



System Manager TS II Technical Guide

Requires System Manager TS II Code: SS9003 Version 1.0 and up
DDC Controller Code: SS9001 Version 1.0 and up





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8500 NW River Park Drive · Parkville, MO 64152
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System Manager TS II

Features

The OE392-10-G System Manager TS II (Touch Screen) provides a direct, graphic-enhanced, menu-driven link to enable you to view the status and adjust the setpoints of most controllers on the DDC Controls System. (See **Figure 1.**)

The System Manager TS II provides the following useful functions:

- Provides a 4.3" 480 x 272 WQVGA RGB TFT LCD Graphical Touch Screen LCD display with 16 million colors
- Utilizes a graphical touch screen menu system with easy-to-understand menu trees and icons and non-cryptic, plain English language messages
- Makes entering data quick and easy with instructions on each configuration and setpoint screen
- Graphic programming and status screens provide easy setup and operation without the need for specialized training
- Provides protection from unauthorized users through integral multi-level passcode authorization programming
- Comes equipped with real-time clock backup power supply for short power losses
- Provides icons to indicate alarm conditions
- LEDs behind plastic panel indicate power, communications, and operation
- Plastic enclosure allows for easy flush wall mounting in hollow drywall or surface mounting on solid wall surface

System Requirements

- The System Manager TS II is packaged and assembled as flush wall mount. Surface mount components are also included for your convenience.
- If using the surface mount version, you will need a double duplex outlet box (by others).
- The System Manager TS II only works with the following DDC Controller: SS9001 version 1.00 and later
- CommLink 5 or MiniLink 5



Figure 1: System Manager TS II

Mounting, Wiring, Initializing, and Updating

Environmental Requirements

The System Manager TS II needs to be installed in an environment that can maintain a temperature range between 14°F and 158°F with less than 90% RH levels (non-condensing).

Mounting

The System Manager TS II is housed in a plastic enclosure designed for mounting in hollow drywall construction or a control panel cover with the flush wall mount version (shown in **Figure 3, page 6**) or on a concrete, brick, or other solid wall surface with the surface mount version (shown in **Figure 4, page 7**).

The flush wall mount version has integral wingnut paddles that are tightened after installation to grip the drywall and hold the System Manager TS II in place. For mounting in a control panel cover or other thin material, (4) adhesive backed rubber pads are provided to assist in securing the System Manager TS II into the cutout in the panel. These pads are applied to the wingnut paddles to provide a non-slip mounting against the panel’s sheet metal surface. See **Figure 2** for pad placement details.

The surface mount version is designed to be installed in a double duplex outlet box (by others). Both mounting styles of the System Manager TS II feature an integral, magnetically-secured face plate which can be easily removed for reset of the display when required.

The System Manager TS II should be mounted at approximately eye level to allow for ease of programming and reading of the display. The System Manager TS II is typically mounted in the building manager’s or superintendent’s office or in an equipment room, but is also quite suitable for mounting in any location or with most decors.

Care

The System Manager TS II should be cleaned with a soft, dust-free cloth. Do not use any liquid to clean your System Manager TS II. You should *press* the <Suspend> button located behind the cover to temporarily freeze the touch pad before you attempt to clean your screen. See the Troubleshooting section on **page 19** for details.

Wiring

The System Manager TS II is connected to the local communications loop of the DDC system via 18 AWG 2-conductor, twisted pair with shield wire connected to the T, SHLD & R communication terminals on the back of the System Manager TS II. The communications wire used can be either our WattMaster #WR-LL-WG-18 communications wire or Belden #82760 wire or its equivalent.

The System Manager TS II also requires that 24 VAC (6 VA) power be supplied (by others) to its + and – wiring terminal located on the back of the System Manager TS II. See **Figure 5, page 8** for wiring details. The wiring diagram depicts wiring the System Manager TS II to the DDC Controller. The System Manager TS II can also be wired to the local loop terminals on the MiniLink 5 or any other add-on controller’s local loop terminals. In these instances, it will still require a transformer to be wired.

Dipswitch and Jumper Settings

Because the DDC Controller runs at high speed, Dipswitch OPT1 should always be set to ON. As of April 2014, Dipswitch OPT4 should be set to ON by default. If you see your screen is not centered correctly, switch OPT4 to the opposite position. Dipswitches OPT2 and OPT3 should always be set to OFF. See **Figure 5, page 8** for details.

If you have a Stand-Alone system (no CommLink or MiniLink, the TERM Jumpers must be ON. For applications with CommLink(s) and/or MiniLink(s), the TERM Jumpers must be OFF. See **Figure 5, page 8** for details.

Technical Support

Call 1-855-324-5461 (855-Daikin-1) to talk to a Daikin Technical Support Representative. Support is available Monday through Friday, 7:00 AM to 5:00 PM central standard time.

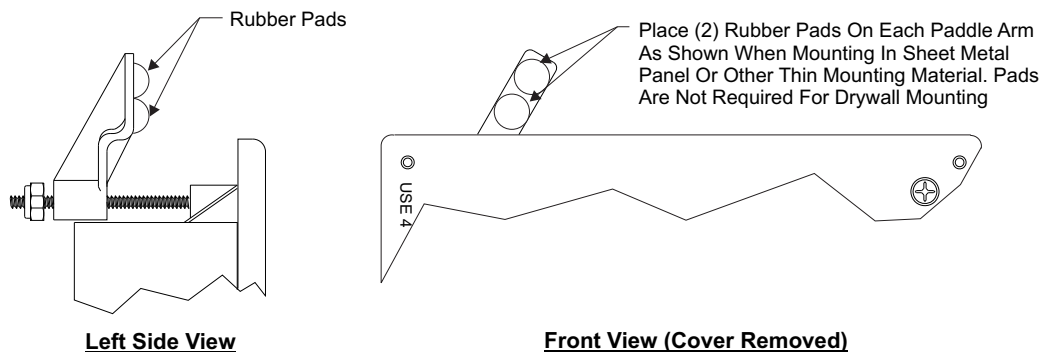


Figure 2: System Manager TS II - Control Panel Mounting Pad Placement Detail (Flush Wall Mount)

COMPONENTS AND WIRING

Wall Mount Dimensions and Components

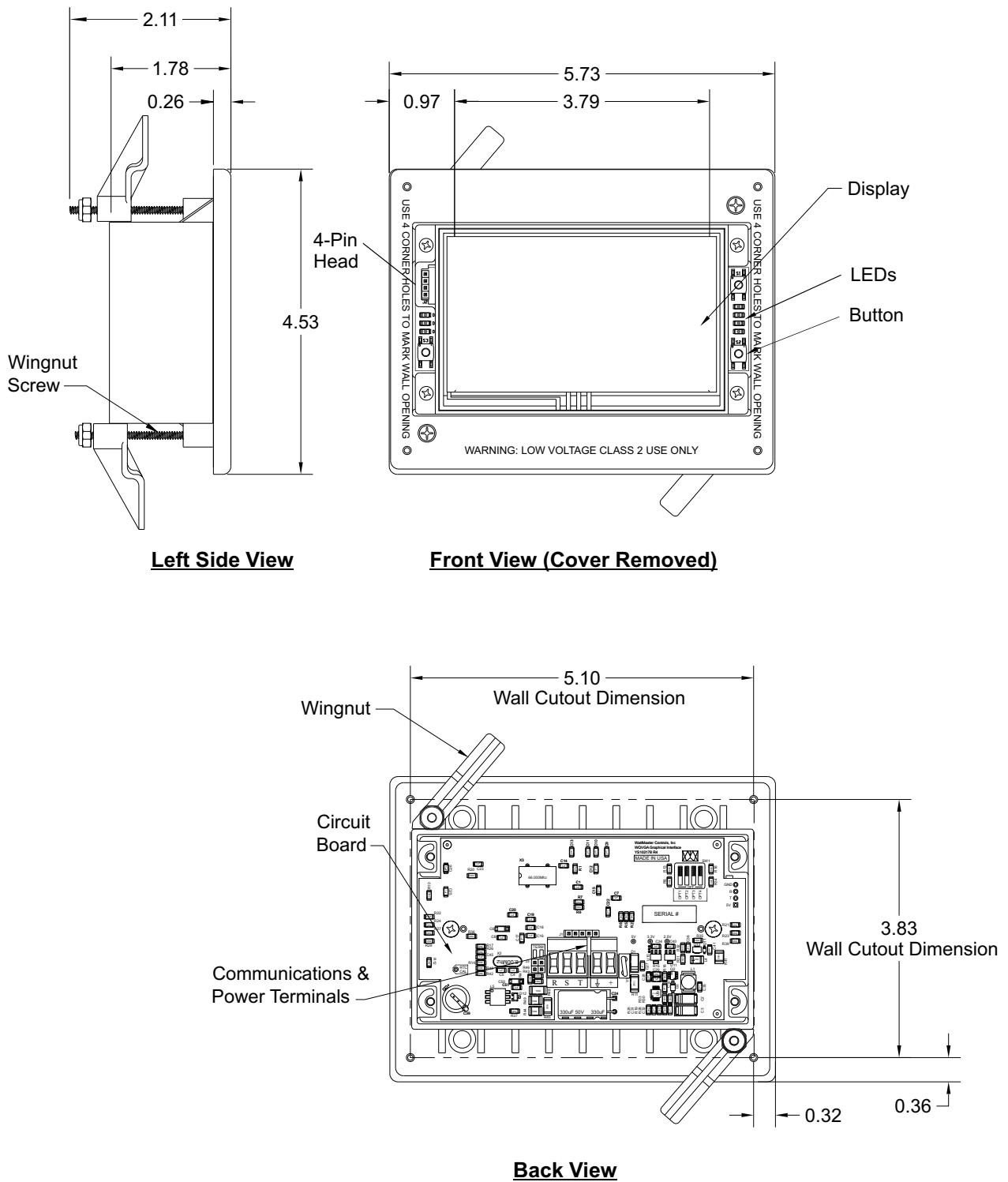
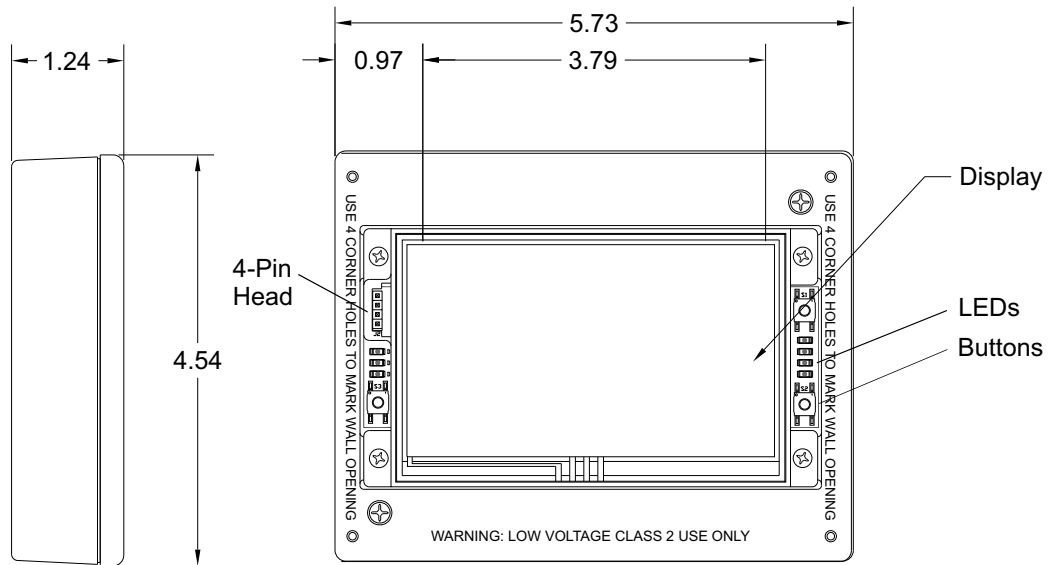


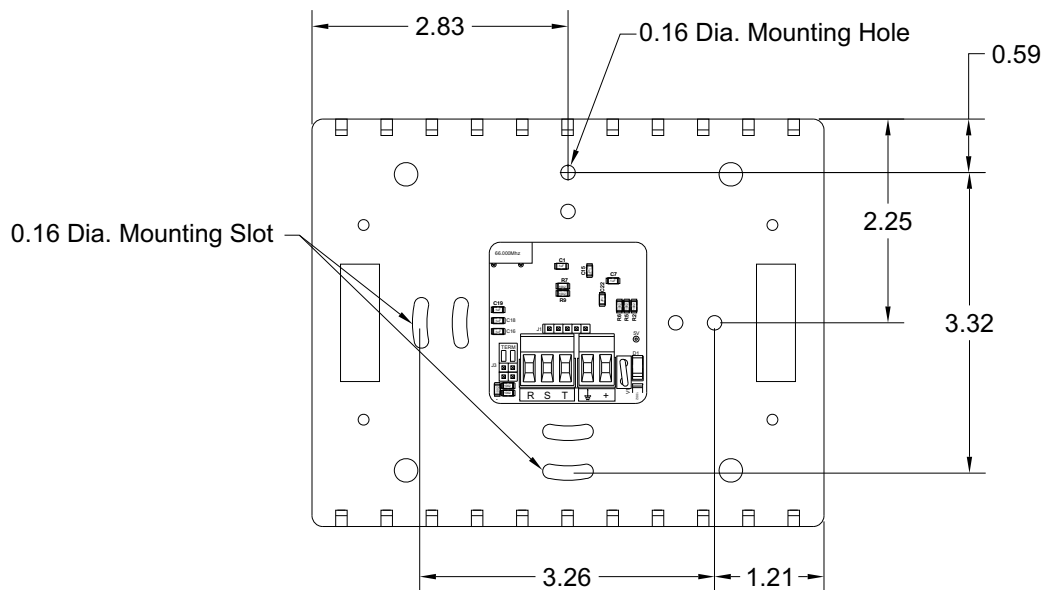
Figure 3: System Manager TS II Dimensions and Components (Flush Wall Mount)

Surface Mount Components and Dimensions



Left Side View

Front View (Cover Removed)



Back View

Figure 4: System Manager TS II Dimensions and Components (Surface Mount)

Main Screen Icons and Button Functions

Icons and Button Functions

System settings and screens are easily accessible by simply *touching* one of the five icons on the *Main Screen*. The subscreens contain blue highlighted data entry boxes with accessible number keypads for data entry and screen maneuvering buttons such as <Esc>, <Back>, and <OK>.

NOTE: Do not attempt to make changes to the Touch Screen while the Unit Controller is initializing. This can cause programming errors.

Main Screen Icons

There are five *Main Screen* icons. See **Table 1** for a list of the *Main Screen* icons and their functions.






Icon	Main Screen Icons
	The <My System> icon takes you to a <i>Unit Selection Screen</i> which takes you directly to the selected controller's <i>Status Screen</i> .
	The <Login> icon takes you to the <i>Login Screen</i> where you enter your passcode.
	The <User Passcodes> icon takes you to the <i>System Manager Passcode Levels Screen</i> if you are a Level 3 user.
	The <Settings> icon takes you to the <i>System Settings Screen</i> where you can change the Backlight settings, set the System Manager address, and enable alarm polling. System settings are only accessible to a Level 3 user.
	The <Set Time & Date> icon takes you to the <i>Set Time and Date Screen</i> . Any level of user can set the time and date.

Table 1: Main Screen Icon Functions

Navigation Buttons

See **Table 2** for a list of Navigation buttons and their functions.





Button	Function
	Use the <Esc> (Escape) key to exit from data entry without saving any new data.
	Use the small <Back> button located in the top right corner of a <i>Data Entry Screen</i> to return to the controller's <i>Status Screen</i> . Use the large <Back> button located at the bottom left of other screens to return to the previous screen.
	Use the <Up> key to step to the next screen or greater value.
	Use the <Dn> key to step to the previous screen or a lesser value.

Table 2: Navigation Button Functions

Selection, Configuration, and Setpoint Buttons

See **Table 3** for a list of Selection, Configuration, and Setpoint buttons and their functions.




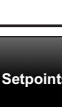
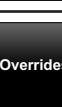
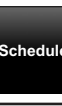
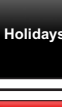

Button	Function
	Use the <OK> key to save the data you just selected or entered.
	<i>Touch</i> the grey radio button to make your selection. A white circle will designate that the item is selected. You can only select one radio button item per screen.
	<i>Touch</i> the grey square selection box to make your selection. A white square will designate that the item is selected. You can make numerous square box item selections per screen.
	The <Setpoints> button, appearing on the controller's <i>Status Screen</i> , takes you directly to the controller's <i>Temperature Setpoint Screen</i> .
	The <Overrides> button, appearing on various controllers' <i>Status Screens</i> , takes you directly to the controller's <i>Force Schedules Screen</i> .
	The <Schedules> button, appearing on various controllers' <i>Status Screens</i> , takes you directly to the controller's <i>Schedule Screen</i> .
	The <Holidays> button, appearing on various controllers' <i>Status Screens</i> , takes you directly to the controller's <i>Holidays Screen</i> .
	The <Alarm> button, appearing on the controller's <i>Status Screen</i> , takes you directly to the controller's <i>Alarms Screen</i> . If red, alarm(s) are present. If black, no alarm(s) are present.

Table 3: Configuration Selection Buttons

Main Screen Icons and Button Functions

DDC Controller Setpoint Buttons

The DDC Controller Setpoint Buttons are located at the bottom of each *Controller Setpoints Screen*. See **Table 4** for a list of the Setpoint buttons and their functions. Level 1 and Level 2 users can view these screens and change occupied heating and cooling setpoints, but only a Level 3 user can make changes to all setpoints.







Button	Function
	The <Temps> button, located at the bottom of the controller's <i>Setpoints Screen</i> , takes you directly to the controller's <i>Temperature Setpoints Screens</i> .
	The <Delays> button, located at the bottom of the controller's <i>Setpoints Screen</i> , takes you directly to the controller's <i>Staging Delays Screens</i> .
	The <Econo> button, located at the bottom of the controller's <i>Setpoints Screen</i> , takes you directly to the controller's <i>Economizer Setpoints Screens</i> .
	The <Misc> button, located at the controller's <i>Setpoints Screen</i> , takes you directly to the controller's <i>Miscellaneous Setpoints Screens</i> .
	The <Cal> button, located at the bottom of the controller's <i>Setpoints Screen</i> , takes you directly to the controller's <i>Calibration Screens</i> .
	The <Config> button, located at the controller's <i>Setpoints Screen</i> , takes you directly to the controller's <i>Configuration Screens</i> .

Table 4: DDC Setpoint Icons

First Things First

The first thing you need to do when setting up your Touch Screen is to Login. The second thing you need to do is establish user passcodes. The third thing you need to do is set the clock. After you complete these simple tasks, you are ready to set your system's settings, view controller status screens, and change schedules and setpoints.

NOTE: Do not attempt to make changes to the Touch Screen while the Unit Controller is initializing. This can cause programming errors.

Main Screen

Once you have connected your System Manager TS II to the controller and have powered it up with the proper power supply, the *Main Screen* will appear. See **Figure 6**.



Figure 6: Main Screen

Entering Your System Manager Passcode

NOTE: There are three available passcode levels. Level 1 defaults to 1111, Level 2 defaults to 2222, and Level 3 defaults to 3333. These defaults can be changed by anyone who logs in at Level 3.

When you power-up your System Manager TS II, the message System Secured is displayed on the upper right corner of the *Main Screen*.



Touch the <Login> icon found on bottom left of the *Main Screen* and type the default Level 3 passcode of "3333" using the number keypad to gain access to all setpoint and configuration items. See **Figure 7**.

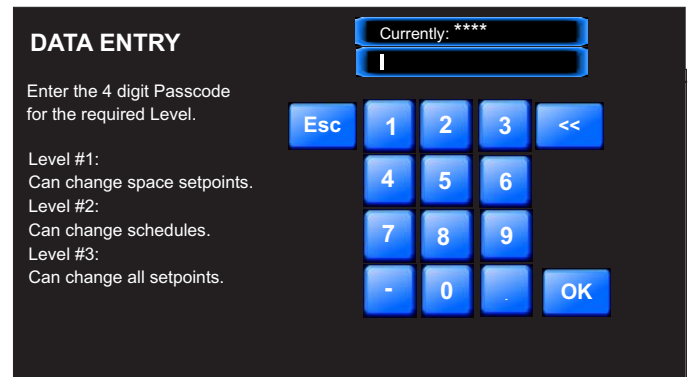


Figure 7: Login Screen

NOTE: For security reasons, the current passcode characters displayed at the top of the screen are never shown and appear as asterisks.

Touch <OK>. Touch <Esc> if you accessed this screen by mistake and do not wish to change the current access level.

The *Login Screen* will automatically close, and the passcode will be tested against all previously defined passcodes to determine the passcode's access level.

If 3333 is still the active Level 3 code, the status message System Access Level 3 will now be displayed on the upper right corner of the *Main Screen*.

NOTE: System Access will automatically default to System Secured after time set for **Backlight Timeout** in the *System Manager Settings Screen* (see **Figure 12, page 14**). If timeout is set to zero, the passcode will timeout after two minutes.

Editing Passcodes

Passcode Clearance Levels

Below is a list of the passcode levels, default codes, and actions that can be performed at the various levels.

Level 0—No Passcode Needed, System Secured

Level 0 users can view temperatures and status points. They can also change the system date and time, but no changes to any controller setpoints can be made.

Level 1—Default: 1111

Level 1 users can view temperatures and change space temperature setpoints. No changes to schedules or other settings can be made.

Level 2—Default: 2222

Level 2 users can change space temperature setpoints and operating schedules but not configuration settings.

Level 3—Default: 3333

Level 3 users have system manager access and can change all setpoints and configurations, including default passcodes. This Level is normally reserved for qualified HVAC service personnel.

Edit Passcodes

WARNING: MAKE SURE YOU CHANGE ALL PASSCODES AS SOON AS POSSIBLE TO SECURE THE SYSTEM!

NOTE: Only a Level 3 user (system manager level) can change Level 1, 2, and 3 passcodes.

NOTE: Do not use the same passcode for all 3 levels. If you do, each passcode will default to Level 1.



User Passcodes

From the *Main Screen*, touch the <User Passcodes> icon. The *System Manager Passcode Levels Screen* will appear. See **Figure 8**.

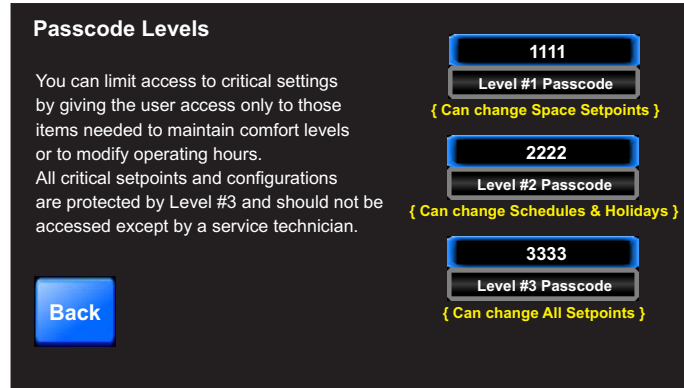


Figure 8: System Manager Passcode Levels Screen

To change a passcode, touch the blue highlighted box containing the current passcode. The keypad will appear with instructions for changing the passcode. See **Figure 9**.

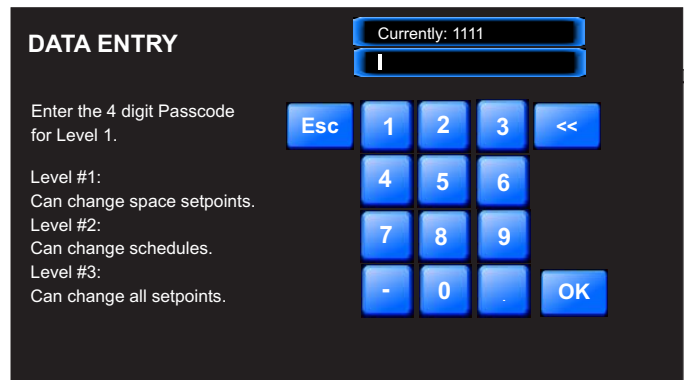


Figure 9: Change Passcode Screen

The current passcode will appear on the top menu bar. Type in the new four-digit passcode. You cannot use the period or minus characters in your passcode. Use the <<<> key if you make a mistake. Touch <Esc> to return to the previous screen without changing the passcode. When you have typed in the new passcode, touch <OK>. The *System Manager Passcode Levels Screen* should display the passcode you entered.

NOTE: If you change the Level 3 passcode, make sure to write it down. If you should happen to forget the Level 3 passcode, contact Daikin Technical Support.

Touch <Back> to return to the *Main Screen*.

Set Time and Date

When you first power up your System Manager TS II, you will need to change the day of the week, the time, and the month, day, and year to the current time and date. If your system has been turned off or has been down for a long time, you may have to do the same, although the time and date can maintain itself for several days. Any level of user can change the time and date settings.

The day of the week, the time, and the date appear at the top right on the *Main Screen*. See **Figure 6, page 11**.



From the *Main Screen*, touch the <Set Time & Date> icon. The *Set Time & Date Screen* will appear. See **Figure 10**.

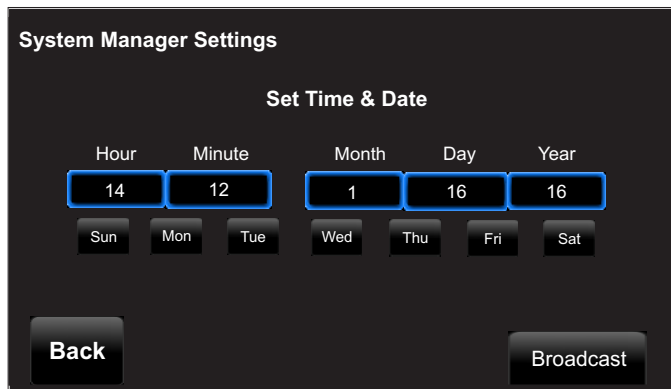


Figure 10: Set Time & Date Screen

In the example above, the current time and date is 2:12 PM, January 16, 2016. There is no day of the week selected yet.

Set Day of the Week: Select the day of the week by simply *touching* your selection. The day of the week text will change from white to blue.

Set Hour, Minute, Month, Day, and Year: *Touch* the blue highlighted box to have each selection screen appear. See **Figures 10 & 11**. Read the instructions on each screen for entering data.

Broadcast: When you are finished setting the clock, *touch* the <Broadcast> button to broadcast the Time and Date to all Units. The following message will appear:

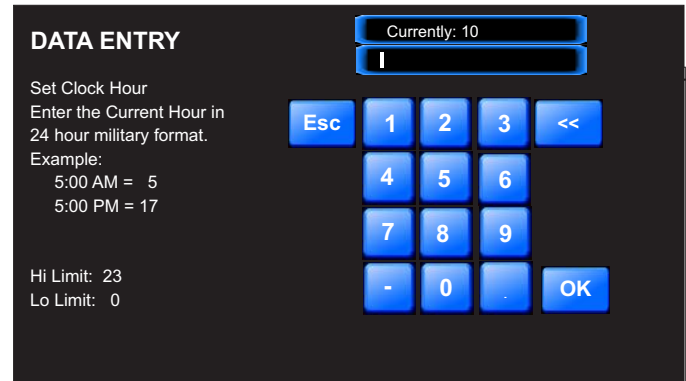
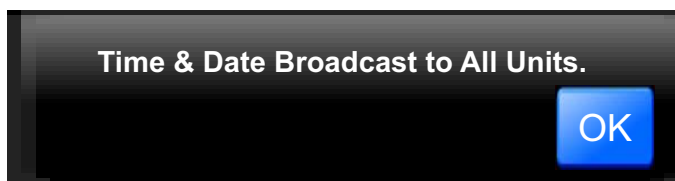


Figure 11: Set Clock Hour

Set Clock Hour: *Touch* the number buttons to enter the current hour in 24 hour military format. Valid entries are from 0-23. *Press* <OK>.

NOTE: See **Appendix** for Military Time Conversion table.

Set Clock Minute: *Touch* the number buttons to enter the current minutes. Valid entries are from 0-59. *Press* <OK>.

Set Clock Month: *Touch* the number buttons to enter the current month. Valid entries are from 1-12. *Press* <OK>.

Set Clock Day: *Touch* the number buttons to enter the current day of the month. Valid entries are from 1-31. *Touch* <OK>.

Set Clock Year: *Touch* the number buttons to enter the current year. Valid entries are from 0-99. *Touch* <OK>. Note: The year is based on the current century; therefore, 16 = 2016. If you enter more than two digits, e.g. 2016, the system will not recognize your entry.

System Manager Settings

System Manager Settings

Additional system settings are available under the <Settings> icon. These include setting the Backlight Timeout, the Backlight Intensity Percentage, the System Manager Address, and One to One Unit Connection.



From the *Main Screen*, touch the <Settings> icon. The *System Manager Settings Screen* will appear. See **Figure 12**.

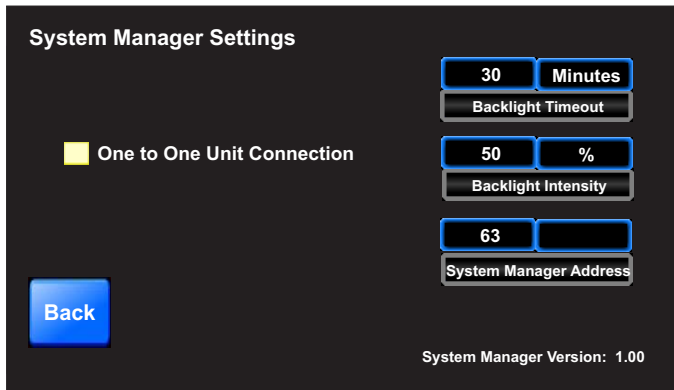


Figure 12: System Manager Settings Screen

One to One Unit Connection: If your System Manager TS II is directly connected to only one unit, you may wish to select this option to bypass the *Unit Selection Screen* and go directly to the unit's *Status Screen*. The controller must be set to address #1 for this to work. Touch the black box to the left of this item on the screen to select it. The box will turn white. If you wish to deselect this option, simply touch the box again.

Backlight Timeout: This setting is actually a setting for three separate functions—Backlight Timeout, *Main Screen* Timeout, and Passcode Timeout. To set the Backlight Timeout, enter the amount of time you wish the screen to maintain the active intensity level after the last touch pad activity occurs. The High limit is 30 and the Low limit is 0. 0 = No Timeout. The System Manager TS II will return to the *Main Screen* display at the same rate as the Backlight Timeout, except that if set to 0, the *Main Screen* will display after 2 minutes. The Passcode will timeout at the same rate as the Backlight Timeout, except that if set to 0, the Passcode will timeout after 2 minutes and will return to System Secured Setting.

Backlight Intensity Percentage: Enter the percentage of light level you wish to maintain whenever touch pad activity occurs. The High limit is 100 and the Low limit is 0.

System Manager Address: Enter the address of the System Manager TS II according to the rules below:

- If the on-board CommLink jumpers are installed on the DDC Controller or an external CommLink 5 or MiniLink 5 is installed, then the System Manager Address needs to be set to **63**.
- If the on-board CommLink jumpers are not installed and there is no CommLink 5 or MiniLink 5, then the System Manager address needs to be set to **0**.
- **Multiple Managers**—If you have more than one System Manager, it must be addressed with a unique address between 1 and 63.

NOTE: To use Multiple Manager addressing, you must have a CommLink 5 or MiniLink 5 installed.

System Manager Version: The version number of the System Manager software appears on the bottom menu bar. This version number is important to know for troubleshooting purposes.

Selecting Units and Viewing DDC Status Screen

My System Unit Selection



From the *Main Screen*, touch the <My System> icon. The *Selected Unit Screen* will appear. See **Figure 13**.

NOTE: If you have chosen the **One to One Unit Connection** in the *System Manager Settings Screen*, this screen will not appear. Instead, the unit's *Status Screen* will appear.

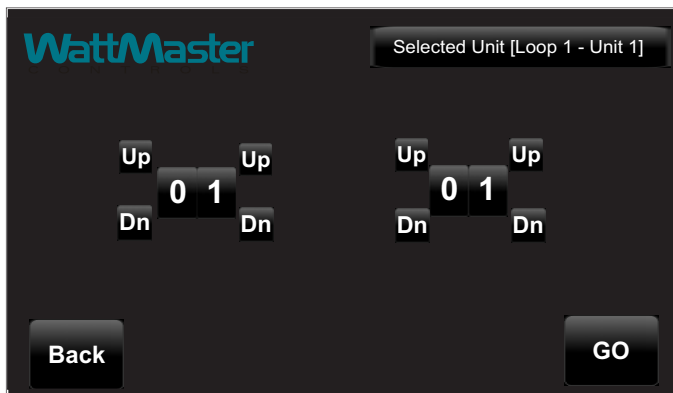


Figure 13: Unit Selection Screen

In **Figure 13**, Loop 1 and Unit 1 are selected as indicated in the figure with white text. They also appear in the *Top Menu Bar* in brackets.

Use the <Up> and <Dn> buttons to move up and down through the loops and units. *Enter* the desired **Loop #** and **Unit #** and then *touch* <GO> to access the unit's *Status Screen*.

Viewing DDC Controller Status Screens

Figure 14 depicts the first *Controller Status Screen*. Notice that the controller is identified by loop number and unit number - in this case, 0110 represents Loop 1, Unit 10.

While in the *Status Screen*, *touch* the <Up> and <Dn> buttons to view more status screens displaying relays and operating setpoints. The setpoints and relays appear in the middle of each screen. The screens roll back to the first *Status Screen*. There are 8 *Status Screens*.



Figure 14: DDC Controller Status Screen 1

Viewing DDC Controller Alarms

Viewing DDC Controller Alarm Status



To view alarm status, touch the <ALARM> button on the unit's *Status Screen*. See **Figure 15**. The *Alarm Status Screens* will display. See **Figures 16 & 17**.



If there are no alarms present, this red <ALARM> button will display <No Alarms> and will be gray.

NOTE: The <ALARM> button only appears on the screen if the unit has an active alarm condition. Only a Level 3 user has the option to enable or disable each type of alarm.



Figure 15: DDC Controller Status Screen 1

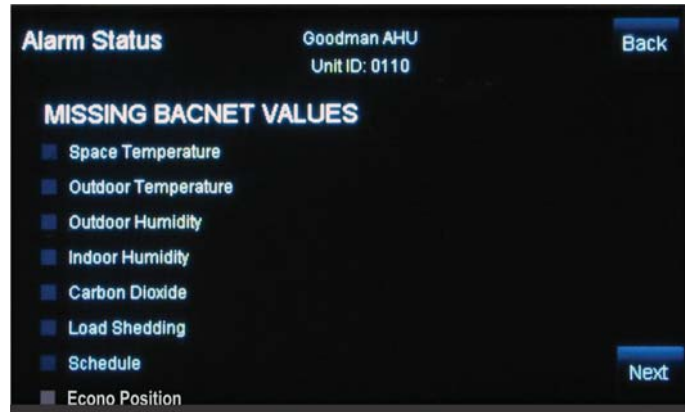


Figure 17: DDC Controller Alarm Status Screen 2

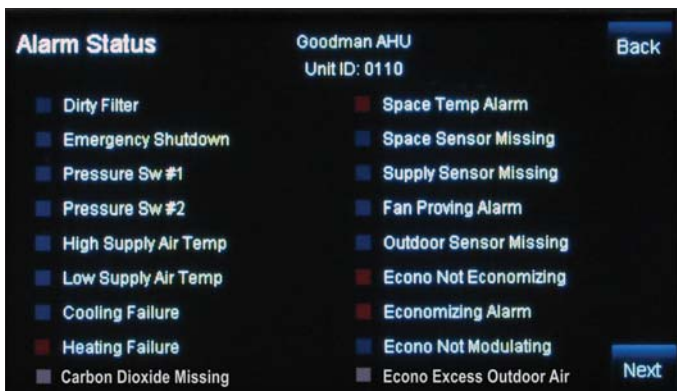


Figure 16: DDC Controller Alarm Status Screen 1

Touch the <Next> button to go to the next *Alarm Status Screen*.

Viewing and Setting Schedules & Holidays

Viewing and Setting Schedules

To view and set schedules for the DDC controller, *touch* the <Schedules> button found at the bottom of any *Status Screen* (Figure 15, page 16). The *Schedules Screen* will appear. See Figure 18. The default day will be Sunday and the default event start/stop times will be midnight.

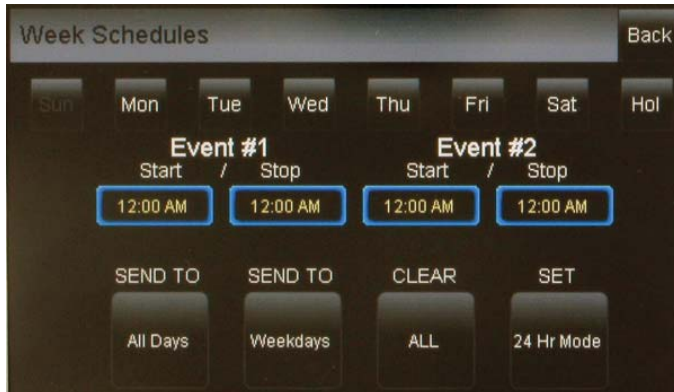


Figure 18: DDC Controller Schedules

A Level 2 user can set two schedules per day for individual days of the week, all weekdays, weekends, and holidays. All times are entered in military time format.

If you wish to enter a schedule for a certain day of the week, first *touch* the day of the week at the top of the screen. Otherwise, the day defaults to Sunday. *Touch* the start and stop time for each Event and enter the desired times. See Figure 19. All times must be entered in military time format. See the Military Time Table in the Appendix, page 24.

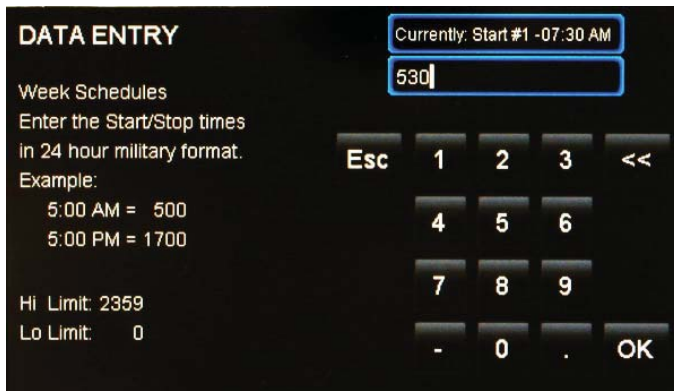


Figure 19: Schedule Times Screen

Touch <OK> to save the time you entered or *touch* <Esc> to exit the *Schedule Times Screen* without changing the time and return to the *Schedules Screen* (Figure 18).

To eliminate a schedule from any event, simply enter a zero for the Start and Stop time for that day. The screen will display 12:00 am for both the Start and Stop times, indicating that the equipment will not activate on that day.

Once back at the *Schedules Screen*, you can continue setting schedules day by day or use following options:

SEND TO <All Days> - *Touch* this button to send the schedule appearing on the screen to all days of the week, except for holidays.

SEND TO <Weekdays> - *Touch* this button to send the schedule to weekdays only. You will need to set up a separate schedule for Saturday and Sunday when selecting this option.

CLEAR <All Schedules> - *Touch* this button to clear all schedules.

SET <24 Hr Mode> - *Touch* this button to have the system run continuously, 24 hours a day, 7 days a week including holidays. All event times will display 11:59 PM.

Viewing and Setting Holidays

To view and set holidays for the DDC Controller, *touch* the <Holidays> button found at the bottom of the *Status Screen* (Figure 15, page 16). The *Holidays Schedule Screen* will appear. See Figure 20. The holidays in the screen will initially not be set. You can only set holidays for the current year. You must be a Level 2 user in order to set holidays.



Figure 20: Holidays Schedule Screen

Simply *touch* the day(s) of the month to select holidays. *Touch* the <<> button to go back one month and the >>> button to go forward one month.

There are 14 holiday periods available for each year. These holiday periods can be a single day or they can span days, weeks, or even months.

For example, if you want to schedule a summer break, you need only schedule one holiday period to define a two or three month break from operating in the occupied mode.

Every defined holiday uses the Holiday operating schedule programmed in the controller's *Schedules Screen*.

Holidays can only be programmed for the current year. You cannot program holidays before the next year occurs. Holidays do not automatically adjust for the new year, so you will need to access this screen after the new year and make necessary adjustments to the days that float, such as Memorial Day.

Forcing Schedules & Accessing & Entering Setpoints

Schedule Override

To Force Schedules, from the *DDC Controller Main Status Screen*, touch the <Overrides> button located at the bottom of the screen. The following options will appear:

Schedule Auto Mode

Touch the radio button to select the schedule option. Default is Schedule AUTO Mode. This selection will remain in effect unless it is changed again on this screen. Schedule overrides do not automatically time out after a certain period of time.

- Schedule AUTO Mode—Select this to restore normal schedule operations.
- Schedule FORCED ON—Select this to Force the unit into continuous Occupied Mode operation.
- Schedule FORCED OFF—Select this to Force the unit into continuous Unoccupied Mode operation.

Accessing and Entering DDC Controller Setpoints

While in the DDC Status Screen (see **Figure 21**), touch the <Setpoints> button found on the bottom menu bar. The DDC Controller's *Temperature Setpoints Screen* will appear. See **Figure 22**. Level 1 and Level 2 users can change occupied space temperature setpoints, but only Level 3 users can change all setpoints.



Figure 21: DDC Controller Status Screen

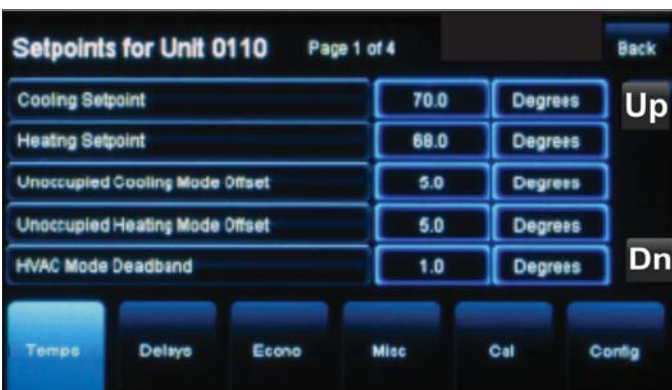


Figure 22: DDC Controller Temperature Setpoints

Individual setpoint and configuration buttons are located at the bottom of the *Setpoint Screens*. See **Figure 23**. Simply touch a specific button to access that category.

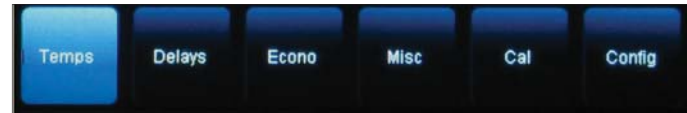


Figure 23: DDC Controller Setpoint Buttons

Within each Setpoint Screen, touch the <Back> button until you return to the *Status Screen*.

Use the <+> and <-> buttons to scroll through the setpoints and configurations. Simply touch the blue highlighted box to change the setpoint. Each setpoint data entry screen will provide a definition of the setpoint and specific instructions for entering the setpoint and will include the setpoint range as in the example below, **Figure 24**.

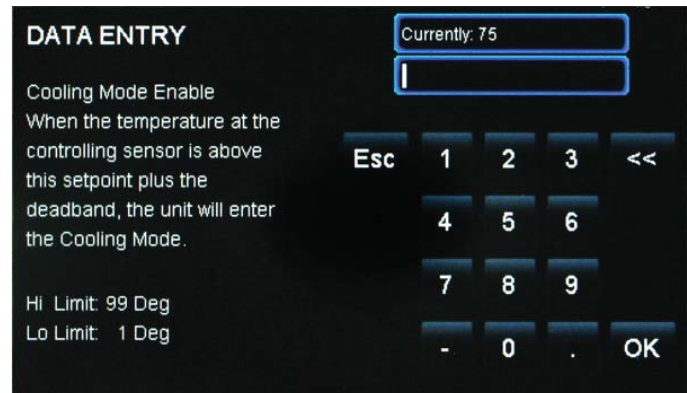


Figure 24: DDC Cooling Setpoint Data Entry Screen

Touch <OK> to have the system accept the new value. If you enter a setpoint that is not in the valid range, the setpoint will remain as is and will not change.

Each setpoint data entry screen is self-explanatory due to the detailed description and high and low limits. Therefore, each setpoint will not be described in this manual.

System Manager TS II LEDs, Buttons, Dipswitches & Jumpers

LEDs and system function buttons are located behind your System Manager TS II's cover. See **Figure 25** for locations. Dipswitches and jumpers are located on the back of your System Manager TS II.

Power LED

This LED will light up and stay on as long as power is supplied to your TS.

Operation LED

This LED will blink once a second to indicate that the system is alive.

Update LED

This LED will turn on when the Update program is running.

Screen Refresh LED

This LED will turn on when the screen refreshes.

Communications LED

This LED will light up and blink when there is a connection with the CommLink and/or network. If you are using your TS in stand-alone mode, this LED will not light up.

Reset Button

Press this button to reset the screen. The screen should refresh itself to the *Main Screen* within 2 minutes.

Diagnostics Button

Under the direction of Daikin Technical Support, you may have to perform diagnostics on your System Manager TS II. Press this button to do so.

Touch Screen Suspend Button

Press this button to temporarily freeze the touch screen function of your System Manager TS II in order to clean the screen. Always use a dry, dust-free cloth to clean the screen.

OPT1 Dipswitch

The OPT1 Dipswitch should be always be set to ON. This Dipswitch is located on the back of the System Manager TS. See **Figure 5, page 8** for location.

OPT4 Dipswitch

As of April 2014, Dipswitch OPT4 should be set to ON by default. If you see your screen is not centered correctly, switch OPT4 to the opposite position. This Dipswitch is located on the back of the System Manager TS. See **Figure 5, page 8** for location.

TERM Jumpers

Both TERM Jumpers must be ON for Stand-Alone applications (No CommLink or MiniLink). Both TERM Jumpers must be OFF for applications with CommLink(s) and/or MiniLink(s). See **Figure 5, page 8** for location.



Figure 25: System Manager TS II LEDs & Buttons

System Configuration

System Configuration Options

A DDC Controller can be used as a Stand-Alone System (one DDC Controller only), connected together on an Interconnected System (multiple DDC Controllers only) or connected together on a Network System (multiple DDC Controllers and/or Add-On Controllers) to form a complete Controls System that can be programmed and monitored with one or both of the available Operator Interfaces.

For detailed information about the DDC Controls System, please see the *DDC Controller Technical Guide*.

Operator Interfaces

The Operator Interfaces are designed to provide for programming and monitoring of DDC Controller(s) and/or any Add-on Controller(s) connected to your System. You can use one or both of these interfaces on the same System. See **Figure 26**. The Operator Interfaces available for use with the DDC Control System are as follows:

- System Manager TS II
- Computer with PrismD Computer Front End Software Installed and on-board CommLink or external CommLink

Stand-Alone System

The Stand-Alone System is used when you have a single controller only. Programming and status monitoring are accomplished by selecting and installing one or both of the Operator Interfaces. See **Figure 27, page 21** for a Typical Stand-Alone System Layout diagram.

Interconnected System

The Interconnected System is used when you have multiple controllers of the same type on your job. With this system, you simply connect the controllers together using WattMaster communications wire or 18-gauge, 2-conductor twisted pair with shield wire (Belden #82760 or equivalent). This allows for all controllers that are connected on the communications loop to be programmed and monitored from one or both of the available Operator Interfaces connected on the communications loop. See **Figure 28, page 22** for a Typical Interconnected System Layout diagram.

Networked System

If you have 1 to 59 DDC Controllers that require information sharing, simply connect the controllers together using WattMaster communications wire or 18-gauge, 2-conductor twisted pair with shield wire (Belden #82760 or equivalent). The Networked Single Loop System requires that either a MiniLink communication interface and/or CommLink communication interface are purchased and wired into the communications loop in a similar manner to the DDC Controllers.

The Networked Multiple Loop system is used when you have more than 59 DDC Controllers. These groups of controllers are broken up into multiple “Local Loops” that connect to each other via the “Network Loop.” Each individual MiniLink handles its specific local loop’s communications requirements. The CommLink communications interface handles all the communications between the individual MiniLinks to form the network loop. Up to 60 local loops can be connected together with this configuration. This provides the capability for over 3500 controllers to be networked together. See **Figure 29, page 23** for a Typical Networked System Layout diagram.

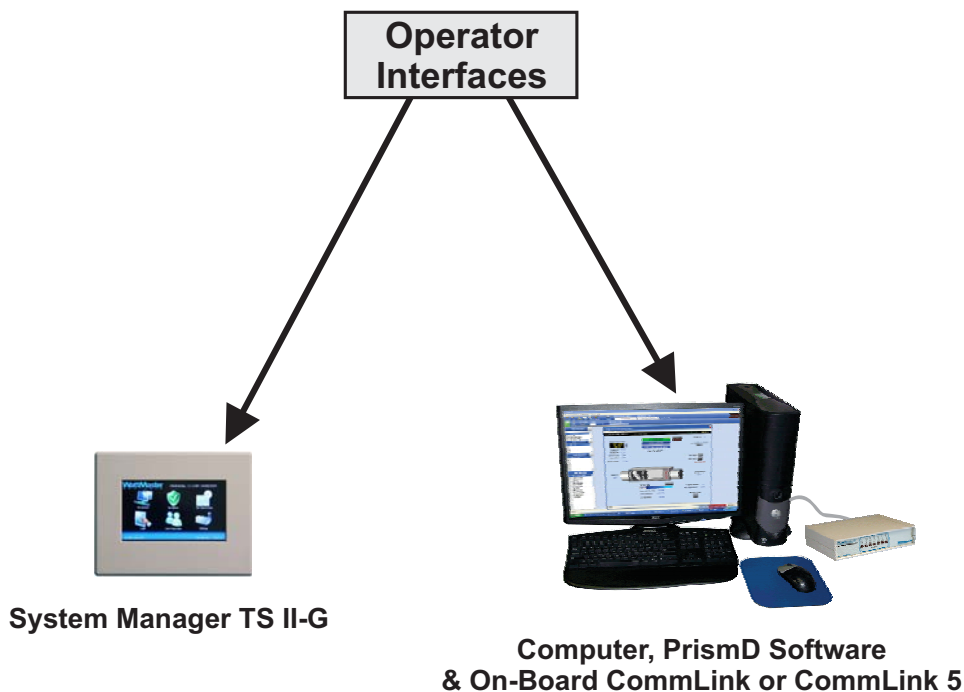


Figure 26: Available Operator Interfaces

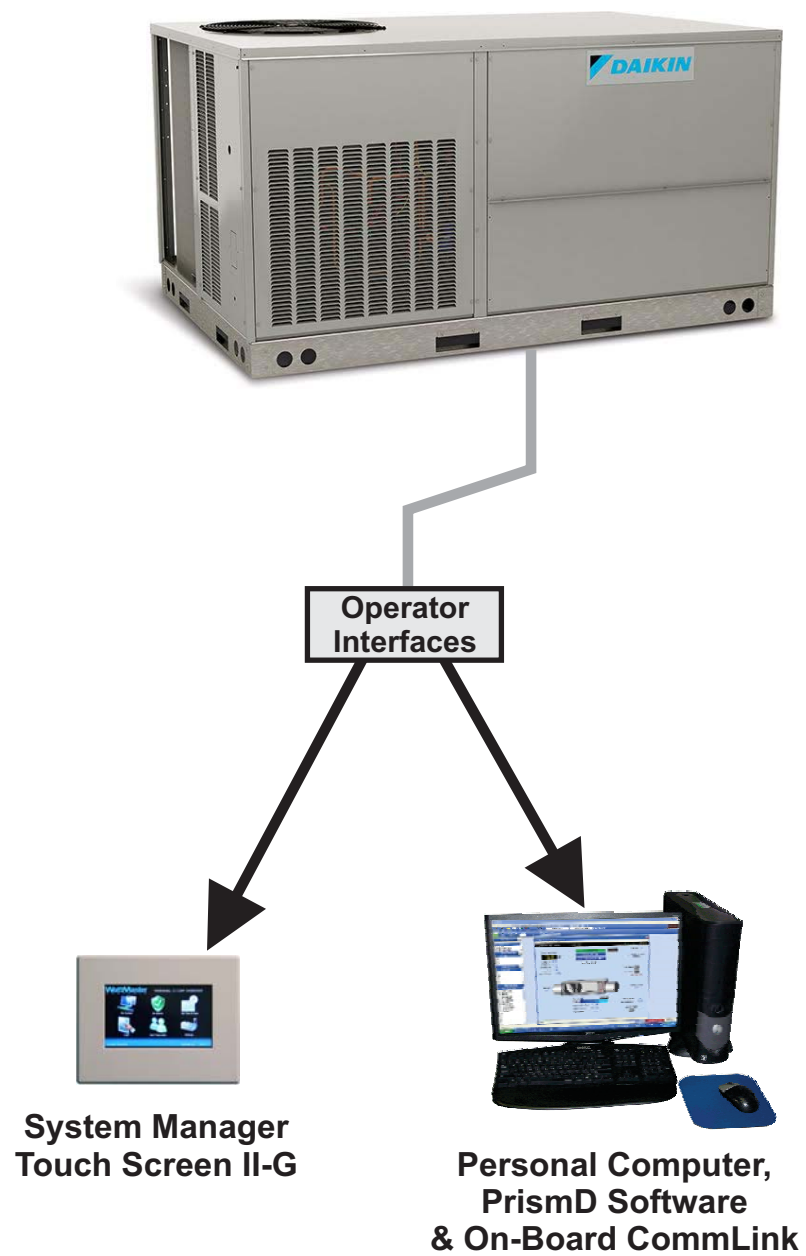


Figure 27: Typical Stand-Alone System Layout

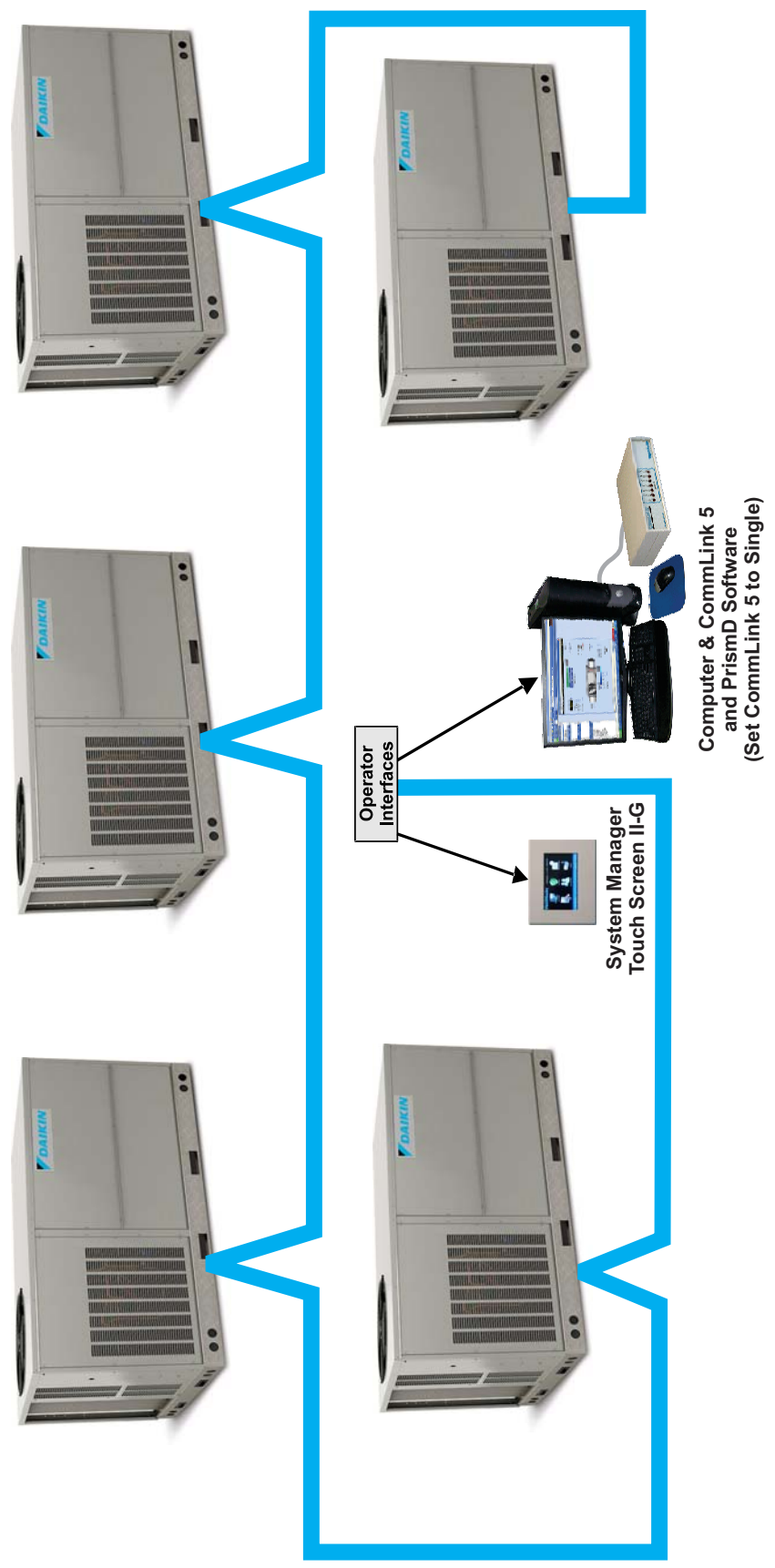


Figure 28: Typical Interconnected System Layout

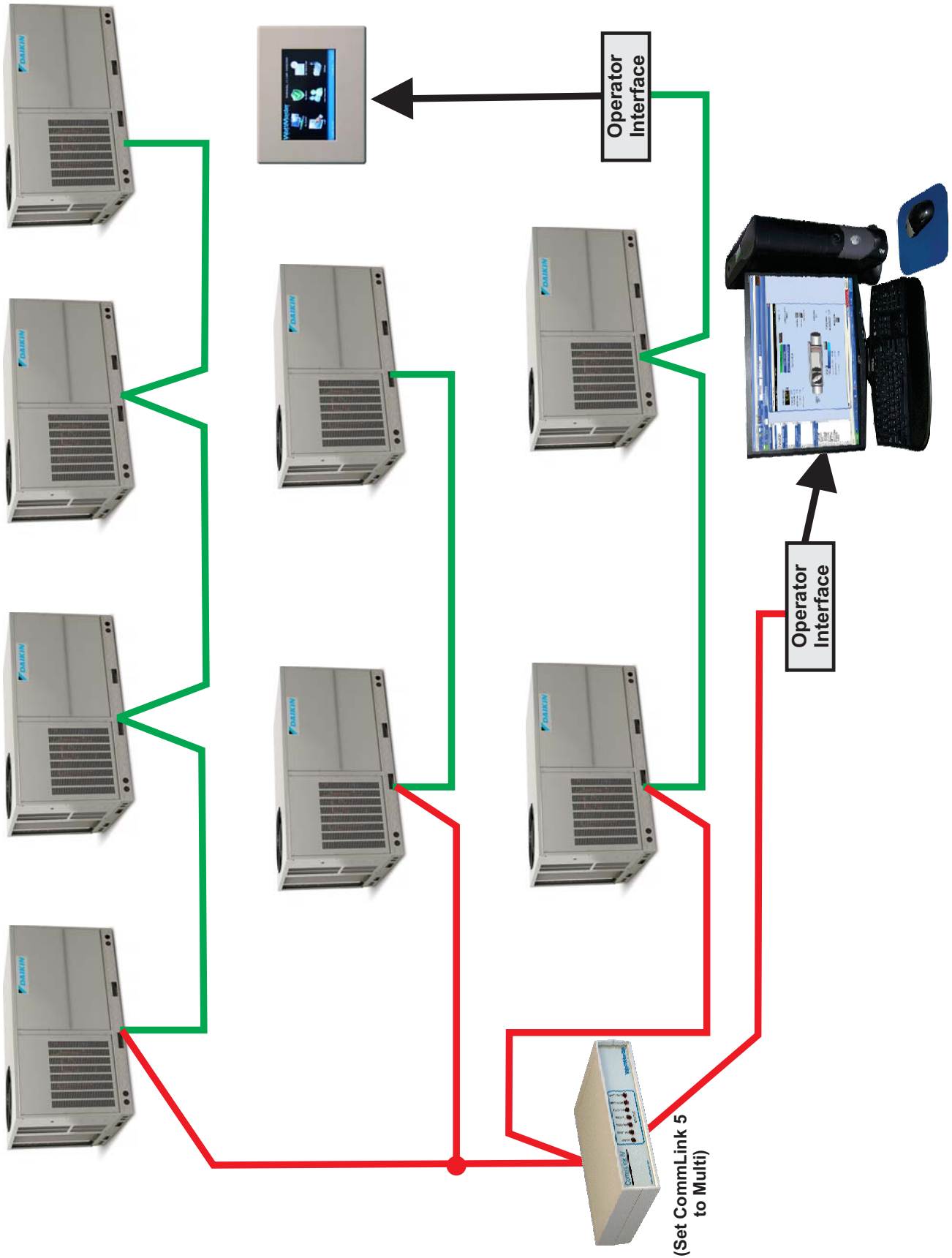


Figure 29: Typical Networked System Layout

Military Time Conversion

Military Time Conversion

The main difference between regular and military time is how hours are expressed. Regular time uses numbers 1 to 12 and a.m. and p.m. to identify each of the 24 hours in a day. In military time, the hours are numbered from 0000 to 2300.

Military time is based on a 24-hour day. Hours are numbered 0000 through 2300 and are recorded first. The last two digits indicate the minute after the hour. Military time does not exceed 2359 hours. For example, midnight is recorded as 0000; one minute past midnight is 0001; 1 a.m. is 0100, 1 p.m. is 1300, and so on.

Regular and military time express minutes and seconds in exactly the same way. When converting from regular to military time and vice versa, the minutes and seconds do not change.

Regular time requires the use of a.m. and p.m. to clearly identify the time of day. Since military time uses a unique two-digit number to identify each of the 24 hours in a day, a.m. and p.m. are unnecessary.

The following table summarizes the relationship between regular and military time.

Regular Time	Military Time
12:00 a.m.	0000
12:30 a.m.	0030
1:00 a.m.	0100
1:30 a.m.	0130
2:00 a.m.	0200
2:30 a.m.	0230
3:00 a.m.	0300
3:30 a.m.	0330
4:00 a.m.	0400
4:30 a.m.	0430
5:00 a.m.	0500
5:30 a.m.	0530
6:00 a.m.	0600
6:30 a.m.	0630
7:00 a.m.	0700
7:30 a.m.	0730
8:00 a.m.	0800
8:30 a.m.	0830
9:00 a.m.	0900
9:30 a.m.	0930
10:00 a.m.	1000
10:30 a.m.	1030
11:00 a.m.	1100

Table 5: Military Time Conversion

Regular Time	Military Time
11:30 a.m.	1130
12:00 p.m.	1200
12:30 p.m.	1230
1:00 p.m.	1300
1:30 p.m.	1330
2:00 p.m.	1400
2:30 p.m.	1430
3:00 p.m.	1500
3:30 p.m.	1530
4:00 p.m.	1600
4:30 p.m.	1630
5:00 p.m.	1700
5:30 p.m.	1730
6:00 p.m.	1800
6:30 p.m.	1830
7:00 p.m.	1900
7:30 p.m.	1930
8:00 p.m.	2000
8:30 p.m.	2030
9:00 p.m.	2100
9:30 p.m.	2130
10:00 p.m.	2200
10:30 p.m.	2230
11:00 p.m.	2300
11:30 p.m.	2330

Table 5, cont.: Military Time Conversion



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