

Modine Controls System Quickstart Guide

Airedale Sentinel® - Chilled and/or Hot Water Vertical Unit Ventilator (UVV and UVD)

⚠ WARNING

Installing, starting up and servicing heating, ventilation and air conditioning equipment poses significant hazards and requires specialized knowledge of Modine products and training in performing those services. Failure to have any service properly performed by, or making any modification to Modine equipment without the use of qualified service personnel could result in serious injury to person and property, including death. Therefore, only qualified service personnel should work on any Modine products.



pGD1 Display Module

IMPORTANT

These instructions must also be used in conjunction with the Installation and Service Manual (latest revision of AIR3-500) that originally shipped with the unit, in addition to any other accompanying component supplier literature.

This guide is designed to walk through the basics of establishing unit setpoints and scheduling for a chilled water/hot water vertical unit ventilator using the pGD1 display module. Every unit with Modine Controls System is designed for either standalone or networked operation. For units communicating on a BMS, the guide will also explain how to adjust your unit's device instance to allow proper communication.

The pGD1 allows for complete visibility over the unit's controls parameters. It is recommended that at least one handheld device be available at the install site if the need arises to change these settings.

1 Begin

- a. Install unit in desired location in accordance with appropriate Modine Installation and Maintenance Manual.
Note: Controller will not be powered until unit has appropriate electrical connections and disconnect switch in "ON" position.
- b. If display module is not unit mounted, connect pGD1 handheld module using RJ-12 communication cable provided in port J15 as shown on unit mounted wiring diagram.

2 Navigating the Display Module Screen

pGD1 Remote Buttons	Function	Description	pGD1 Remote Buttons	Function	Description
	ALARM	When one or more alarms are active the ALARM button will blink/flash red. Pressing the ALARM button once will indicate information regarding any active alarms. Pressing the ALARM button twice will reset any active manual-reset alarms.		UP	Pressing the UP button can either: Scroll through the various display screens, provided the cursor is in the top left position. Increase the value of a setpoint adjustment.
	PRG	Pressing the PRG button will select the main navigation menu.		ENTER	Pressing the ENTER button will confirm any setpoint adjustments and move the cursor to the next available setpoint.
	ESC	Pressing the ESC button will return the user to the main display screen showing unit status.		DOWN	Pressing the DOWN button can either: Scroll through the various display screens, provided the cursor is in the top left position. Decrease the value of a setpoint adjustment.

3 Main Screen and System Status

- a. The main screen (shown at right) is the default navigation page, and can always be recalled by pressing . This may need to be pressed more than once depending on which menu is active.
- b. By pressing you are able to scroll through the display screens which provide information about the current system operation (examples include temperatures, output status, and space demand).
 - i. **OVERRIDE MODE:** Unit can be placed in override mode on the 'Local Occ. Ovr.' screen (unit will run in occupied mode, regardless of clock schedule) by moving the cursor to the "Clock Override" field and changing the value to 'YES'. The override mode duration can be set on this same screen, and is defaulted to 1 hour.

```
14:51 04/04/23 U:01
RETURN AIR
71.6°F
SetPt C-H: 74.0°F 70.0°F
Status: Occupied
```

4 Turning Unit On / Off

- a. Enter the main menu by pressing and scroll down to line 'A. On/Off Unit' and press .
- b. Press to move cursor, to 'Power By Display' line and the or arrow to change the value between 'ON' and 'OFF'. This parameter must be 'ON' for unit to have any functionality (shown at right).

```
On/Off Unit ON1
Unit Address: 1
Power By Display: ON
Status: Occupied
```


5 Schedule

a. Customizing the 7-Day Schedule

- i. For units running without BMS communication, the controller has a preset 7-day schedule defined by the internal timeclock. The unit will run in occupied mode from 6:00am to 4:00pm, Monday through Friday, with no holidays.
- ii. Enter the main menu by pressing and scroll down to line 'C. Clock/Scheduler' (shown at right) and press .
- iii. The first screen displays the current date and time. If this is not correct press to highlight the field that needs to be changed. Use the or arrows to adjust the number as needed.
- iv. Press to move through adjustable setpoints until cursor is at the upper left corner of the screen. Use the arrow to scroll to the next page.
- v. Select the amount of schedules desired by pressing to highlight 'Number of Schedules' field and adjust the number. Press until cursor is at the upper left corner of the screen. Use the arrow to scroll to the next page.






```
Clock/Schedule L1
14:56:45 04/05/23
Date: 04/05/23
Hour: 14:56
Day: Wednesday
```

Schedule (CONTINUED FROM OTHER SIDE)

- vi. The screen to the right will be the first programmable schedule.
- vii. Highlight the fields and adjust as needed to schedule the time and days of desired unit operation. To move to the next time period, highlight the 'Schedule #' field and adjust this number by pressing .

```
Clock/Schedule L6
Unit Occupied
Schedule #: 1
Time On: 6:00
Time Off: 16:00
Days Enabled: MTWTF**
```

b. Customizing Holiday Schedules







- i. Scroll to the 'Holidays' screen in the 'Clock/Scheduler' menu. Use the  or  arrows to adjust the number of holidays as needed up to 16.
- ii. Press  to move the cursor to each date range and use the  or  arrows to adjust the number as needed. If not all four holiday ranges are required, the unused ranges can be left as '0/0-0/0'.

Note: The scheduling screens for steps 5a.v. through 5b.ii. will only appear if 'Clock/Scheduler' is selected as the Occupancy Input Type in the Service Menu. See Step 7 on how to access the Service Menu.

6 Changing Setpoints












a. Enter the main menu by pressing  and scroll down to line B. Setpoint and press .

b. Occupied Setpoints












- i. Press  to highlight 'Cooling Set'. Use the  or  arrows to adjust the number as needed.
- ii. Press  to highlight 'Heating Offset'. Use the  or  arrows to adjust the number as needed. The heating setpoint is calculated by subtracting the heating offset from the cooling setpoint automatically updating the heating setpoint (For example, if the cooling setpoint is 74°F, and the heating/cooling band is 4°F, the heating setpoint will automatically be set to 70°F). The unit uses the offset field for various control logic and it is not recommended to adjust this value below 3°F.

```
Occupied Setpoints S1
Cooling Setp.: 74.0°F
Heating Offset: 4.0°F
Heating Setp.: 70.0°F
```



c. Unoccupied Setpoints

- i. Press  until cursor is at the upper left corner of the screen. Use the  arrow to scroll to the 'Unoccupied' page.
- ii. Press  to highlight the 'Cooling Set'. Use the  or  arrows to adjust the setting as needed.
- iii. Press  to highlight 'Heating Set'. Use the  or  arrows to adjust the number as needed.
- iv. Press  to highlight 'Humidity Set'. Use the  or  arrows to adjust the number as needed.









d. Standby Setpoints

- i. In standby mode, the clock is calling for the unit to run in occupied mode, but the optional occupancy sensor has detected the room is not occupied. Press  until cursor is at the upper left corner of the screen. Use the  arrow to scroll to the 'Standby' page.
- ii. Press  to highlight 'Cooling Set'. Use the  or  arrows to adjust the number as needed.
- iii. Press  to highlight 'Heating Set'. Use the  or  arrows to adjust the number as needed.
- iv. Press  to highlight 'Humidity Set'. Use the  or  arrows to adjust the number as needed.

7 Service

- a. Enter the main menu by pressing  and scroll down to line 'G. Service' and press . This menu allows access to several parameters for advanced setup or control. This includes BMS Setup, Control Settings such as temperature lockouts or stage delays, and Manual Control of controller inputs/outputs.
- b. To enter directories of this menu, enter password '1500' when prompted.

8 BMS Setup - Changing Device Instance and Station Address

- a. If you need to change your instance number on a Carel network card (BACnet), perform the following:
 - i. Enter the main menu by pressing  and scroll down to line 'G. Service' and press .
 - ii. Scroll to 'e.BMS config' and press .
 - iii. Scroll to the page that asks if the unit has a Plugin, and verify that this is set to 'YES'.
 - iv. On the next page, there will be an 'Instance' field referencing a 4-digit number. Press  once to edit the thousand-digit of the number, and press  again to edit the remaining digits using the  or  arrows.
 - v. On the next page, verify the BACnet function is set to 'WRITE', and change the update field to 'YES'. Press . After seconds, the update field will automatically change to 'NO'.









```
BMS Configuration U4
MSTP Setup
Instance: 0000
Baudrate: N/A
MAC Addr: 0
MaxMasters: 0
MaxInfoFrames: 0
```

Note: If BMS connectivity is not achieved, contact technical service for assistance on BMS setup methods.

9 Advanced Information

- a. The manufacturer menu provides access to parameters not typically required to be changed in the field. These parameters include unit configuration, controller input/output configuration, and reboot sequences. Please contact technical service for assistance if unit operation may be limited by one of these parameters.

10 Viewing / Clearing Alarms

- a. If the unit is sending an alarm signal, the alarm icon  on the pGD1 display module will flash continuously:
 - i. Press  to display the active system alarms. If there are multiple alarms, they may be viewed by pressing the  or  arrows.
 - ii. Details of the unit's running conditions when the alarm occurred may be viewed by pressing  after reaching the end of the alarm list.
 - iii. Pressing and holding the  button will clear the flashing icon and all active alarms, and indicate there are no active alarms in the system.
 - iv. The alarm log can be viewed by pressing . Press  to return to the main screen. If an alarm is persisting, the alarm light will begin to flash again.



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