	低
70	Floor Heating	g 0	Preset 3 Temp. for	timer mode	2 bytes	С	-	W	Т	U	temperature (°C)	低
71	Floor Heating	g 0	Time of day for pr	reset 3	3 bytes	С	-	W	Т	U	time of day	低
72	Floor Heating	g 0	Start/Stop heating	for preset3	1 bit	С	-	W	Т	U	start/stop	低
73	Floor Heating	g 0	Floor heating(1-O	N,0-OFF)	1 bit	С	-	W	т	U	switch	低
74	Floor Heating	g 0	ON CMD for Norr	nal-mode	1 bit	С	-	W	Т	U	switch	低
75	Floor Heating	g 0	ON CMD for Day-	mode	1 bit	С	-	W	т	U	switch	低
76	Floor Heating	g 0	ON CMD for Nigh	it-mode	1 bit	С	-	W	Т	U	switch	低
77	Floor Heating	g 0	ON CMD for Away	y-mode	1 bit	С	-	W	т	U	switch	低
78	Floor Heating	g 0	ON CMD for Time	er-mode	1 bit	С	-	W	т	U	switch	低
	No.		Name		Functio	on					Flag	Data Type
56,86 Floor Heating 0/1 Pipe pressure protection						CWTU	DPT1.001					



				1bit					
These objects are	used for enabling floo	or heating pipe pressure protectio	n function.						
57 59 87 89	Eloor Heating 0/1	Actual temperature	СМТП	DPT9.001					
57,00,07,00	01110	2 bytes							
These objects are used for indicating actual/outdoor temperature.									
58,88 Floor Heating 0/1 Actual temp. error signal		сwтu	DPT1.005 1 bit						
These objects are	used for sending erro	or signal to the bus when the local	temperature go	bes wrong.					
		Normal-mode/							
60-63 90-93	Floor Heating 0/1	Day-mode/	CWTU	DPT9.001					
00 00, 00 00	1 loor ricating 0/1	Night-mode/	0 11 10	2 bytes					
		Away-mode setpoint temp.							
These objects are	used for setting the te	emperature of different mode, incl	uding "Normal-ı	mode/Day-					
mode/Night-mode/	/Away-mode".								
64,67,70,	Floor Heating 0/1	Preset 1/2/3 Temp. for timer	CWTU	DP19.001					
94,97,100				2 bytes					
These objects are	used for setting temp	berature for timer mode.							
65,68,71,	Floor Heating 0/1	Time of day for preset 1/2/3	CWTU	DP110.001					
95,98,101	upped for controlling th	be time statue of the propet tempe		3 bytes					
		Ctart/Ctar beating for preset							
96 99 102	Floor Heating 0/1	Start/Stop neating for preset	CWTU	1 bit					
These objects are	used for starting/stor	ning heating based on the preset	temperature	T BIC					
73,103	Floor Heating 0/1	Floor heating (1-ON, 0-OFF)	CWTU	1 bit					
These objects are	used for turning on/o	ff floor heating.							
		ON CMD for Normal-mode/							
74-78		Day-mode/							
104-108	Floor Heating 0/1	Night-mode/	CWTU	1bit					
		Away-mode/							
		Timer-mode							
These objects are	used for enabling/dis	abling "Normal-mode/Day-mode/I	Night-mode/Awa	ay-mode/Timer-					
mode".	1								
				DP19.001					
01 00	Elect Heating 0/4								
01-02, 111-11-2			CWTU	DPTT.001 1 hit					
111-112	Culput	$P(M/M) = (1 b)(t_0)$							
				1 bvte					
These objects are	used for outputting s	afety protection temperature/relay	switch status/F	WM value.					

10.4 Objects "Air-condition"

Objects function status--"Air-condition

116	Air-condition	Switch ON/OFF	1 bit	С	-	W	т	U	switch	低
117	Air-condition Temper.	Actual temperature from EIB	2 bytes	С	-	W	т	U	temperature (°C)	低
118	Air-condition Temper.	Setpoint temperature	2 bytes	С	-	W	Т	U	temperature (°C)	低
119	Air-condition Fan	ON CMD for automatic	1 bit	С	-	W	т	U	switch	低
120	Air-condition Fan	ON CMD for low speed	1 bit	С	-	W	Т	U	switch	低
121	Air-condition Fan	ON CMD for medium speed	1 bit	С	-	W	т	U	switch	低
122	Air-condition Fan	ON CMD for high speed	1 bit	С	-	W	Т	U	switch	低
123	Air-condition Wind	Wind swing('1'-swing,'0'-stop)	1 bit	С	-	W	т	U	start/stop	低
124	Air-condition Mode	ON CMD for automatic	1 bit	С	-	W	Т	U	switch	低
125	Air-condition Mode	ON CMD for cooling	1 bit	С	-	W	т	U	switch	低
126	Air-condition Mode	ON CMD for heating	1 bit	С	-	W	т	U	switch	低
127	Air-condition Mode	ON CMD for dehumidification	1 bit	С	-	W	т	U	switch	低
128	Air-condition Mode	ON CMD for fan	1 bit	С	-	W	Т	U	switch	低
129	Air-condition Output	Heating PWM value	1 byte	С	-	W	Т	-	percentage (0100%)	低
130	Air-condition Output	Relay-Cooling	1 bit	С	-	W	Т	U	switch	低
131	Air-condition Output	Relay-Fan low speed	1 bit	С	-	W	Т	U	switch	低
132	Air-condition Output	Relay-Fan medium speed	1 bit	С	-	W	т	U	switch	低
133	Air-condition Output	Relay-Fan hight speed	1 bit	C	-	W	Т	U	switch	低

No.	Name	Function	Flag	Data Type
116	Air condition	Switch ON/OFF		DPT1.001
110	All-condition	Switch ON/OFF		1bit

This object is used for turning on/off air conditioner. Sending "1" is to turn on while sending "0" is to turn off.

117	Air-condition	Actual temperature from EIP		DPT9.001					
117	Temperature	Actual temperature from EIB	CWIU	2 bytes					
This object is	This object is used for indicating temperature data from EIB.								
110	Air-condition	Sotociat tomocroture	CWTU	DPT9.001					
110	Temperature	Selpoint temperature	CWIU	2 bytes					
This object is	used for setting t	emperature.							
110 122	Air-condition	ON CMD for		DPT1.001					
119-122	fan	automatic/low/medium/high speed	CWIU	1bit					
These objects	are used for adj	usting air conditioner fan speed.							
120	Air-condition		CWTU	DPT5.001					
120	fan	Fail speed with % value	CWIU	1 byte					
This object is	used for controlling	ng air conditioner fan speed via absolute	e value.						
100	Air-condition	Wind owing (11' owing 10' stop)	CWTU	DPT1.010					
123	Wind	wind swing (1 -swing, 0 -stop)	CWIU	1bit					
This object is	used for turning of	on/off air conditioner wind swing.							
124	Air-condition	Air-condition		DPT 20.105					
124	control mode	AC control mode (byte)		1byte					



This object is used for setting air conditioner mode.								
124-128	Air-condition Mode	ON CMD for automatic/cooling/heating/dehumidifi cation/fan	CWTU	DPT1.001 1bit				
These objects	These objects are used for setting air conditioner work mode, including "Automatic/Cooling/Heating/							
Dehumidificati	on/Fan".							
120-122	Air-condition	Relay-Heating / Relay-Cooling /	СМТЦ	DPT1.001				
129-133	Output	Relay-Fan low/medium/high speed	CWIU	1bit				
These objects	are used for out	putting air conditioner fan speed, includi	ng "Relay-Heat	ing/Relay-				
Cooling/Relay	-Fan low/mediun	n/high speed".						
120 120	Air-condition	Heating/Cooling BWM value	СМТ	DPT5.001				
129-130	Output Heating/Cooling PVVIVI value			1 byte				
These objects are used for outputting the PWM value of air conditioner heating/cooling.								

10.5 Objects "Fan"

Objects	Objects function status"Fan"										
(Take "Floor Heating 0" as an example)											
135	FanA	Switch O	N/OFF	1 bit	c	-	w	т	U	switch	低
136	FanA	Fan spee	d with % value	1 byte	c	-	w	T	U	percentage (0.,100%)	低
147	FanA	Status fa	n speed	1 byte	c	-	W	T	U	counter pulses (025	5) 低
148	Fan A Output	Relay-Fa	n speed1	1 bit	С	-	w	т	-	switch	低
149	Fan A Output	Relay-Fa	n speed2	1 bit	С	-	W	Т	-	switch	低
150	Fan A Output	Relay-Fa	n speed3	1 bit	С	-	W	Т	-	switch	低
135	FanA	Switch C	N/OFF	1 bit	C	-	W	Т	U	switch	低
137	FanA	Fan spee	ed automatic	1 bit	C	-	W	Т	U	switch	低
138	FanA	Fan spee	ed 1	1 bit	С	-	W	Т	U	switch	低
139	FanA	Fan spee	ed 2	1 bit	С	-	W	Т	U	switch	低
140	FanA	Fan spee	ed 3	1 bit	С	-	W	Т	U	switch	低
141	FanA	Fan spee	ed stop	1 bit	С	-	W	Т	U	switch	低
142	FanA	Status sp	eed automatic	1 bit	С	-	W	Т	U	switch	低
143	FanA	Status fa	n speed 1	1 bit	С	-	W	т	U	switch	低
144	FanA	Status fa	n speed 2	1 bit	С	-	W	Т	U	switch	低
145	FanA	Status fa	n speed 3	1 bit	С	-	W	т	U	switch	低
146	FanA	Status fa	n speed stop	1 bit	C	-	W	Т	U	switch	低
	No.	Name		Function						Flag	Data Type
405.4		Fan	0								DPT1.001
135,1	51,167,183	A/B/C/D	Sw	Switch ON/OFF					CWIU	1bit	
These	objects are us	sed for turnir	ng on/off fan. Se	ending "1"	is t	o ti	ırn	on	, w	hile sending "0"	is to turn off.
		Fan	_								DPT5.001
136,1	52,168,184	A/B/C/D	Fan sp	eed with %	6V8	lue	9			CWTU	1 byte



These objects are used for controlling fan speed by percentage.										
137-141,153-157,	Fan	Eans speed automatic/1/2/2/stop	СМТН	DPT1.001						
169-173,185-189	A/B/C/D	Fails speed automatic/ 1/2/3/stop	0.0010	1 bit						
These objects are u	These objects are used for controlling fan speed, including "Automatic/1/2/3/Stop".									
				DPT1.001						
142-147,158-163,	Fan Status speed automatic/fan speed		CWTU	1 bit						
174-179,190-195	A/B/C/D 1/2/3/stop	DPT5.010								
				1 byte						
These objects are u	sed for indic	ating fan speed.								
1/8-150 16/-166	Fan									
180-182 106-108	A/B/C/D	Relay-Fan speed 1/2/3	СWТ	1 bit						
100-102,190-190	Output									
These objects are used for outputting fan speed.										

10.6 Objects "Environment Monitor"

Objects function status"Environment Monitor"										
199	Environment M	Monitor PM2.5	2 bytes C - W T -		低					
200	Environment N	Monitor CO2	2 bytes C - W T -	parts/million (ppm)	低					
201	Environment N	Monitor TVOC	2 bytes C - W T -	parts/million (ppm)	低					
	No.	Name	Function	Flag	Data Type					
			nen PM2.5/CO2/TVOC pr	0.W/T	DPT9.030					
	100.001	Environmen t Monitor			2 bytes					
	199-201				DPT9.008					
					2 bytes					
Thes	These objects are used for monitoring environmental pollutants.									