



5580 Enterprise Pkwy.
Fort Myers, FL 33905

Office: 239-694-0089
Fax: 239-694-0031

www.mcscontrols.com

Version 4.02
March 5, 2025 3:41 PM

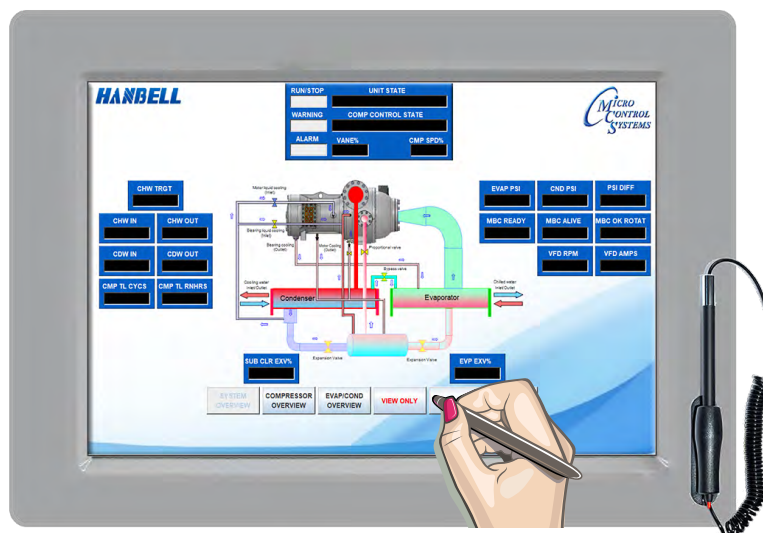
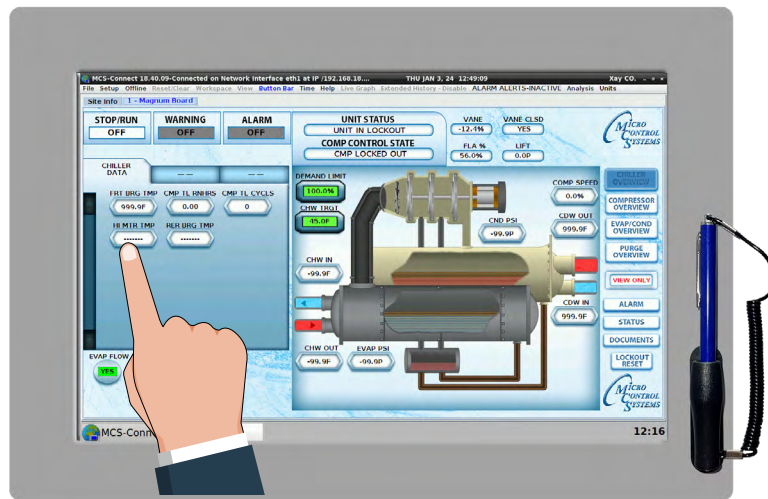
MCS-TOUCHSCREEN

& Graphics

Capacitive and Resistive Touchscreens Version MCS 1.X.X - MCS-2.X.X



CAPACITIVE TOUCH
using Finger,
Stylus, or *Glove



RESISTIVE TOUCH
using Stylus Pen

**MCS Total
Solution
for all your
Control
Needs**

This Manual will walk you through the process of setting up your Touchscreen, modifying and loading graphics for MCS-Connect.



Click or scan with phone - Touchscreen

* The glove needs to have a conductive fabric or material to work with cap touchscreens.

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.

Micro Control Systems, Inc.
5580 Enterprise Parkway
Fort Myers, Florida 33905
PH:(239) 694-0089 FAX:(239) 694-0031
www.mcscontrols.com

All information contained within this document is considered to be proprietary information of Micro Control Systems, Inc. No information or data from this document shall be published, used, reproduced, transmitted, or disclosed to others outside your organization without the prior expressed written consent of Micro Control Systems, Inc. This document and the information contained herein shall be treated as proprietary. Reasonable provisions shall be provided to ensure that this information remains proprietary by your employees, agents, and other personnel that may have access to this document.
Copyright ©2024.

Table of Contents

Getting to know your Touchscreen	5
CAPACITIVE TOUCHSCREEN'S INTERFACE	6
1.1. MCS-TOUCH-15.4	6
MOTHERBOARD - FRONT	6
SECTION- 1. CAPACITIVE TOUCH SITE DOCUMENTS	7
1.1. Documents, Spec Sheets, Drawings, etc.	7
SECTION- 2. CAPACITIVE TOUCH MAIN SCREEN	8
2.1. Layout of Main Screen on the Touchscreen	8
2.2. COMPANY GRAPHICS	8
SECTION- 3. CAPACITIVE TOUCH KEYPAD	9
3.1. KEYPAD -	9
3.2. 'ON SCREEN KEYPAD'	9
SECTION- 4. CAPACITIVE TOUCH UTILITIES	10
4.1. Utilities folder and its sub folders	10
4.1.1 Advanced Network Configuration	10
4.1.2 Calibrate Touchscreen(Resistive Screen Only)	10
4.1.3 Keyboard	11
4.1.4 LX Terminal	11
4.1.5 PDF Viewer	11
4.1.6 Reboot	11
4.1.7 Set screen timeout	11
4.1.8 Task Manager	12
4.1.9 Text Editor	12
4.1.10 TigerVNC Viewer	12
4.1.11 Time and Date	12
SECTION- 5. CAPACITIVE TOUCH NETWORK	14
5.1. Setting Up Network For Communication With Your Controller	14
5.2. Utilities Folder	14
5.2.1 Advanced Network Screen	15
5.2.1.1. Selecting a Ethernet Port (screen 5)	15
5.2.1.2. Setting a 'Static IP Adress'	16
SECTION- 6. Update MCS-CONNECT for Capacitive Touch	17
SECTION- 7. MCS-Connect Communication	21
SECTION- 8. Replacing Graphics for Capacitive Touch	22
8.1. DELETE THE SUB FOLDER FOR YOUR GRAPHICS	22
8.1.1 NEXT STEP FOR INSTALLING THE NEW GRAPHICS FOLDER	22
RESISTIVE TOUCHSCREEN'S INTERFACE	26
SECTION- 1. RESISTIVE TOUCHSCREEN'S INTERFACE	27
SECTION- 2. RESISTIVE TOUCH SITE DOCUMENTS	28
2.1. Documents, Spec Sheets, Drawings, etc.	28
SECTION- 3. RESISTIVE TOUCH MAIN SCREEN	29
3.1. Layout of Main Screen on the Touchscreen	29
3.2. COMPANY GRAPHICS	29
SECTION- 4. RESISTIVE TOUCH KEYPAD	30
4.1. KEYPAD -	30
4.2. 'ON SCREEN KEYPAD'	30

SECTION- 5. UNLOCKING THE RESISTIVE TOUCHSCREEN	31
5.1. Unlocking the Touchscreen.	31
SECTION- 6. RESISTIVE TOUCH UTILITIES.....	33
6.1. Utilities folder and its sub folders.....	33
6.1.1 Calibrate Touchscreen.....	33
6.1.2 Leafpad	33
6.1.3 LX Terminal.....	33
6.1.4 MCS Website.....	33
6.1.5 Network Connections	33
6.1.6 Reboot.....	33
6.2. Setting Time and Date - MCS-TOUCHSCREEN.....	34
SECTION- 7. RESISTIVE TOUCH NETWORK	36
7.1. Setting Up Network For Communication With Your Controller	36
7.2. Utilities Folder.....	36
7.2.1 Network Connections Screen.....	37
7.2.2 Adding IP Address.....	38
SECTION- 8. MCS-CONNECT	39
8.1. MCS-CONNECT Shortcut on Desktop	39
SECTION- 9. MCS-CONNECT COMMUNICATION.....	40
SECTION- 10. UPDATE MCS-CONNECT FOR RESISTIVE TOUCH.....	41
SECTION- 11. RESISTIVE TOUCH - Replacing Graphics.....	49

Getting to know your Touchscreen

On the following pages we will acquaint you with the function and use of the MCS-TOUCHSCREEN, plus introduce you to the graphics that we have incorporated into the design.

OEMs with additional training and the Graphic Builder, will be able to make changes to the graphics and help manage all the information the MCS controller has available to provide.

MCS-TOUCH OVER THE YEARS

The MCS Touch evolved over the years since its introduction in 2008 with the MagTouch-8C. Later versions were introduced; MCS-TOUCH-PC, MCS-TOUCH PC10.2, MCS-TOUCH-PC15, MCS TOUCH-7, and the current:

New MCS-TOUCH-15.4 Capacitive Touchscreen

1. The MCS-TOUCH-15.4 Capacitive touchscreen

- Same format as MCS-TOUCH-15.4 resistive touchscreen, drops in same cutout.
- New - Linux operating system, supports cap touchscreen and resistive touch screens.
- Works outdoors, bright screen, water resistant.
- Exceptional Optics - 1280x800 Resolution - Sharp and vibrant images.

Identifying Resistive and Capacitive Touchscreen

MCS 1.X.X is the Boundary device Nitrogen board with Capacitive and Resistive support.

MCS 2.X.X is the MCS-CM-BASE (NitroMag) board with Capacitive and Resistive support.



Click on the link below for information on touchscreen board serial numbers.

<https://mcscontrols.com/software.html#mcsTouchSW>

Click or scan with mobile for more information.



Additional information on the setup and using your Touchscreen and Graphics can be found on our web site, along with additional App. notes concerning the Touchscreens.

<http://www.mcscontrols.com/manuals.html>

CAPACITIVE TOUCHSCREEN'S INTERFACE

Your touchscreen is shipped installed with the latest Linux operating system, MCS-Connect and additional files for displaying your graphics.



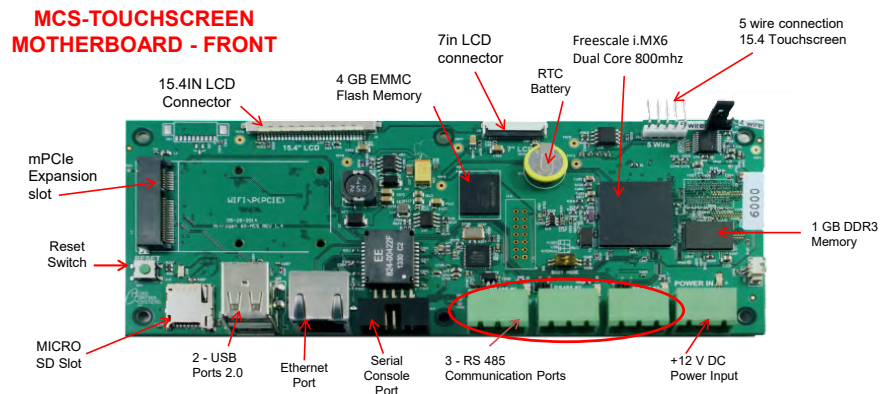
Vesa Mount Back -
15.4"



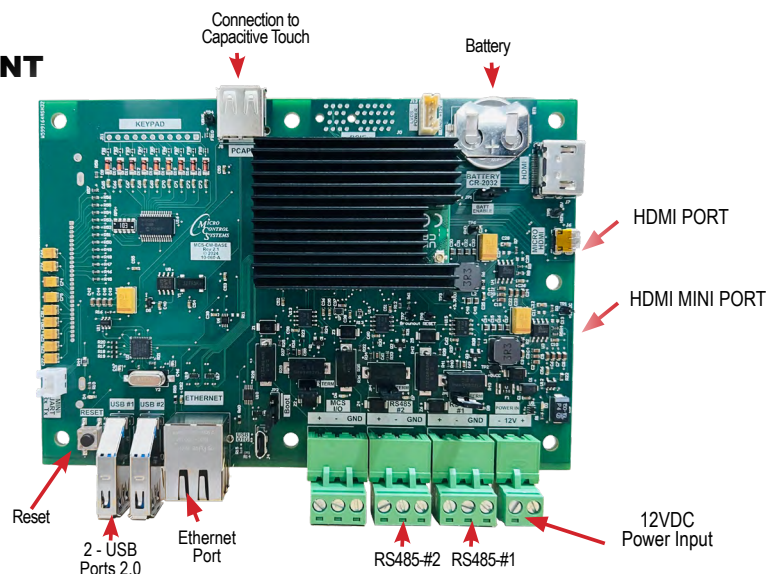
INCLUDED COMPONENTS

90W Single Output Power Supply for Touchscreen
Resistant to short circuiting, overloading, and over voltage.
Operating temperature up to 158F (70 °C)

1.1. MCS-TOUCH-15.4 (MCS-1.X.X) BOUNDARY DEVICE NITROGEN BOARD - FRONT



1.2. MCS-TOUCH-15.4 (MCS-2.X.X) CM-BASE MOTHERBOARD - FRONT



SECTION- 1. CAPACITIVE TOUCH SITE DOCUMENTS

1.1. Documents, Spec Sheets, Drawings, etc.

Stored in the Touchscreen's flash memory you will find pdf's and documents pertaining to the building of your unit. Each unit's configuration is different, so the 'SITE DOCUMENTS' file will pertain to that unit only.

An example of the contains of the 'SITE DOCUMENTS' folder may contain:

1. DRAWINGS (PDF'S) of the components used in this unit

2. EXAMPLE OF MANUALS (if installed in your unit)

- a. Getting Started Manual
- b. Keypad Manual
- c. Touchscreen Manual
- d. EXV Manual
- e. BMS-GATEWAY Startup Guide
- f. Additional manual may be stored here depending on the configuration of the unit

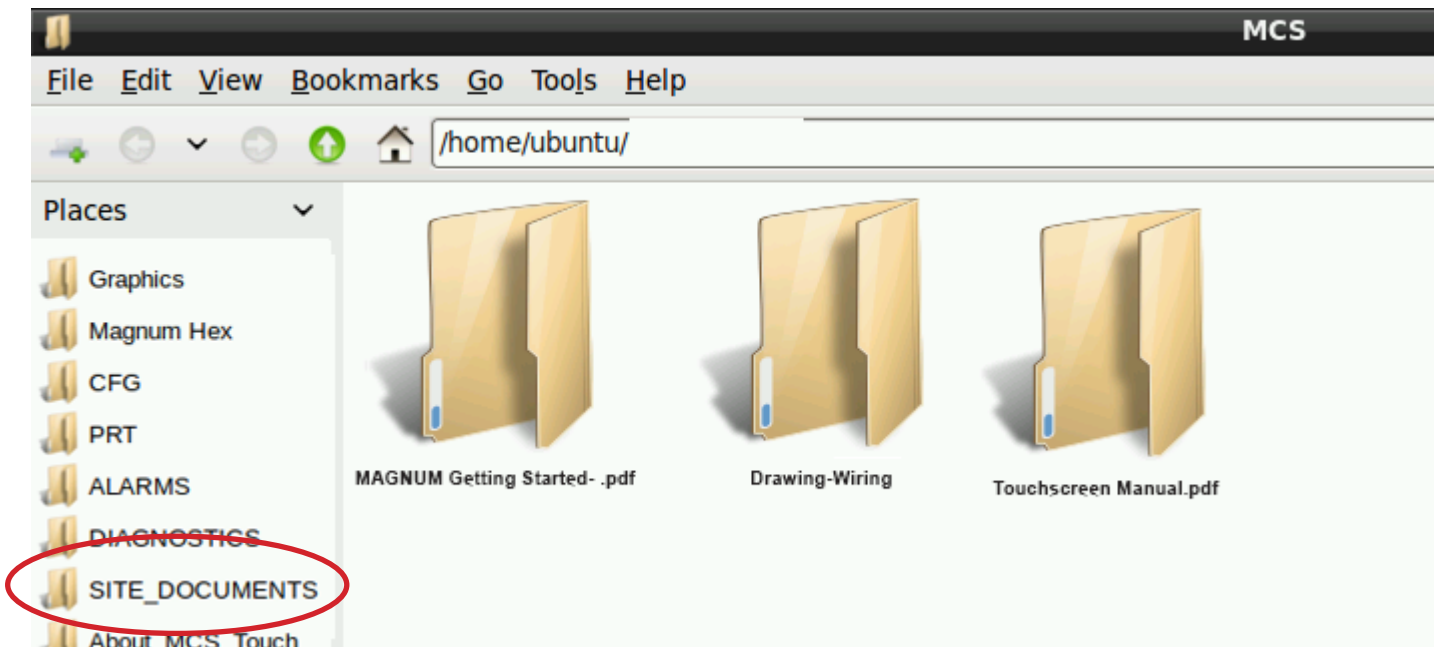
3. SPECIFICATION SHEETS

Each part installed should have a spec (data) sheet included in the 'SITE DOCUMENTS' folder

4. CONFIGURATION FILE - This is the key file in building your unit. If your config file is somehow corrupted, this is the original file used and may need to be re-installed. Call MCS-SUPPORT for help in re-installing this file to your controller.

To locate the 'SITE DOCUMENTS' folder:

1. Navigate to the '**MCS TOOLS folder**' on your desktop
2. Double click on folder to open
3. Click on Site _Documents under Places on left.



SECTION- 2. CAPACITIVE TOUCH MAIN SCREEN

2.1. Layout of Main Screen on the Touchscreen

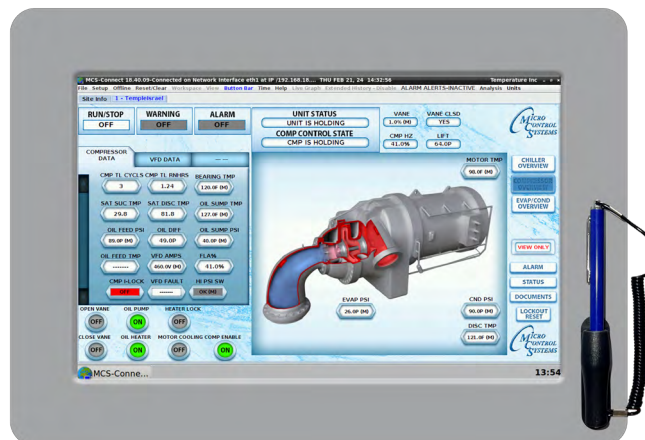
1. MCS Tools, icon
2. On Screen Keypad icon
3. MCS-Connect icon
4. Touchscreen Software Version
5. Time of Day (click to change)



2.2. COMPANY GRAPHICS

If your touchscreen came pre-installed with the 'Graphic Package', OEM's and trained Installers will be able to modify some of the displays after the initial installation using the Graphic Builder if they are authorized.

With its 1280x800 Resolution, the display is sharp and easy to read. Making use of the 'Stylus pen', and the on screen keypad adjustments are easy and lets the technician check readouts as to the status of the controller.



The Touchscreen now comes with a new Linux operating system version MCS 1.02

Calibrating software is not needed for the capacitive touchscreens shipped after February 2024.

SECTION- 3. CAPACITIVE TOUCH KEYPAD

3.1. KEYPAD -

On the main screen, click on Keyboard Icon as shown in screen 1.



3.2. 'ON SCREEN KEYPAD'

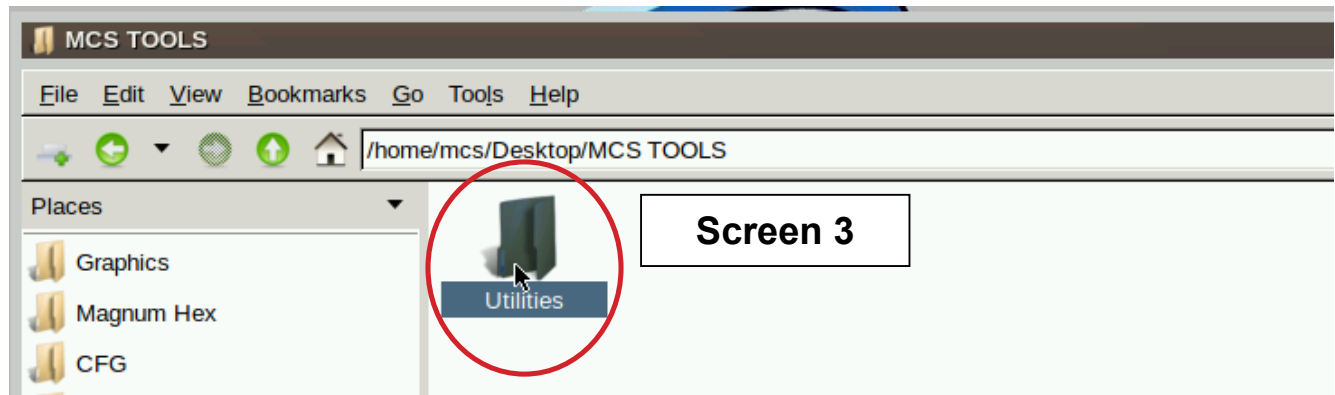
Screen 2 shows keyboard display. Use the stylus and keypad to enter or make adjustments.



SECTION- 4. CAPACITIVE TOUCH UTILITIES

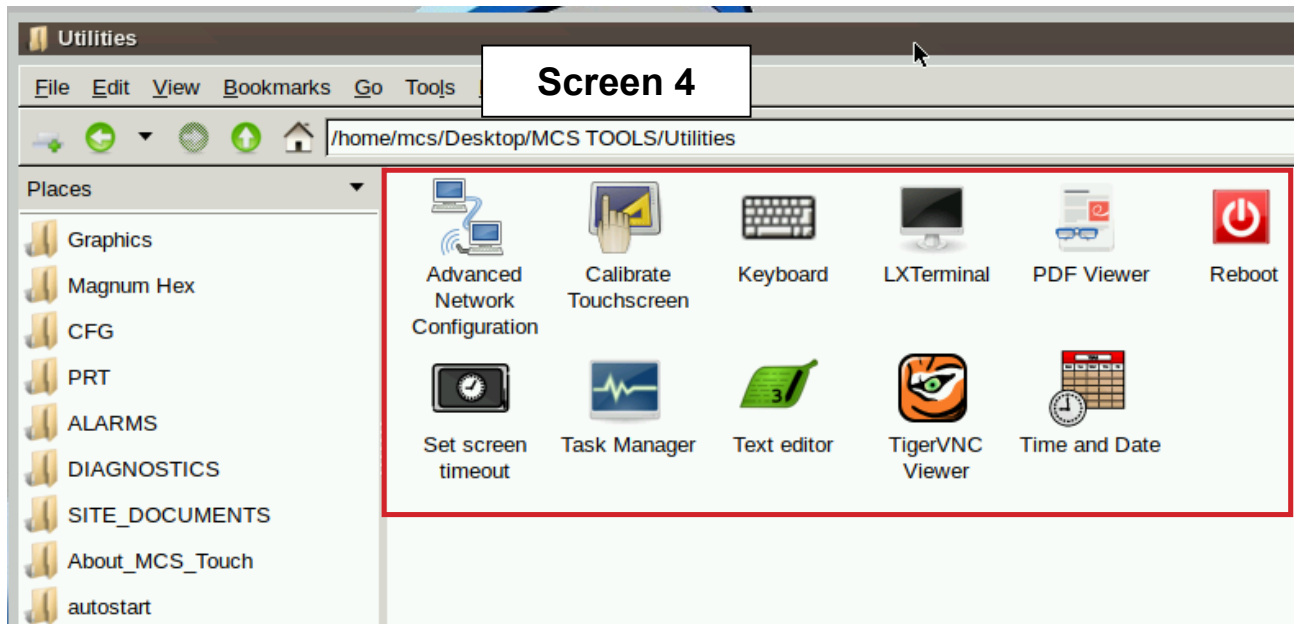
4.1. Utilities folder and its sub folders

1. Navigate to the '**MCS TOOLS** folder' on your desktop.
2. Double click on folder to open.
3. Double click on the '**Utilities**' sub folder to view contents.



4. Screen 3 below displays the difference utilities build into the system.

Brief descriptions of these files will be shown on the following pages in this manual.



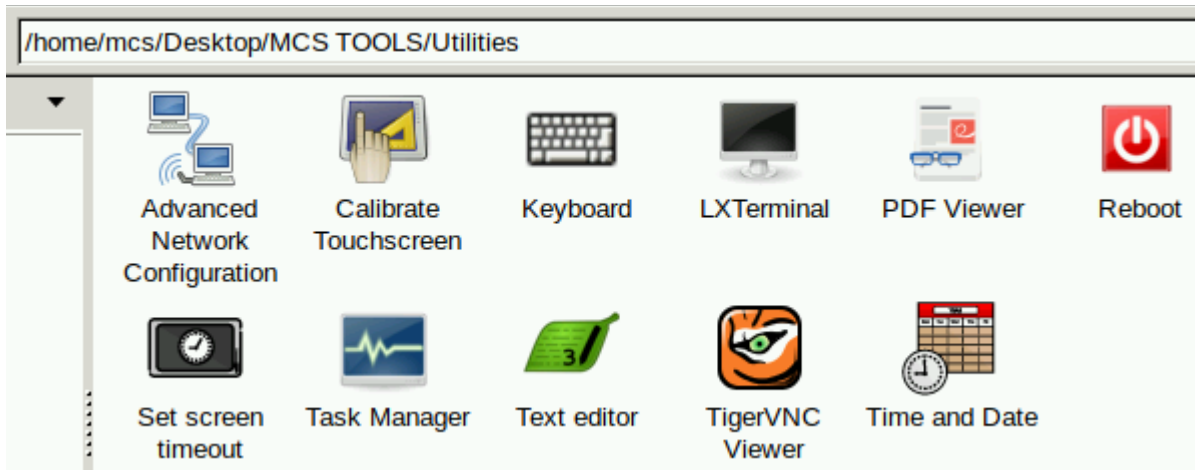
4.1.1 Advanced Network Configuration

Clicking on this icon will direct you to a program which will allow you to setup your communications to the company's network and controllers.

4.1.2 Calibrate Touchscreen(Resistive Screen Only)

NOTE: Calibration is not necessary on the New Capacitive Touch.

In the new version of Linux software, MCS 1.02 software is provided to calibrate your **resistive touchscreen** to pin point the accuracy on the touchscreen. When you touch an area on the screen the stylus point aligns with the screen area. We will describe how to do this later in this manual under the **Resistive Touchscreen shipped prior to February, 2024**.



4.1.3 Keyboard

Clicking on this icon will open the on screen keyboard.

4.1.4 LX Terminal

LXTerminal is the LXDE version of a terminal emulator. It is used by programmers who are familiar with the Linux operating system.

4.1.5 PDF Viewer

Allows the tech to open a PDF viewer.

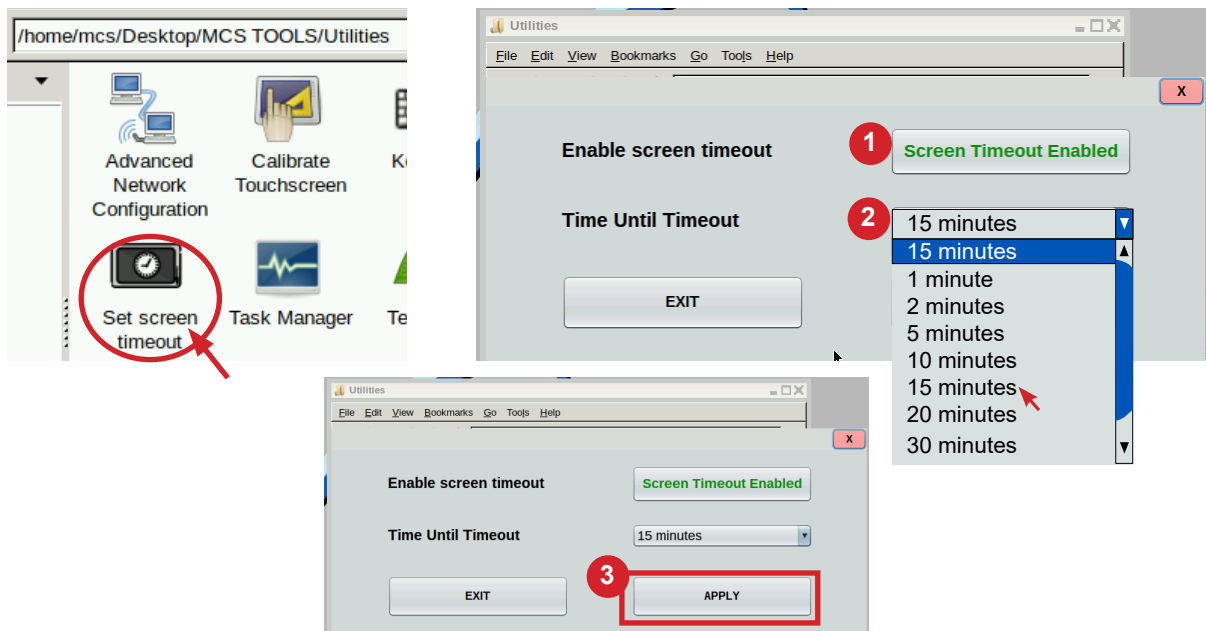
4.1.6 Reboot

Clicking on this icon will reboot your touchscreen.

4.1.7 Set screen timeout

Clicking on this icon allows the tech to set the amount of time that the screen will go into a screen timeout.

1. Click on 'Timeout Enabled' to set the time.
2. Click on 'Time Until Timeout' drop down arrow to show times available, choose time.
3. Click to 'APPLY'



4.1.8 Task Manager

Clicking on this icon that lets you manage, search, filter and terminate processes if necessary.

4.1.9 Text Editor

Text Editor is a text editing program enabling you to make changes to text files.

4.1.10 TigerVNC Viewer

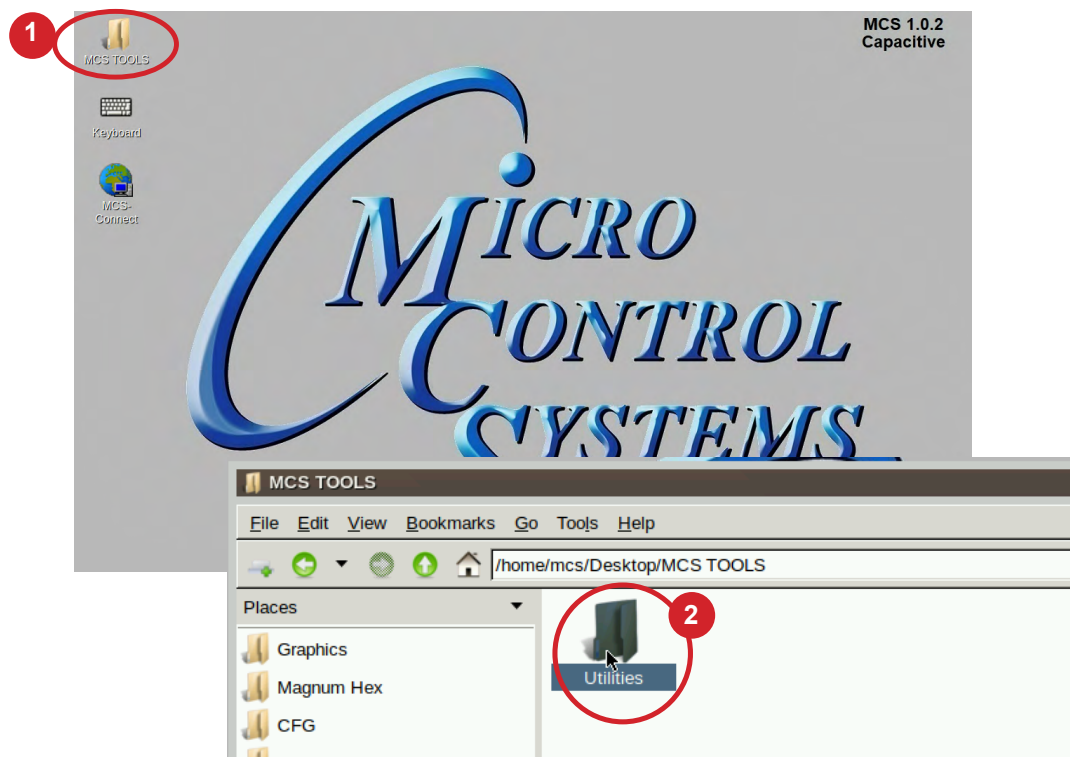
TigerVNC is a high-performance, platform-neutral implementation of VNC (Virtual Network Computing), a client/server application that allows users to launch and interact with graphical applications on remote machines.

4.1.11 Time and Date

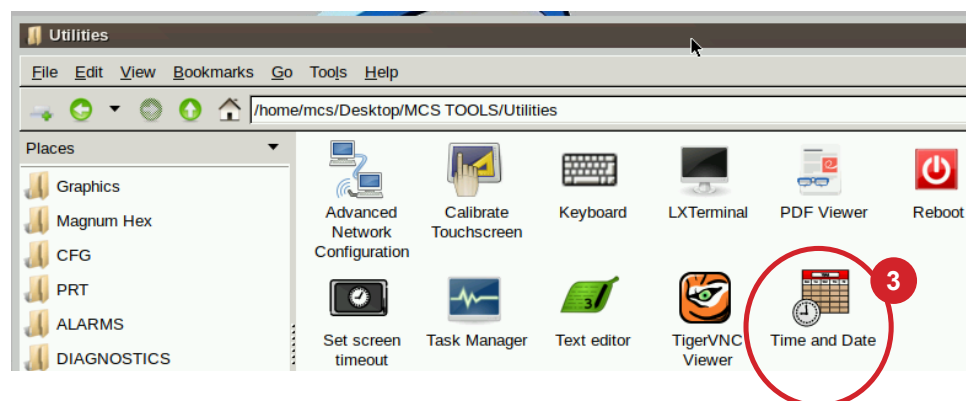
Clicking on this icon allow the tech to setup the time and date.

1. Navigate to the '**MCS TOOLS**' folder on your desktop.

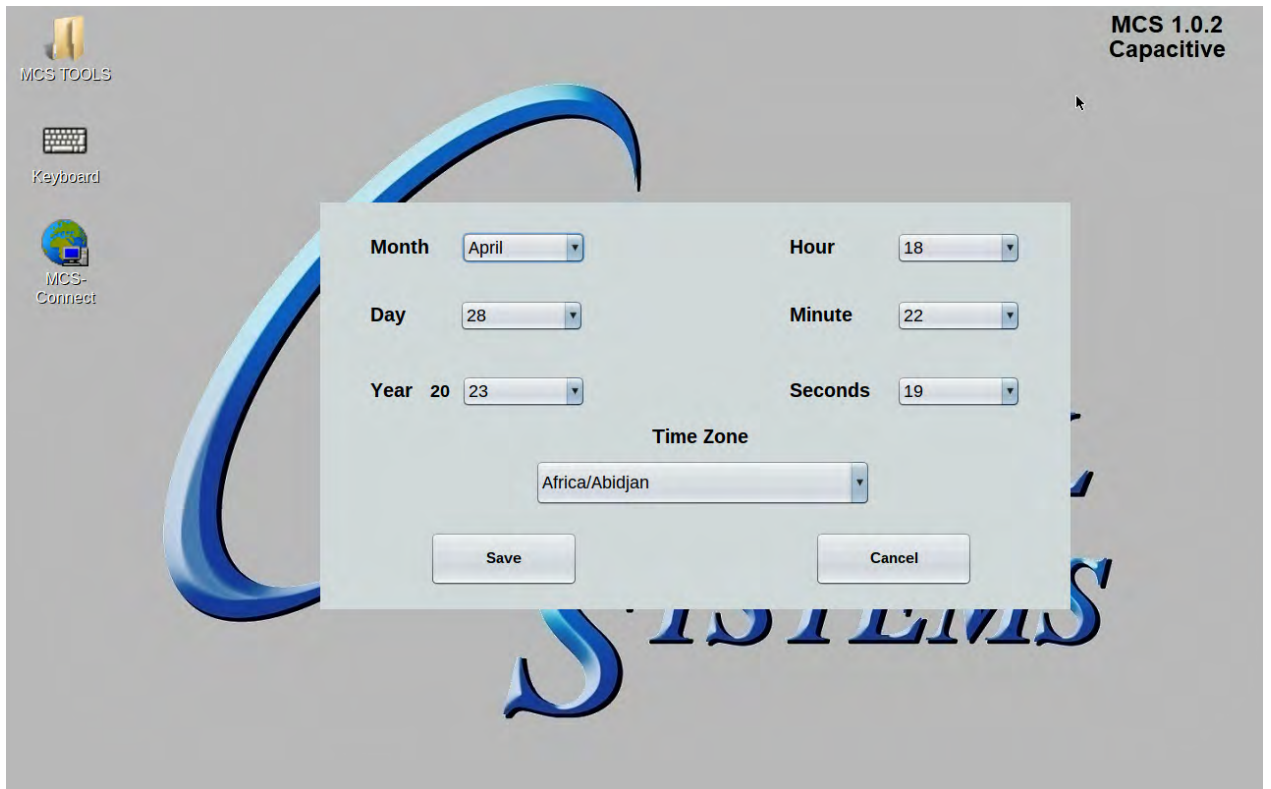
Double click on folder to open.



2. Double click on the '**Utilities**' sub folder to view contents.



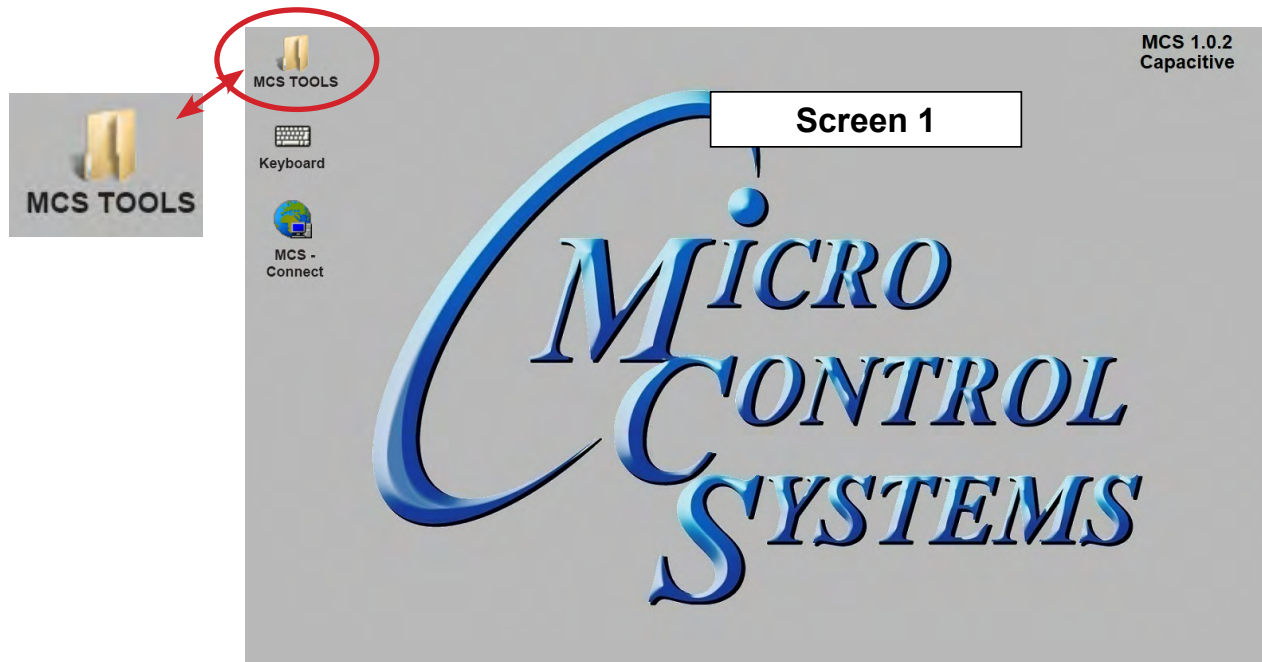
3. Double Click **'Time And Date'** to make changes
4. Next screen will allow you to change time and date.
5. Click to save your changes.



SECTION- 5. CAPACITIVE TOUCH NETWORK

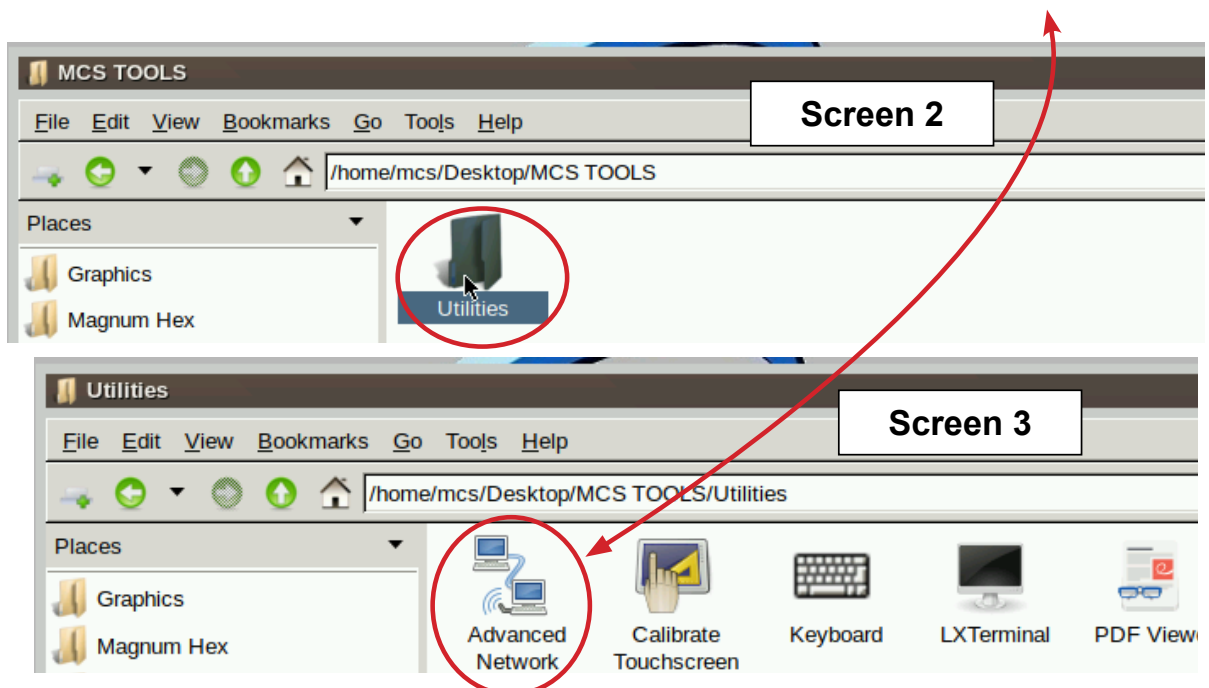
5.1. Setting Up Network For Communication With Your Controller

At the touchscreen main screen, click on '**MCS TOOLS**' folder' as seen screen 1.



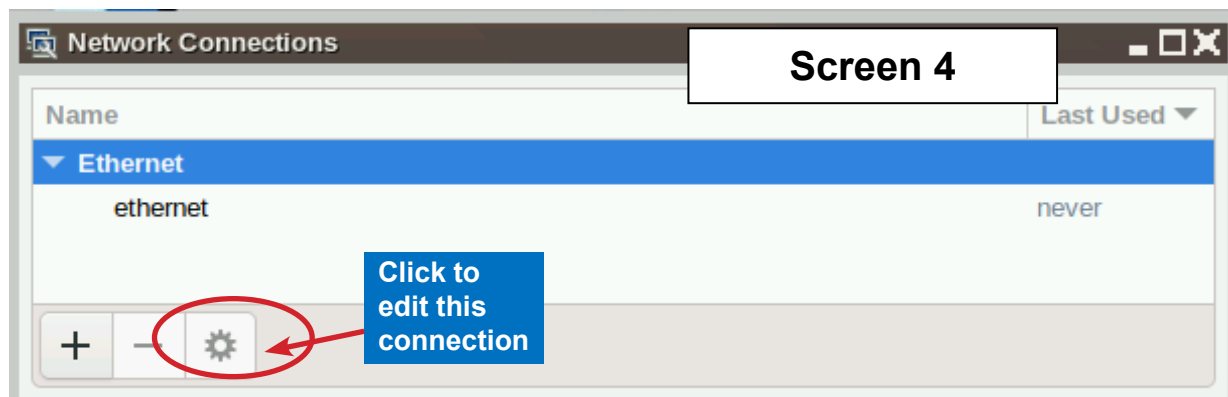
5.2. Utilities Folder

Screen 2 appears, click on 'Utilities' to view contents of that folder, then click on '**Advanced Network**' as shown in screen 3.



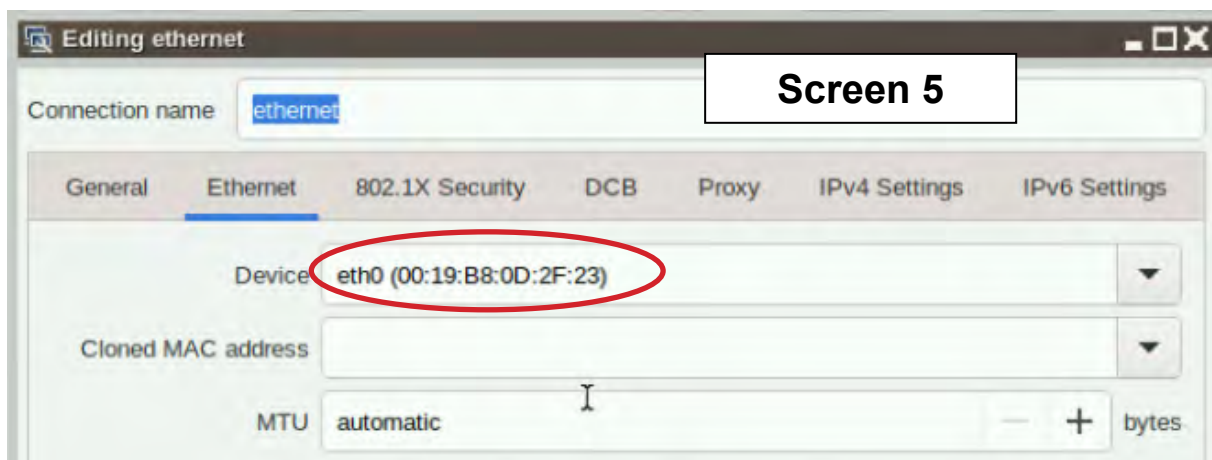
5.2.1 Advanced Network Screen

Next display, screen 4 shows network communication screen. Your touchscreen will show **'Ethernet'**, click on the gear as shown below.



5.2.1.1. Selecting a Ethernet Port (screen 5)

1. Go to the Ethernet tab.
2. Click the drop down arrow on the right side of "Device"
3. Select the MAC address that has (eth*) at the end. (The number at the end varies).



Continue to the next page

5.2.1.2. Setting a 'Static IP Address'

On screen 7, click on 'IPv4 Settings'. Then to set a static IP address change the Method to 'Manual'. Create a new IP address by clicking under the 'Address' column. Enter the IP address (Address), Subnet Mask (Netmask), and Default Gateway (Gateway). Then click 'Save' to save these settings. The touchscreen will have to be rebooted for these settings to take effect.

Screen 7

Editing ethernet

Connection name: ethernet

General Ethernet 802.1X Security DCB Proxy **IPv4 Settings** IPv6 Settings

Method: Manual

Addresses

Address	Netmask	Gateway	
192.168.18.151	24	192.168.18.1	Add Delete

DNS server: Search domain: DHCP client ID: ☐ Require IPv4 addressing for this connection to complete

Routes...

Click to save

Cancel Save

Click on drop down arrow, set to 'Manual'

Click on IPv4

Enter IP address, Netmask & Gateway Address



Note:

Subnet Mask will change to it's CIDR form, e.g., 255.255.255.0 is the equivalent to 24 in CIDR notation.

SECTION- 6. Update MCS-CONNECT for Capacitive Touch

NOTE: MAKE SURE YOU DOWNLOAD THE LATEST LINUX VERSION OF MCS-CONNECT FROM OUR WEBSITE AT:

<http://www.mcscontrols.com/software.html>

This will walk you through updating MCS-CONNECT on your Capacitive touch screen.

1. Format a new USB drive prior to installing this update, insert into your computer.
2. Go to the MCS-WEBSITE and down the latest MCS-CONNECT for your touchscreen.

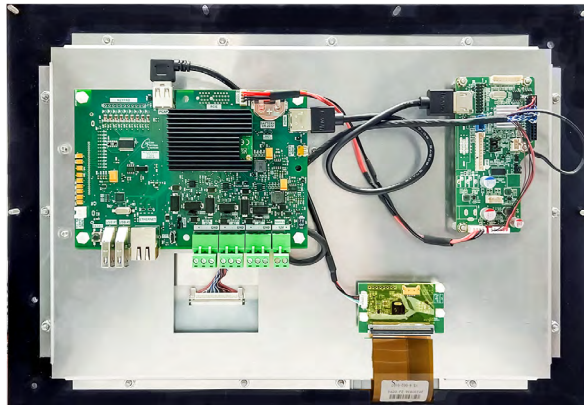


Please Note

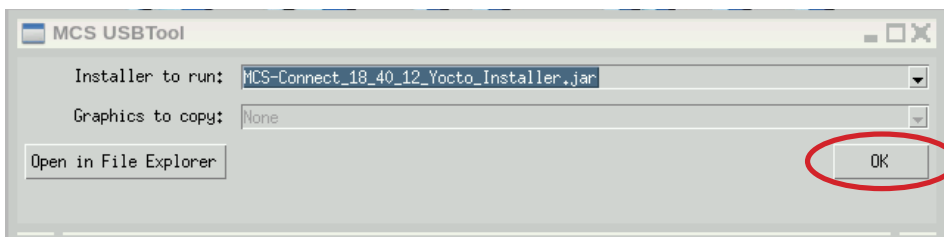
Locate the Serial Number on your touchscreen board and follow the installation procedure for proper deployment.

3. Save the correct file to the attached USB drive on your computer.
4. Insert the USB drive into the back of the touchscreen.

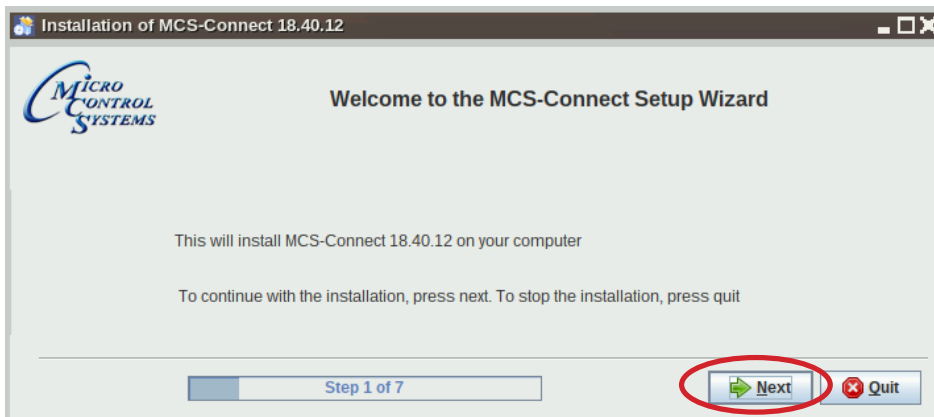
On back of touchscreen, locate the USB PORT as shown on screen 2 and insert the USB drive with the new version of MCS-CONNECT.



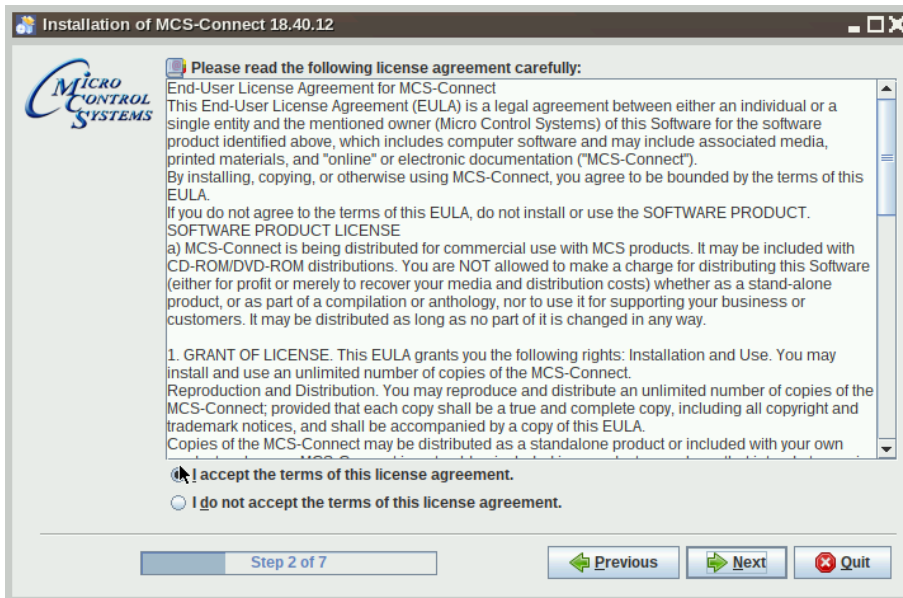
The below screen will appear, click OK.



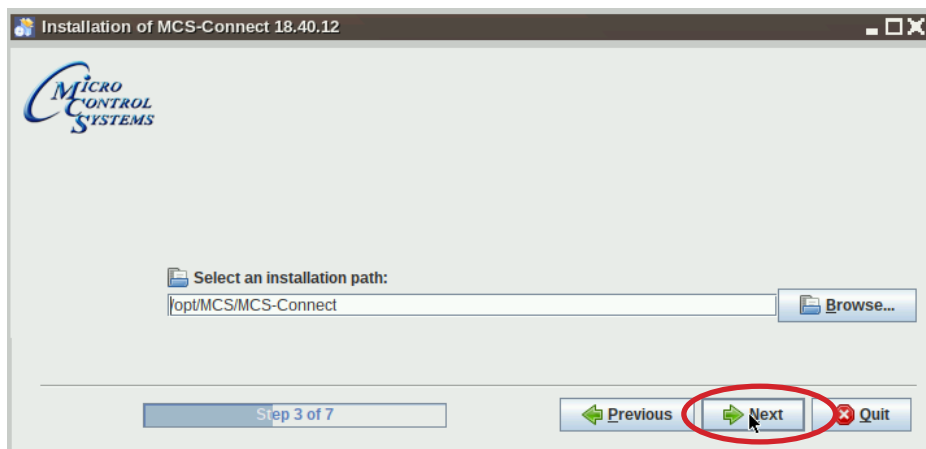
5. Click 'Next' to continue.



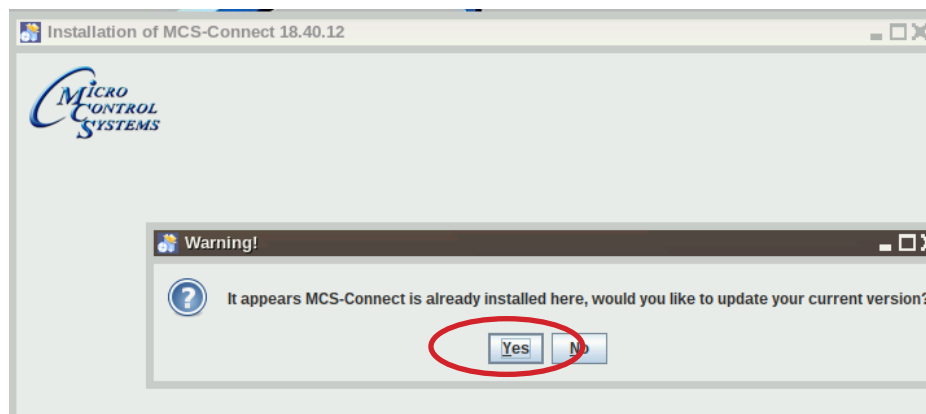
6. Click to accept terms of license agreement, click 'Next' to continue.



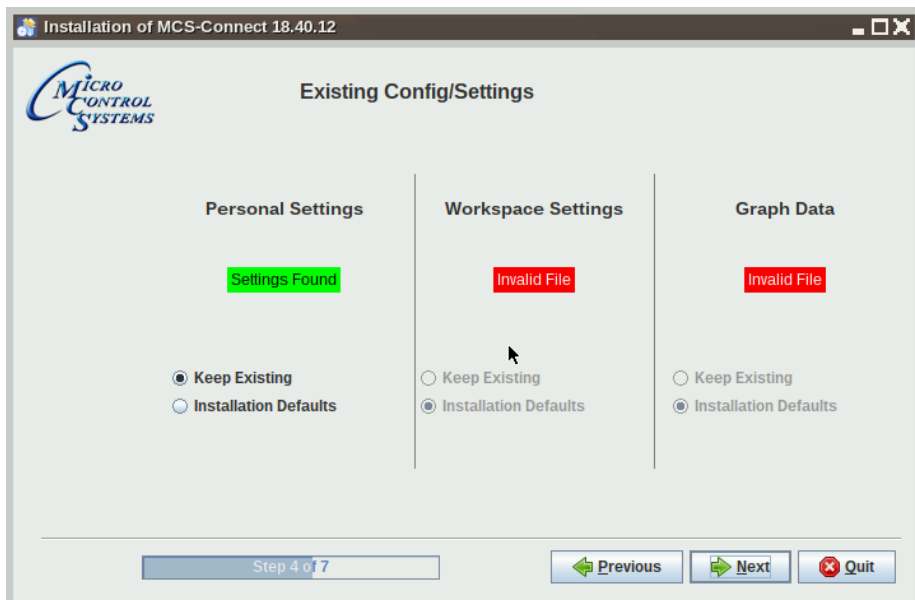
7. Select the installation path as shown.



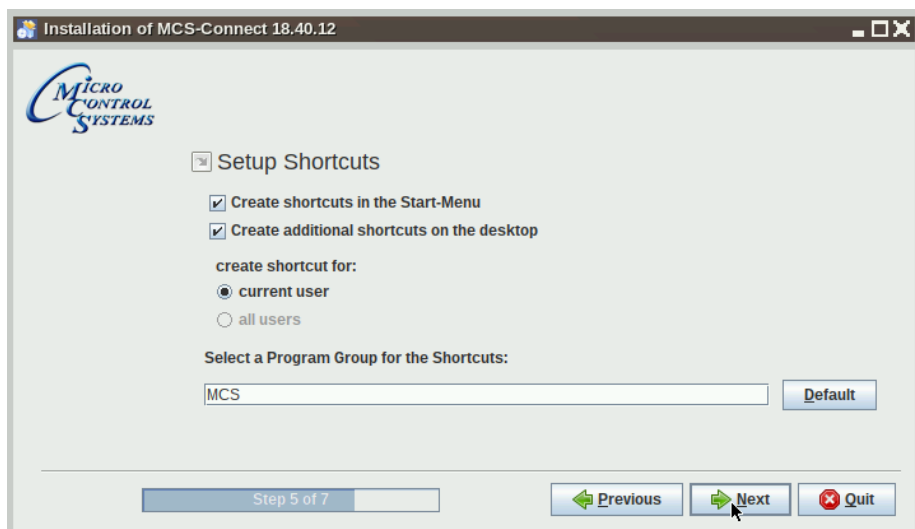
8. Next screen, click 'Yes' to update the current version on the touchscreen.



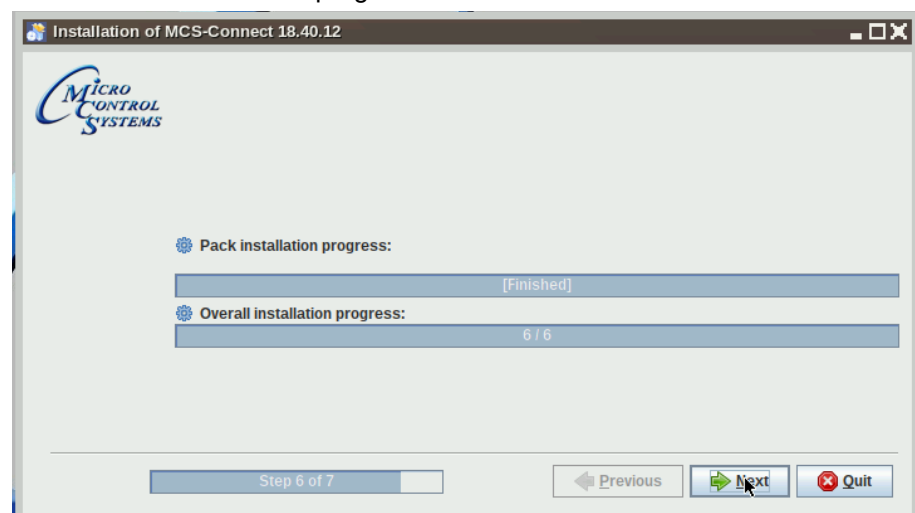
9. Click 'Next', to allow existing Config/Settings, click "Next".



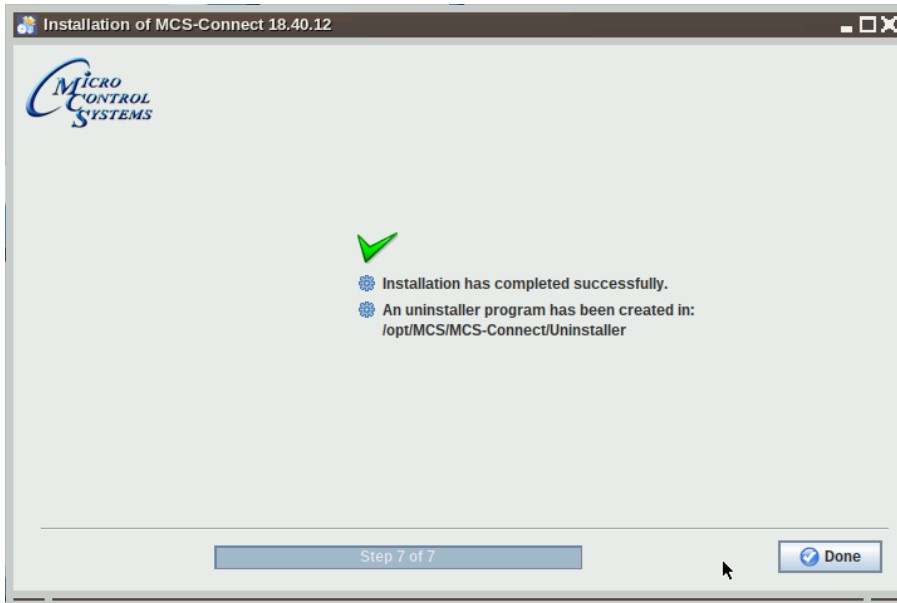
10. Setup Shortcuts, click to check boxes for Start-Menu and shortcuts on the desktop, click next.



11. Next screen shows progress bar.



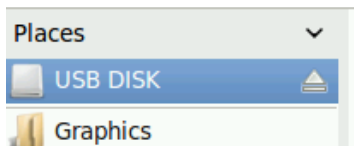
12. Last screen shows installation has completed successfully.
The installation placed an 'uninstaller program in /opt/MCS-CONNECT/Uninstaller.



13. Double click on the USB drive on the desktop, opens in file manager.

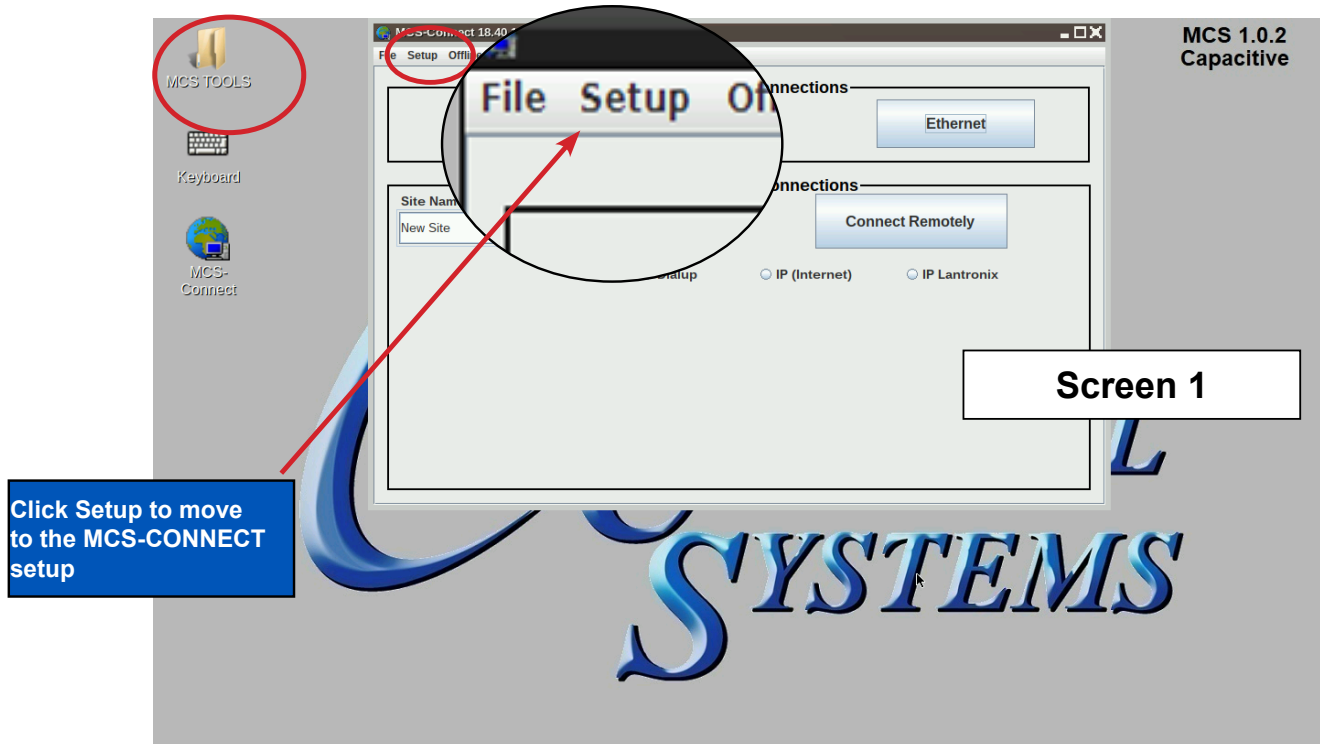


14. Click on 'ARROW' to eject and remove from the back of the touchscreen.

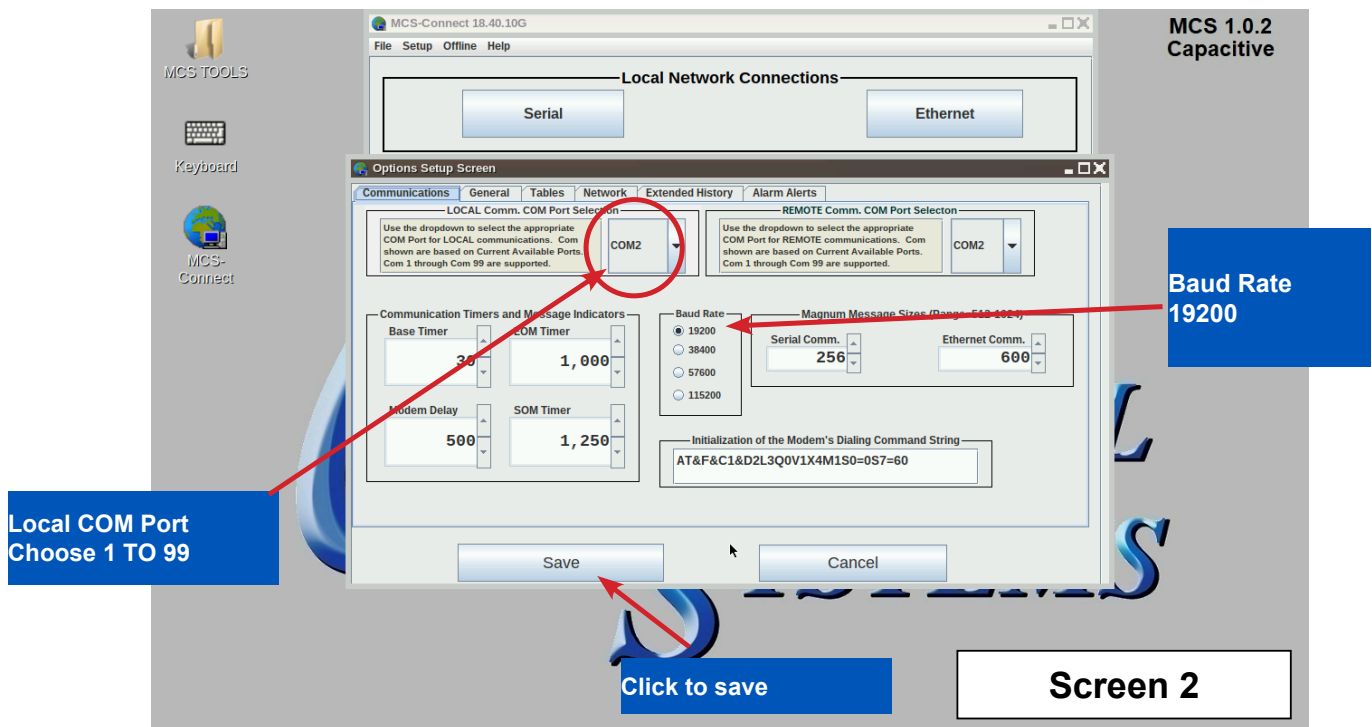


SECTION- 7. MCS-Connect Communication

1. At the 'Desktop screen' click on the **'MCS-CONNECT shortcut'**.
2. Click on **'Setup'** at the MCS-CONNECT screen.



3. Next screen is the setup screen for communicating with your controller or PC.
4. You can change the "Com port" and "Baud Rate" depending on how you are communicating with your controller or computer.

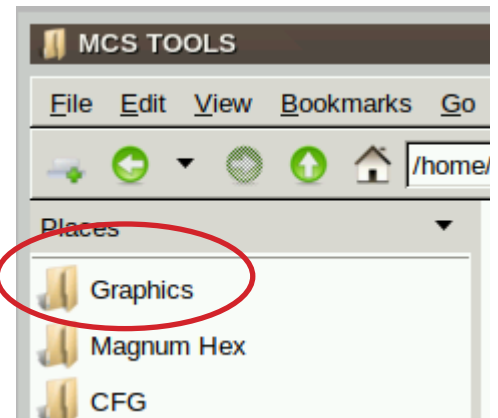


SECTION- 8. Replacing Graphics for Capacitive Touch

1. Click on the 'MCS TOOLS' folder on the desktop.



2. When MCS TOOLS opens, Double click on the 'GRAPHICS' on the left in the bookmarks.

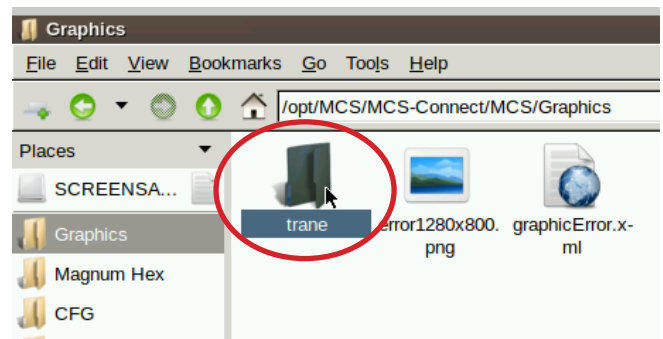


8.1. DELETE THE SUB FOLDER FOR YOUR GRAPHICS IF YOU HAVE NOT MADE A BACKUP OF THE FILES IN GRAPHICS FOLDER - STOP



BACKUP NOW TO A FORMATTED USB STICK AND SAVE THESE BEFORE PROCEEDING TO THE NEXT STEP.

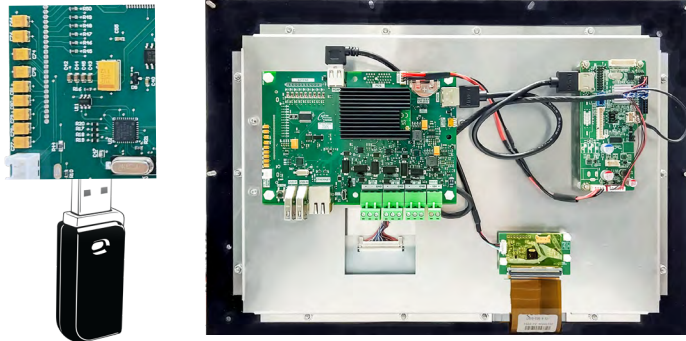
1. Delete the existing Graphic file in the graphics folder
2. In this case the example shows 'TRANE' for graphics sub folder.
3. DELETE THIS SUB FOLDER ONLY, CLICK WITH STYLES PEN, HOLD AND A DROP-DOWN MENU APPEARS, 'DRAG TO MOVE TO TRASH'



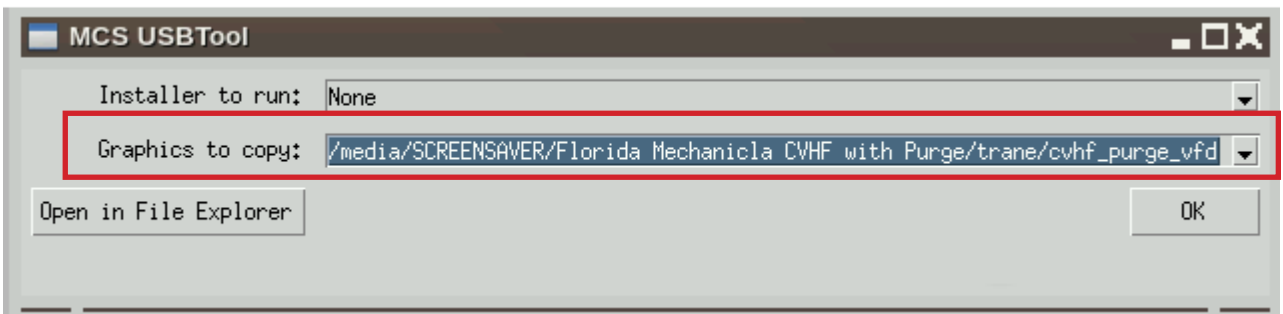
8.1.1 NEXT STEP FOR INSTALLING THE NEW GRAPHICS FOLDER

Continue to next page.

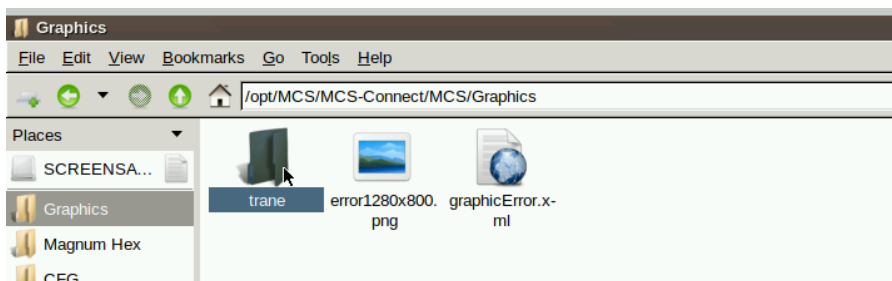
1. Download the emailed file from OEM or MCS to your computer desktop.
2. Click on file to unzip (DO NOT COPY UNZIPPED FILE).
3. Click on folder which contains your graphic file.
4. Copy new graphics file to a formatted USB Stick.
5. Plug the USB Stick with the new graphics file into the back of the touchscreen.



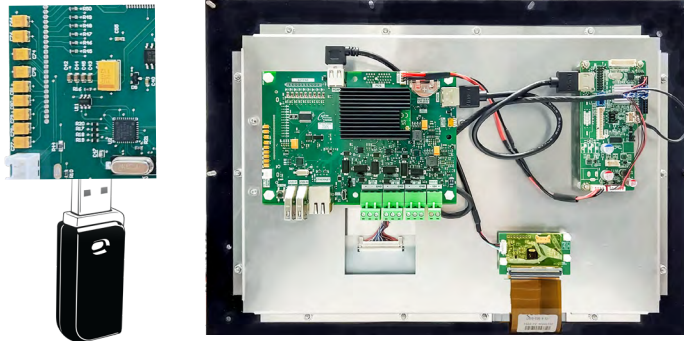
6. USB disk opens, click on small arrow for 'Graphics to copy", click okay.
7. File that will be copied to the 'Graphics folder in the bookmarks.



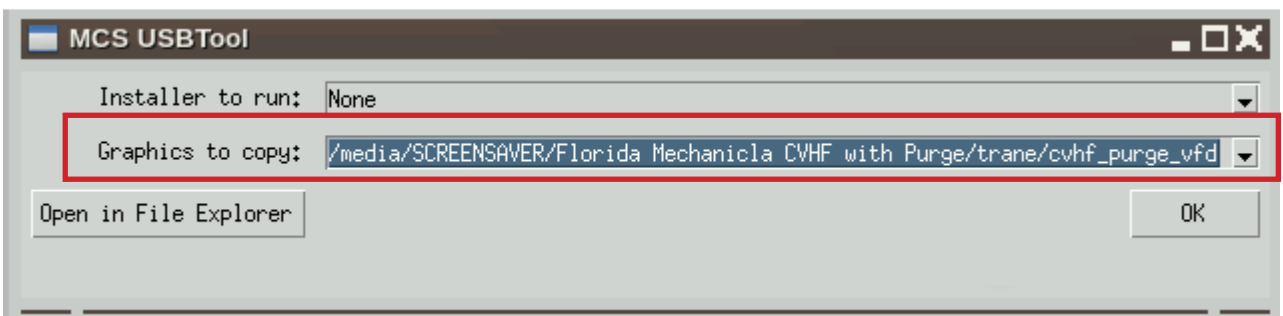
8. On bookmarks Places, click on Graphics, Your new graphic files will be in the subfolder of the Graphics folder. Example shows file that was placed in this folder 'TRANE'.



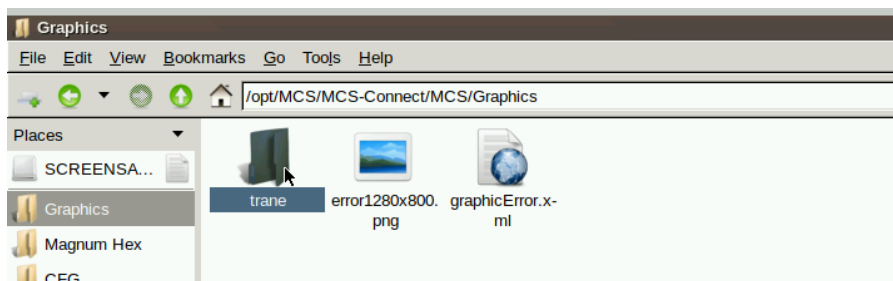
1. Download the emailed file from OEM or MCS to your computer desktop.
2. Click on file to unzip (DO NOT COPY UNZIPPED FILE).
3. Click on folder which contains your graphic file.
4. Copy new graphics file to a formatted USB Stick.
5. Plug the USB Stick with the new graphics file into the back of the touchscreen.



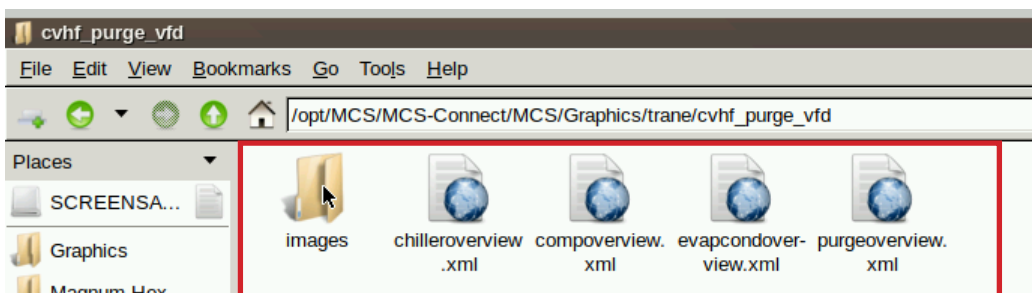
6. USB disk opens, click on small arrow for 'Graphics to copy', click okay.
7. File that will be copied to the 'Graphics folder in the bookmarks.



8. On bookmarks Places, click on Graphics, Your new graphic files will be in the subfolder of the Graphics folder. Example shows file that was placed in this folder 'TRANE'.



9. (Generic names can be used for different chillers (Trane, Carrier, etc.)
10. Double click on the subfolder "Trane" to see files needed for the replaced graphics.

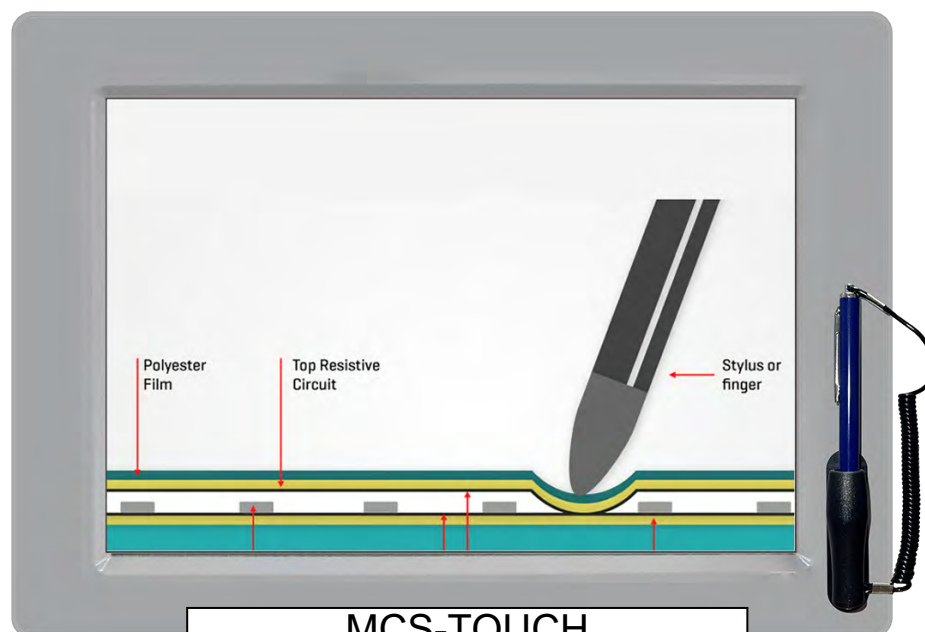
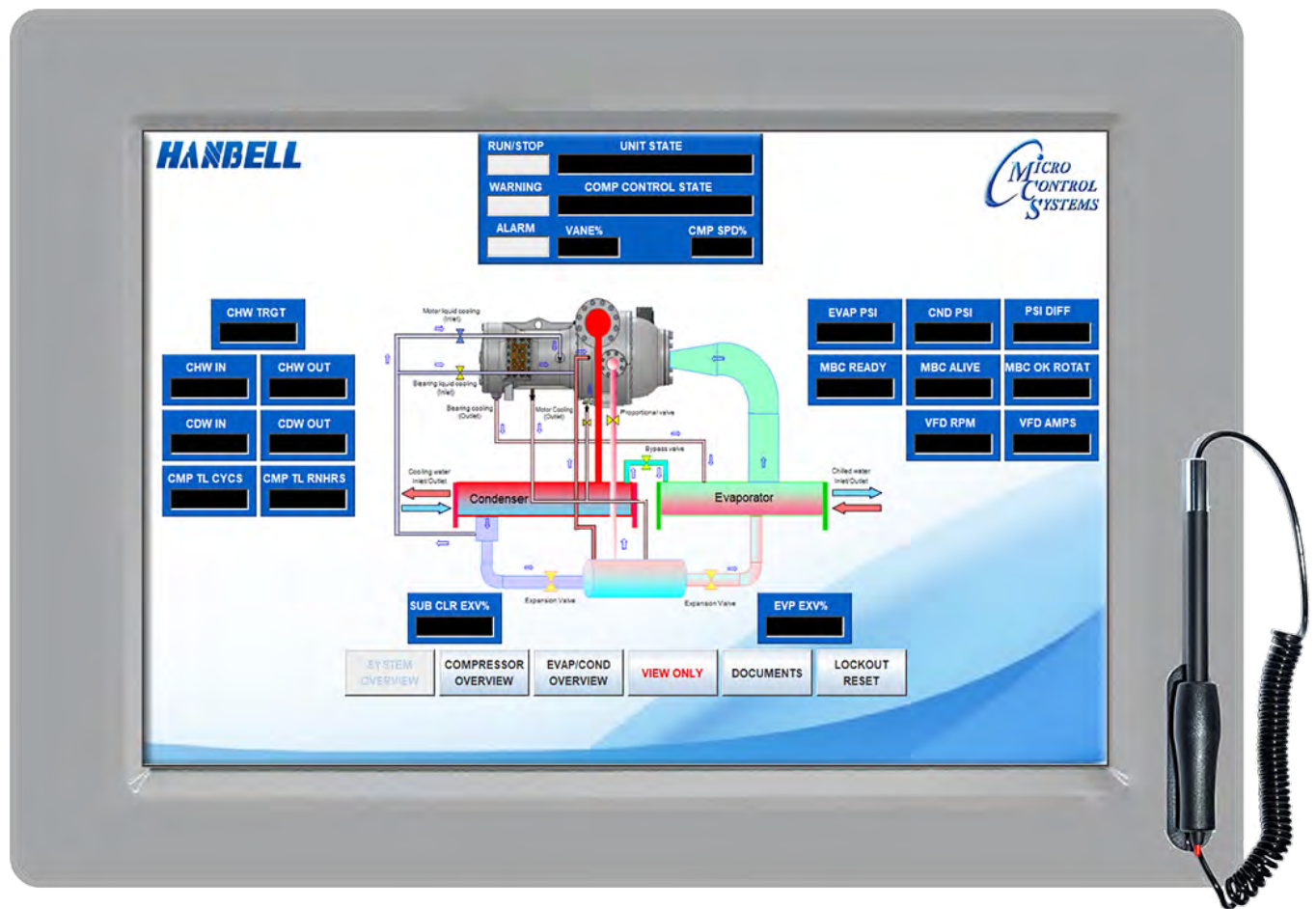


TESTING THE GRAPHICS

ON MCS-CONNECT SCREEN

1. Click on 'OFFLINE' at top
2. Load your chilleroverview.xml file, Enable Auto Screen Refresh
3. Click to open your graphics folder in the graphics folder under places
4. Highlight 'chilleroverview.xml', and click open
5. When MCS-CONNECT opens, click on the 'chilleroverview.xml' tab to open your graphics
6. Once you verified the graphics have been loaded, close MCS-CONNECT and re-connect to the controller and click on the graphics tab at the top right.

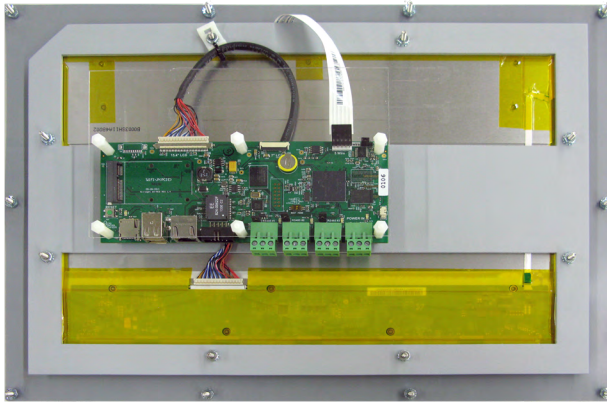
RESISTIVE TOUCHSCREEN'S INTERFACE



MCS-TOUCH
RESISTIVE TOUCHSCREEN
use Stylus or Finger

SECTION- 1. RESISTIVE TOUCHSCREEN'S INTERFACE

Your touchscreen is shipped installed with the latest Linux operating system, MCS-Connect and additional files for displaying your graphics.



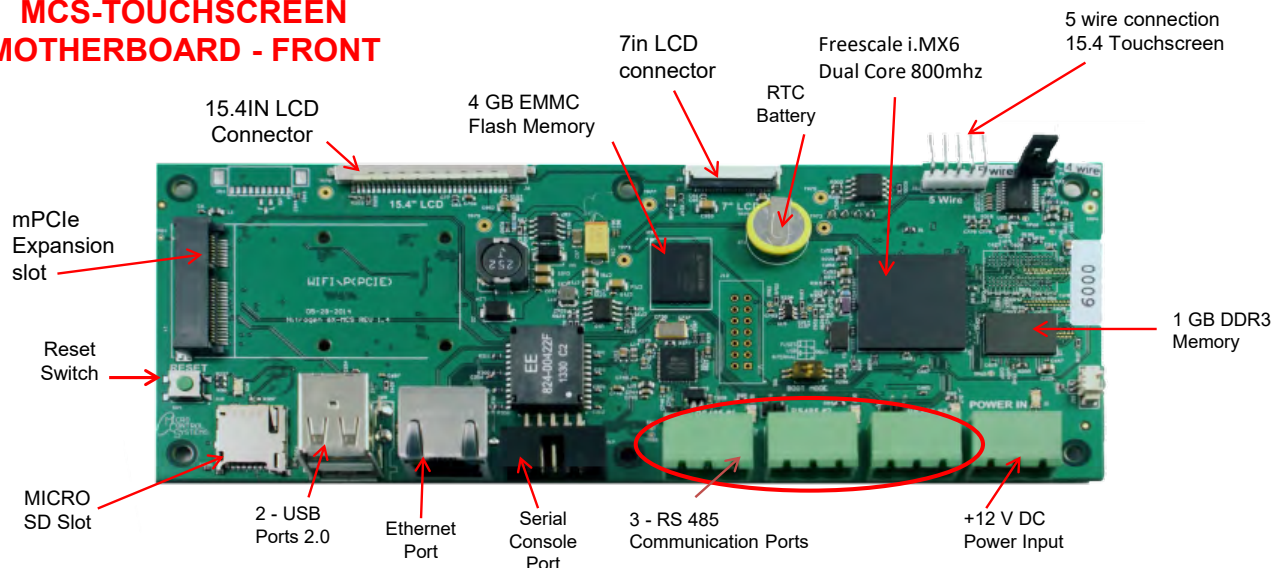
Back of Display - 15.4"



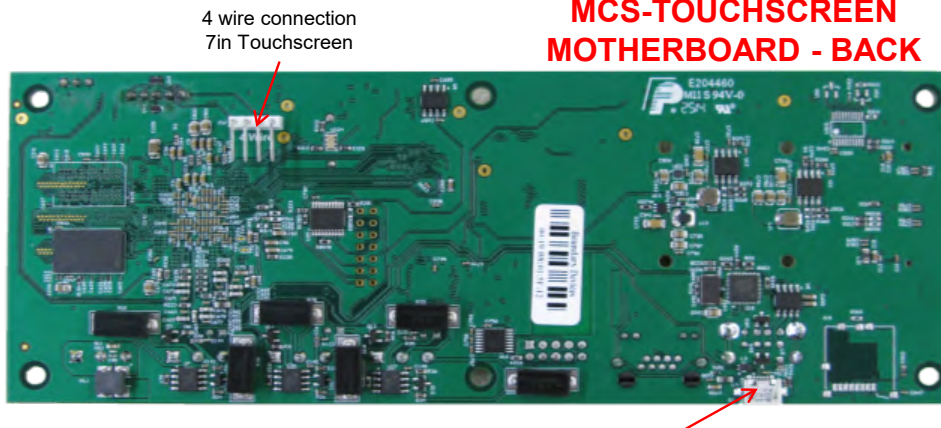
INCLUDED COMPONENTS

90W Single Output Power Supply for Touchscreen
Resistant to short circuiting, overloading, and over voltage.
Operating temperature up to 158F (70 °C)

MCS-TOUCHSCREEN MOTHERBOARD - FRONT



MCS-TOUCHSCREEN MOTHERBOARD - BACK



SECTION- 2. RESISTIVE TOUCH SITE DOCUMENTS

2.1. Documents, Spec Sheets, Drawings, etc.

Stored in the Touchscreen's flash memory you will find pdf's and documents pertaining to the building of your unit.

Each unit's configuration is different, so the 'SITE DOCUMENTS' file will pertain to that unit only.

An example of the contains of the 'SITE DOCUMENTS' folder may contain:

1. DRAWINGS (PDF'S) of the components used in this unit

2. EXAMPLE OF MANUALS (if installed in your unit)

- a. Getting Started Manual
- b. Keypad Manual
- c. Touchscreen Manual
- d. EXV Manual
- e. BMS-GATEWAY Startup Guide
- f. Additional manual may be stored here depending on the configuration of the unit

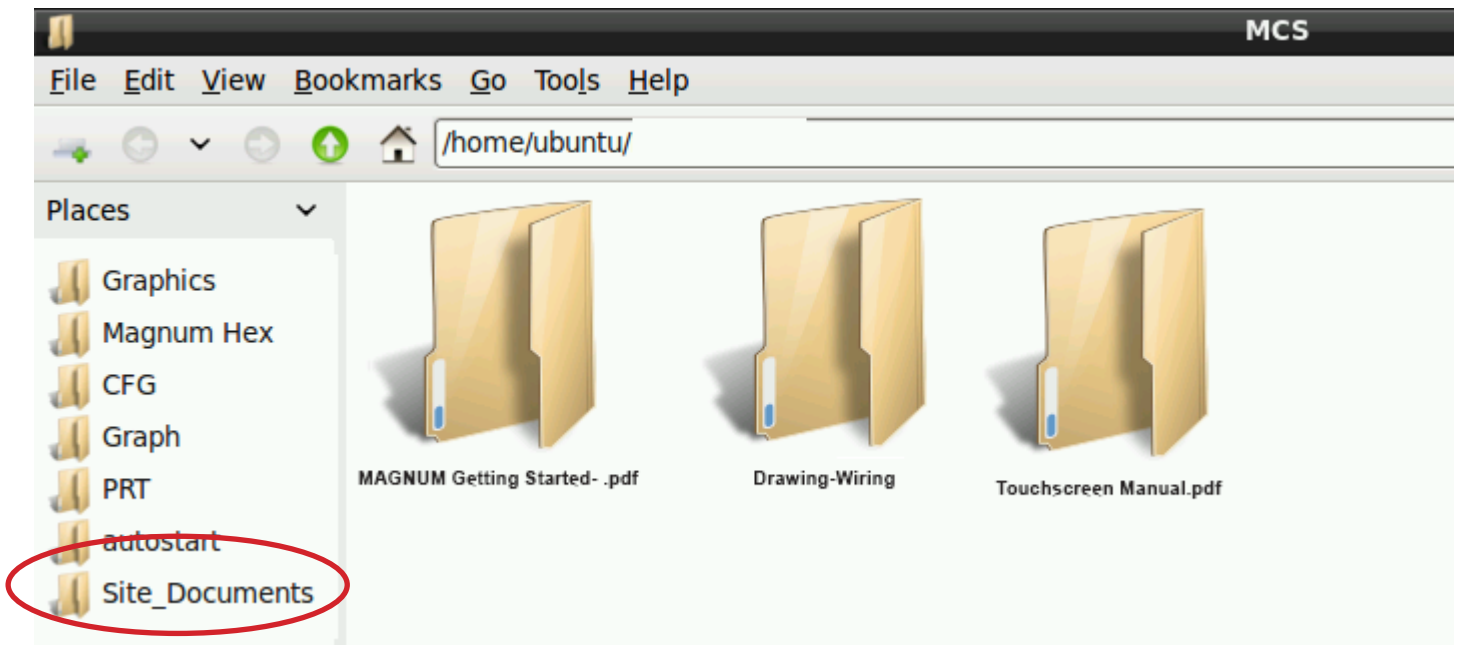
3. SPECIFICATION SHEETS

Each part installed should have a spec (data) sheet included in the 'SITE DOCUMENTS' folder

4. CONFIGURATION FILE - This is the key file in building your unit. If your config file is somehow corrupted, this is the original file used and may need to be re-installed. Call MCS-SUPPORT for help in re-installing this file to your controller.

To locate the 'SITE DOCUMENTS' folder:

- 1. Navigate to the '**MCS TOOLS folder**' on your desktop
- 2. Double click on folder to open
- 3. Click on Site _Documents under Places on left.



SECTION- 3. RESISTIVE TOUCH MAIN SCREEN

3.1. Layout of Main Screen on the Touchscreen

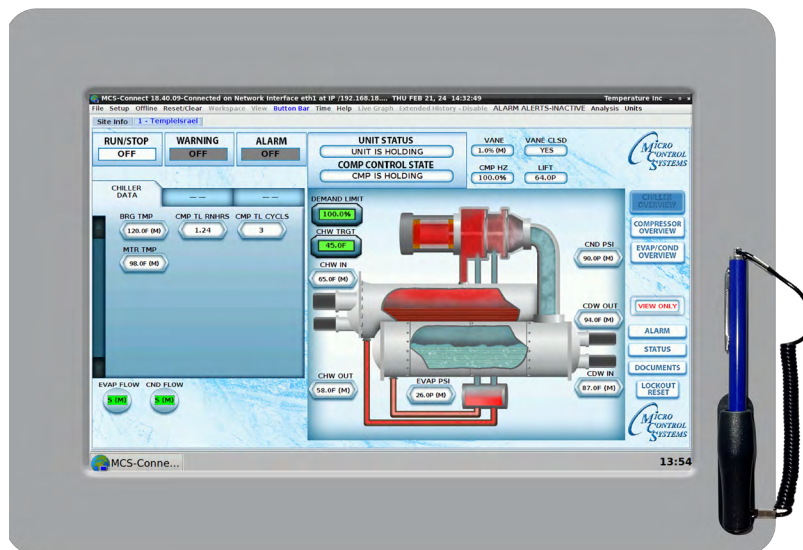
1. MCS-Connect icon
2. On Screen Keypad icon
3. MCS Tools, icon
4. Touchscreen Software Version
5. Touchscreen - LOCKED OR UNLOCKED
6. Time of Day



3.2. COMPANY GRAPHICS

If your touchscreen came pre-installed with the 'Graphic Package', OEM's and trained Installers will be able to modify some of the displays after the initial installation using the Graphic Builder if they are authorized.

With its 1280x800 Resolution, the display is sharp and easy to read. Making use of the 'Stylus pen', and the on screen keypad adjustments are easy and lets the technician check readouts as to the status of the controller.



The Touchscreen now comes with a Linux operating system.

The latest touchscreens, firmware version 3.0 +, comes with a 9 point calibrating software program for pin point accuracy.

SECTION- 4. RESISTIVE TOUCH KEYPAD

4.1. KEYPAD -

On the main screen, click on Keypad Icon as shown in screen 1.



4.2. 'ON SCREEN KEYPAD'

Screen 2 shows keypad display. Use the stylus and keypad to enter or make adjustments.



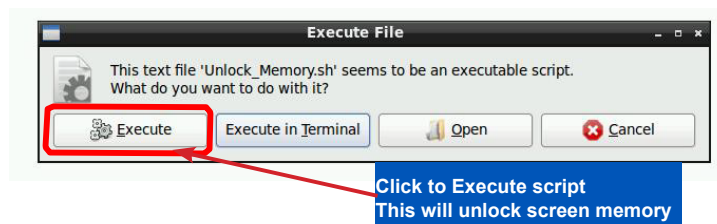
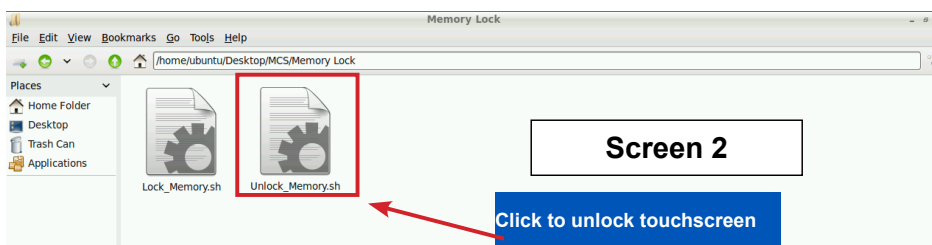
SECTION- 5. UNLOCKING THE RESISTIVE TOUCHSCREEN

5.1. Unlocking the Touchscreen.

1. Click on the '**MCS TOOLS**' folder on the desktop, '**Memory Lock**' sub folder will appear when this file is opened..



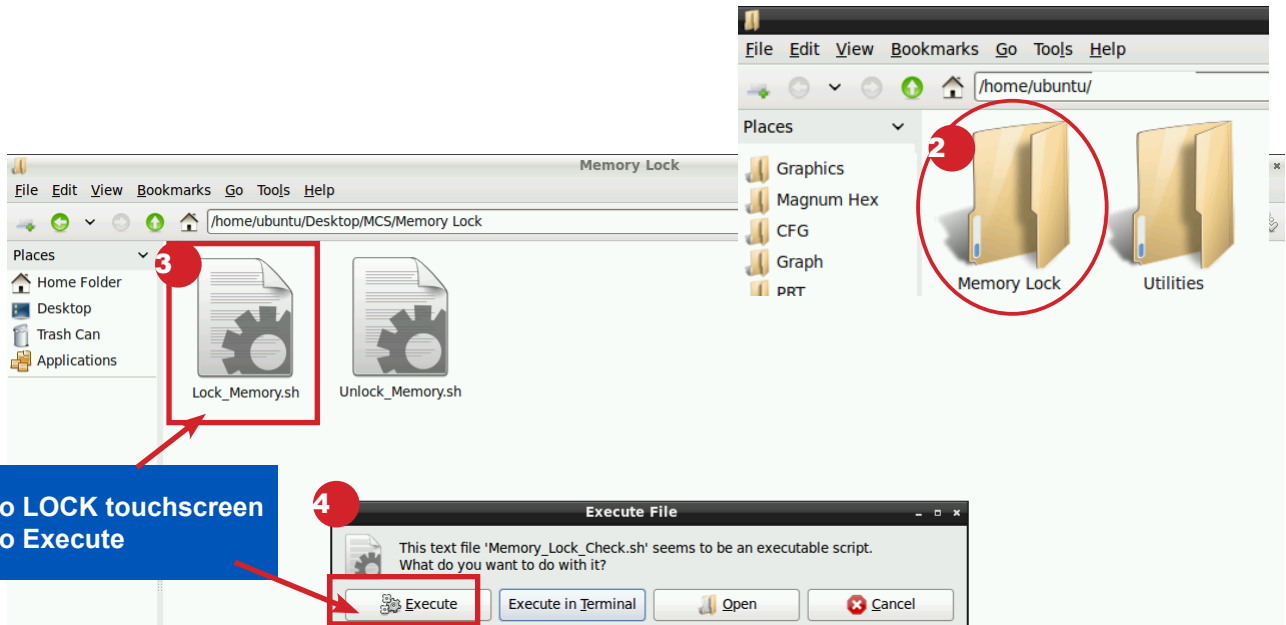
2. Double click on the '**Memory lock**' folder
3. Double click on the '**Unlock_Memory.sh**' icon
4. Next screen, click on '**Execute**'
5. Touchscreen will perform a restart



Re-Locking Touchscreen



1. Double click the '**MCS TOOLS**' Icon on the Desktop.
2. Double click '**Memory Lock**' sub directory.
3. Double click '**Lock Memory**'.
4. Click '**EXECUTE**'. The touchscreen will reboot.

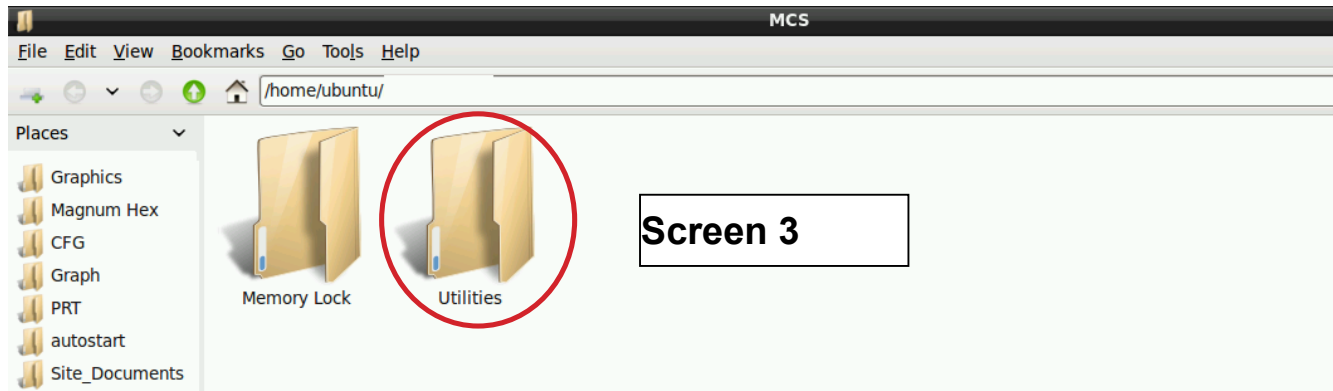


**When the Lock Memory file is pressed it does an automatic reboot and autostarts MCS-Connect.
Check the top right corner of the desktop to make sure the touchscreen is locked.**

SECTION- 6. RESISTIVE TOUCH UTILITIES

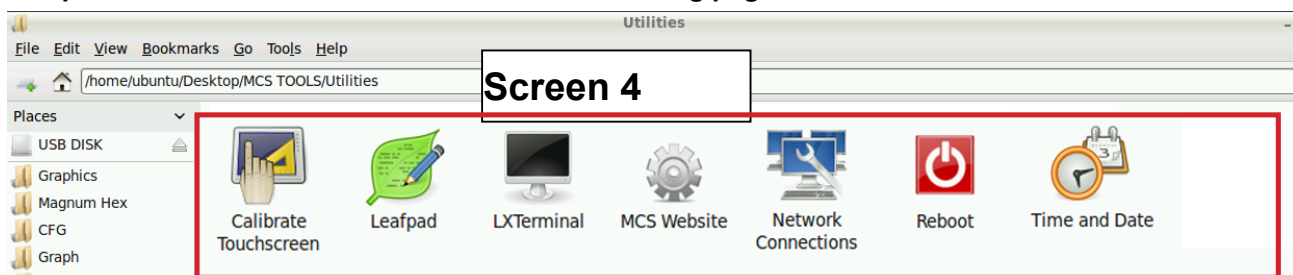
6.1. Utilities folder and its sub folders

1. Navigate to the '**MCS TOOLS folder**' on your desktop.
2. Double click on folder to open.
3. Double click on the '**Utilities**' sub folder to view contents.



4. Screen 3 below displays the difference utilities build into the system.

Brief descriptions of these files will be shown on the following pages in this manual.



6.1.1 Calibrate Touchscreen

Your touchscreen comes with a software program which will allow you to calibrate your touchscreen stylus pen to pin point the accuracy. When you touch an area on the screen the stylus point aligns with the screen area. We will describe how to do this later in this manual.

6.1.2 Leafpad

Leafpad is a text editing program enabling you to make changes to text files.

6.1.3 LX Terminal

LXTerminal is the LXDE version of a terminal emulator. It is used by programmers who are familiar with the Linux operating system.

6.1.4 MCS Website

If you are connected to the internet where this touchscreen is installed, you will be directed to the MCS web site by clicking on this icon.

6.1.5 Network Connections

Clicking on this icon will direct you to a program which will allow you to setup your communications to the company's network and controllers.

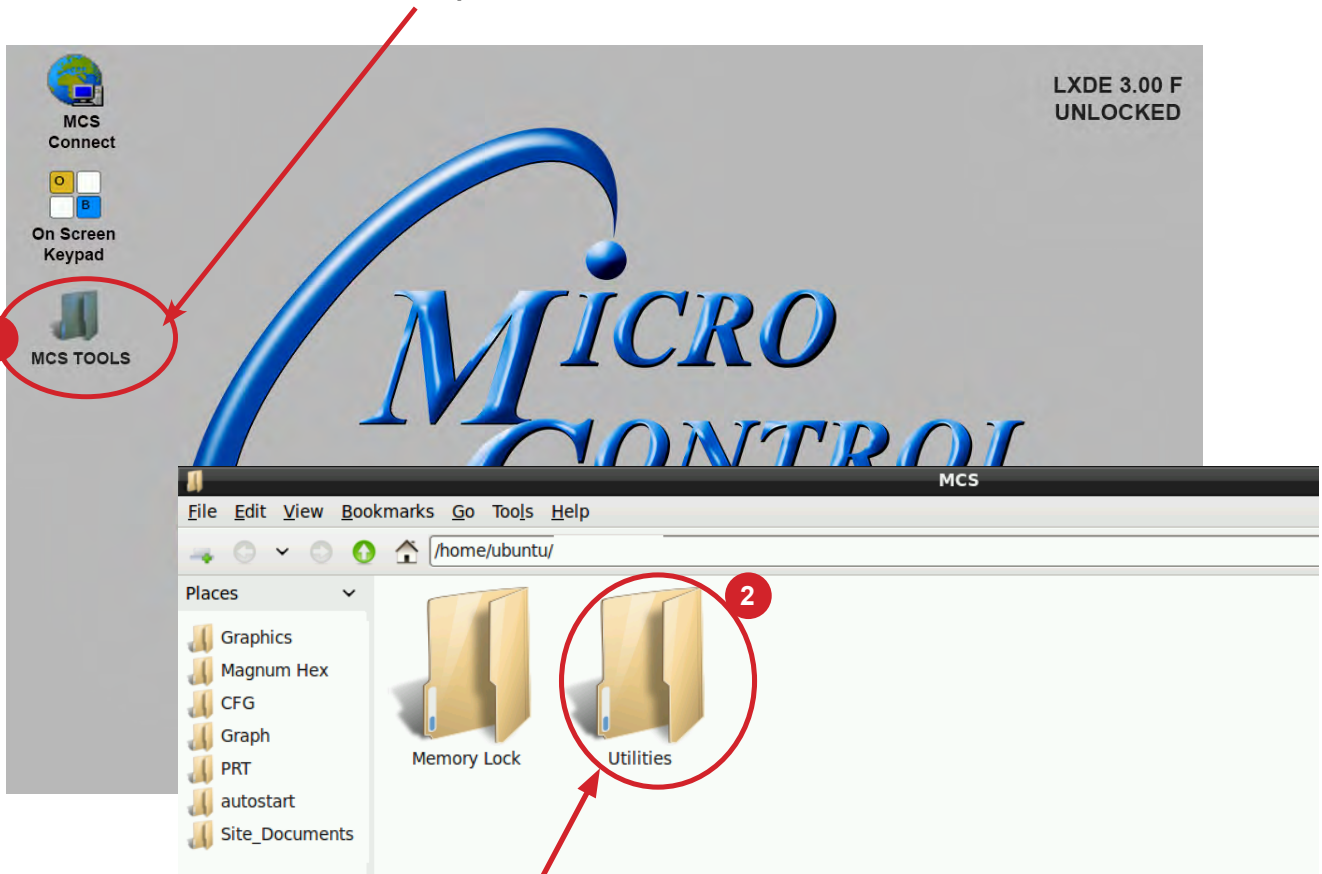
6.1.6 Reboot

Clicking on this icon will reboot your touchscreen.

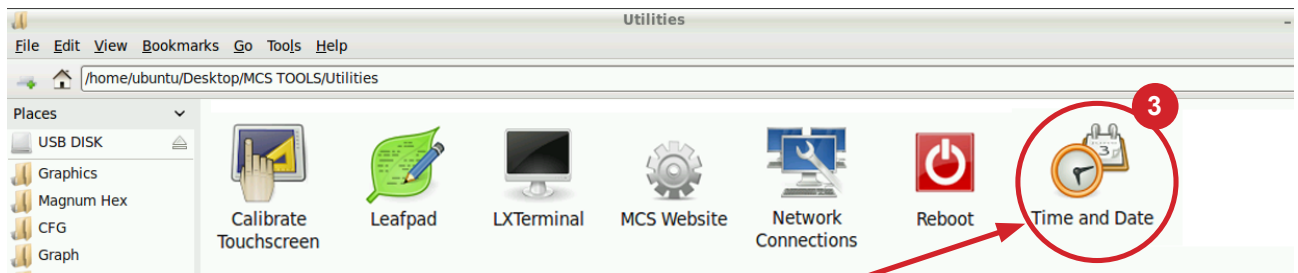
6.2. Setting Time and Date - MCS-TOUCHSCREEN

1. Navigate to the '**MCS TOOLS**' folder on your desktop.

Double click on folder to open.



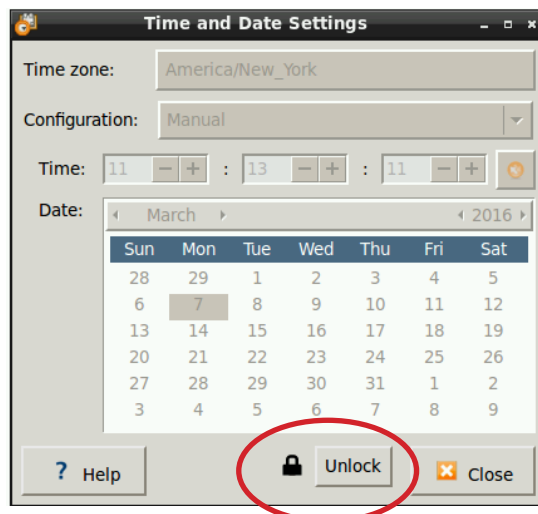
2. Double click on the '**Utilities**' sub folder to view contents.



3. Double Click '**Time And Date**' to make changes

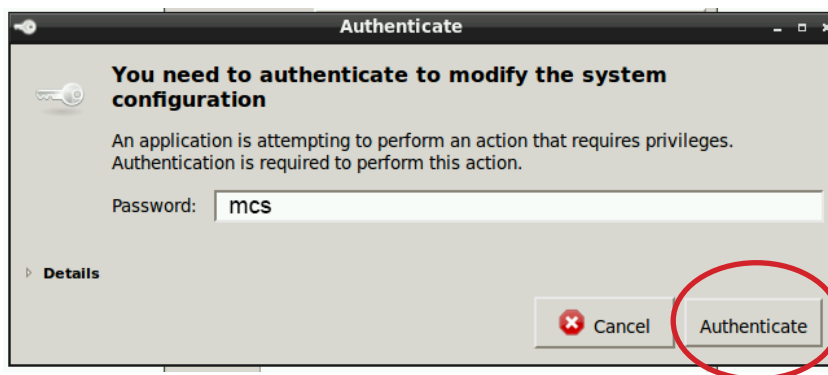
4. Screen opens- click on **'Unlock'**

You must be authorized to make these changes.

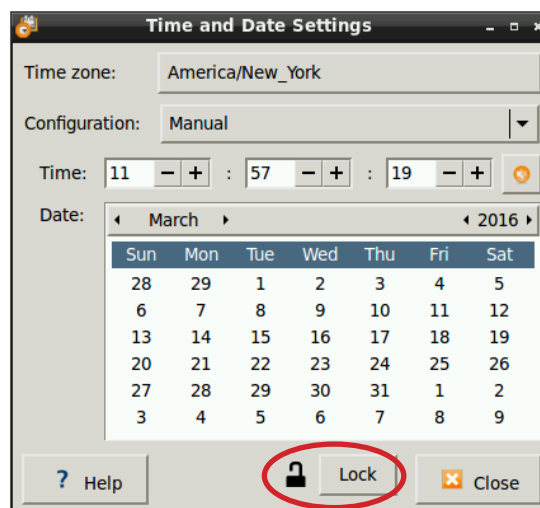


5. Using the keypad, enter password "mcs" (lower case)

6. Click **'Authenticate'** to unlock



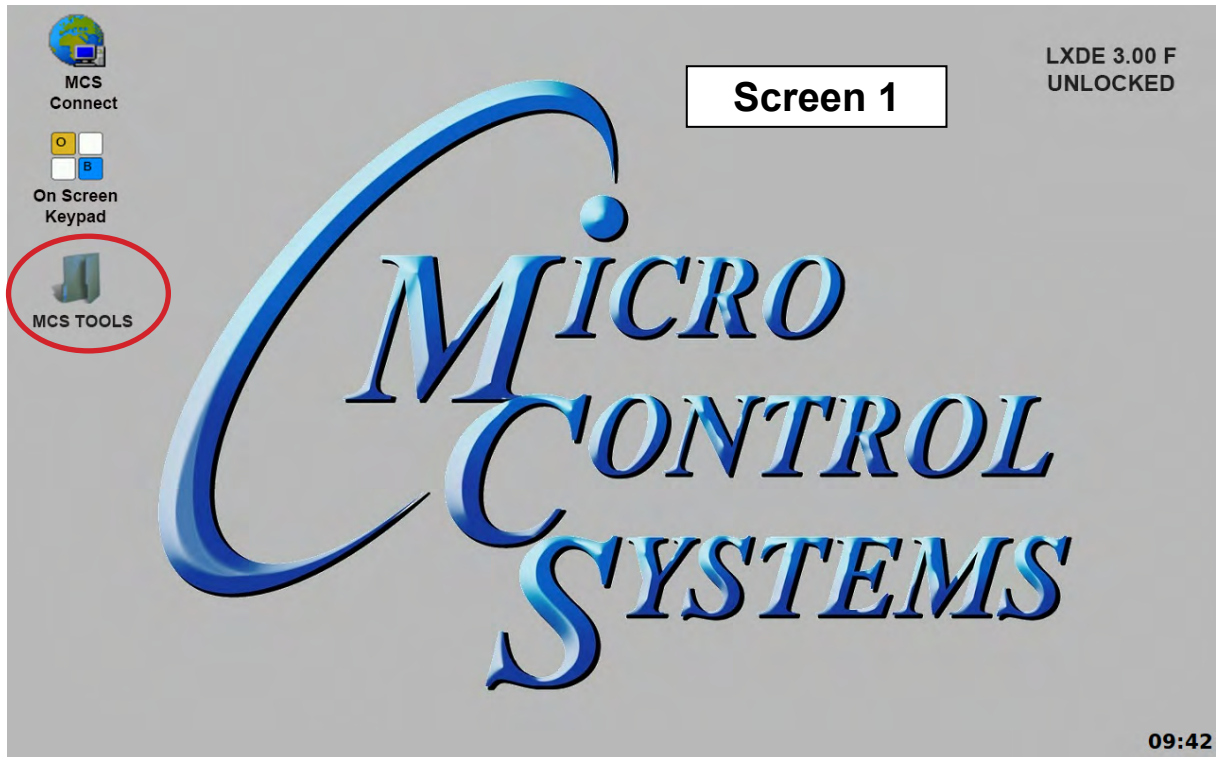
7. Make changes to date or time and click to **'Lock'**.



SECTION- 7. RESISTIVE TOUCH NETWORK

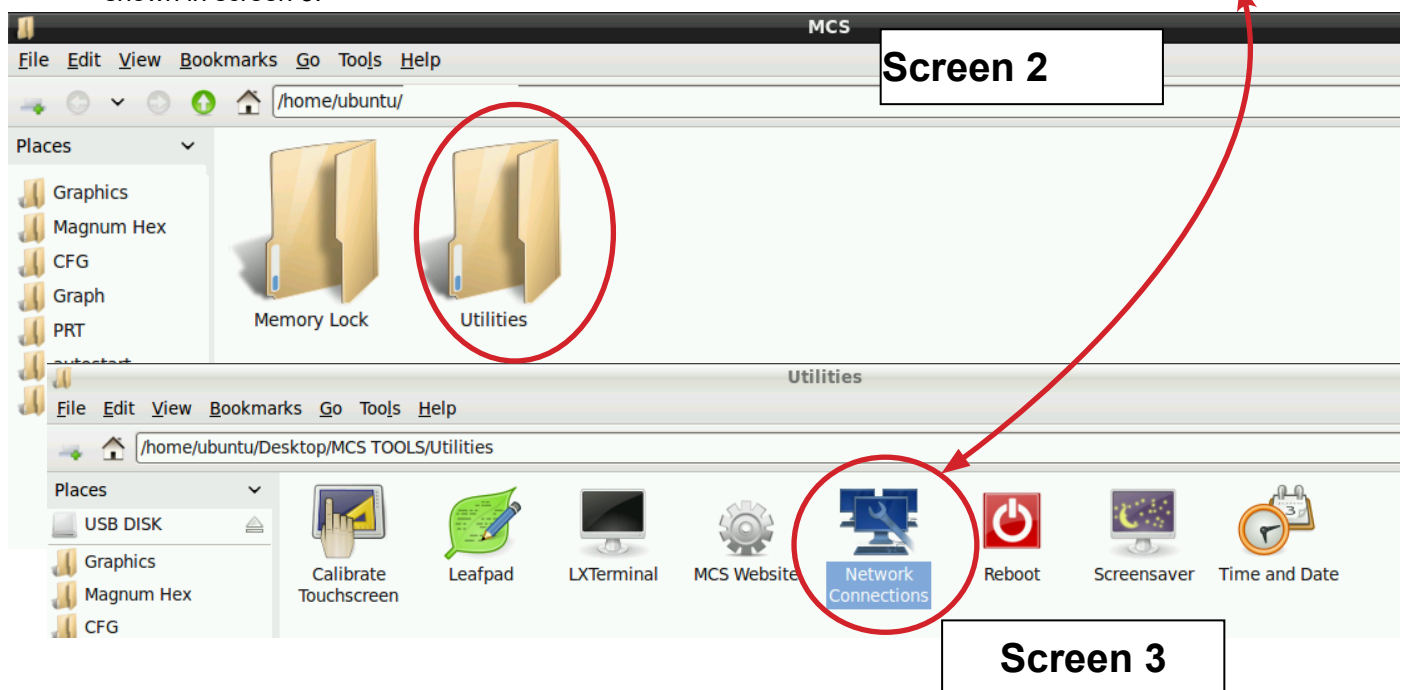
7.1. Setting Up Network For Communication With Your Controller

At the touchscreen main screen, click on '**MCS TOOLS**' folder' as seen screen 1.



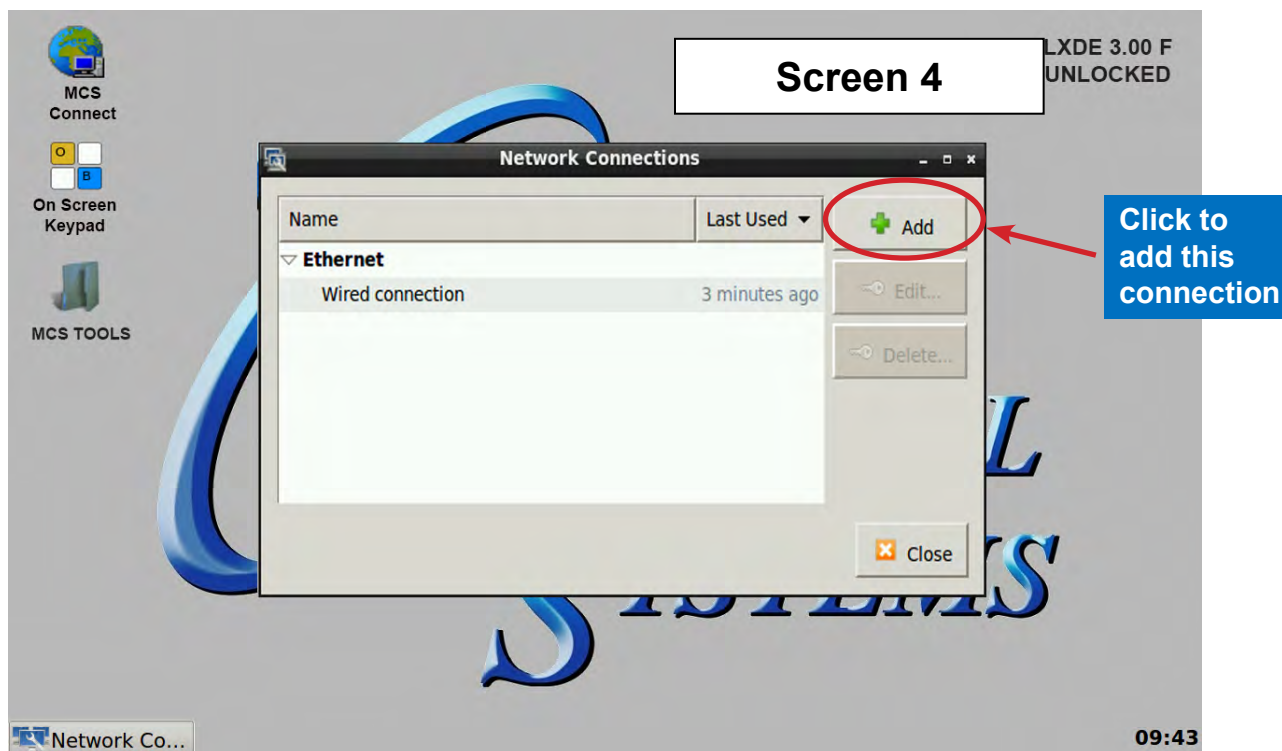
7.2. Utilities Folder

Screen 2 appears, click on 'Utilities' to view contents of folder. Click on '**Network Connections**' as shown in screen 3.

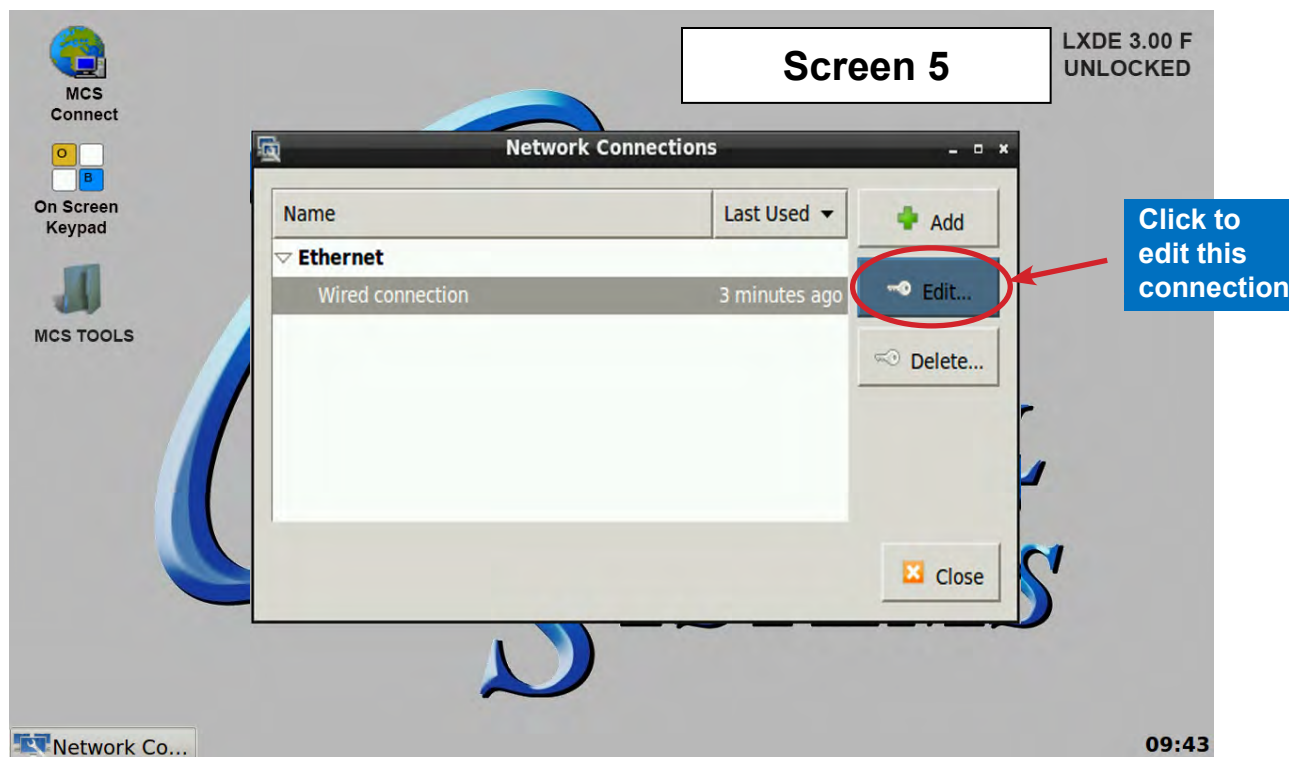


7.2.1 Network Connections Screen

Next display, screen 9-4 shows network communication screen. Your touchscreen will show **'Wired connection'**, click to add.



Screen 5, click to **'Edit'** this connection.



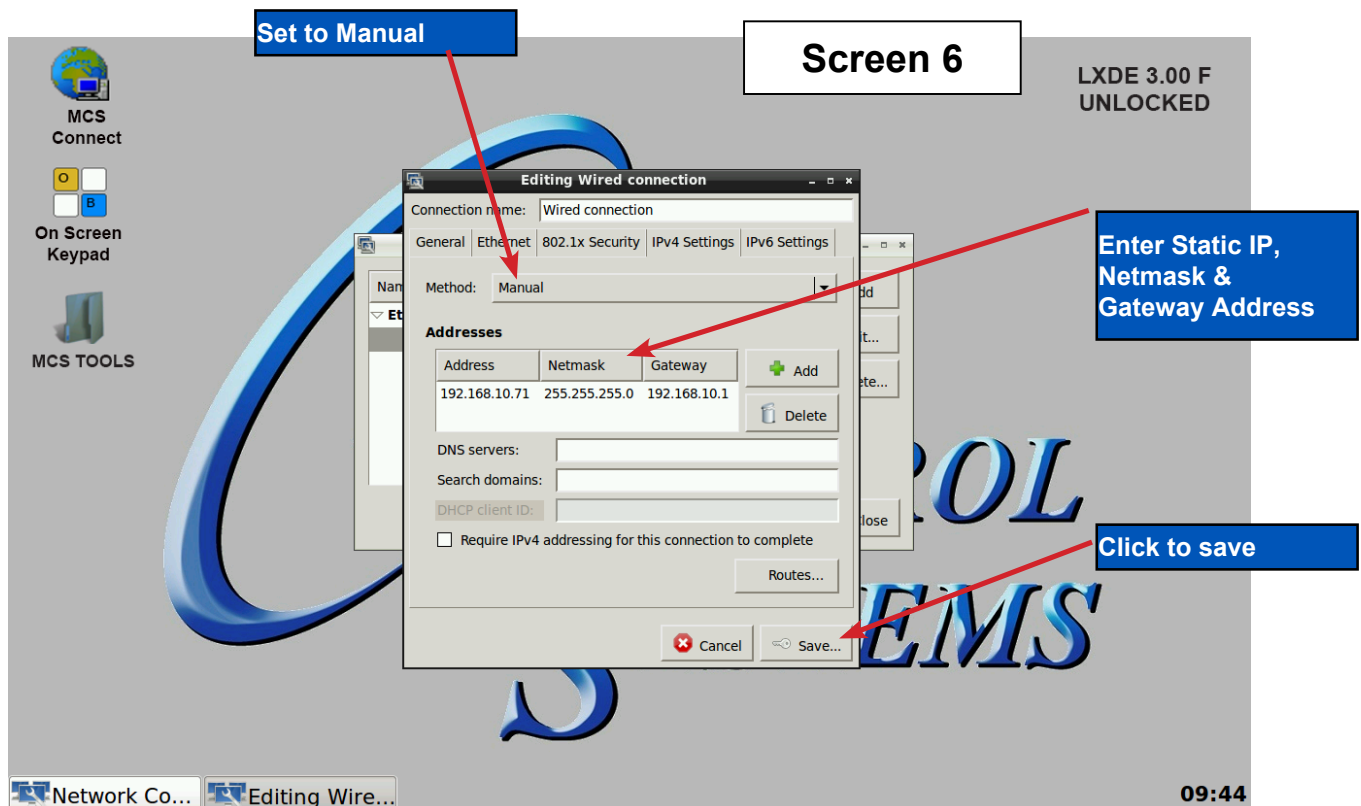
Selecting a Device MAC address

1. Go to the Ethernet tab.
2. Click the drop down arrow on the right side of "Device MAC address:"
3. Select the MAC address that has (eth*) at the end. (The number at the end varies).



7.2.2 Adding IP Address

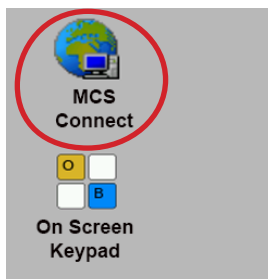
On screen 6, set 'Method' to 'Manual' click on 'IPv4' than click on 'Address', enter the IP address, the netmask and gateway addresses. Click to save to touchscreen memory.



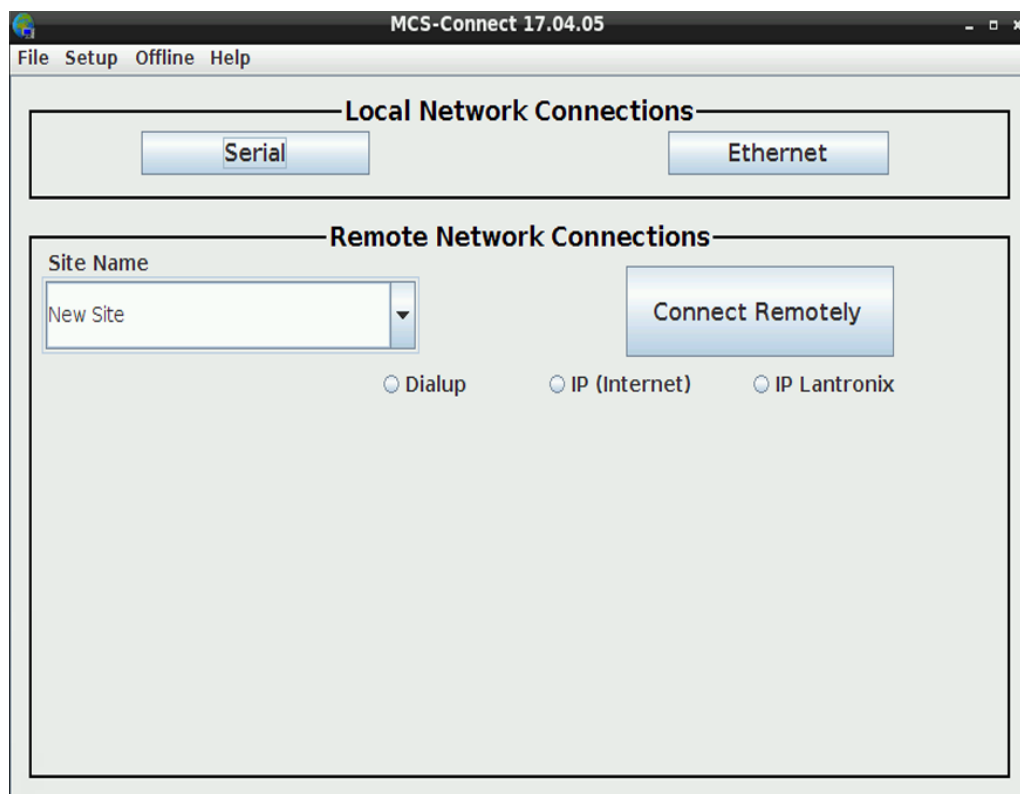
SECTION- 8. MCS-CONNECT

8.1. MCS-CONNECT Shortcut on Desktop

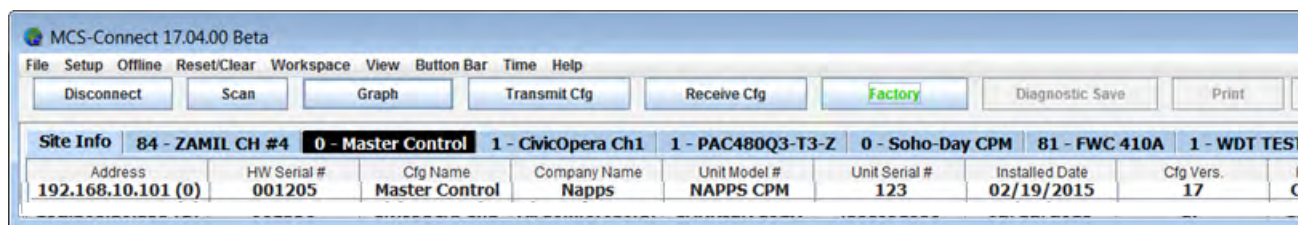
1. Click on the **MCS-Connect**.



2. This will launch the MCS-Connect main screen.
3. Click on Serial or Ethernet to scan for your controller.

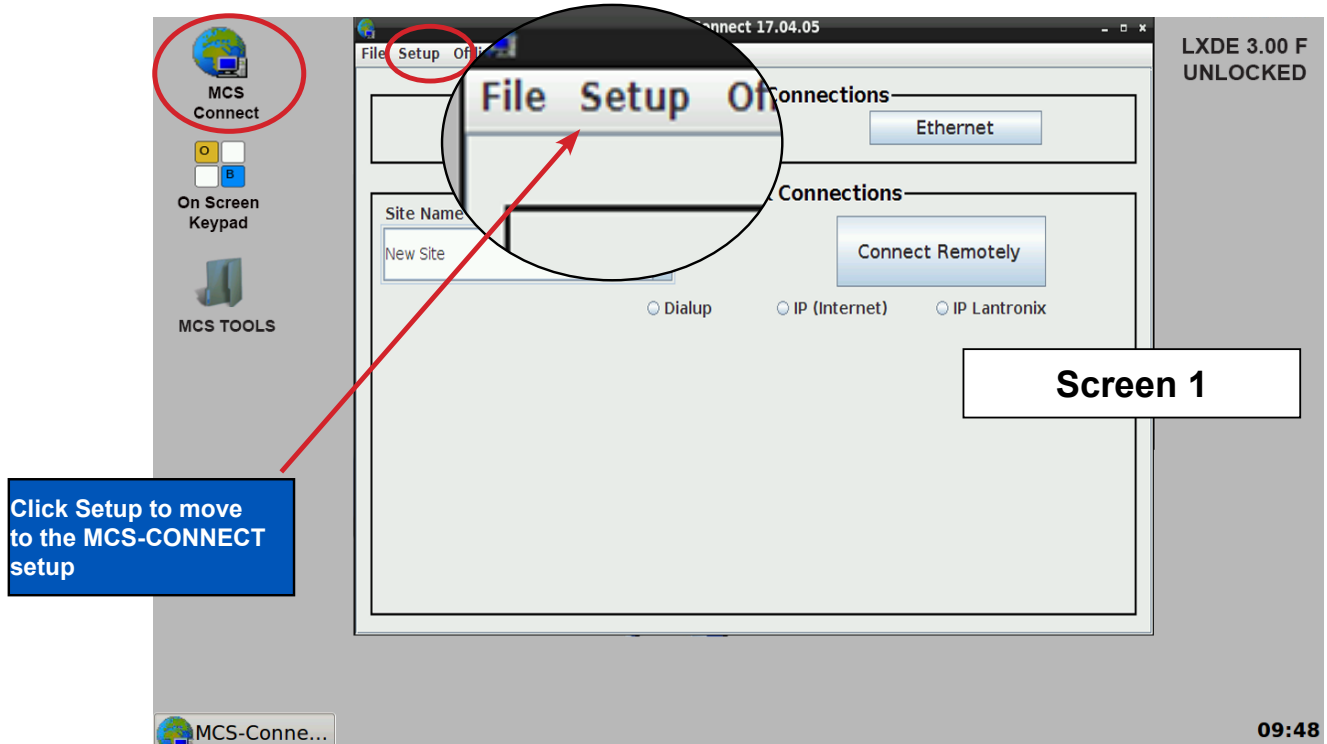


4. Screen below shows available controllers on your network.

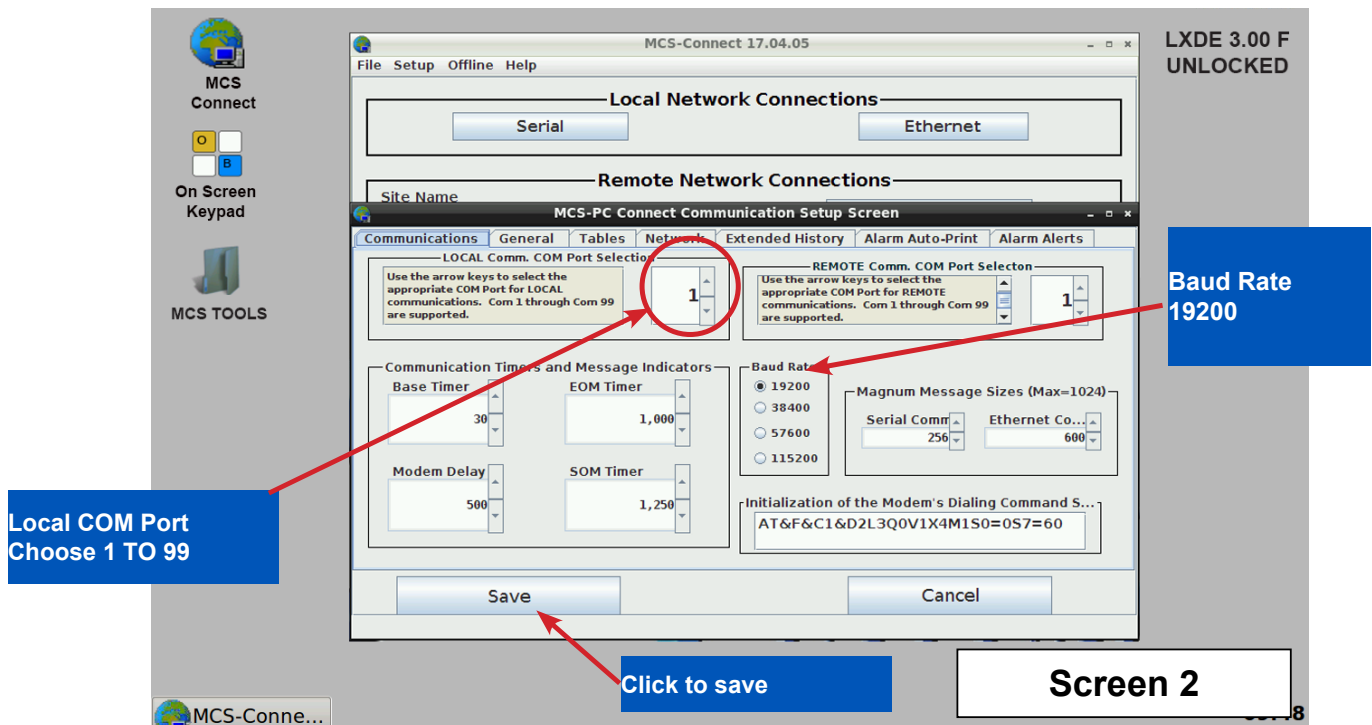


SECTION- 9. MCS-CONNECT COMMUNICATION

1. At the 'Desktop screen' click on the **'MCS-CONNECT shortcut'**.
2. Click on **'Setup'** at the MCS-CONNECT' screen.



3. Next screen is the setup screen for communicating with your controller or PC.
4. You can change the "Com port" and "Baud Rate" depending on how you are communicating with your controller or computer.



SECTION- 10. UPDATE MCS-CONNECT FOR RESISTIVE TOUCH

NOTE: MAKE SURE YOU DOWNLOAD THE LATEST LINUX VERSION OF MCS-CONNECT FROM OUR WEBSITE AT:

<http://www.mcscontrols.com/software.html>

Download Latest MCS-CONNECT software

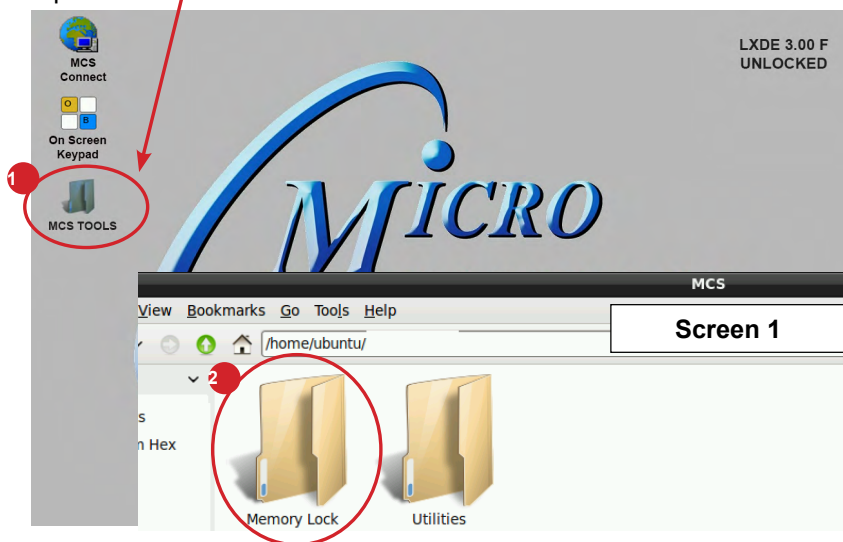


Call or email MCS for the password to download the latest **MCS-CONNECT LINUX VERSION** software.

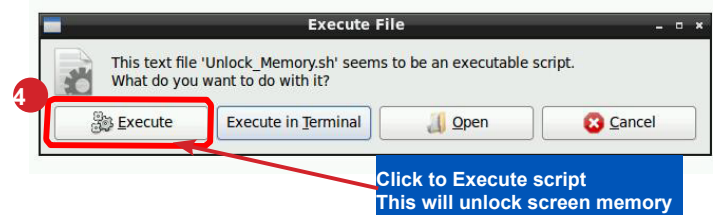
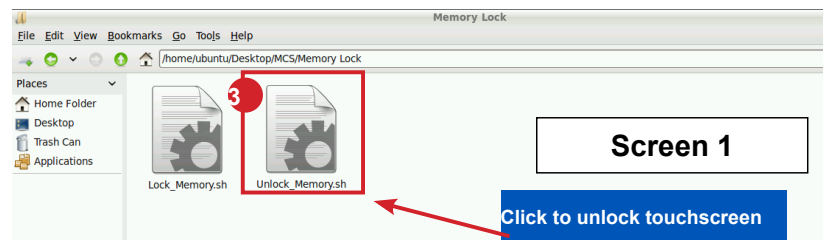
Download to your laptop or computer's desktop or a location where you will be able to copy to a USB drive.

Start by Unlocking the Touchscreen.

1. Click on the '**MCS TOOLS**' folder on the desktop, '**MEMORY LOCK**' sub folder will appear when this file is opened..

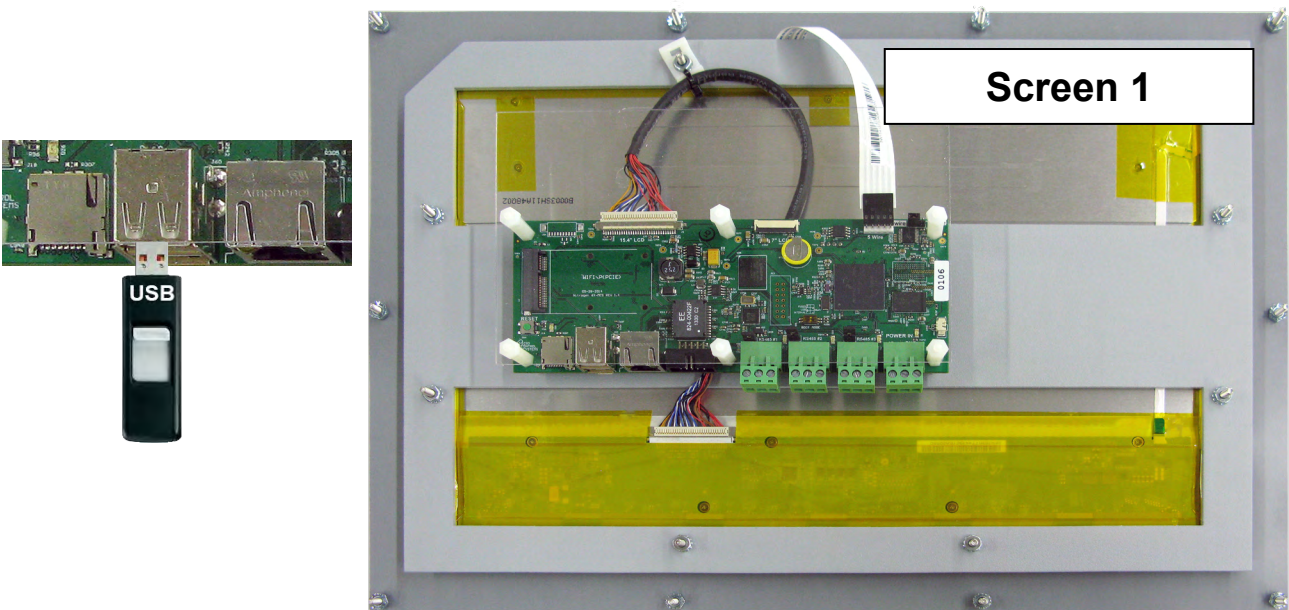


2. Double click on the '**Memory lock**' folder
3. Double click on the '**Unlock_Memory.sh**' icon
4. Next screen, click on '**Execute**'
5. Touchscreen will perform a restart



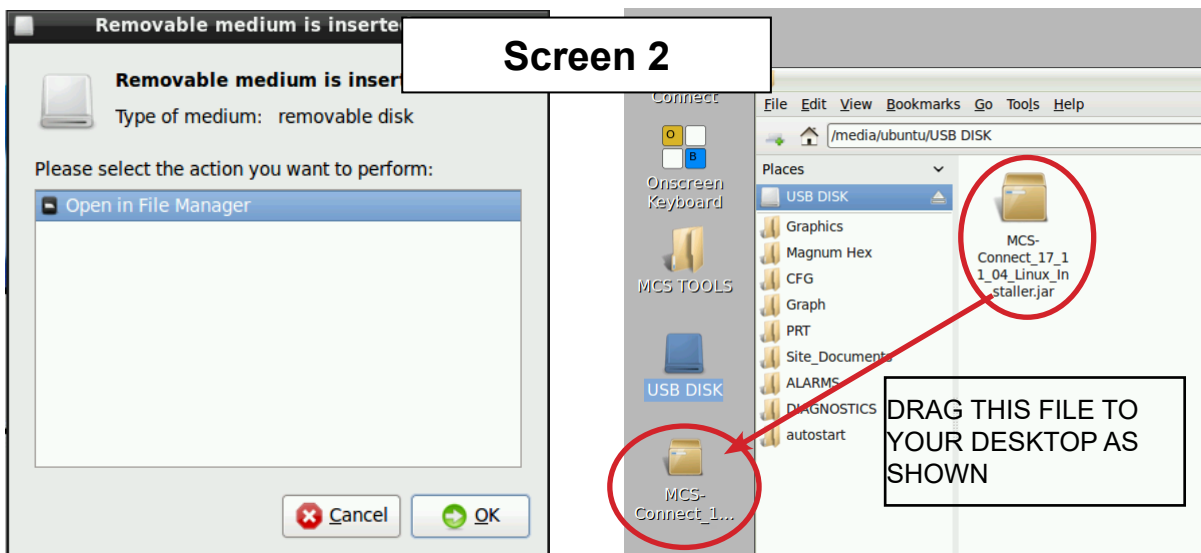
PLUG IN USB DRIVE AS SHOWN

On back of touchscreen, locate the USB PORT as shown on screen 2 and insert the USB drive with the new version of MCS-CONNECT..



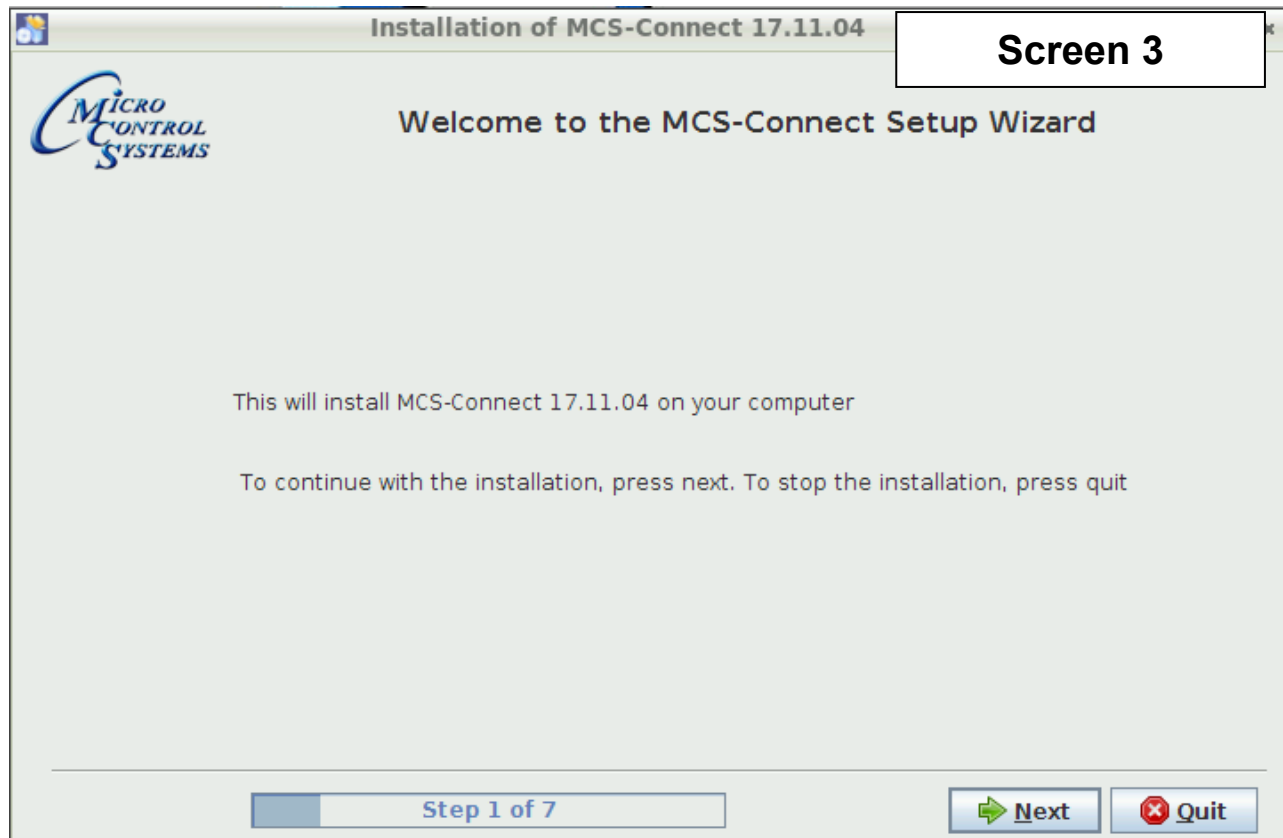
Copy the Updated File

1. After plugging in the USB drive, the following screen will appear, click ok to open in File Manager.
2. When the drive opens, **drag the 'MCS-CONNECT installation file' to the desktop.**

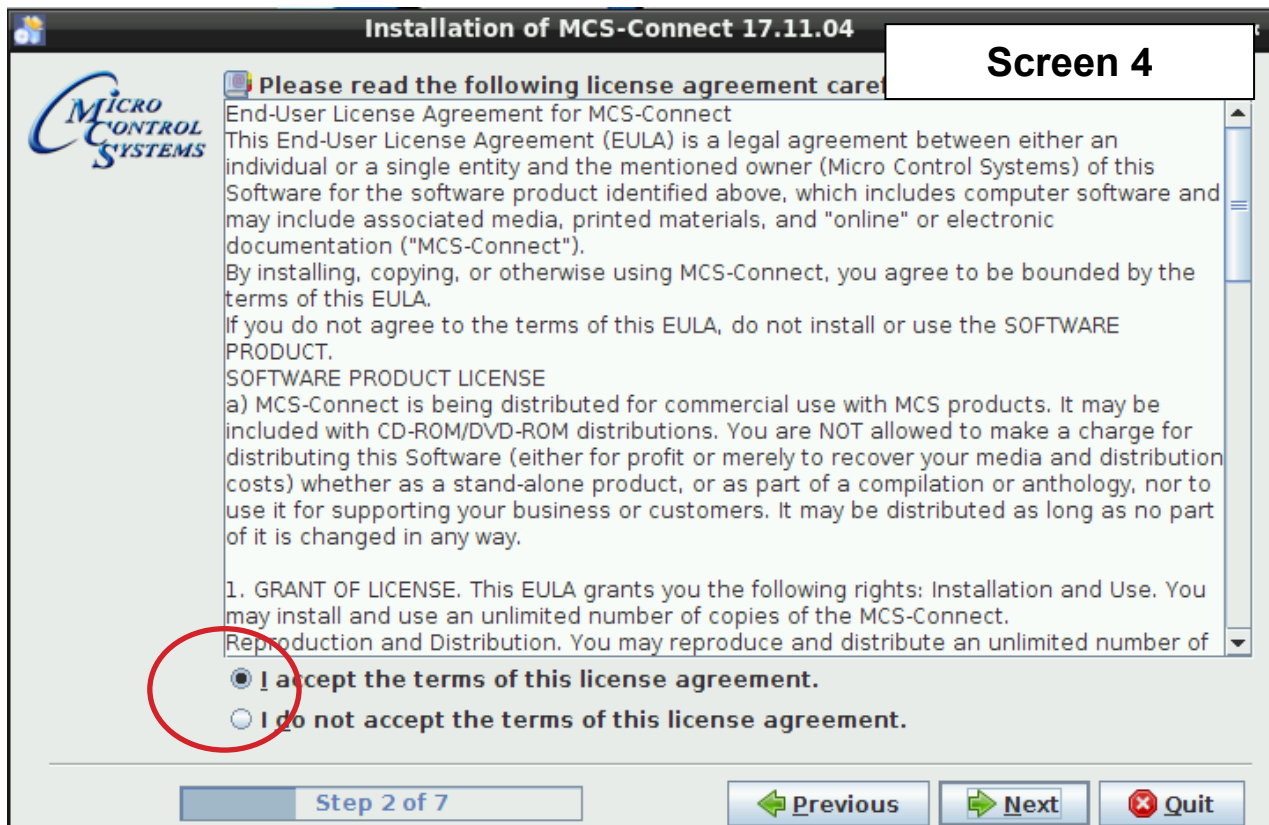


3. Close the screen so you can access the desktop.
4. Double click on the '**MCS-CONNECT installation file**' you just dragged to your desktop to upgrade.

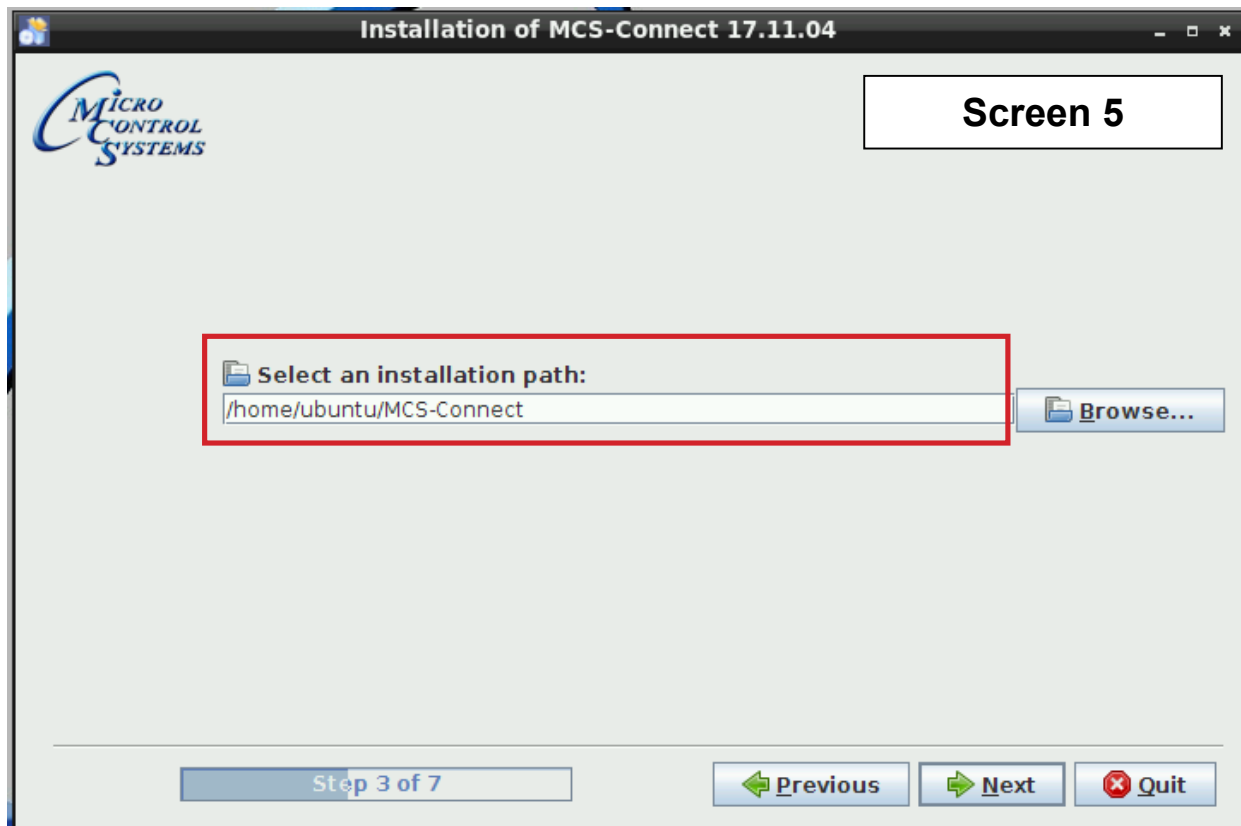
5. Click next to continue installing the new 'MCS-CONNECT installation



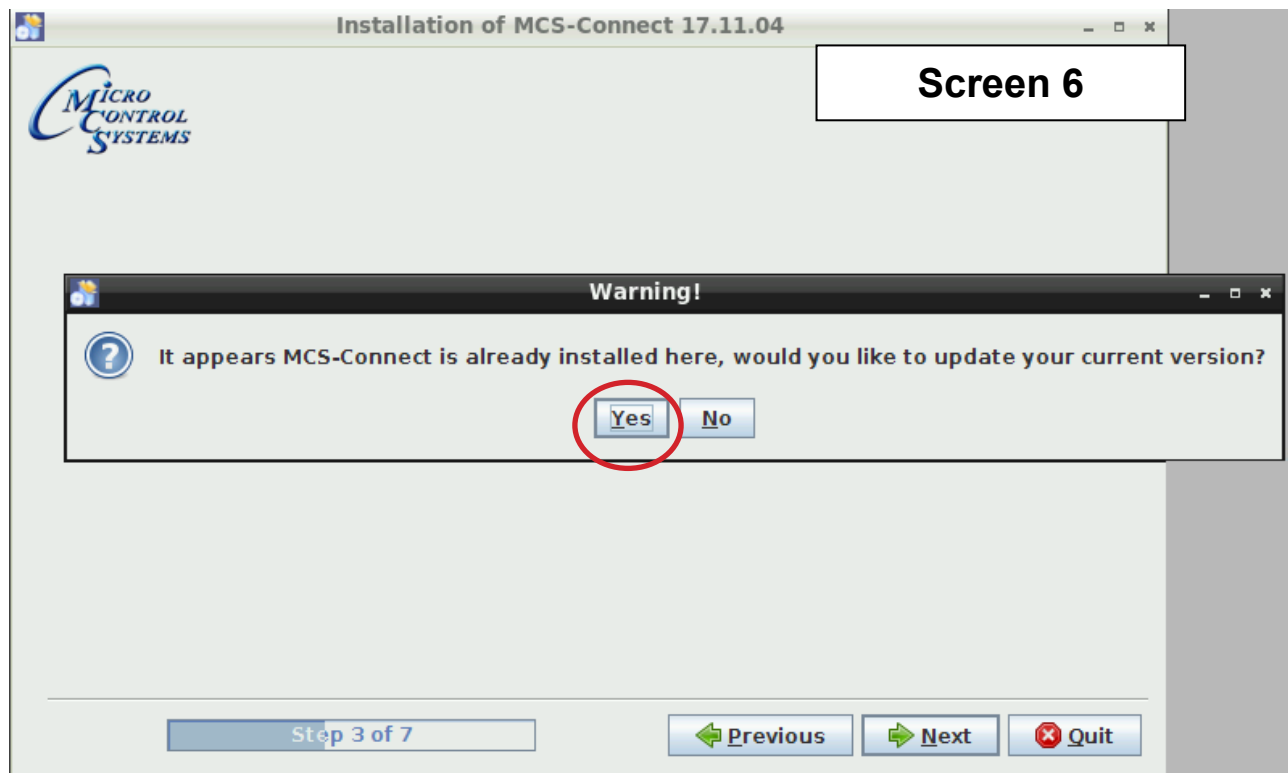
6. Accept the terms for the 'license agreement', click next to continue.



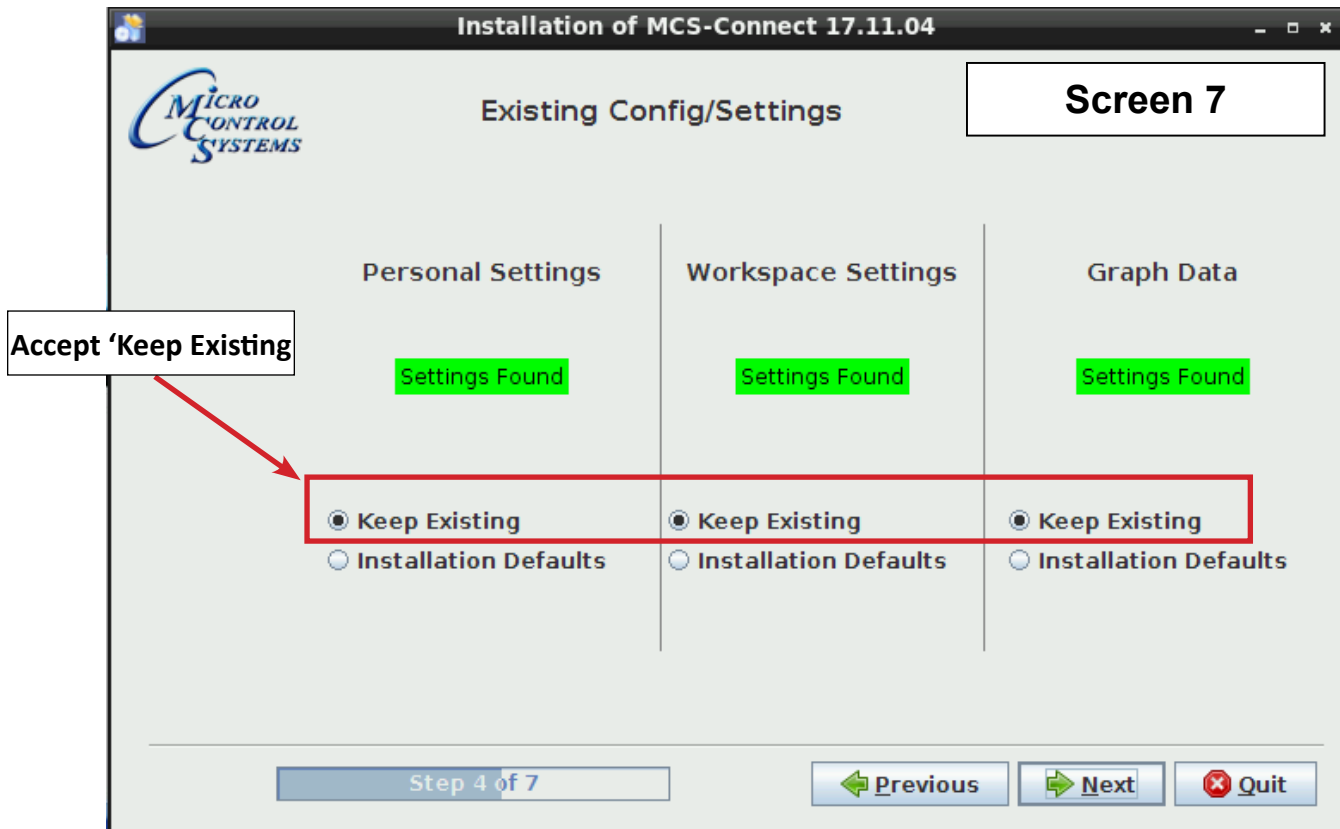
7. Select the 'Default Path' for the upgrade., click next to continue.



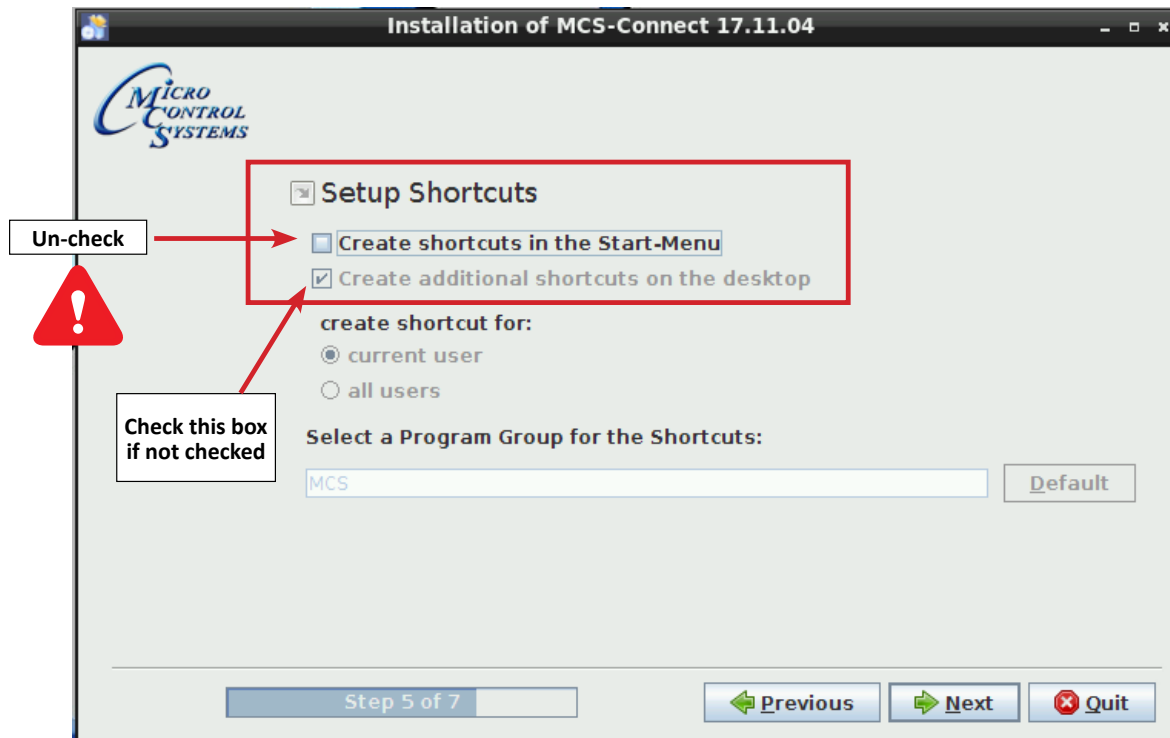
8. Click on 'YES' to overwrite the existing file, click next to continue.



9. Choose **Keep Existing Config/Setting**, click next to continue.

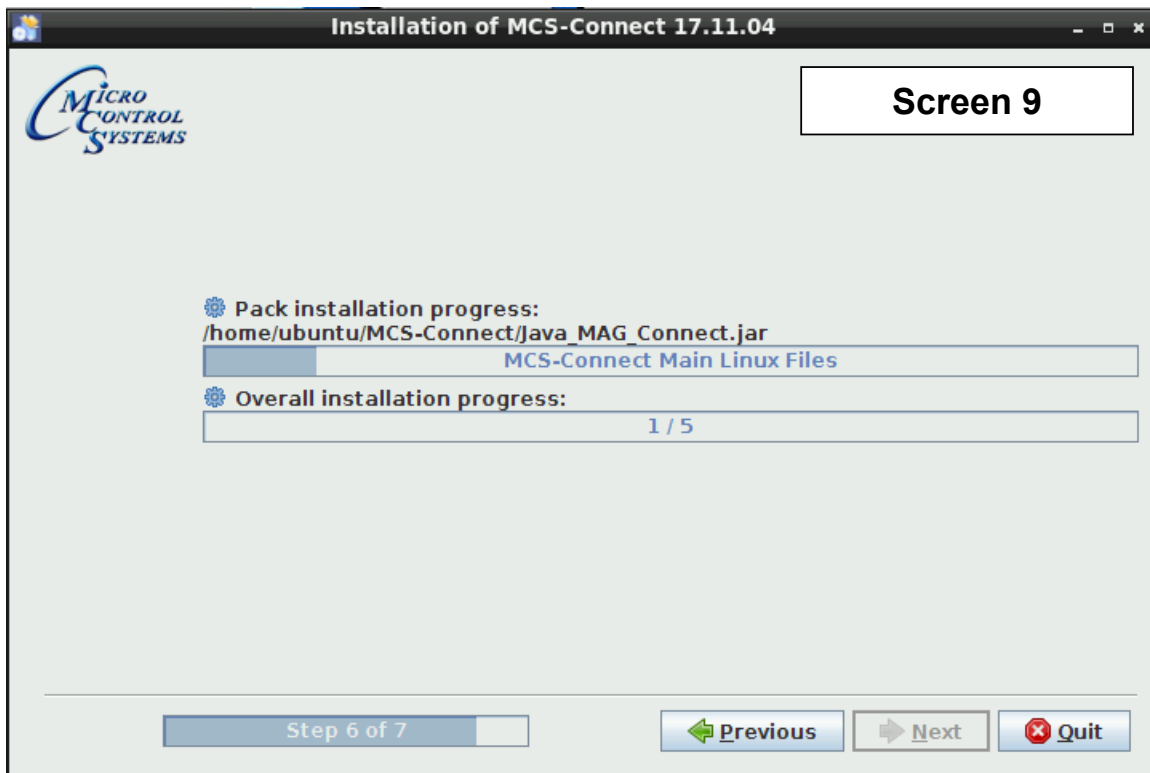


10. Make sure to **Un-check** the box to 'Create shortcuts in the Start-Menu',

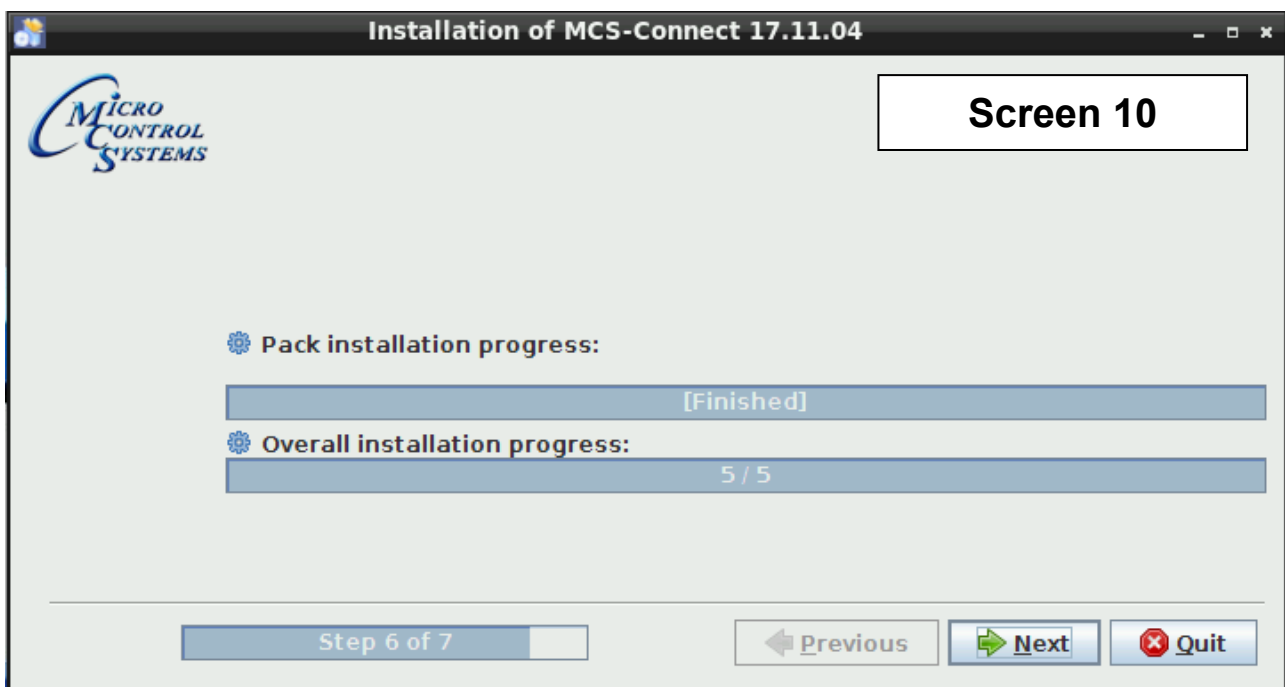


Check box '**Create additional shortcuts on the desktop**', click next to continue.

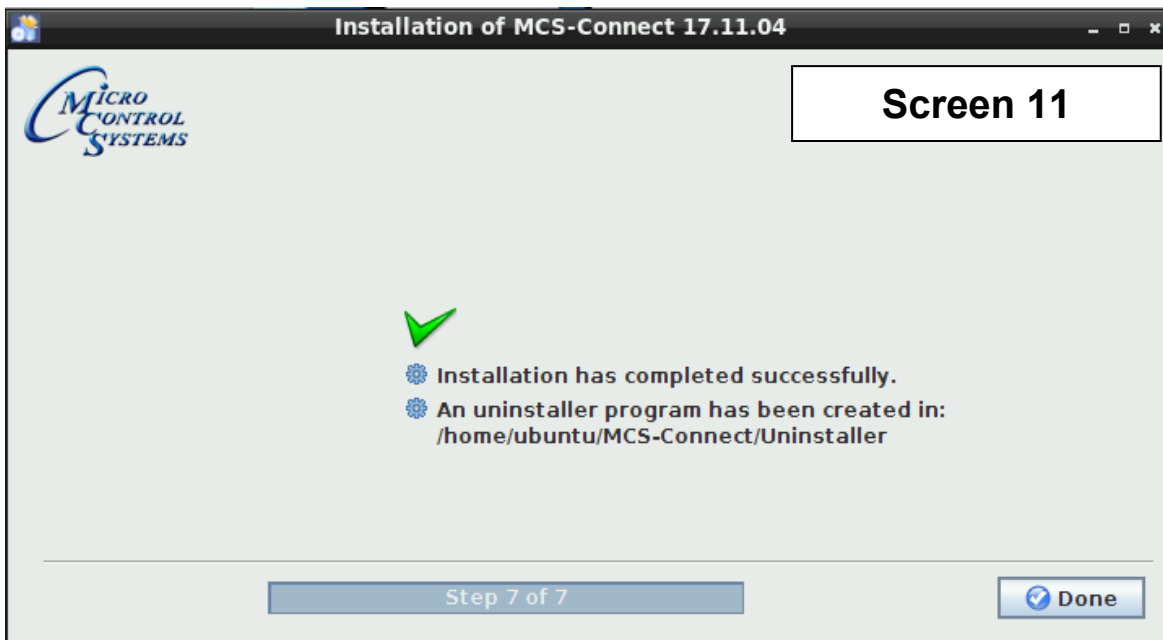
11. Next screen will show progress of installation.



12. Installation is complete, click next to continue.



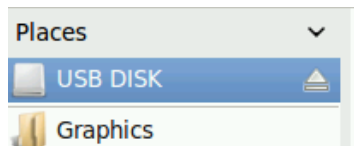
13. Screen shows installation was successful, click 'DONE'.



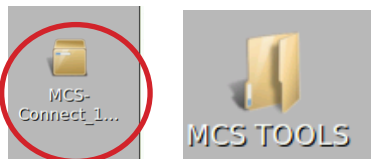
14. Double click on the USB drive on the desktop, opens in file manager.



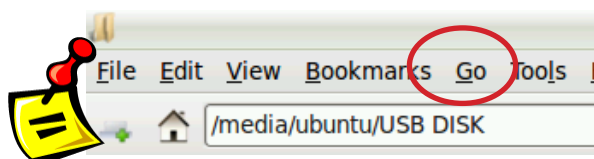
15. Click on '**ARROW**' to eject and remove from the back of the touchscreen.



16. While on the desktop, touch stylus pen to '**MCS-CONNECT** install file', select move to trash. Next double click '**MCS TOOLS**' on the desktop, opens in File Manager.

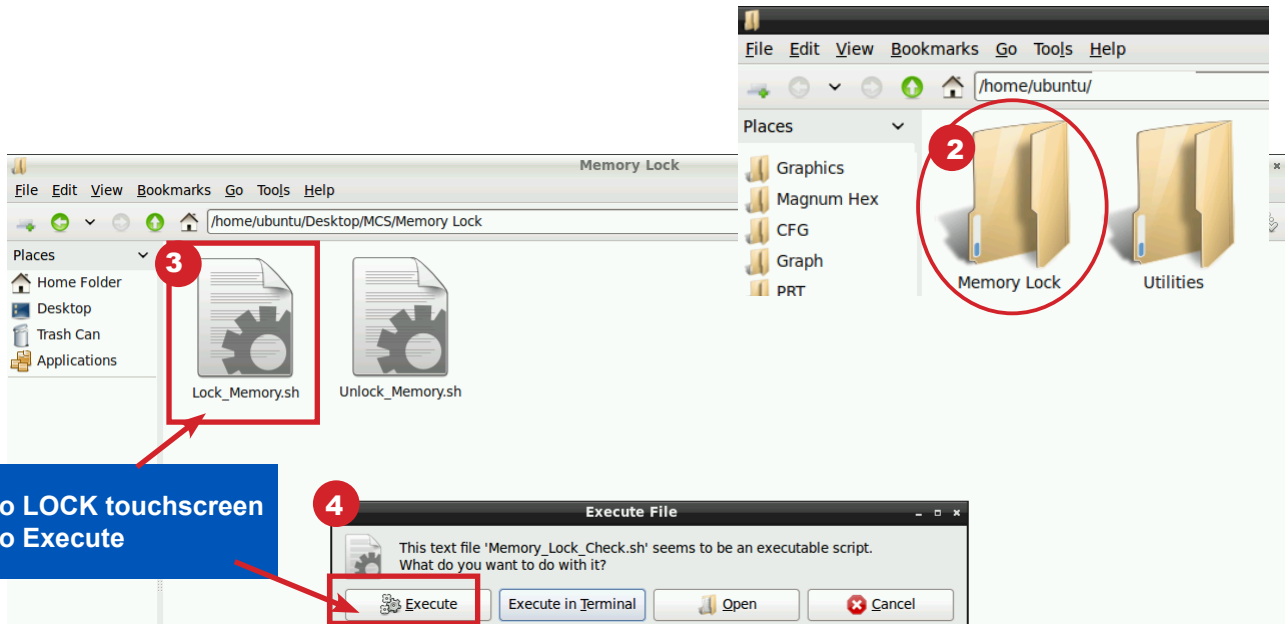
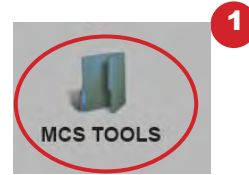


17. Click on the 'Go' button at the top and select trash can, Highlight the MCS CONNECT installer and select delete



18. Re-Locking Touchscreen

1. Double click the '**MCS TOOLS**' Icon on the Desktop.
2. Double click '**Memory Lock**' sub directory.
3. Double click '**Lock Memory**'.
4. Click '**EXECUTE**'. The touchscreen will reboot.



SECTION- 11. RESISTIVE TOUCH - Replacing Graphics

INSERT A MEMORY STICK IN THE BACK OF THE TOUCHSCREEN

1. Screen will appear, highlight 'Open in File Manger' and click OK.
2. Make a backup of your Graphics file before proceeding with the new graphic install
3. Highlight your 'Graphics Folder' on left, click to open, than highlight the actual graphics folder on the right.
4. Click on 'EDIT' at top and click 'COPY'
5. HIGHLIGHT THE 'USB' MEMORY STICK on the left side under places
6. Click on 'EDIT' and click 'PASTE'
7. CHECK TO MAKE SURE YOU HAVE A BACKUP ON YOUR USB MEMORY STICK
8. Remove that USB memory stick
9. INSERT NEW USB memory stick with new graphics package

Unlocking the Touchscreen.

1. Click on the 'MCS TOOLS' folder on the desktop
2. Click on 'MEMORY LOCK'
3. Click on 'Unlock_Memory'
4. Click on 'Execute'
5. Touchscreen will re-boot
6. When Touchscreen re-boots- **NOTE ON TOP RIGHT THAT SCREEN IS 'UNLOCKED'**

Delete old Graphics Folder

1. On desktop, click on 'MCS TOOLS'
2. Under places, locate your 'GRAPHICS FOLDER', CLICK TO OPEN
3. Locate the folder for your touchscreen graphics and highlight
4. Click on 'EDIT' move to trash
5. **DO NOT DELETE 'ERROR.JPG, GRAPHICeRROR.XML files**



Install 'New Graphics Folder'

1. Before saving the graphics to the USB MEMORY STICK BE SURE TO EXTRACT THEM FROM THE WINZIP FOLDER
2. Click on the **USB memory stick**
3. Highlight new 'Graphics folder' on the memory stick
4. Click on 'EDIT' at top
5. Click on 'COPY'
6. Highlight 'GRAPHICS' under places
7. Click on 'EDIT' at top
8. Click on 'PASTE'
9. Verify that the new Graphics file has been copied to your touchscreen Graphics folder

Re-lock Touchscreen

1. Click **'HOME'** (House Icon) tab at top of screen to the left of your file path.
2. Click on **'MEMORY LOCK'** folder
3. Click on **'Lock_Memory'**.
4. Click on **'EXECUTE'**
5. When touchscreen reboots, verify the touchscreen is **'LOCKED'** AT TOP RIGHT OF SCREEN

ON MCS-CONNECT SCREEN

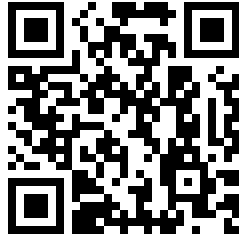
1. Click on **'OFFLINE'** at top.
2. Load an **Offline XML file, Enable Auto Screen Refresh.**
3. Click to open your **graphics folder in the graphics folder under 'Places'**.
4. The files located in the **'Graphics folder'** was labeled for your chiller in the root directory.
5. Navigate to the sub directory which will show the files in the root directory, then click on **'systemoverview.xml'**.
6. When MCS-CONNECT opens, click on the **'systemoverview.xml'** tab, in the **'Site Info at top'**.
7. Once you verified the graphics have been loaded, close MCS-CONNECT and re-connect to the controller and click on the graphics tab at the top right.

CONTACT SUPPORT FOR ADDITIONAL INFORMATION
OR VIEW THE FOLLOWING MANUAL ON OUR WEBSITE:

<https://mcscontrols.com/Documents/MCS/Manuals/MCS-Touchscreen%20and%20Graphics%20Manual.pdf>

Email: support@mcscontrols.com
Phone: 239-694-0089

APPLICATION NOTES FOR MAKING ADJUSTMENTS TO THE TOUCHSCREEN AND UPGRADING FIRMWARE OR SOFTWARE



CLICK OR SCAN
WITH PHONE FOR INFO

On MCS website, click arrow in 'Show All' for all information on the Touchscreen, etc.

Revision/Disclaimer Page

Date	Author	Description of Changes
08-18-15	DEW	Setup Manual
09-02-15	DEW	Add images, edit pages
09-18/22/30-15	DEW	Add pages, edit pages
03-07-16	DEW	Add description and password for time and date change
06-01-16	DEW	Make changes for Ver 3.00F
12-01-16	DEW	Add Appendix#123
02-01-17	DEW	Modify replacing graphic file as per Danny B
10-02-19	DEW	Re-do sections adding appendixes (APPS)
07-12-2021	DEW	Remove App127 update balance
02-14-2024	DEW	Redo manual using new art for Capacitive Touch
05-24-2024	DEW	Add final screens and setup on Cap - Resistive changes
07-09-2024	DEW	Make edits from Jonathan
07-31-2024	DEW	Edit how to identify the touchscreen with lable
09-17-2024	DEW	Added new Touchscreen backs
10-28-2024	DEW	Update installing Graphics on Cap Touch

NOTES

NOTES



Providing HVAC/R Control Solutions Worldwide

5580 Enterprise Pkwy. Fort Myers, FL 33905

Office: (239) 694-0089

Fax: (239) 694-0031

www.mcscontrols.com