MICRO CONTROL SYSTEMS

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www.mcscontrols.com

Installation & Reference Guide
Version 1.7

MCS-THERMOSTAT


```
           ❄
          COOL
         OCCUP
ZONE
TEMP      73.2 °F

Humidity: 52.6      ↓↑↵
```

MENU   UP   DOWN   ENTER

Override

MICRO CONTROL SYSTEMS

MCS Total Solution for all your Control Needs

RoHS Compliant ✓   *Energy Efficient and RoHS Compliant*

Micro Control Systems, Inc.
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Table of Contents

Chapter - 1.   MCS Thermostat's Interface

The MCS-THERMOSTAT'S interface allows the viewing of 17 different parameters and has the ability to adjust 9 settings, including cooling & heating set points, operational schedules, holiday schedules, calibration and password protection.

Menu
Access the primary menu.

Enter
Confirms changes and adjustments.

Override
Permits override
Room is occupied
Room is unoccupied.

Selection Up Button ⬆

Selection Down Button ⬇
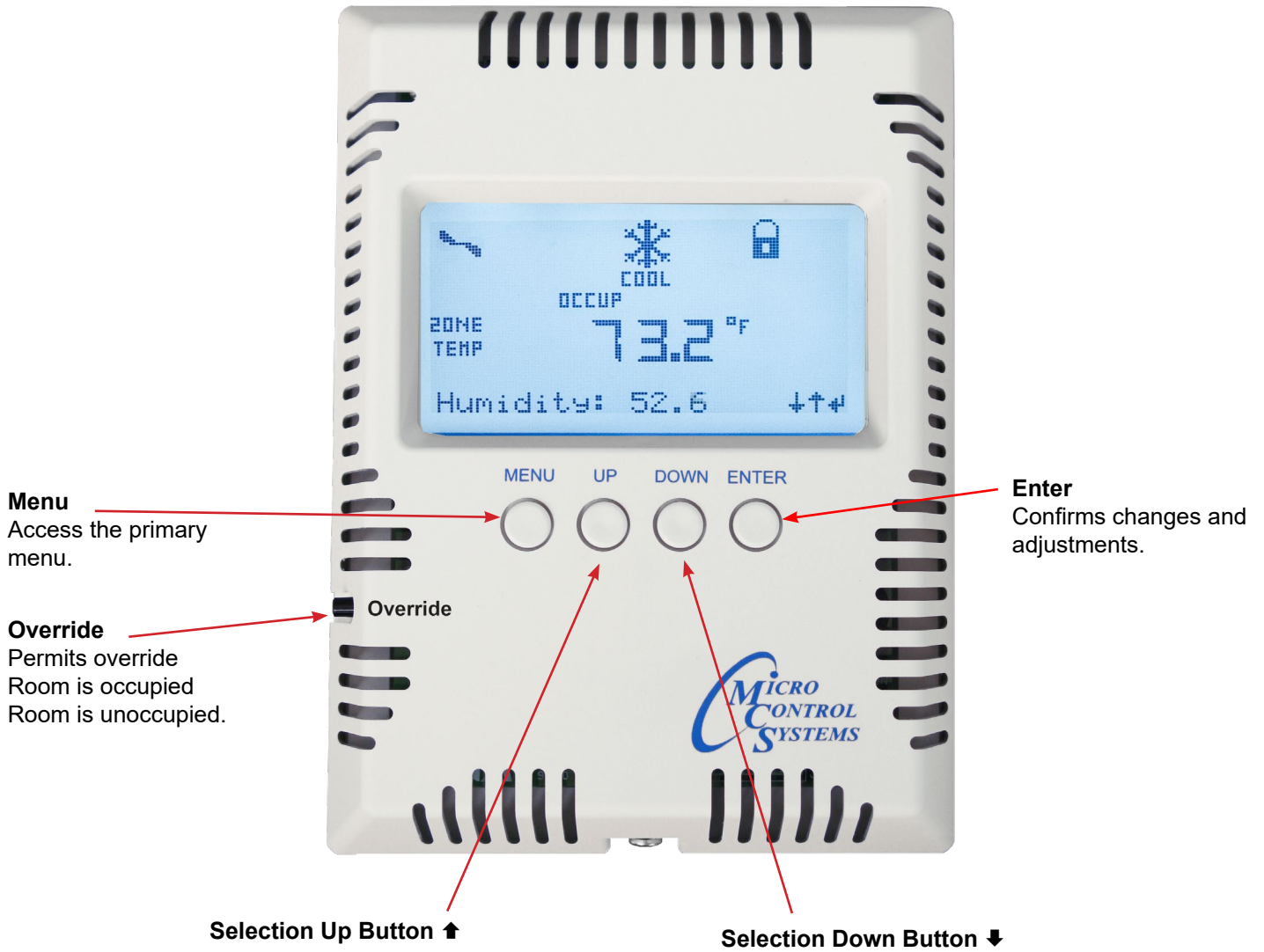
The primary means of cycling through the thermostat's options, menus, and settings- press the up button or down buttons to cycle thru the options.

Chapter - 2.   Thermostat's Display (Display Test)

The LCD screen displays seven icons reporting operational mode, current status and alarms.

Unit is in HEATING mode

Unit is in COOLING mode

Unit is in DEHUMIDIFICATION

Indicates position of outside Air Damper

Thermostat is LOCKED

Indicates Speed of FAN (Low, Medium, High)

An ALARM is ACTIVE

OAD   HEAT COOL   ALARM

OVERRIDE   UNOCCUP   MO TU WE TH FR SA SU HD

73.8°F

Cool Trg = 76.0

Display shows current views,
OCCUP (Occupied)
UNOCCUP (Unoccupied)
OVERRIDE

Display shows day of week,
MO, TU, WE, TH,
FR, SA, SU & HD (Holiday)

Display shows current
sensor value and current Set Point

6

Chapter - 3.   Icons Display

Icon	Description
ALARM	Unit has an active alarm.
COOL	Unit is in cooling mode.
(dehumidification)	Unit is in dehumidification mode.
LOW MED HIGH	Evaporate fan is running (speed indicator low, medium, high).
HEAT	Unit is in heating mode.
OAD	Outside air damper is closed.
OAD	Outside air damper is open.
(lock)	Thermostat is locked-no changes allowed without Authorization.
↑	Up arrow key.
↓	Down arrow key
↵	Enter arrow key
OVERRIDE	Override button-takes unit out of unoccupied (set point based)
UNOCCUP	Unit is in unoccupied mode.
MO -MONDAY FR-FRIDAY TU-TUESDAY SA-SATURDAY WE-WEDNESDAY SU-SUNDAY TH-THURSDAY	Day of week icons.

Chapter - 4.   Installation

The MCS-THERMOSTAT is powered by a +5vdc supply from an MCS controller via a two wire connection that can be wired with the communication network cabling. Improper wiring or installation may damage the thermostat. Wiring must conform to local and national electrical codes.

WARNING!
Before installing the thermostat, turn off all power to the unit. There may be more than one power disconnect. Electrical shock can cause personal injury or death.

NOTE: DO NOT INSTALL THE THERMOSTAT WHERE IT MAY BE AFFECTED

BY AIR FROM NEARBY DUCT WORK, ELECTRONIC EQUIPMENT, ETC.

4.1.   REQUIRED FOR INSTALLATION

- An MCS-THERMOSTAT with a +5 volt power supply

- 1/4" Phillips screwdriver
- 5/64" flathead screwdriver
- 2 ½ pan machine screws (included)
- 1 Wire cutter/stripper
- 4 Wire 22 to 20 awg Shielded Cable
- J-Box (USA or International)

4.2.   MOUNTING LOCATION

- Install the **MCS-THERMOSTAT** on an interior wall. Exterior walls that are poorly insulated can affect the Thermostat temperature and humidity readings and may lead to wasted energy.

- Install the **MCS-THERMOSTAT** away from drafts, direct sunlight or anything that would cause the temperature to be artificially high or low.

- Install the **MCS-THERMOSTAT** so that it's not blocked by doors or other obstructions.

- The Thermostat should be mounted approximately 5' (1.5m) above the floor.

4.3.   WIRING AND DISTANCE

Use 4 wire 22 to 20 awg Shielded Cable for installation. The MCS-THERMOSTAT can be installed up to 1000 feet from the MCS CONTROLLER.

Chapter - 5.   Installation - Mounting

5.1.   UTILIZING J-BOX

MCS recommends you install the **MCS-THERMOSTAT** utilizing a J-Box.
Prior to installing the **MCS-THERMOSTAT** punch out the corresponding mounting holes on the **MCS-THERMOSTAT** housing based on the J-box you are utilizing.

International Style Junction Box   USA Style Junction Box

USA

International
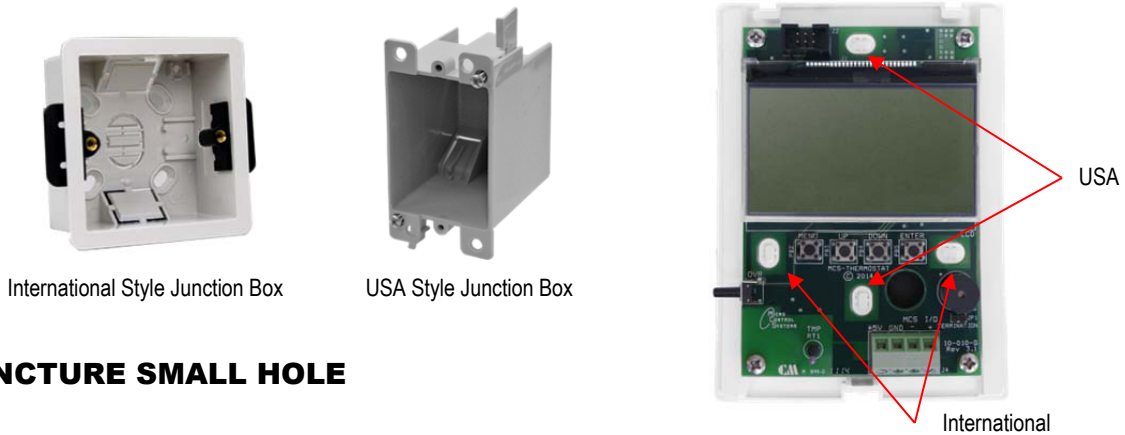
5.2.   PUNCTURE SMALL HOLE

Puncture a small hole in the grommet on the back side of the thermostat. You want the wires to be tight so no air passes through affecting the thermostat's reading.

5.3.   OUTPUT WIRES

Push the output wires from the **MCS Controller** through the rear hole of the **MCS-THERMOSTAT'S** mounting plate.
It may be good practice to wait until the wires are in position to be attached to the

MCS-THERMOSTAT before they are stripped or cut with a tool.

5.4.   SCREWS
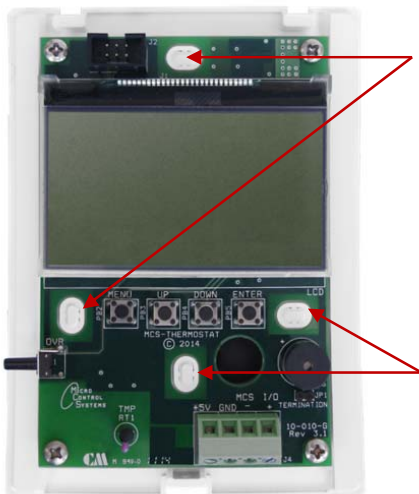
Using a ¼" Phillips screwdriver, insert one of ¼" machine screws into one of the mounting slots depending on the J-box you are utilizing and tighten the screw to hold the mounting wall plate into position.

Screw the second ¼" machine screw into the lower mounting slot to secure the wall plate.

Chapter - 6.   Wiring Instructions to MicroMag

6.1.   Rev. 6.0 (or less) 24VAC, 115VAC and 230VAC

TURN POWER OFF TO CONTROLLER AND THERMOSTAT FIRST
Begin wiring (not supplied) from the MCS CONTROLLER to the MCS-THERMOSTAT as shown in the wiring diagram.

ONE THERMOSTAT PER MCS-CONTROLLER

MicroMag I/O port
(located on top of board as shown below)

G (MCS)

W (+)

MCS THERMOSTAT

MCS-THERMOSTAT
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MICRO
CONTROL
SYSTEMS

+5V GND - +
MCS I/O

TERMINATION
*See Note.

R (+5)

B (GND)

+5 GND SI +5 GND SI
SENSOR 1   SENSOR 2

Enlarged view of Thermostat block wiring

NOTE:
Termination jumpers are used only on the first and last boards on the network

MicroMag Sensors
5 Sensors available
Power for Thermostat
(can be wired to any empty sensor)
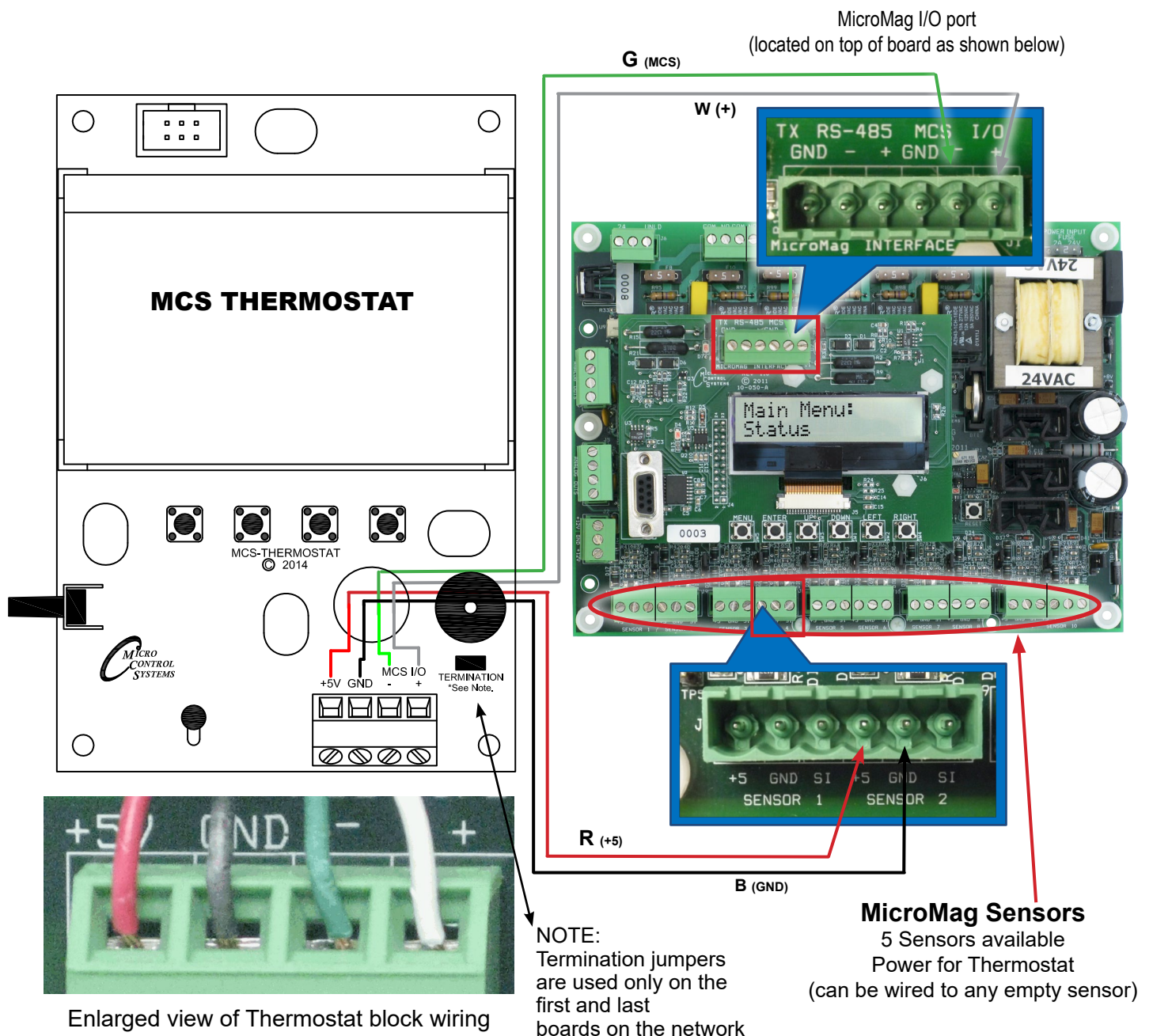
6.2.   Rev. 6.1 - 24VAC, 115VAC AND 230VAC

TURN POWER OFF TO CONTROLLER AND THERMOSTAT FIRST

Begin wiring (not supplied) from the MCS CONTROLLER to the MCS-THERMOSTAT as shown in the wiring diagram.

ONE THERMOSTAT PER MCS-CONTROLLER

MicroMag I/O port
(located on right of board as shown below)
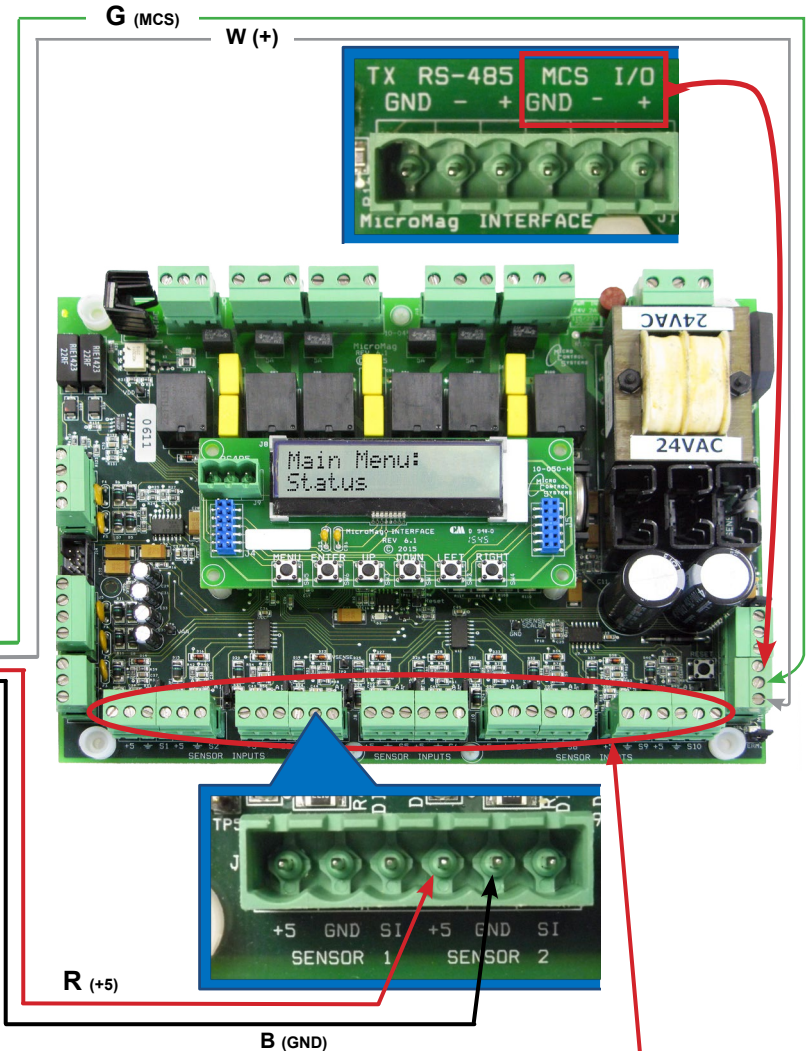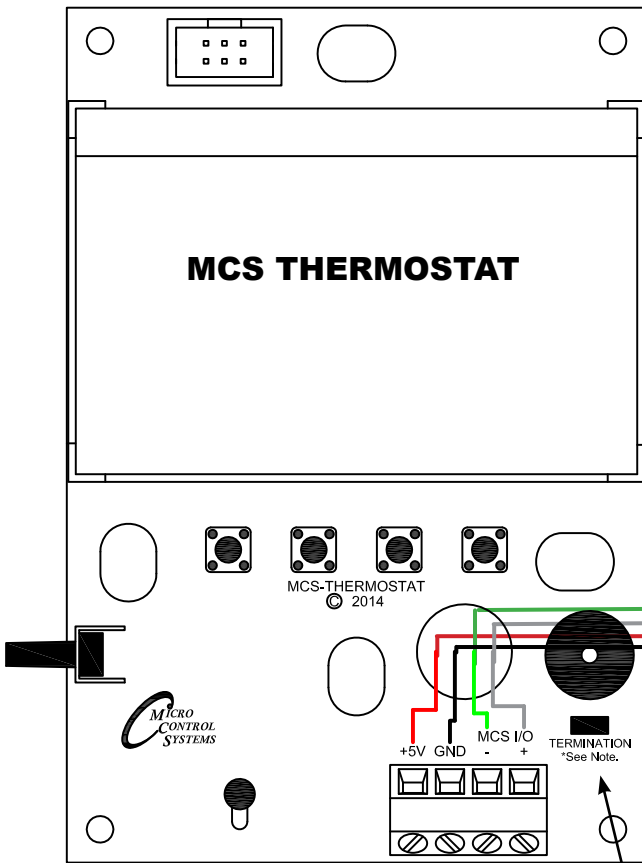
G (MCS)

W (+)

MCS THERMOSTAT

MCS-THERMOSTAT © 2014

+5V   GND   MCS I/O   -   +   TERMINATION *See Note.

R (+5)

B (GND)

Enlarged view of Thermostat block wiring

NOTE:
Termination jumpers are used only on the first and last boards on the network

MicroMag Sensors
5 Sensors available
Power for Thermostat
(can be wired to any empty sensor)

6.3.   Rev. 7.0 - 12 VOLT SYSTEMS

TURN POWER OFF TO CONTROLLER AND THERMOSTAT FIRST

Begin wiring (not supplied) from the
MCS CONTROLLER to the
MCS-THERMOSTAT
as shown in the wiring diagram.

ONE THERMOSTAT PER MCS-CONTROLLER

MCS-THERMOSTAT
© 2014

MICRO CONTROL SYSTEMS

+5V GND   MCS I/O
            -    +

TERMINATION
*See Note.

WHITE

SHIELD DRAIN WIRED
TO EARTH GROUND

SENSOR
+5 GND SI

DIGITAL ANALOG

MCS-Micro-Mag
or
MCS-SI-Board
or
MCS-MAGNUM

MCS I/O
+   -   GND

TERMINATION
*See Note.

*Note:
   Termination jumpers are used
   only on the first and last
   boards on the network.
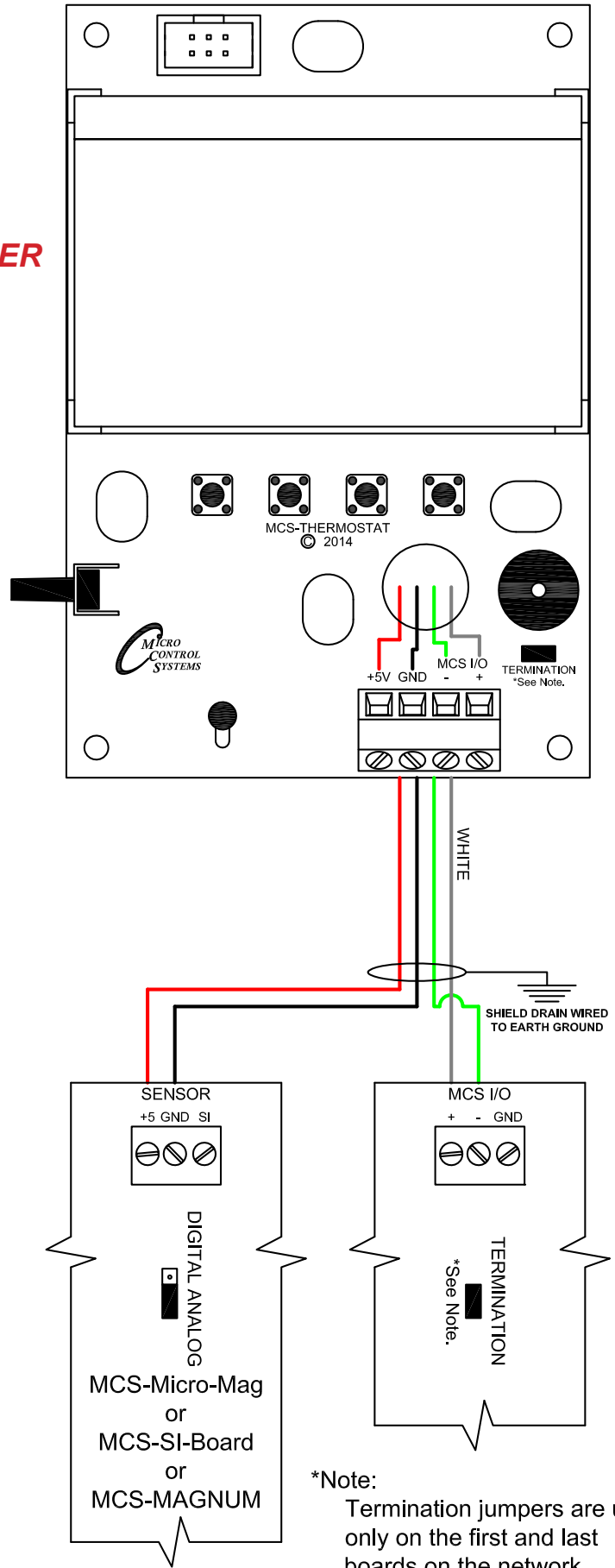
Chapter - 7.   Thermostat Menu Screens

Use ⬆ 'UP' ⬇ 'DOWN' and ↵ 'ENTER' BUTTON TO MOVE BETWEEN SETTINGS

7.1.   SETUP (APPEARS FIRST TIME THERMOSTAT IS TURNED ON)

7.1.1	Net Address (Factory Set At 1)
7.1.2	Units Degrees (F) Or (C)
7.1.3	Auth Level Setup
7.1.4	Sound Alarm Stat
7.1.5	Adjust Backlight
7.1.6	Standby Backlight
7.1.7	Exit Setup Menu

**SEE NEXT PAGE FOR DESCRIPTIONS
OF MENU ITEMS AND
AN EXAMPLE OF AUTHORIZATIONS LEVELS**

7.2.   MAIN

7.2.1	Unit Status
7.2.2	Lockout Reset
7.2.3	Last Alarm
7.2.4	Time And Date
7.2.5	Show Version Number
7.2.6	Cool Target
7.2.7	Unit (Run/Stop)*
7.2.8	Enter Password
7.2.9	Config Menu

***NOTE: SOME MENU OPTIONS MAY NOT SHOW
ON YOUR THERMOSTAT LCD SCREEN.**

**THESE SELECTIONS MAY NOT BE SETUP IN THE
CONFIGURATION FILE FOR YOUR CONTROLLER.**

**AFTER LAST SELECTION HAS BEEN MADE
CLICK ON 'MENU" TO RETURN TO THE
'UNIT STATUS SCREEN'**

7.3.   CONFIG MENU

7.3.1	Auth Level Setup
7.3.2	Zone or Supply Temp**
7.3.3	Sound Alarm Stat
7.3.4	Thermostat Reset
7.3.5	Adjust Date & DOW
7.3.6	Adjust Time
7.3.7	Standby Backlight
7.3.8	Adjust Backlight
7.3.9	Display Test
7.3.10	Temp Cal
7.3.11	Modify Holidays
7.3.12	Modify Schedules
7.3.13	Units - F/C

****SUPPLY TEMP IS ONLY AVAILABLE IN THE
MICROMAG CONFIG SETTINGS IF AVAILABLE
SEE THERMOSTAT CONFIG MENU SETUP
ON HOW TO LOAD**

**CLICK ON THERMOSTAT RESET
PRESS ENTER TO UPDATE.
THE THERMOSTAT WILL REBOOT AND LOCK**

Chapter - 8.   SETUP (APPEARS FIRST TIME THERMOSTAT IS TURNED ON)
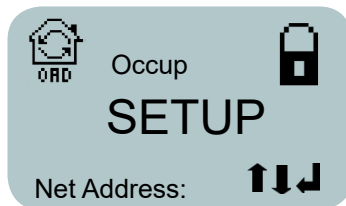
NOTE: THIS MENU WILL APPEAR THE FIRST TIME YOU
POWER UP THE THERMOSTAT.

ADDITIONAL CHANGES CAN BE MADE USING THE
CONFIG MENU AFTER THE 'INITAL SETUP'

SETTING UP THE THERMOSTAT FOR THE FIRST TIME

AT THIS POINT, YOU SHOULD HAVE WIRED THE THERMOSTAT TO THE MICROMAG
OR MAGNUM controller.

Turn power on to the MicroMag or MAGNUM, Thermostat will power up and enter the
'SETUP MENU'. The following items will appear in the setup menu:

8.1.   NETWORK ADDRESS

The Thermostat is factory set to Network address one (1) This cannot be changed.

8.2.   UNITS DEGREES

Allows the user to choose between Celsius and Fahrenheit.
Directions: Use the Up/Down arrows to move between Celsius and Fahrenheit.
Press 'Enter' to select the desired unit degrees and the display will confirm the change.

8.3.   AUTHORIZATION LEVEL SETUP

The user will be able to see all functions of the thermostat if the controller's configuration
file is setup to allow this. *Some functions of the thermostat may be turned off in the
configuration file to help protect unauthorized users from making changes.*

Authorization Levels- The MicroMag and MAGNUM allow several levels of password protection
that have been setup in your thermostat - 'Service', **'Supvsr'** (Supervisor),
and **'Factory.'**

The Installer can setup the Authorization Levels at this time. This will allow a user with
the correct password to make changes.

**OPERATION OF THE THERMOSTAT CAN BE CONTROLLED BY THESE LEVELS OF
AUTHORIZATION. SEE EXAMPLE NEXT PAGE**

Setup (continued)

SAMPLE TO SHOW HOW TO USE AUTHORIZATION LEVELS FOR THE THERMOSTAT

FUNCTION	VIEW	SERVICE	SUPVSR	FACTORY
Run/Stop Controller	NO	NO	YES	YES
Lockout Reset	NO	YES	YES	YES
Config Menu	NO	YES	YES	YES
Co2 Target	NO	YES	YES	YES
Humidity Target	NO	YES	YES	YES
Heat Target	YES	YES	YES	YES
Cool Target	YES	YES	YES	YES
Humidity Calibration	NO	YES	YES	YES
Temp Calibration	NO	YES	YES	YES
Modify Holiday Dates	NO	YES	YES	YES
Modify Schedule and 24 hour clock	NO	YES	YES	YES

AS SHOWN IN THE 'SAMPLE' ABOVE AUTHORIZATION LEVEL 'VIEW' (DEFAULT) WILL HAVE THE LOWEST LEVEL OF ACCESS TO THE THERMOSTAT WHEREAS AUTHORIZATION LEVEL 'FACTORY' WILL HAVE THE HIGHEST AUTHORIZATION FOR MAKING CHANGES TO THE THERMOSTAT.

YOU CAN SET UP THE AUTHORIZATION LEVEL FOR EACH SELECTION SHOWN IN THE 'CONFIG' MENU SO A USER WILL BE LIMITED AS TO WHAT CHANGES THEY CAN MAKE.

8.4.   SOUND ALARM STAT

Hit 'ENTER' - Allows the user to turn alarm on or off.

8.5.   ADJUST BACKLIGHT

Allows the user to adjust the backlight setting from 25% to 100%.

8.6.   STANDBY BACKLIGHT

Hit 'ENTER' - Allows user to make changes to the backlight - OFF or 25% to 100%

8.7.   EXIT SETUP MENU

Press ENTER to exit the SETUP menu, all changes made in the SETUP settings will be saved in the **MCS-THERMOSTAT non volatile** flash memory.

**YOUR THERMOSTAT IS SETUP AND READY FOR USE.
ADDITIONAL CHANGES CAN BE MADE USING THE CONFIG MENU
IF YOU ARE AUTHORIZED**

Chapter - 9.   Main Menu Settings

CLICK ON MENU TO SEE THE SCREENS BELOW
AUTHORIZATION PASSWORD LEVEL MAY BE REQUIRED

NOTE: SOME MENU SELECTIONS WILL NOT SHOW ON YOUR THERMOSTAT LCD SCREEN, IF THEY ARE NOT SETUP IN THE CONFIGURATION FILE FOR YOUR CONTROLLER.

9.1.   UNIT STATUS

Hit 'ENTER' shows status of thermostat.

9.2.   CONFIG MENU

Hit 'ENTER' - Allows user to enter Config Menu to make adjustment to the thermostat.

9.3.   ENTER PASSWORD

Hit 'ENTER' - Authorization password level for the changes to the thermostat.

9.4.   UNIT STATUS (RUN/STOP)

Hit 'ENTER' - Allows user to 'RUN/STOP' the unit controlling the thermostat. **(This must be confiured in your controller for viewing on your thermostat).**

9.5.   COOL TARGET

Hit 'ENTER' - Allows the user to SET THE COOL SET POINT FOR THE AREA.

9.6.   HEAT TARGET

Hit 'ENTER' - Allows the user to SET THE HEAT SET POINT FOR THE AREA.

9.7.   HUMIDITY TARGET

Hit 'ENTER' - Allows the user to SET THE HUMIDITY SET POINT FOR THE AREA.

9.8.   CO2 TARGET

Hit 'ENTER' - Allows the user to SET THE C02 SET POINT FOR THE AREA.

9.9.   SHOW VERSION NUMBER

Hit 'ENTER' - Shows current version of firmware the thermostat is using.

9.10. TIME AND DATE

Hit 'ENTER' - Shows current time and date of unit operating thermostat.

9.11. LAST ALARM

Displays abbreviations for the last three alarms on the first screen before flashing to a second screen displaying the time/date of respective alarm.

For example, in a displayed 'LO DIS PSI' alarm listing, the user interface would switch to a screen displaying 'Jan 31 12:10' as the occurrence time for the first 'LO' alarm before jumping back to the 'LO PSI LO' alarm display and switching to a screen displaying 'Feb 2 12:10' as the occurrence time for the second 'PSI' alarm.

9.12. LOCKOUT RESET

Hit 'ENTER' - Allows used to reset lockout if authorized.

Chapter - 10.   Config Menu Settings

NOTE: IF THERMOSTAT SHOWS LOCKED ICON, NO CHANGES CAN BE SAVED UNTIL YOU BECOME AUTHORIZED

SHOWS UNLOCKED
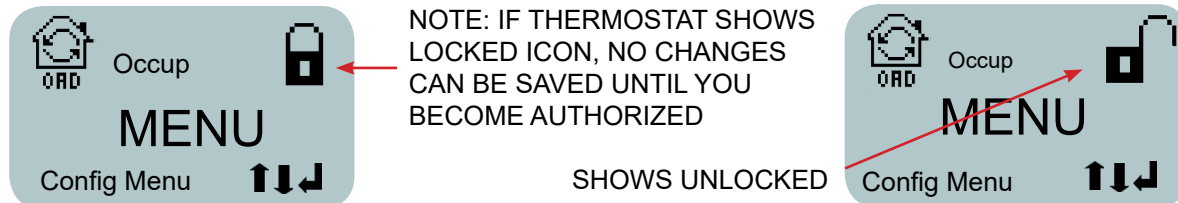
CLICK ON MENU - USE ↓ DOWN BUTTON TO SEE THE CONFIG MENU

AUTHORIZATION PASSWORD IS REQUIRED

NOTE: SOME MENU SELECTIONS MAY NOT SHOW ON YOUR THERMOSTAT LCD SCREEN. THESE SELECTIONS MAY NOT BE SETUP IN THE CONFIGURATION FILE FOR YOUR CONTROLLER.

10.1. AUTH LEVEL SETUP

Authorization Levels- The thermostat allows three levels of passwords - **Service, Supervisor,** and **Factory**.

10.2. ZONE OR SUPPLY TEMP
(ONLY ON MICROMAG FIRMWARE VER 2.00E and MicroMag Config 18.00N and up)

Hit 'ENTER' - Allows the user to change between showing 'ZONE TEMP' or 'SUPPLY TEMP' if "SUPPLY TEMP" is used.

10.3. UNIT = DEGREES

Hit 'ENTER' -Allows the user to change between Celsius and Fahrenheit.
Directions: Use the Up/Down arrows to move between Celsius and Fahrenheit. Press 'Enter' to select the desired unit degrees and the display will confirm the change.

10.4. MODIFY SCHEDULES

Unlike Thermostats that are used at home and in an some office buildings, the MCS Thermostat 'SCHEDULES' control the run/stop of the controller's cool target and heat target setting only.

Think of the Thermostat 'SCHEDULES' as controlling whether a building or room is 'OCCUPLIED or 'UNOCCUPLIED'.
We can still allow the building or room to be cooled or heated, but with target setting, we can lower (or raise) the temperature depending on whether the building or room is 'OCCUPLIED'.

For example if you set 'SCHEDULE ONE' to start at 8:00am the thermostat will start either the cooling process or heating process of the unit based on the cooling/heating targets that you have setup in the Thermostat or configuration of the controller. Setting 'SCHEDULE ONE' to end at 17:00 (5:00pm) the Thermostat can change how the building or room is heated or cooled.

Config Menu (continued)

The advantage of the MCS Thermostat is that you can override the target settings of the UNIT'S heating, cooling and humidity from the thermostat without the going to the actual unit. See an example of setting up the schedules and holidays on the next pages.

10.4.1   SETTING EACH DAY OF THE WEEK

Schedule setting start with Sunday as the first day.

1. Press Menu button to **'CONFIG MENU'**, press ↵ **'ENTER'**
2. Use ↓ 'DOWN' to **'MODIFY SCHEDULES'**, press ↵ **'ENTER'**
3. The first schedule day will appear on the screen **'SUN Schedule 1 start'** press ↵ **'ENTER'** to accept this day.
4. The next screen display will show the **Hour 'BLINKING'** - enter the hour, press ↵'ENTER' to move to the minutes**.** After you set the minutes, press ↵**'ENTER'** to accept, the following screen will appear **'Prs Enter to continue'. The information will be sent to the controller.**
5. **Be sure to set the 'START and 'END TIMES' for each day for 'SCHEDULE 1' and for 'SCHEDULE 2' before proceeding to the next day on the Thermostat.**
6. **IF YOU DO NOT SEE THE 'HOUR BLINKING' YOU FORGOT TO PRESS ENTER FOR THE NEXT SCHEDULE DAY.**

SHOWS SCHEDULE FOR 24 HOUR OPERATION
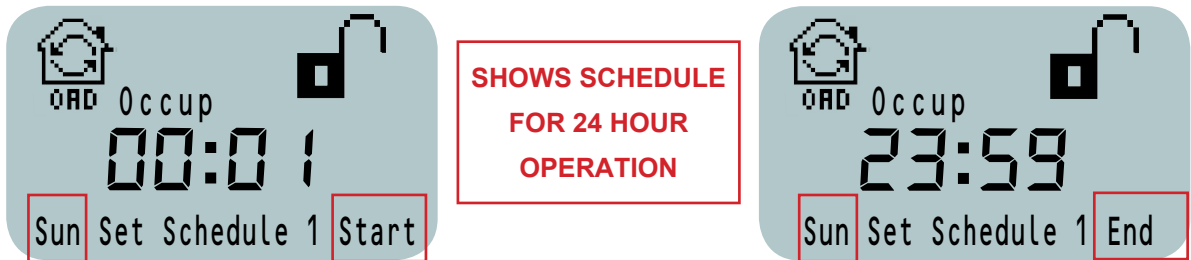
Below is a screen shot from MCS-CONNECT showing what the schedule settings look like in the configuration setup. Basically this is what you are setting up when you are setting the 'SCHEDULES and HOLIDAYS' times in the Thermostat.

10.5. MODIFY HOLIDAYS

These settings allows the user to adjust the thermostat's "START and END' times for holidays that

Day	#1 Time On	#1 Time Off	#2 Time On	#2 Time Off
Sunday	8:00	8:00	8:00	8:00
Monday	7:00	18:00	18:01	6:59
Tuesday	7:00	18:00	18:01	6:59
Wednesday	7:00	18:00	18:01	6:59
Thursday	7:00	18:00	18:01	6:59
Friday	7:00	18:00	18:01	7:59
Saturday	8:00	8:00	8:00	8:00
Holiday	8:00	8:00	8:00	8:00

Holiday #	Start Month	Start D...	End Month	End Day
1	January	1	January	1
2	April	3	April	3
3	May	25	May	25
4	September	7	September	7
5	November	26	November	26
6	November	27	November	27
7	December	24	December	25
8	December	31	December	31

HOLIDAY DATES ARE SETUP IN MCS-CONNECT

have been setup in the configuration file or thru MCS-CONNECT.
Press the Up/Down arrows and Enter buttons to make adjustments. See screen shot on previous page as an example.

10.6. TEMP CAL

Allows the user to make changes to the temperature setting of the Thermostat using a calibrated hand held temperature meter to check the current temperature of the area.

Directions: Use the Up/Down arrows to move between the offset range. Press 'Enter' to select the desired temperature offset and the display will confirm the change.

10.7. HUMIDITY CAL

Allows the user to make changes to the humidity setting of the Thermostat using a calibrated hand held meter to check the current humidity of the area.

Directions: Use the Up/Down arrows to move between the offset range. Press 'Enter' to select the desired temperature offset and the display will confirm the change.

10.8. DISPLAY TEST

Allows the user to test the thermostat to make sure all icons are working.

10.9. ADJUST BACKLIGHT

Allows the user to adjust the backlight setting from 25% to 100%.

10.10.   STANDBY BACKLIGHT

Hit 'ENTER' - Allows user to make changes to the backlight - OFF or 25% to 100%

10.11.   ADJUST TIME

Allows the user to change the displayed time from the MCS-THERMOSTAT.
Directions: Use the Up/Down arrows and Enter button to first adjust the hour per a 24-hour schedule (ex. 1:00am is 0100 and 1:00pm is 1300) and press 'Enter' to move on to the minutes. After adjusting the minutes, press 'Enter' to move on to the seconds. Press 'Enter' to complete the time adjustment.

10.12.   ADJUST DATE

Allows the user to change the displayed date from the MCS-THERMOSTAT.

10.13.   THERMOSTAT RESET

Hit 'ENTER' to update-'RESTARTING THE UNIT' (THIS RE LOCKS THE THERMOSTAT)

10.14.   SOUND ALARM

Hit 'ENTER' - Allows the user to turn alarm on or off.

Chapter - 11.   Update Firmware on Thermostat

## 11.1. MCS-Thermostat firmware upload

Loading new 'Firmware' to the Thermostat (requires proper authorization)

Consult support@mcscontrols.com for upgrading your Thermostat firmware and acquiring the necessary TERMINAL BLOCK CABLE TO ATTACH TO THERMOSTAT.

1. REMOVE COVER FROM THERMOSTAT AND REMOVE THE WIRES FROM THE PLUS AND MINUS FOR THE COMMUNICATION OF THE THERMOSTAT.

2. CONNECT THE TERMINAL BLOCK SUPPLIED TO THE THERMOSTAT- WHITE WIRE TO PLUS(+) AND THE BLACK WIRE TO GROUND (-) .
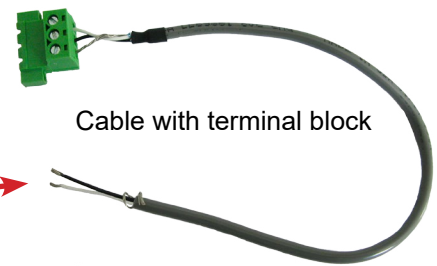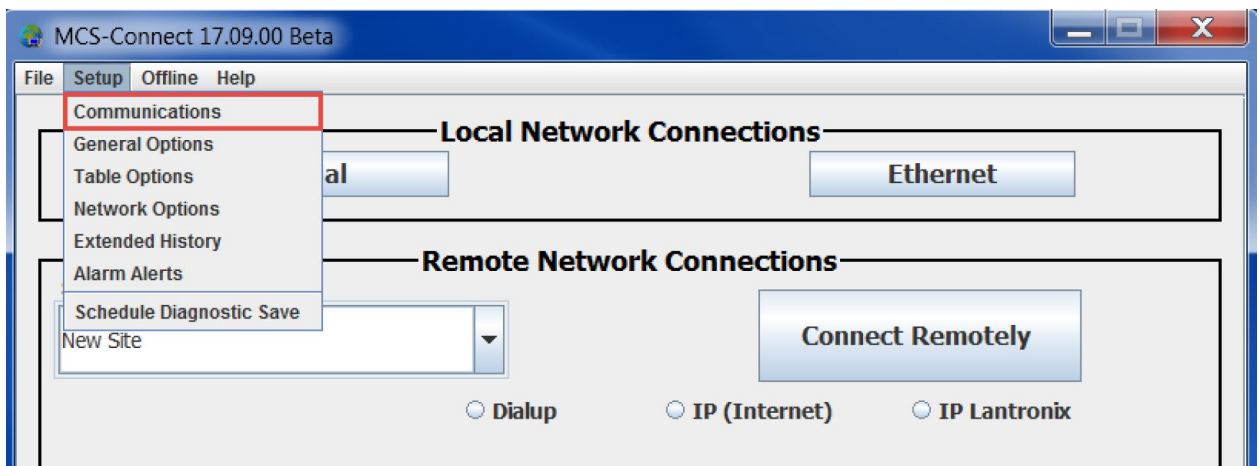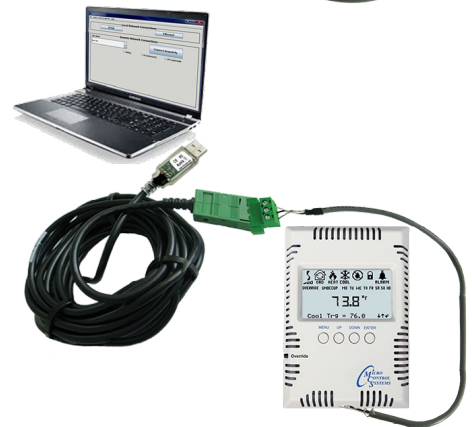

Cable with terminal block

Enlarged view of Thermostat block wiring

3. USING A MCS-USB-RS485 CABLE (not supplied) PLUG THE RS-485 END INTO THE SUPPLIED TERMINAL AND THE USB END INTO YOUR COMPUTER.

4. Open MCS-Connect and select Setup.

5. In the drop down menu select Communications.

6. **On the communications Setup Screen select the LOCAL Comm. COM port from your computer and then set the baud rate to 38400. Press Save and click SERIAL to connect with the MCS-Thermostat.**
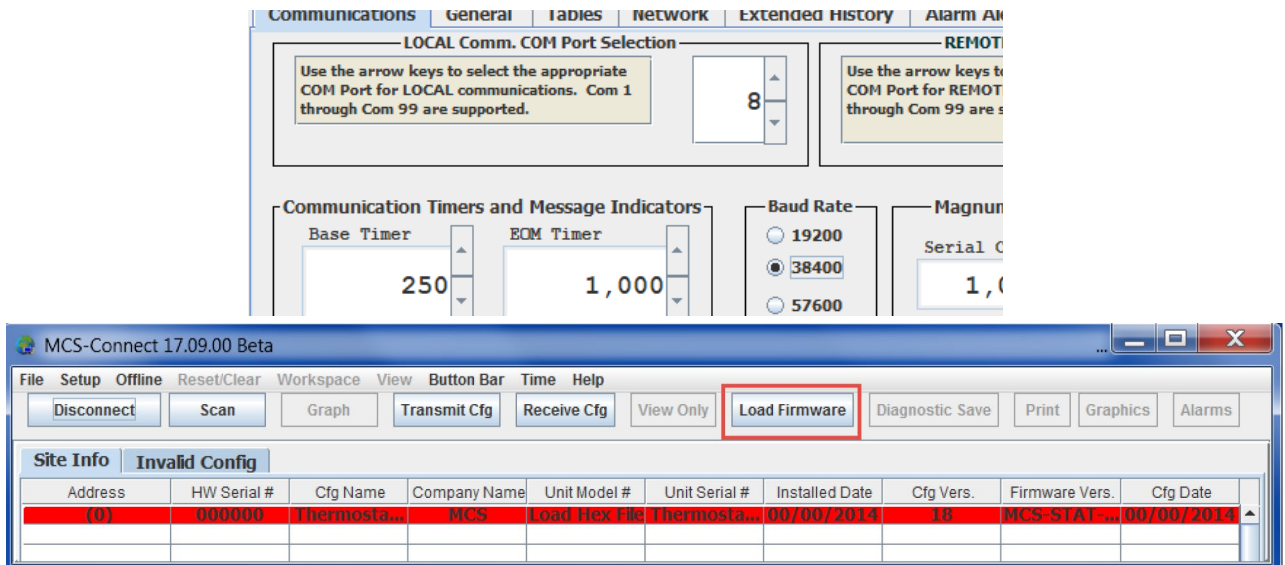
7. **When MCS-Connect screen opens a red line will appear on the site info showing the Software information of the MCS-Thermostat.**

8. **While on the site info screen press 'Load Firmware' and select the location for the new Hex file to load the new firmware. (supplied by MCS-SUPPORT)**

9. **When the firmware finishes downloading to the thermostat:**

    1. **Remove the TERMINAL BLOCK wiring from the thermostat.**

    2. **Re-connect the MCS-Thermostat to the MCS controller.**

Chapter - 12.   Troubleshoot Section

THERMOSTAT WILL NOT TURN ON OR COMMUNICATE WITH THE CONTROLLER	Check to make sure you have the wiring correct to the Thermostat (see wiring in beginning of this install guide). Check to see that the Thermostat and Controllers are Terminated correct. In MCS-CONNECT or Keypad, check to see if the baud rate is correct(38,400)
THERMOSTAT IS IN LOCKED MODE	MCS-THERMOSTAT remains in locked mode until the proper password is entered. Press the Menu button until you see Password - press enter, than your first password number - press enter until the correct password has been entered. LOCKED ICON SHOULD SHOW UNLOCKED. Password Code will lock back in 2 minutes
THERMOSTAT HEATING AND COOLING IS NOT CORRECT TO ROOMS CONDITIONS	Check the Setting Menu to make sure you have the proper Unit Degrees chosen - Celsius or Fahrenheit.. Reset the Temp Calibration using the Config Menu to adjust for temperature variations.
THERMOSTAT ICONS TEST	To make sure all of your Thermostats Icons are working - Press Menu to get to the Config Menu using the up/down arrows until you see Display Test- press enter - all icons should show on the screen.
THERMOSTAT NOT WORKING- SHOWS UNOCCUPIED	OVERRIDE BUTTON ON LEFT SIDE OF UNIT IS SET TO UNOCCUPIED.
Max. LOCKOUTS PER DAY	Reset Lockouts – Does require being authorized. However only a limited number of Lockouts(6) can be reset in one day without a higher authorization level.
THERMOSTAT STAYS IN HEATING OR COOLING MODE AND WON'T CHANGE	Check your Cooling and Heating Set Points - consult HVAC Technician
PASSWORDS RESET	TO DISABLE THE CURRENT PASSWORD - AT THE MENU LEVEL, PRESS MENU UNTIL YOU SEE ENTER PASSWORD. ENTER A PASSWORD THAT IS NOT USED BY THE SYSTEM TO **RELOCK** THE UNIT SO UNAUTHORIZED CHANGES CANNOT BE MADE.

Revision Page

Date	Author	Description of Changes
5-16-14	KLM	Restructured manual
5-18-14	JGW	Added Stat Pictures and reworked
12-8-14	DEW	Restructured Manual to Indesign
1-6-15	DEW	Edits made as per Mac
1-7-15	DEW	Edits per Brian, changed wiring dwg
1-8-15	DEW	Edits made as per Brian
1-12-15	DEW	Edits made as per Brian, setting menu\
1-16-15	DEW	Edits made
6-01-15	DEW	Edits made to wiring and setup config
6-25-26-15	DEW	Edits made to Menu items
6-30-15	DEW	Edits from JGW
7-01-02-15	DEW	Edits from JGW and support
7-13-15	DEW	Edits made to manual
7-30-15	DEW	Edits made to manual
12-2/3-15	DEW	Add run/stop feature, add new MicroMag board to wiring
01-4-16	DEW	Add instructions for firmware update
03-10-21	DEW	Change to Rev. 1.6 - add 12 volt wiring
04-08-16	DEW	Add wiring and distance on installation page
06-04-2021	DEW	Updates with Firmwasre Ver 2.00E

The MCS Commitment is to provide practical solutions for the industries needs and to be both a leader and partner in the effective use of Microprocessor controls.

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