MCS-NitroMag-Keypads

QUICK START

Version 1.2

MCS-NitroMag-OEM
MCS-NitroMag-DOOR
MCS-NitroMag-DOOR-NEMA
MCS-NitroMag-PANEL

Engineered for advanced HVAC/R applications

MCS-NitroMag-DOOR

MCS-NitroMag-PANEL

MCS-NitroMag-DOOR-NEMA4

MICRO CONTROL SYSTEMS

5580 Enterprise Parkway / Fort Myers, FL 33905 / Phone: 239-694-0089
www.mcscontrols.com

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Introducing the latest additions to our product lineup. There are six basic versions of the MCS-NITROMAG each will need to connect to an MCS Expansion Board to complete the system.

- **MCS-NITROMAG-N**
- **MCS-NITROMAG-15.4**
- **MCS-OEM-** (MCS-NITROMAG and Keypad)
- **MCS-NITROMAG-DOOR** (MCS-NITROMAG and Keypad)
- **MCS-NITROMAG-DOOR-NEMA4** (MCS-NITROMAG and Keypad)
- **MCS-NITROMAG-PANEL** (MCS-NITROMAG and Keypad)

MCS-NitroMag - Microprocessor @ 1.5GHz

- The MCS-NitroMag is a powerful, next-generation microprocessor-based controller engineered for advanced HVAC/R applications. At its core is a Broadcom quad-core processor running at 1.5GHz, providing the processing power necessary to handle complex operations with speed and efficiency. Designed for integration flexibility, the MCS-NitroMag interfaces seamlessly with MCS expansion and extension boards, supporting up to 144 sensor inputs (SI), 90 relay outputs (RO), and 36 analog outputs (AO), making it highly adaptable for a variety of system configurations.

- Connectivity is a standout feature of the NitroMag controller, with built-in WiFi, dual HDMI ports, Ethernet (supporting 10/100Mbps/1Gbps), two USB 2.0 ports, and two user-configurable RS485 ports that support baud rates up to 115200. These options provide robust and versatile communication capabilities for both local and remote access. The MCS-NitroMag also features a significant upgrade in memory compared to previous MCS controllers, offering 16 GB of eMMC flash storage and 2 GB of DDR3 RAM—more than double the available memory of earlier models—allowing for faster performance and increased data handling capacity.

- In terms of protocol support, the NitroMag controller functions as a Modbus RTU Master capable of supporting up to 20 Modbus devices. It also supports BACnet IP, BACnet MSTP, Modbus IP, and Modbus RTU, enabling seamless integration with building automation and control systems. This combination of processing power, connectivity, memory, and protocol compatibility makes the MCS-NitroMag an ideal solution for modern, high-performance HVAC/R control applications.

TABLE OF CONTENTS

MCS-NITROMAG-N CONTOLLER

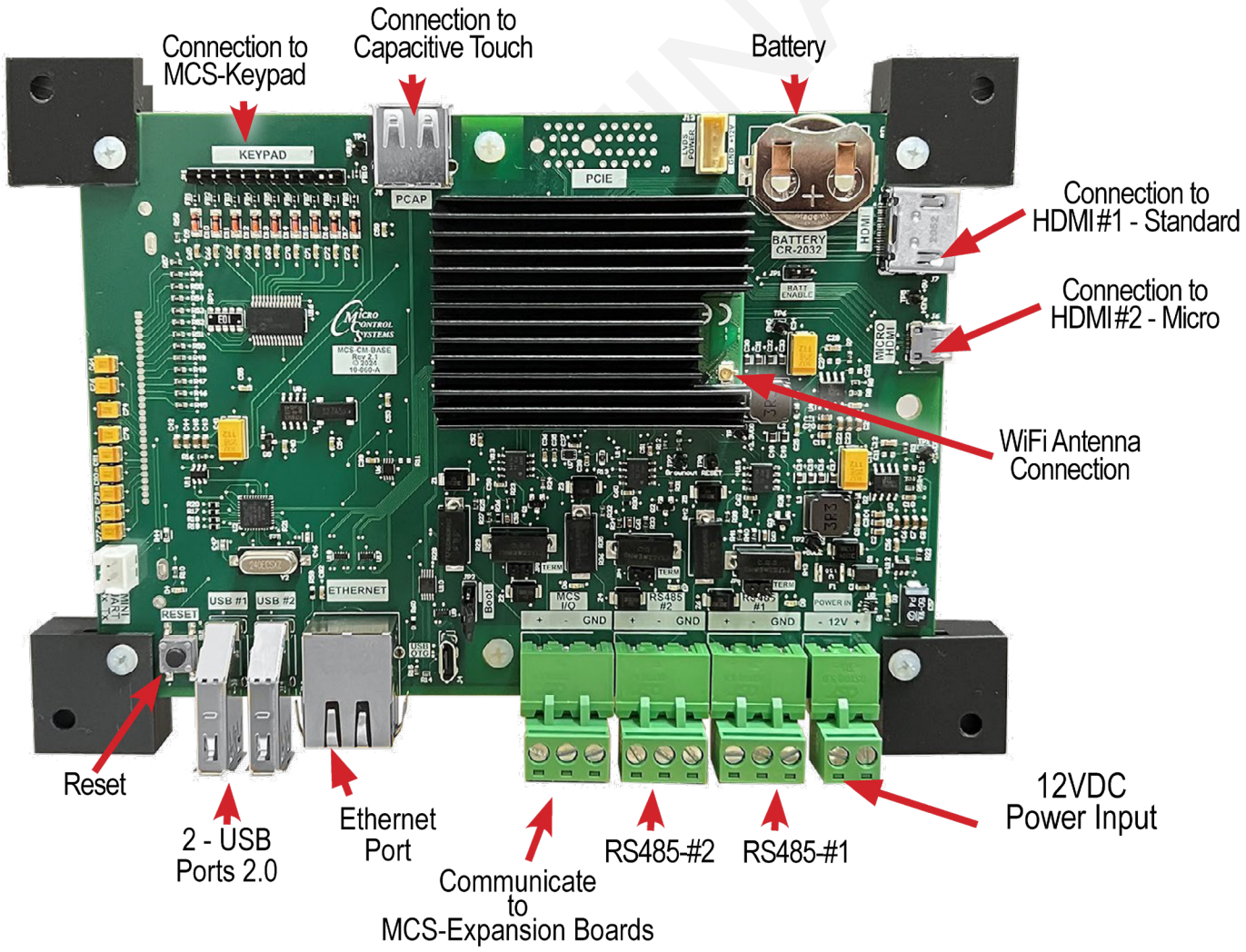
1. About the MCS-NITROMAG-N

The MCS-NITROMAG-N is a rugged microprocessor controller designed for the harsh environment of the HVAC/R industry. It is designed to provide primary control without needing mechanical controls. It will interface locally with a null modem serial cable, remotely through an Ethernet connection, and also through building management systems. The MCS-NITROMAG-N offers a great deal of flexibility with adjustable setpoints and control options that can be set prior to activating a system or even when the unit is operational. The MCS-NITROMAG-N is designed to safeguard the system being controlled, minimize the need for manual intervention, and to provide a simple but meaningful user interface.

MCS-Connect provides both local and remote communications to the MCS-NITROMAG-N, independent of software type. Local communications can be either through an RS485 or Ethernet connection. This program displays the status of the controller, and changes can be made to the system with proper authorization.

Configuration files can be transmitted to or received from a MCS-NITROMAG-N unit. The MCS-NITROMAG-N automatically performs history logging and this program allows the data to be presented in a useful graph form. A manual created in a PDF format is available on our web site:

www.mcscontrols.com, or available in other formats upon request.



*Shown with mounting feet.

MCS-NITROMAG-KEYPAD INSTALLATION

NITROMAG KEYPAD OPERATION SYSTEM - REV 1.2.4 & up

NITROMAG HVAC FIRMWARE - REV 19.00E & up

2. MCS-NITROMAG-OEM

The **MCS-NitroMag-OEM** is a control system containing a Keypad, a processor, memory, eMMC Flash, and supporting power circuitry. The Broadcom quad-core processor delivers a blazing speed of 1.5GB.

The MCS-NitroMag-OEM features an easy-to-use keypad with three function keys, four directions keys and two selection keys (Menu & Enter).

The display LCD is 128 x 64 dot pixel graphics, 2.8" diagonal viewing area with White characters on a dark background (reversible). Includes a NEMA Type 1 faceplate for easy mounting to an enclosure door.

2.1. MOUNTING

- Template mount and wiring instructions with shipment.
- 8 pre-drilled holes for mounting
- Connection to MCS EXPANSION BOARDS using MCS-I/O Comm Port.

3. MCS-NITROMAG-DOOR

The MCS-NitroMag-DOOR is a control system containing a Keypad, a processor, memory, eMMC Flash, and supporting power circuitry. The Broadcom quad-core processor delivers a blazing speed of 1.5GB.
Includes a NEMA Type 1 faceplate for easy mounting to an enclosure door.
The Keypad is idential as the MCS-NITROMAG-OEM with the same features as explaned above.

3.1. MOUNTING

- Template mount and wiring instructions with shipment.
- Mounts using supplied #6-32 Kep nut
- Connection to MCS EXPANSION BOARDS using MCS-I/O Comm Port.

4. MCS-NITROMAG-DOOR-NEMA

The MCS-NitroMag-DOOR-NEMA4 has been sealed in its own frame using a new Gasket (HT-800 Medium Cellular Silicone). It features an easy-to-use keypad with three function keys, four directions keys and two selection keys (Menu & Enter).

The Keypad is idential as the MCS-NITROMAG-OEM with the same features as explaned above.

HT-800
Medium Cellular
Silicone Gasket

4.1. MOUNTING

- Template mount and wiring instructions with shipment.
- Mounts using supplied #6-32 Kep nut
- Connection to MCS EXPANSION BOARDS using MCS-I/O Comm Port.

5. MCS-NITROMAG-PANEL

The MCS-NitroMag-PANEL is a control system containing a Key-pad, a processor, memory, eMMC Flash, and supporting power circuitry. The Broadcom quad-core processor delivers a blazing speed of 1.5GB.

The Keypad is idential as the MCS-NITROMAG-OEM with the same features as explaned above.

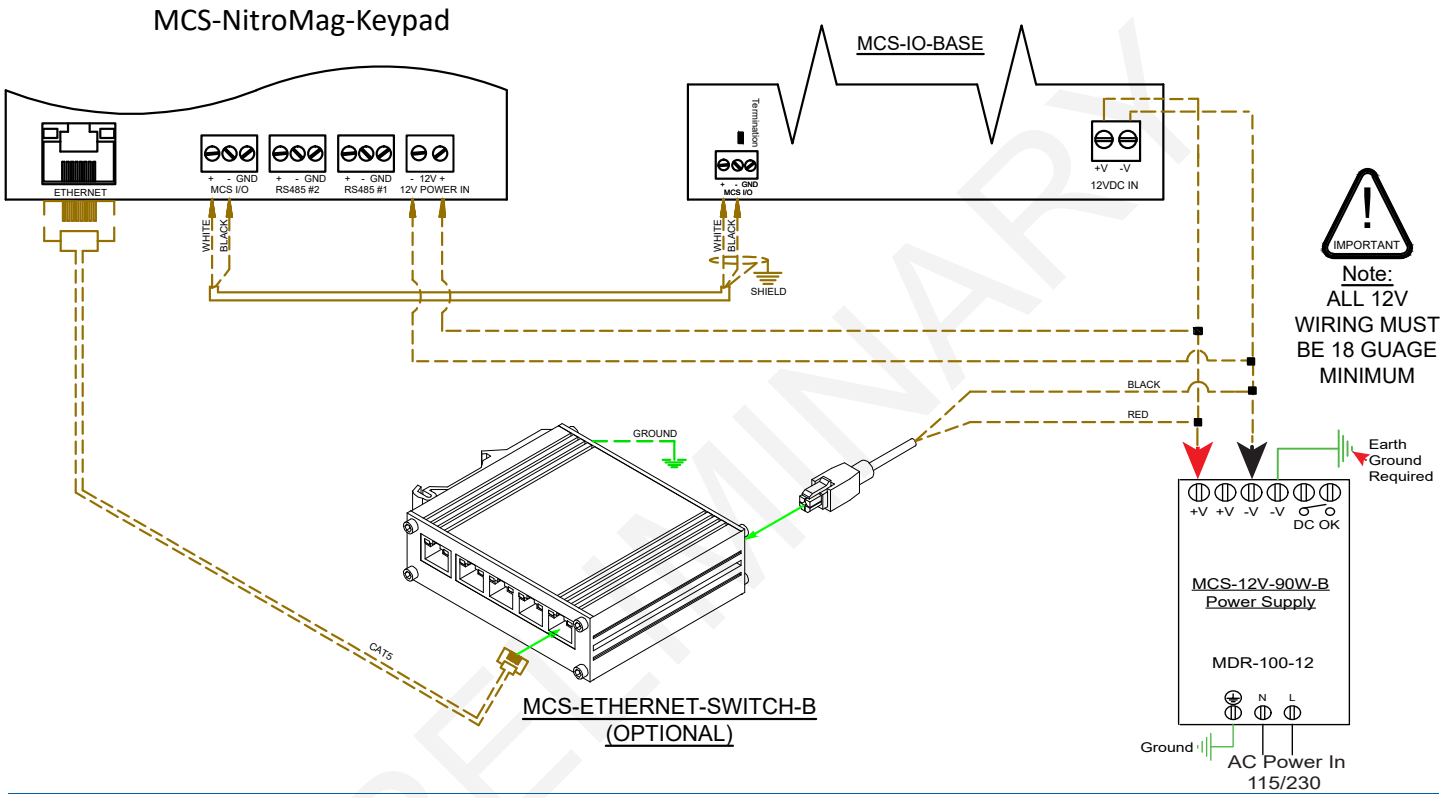
5.1. MOUNTING

- Template mount and wiring instructions with ship-ment.
- Mounts on a backplane using four #6 (6-32) sheet metal screws.
- Connection to MCS EXPANSION BOARDS using MCS-I/O Comm Port.

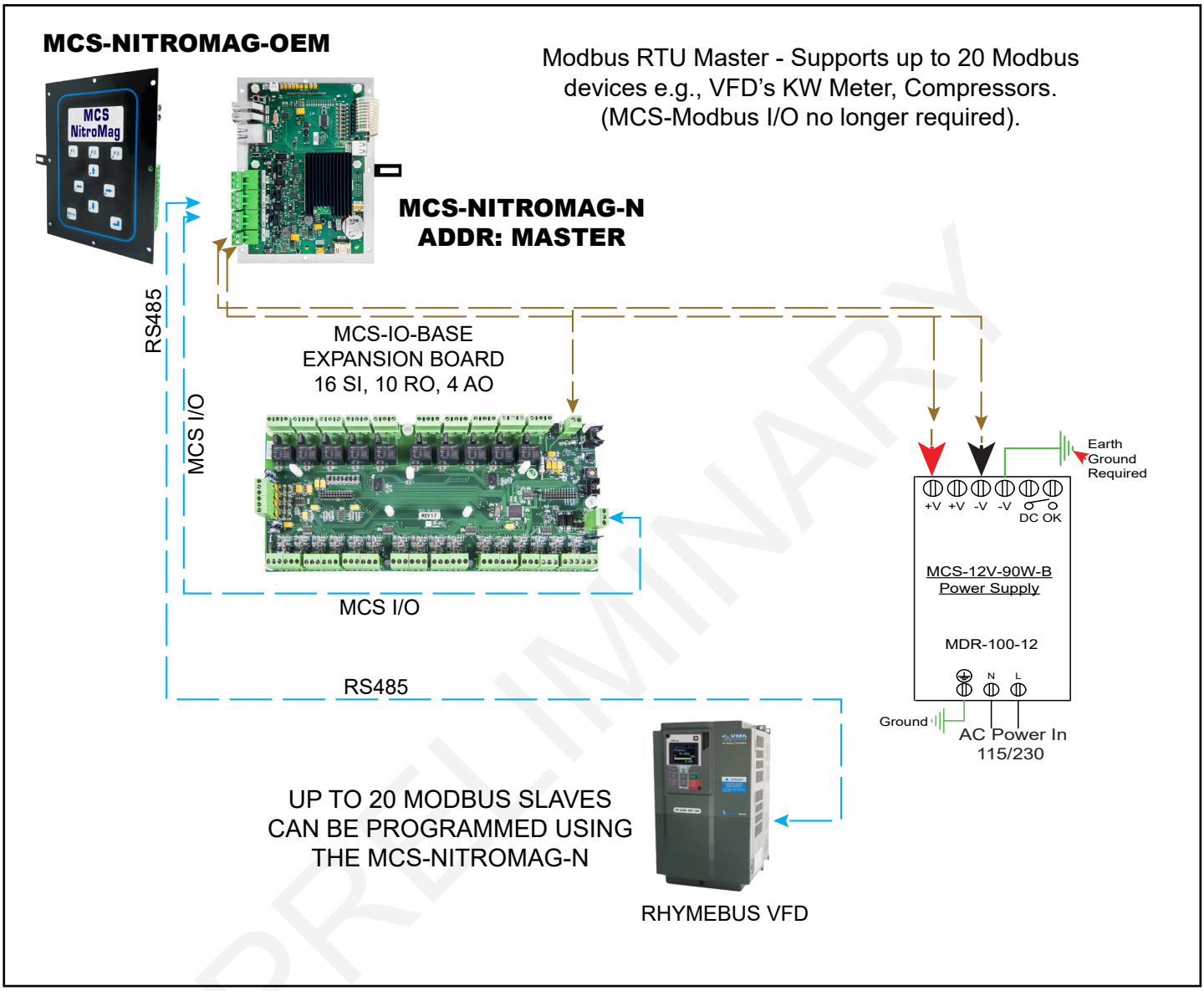
6. ELECTRICAL/COMMUNICATION WIRING - MCS-NITROMAG-N

IMPORTANT NOTE: ALL 12V WIRING MUST BE 18 GUAGE MINIMUM.

- Wiring shows connection to MCS-IO-BASE expansion board using MCS I/O communication at 38,400 baud.
- Power is supplied by 12v-90w (MCS-12V-90w) to MCS-NITROMAG-Keypad and MCS-IO-BASE expansion board.
- Optional MCS-ETHERNAT-SWITCH-B shown.



7. RS485 WIRING - MCS-NITROMAG-N



LOADING SOFTWARE - FIRMWARE, CONFIG, KEYPAD

Firmware Compatibility: Each firmware version (e.g., HVAC 17.25) must use the corresponding MCS-CONFIG file version (e.g., version 17). Using a different version of the configuration file for the firmware can cause the system to malfunction.

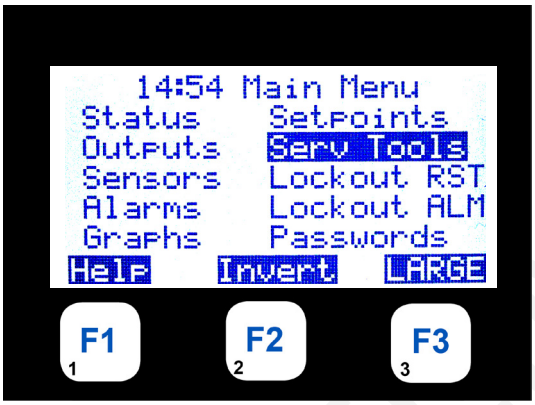
Update Files Before Updating Firmware: It's important to make sure that you have the latest configuration files before attempting to update the firmware on the controller.

Go to : https://www.mcscontrols.com/NitroMagSoftware.html

Download the correct FIRMWARE (HVAC, RTU, CENT, RFR) to your desktop

Insert the USB DRIVE into one of the USB DRIVES on the Keypad.

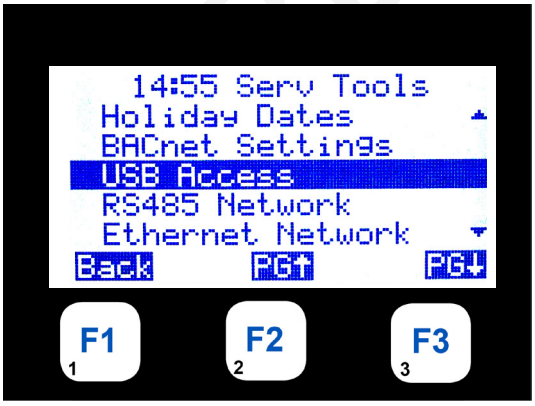
1. Loading Keypad Software



DESCRIPTION

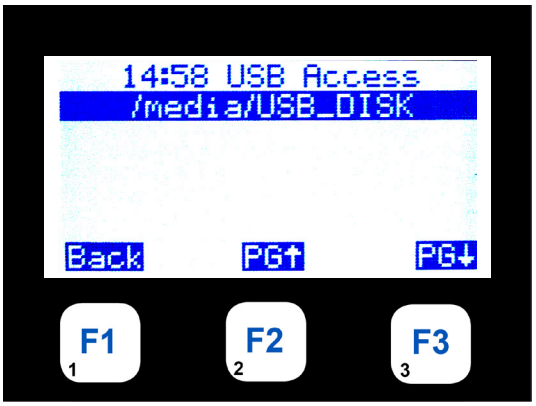
HH:MM	MAIN MENU
MENU KEY, SELECT SERV TOOLS, PRESS (↵) ENTER	
THIS WILL ALLOW USER TO DISPLAY	
DETAILS OF SERV TOOLS	
← → ↓ ↑ KEYS ALLOW THE USER TO SCROLL THROUGH THE DATA FUNCTION	
KEY F1 ALLOWS THE USER TO ACCESS HELP MENU	
PRESS ↵ MENU TO RETURN TO MAIN MENU	

2. USB ACCESS



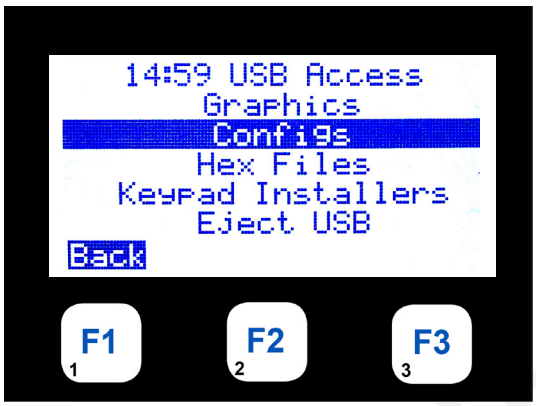
HH:MM	SERV TOOLS
SELECT USB ACCESS, PRESS (↵) ENTER	
THIS WILL ALLOW USER TO DISPLAY	
DETAILS OF USB ACCESS	

3. MEDIA/USB DISKCONFIGS



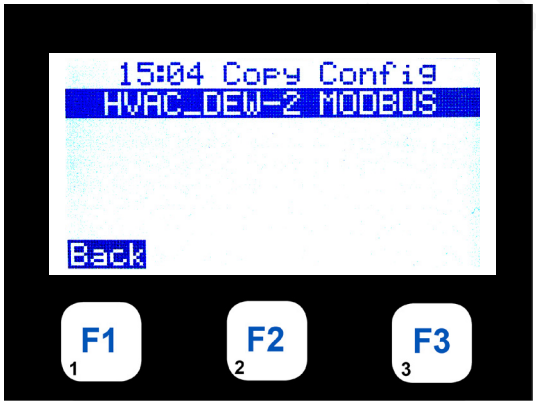
HH:MM	USB ACCESS
	SELECT /MEDIA/USB_DISK, PRESS (↵) ENTER
	THIS WILL ALLOW USER TO DISPLAY
	DETAILS OF MEDIA ON USB DISK

4. Laoding Config file

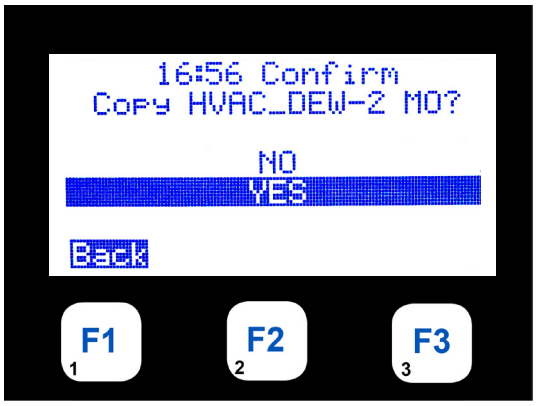


HH:MM	USB ACCESS
	SELECT CONFIGS, PRESS (↵) ENTER
	THIS WILL ALLOW USER TO DISPLAY
	DETAILS OF CONFIG FILE ON USB DISK
	KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU

5. Config File Found

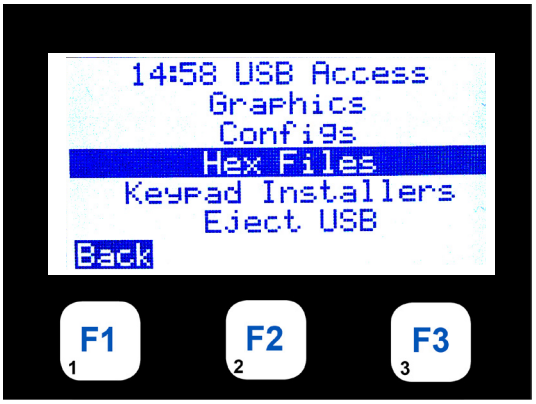


HH:MM	COPY CONFIG
	SELECT CONFIG FILES, PRESS (↵) ENTER
	KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU



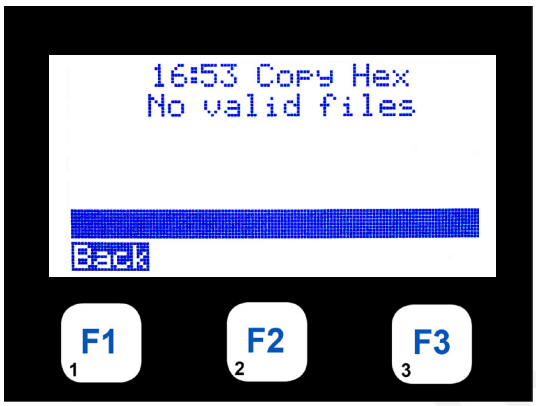
HH:MM	CONFIRM
	SELECT NO / YES, PRESS (↵) ENTER
	LOADING NEW CONFIG FILE
	KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU

6. Hex Files (Firmware HVAC, ETC)

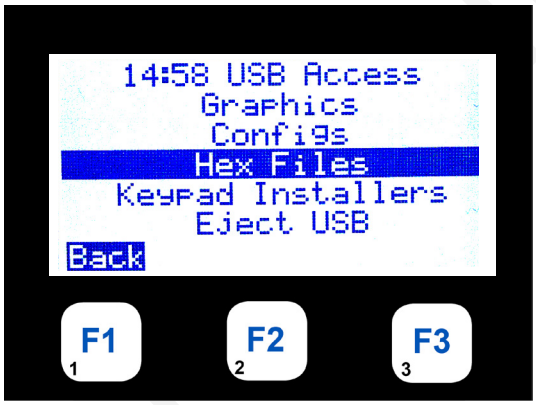


HH:MM	USB ACCESS
	SELECT HEX FILES, PRESS (↵) ENTER
	LOADING NEW HEX / FIRMWARE FILE
	KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU

7. No Valid Files found

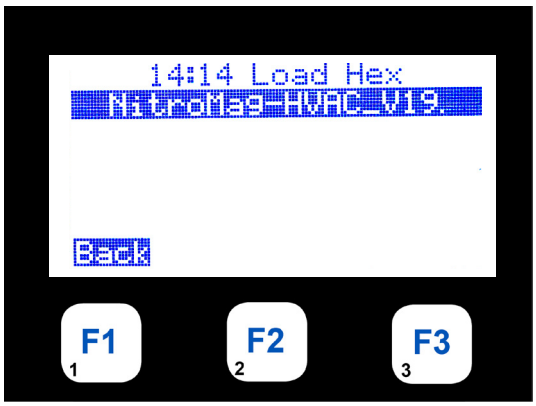


HH:MM	COPY HEX
	NO VALID FILES
	KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU



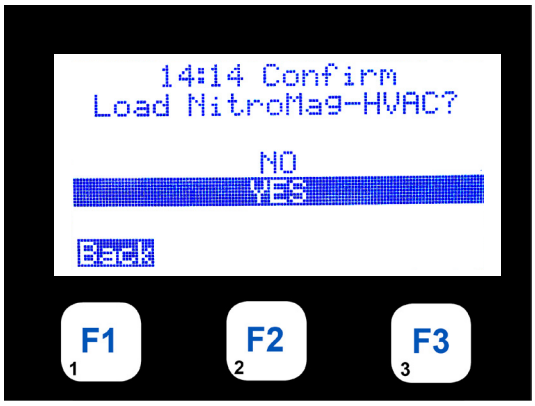
HH:MM	USB ACCESS
	SELECT HEX FILES, PRESS (↵) ENTER
	LOADING NEW HEX/FIRMWARE FILE
	KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU

8. Valid Hex File Found



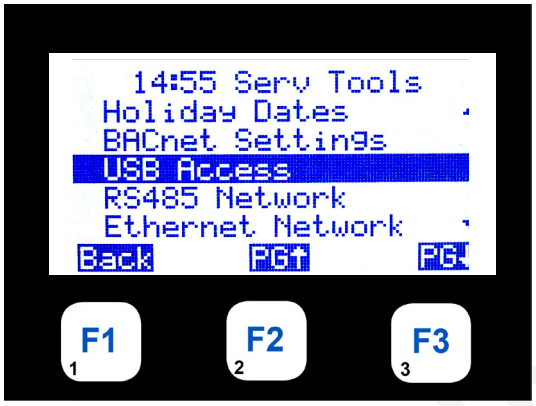
HH:MM	COPY HEX
	SELECT HEX FILE, PRESS (↵) ENTER
	KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU

9. Select Hex file - Loading New Hex File



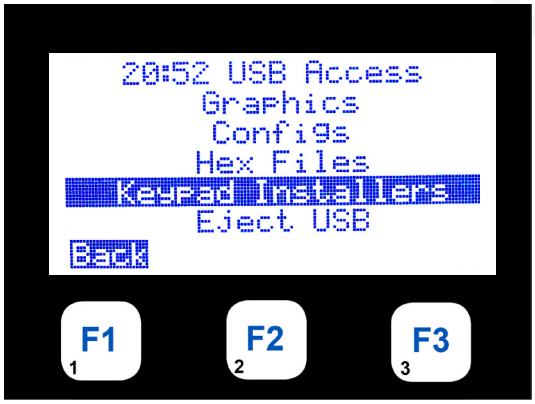
HH:MM CONFIRM
SELECT NO / YES, PRESS (↵) ENTER
LOADING NEW HEX FILE
KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU

10. USB Access



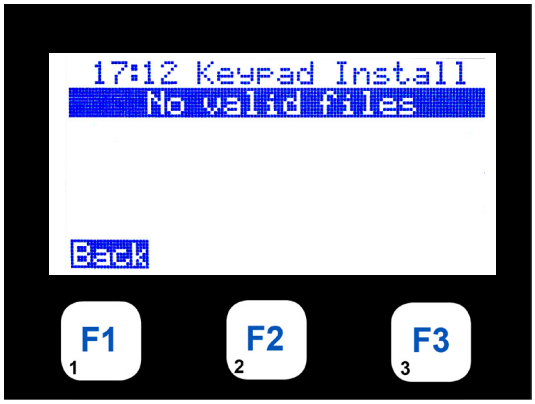
HH:MM USB ACCESS
SELECT HKEYPAD INSTALLERS
FILES, PRESS (↵) ENTER
KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU

11. Keypad Installers



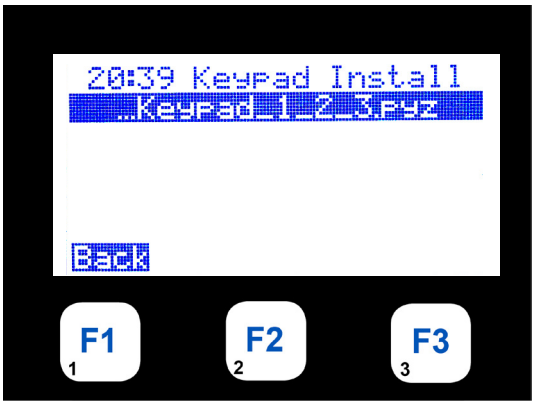
HH:MM USB ACCESS
KEYPAD INSTSALLERS
FILES, PRESS (↵) ENTER
LOADING NEW KEYPAD INSTALLERS FILE
KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU

12. No Valid Files Found



HH:MM KEYPAD INSTALL
NO VALID FILES
KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU

13. Valid Keypad File Found



HH:MM KEYPAD INSTALL

FILES, PRESS (↵) ENTER

LOADING NEW KEYPAD INSTALLERS FILE

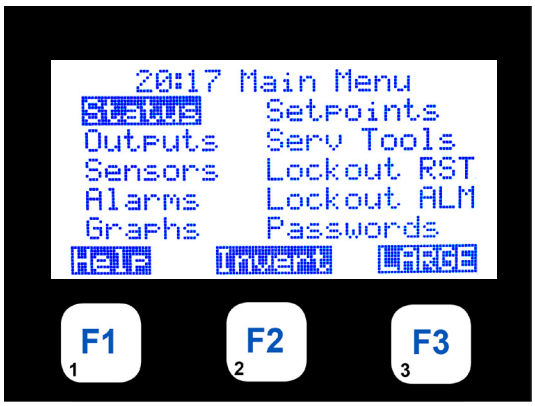
KEY F1 ALLOWS THE USER GO BACK TO USB ACCESS MENU

USING THE KEYPAD AND DISPLAY SCREENS

The display screens shown on the following pages show a configuration setup for an HVAC system using two screw compressors. For purpose of display, the sensors and relays are set to manual mode.

To reach the Main Menu press the Menu button after powering up. Based on the highlighted menu option when the enter key (↵) is pressed will bring up one of the following screens.

14. Menu Key - Pressing the 'Menu' key shows the following:



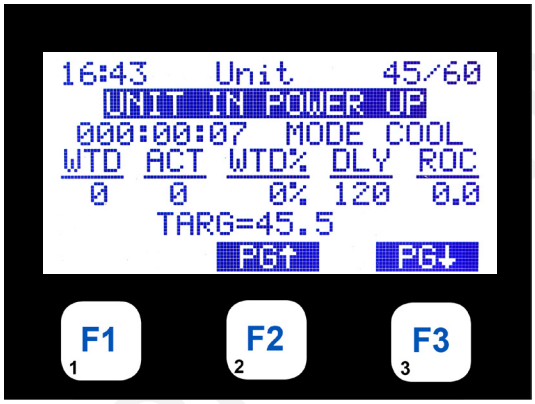
DESCRIPTION

HH:MM	SCREEN TITLE
-CONTROL STATUS DISPLAY	-ACTIVE SETPOINTS DISPLAY
-RELAY/ANALOG DISPLAY	-SERVICE TOOLS DISPLAY
-SENSOR INPUT DISPLAY	-LOCKOUT RESET DISPLAY
-ALARM DISPLAY	-LOCKOUT ALARM DISPLAY
-GRAPHING DISPLAY	-PASSWORD DISPLAY
HELP	-LARGE

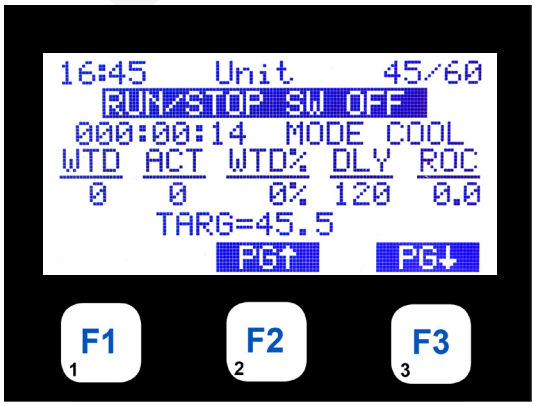
NOTE: Your Keypad LCD can be setup in your configution file so that the LCD will continuously scroll the status of the controller you are monitoring. When a button is pressed, the LCD will stop scrolling and move to view that item. There will be a 15 minute pause before the Keypad LCD will start scrolling.

15. Status: Unit in Power up mode

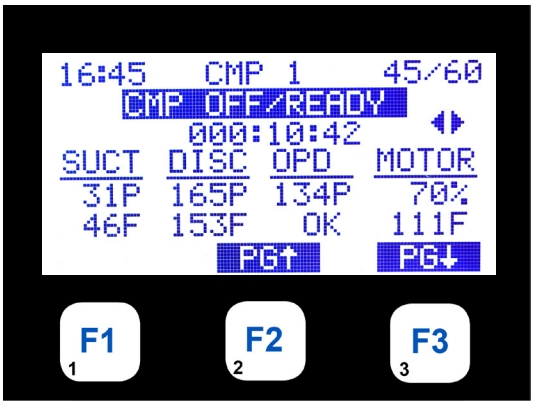
Unit is powered up Run/Stop SW is off. Press F3 to see next screen:



HH:MM	CHILLER UNIT	LEV/ENT
UNIT IN POWER UP		
TIME IN CURRENT STATE		
WANTED #STEPS	ACTUAL #STEPS	WANTED% ACTUAL% / DELAY NEXT CHG / SLOPE DIRECTION
TARGET SET POINT + TARGET RESET		
	PAGE UP↑	PAGE DOWN↓

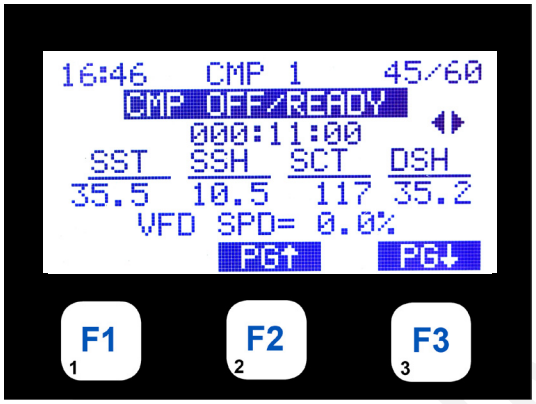


HH:MM	CHILLER UNIT	LEV/ENT
RUN/STOP SW OFF		
TIME IN CURRENT STATE		
WANTED #STEPS	ACTUAL #STEPS	WANTED% ACTUAL% / DELAY NEXT CHG / SLOPE DIRECTION
TARGET SET POINT + TARGET RESET		
	PAGE UP↑	PAGE DOWN↓

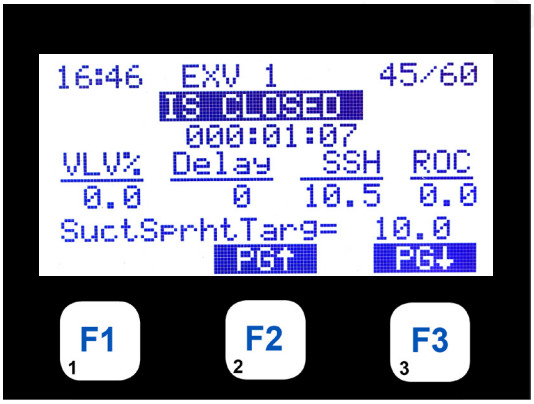


DESCRIPTION

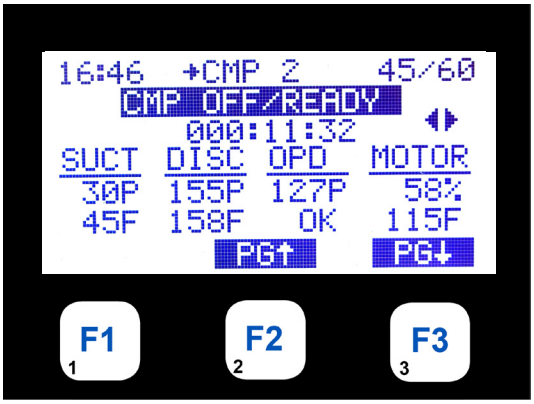
HH:MM	CMP 1		LEV/ENT
CMP OFF/READY			
TIME IN CURRENT STATE			
SUCTION PRESSURE TEMP	DISCHARGE PRESSURE TEMP	OIL DIFFERENTIAL PRESSURE STATUS	MOTOR AMP % STATUS
	PAGE UP↑		PAGE DOWN↓



HH:MM	CMP 1		LEV/ENT
CURRENT CONTROL STATE			
TIME IN CURRENT STATE			
SAT.SUCT TEMP	SUCTS HEAT TEMP	SAT.COND. TEMP	DISC SHEAT TEMP
	PAGE UP↑		PAGE DOWN↓

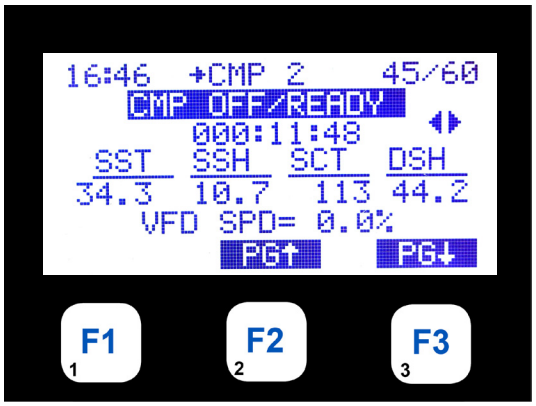


HH:MM	EXV 1 STATUS	LEV/ENT
	VALVE IS CLOSED	
	TIME IN THIS MODE	
	PROVIDES VALVE %, TIME TO NEXT CHANGE, SUPERHEAT & RATE OF CHANGE, PROVICES CONTROL & TARGET	
	PAGE UP↑	PAGE DOWN↓



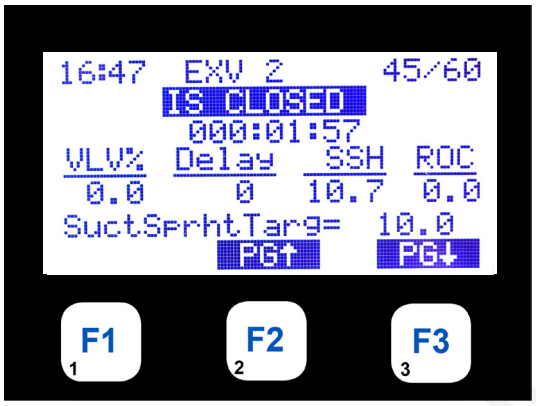
HH:MM	CMP 2		LEV/ENT
CMP OFF/READY			
TIME IN CURRENT STATE			
SUCTION PRESSURE TEMP	DISCHARGE PRESSURE TEMP	OIL DIFFERENTIAL PRESSURE STATUS	MOTOR AMP % STATUS
	PAGE UP↑		PAGE DOWN↓

Pressing the Page Down F3 button shows the next Circuit Status screen:



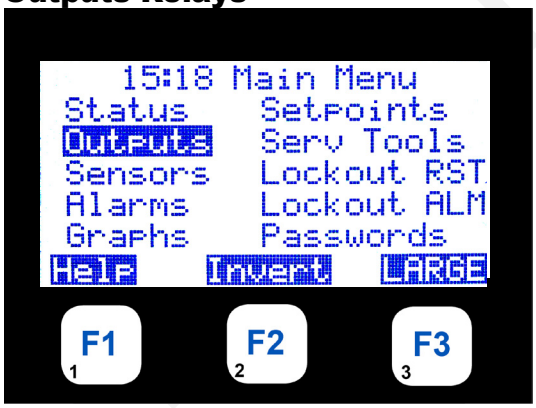
DESCRIPTION

HH:MM	CIRCUIT		LEV/ENT
	CURRENT CONTROL STATE		
	TIME IN CURRENT STATE		
SAT.SUCT. TEMP	SUCT SHEAT TEMP	SAT.COND. TEMP	DISC SHEAT TEMP
	PAGE UP↑		PAGE DOWN↓

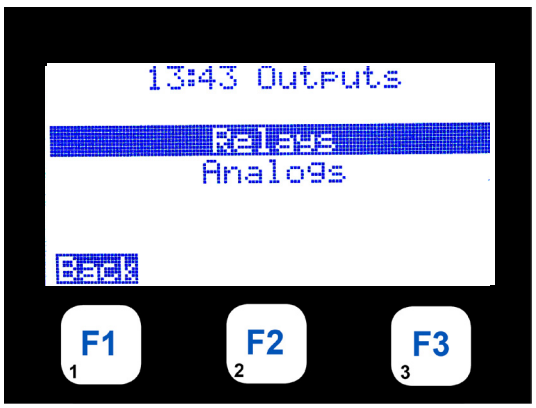


HH:MM	EXV 2 STATUS	LEV/ENT
	OPENING EXV 2	
	TIME IN THIS MODE	
	PROVIDES VALVE %, TIME TO NEXT CHANGE, SUPERHEAT & RATE OF CHANGE, PROVICES CONTROL & TARGET	
	PAGE UP↑	PAGE DOWN↓

16. Outputs-Relays

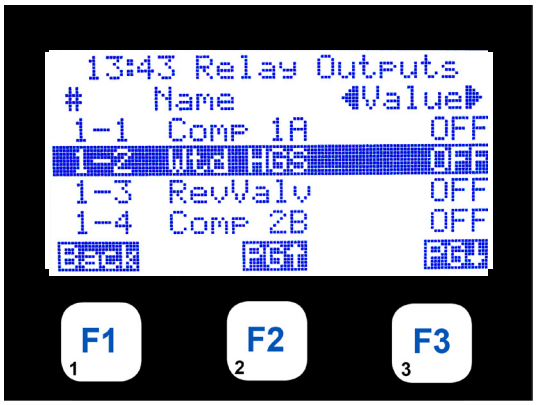


HH:MM	MAIN MENU
	OUTPUTS
	PRESS MENU KEY TO VIEW OUTPUTS
	PRESS ↵ENTER



HH:MM	OUTPUTS
	RELAYS
	PRESS ↵ENTER TO VIEW RELAYS

Pressing the Page Down F3 button shows the 1st four Relays:



HH:MM RELAY OUTPUTS

NAME ◀ VALUE ▶

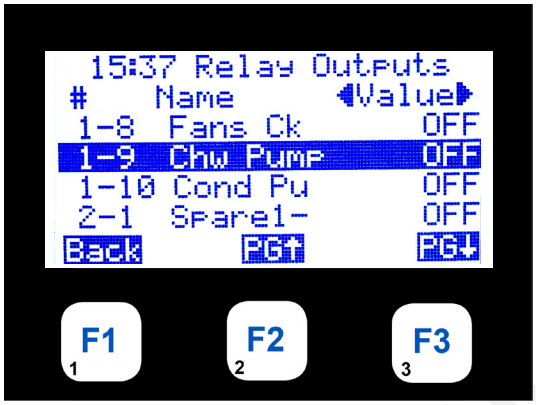
THE 1ST FOUR RELAY OUTPUTS ARE PRESENTED

← → ↓ ↑ KEYS ALLOW THE USER TO SCROLL THROUGH THE DATA FUNCTION

KEY F1 ALLOWS THE USER GO BACK TO OUTPUTS

PAGE UP / DOWN DISPLAYS NEXT 4 RELAYS INPUTS

Pressing the Page Down F3 button shows the next four Relays:



HH:MM RELAY OUTPUTS

NAME ◀ VALUE ▶

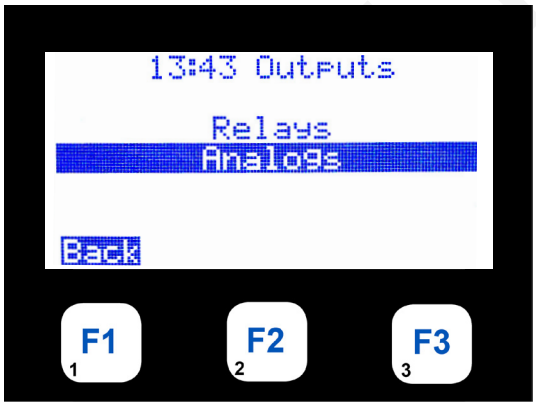
THE NEXTFOUR RELAY OUTPUTS ARE PRESENTED

← → ↓ ↑ KEYS ALLOW THE USER TO SCROLL THROUGH THE DATA FUNCTION

KEY F1 ALLOWS THE USER GO BACK TO OUTPUTS

PAGE UP / DOWN DISPLAYS NEXT 4 RELAYS INPUTS

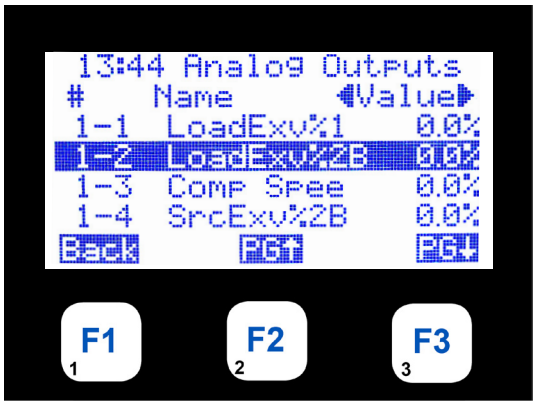
18. Outputs-Analog



HH:MM OUTPUTS

ANALOGS

PRESS ↵ ENTER TO ANALOGS



HH:MM ANALOG OUTPUTS

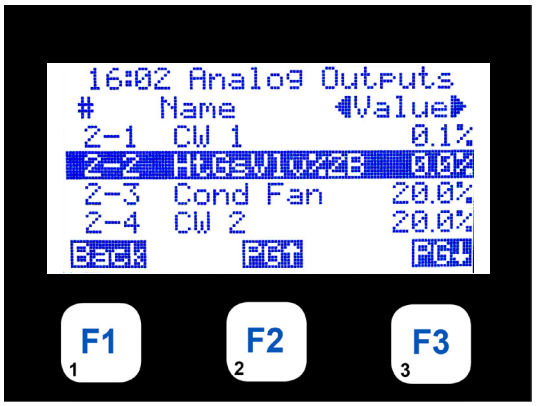
NAME ◀ VALUE ▶

THE 1ST FOUR ANALOG OUTPUTS ARE PRESENTED

← → ↓ ↑ KEYS ALLOW THE USER TO SCROLL THROUGH THE DATA FUNCTION

KEY F1 ALLOWS THE USER TO DISPLAY ANALOG OUTPUTS

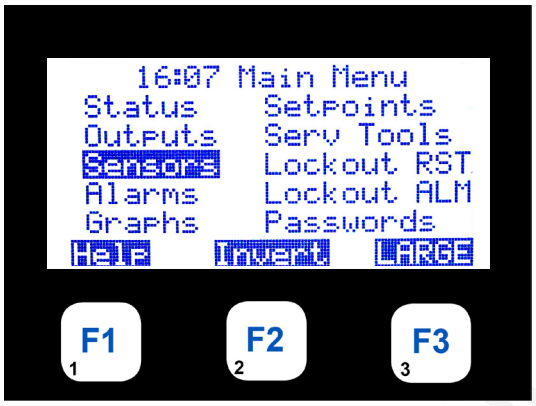
PAGE UP / DOWN DISPLAYS NEXT 4 ANALOG INPUTS



DESCRIPTION

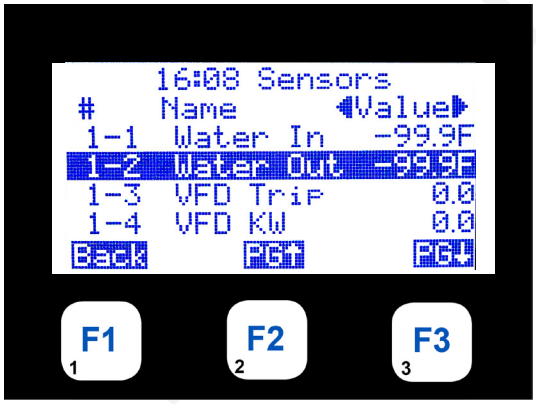
HH:MM ANALOG OUTPUTS
NAME ◀ VALUE ▶
THE NEXT FOUR ANALOG OUTPUTS ARE PRESENTED
← → ↓ ↑ KEYS ALLOW THE USER TO SCROLL THROUGH THE DATA FUNCTION
KEY F1 ALLOWS THE USER GO BACK
PAGE UP / DOWN DISPLAYS NEXT 4 ANALOG INPUTS

19. SENSORS



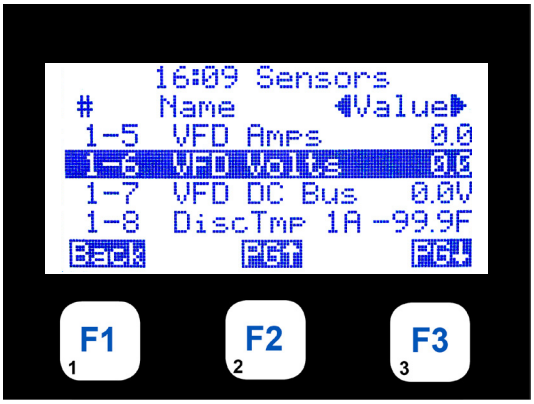
HH:MM MAIN MENU
SENSORS
PRESS MENU KEY TO VIEW SENSORS
PRESS ↵ ENTER

Selecting the 'Sensors' menu option shows the first 4 Sensors:



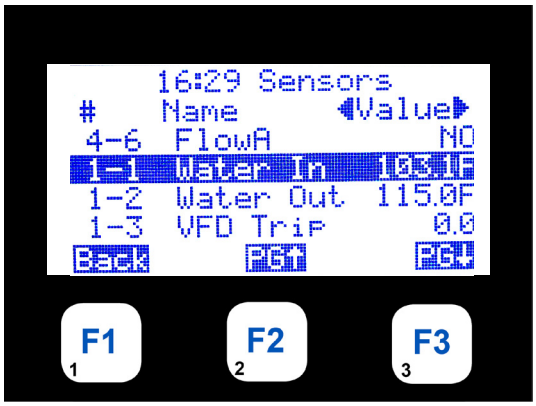
HH:MM SENSORS
NAME ◀ VALUE ▶
THE 1ST FOUR SENSORS ARE PRESENTED
← → ↓ ↑ KEYS ALLOW THE USER TO SCROLL THROUGH THE DATA FUNCTION
KEY F1 ALLOWS THE USER TO RETURN TO SENSORS
PRESS ↵ MENU TO RETURN TO MAIN MENU

Continue pressing the Page Down or Page Up buttons to scroll through all the Sensor screens:



HH:MM SENSORS
NAME ◀ VALUE ▶
THE NEXT FOUR SENSORS ARE PRESENTED
← → ↓ ↑ KEYS ALLOW THE USER TO SCROLL THROUGH THE DATA FUNCTION
KEY F1 ALLOWS THE USER TO RETURN TO SENSORS
PRESS ↵ MENU TO RETURN TO MAIN MENU

Press ↵ Enter key to change value of setpoint 1:

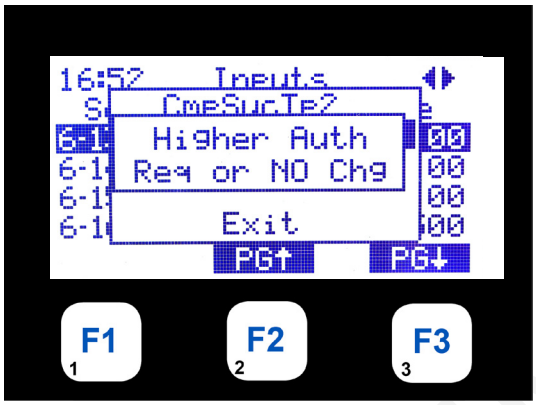


DESCRIPTION

HH:MM	SENSORS	
#	NAME	◀ VALUE ▶

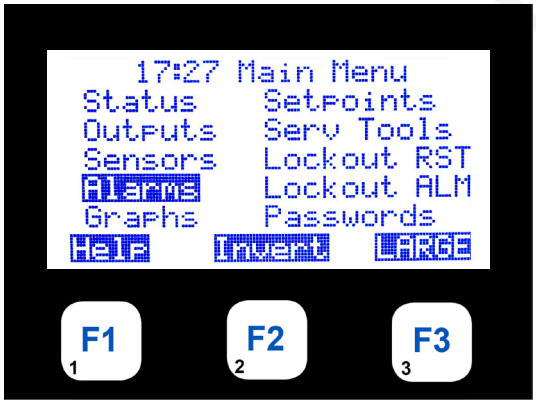
SETPOINT 1-1 VALUE SHOWN
SETPOINTS VALUES CAN BE CHANGED
BASED ON AUTHORIZATION LEVEL
PRESS ↵ ENTER KEY TO CHANGE VALUE

Change made with proper authorization:



HH:MM
NEXT SCREEN SHOWS HIGHER AUTH NEEDED
TO CHANGE VALUE
PRESS ↵ ENTER TO RETURN TO SENSORS
OR PRESS MENU TO ENTER PASSWORDS TO CHANGE TO
HIGHER AUTHORIZATION

20. ALARMS

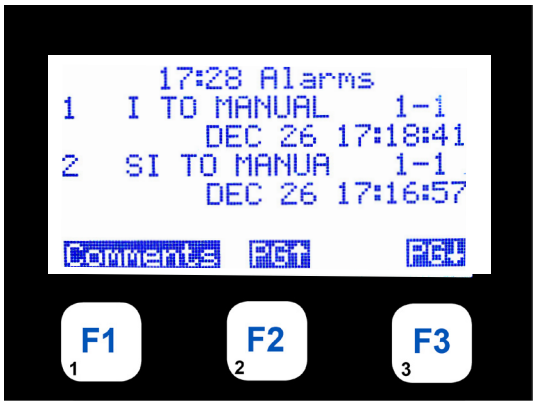


HH:MM MAIN MENU

ALARMS

MENU KEY, SELECT ALARMS ↵ ENTER
THIS WILL ALLOW USER TO DISPLAY DETAILS OF THE ALARMS
THERE ARE A MAXIMUM OF 100 ALARMS
PRESENTED TWO TO A SCREEN WITH MOST CURRENT FIRST

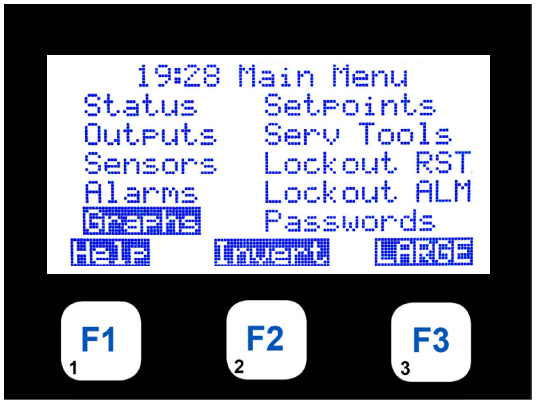
Selecting the ‘Alarms’ menu option shows the first 2 alarms:



HH:MM ALARMS

THE FIRST TWO ALARMS ARE PRESENTED
↓↑ ALLOWS THE USER TO SCROLL THROUGH THE ALARMS
PAGE UP / DOWN DISPLAYS NEXT ALARMS

21. GRAPHS



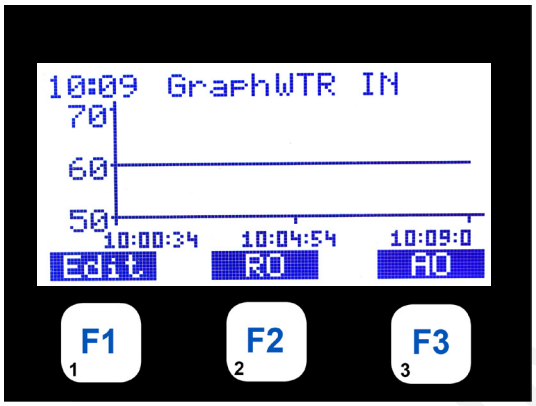
DESCRIPTION

HH:MM MAIN MENU

GRAPHS

MENU KEY, SELECT GRAPHS, PRESS (↵) ENTER
THIS WILL ALLOW USER TO DISPLAY DETAILS OF A GRAPH
ONE ITEM IS GRAPHED AT A TIME
IT WILL BE PLOTTED IN REAL TIME

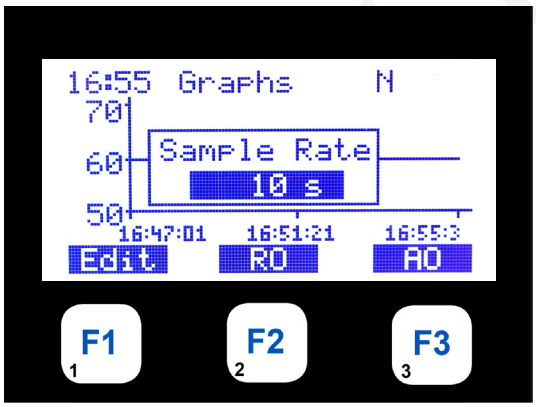
Selecting the 'Graphs' menu option shows the following:



HH:MM

MENU KEY, SELECT GRAPHS, PRESS (↵) ENTER
THIS WILL ALLOW USER TO DISPLAY DETAILS OF A GRAPH
ONE ITEM IS GRAPHED AT A TIME
IT WILL BE PLOTTED IN REAL TIME

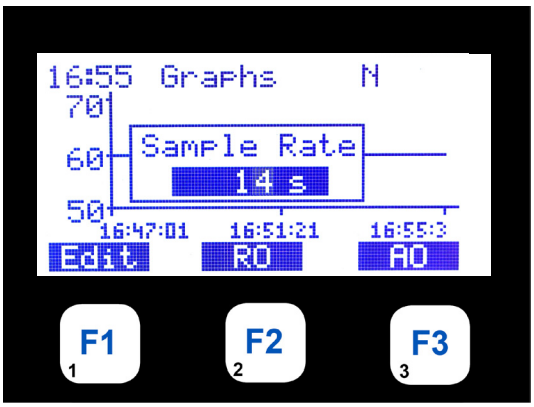
Press ↵ Enter key to changeSampe Rate - you must be authorized to make this change:



HH:MM GRAPHS

PRESSING F1 "EDIT' BRINGS UP THIS DISPLAY
WITH CURRENT VALUE HIGHLIGHTED
PRESS THE ↵ ENTER KEY
USING ↓↑ ADJUST THE SAMPLE RATE

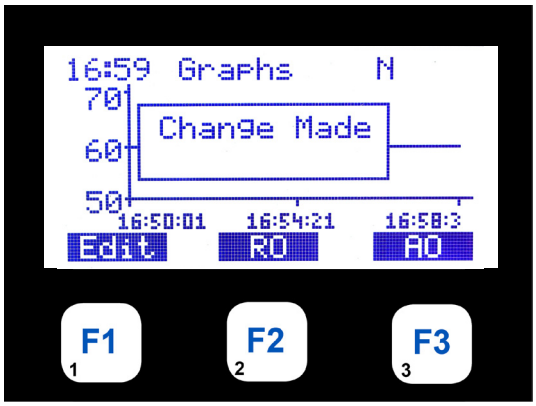
Next Screen shows change made with proper authorization



HH:MM GRAPHS

ONCE THE SAMPLE RATE IS CORRECT
PRESS THE ↵ ENTER KEY
NOTE YOU MUST BE AUTHORIZED TO MAKE THE CHANGE

Change made to sample rate

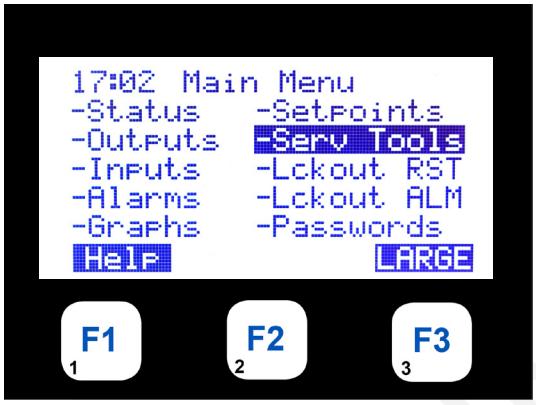


DESCRIPTION

HH:MM GRAPHS

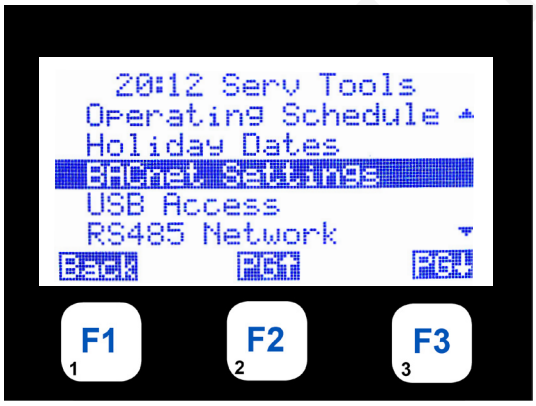
NEW SAMPLE RATE HAS BEEN MADE
PRESS THE ↵ENTER KEY
PRESS ↵ MENU TO RETURN TO MAIN MENU

22. SERV TOOLS



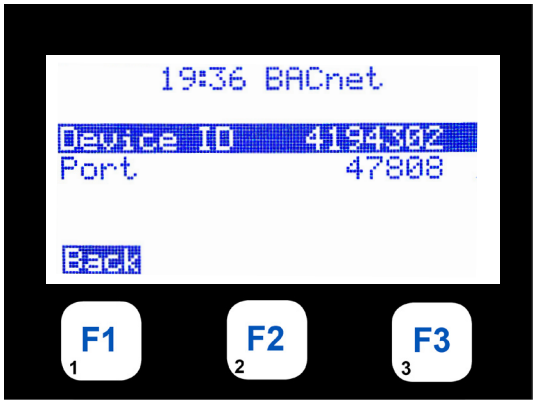
HH:MM MAIN MENU
MENU KEY, SELECT SERV TOOLS, PRESS (↵) ENTER
THIS WILL ALLOW USER TO DISPLAY
DETAILS OF SERV TOOLS

Pressing the down arrow shows the rest of the submenu options:



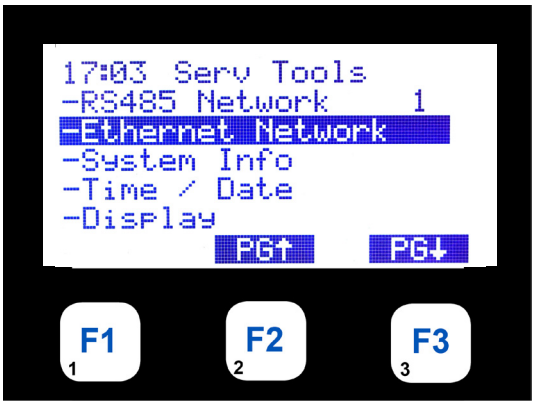
HH:MM SERV TOOLS-BACNET SETTING
THE SERV TOOL OPTIONS ARE DISPLAYED
↑ ↓ KEYS ALLOW THE USER TO SCROLL
THROUGH THE OPTIONS
FUNCTION KEYS ALLOW PAGE UP/DOWN
PRESS ↓ PG DOWN SELECT SYSTEM INFO

Pressing the down arrow shows the rest of the submenu options:



HH:MM BACNET
SELECT SYSTEM INFO - BACNET ADDRESS
PRESS (↵) ENTER TO SELECT
FUNCTION KEYS ALLOW PAGE UP/DOWN

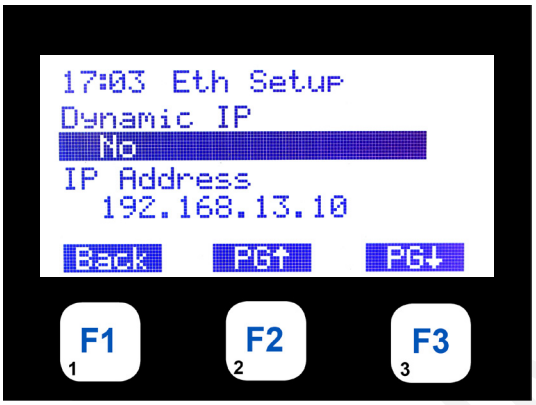
Pressing the down arrow shows the rest of the submenu options:



DESCRIPTION

HH:MM SERV TOOLS
SELECT SYSTEM INFO - ETHERNET NETWORK
PRESS (↵) ENTER TO SELECT
FUNCTION KEYS ALLOW PAGE UP/DOWN

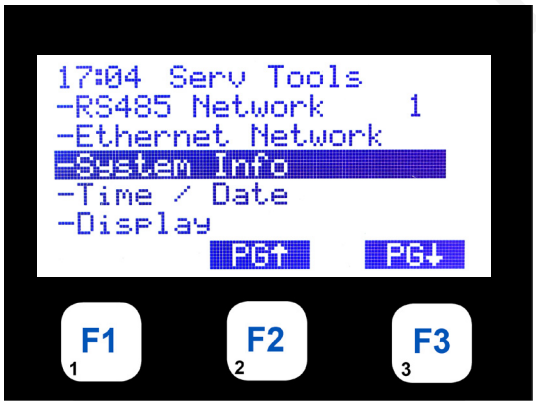
Pressing the down arrow shows the rest of the submenu options:



HH:MM ETH SETUP

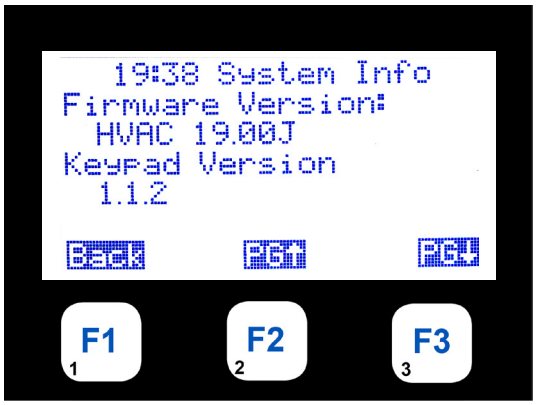
SCREEN SHOWS ETHERNET SETUP
DYNAMIC IP
& IP ADDRESS SETTING
PRESS ↓ PG DOWN CONTINUES NEXT SERV TOOLS

Pressing the down arrow shows the rest of the submenu options:



HH:MM SERV TOOLS
SYSTEM INFO
PRESS↵ ENTER KEY TO SELECT

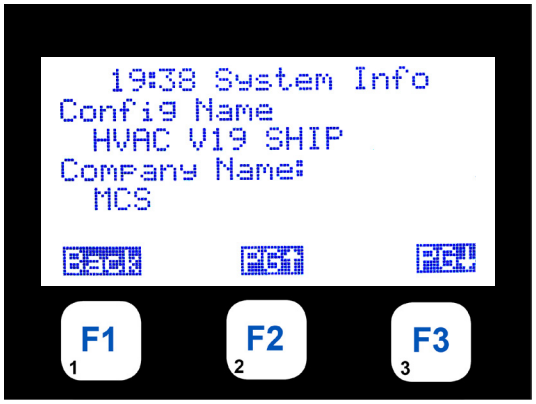
Pressing the down arrow shows the rest of the submenu options:



HH:MM SYSTEM INFO

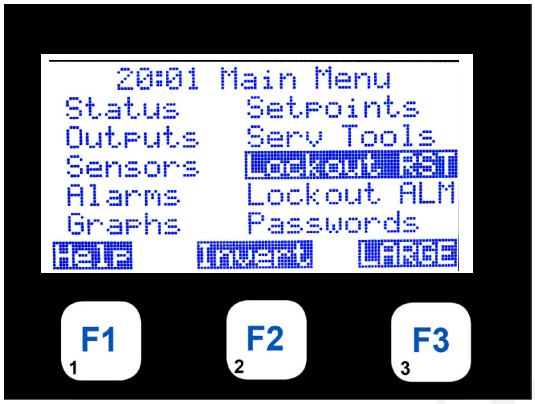
SHOWS FIRMWARE VERSION
& CONFIG NAME
PG ↓ CONTINUES TO NEXT SYSTEM INFO

Pressing the down arrow shows the rest of the submenu options:

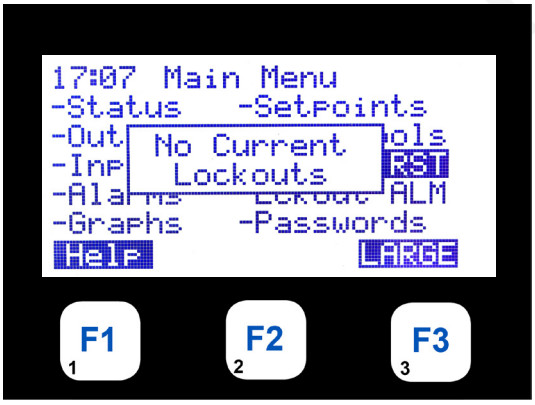


DESCRIPTION

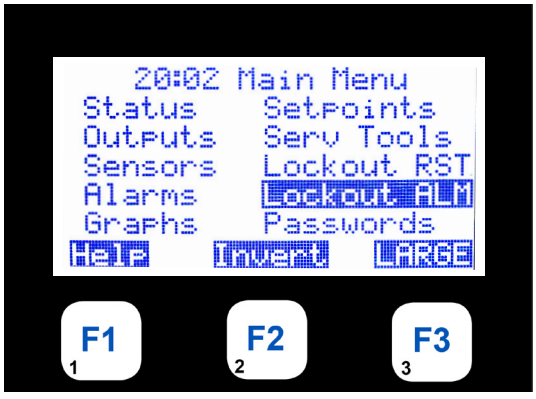
HH:MM SYSTEM INFO
SHOWS CONFIG VERSION NUMBER
& CONFIG DATE
PG ↓ CONTINUES TO NEXT SYSTEM INFO OR
PRESS ↵ MENU TO RETURN TO MAIN MENU



HH:MM MAIN MENU
MENU KEY, SELECT LCKOUT RST
↵ENTER KEY
THIS WILL ALLOW USED TO
DISPLAY ANY LOCKOUTS

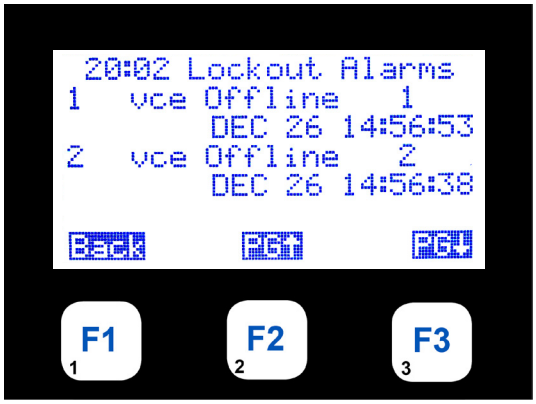


HH:MM MAIN MENU
IF NO LOCKOUTS EXIST YOU WILL BE NOTIFIED
IF THE UNIT IS IN LOCKOUT YOU WILL BE ALLOWED TO RESET.
YOU ARE LIMTED TO 10 RESETS A DAY
MAKE SURE THE CAUSE OF THE RESET IS FIXED
BEFORE TRYING AGAIN



HH:MM MAIN MENU
MENU KEY, SELECT LCKOUT ALARMS, PRESS (↵) ENTER
THIS WILL ALLOW USER TO
DISPLAY ANY LOCKOUTS ALARMS

Selecting the ‘Lckout ALM’ menu option shows the first 2 Lockout alarms:



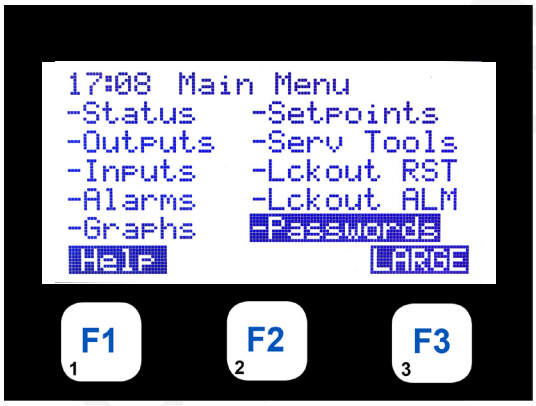
DESCRIPTION

HH:MM LOCKOUT ALARMS SYSTEM INFO LOCKOUT ALARM

23. Passwords - Numerical

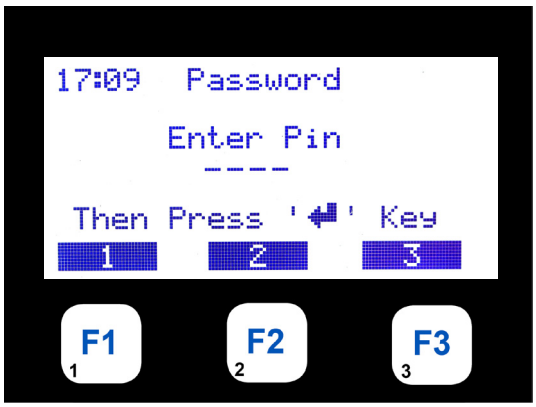
Selecting the ‘Passwords’ option shows the following:
Enter your Password by using the number keys, F1, F2, etc. An astrict will appear - passwords are 4 Numeric numbers
Entering the incorrect password will keep the system in the ‘View mode’ until the correct password is entered:

Using the Keypad keys enter your numerical code:



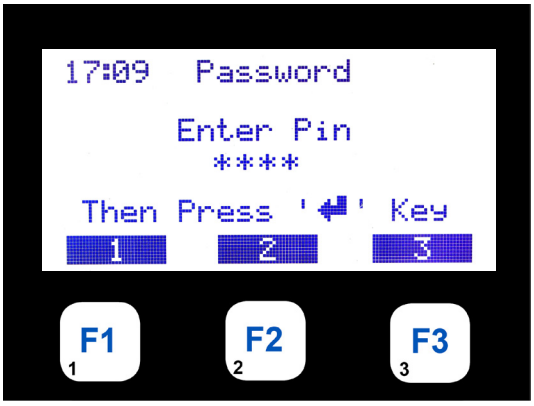
HH:MM MAIN MENU MENU KEY, SELECT PASSWORD, PRESS (↵) ENTER THIS WILL ALLOW USER TO GET AUTHORIZED

Entering the incorrect password will keep the system in the ‘View mode’ until the correct password is entered:



HH:MM PASSWORD ENTER YOUR 4 DIGIT PASSWORD ALPHA OR NUMERICAL CAN BE USED ENTER FROM KEYPAD CAN BE ANY COMBINATION FROM LAPTOP

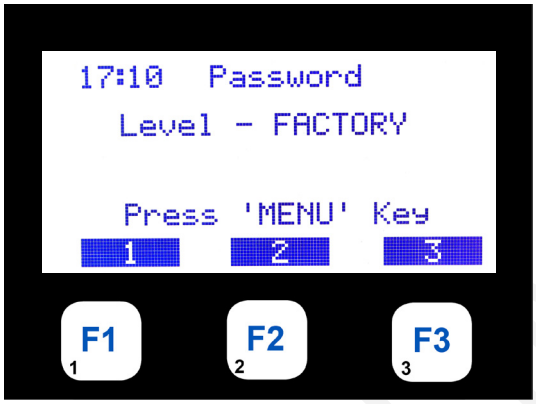
If correct password is entered screen will shown correct authorization:



DESCRIPTION

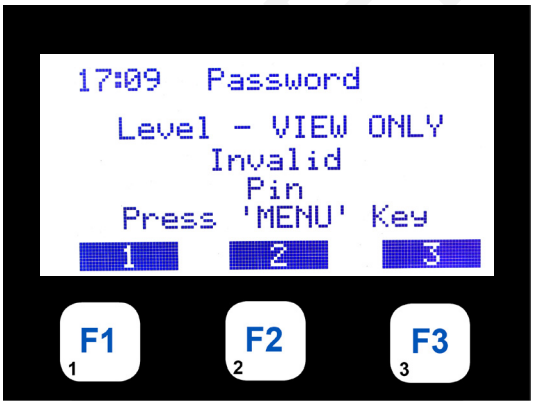
HH:MM PASSWORD
AS EACH DIGIT IS ENTERED AN (*) ASTERICK SHOWS UP ON DISPLAY
WHEN COMPLETED PRESS ENTER (↵)

Screen shows correct password entered for 'Factory Authorization':



HH:MM PASSWORD
IF AN INCORRECT PASSWORD IS ENTERED
YOU WILL BE NOTIFIED AT WHAT LEVEL YOU ARE AUTHORIZED
PRESS ENTER (↵)

Entering the incorrect password will keep the system in the 'View mode' until the correct password is entered:



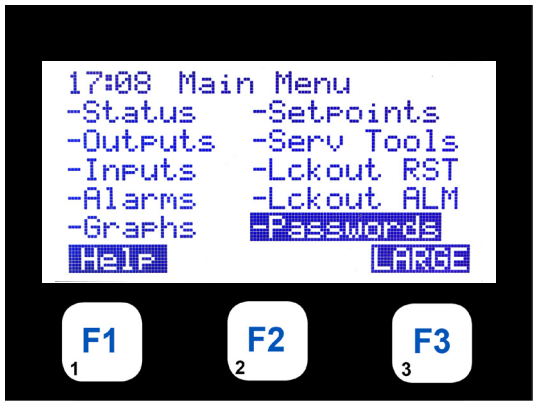
HH:MM PASSWORD
INVALID PIN WAS ENTERED,
THE SYSTEM WILL MOVE TO "VIEW ONLY"
UNTIL THE CORRECT PASSWORD IS ENTERED

24. Passwords - ALPHA / NUMERICAL

Selecting the ‘Passwords’ option shows the following:

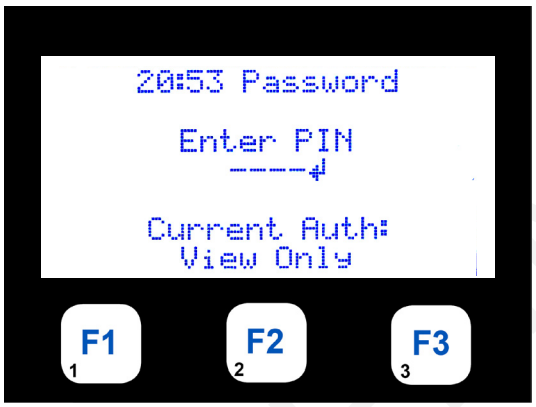
Click on Passwords to enter your **ALPHA** / **NUMERICAL** password:

Press the F1 key activates the ALPHA / NUMERICAL control, begin entering your password:

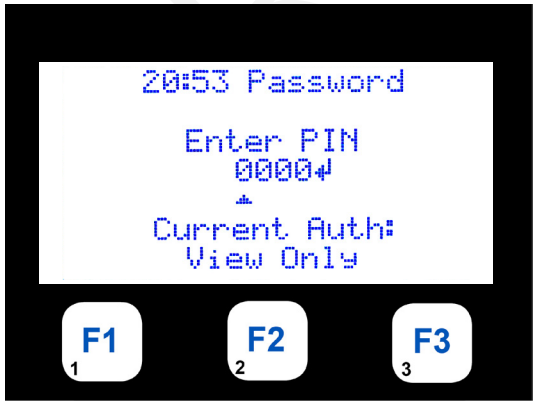


DESCRIPTION

HH:MM MAIN MENU MENU KEY, SELECT PASSWORD, PRESS (↵) ENTER THIS WILL ALLOW USER TO GET AUTHORIZED

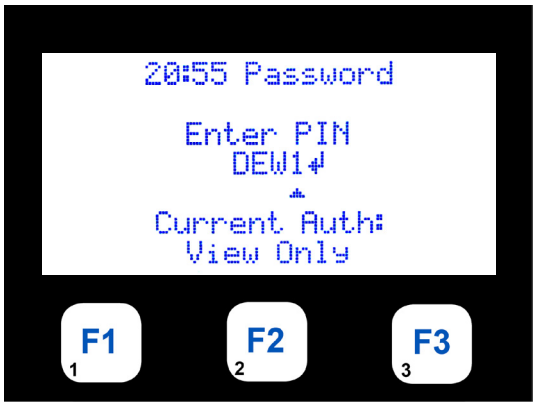


HH:MM PASSWORD **PRESS F1 KEY TO ACTIVE ALPHA/NUMERICAL** ALPHA OR NUMERICAL CAN BE USED ENTER FROM KEYPAD CAN BE ANY COMBINATION



HH:MM PASSWORD SCREEN SHOWS 1ST POSITION WITH UP ▲ ARROW UP ON DISPLAY USING THE UP ▲ ARROW OR DOWN ▼ ARROW SCROLL NUMBERS OR APHA LETTERS TO ENTER YOUR 1ST LETTER / NUMBER USE THE (→) RIGHT ARROW TO MOVE TO THE 2ND POSITION AND 3RD, 4TH POSITONS

Enter the 1st '**ALPHA/NUUERICAL'** letter or number until the correct password is entered:



DESCRIPTION

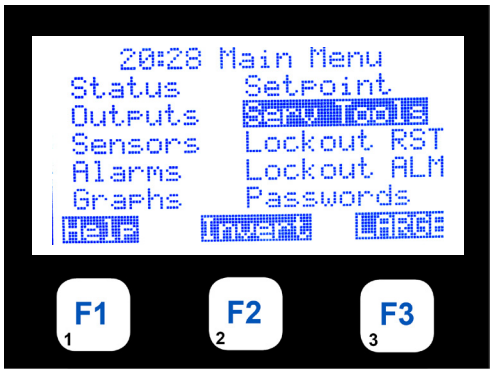
HH:MM PASSWORD
PIN ENTERED
CLICK ON ENTER ↵ TAB
YOU WILL BE NOTIFIED AT WHAT
LEVEL YOU ARE AUTHORIZED
PRESS ENTER (↵)

When all positions are filled, click on the (↵) enter tab on the keypad

HH:MM PASSWORD
AUTH SUCCESS!
SET TO 'FACTORY'
CLICK ON (↵) ENTER
PRESS ↵ MENU TO RETURN TO MAIN MENU

WIFI SETUP

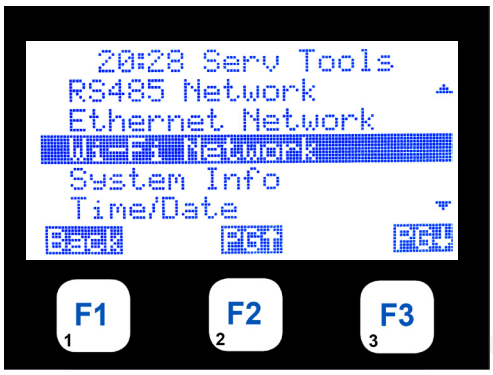
1. MAIN MENU



DESCRIPTION

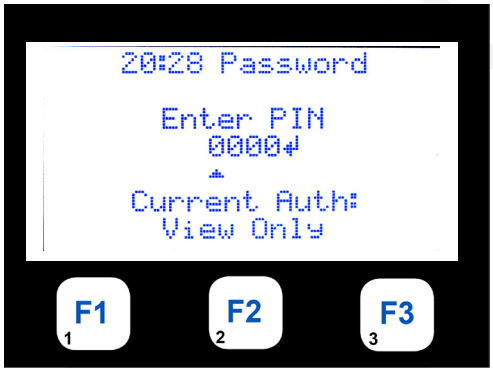
HH:MM	MAIN MENU
	MENU KEY, SELECT SERV TOOLS, PRESS (↵) ENTER THIS WILL ALLOW USER TO DISPLAY DETAILS OF SERV TOOLS

2. Wi-Fi Network



HH:MM	SERV TOOLS	
	WIFI NETWORK	
BACK	PG UP↑	PG DOWN↓

3. ENTER PASSWORD

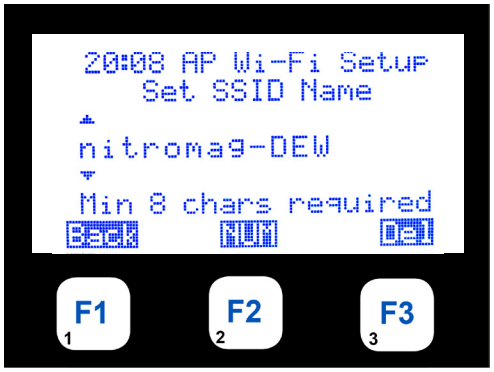


HH:MM	PASSWORD
	ENTER PIN
	CURRENT AUTH: VIEW ONLY

4. AUTH SUCCESS

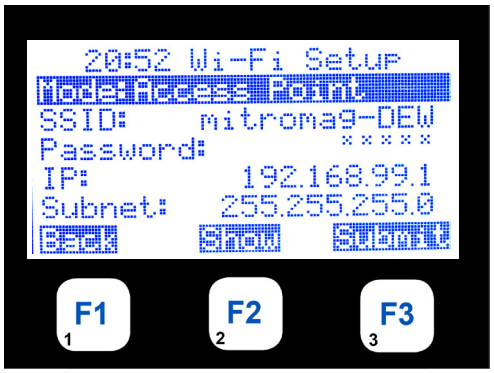
HH:MM	CONTROL ON
	DISPLAY SHOWS LARGE TYPE OF STATUS WINDOW

5. Wi-Fi Setup Screen

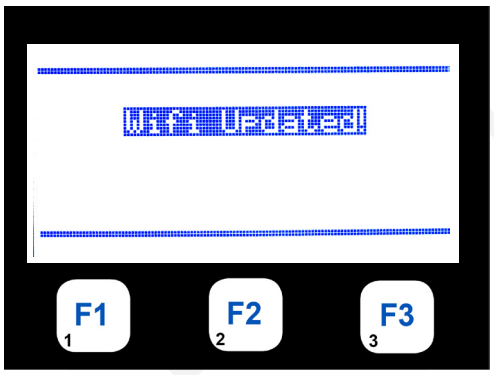


DESCRIPTION

HH:MM	AP WIFI SETUP	
	SET SSID NAME	
	NAME	
	MIN 8 CHARS REQUIRED	
BACK	NUM	DEL



HH:MM	WI-FI SETUP	
MODE: ACCESS POINT		
SSID: NAME FOR WIFI		
PASSWORD XXXXX		
IP: ADDRESS		
SUBMIT: 255.255.255.0		
BACK	SHOW	SUBMIT



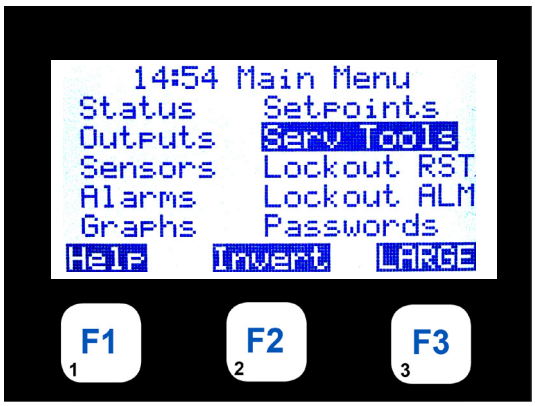
WIFI UPDATED

BACKUP / RESTORE FILES USING USB DRIVE

The display screens shown on the following pages show how to use the **'BACKUP/RESTORE** utility in the **'SERV TOOLS'.**

To reach the Main Menu press the Menu button after powering up. Based on the highlighted menu option when the enter key (↵) is pressed will bring up one of the following screens.

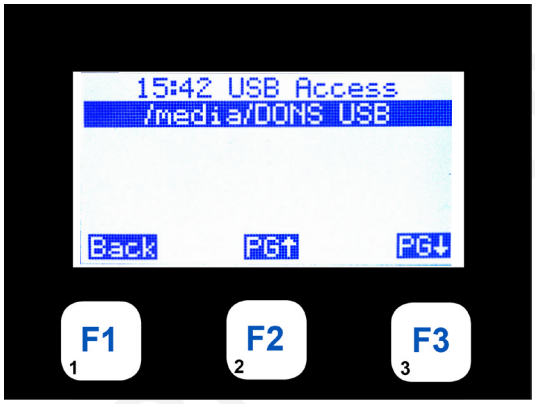
1. Menu Key - Pressing the 'Menu' key shows the following:



DESCRIPTION

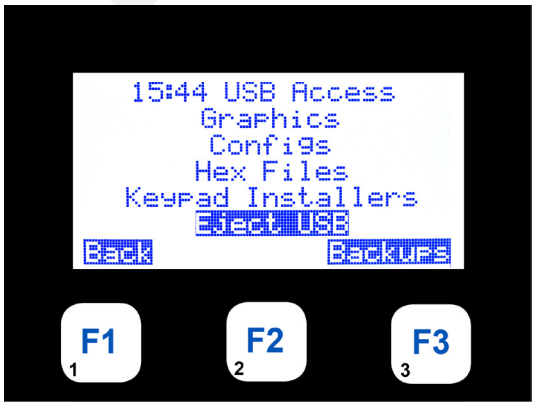
HH:MM	MAIN MENU
MENU KEY, SELECT SERV TOOLS, PRESS (↵) ENTER	
THIS WILL ALLOW USER TO DISPLAY	
DETAILS OF SERV TOOLS	
← → ↓ ↑ KEYS ALLOW THE USER TO SCROLL THROUGH THE DATA FUNCTION	
KEY F1 ALLOWS THE USER TO ACCESS HELP MENU	
PRESS ↵ MENU TO RETURN TO MAIN MENU	

2. USB DRIVE INSERTED - Click on /media/USB DRIVE



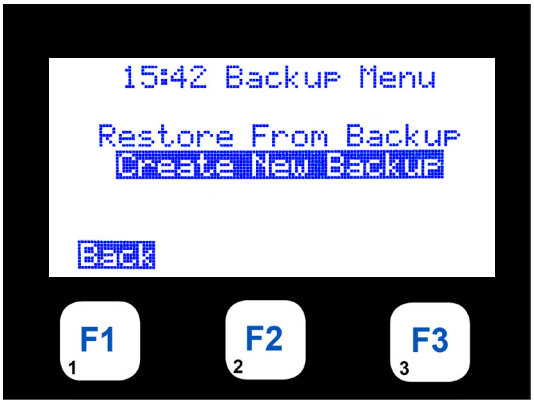
HH:MM	USB ACCESS /MEDIA/BONS USB	
BACK	PG↑	PG↓

3. Click on Backups



HH:MM	USB ACCESS GRAPHICS CONFIGS HEX FILES KEYPAD INSTALLERS EJECT USB	
BACK		BACKUPS

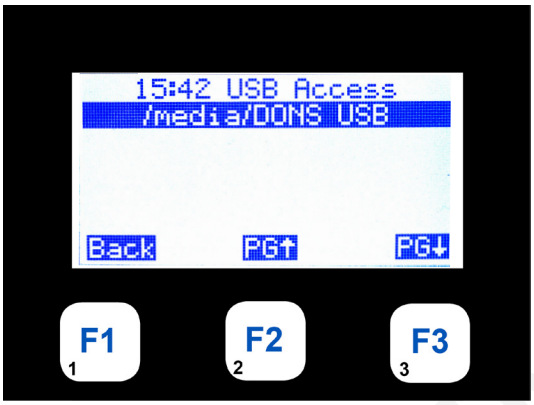
4. Click to 'Create New Backup'



DESCRIPTION

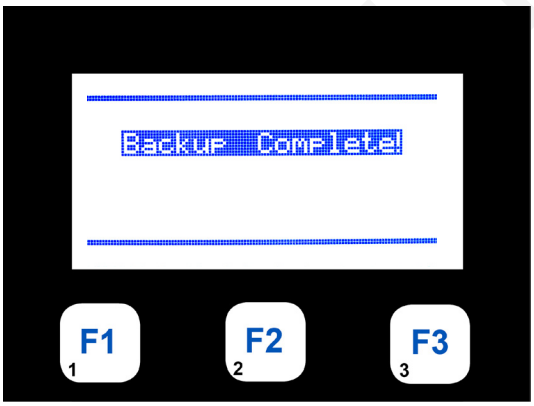
HH:MM	BACKUP MENU	
	Restore From Backup Create new Backup	
Back		

5. Click to start Backup



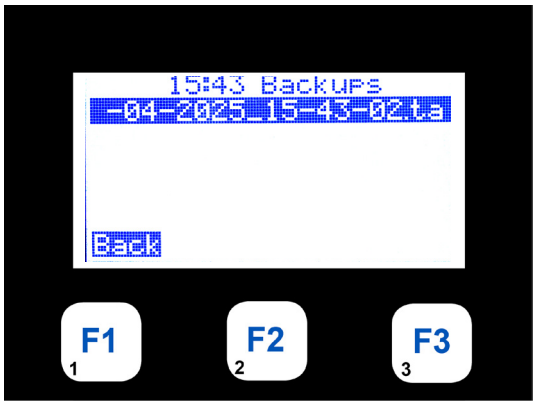
HH:MM	USB ACCESS /MEDIA/BONS USB	
BACK	PG↑	PG↓

6. Backup Complete!



HH:MM	
	BACKUP COMPLETE!

7. Date of Backup on disk



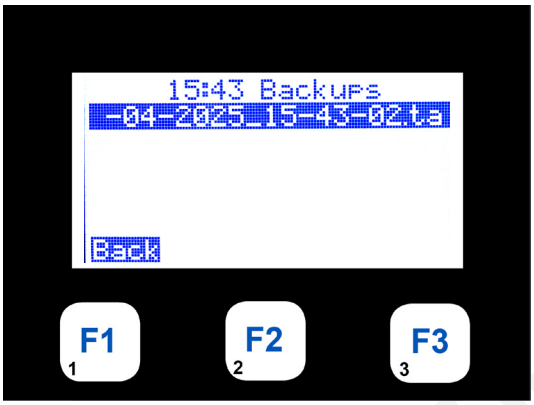
HH:MM	BACKUPS DATE OF BACKUP	
BACK		

8. Click to 'Restore'

DESCRIPTION

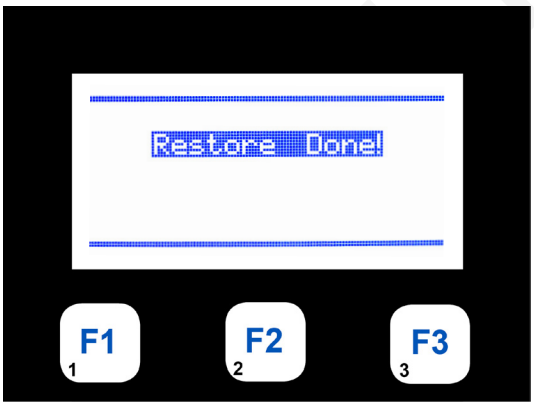
HH:MM	BACKUP MENU
	Restore From Backup
	Create new Backup
Back	

9. Click to start Backup



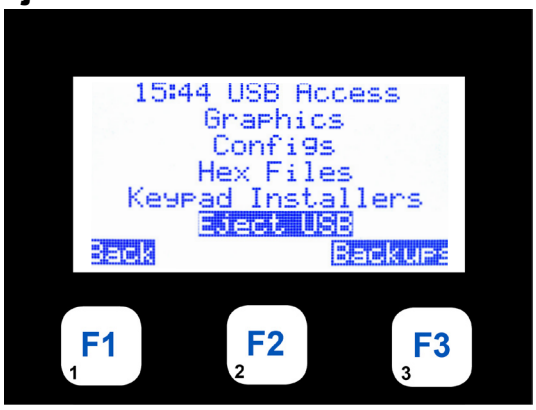
HH:MM	BACKUPS
	DATE OF BACKUP
BACK	

10. Restore Done!



HH:MM	
	RESTORE DONE!

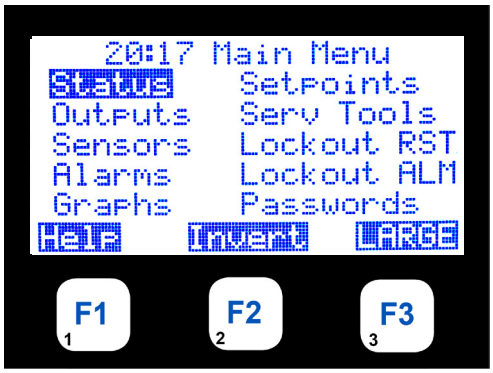
11. Eject USB Drive



HHH:MM	USB ACCESS	
	GRAPHICS	
	CONFIGS	
	HEX FILES	
	KEYPAD INSTALLERS	
	EJECT USB	
BACK		BACKUPS

MAIN MENU FUNCTION KEYS

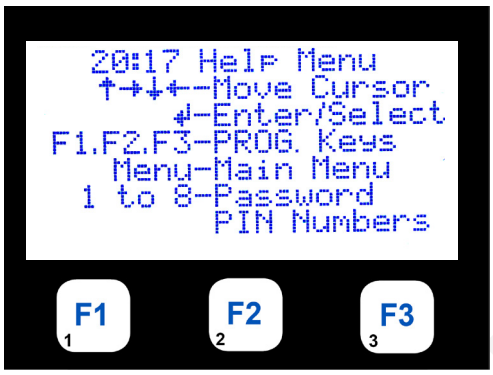
12. MAIN MENU



DESCRIPTION

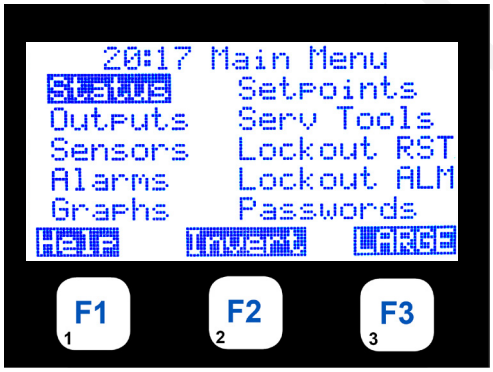
HH:MM	MAIN MENU
	PRESS MENU KEY
	F1 KEY FOR HELP
	PRESS ↵ ENTER

13. HELP DISPLAY

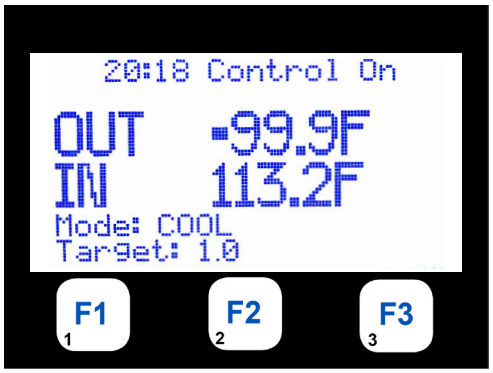


HH:MM	HELP MENU
	DESCRIPTION OF THE SYMBOLS USED
	TO MOVE CURSOR
	& KEYS USED TO ENTER PASSWORD

14. LARGE TYPE DISPLAY



HH:MM	MAIN MENU
	PRESS F3 KEY AT MAIN MENU



HH:MM	CONTROL ON
	DISPLAY SHOWS LARGE TYPE
	OF STATUS WINDOW

AUTHORIZATION FUNCTION

The authorization code is a special four-character code (Alpha or Numeric) that enables access in to the MCS-NicroMag system.
If the MCS-NitroMag is being accessed through MCS-Connect, the code may consist of any valid alpha/numeric characters. Each MCS-NitroMag can have up to 15 different authorization codes. There are four levels of authorization, which provide different capabilities within the system. The authorization codes cannot be viewed in a MCS-NitroMag system. These are established when building the configuration file in MCS-NitroMag Config.

From the Keypad/Display the following changes can be made based upon the authorization level:

FUNCTION	VIEW	USER	SERVICE	SUPERVISOR	FACTORY	ADMIN
Sensor offsets	NO	NO	YES	YES	YES	YES
Sensor diagnostics	NO	NO	YES	YES	YES	YES
Date and time set	YES	YES	YES	YES	YES	YES
Day of week set	YES	YES	YES	YES	YES	YES
Change No Flow Lockout or shut down	NO	NO	NO	NO	YES	YES
Change rotate Yes or No	NO	NO	NO	NO	YES	YES
Change Manual/Auto settings	NO	NO	NO	YES	YES	YES
Change setpoint values	*	*	*	*	YES	YES
Change operating schedules	NO	YES	YES	YES	YES	YES
Change holiday dates	NO	YES	YES	YES	YES	YES
Lockout Reset	**	**	**	**	YES	YES
Change RS485 network settings	NO	NO	YES	YES	YES	YES
Change Ethernet network settings	NO	YES	YES	YES	YES	YES
Adjust Keypad/Display contrast	YES	YES	YES	YES	YES	YES

* Setpoints may have individual authorization levels; you must have the proper authorization to view or edit them.

The number of lockout reset per day is limited. NUC-MAGNUM-V17 configuration defines the number of reset per day and what level of authorization is allow to bypass the limit of reset per day.

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