MICRO CONTROL SYSTEMS

5580 Enterprise Pkwy.
Fort Myers, FL 33905

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

www.mcscontrols.com

Magnum Keypad / Display

Rev 2.4

(HVAC 14.00 & Higher)

MCS-DOOR-KEYPAD

MCS-OEM-KEYPAD

MCS-PANEL-KEYPAD

MCS Total Solution for all your Control Needs

Revision-2023-10-18

RoHS Compliant

Energy Efficient and RoHS Compliant

Revision/Disclaimer Page

Date	Author	Description of Changes
02/28/12	JGW	Created Version 8 manual
2015-03-18	DEW	Restructured manual, Indesign
2015-03-18	DEW	New Cover, revision pages, flow tx.
2017-11-09	DEW	add Service Tools Time/Date
2022-07-07	DEW	update photos
2023-10-18	DEW	update photos for status

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 ©2023

Table of Contents

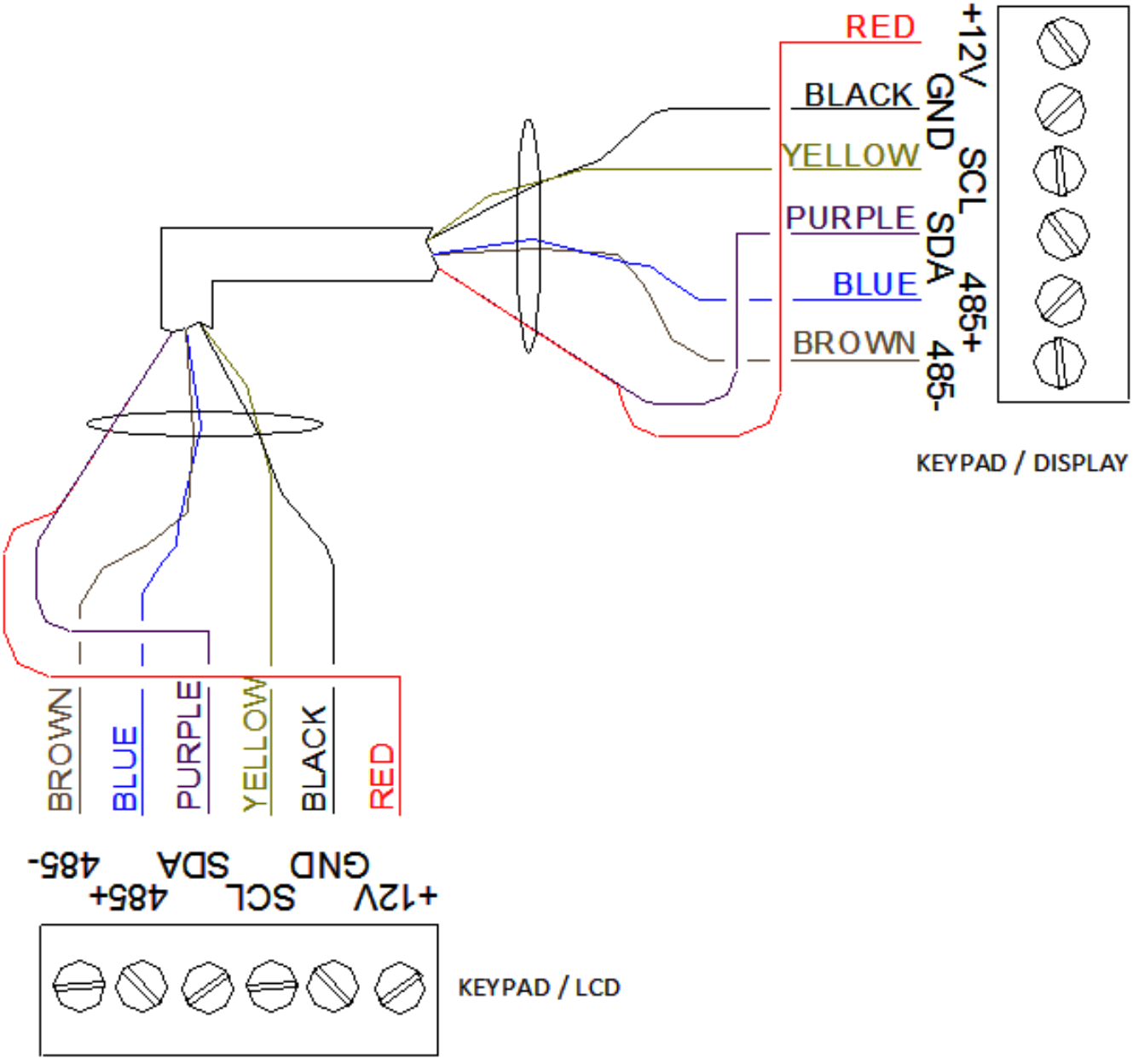
Chapter - 1. Keypad / Display Specifications 5
1.1. Cable Connection 5
1.2. MCS-MAGNUM-DOOR 6
1.3. MCS-MAGNUM-OEM 6
1.4. MCS-MAGNUM-DOOR 7
1.5. MCS-MAGNUM-OEM 7
Chapter - 2. Main Screen Layouts 8
2.1. MAIN MENU SCREENS 8
2.1.1 HELP F1 8
2.1.2 LARGE F3 8
Chapter - 3. Status Screens 9
3.1. UNIT STATUS (WTD/ACT) 9
3.2. UNIT STATUS (KW/TON) 9
3.3. COMPRESSOR 1 STATUS (PSI & Temp) 10
3.4. COMPRESSOR 1 STATUS (Pressures/AMPS) 10
3.5. COMPRESSOR 1 STATUS (Superheats) 10
3.6. COMPRESSOR 1 STATUS (Superheats) 11
3.7. COMPRESSOR 1 STATUS (Superheats) 11
3.8. COMPRESSOR 1 STATUS EXV 1 11
3.9. COMPRESSOR2 STATUS (PSI & Temp 12
3.10. COMPRESSOR 2 STATUS (Pressures/AMPS) 12
3.11. COMPRESSOR2 STATUS (Superheats) 12
3.12. COMPRESSOR2 STATUS (Superheats) 13
3.13. COMPRESSOR2 STATUS (Superheats) 13
3.14. COMPRESSOR2 STATUS (EXV or LLS) 13
Chapter - 4. Relay / Analog Outputs 14
4.1. RELAY OUTPUTS (Status) 14
4.2. RELAY OUTPUTS (Last On) 14
4.3. RELAY OUTPUTS (Last Off) 15
4.4. RELAY OUTPUTS (Run TDY) 15
4.5. RELAY OUTPUTS (Cycles TDY) 15
4.6. RELAY OUTPUTS (Run YDY) 16
4.7. RELAY OUTPUTS (Cycles YDY) 16
4.8. RELAY OUTPUTS (TTL Run HR) 16
4.9. RELAY OUTPUTS (TTL Cycles) 17
4.10. ANALOG OUTPUTS (Status) 17
4.11. ANALOG OUTPUTS (Max TDY) 17
4.12. ANALOG OUTPUTS (Min TDY) 18
4.13. ANALOG OUTPUTS (AVG YDY) 18
4.14. ANALOG OUTPUTS (Max YDY) 18
4.15. ANALOG OUTPUTS (MinYDY) 19
4.16. ANALOG OUTPUTS (AVG YDY) 19
Chapter - 5. Sensor Inputs 20
5.1. SENSOR INPUTS (Value) 20
5.2. SENSOR INPUTS (Type) 20
5.3. SENSOR INPUTS (Last On) 21
5.4. SENSOR INPUTS (Last Off) 21
5.5. SENSOR INPUTS (Max TDY) 21
5.6. SENSOR INPUTS (Min TDY) 22
5.7. SENSOR INPUTS (Run TDY) 22
5.8. SENSOR INPUTS (Avg TDY) 22
5.9. SENSOR INPUTS (Cycles TDY) 23
5.10. SENSOR INPUTS (RUN YDY) 23
5.11. SENSOR INPUTS (Max YDY) 23
5.12. SENSOR INPUTS (Cycles YDY) 24

5.13. SENSOR INPUTS (Min YDY) 24
5.14. SENSOR INPUTS (TTL Run HR) 24
5.15. SENSOR INPUTS (Avg YDY) 25
5.16. SENSOR INPUTS (TTL Cycles) 25
Chapter - 6. Alarms 26
6.1. ALARMS 26
Chapter - 7. Graphs 27
7.1. GRAPHS (Relay or Sensor) 27
7.2. GRAPHS (Edit) 27
Chapter - 8. Setpoints 28
8.1. SETPOINTS (Value) 28
Chapter - 9. Service Tools 29
9.1. SERVICE TOOLS (RS485 Setup) 29
9.2. SERVICE TOOLS (RS485 Setup) 29
9.3. SERVICE TOOLS (Ethernet Network) 30
9.4. SERVICE TOOLS (Ethernet Setup) 30
9.5. SERVICE TOOLS (Subnet Mask) 30
9.6. SERVICE TOOLS (MCS Port) 31
9.7. SERVICE TOOLS (System Info) 31
9.8. SERVICE TOOLS (Firmware & Cfg) 31
9.9. SERVICE TOOLS (Company name & Model #) 32
9.10. SYSTEN INFO (Unit Serial Number & Install Date) 32
9.11. SYSTEM INFO (Config Version & Date) 32
9.12. SYSTEM INFO (Bootloader & HW Serial Number) 33
9.13. SYSTEM INFO (Phy Mac Addr & I/O Types) 33
9.14. SYSTEM INFO (Time / Date) 33
9.15. SYSTEM INFO (Setting Time / Date) 34
9.16. SYSTEM INFO (Saving Time / Date) 34
9.17. SYSTEM INFO (Display) 34
9.18. DISPLAY (Contrast & Reverse Background) 35
9.19. DISPLAY (Background Reversed) 35
9.20. SERVICE TOOLS (Clear Alarm History) 35
9.21. CLEAR ALARM HISTORY (Yes / No) 36
9.22. SERVICE TOOLS (Clear Point Info) 36
9.23. CLEAR POINT INFO (Yes / No) 36
9.24. CHANGES MADE / HIGHER AUTH REQUIRED 37
9.25. SERVICE TOOLS (Sensor Diagnostics) 37
9.26. SENSOR DIAGNOSTICS (M-1) 37
9.27. CONFIG CHECKSUMS 38
9.28. CONFIG CHECKSUMS (#0) 38
9.29. SERVICE TOOLS (Operating Schedule) 38
9.30. OPERATING SCHEDULE (Sunday) 39
9.31. OPERATING SCHEDULE -SETUP 39
9.32. SERVICE TOOLS (Holiday Dates) 39
9.33. Holiday Dates setup 40
9.34. SERVICE TOOLS (BACnet Settings) 40
9.35. BACnet Settings (Device ID - TCP/IP Port) 40
9.36. BACnet Settings (Setting the Device ID #) 41
9.37. BACnet Setting (TCP / IP Port) 41
Chapter - 10. Lockout Reset 42
10.1. LOCKOUT RESET (Reset) 42
Chapter - 11. Lockout Alarms 43
Chapter - 12. Password 44
12.1. PASSWORDS (Enter Format) 44
12.2. After Entering Password 44
12.3. PASSWORDS (Results) 45

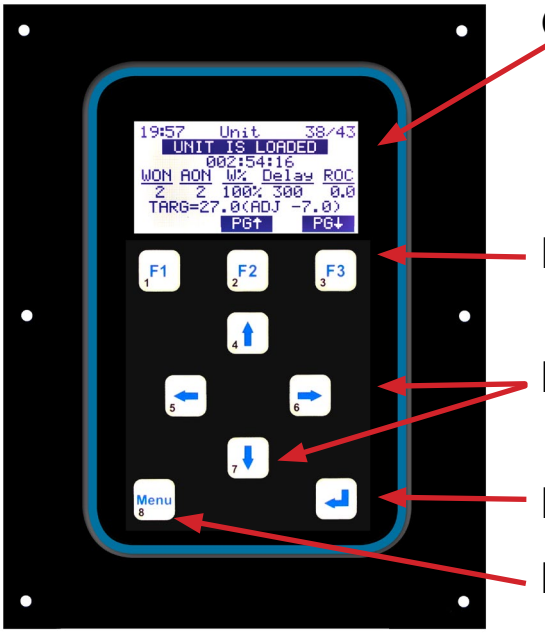
Chapter - 1. Keypad / Display Specifications

1.1. Cable Connection

- 6 wire (3 twisted pairs) shielded cable 10’ length



1.2. MCS-MAGNUM-DOOR



Graphics Display

- 128 x 64 Dot pixel graphics LCD
- 2.8” Diagonal viewing area
- White characters on Dark background (reversible)

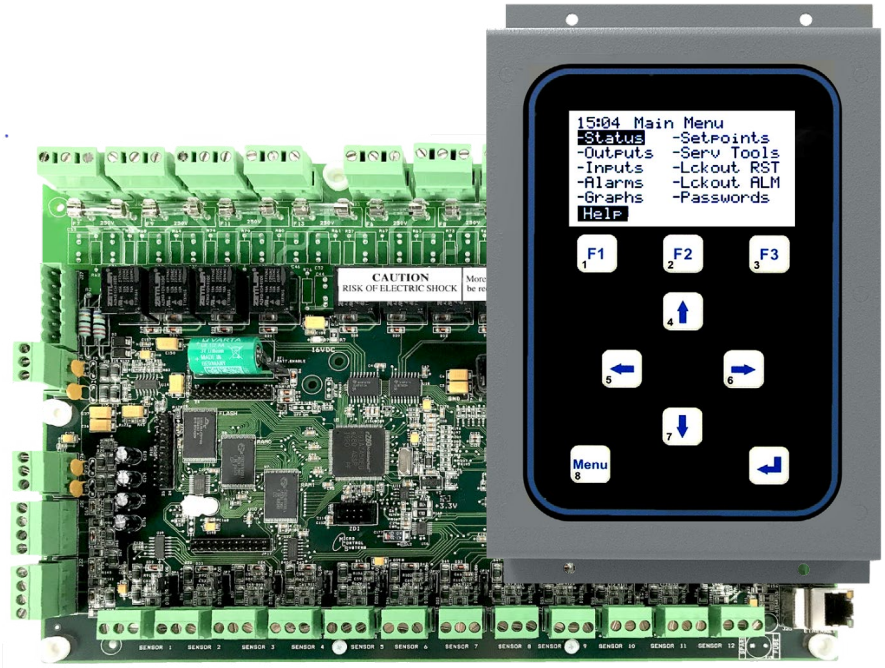
Function Keys

Direction Movement Keys

Enter Key

Menu Key

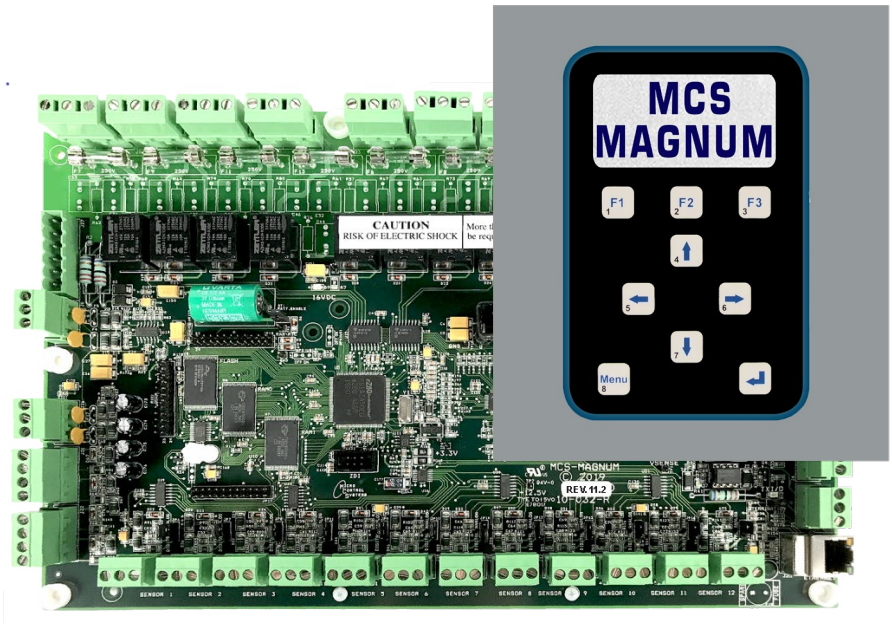
1.3. MCS-MAGNUM-OEM



PANEL MOUNT PACKAGE

- **Magnum**
- **Panel Mount Keypad/Display**
- **For rainproof enclosures**
- **115/230 field selectable**
- **24 vac option**
- **10 Relay outputs (6.3 amps)**
- **12 Analog or Digital inputs**
- **4 Digital inputs**
- **RS 485**
- **Ethernet**

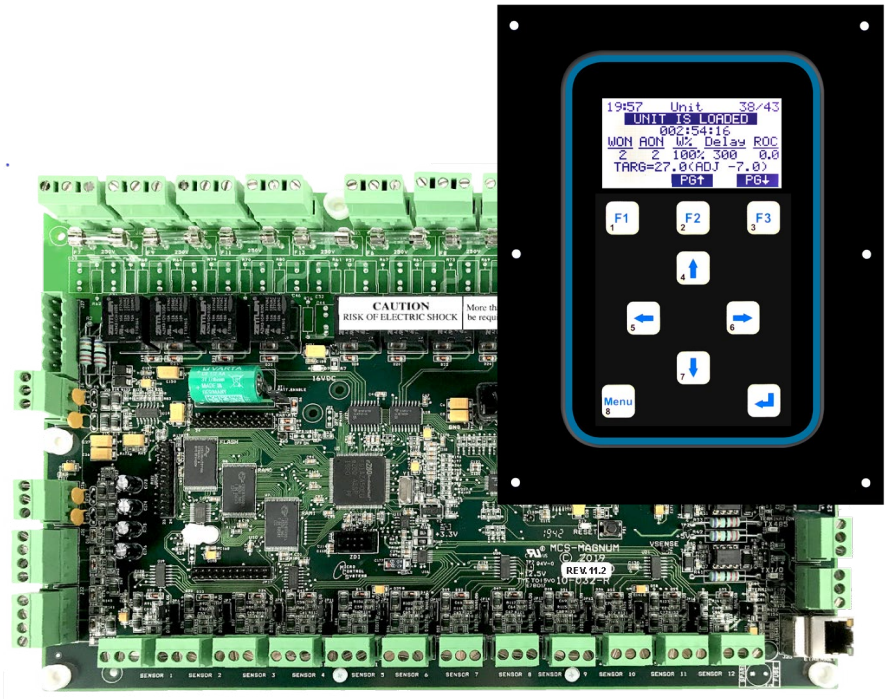
1.4. MCS-MAGNUM-DOOR



DOOR MOUNT PACKAGE

- Magnum
- Door Mount Keypad/Display
- For inside use
- 115/230 field selectable
- 24 vac option
- 10 Relay outputs (6.3 amps)
- 12 Analog or Digital inputs
- 4 Digital inputs
- RS 485
- RS 232
- Ethernet

1.5. MCS-MAGNUM-OEM

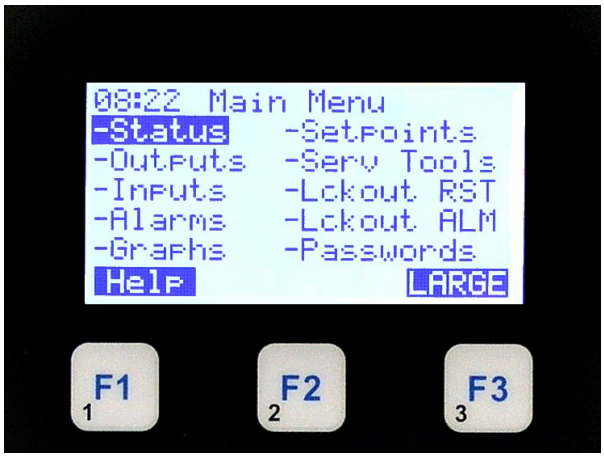


OEM MOUNT PACKAGE

- Magnum
- OEM Mount Keypad/Display
- For rainproof enclosures
- 115/230 field selectable
- 24 vac option
- 10 Relay outputs (6.3 amps)
- 12 Analog or Digital inputs
- 4 Digital inputs
- RS 485
- RS 232
- Ethernet

Chapter - 2. Main Screen Layouts

2.1. MAIN MENU SCREENS

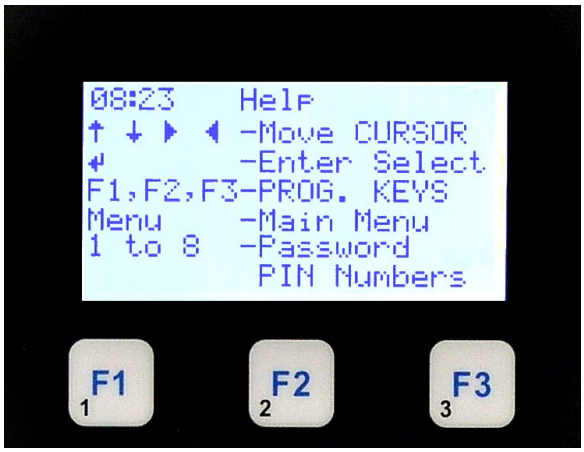


Select 'F 1' (Help)

Pressing the Menu Key

- Results in displaying the 10 available Menu items. The highlight is on the Status display.
- To select any item use the ▲ ▼ ◄ ► arrow keys to position the highlight and press ↵.
- To understand the options select F1 for help.
- For a LARGE display of the current chillers performance press F3.

2.1.1 HELP F1



Select 'Menu' then F3 (LARGE)

Pressing the F1 (Help) Key

- By selecting the Help function you get a short description of the control keys.
- The 3 function keys change depending on the screen.
- Notice that only the numbers (lower bottom left of keys) 1 thru 8 is available from the keypad.
- From here you need to return back to the Menu key to make another selection.

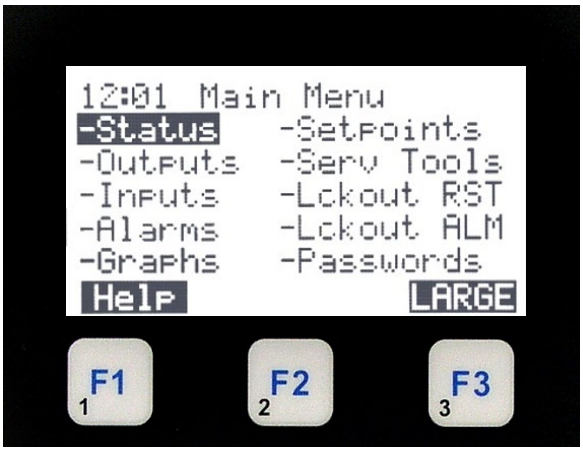
2.1.2 LARGE F3

Next Select 'Menu'

Pressing the F3 (Large) key

- To get to Large you can only do so from the Menu display.
- Once positioned at the menu key press the function key F3 which says LARGE.
- The display shows the controlling sensor first in large characters.
- The refrigerant type is displayed at the bottom of the display.

Chapter - 3. Status Screens

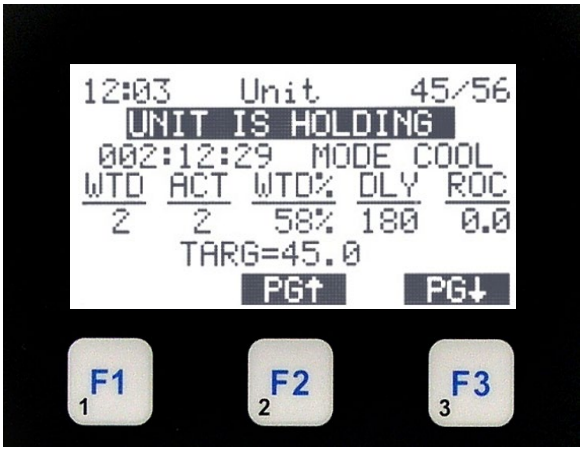


Press ↲

Pressing the Menu Key- Status

- Results in displaying the 10 available Menu items. The highlight is on the Status display.
- To select any item use the ▲ ▼ ◄ ► arrow keys to position the highlight and press ↲.
- To understand the options select F1 for help.
- To display the current Status Screens press the Enter Key.

3.1. UNIT STATUS (WTD/ACT)

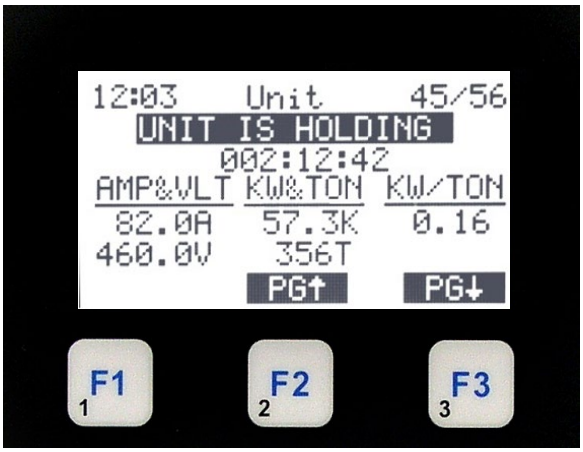


Press F3 PG↓

Unit Status WTD/ACT

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows system status.
- The third line shows mode & time in that mode.
- The next two lines show the following:
  -Steps wanted on -Steps actually on
  -Wanted capacity % -Integration delay
- -Rate of change.
- The next line shows the current target.

3.2. UNIT STATUS (KW/TON)



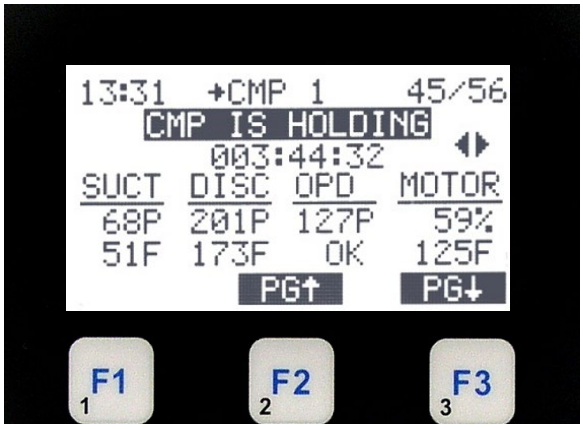
Press F3 PG↓

Unit Status KW/TON

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows Unit status.
- The third line shows time in that mode.
- The next two lines show the following:

  -Current amps -Current voltage
  -Current KW -Current tons
  -Current KW/Ton
- This information is only available if the sensors are provided.

3.3. COMPRESSOR 1 STATUS (PSI & Temp)



Press F3 PG↓

Compressor 1 PSI & Temp

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows Circuit status.
- The third line shows time in that mode.
- The next two lines show the following:

-Suct psi	-Suct temp
-Disc psi	-Disc temp
-Oil psi differential	-Oil temp
-Motor %	-Motor temp

3.4. COMPRESSOR 1 STATUS (Pressures/AMPS)

Press F3 PG↓

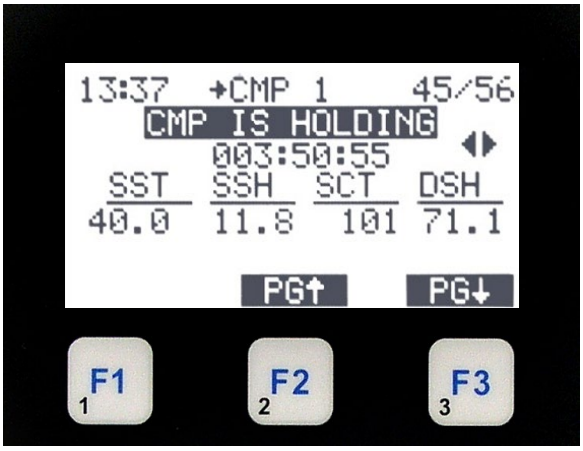
Compressor Pressures/AMPS

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows Circuit status.
- The third line shows time in that mode.
- The next line shows the following:

-Suct psi	-Suct Temp
-Disc psi	-Disc Temp
-Motor %	-Motor Temp
-AMPS	

- The function keys F1 & F2 allow paging up or down.

3.5. COMPRESSOR 1 STATUS (Superheats)



Press F3 PG↓

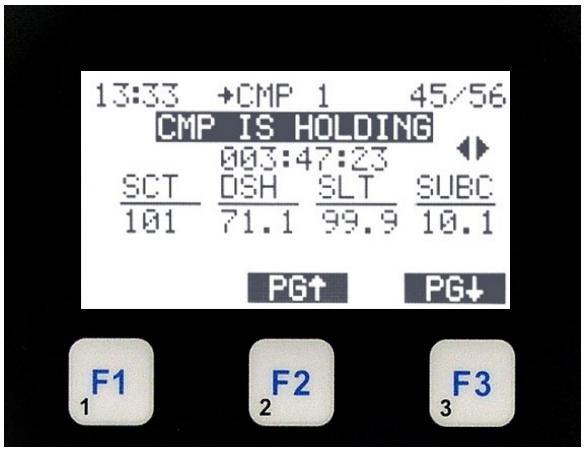
Compressor 1 Superheats

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows Circuit status.
- The third line shows time in that mode.
- The next line shows the following:

-Sat Suct Tmp	-Sat Cond Tmp
-Suct Superheat	-Disc Superheat

- The function keys F1 & F2 allow paging up or down.

3.6. COMPRESSOR 1 STATUS (Superheats)



Press F3 PG↓

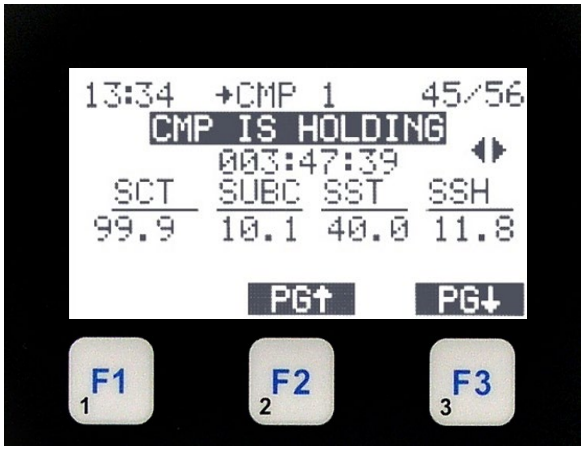
Compressor 1 Superheats

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows Circuit status.
- The third line shows time in that mode.
- The next line shows the following:

  -Sat Suct Tmp -Sat Cond Tmp
  -DSH Tmp -Suct Superheat

- The function keys F1 & F2 allow paging up or down.

3.7. COMPRESSOR 1 STATUS (Superheats)



Press F3 PG↓

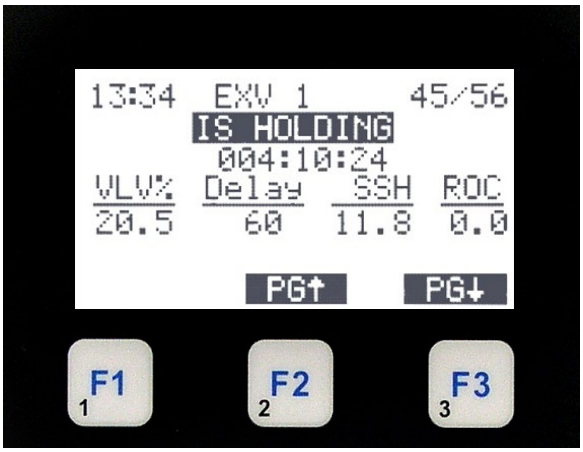
Compressor 1 Superheats

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows Circuit status.
- The third line shows time in that mode.
- The next line shows the following:

  -Sat Suct Tmp -Sat Suct Tmp
  -Sat Cond Tmp -Suct Superheat

- The function keys F1 & F2 allow paging up or down.

3.8. COMPRESSOR 1 STATUS EXV 1



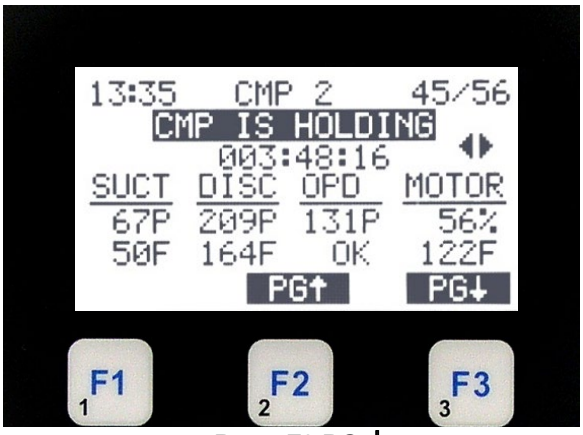
Press F3 PG↓

Compressor 1 EXV or LLS

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The line also shows EXV or LLS status.
- The third line shows time in that mode.
- The display shows information for the EXV or LLS for circuit 1. If EXV the information is as follows:

  -Valve % open -Delay till next chg
  -Curr Suct SH -Slope of SH

3.9. COMPRESSOR2 STATUS (PSI & Temp



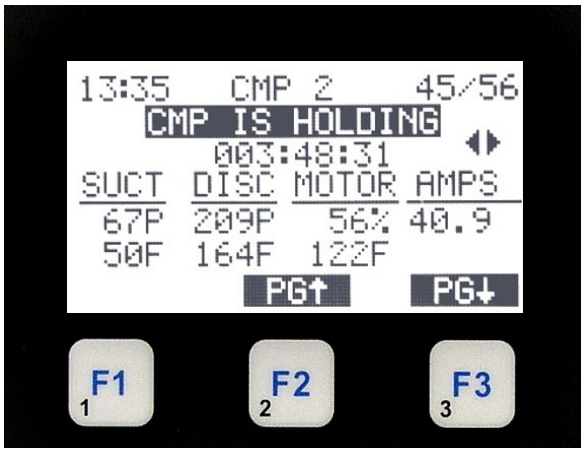
Press F3 PG ↓

Compressor 2 PSI & Temp

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows circuit status.
- The third line shows time in that mode..
- The next two lines show the following:

-Suct psi	-Suct temp
-Disc psi	-Disc temp
-Oil psi differential	-Oil temp
-Motor %	-Motor temp

3.10. COMPRESSOR 2 STATUS (Pressures/AMPS)



Press F3 PG↓

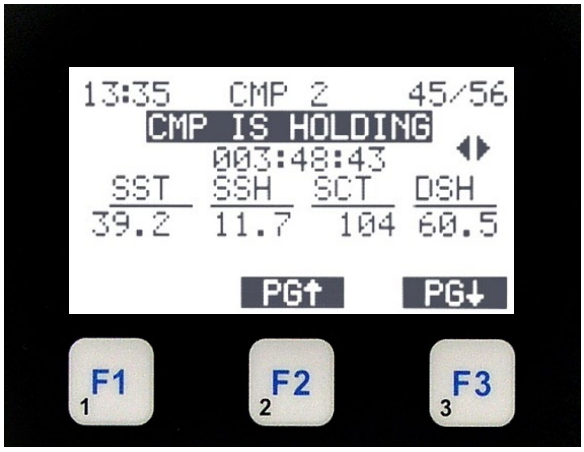
Compressor Pressures/AMPS

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows Circuit status.
- The third line shows time in that mode.
- The next line shows the following:

-Suct psi	-Suct Temp
-Disc psi	-Disc Temp
-Motor %	-Motor Temp
-AMPS	

- The function keys F1 & F2 allow paging up or down.

3.11. COMPRESSOR2 STATUS (Superheats)



Press F3 PG↓

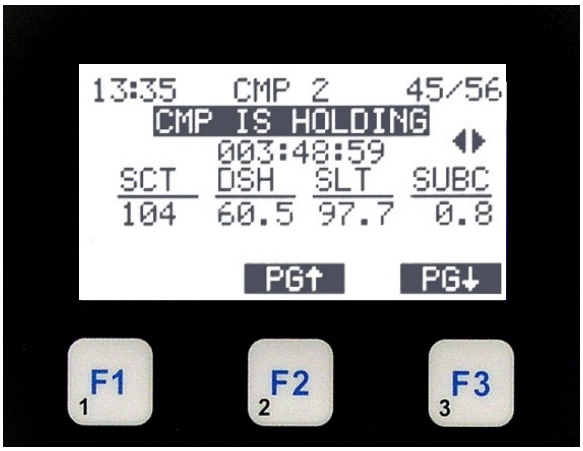
Compressor 1 Superheats

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows Circuit status.
- The third line shows time in that mode.
- The next line shows the following:

-Sat Suct Tmp	-Suct Superheat
-Sat Cond Tmp	-Disc Superheat

- The function keys F1 & F2 allow paging up or down.

3.12. COMPRESSOR2 STATUS (Superheats)



Press F3 PG↓

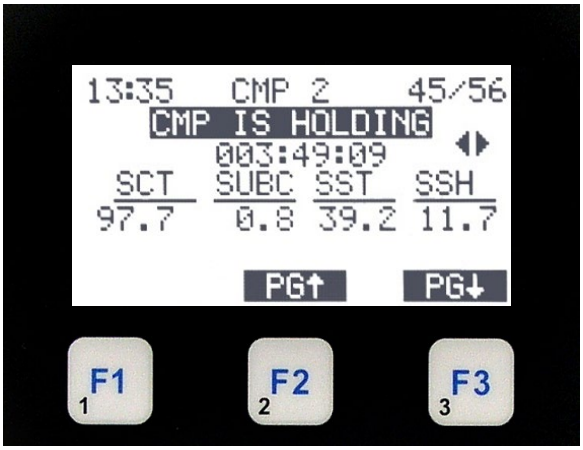
Compressor 2 Superheats

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows Circuit status.
- The third line shows time in that mode.
- The next line shows the following:

  -Sat Suct Tmp -Sat Cond Tmp
  -DSH Tmp -Suct Superheat

- The function keys F1 & F2 allow paging up or down.

3.13. COMPRESSOR2 STATUS (Superheats)



Press F3 PG↓

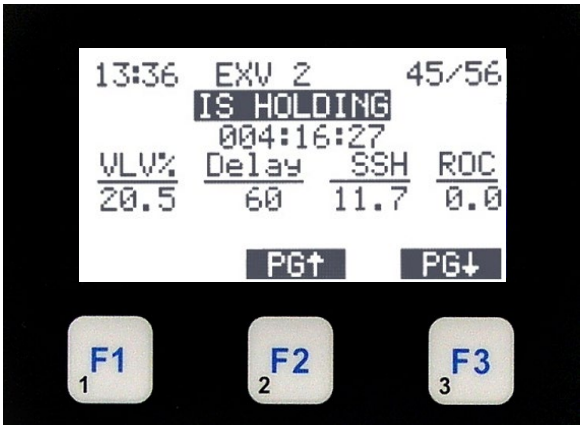
Compressor 2 Superheats

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The second line shows Circuit status.
- The third line shows time in that mode.
- The next line shows the following:

  -Sat Suct Tmp -Sat Suct Tmp
  -Sat Cond Tmp -Suct Superheat

- The function keys F1 & F2 allow paging up or down.

3.14. COMPRESSOR2 STATUS (EXV or LLS)



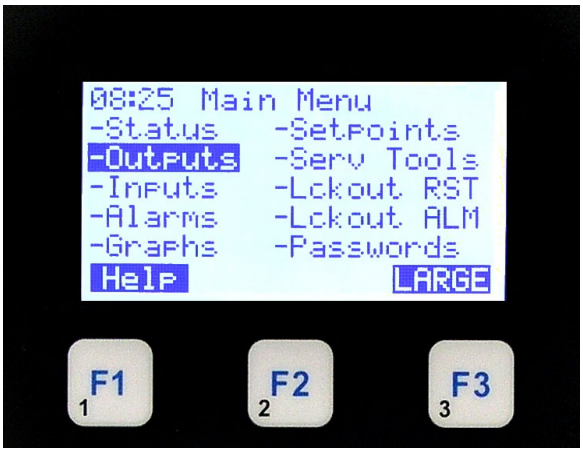
Press 'Menu'

Compressor 2 EXV or LLS

- On the top line right chiller out & chiller in is displayed rounded to a whole number.
- The line also shows EXV or LLS status.
- The third line shows time in that mode.
- The display shows information for the EXV or LLS for circuit 2. If EXV the information is as follows:

  -Valve % open -Delay till next chg
  -Curr Suct SH -Slope of SH

Chapter - 4. Relay / Analog Outputs

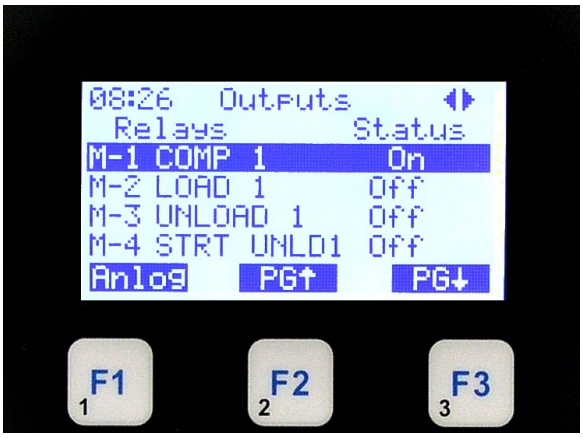


Select 'Outputs' & Press ↲

Pressing the Menu Key - Outputs

- Results in displaying the 10 available Menu items. The highlight is on the Outputs.
- To select any item use the ▲ ▼ ◄ ► arrow keys to position the highlight and press ↲.
- To understand the options select F1 for help.
- For a LARGE display of the current chillers performance press F3.

4.1. RELAY OUTPUTS (Status)

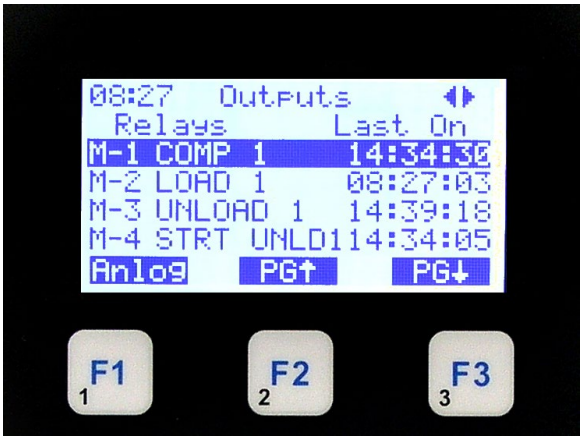


To scroll right Press ►

Relay Outputs Status

- On the top line shows Outputs & ◄► which allows you to move screen left to right.
- The second line shows column headings.
- The third through sixth line shows up to four relays and their status.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Analog outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.2. RELAY OUTPUTS (Last On)

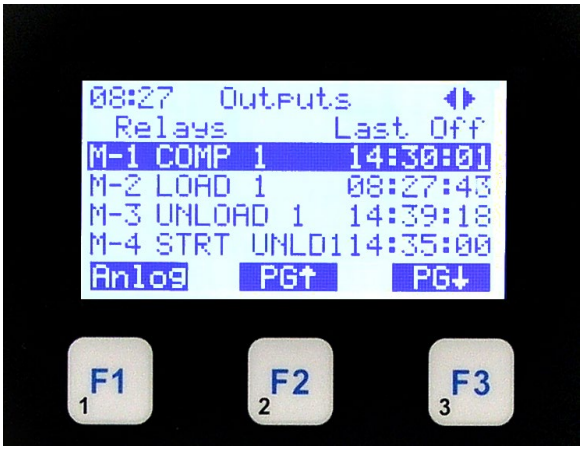


To scroll right Press ►

Relay Last On

- On the top line shows Outputs & ◄► which allows you to move screen left to right.
- The second line shows column headings.
- The third through sixth line shows up to four relays & last time turned on.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Analog outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.3. RELAY OUTPUTS (Last Off)

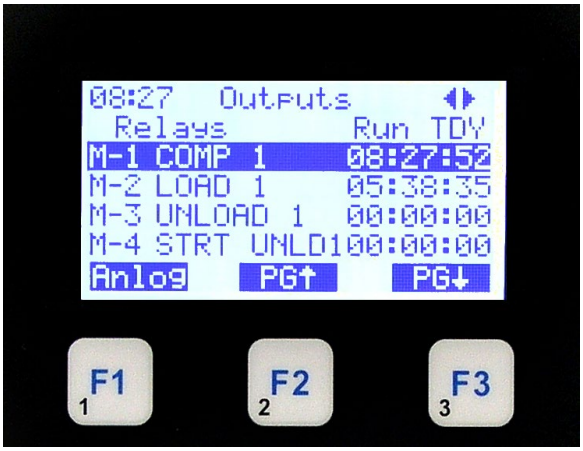


To scroll right Press ►

Relay Outputs Last Off

- On the top line shows Outputs & ◄► which allows you to move screen left to right.
- The second line shows column headings.
- The third through sixth line shows up to four relays & last time turned off.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Analog outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.4. RELAY OUTPUTS (Run TDY)

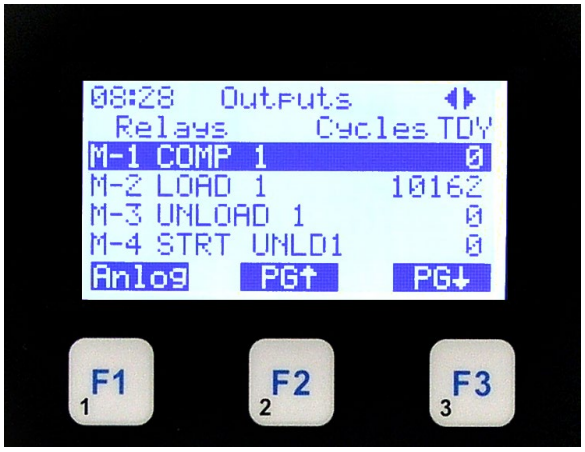


To scroll right Press ►

Relay Outputs Run TDY

- On the top line shows Outputs & ◄► which allows you to move screen left to right.
- The second line shows column headings.
- The third through sixth line shows up to four relays & run time today.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Analog outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.5. RELAY OUTPUTS (Cycles TDY)

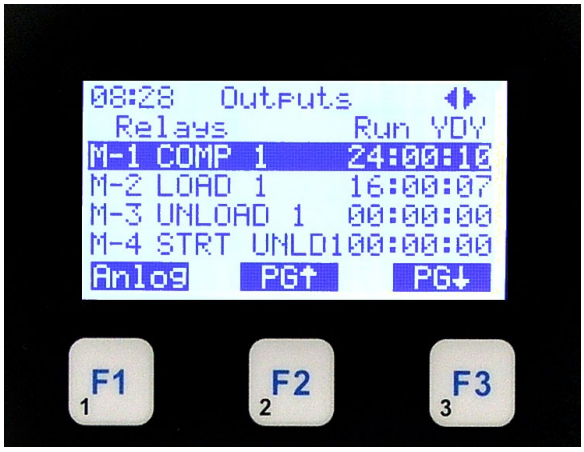


To scroll right Press ►

Relay Outputs Cycles TDY

- On the top line shows Outputs & ◄► which allows you to move screen left to right.
- The second line shows column headings.
- The third through sixth line shows up to four relays & cycles today.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Analog outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.6. RELAY OUTPUTS (Run YDY)

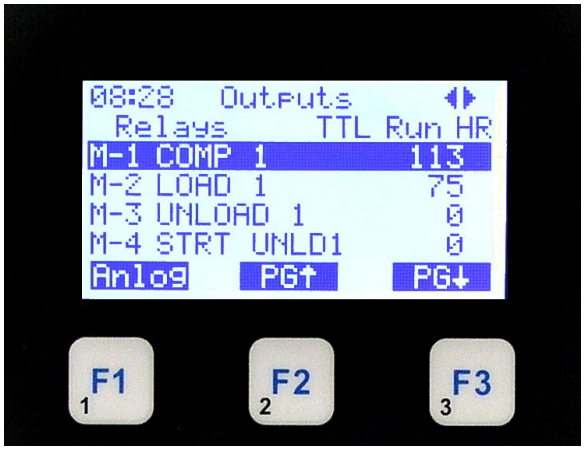


Press ↲

Relay Outputs Run YDY

- On the top line shows Outputs & ◄► which allows you to move screen left to right.
- The second line shows column headings.
- The third through sixth line shows up to four relays & run time yesterday.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Analog outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.7. RELAY OUTPUTS (Cycles YDY)

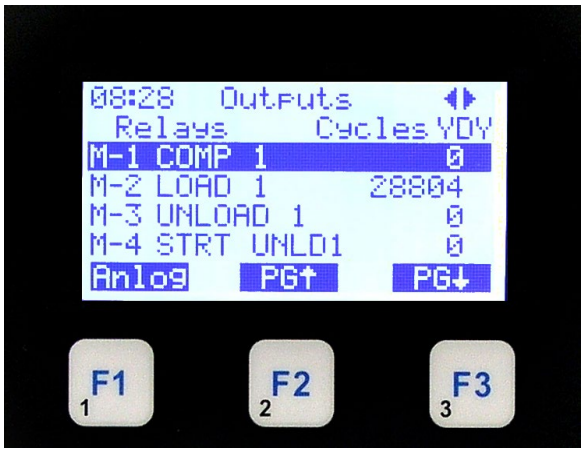


Press F3 PG↓

Relay Outputs Cycles YDY

- On the top line shows Outputs & ◄► which allows you to move screen left to right.
- The second line shows column headings.
- The third through sixth line shows up to four relays & cycles yesterday.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Analog outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.8. RELAY OUTPUTS (TTL Run HR)

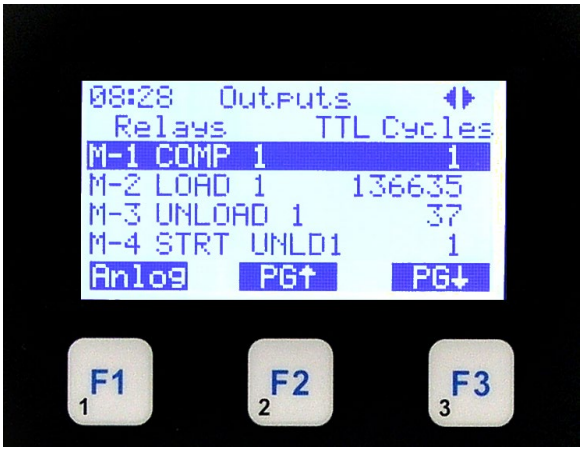


Press F3 PG↓

Relay Outputs TTL Run HR

- On the top line shows Outputs & ◄► which allows you to move screen left to right.
- The second line shows column headings.
- The third through sixth line shows up to four relays & total run hours.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Analog outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.9. RELAY OUTPUTS (TTL Cycles)

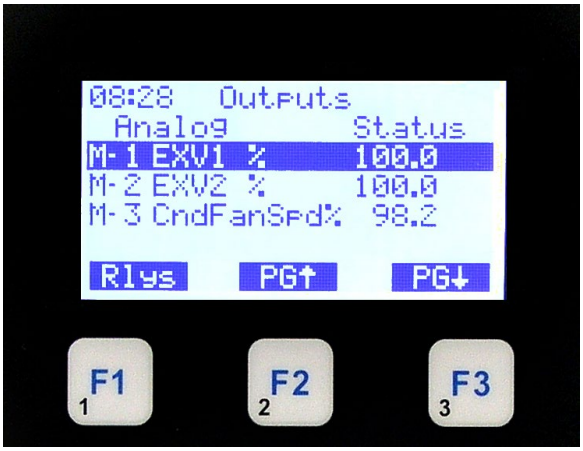


Select F1 for Anlog

Relay Outputs TTL Cycles

- On the top line shows Outputs & ◄► which allows you to move screen left to right.
- The second line shows column headings.
- The third through sixth line shows up to four relays & total cycles.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Analog outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.10. ANALOG OUTPUTS (Status)

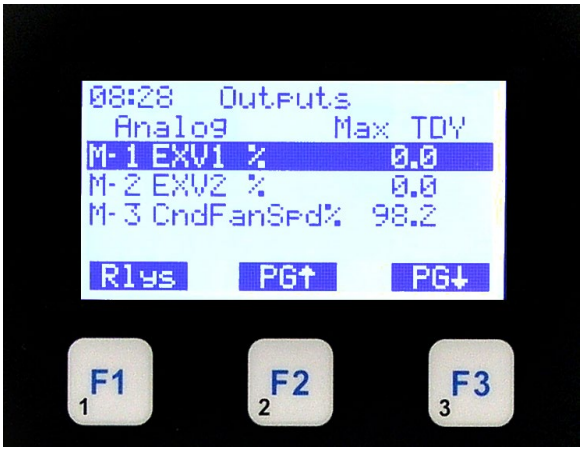


To scroll right Press ►

Analog Outputs Status

- On the top line shows Outputs.
- The second line shows column headings.
- The third through fifth line shows up to four analog outputs.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Relay Outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.11. ANALOG OUTPUTS (Max TDY)

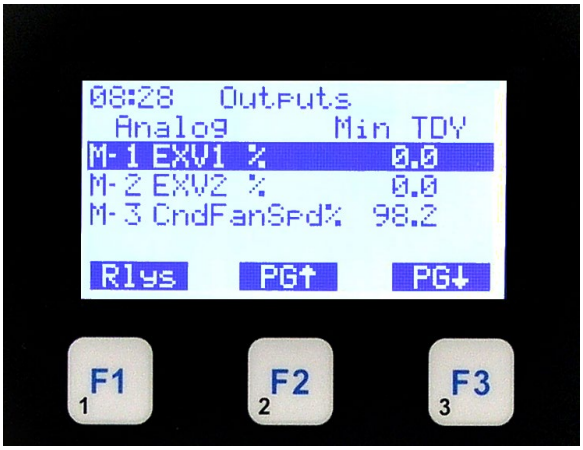


To scroll right Press ►

Analog Outputs Max TDY

- On the top line shows Outputs.
- The second line shows column headings.
- The third through sixth line shows up to four relays & max value today.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Relay Outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.12. ANALOG OUTPUTS (Min TDY)

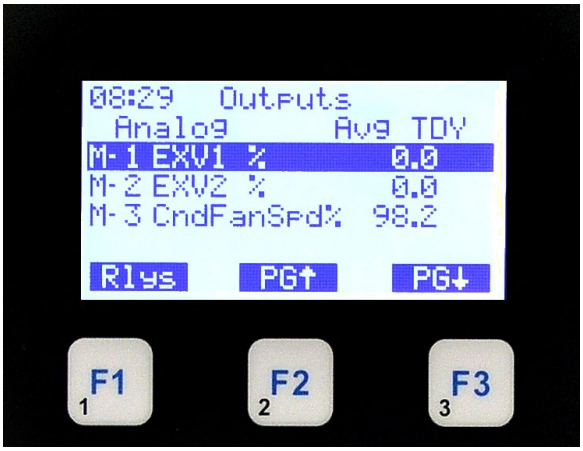


Press ↲

Analog Outputs Min TDY

- On the top line shows Outputs.
- The second line shows column headings.
- The third through sixth line shows up to four analog outputs & minimum value seen today.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Relay Outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.13. ANALOG OUTPUTS (AVG YDY)

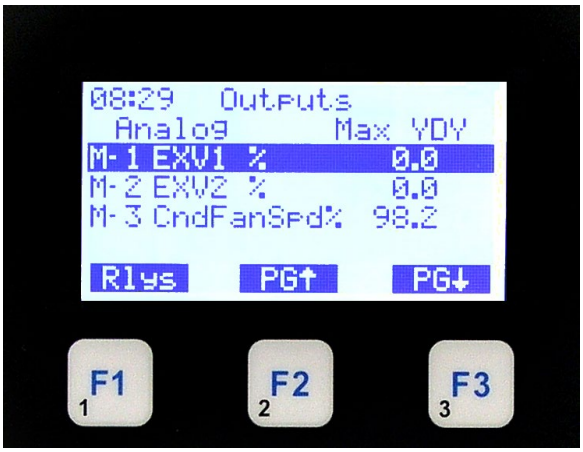


Press F3 PG↓

Analog Outputs AVG TDY

- On the top line shows Outputs.
- The second line shows column headings.
- The third through sixth line shows up to four analog outputs & average value today.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Relay Outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.14. ANALOG OUTPUTS (Max YDY)

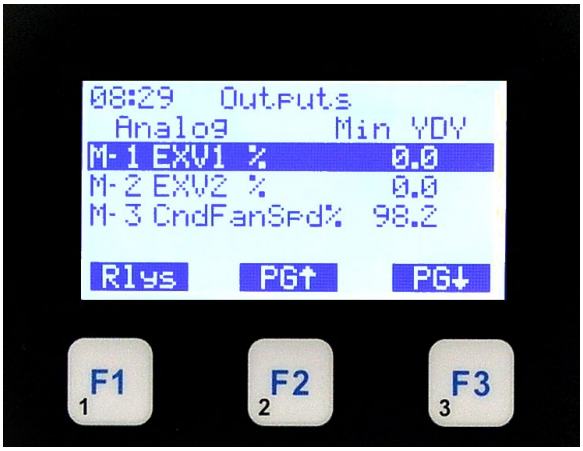


Press F3 PG↓

Analog Outputs Max YDY

- On the top line shows Outputs.
- The second line shows column headings.
- The third through sixth line shows up to four analog outputs & maximum yesterday.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Relay Outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.15. ANALOG OUTPUTS (MinYDY)

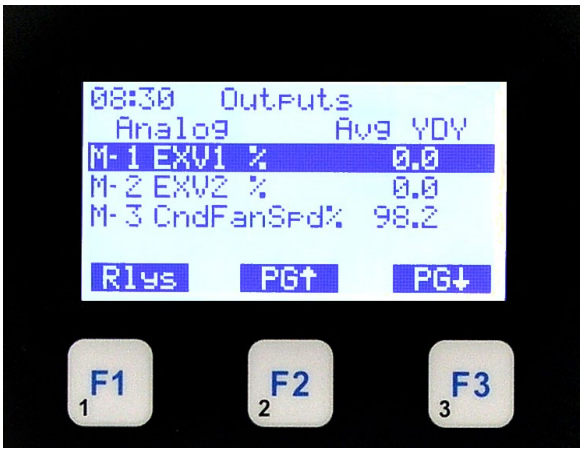


To scroll right Press ►

Analog Outputs Min YDY

- On the top line shows Outputs.
- The second line shows column headings.
- The third through sixth line shows up to four relays & minimum value yesterday.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Relay Outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

4.16. ANALOG OUTPUTS (AVG YDY)

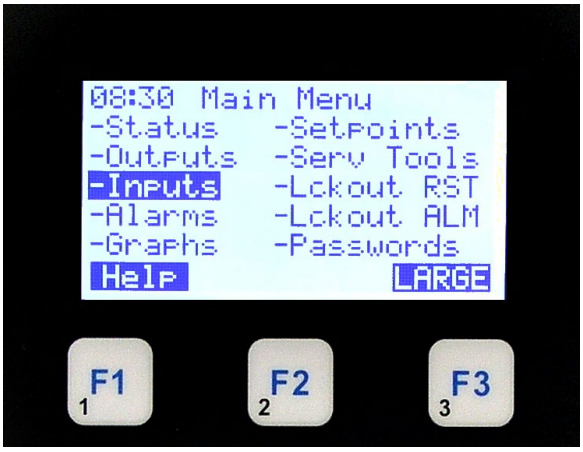


Select Menu & position to Inputs

Analog Outputs Avg YDY

- On the top line shows Outputs.
- The second line shows column headings.
- The third through sixth line shows up to four analog outputs & average yesterday.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Relay Outputs.
- Pressing F2 or F3 pages the current screen up or down for additional outputs.

Chapter - 5. Sensor Inputs



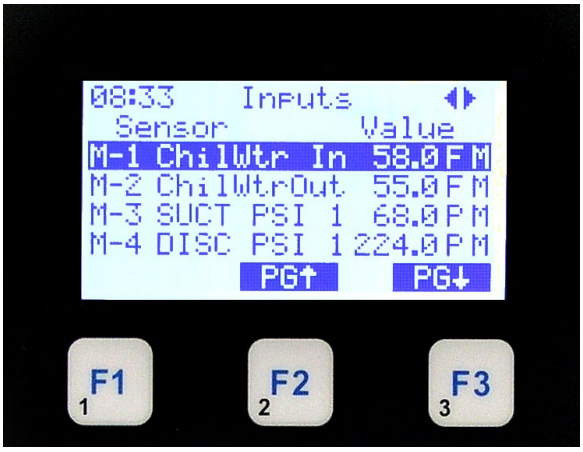
Select 'Inputs' & Press ↲

Pressing the Menu Key

- Results in displaying the 10 available Menu items. The highlight is on the Status display.
- To select any item use the ▲ ▼ ◄ ► arrow keys to position the highlight and press ↲.
- To understand the options select F1 for help.

To display the current Input Screens press the Enter Key.

5.1. SENSOR INPUTS (Value)

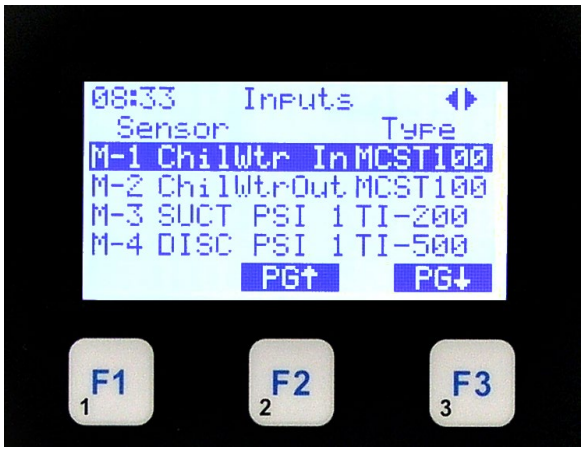


To scroll right Press ►

Sensor Inputs Value

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & their current value.
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.2. SENSOR INPUTS (Type)

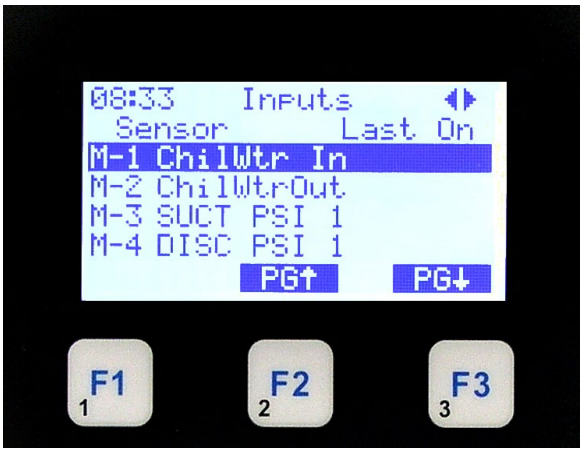


To scroll right Press ►

Sensor Inputs Type

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & the sensor type.
- The bottom line shows function keys with current values.
- Pressing F1 moves you to Relay Outputs.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.3. SENSOR INPUTS (Last On)

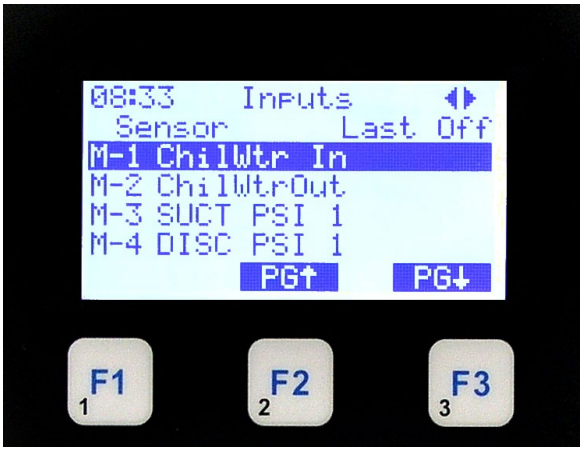


To scroll right Press ►

Sensor Inputs Last On

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & Last On. (If Digital).
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.4. SENSOR INPUTS (Last Off)

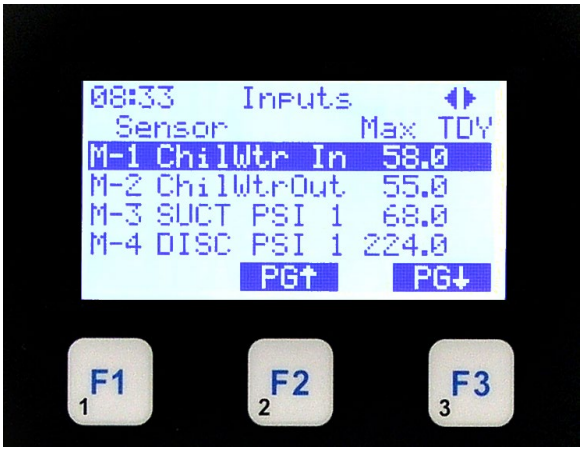


To scroll right Press ►

Sensor Inputs Last Off

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & Last Off. (If Digital).
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs

5.5. SENSOR INPUTS (Max TDY)

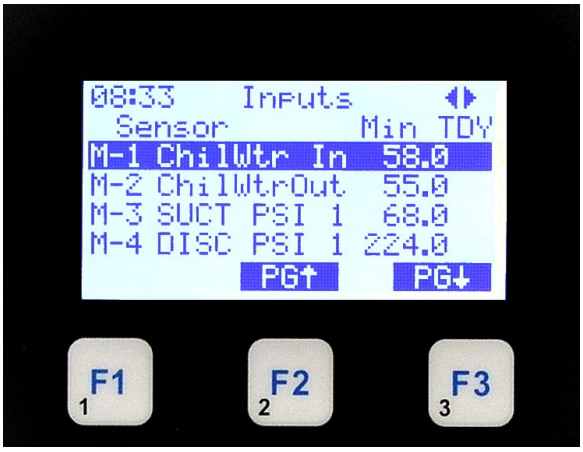


To scroll right Press ►

Sensor Inputs Max TDY

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & Maximum value today. (If analog).
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs

5.6. SENSOR INPUTS (Min TDY)

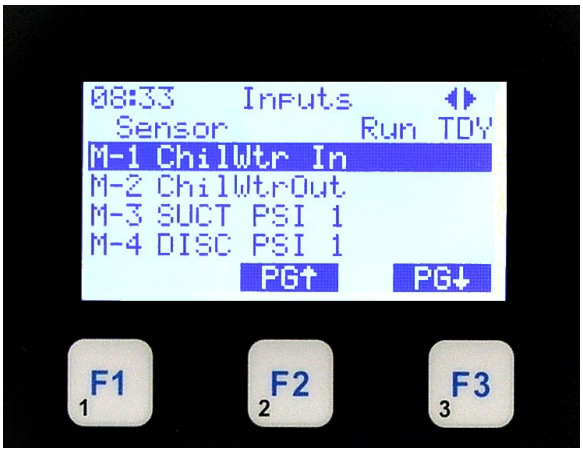


To scroll right Press ►

Sensor Inputs Min TDY

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor outputs & Minimum today. (If analog)
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.7. SENSOR INPUTS (Run TDY)

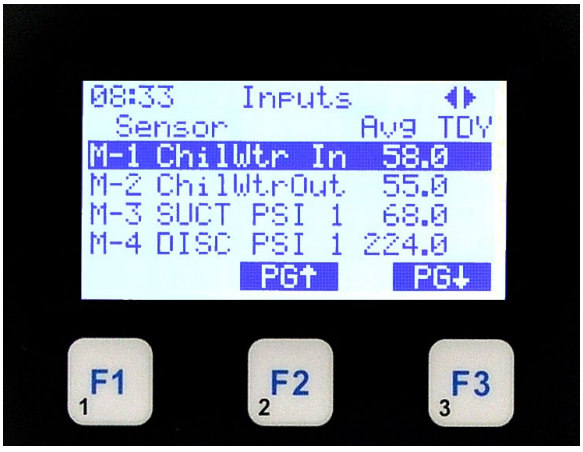


To scroll right Press ►

Sensor Inputs Run TDY

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & run hours today. (If Digital)
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.8. SENSOR INPUTS (Avg TDY)

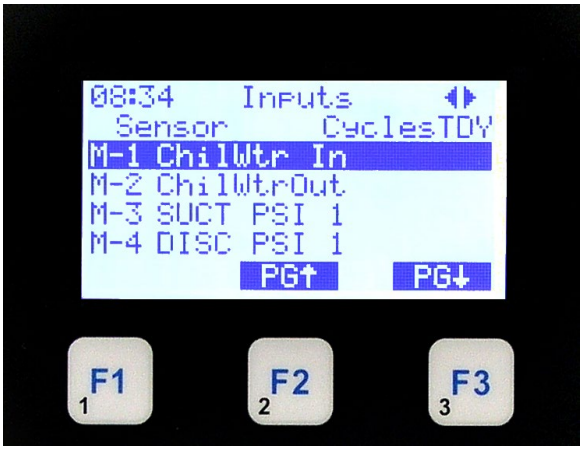


To scroll right Press ►

Sensor Inputs Avg TDY

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & average today. (If analog).
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.9. SENSOR INPUTS (Cycles TDY)

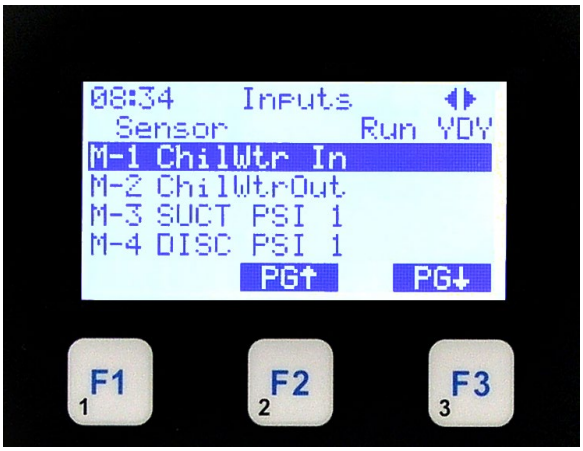


To scroll right Press ►

Sensor Inputs Cycles TDY

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & cycles today. (If digital).
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.10. SENSOR INPUTS (RUN YDY)

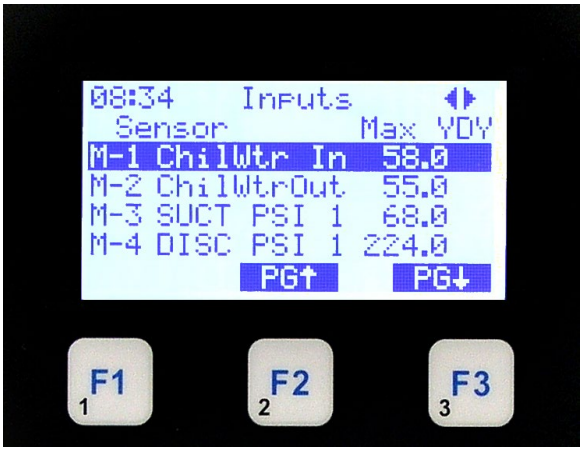


To scroll right Press ►

Sensor Inputs Run YDY

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & run yesterday. (If digital).
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.11. SENSOR INPUTS (Max YDY)

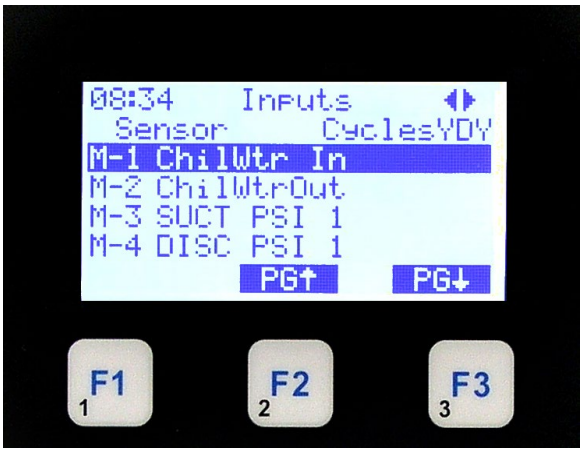


To scroll right Press ►

Sensor Inputs Max YDY

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & maximum yesterday. (If analog).
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.12. SENSOR INPUTS (Cycles YDY)

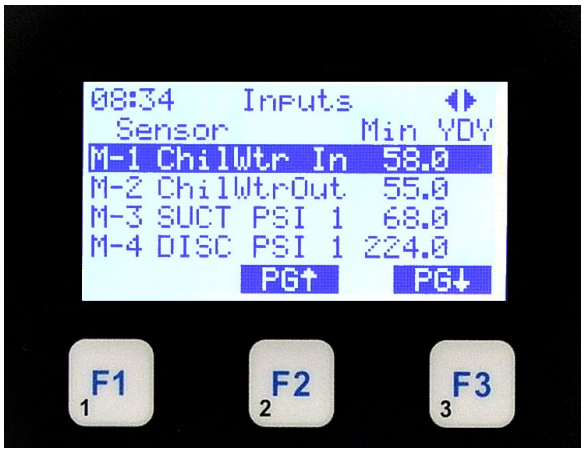


To scroll right Press ►

Sensor Inputs Cycles YDY

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & cycles yesterday. (If analog)
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.13. SENSOR INPUTS (Min YDY)

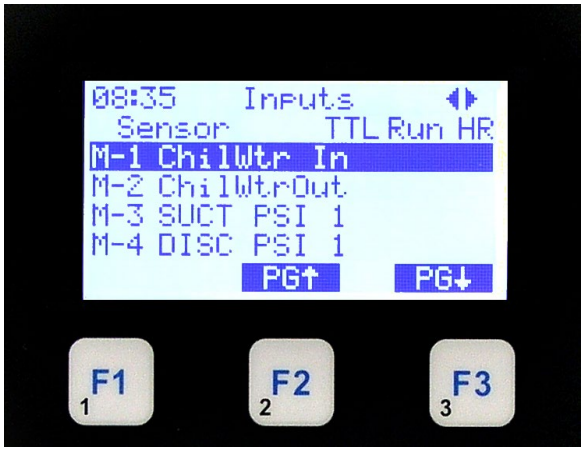


To scroll right Press ►

Sensor Inputs Min YDY

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & minimum yesterday. (If analog)
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.14. SENSOR INPUTS (TTL Run HR)

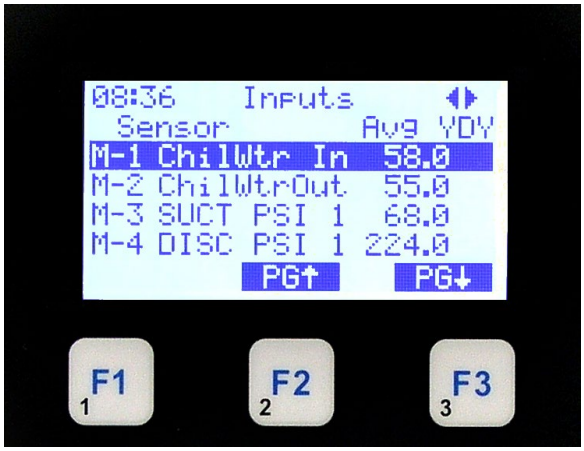


To scroll right Press ►

Sensor Inputs TTL Run HR

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & total run hours. (If digital)
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

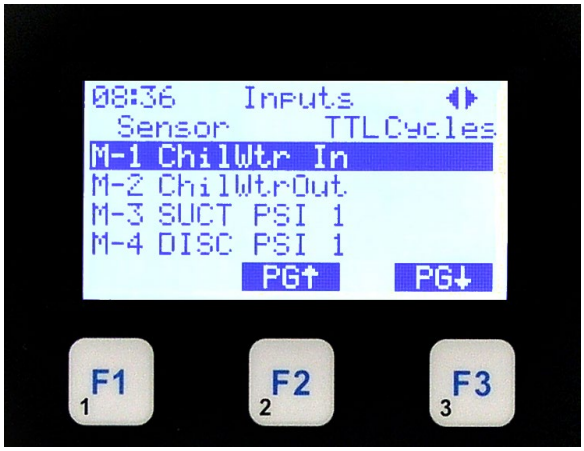
5.15. SENSOR INPUTS (Avg YDY)



Sensor Inputs Avg YDY

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & average for yesterday. (If analog)
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

5.16. SENSOR INPUTS (TTL Cycles)

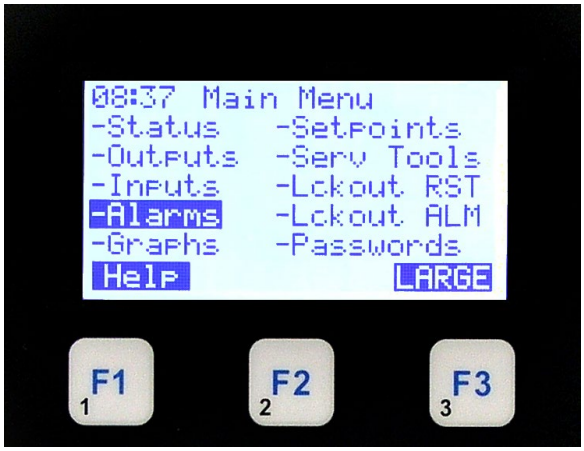


Select Menu & Press ↵

Sensor Inputs TTL Cycles

- On the top line shows Inputs.
- The second line shows column headings.
- The third through sixth line shows up to four sensor inputs & total cycles. (If digital)
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down for additional inputs.

Chapter - 6. Alarms

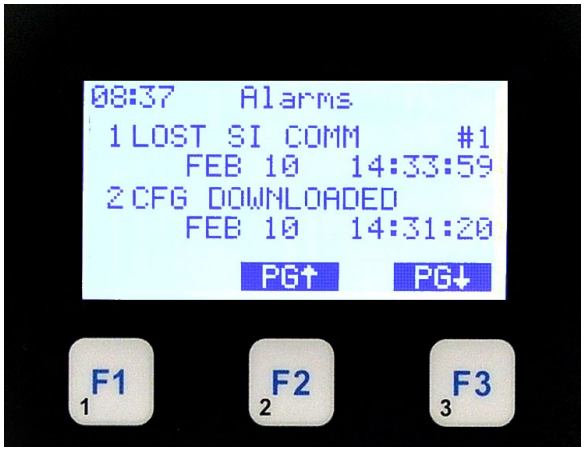


Select Alarms & Press ↲

Pressing the Menu Key - Alarms

- Results in displaying the 10 available Menu items. The highlight is on the Status display.
- To select any item use the ▲ ▼ ◄ ► arrow keys to position the highlight and press ↲.
- To understand the options select F1 for help.
- To display the current Alarm Screens press the Enter Key.

6.1. ALARMS

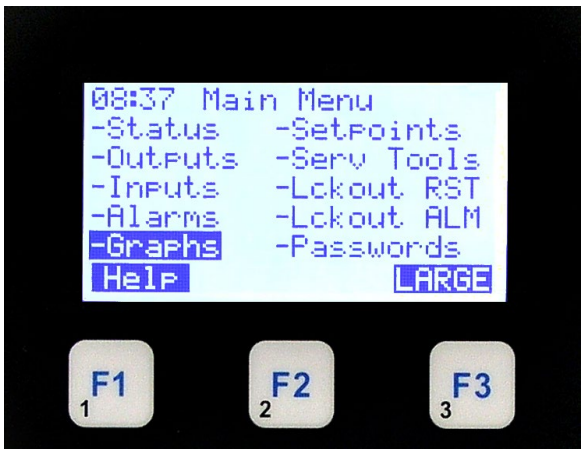


Select Menu & Press ↲

Alarms

- On the top line shows Alarms.
- The second and third line show the information for the first alarm .
- The third and fourth line show the information for the second alarm.
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down the additional alarms.

Chapter - 7. Graphs

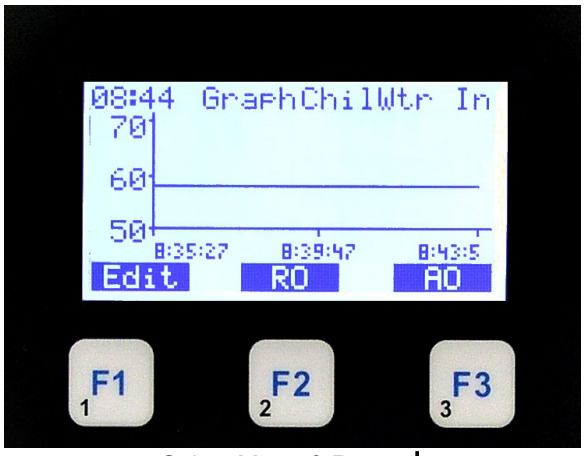


Select Function F1

Pressing the Menu Key

- Results in displaying the 10 available Menu items. The highlight is on the Status display.
- To select any item use the ▲ ▼ ◄ ► arrow keys to position the highlight and press ↲.
- To understand the options select F1 for help.
- To display the current Graphs Screens press the Enter Key.

7.1. GRAPHS (Relay or Sensor)

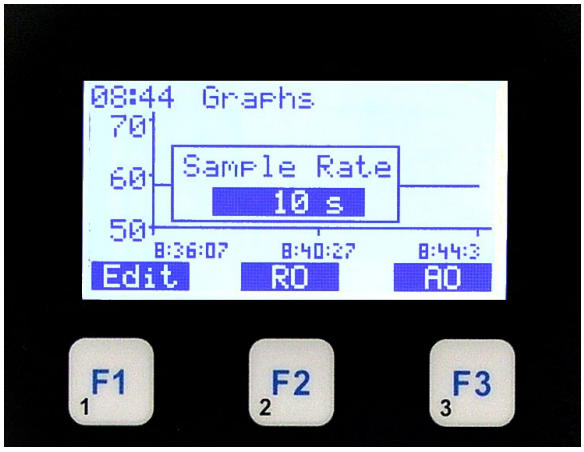


Select Menu & Press ↲

Graphs Relay or Sensor

- On the top line shows Graph and Sensor being displayed.
- The next lines layout the graph based on the scale required.
- At the bottom of the graph the graph time frame is shown.
- Pressing F1 displays sample time for editing
- Pressing F2 or F3 selects relays or analog outputs for display.

7.2. GRAPHS (Edit)

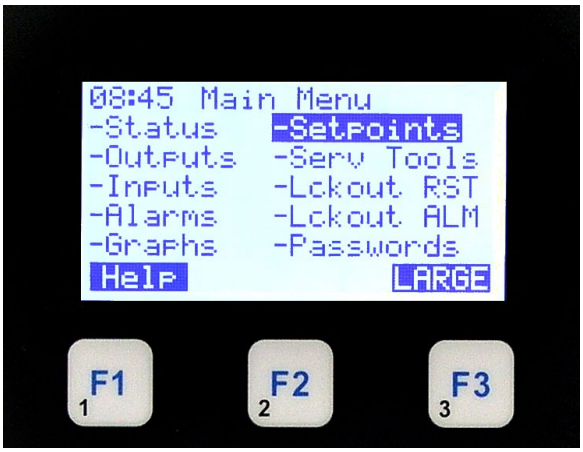


Select Menu & Press ↲

Graphs (Edit)

- The background shows the graph.
- The pop up window shows the current sample rate.
- By pressing ↲ you may change the sample time.
- Pressing F2 or F3 pages the current screen up or down the current selection.

Chapter - 8. Setpoints



Select Menu & Press ↵

Pressing the Menu Key- Setpoints

- Results in displaying the 10 available Menu items. The highlight is on the Setpoints display.
- To select any item use the ▲ ▼ ◄ ► arrow keys to position the highlight and press ↵.
- To understand the options select F1 for help.
- To display the current Setpoints Screens press the Enter Key.

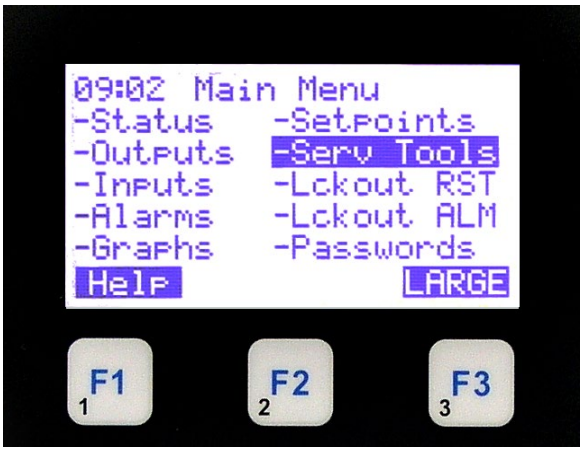
8.1. SETPOINTS (Value)

Select Menu & Press ↵

Setpoints Value

- The top line shows Setpoints & ◄► which allows you to move screen to left or right.
- The second line shows column headings.
- The third through sixth line shows up to four setpoints & their current value.
- Pressing F2 or F3 pages the current screen up or down the current selection
- Setpoints are displayed based on authorization level.

Chapter - 9. Service Tools

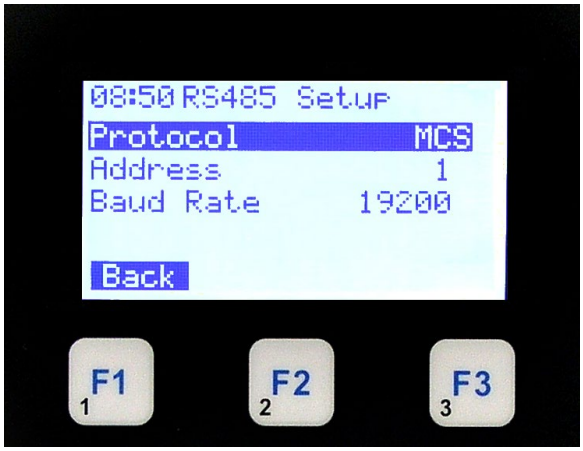


Select Serv Tools & Press ↲

Pressing the Menu Key- Serv Tools

- Results in displaying the 10 available Menu items. The highlight is on the Serv Tools display.
- To select any item use the ▲ ▼ ◄ ► arrow keys to position the highlight and press ↲.
- To understand the options select F1 for help.
- To display the current Serv Tools Screens press the Enter Key.

9.1. SERVICE TOOLS (RS485 Setup)

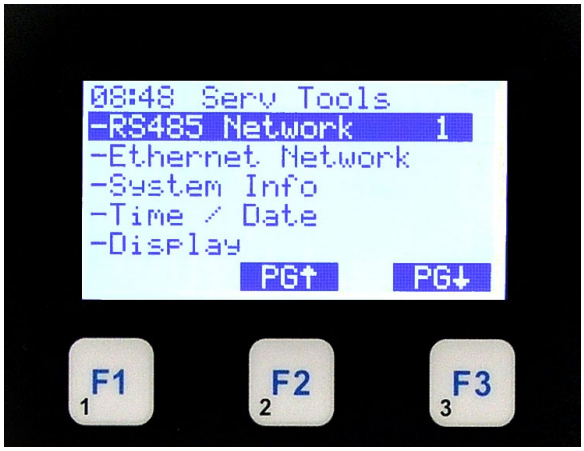


Press F1 (Back)

RS485 Setup

- The top line shows RS485 Setup
- The next 3 lines identify the current protocol, current address & the current baud rate.
- The bottom line shows function keys with current values.
- Pressing F1 takes you back to the previous screen.

9.2. SERVICE TOOLS (RS485 Setup)

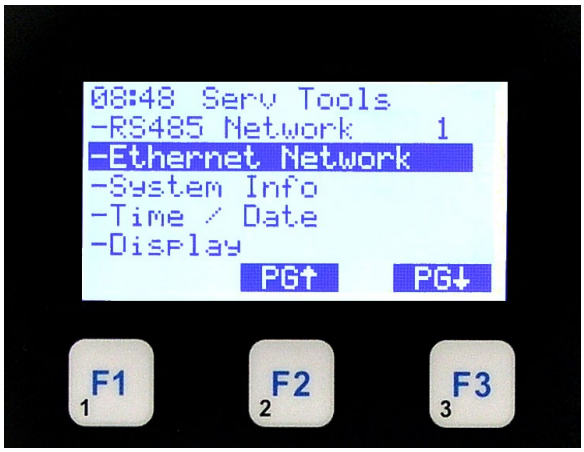


Select RS485 Network & Press ↲

RS485 Network

- The top line shows Service Tools.
- The next 5 lines identify the first five options available under Service Tools.
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down the current selection.

9.3. SERVICE TOOLS (Ethernet Network)

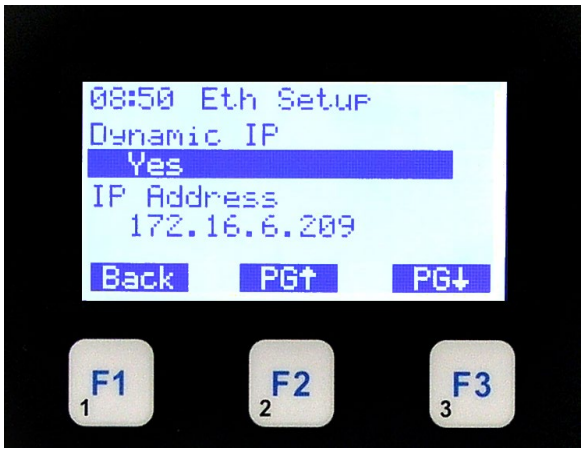


Select Ethernet Network & Press ↵

Ethernet Network

- The top line shows Service Tools.
- The next 5 lines identify the first five options available under Service Tools.
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down the current selection.

9.4. SERVICE TOOLS (Ethernet Setup)



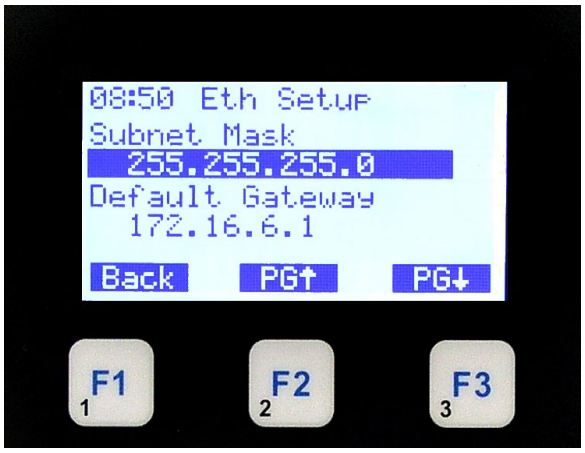
Select F3 to Page Down ↓

Ethernet Setup

- The top line shows Eth Setup.
- The next 4 lines identify the following:

  -Dynamic IP = YES or NO
  -IP Address
- The bottom line shows function keys with current values.
- Pressing F1 backs up to Serv Tools.
- Pressing F2 or F3 pages the current screen up or down.

9.5. SERVICE TOOLS (Subnet Mask)

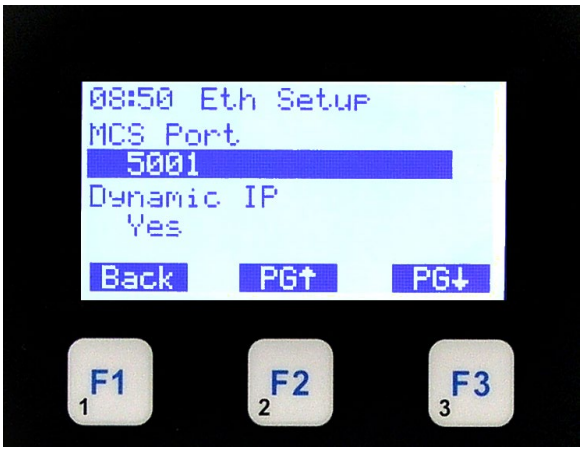


Select F3 to Page Down ↓

Ethernet Setup Subnet Mask

- The top line shows Eth Setup.
- The next 4 lines identify the Subnet Mask & the Default Gateway.
- Pressing F1 takes you back to the previous screen.
- Pressing F2 or F3 pages the current screen up or down the current selection.

9.6. SERVICE TOOLS (MCS Port)

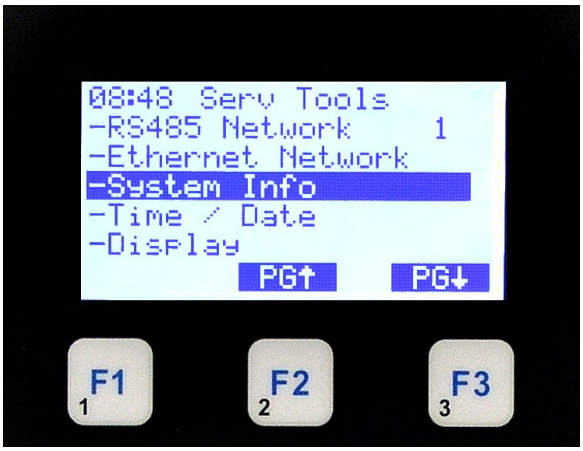


Select F1 Back

Ethernet Setup MCS Port

- The top line shows Eth Setup.
- The next 4 lines identify the first MCS Port address & then back to the beginning.
- The bottom line shows function keys with current values.
- Pressing F1 takes you back to service tools.
- Pressing F2 or F3 pages the current screen up or down the current selection.

9.7. SERVICE TOOLS (System Info)

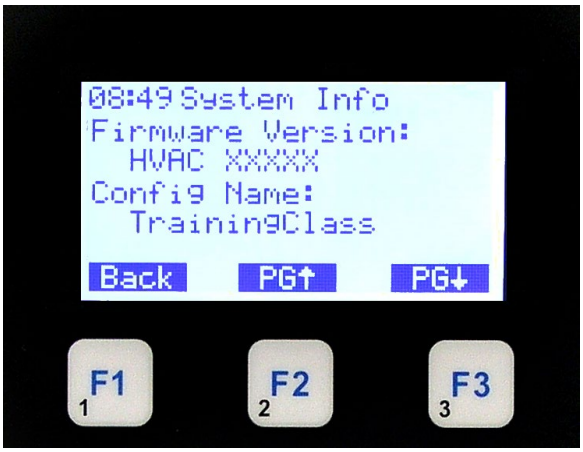


Select System & Press ↵

Service Tools System Info

- The top line shows Service Tools.
- The next 5 lines identify five options available under Service Tools.
- The bottom line shows function keys with current values.
- Pressing F2 or F3 pages the current screen up or down the current selection.

9.8. SERVICE TOOLS (Firmware & Cfg)

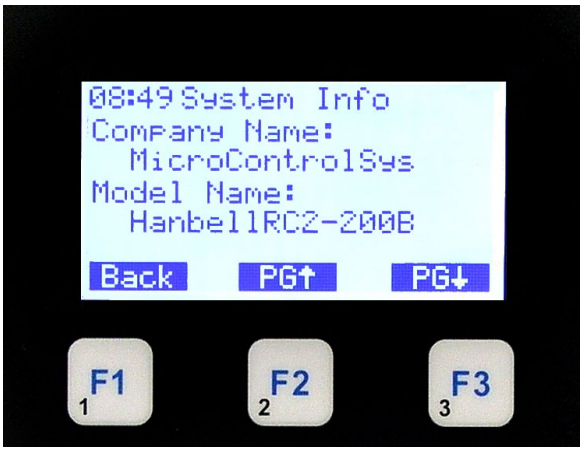


Press F3 PG ↓

System Info Firmware & Cfg

- The top line shows System Info.
- The next 4 lines identify the Firmware Version & the Config name.
- The bottom line shows function keys with current values.
- Pressing F1, Back function, moves you back to System Info.
- Pressing F2 or F3 pages the current screen up or down the current selection.

9.9. SERVICE TOOLS (Company name & Model #)

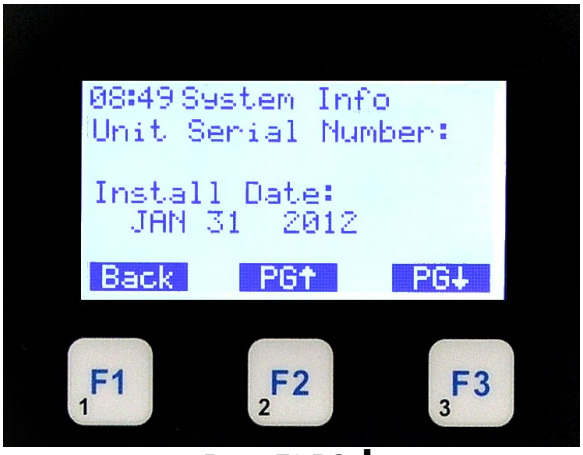


Press F3 PG ↓

System Info Company name & model #

- The top line shows System Info.
- The next 2 lines identify the Company name
- The following 2 lines identify the model number..
- The bottom line shows function keys with current values.
- Pressing F1, Back function, moves you back to System Info.
- Pressing F2 or F3 pages the current screen up or down the current selection

9.10. SYSTEN INFO (Unit Serial Number & Install Date)

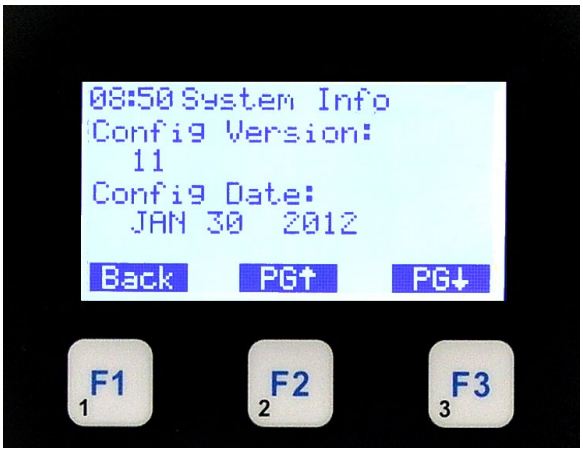


Press F3 PG ↓

System Info Unit serial number & Install Date

- The top line shows System Info.
- The next 2 lines identify the unit serial number.
- The following 2 lines identify the install date.
- The bottom line shows function keys with current values.
- Pressing F1, Back function, moves you back to System Info.
- Pressing F2 or F3 pages the current screen up or down the current selection.

9.11. SYSTEM INFO (Config Version & Date)

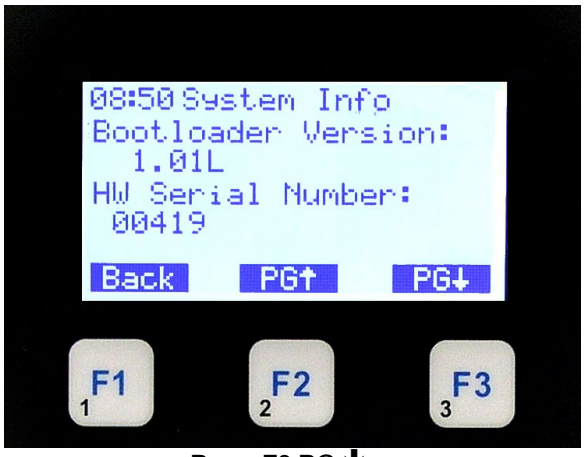


Press F3 PG ↓

System Info Config Version & Date

- The top line shows System Info.
- The next 2 lines identify the Config version
- The following 2 lines identify the Config date..
- The bottom line shows function keys with current values.
- Pressing F1, Back function, moves you back to System Info
- Pressing F2 or F3 pages the current screen up or down the current selection.

9.12. SYSTEM INFO (Bootloader & HW Serial Number)



Press F3 PG ↓

System Info Bootloader & HW Serial Number

- The top line shows System Info.
- The next 2 lines identify the Bootloader version & the following 2 lines identify the hardware serial number.
- The bottom line shows function keys with current values.
- Pressing F1, Back function, moves you back to System Info
- Pressing F2 or F3 pages the current screen up or down the current selection.

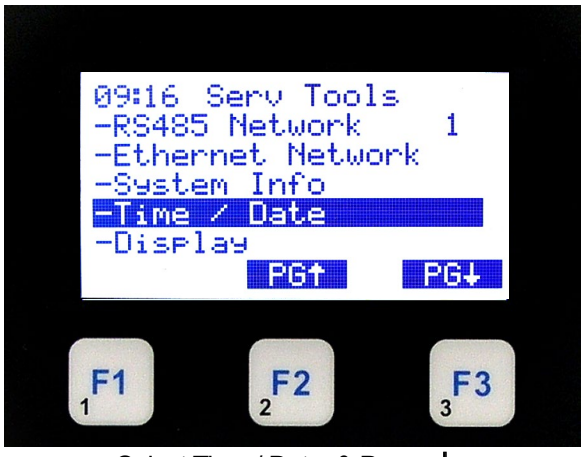
9.13. SYSTEM INFO (Phy Mac Addr & I/O Types)

Select F1 Back

System Info Physical Mac Address & Type I/O

- The top line shows System Info.
- The next 2 lines identify the Physical MAC address & the following 2 lines identify the type of I/O boards used.
- The bottom line shows function keys with current values.
- Pressing F1, Back function, moves you back to System Info
- Pressing F2 or F3 pages the current screen up or down the current selection.

9.14. SYSTEM INFO (Time / Date)

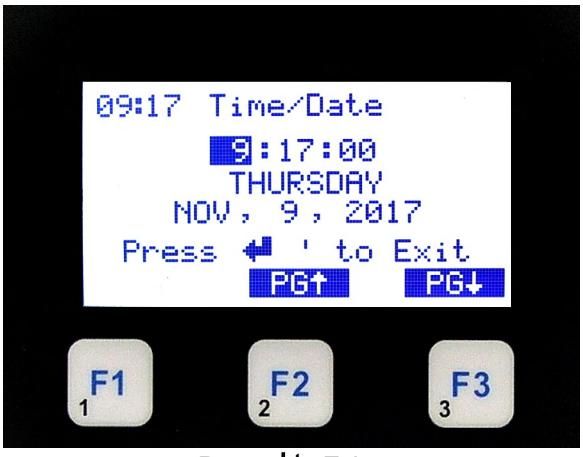


Select Time / Date & Press ↵

Service Tools Time / Date

- The top line shows Service Tools.
- The next 5 lines identify five options available under Service Tools.
- Pressing ↓ or ↑ moves the cursor up or down
- Pressing ↵ will choose the highlighted line Time / Date

9.15. SYSTEM INFO (Setting Time / Date)



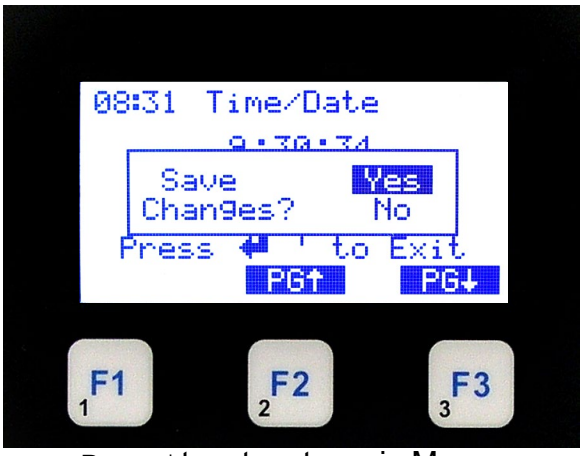
Press ↵ to Exit

Service Tools Time / Date

- The top line shows Time / Date
- Hour is highlighted, ↓ or ↑ changes the hour
- Press → moves to minutes & than seconds, ↓ or ↑ to change
- Press → moves to the Day, ↓ or ↑ change
- Pressing → moves to month, ↓ or ↑ to change
- Pressing → moves to date, ↓ or ↑ to change
- Pressing → moves to Year, ↓ or ↑ to change

Press the ↵ to Exit this screen once you have made the changes needed

9.16. SYSTEM INFO (Saving Time / Date)



Press ↵ to return to main Menu

Service Tools Time / Date

- The top line shows Time / Date
- The next section shows 'Save Changes?'
- Pressing the ↓ or ↑ moves between 'Yes or No'
- Press function ↵ to save your changes, moves back to the Service Tools Menu

9.17. SYSTEM INFO (Display)

Select Display & Press ↵

Service Tools Display

- The top line shows Service Tools.
- The next 5 lines identify five options available under Service Tools.
- The bottom line shows what function keys to use to move between lines
- Pressing ↓ or ↑ moves the cursor to the next position

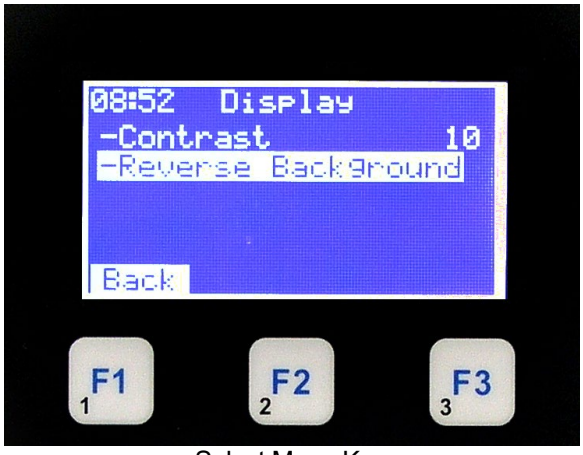
9.18. DISPLAY (Contrast & Reverse Background)

Press ↵ to change contrast

Display Contrast & Reverse Background

- The top line shows Display.
- The next line allows changing the contrast.
- The following line allows reversing the background from light to dark or dark to light.
- Pressing F1 allows you to go back to the Serv Tools menu.

9.19. DISPLAY (Background Reversed)

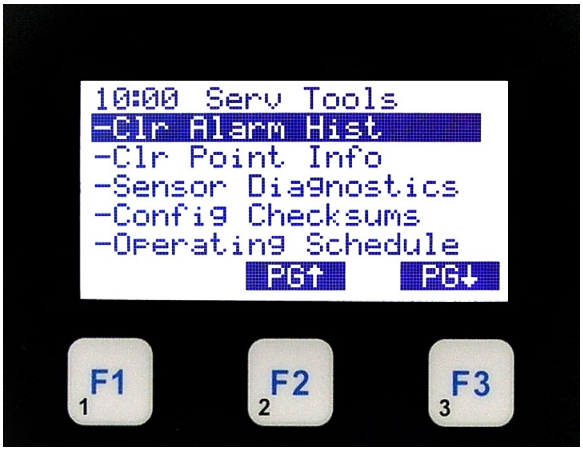


Select Menu Key

Display Background Reversed

- The top line shows Display.
- The background is now reversed from light to dark.
- Use F1 (Back) to return to Service Tools sub menu.

9.20. SERVICE TOOLS (Clear Alarm History)

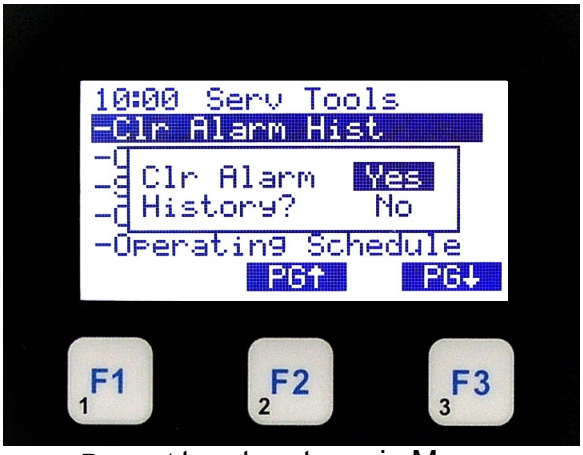


Press ↵

Service Tools - Clear Alarm History

- The top line shows Serv Tools
- Press ↓ to move to 'CL Alarm History'
- Press function ↵

9.21. CLEAR ALARM HISTORY (Yes / No)



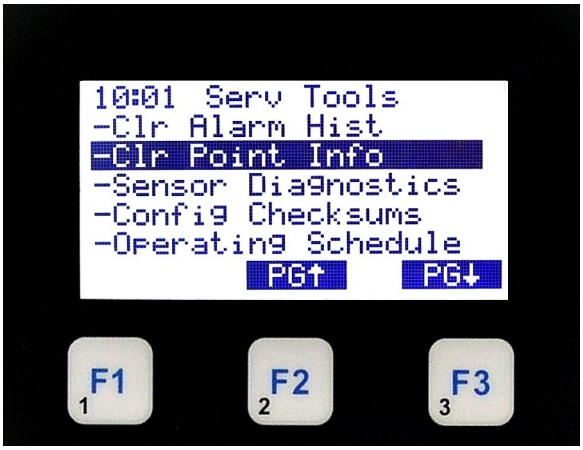
Press ↵ to return to main Menu

Service Tools - Clear Alarm History Yes / No

- The top line shows Serv Tools
- Next Line shows Yes / No

  ↓ or ↑ moves between 'Yes or No'
- Press function ↵ to save changes

9.22. SERVICE TOOLS (Clear Point Info)

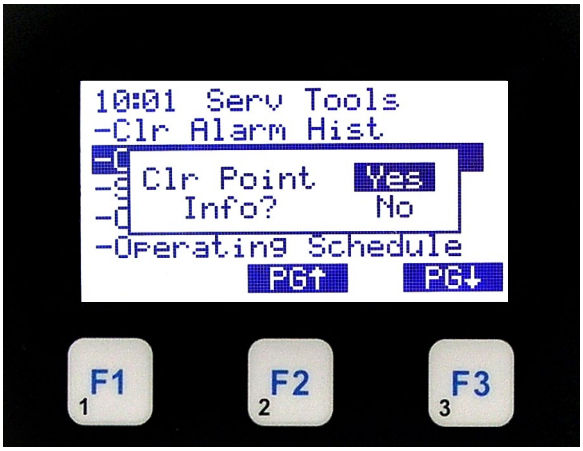


Press ↵

Service Tools - Clear Point Info

- The top line shows Serv Tools
- Press ↓ to move to 'CL Point Info'
- Press function ↵

9.23. CLEAR POINT INFO (Yes / No)



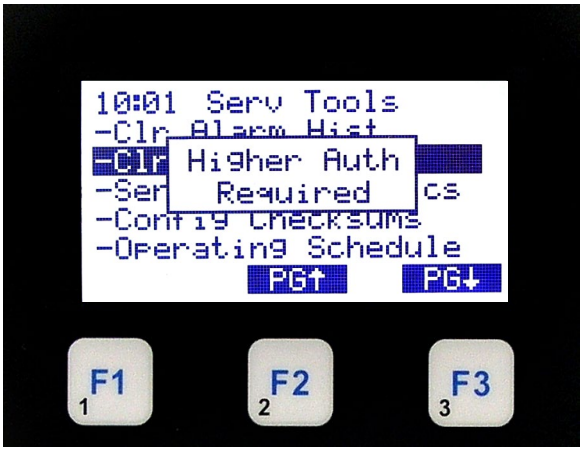
Press ↵

Service Tools - Clear Point Info

- The top line shows Serv Tools
- The next section shows 'Yes / No,

  ↓ or ↑ moves between 'Yes or No'
- Press function ↵

9.24. CHANGES MADE / HIGHER AUTH REQUIRED

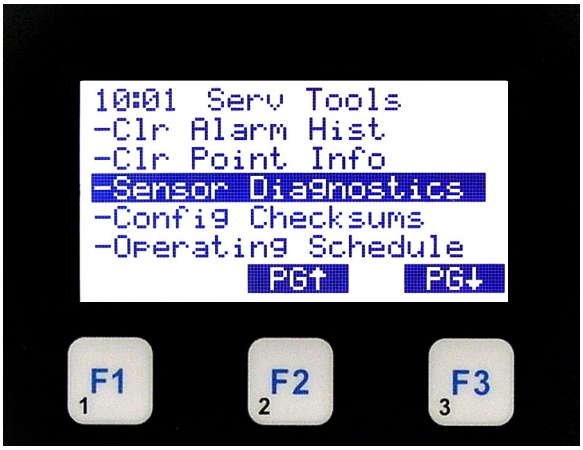


Press ↵ to return to main Menu

Service Tools - Clear Point Info

- The top line shows Serv Tools
- The next section shows 'Higher Auth Required
- Press function ↵

9.25. SERVICE TOOLS (Sensor Diagnostics)

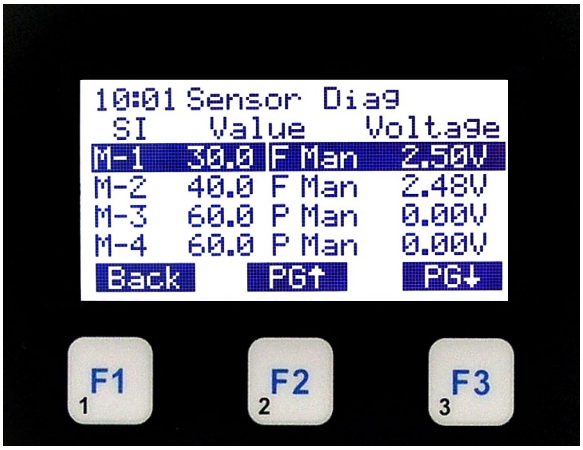


Press ↵

Service Tools - Sensor Diagnostics

- The top line shows Serv Tools
- Press ↓ to move to 'Sensor Diagnostics'
- Press function ↵

9.26. SENSOR DIAGNOSTICS (M-1)

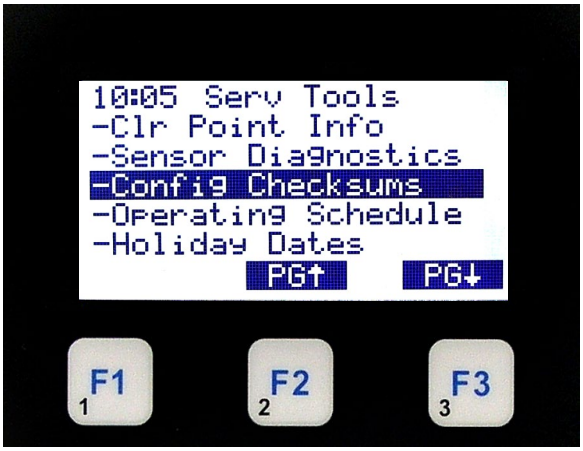


Press ↵ to return to main Menu

Service Tools - Sensor Diagnostics

- The top line shows Serv Tools
- Pressing F3 shows next 5 sensors
- Press function F1 to return to sub menu

9.27. CONFIG CHECKSUMS

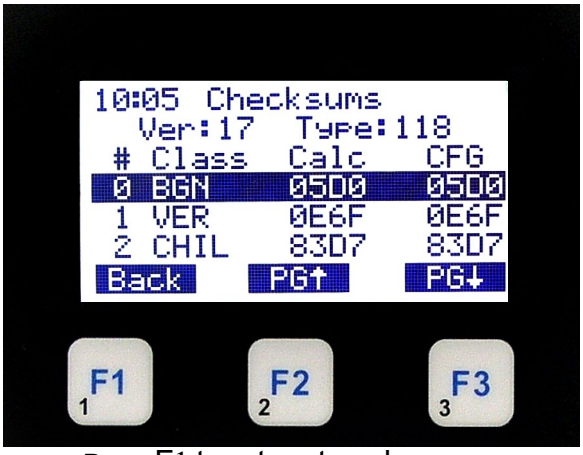


Press ↵

Service Tools - Config Checksum

- The top line shows Serv Tools
- Press ↓ to move to 'Config Checksum'
- Press function ↵

9.28. CONFIG CHECKSUMS (#0)

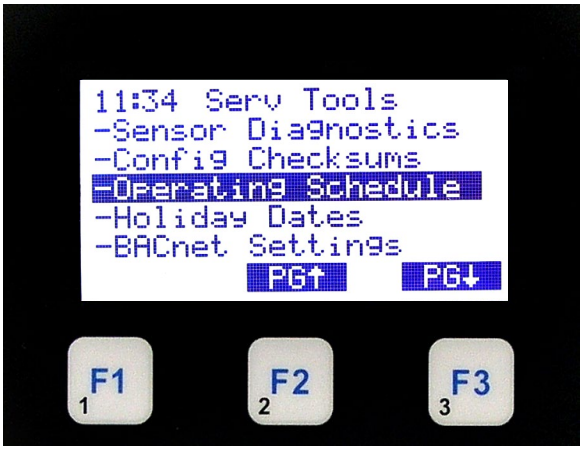


Press F1 to return to sub menu

Service Tools - Sensor Diagnostics

- The top line shows Serv Tools
- Pressing F3 shows next 5 sensors
- Press function F1 to return to sub menu

9.29. SERVICE TOOLS (Operating Schedule)

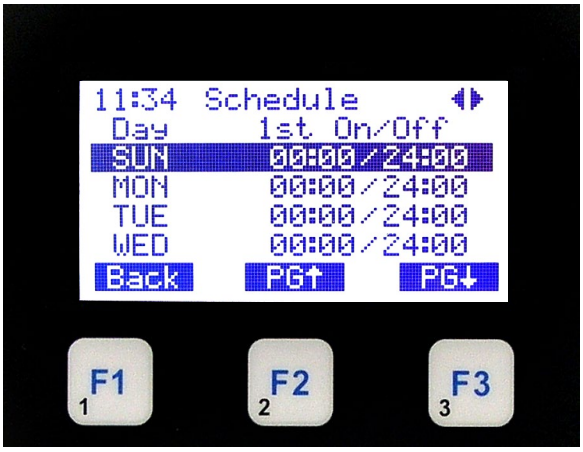


Press ↵

Service Tools - Operating Schedule

- The top line shows Serv Tools
- Press ↓ to move to 'Operating Schedule'
- Press function ↵

9.30. OPERATING SCHEDULE (Sunday)

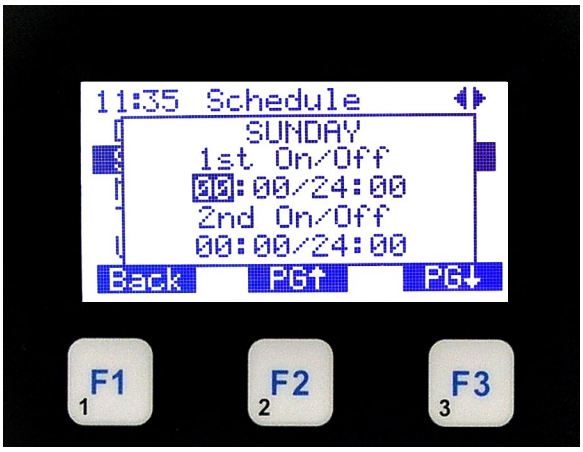


Press ↵

Service Tools - Operating Schedule Sunday

- Press ↓ to move to First Day
- Press function ↵

9.31. OPERATING SCHEDULE -SETUP

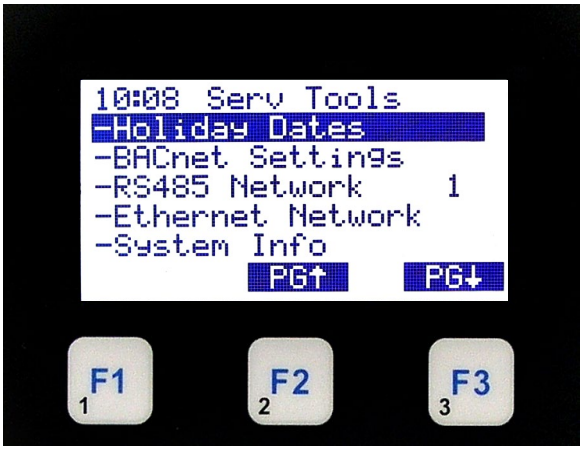


Press ↵

Service Tools - Operating Schedule Setup

- Use the ↓ or ↑ to set the starting time
- Press the → to move to the next settings
- Press function ↵ when finished

9.32. SERVICE TOOLS (Holiday Dates)

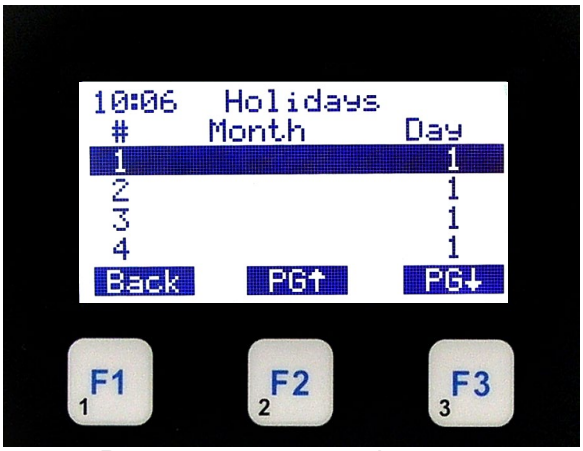


Press ↵

Service Tools - Holiday Dates

- Use the ↓ or ↑ to move to Holiday Dates
- Press function ↵

9.33. Holiday Dates setup

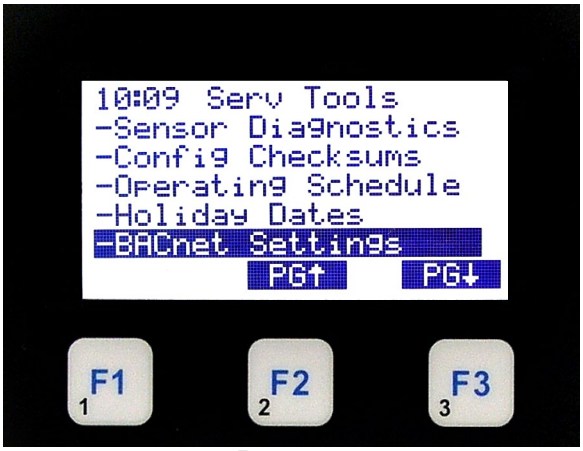


Press ↵ to return to sub menu

Holiday Dates Setup

- You can setup Holiday dates in this menu
- Press function ↵ to choose first date
- Use the ↓ to select the first date(month & day)
- Press function ↵ when finished

9.34. SERVICE TOOLS (BACnet Settings)

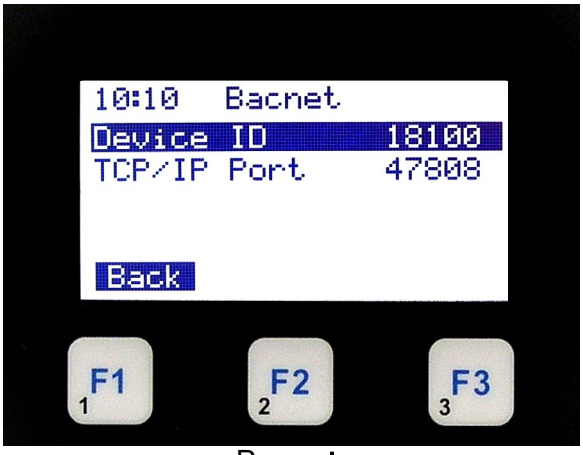


Press ↵

Service Tools - BACnet Settings

- Use the ↓ or ↑ to move to BACnet Setting
- Press function ↵ to accept
-

9.35. BACnet Settings (Device ID - TCP/IP Port)

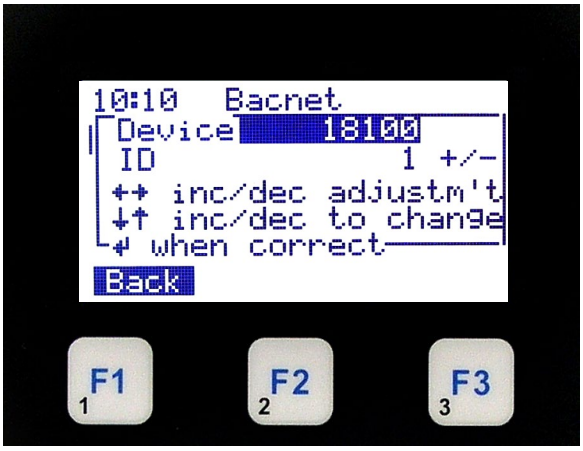


Press ↵

Service Tools - BACnet Settings

- Use the ↓ or ↑ to move to BACnet between lines
- Press function ↵ to accept

9.36. BACnet Settings (Setting the Device ID #)

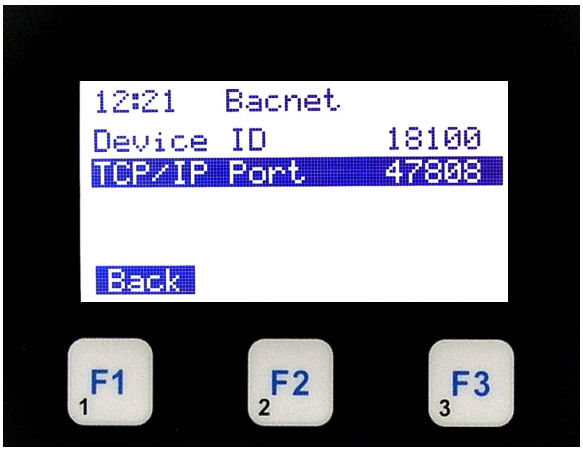


BACnet Settings - Device ID

- Press function ↵ to accept
- Use the keypad to change the Device ID number

  Higher auth is needed to make these changes
- Press F1 to return to sub menu

9.37. BACnet Setting (TCP / IP Port)

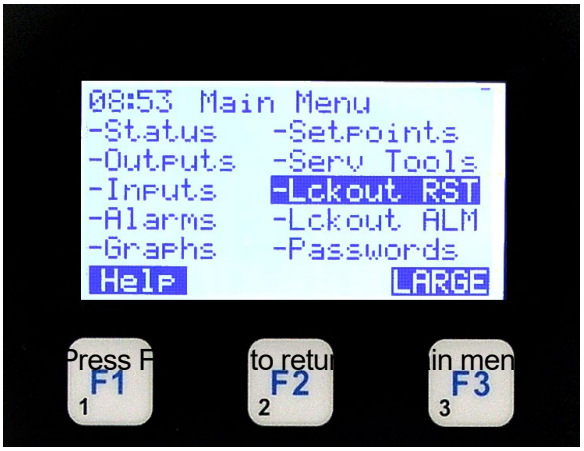


BACnet Settings - TCP/IP Setting

- Press function ↵ to accept
- Use the keypad to change the TCP/IP number

  Higher auth is needed to make these changes
- Press F1 to return to sub menu

Chapter - 10. Lockout Reset

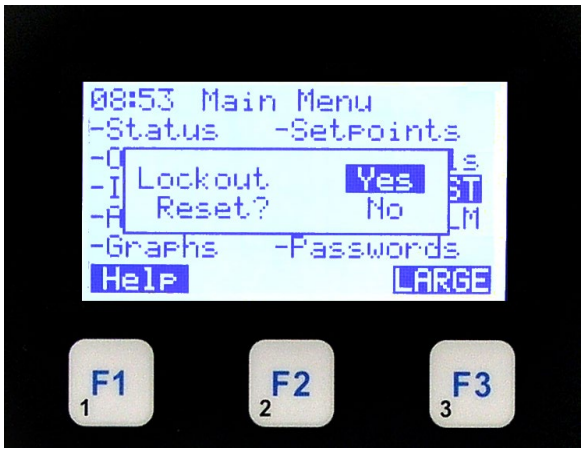


Press ↲

Pressing the Menu Key - Lockout

- Results in displaying the 10 available Menu items. The highlight is on the Lckout RST display.
- To select any item use the ▲ ▼ ◄ ► arrow keys to position the highlight and press ↲.
- To understand the options select F1 for help.
- To display the current Lckout RST press the Enter Key.

10.1. LOCKOUT RESET (Reset)



Select Menu Key

Lockout Reset

- The top line shows Main Menu.
- The pop up window displays Lockout Reset Yes or NO..
- If there are no current lockouts the response will be No Current Lockouts.
- Using the ▼ or ▲ arrows select your response then press ↲.
- The system is set for a limited number of resets per day to avoid damage.

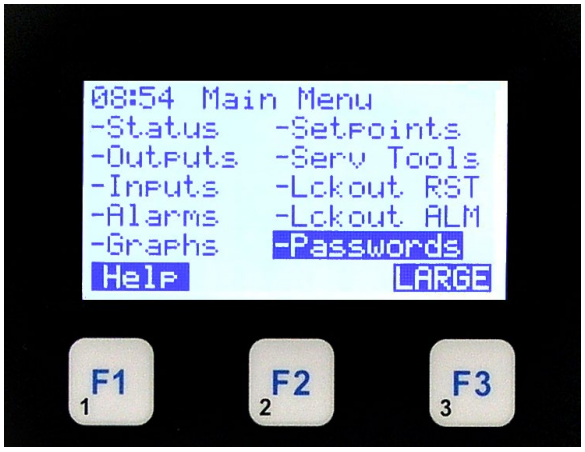
Chapter - 11. Lockout Alarms

Press Menu Key

Lockout Alarm

- The top line shows Lckout ALM.
- The next display will show the 1st alarm which caused a lockout. If there are no lockout alarms this message will be displayed.
- Select next potion

Chapter - 12. Password

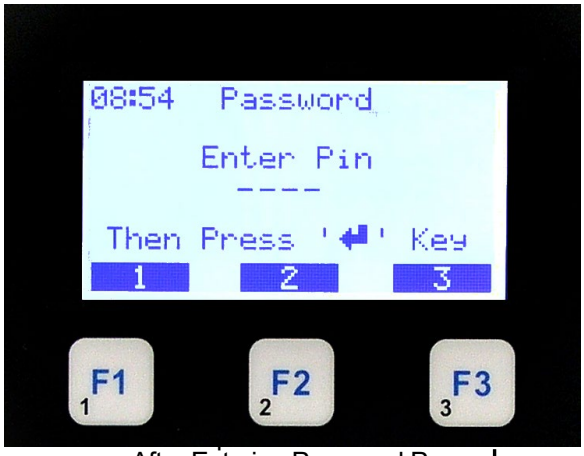


Select Passwords & Press ↲

Pressing the Menu Key- Password

- Results in displaying the 10 available Menu items. The highlight is on the Lckout RST display.
- To select any item use the ▲ ▼ ◄ ► arrow keys to position the highlight and press ↲.
- To understand the options select F1 for help.
- To display the current Lckout ALM press the Enter Key.

12.1. PASSWORDS (Enter Format)



After Entering Password Press ↲

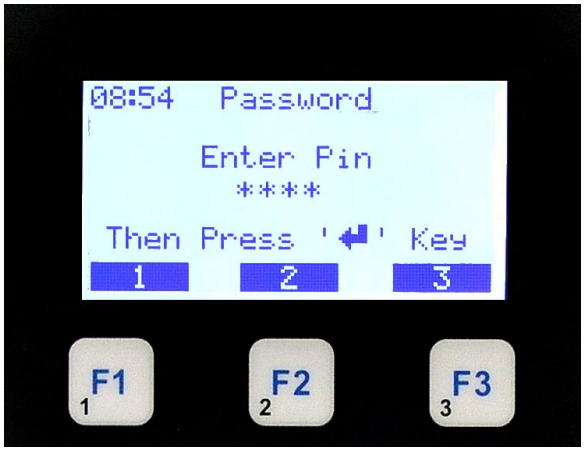
Passwords Enter Format

- The top line shows Password.
- The bottom functions show the value of the function keys..
- There are 4 levels of passwords as follows:

  -View -Service

  -Supervisor -Factory
- Enter a 4 character password and press ↲.

12.2. After Entering Password



After Entering Password

- The top line shows Password.
- The *'s show characters entered.
- Only 1 through 8 numbers are available from the keypad..

12.3. PASSWORDS (Results)

Press Menu Key

Password Results

- The top line shows Password.
- The next line displays the authorization level.
- Press the Menu key to continue..

Providing HVAC/R Control Solutions Worldwide

5580 Enterprise Pkwy. Fort Myers, FL 33905
Office: (239) 694-0089
Fax: (239) 694-0031
www.mcscontrols.com