

Installation & Operating Manual ProMinent® ProMtrac Cooling Tower Water Treatment Controller

ProMtrac_OM.docx (5/23/13): – pn.



Please completely read through these operating instructions first! Do not discard! The warranty shall be invalidated by damage caused by operating errors!

ProMinent Fluid Controls, Inc. (USA) 136 Industry Drive, Pittsburgh, PA 15275

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Safety Electrical Shock Hazard

Removing the lower faceplate panel with the controller plugged in, exposes the user to AC power line voltages.



USER WARNING : CAUTION

Water Treatment Controllers operate water valves and may pump hazardous, corrosive and toxic chemicals.

Removing the internal faceplates exposes the user to the risk of electrical shock at power line voltages.

Understand fully the implications of the control methods, setpoints and alarms that you select. Harm to personnel and damage to equipment may result from mis-application.

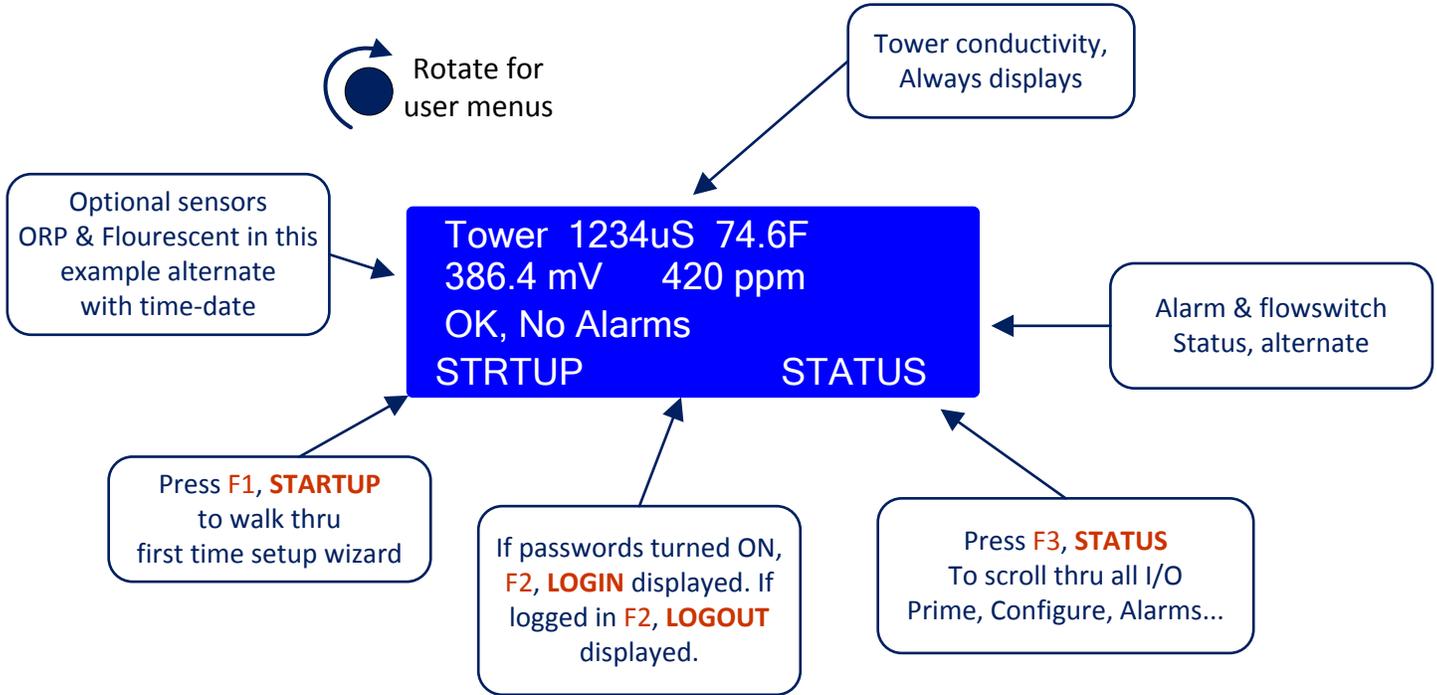
Unplug or turn OFF the AC power to the controller if you have any concerns regarding safety or incorrect controller operation and notify supervisory staff.

YOUR CONTROLLER

ProMtrac controllers are supplied in different configurations, part numbers and sensor sets. This manual includes information on optional components that may not be included with your controller

The **WIRING** section includes the information for terminating the sensor, water meters, AC power, pumps & solenoids

1.1 Power Up Display



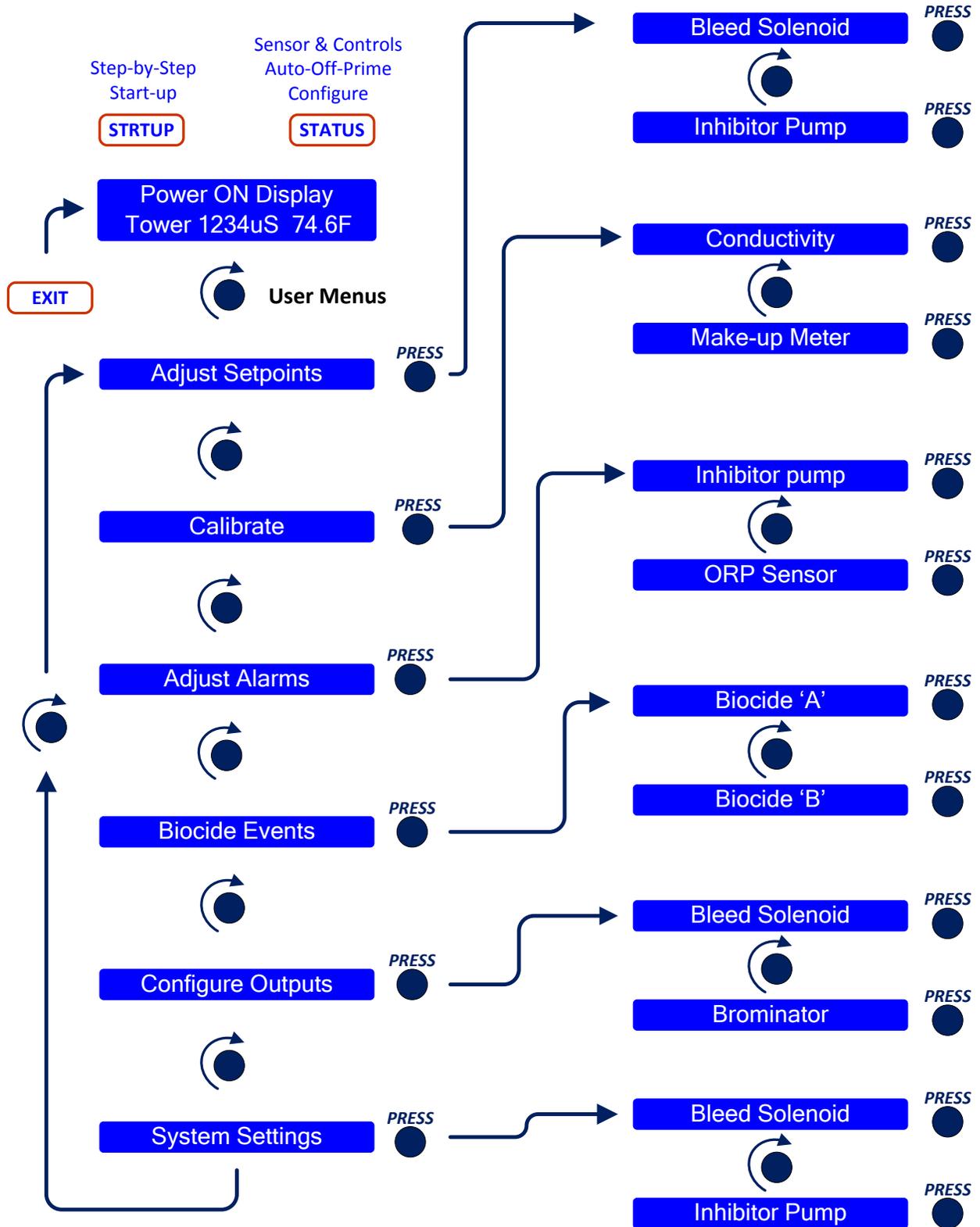
The sensors on the 2nd line of the power up display vary with the installed sensor set. pH or ORP have precedence followed by inhibitor ppm sensors and then make-up conductivity.

The value of each sensor, water meter, solenoid and pump can be viewed by pressing **STATUS** or by using the menu which displays on rotation.

OK, No Alarms alternates with the flow switch ON time.

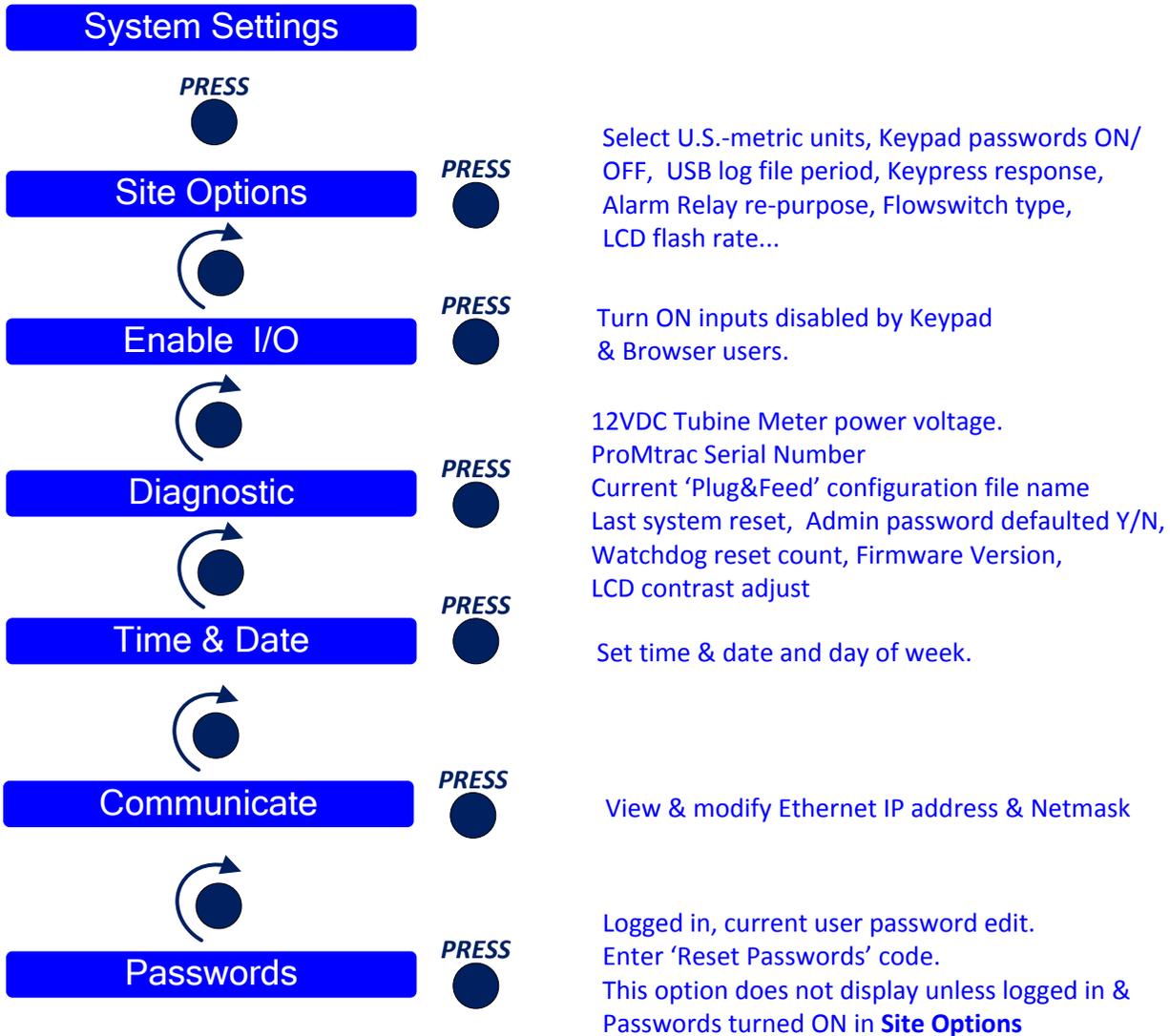
- | Output Relays 1 to 5 | System |
|--------------------------------|--------------------------------------------|
| RED = alarmed | BLUE = OK, flow, no alarms |
| FlashRED = OFF stopped by user | FlashBLUE = OFF, no flow |
| GREEN = ON | RED = alarmed |
| FlashGREEN = Priming or Test | FlashRED = Load fuse fails |
| | GREEN = OFF, USB drive inserted |
| | FlashGREEN = Upload complete, remove drive |

Use the rotary dial to view user menus



1.2 User Menus

Press @ **System Settings** navigates to:



Press @ other menu options navigates to the selected I/O.
Selecting **STATUS** at the Power ON display scrolls thru all I/O

1.3 Status Displays

STATUS Page 1 of 3

Goes to **Alarms** if alarms
Otherwise goes to **Conductivity**

PRESS



Press @ any time to return to the power-up, summary display

Clears high & low sensor alarms.
Resets feed limits
Only displays if alarms active

RESET

Alarms
Conductivity
High @ 12:20:30
RESET **KEYLOG**

Scroll through time stamped user activity log

KEYLOG



Scroll thru all I/O. Pumps & Solenoids follow the controlling sensor

View and adjust
High & low alarms, delay on alarm,
set alarm relay,disable alarms

ALARMS

Conductivity **A**
2036 uS
1940 min 2112 max
ALARMS **CALIB**

Calibrate tower conductivity

CALIB



min-max from midnight or most recent power OFF-ON.
Measure of float effect on cycles.

Turn ON bleed

TEST

Displays if Bleed OFF

Bleed Solenoid **R1**
ON: 14.6 min
59.4m ON Today
STOP **CONFIG** **ADJUST**

CONFIG

View & select bleed control method

Turns OFF bleed

STOP

ADJUST

Adjust setpoint



Time in current bleed cycle & total bleed time from midnight or power ON

View and adjust
High & low alarms, delay on alarm,
set alarm relay,disable alarms

ALARMS

Make-up Meter **H**
Today 45200 G
2012 1204700G
ALARMS **CONFIG**

View & select meter type & volume/contact or 'K' factor

CONFIG



Year-to-date total alternates with total volume/days

Turns OFF pump & it stays OFF

STOP

Displays if Pump ON

Inhibitor pump **R2**
OFF:Setpoints
84.4min ON today
PRIME **CONFIG** **ADJUST**

CONFIG

View & select feed control method

Turn ON Pump

PRIME

ADJUST

Adjust setpoint



If pump ON, displays time owed.
Display varies with feed control method

PRESS  Press @ any time to return to the power-up, summary display

ProMtrac's with pH option display similar **pH Sensor** information

View and adjust High & low alarms, delay on alarm, set alarm relay, disable alarms

ALARMS

ORP Sensor C
 348.1 mV
 340.4 to 350.4 mV
ALARMS CALIB

CALIB Calibrate ORP sensor

 ORP range from midnight or most recent power OFF-ON.

View & Adjust PreBleed & Lockout, Alarms & Feed Cycle days

Turn ON Pump or Brominator

PRIME

Displays if Pump OFF

Oxidant Pump R3
 ON: 18.4 min
 126.4min ON today
STOP **CONFIG** **ADJUST**

CONFIG
 View, Add & Delete feed events
 View-Adjust ORP during events

STOP

Turn OFF Pump or Brominator

 'ON today' alternates with '2 Events Day 4of7'

ADJUST Adjust setpoint

4-20mA outputs are Optional & may not be installed in your ProMtrac

View & select control sensor and its 4mA & 20mA setpoints

Turns OFF AUTO

MANUAL

4-20mA Out #2 E
 11.2mA 44.8%
 514uS AUTO
MANUAL **CONFIG** **VERIFY**

CONFIG
 Set to 20mA(span) or 4mA(zero) & adjust span or zero

VERIFY

 Displays loop current and % of full span and controlling sensor value with mode

ProMtrac's without ORP or pH will have a **Biocide 'A' & 'B'**

Turns ON Pump or Brominator

PRIME

Biocide 'B' R4
 No Event
 4 Events, Day 11 of 28
PRIME **CONFIG** **EVENTS**

CONFIG
 View & Adjust PreBleed & Lockout, Alarms & Feed Cycle days

EVENTS

Add, Delete & View feed Events

 If Event running, displays time remaining. #of Events alternates with time ON today

Turns ON the Alarm Relay

TEST

Alarm Relay R5
 No Alarms
 0.0 min ON today
TEST

Alarm Relay R5 may be reconfigured in **System Settings** as another Biocide, Inhibitor or Conductivity control

TEST not available if alarmed

 The scroll order of sensors and pumps varies with optional cards, control types & disabled-enabled I/O

PRESS



Press @ any time to return to the power-up, summary display

View and adjust High & low alarms, delay on alarm, set alarm relay, disable alarms

ALARMS

Temperature F
 84.5 F
 59.4 to 84.5F
ALARMS **CALIB**

Temperature is measured by the tower conductivity sensor.

CALIB Calibrate Temperature



ORP range from midnight or most recent power OFF-ON.

View and adjust ON & OFF time alarm relay, disable alarms

ALARMS

Flowswitch K
 ON: 18.4 min
 126.4min ON today
ALARMS

Thermal flowswitch @ 'K'
 Mechanical flowswitch @ 'J'



OFF time alarm could be used to flag a 24/7 tower outage . ON time alarm to flag a tower ON too long.

View and adjust ON & OFF time alarm relay, disable alarms

ALARMS

Low Tank Level J
 OFF:
 0.0 min ON today
ALARMS

If using the thermal flowswitch, 'J' may be used as a contact set input.



OFF: when contact set OPEN
 Browser connect to invert sense.

View and adjust High & low alarms, delay on alarm, set alarm relay, disable alarms

ALARMS

Manual Value G
 126 ppm
 106 to 126 ppm
ALARMS **CALIB**

Manual values are logged & can Be used for control & 4-20mA outputs.

CALIB



Inputs 'G', 'H' & 'J' can be disabled if not used @ this site

Used to enter the result of a manual chemical test.

View and adjust High & low alarms, delay on alarm, set alarm relay, disable alarms

ALARMS

Flourescence D
 26.7 ppm
 19.4 to 28.0 ppm
ALARMS **CALIB**

An isolated 4-20mA input is optional & may not be installed in your ProMtrac

CALIB



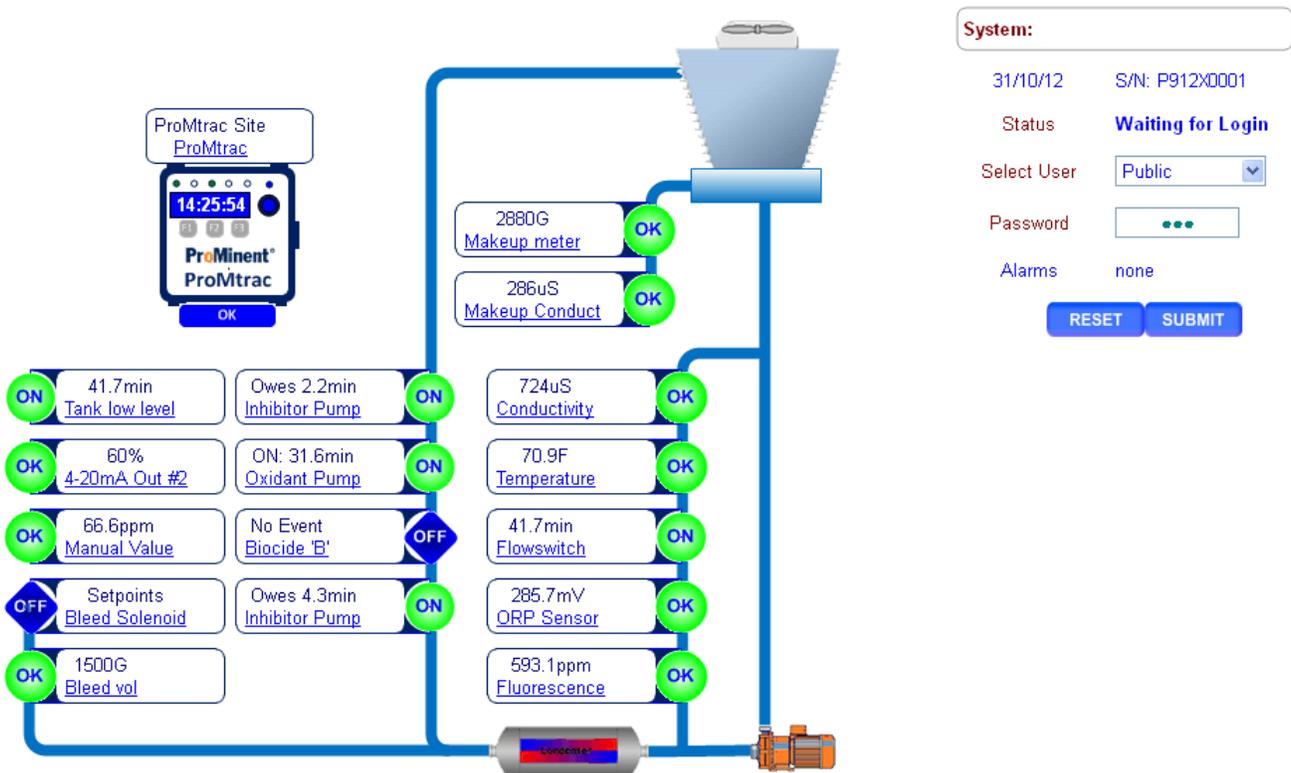
Optional DC isolated 4-20mA input card

Used to calibrate the 4-20mA input that represents ppm

1.4 Browser View

ProMtracs include a built-in command & control web server with a real time view of your controller operation.

You can browse with Mozilla's Firefox or Internet Explorer over an Ethernet connection. Modifying the controller requires a login.



Disabled inputs are automatically removed from the browser view. User may switch icons to reflect their site's usage.

See the ProMtrac Browser Manual for detailed information.

2. Adjust Setpoints

ADJUST Page 1 of 1
Bleed Solenoid

PRESS
● Press to return to the power-up, summary display

Turn OFF Bleed Solenoid

STOP

Bleed Solenoid R1
ON: 1.12 hrs
6.23 hrs ON today
STOP CONFIG ADJUST

ADJUST displays vary with the control method.

ADJUST

If solenoid ON, alternates with actuation time in this bleed cycle.

View and adjust feed setpoint

Turn ON Setpoint R1
1846 uS
Rotate to Adjust
RESET EXIT

Returns Conductivity to current bleed setpoint

RESET



Rotate to Adjust alternates with Press to Accept

PRESS

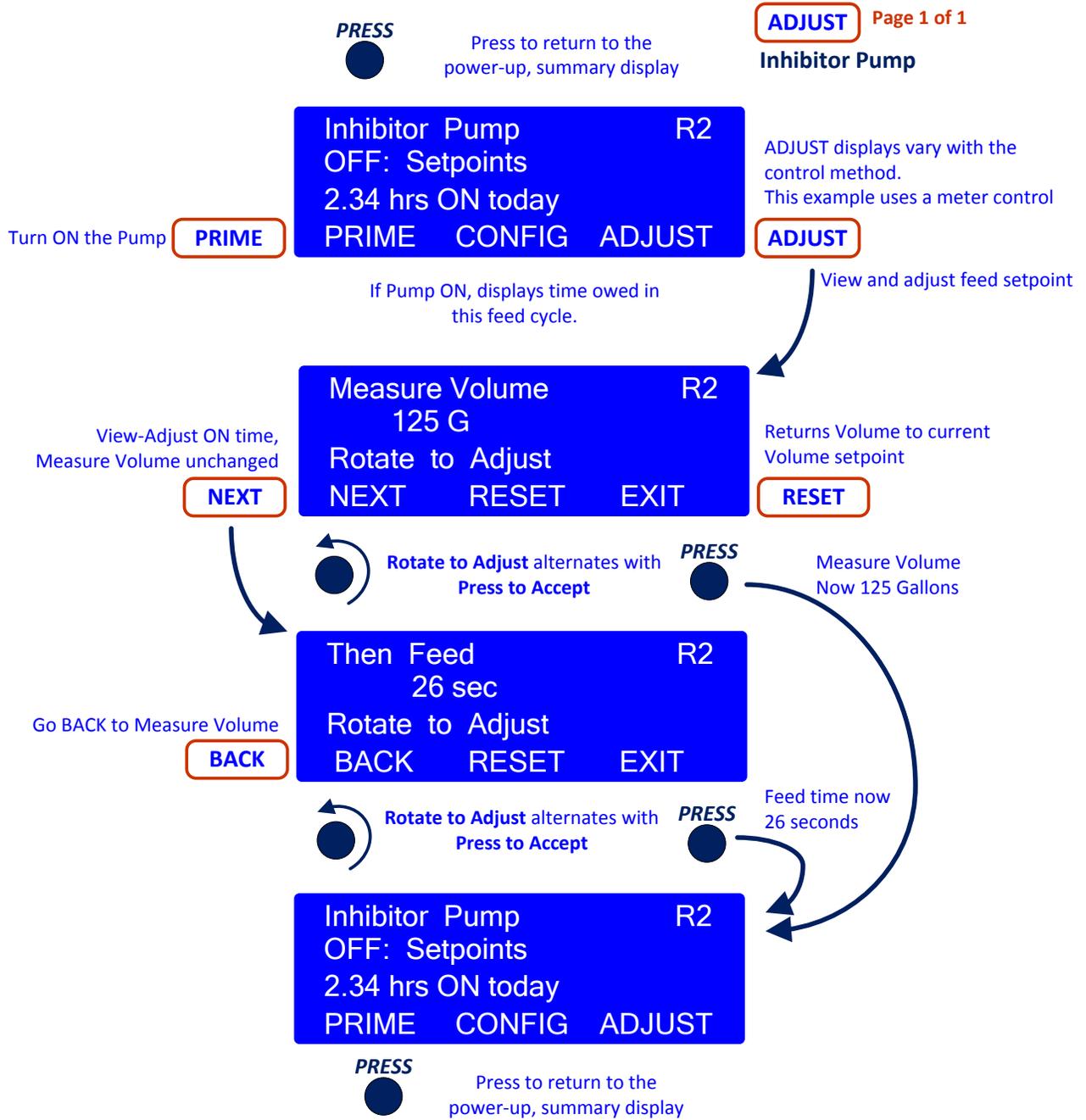
Setpoint now 1846uS

Bleed Solenoid R1
ON: 1.13 hrs
6.24 hrs ON today
STOP CONFIG ADJUST

PRESS
● Press to return to the power-up, summary display

NOTE: In this example, the Bleed Solenoid is controlled by a conductivity sensor. Other control methods may have more than 1 setpoint.

2. Adjust Setpoints



NOTE: In this example, the Inhibitor Pump is controlled by a water meter, turning ON for 26 seconds for every 125 Gallons measured.

3. Calibrate

CALIB Page 1 of 1
Conductivity

PRESS  Press @ any time to return to the power-up, summary display

View and adjust High & low alarms, delay on alarm, set alarm relay, disable alarms

ALARMS

Conductivity A
2036 uS
1940 min 2112 max
ALARMS CALIB

Calibrate tower conductivity

CALIB



min-max from midnight or most recent power OFF-ON.
Measure of float effect on cycles.

Returns the sensor to it's factory default calibration

RESET

Conductivity A
New: 2045 uS
Rotate to Adjust
RESET EXIT

Grab sample & measure the water @ the sample header

EXIT

No change to Conductivity



'Conductivity' alternates With 'Now: 2012 uS'

PRESS

 Press to Accept New value

Conductivity A
2045 uS
1940 min 2112 max
ALARMS CALIB

If you calibrated from the **STATUS** key, you'll return to Conductivity, otherwise you'll view the power ON display with the revised conductivity

If there's a problem, you'll get advice (**Note 1**)

Ignore the advice, calibrate to the new conductivity (**Note 2**)

IGNORE

Calibrate fails! A
Sensor fouled
Clean & re-test
IGNORE RESET EXIT

EXIT

No change to Conductivity

RESET  Returns the sensor to it's factory default calibration

Note 1.

Advice varies with both sensor type and correction required to get to the user calibration value.

Note 2.

Fouled or filmed conductivity sensor may not track the tower conductivity & may indicate a make-up water chemistry change or feed-control problems

4. Adjust Alarms

ALARMS Page 1 of 1

Conductivity

PRESS
 Press @ any time to return to the power-up, summary display

View and adjust High & low alarms, delay on alarm, set alarm relay, disable alarms

ALARMS

Conductivity A
 5021 uS
 Alarmed High
 ALARMS RESET CALIB

RESET

Resets an active alarm

CALIB

Calibrate conductivity



Rotate to view other I/O



High Alarm A
 4000 uS
 Press to modify
 EXIT

No change to Alarms

EXIT

Press to Modify alternates with Rotate to View



Low Alarm A
 350 uS
 Press to modify
 EXIT

Press to Modify alternates with Rotate to View



Delay on Alarm A
 5.0 min
 Press to modify
 EXIT

Use **Delay on Alarm** to block alarms on transient operating conditions & nuisance alarms

Press to Modify alternates with Rotate to View



Alarms A
 Enabled
 Press to modify
 EXIT

Turns OFF High & Low alarms. Stops alarming on this sensor

Press to Modify alternates with Rotate to View



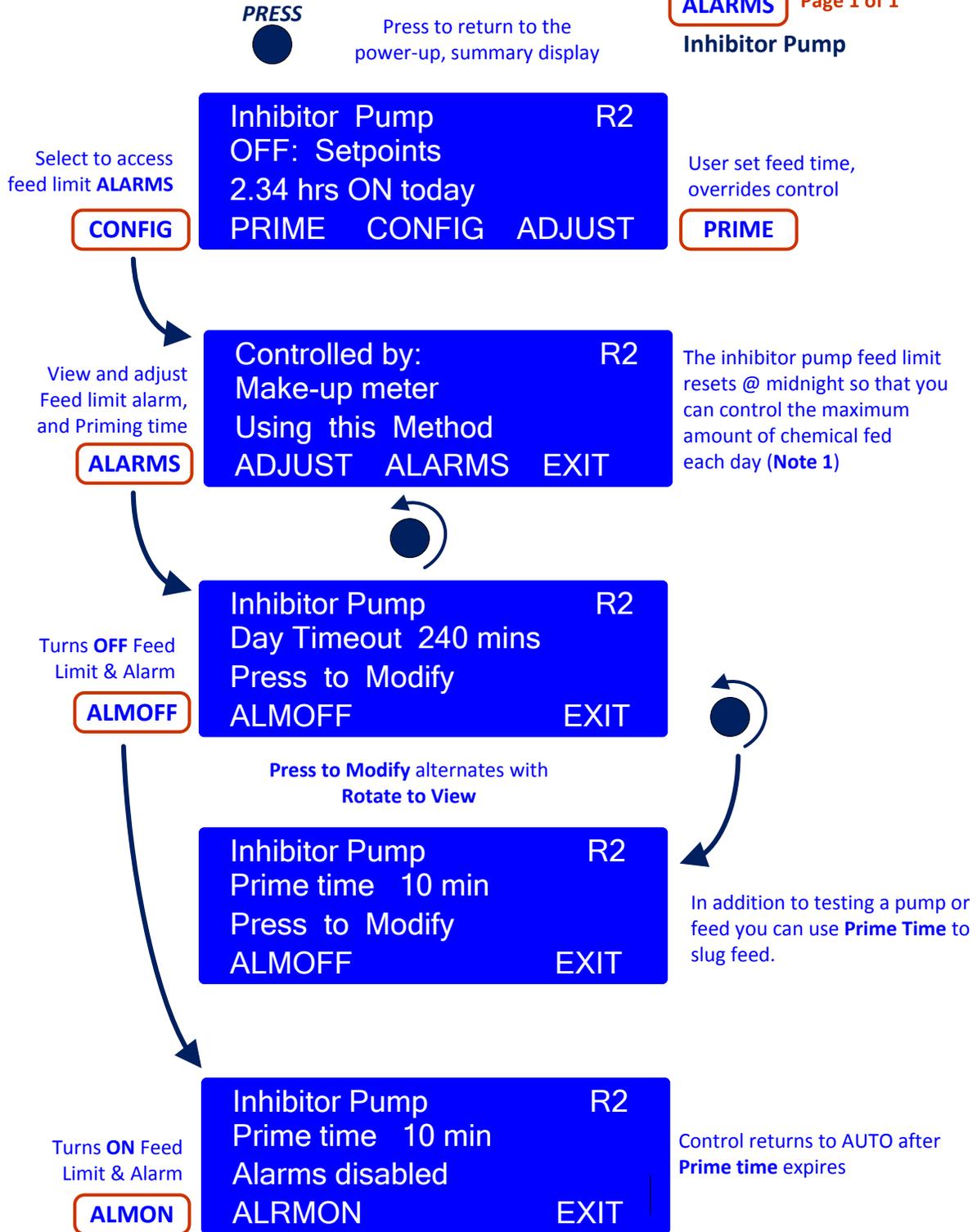
Alarm Relay A
 ON
 Press to modify
 EXIT

When alarm occurs, turns ON Relay 5, Alarm Relay. (No effect if Relay 5 is not an Alarm Relay)

4. Adjust Alarms

ALARMS Page 1 of 1

Inhibitor Pump



Note 1.
The Inhibitor pump feed limit defaults to OFF on alarm & setting the Alarm Relay (if Relay 5 is used as an alarm relay) on limit. However these defaults may be modified or have been modified using the browser interface or the on-line Plug&Feed app.

4. Adjust Alarms

ALARMS Page 1 of 1

Water Meters

PRESS  Press @ any time to return to the power-up, summary display

View and adjust High & low alarms, set alarm relay, disable alarms

ALARMS

Makeup Meter H
 Today 65400G
 2012 1200500G
 ALARMS CONFIG

View & Modify Meter type, scaling, zero meter

CONFIG



Rotate to view other I/O



Volume today H
 175000 G
 Press to modify
 EXIT

Volume today used to alarm on tower overflow or leaking basin or or higher make-up water conductivity

EXIT No change to Alarms

Press to Modify alternates with Rotate to View



Low Alarm H
 0 G
 Press to modify
 EXIT

Low Alarm is checked only @ midnight & used to alarm on unexpectedly low volumes. Never alarms if = 0

Press to Modify alternates with Rotate to View



Alarms H
 Enabled
 Press to modify
 EXIT

Turns OFF High & Low alarms. Stops alarming on this meter

Press to Modify alternates with Rotate to View



Alarm Relay H
 ON
 Press to modify
 EXIT

When alarm occurs, turns ON Relay 5, Alarm Relay. (No effect if Relay 5 is not an Alarm Relay)

Press to Modify alternates with Rotate to View

4. Adjust Alarms

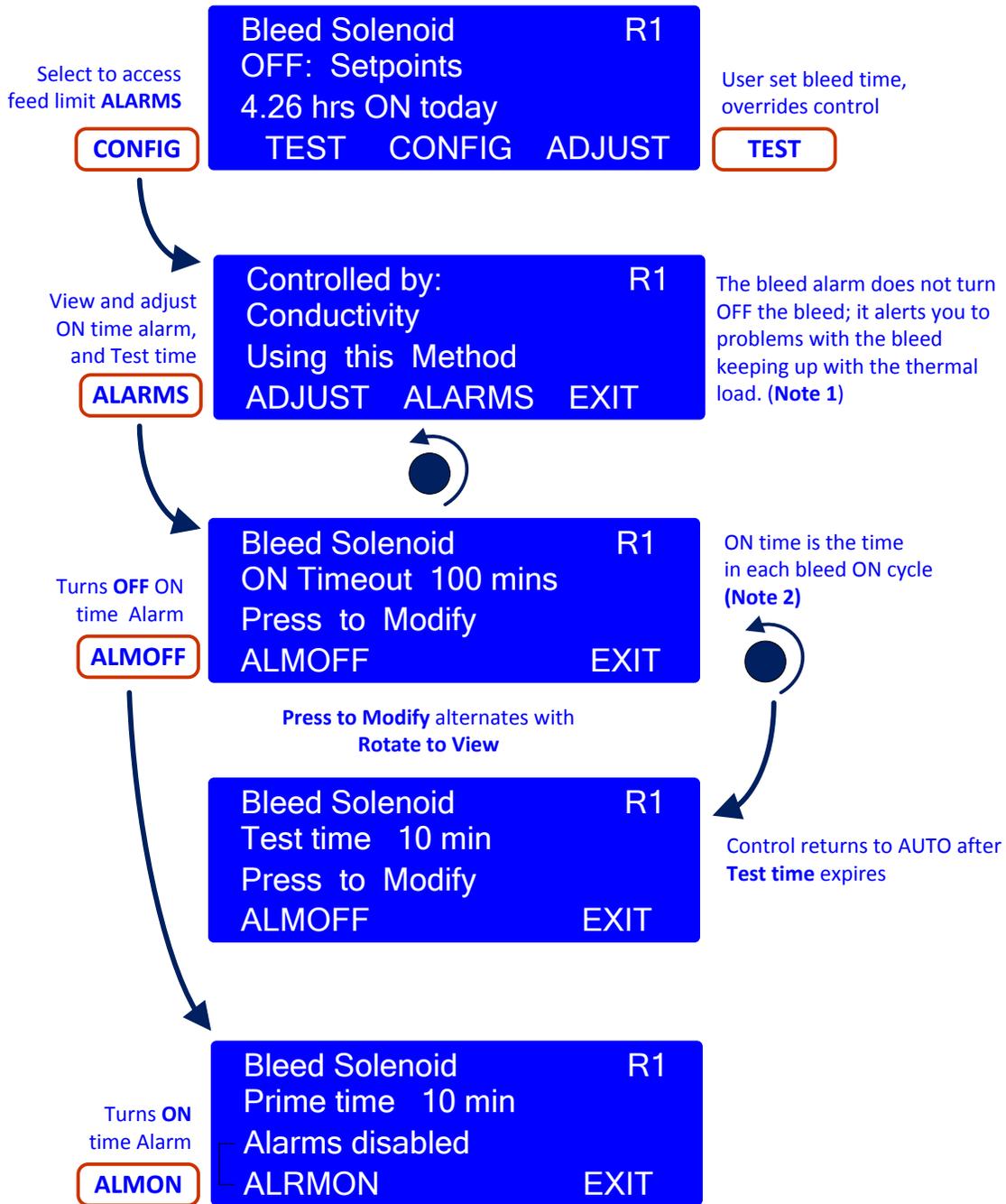
ALARMS Page 1 of 1

Bleed Solenoid

PRESS



Press to return to the power-up, summary display



Note 1.

The bleed ON time limit defaults to ON on alarm & setting the Alarm Relay (if Relay 5 is used as an alarm relay) on limit. However these defaults may be modified or have been modified using the browser interface or the on-line Plug&Feed app.

Note 2.

ON time alarms are used for Oxidant, pH Controls & Timed Event, Biocide Controls. Usually disabled on Biocide controls, they cannot be disabled on pH controls.

5. Biocide Events

EVENTS Page 2 of 2

Page 1 of 2

Up to 28 events may be set for each biocide control

Biocide 'B' R4
Now 8 Events
Advisory
Press to Exit

PRESS
●
Or any key exits to power ON display

PRESS
● Press to return to the power-up, summary display

Biocide 'B' R4
45min @ 7:15, Mon
Rotate to View
ADD DELETE EXIT

DELETE Remove event or all events

● Select event to modify or delete

Delete Events
ON for 46 min
@07:00, Tue
1 ONLY ALL EXIT

Deletes displayed event **1 ONLY**

Delete all events for this control

ALL

Biocide 'B'
No Events Set
Advisory
Press to EXIT

PRESS
●
Or any key exits to power ON display

6. Configure

CONFIG Page 1 of 1

Inhibitor Pump

PRESS



Press to return to the power-up, summary display

CONFIG

Inhibitor Pump R2
 OFF: Setpoints
 2.34 hrs ON today
 PRIME CONFIG ADJUST

View or modify feed setpoints

ADJUST

Controlled by: R2
 Make-up meter
 Using this Method
 ADJUST ALARMS EXIT

View and adjust Feed limit alarm, set alarm relay, disable alarms

ALARMS

Returns to current Feed Method

NOW

Controlled by: R2
 Bleed & Feed
 Press to Select
 NOW EXIT

Changes feed Method to **Bleed & Feed**

PRESS



Bleed & Feed and **Bleed then Feed** use % of bleed ON time as the setpoint

Controlled by: R2
 Bleed then Feed
 Press to Select
 NOW EXIT

Changes feed Method to **Bleed then Feed**

PRESS



Bleed Meter not displayed if meter disabled.

Controlled by: R2
 Bleed Meter
 Press to Select
 NOW EXIT

Changes feed Method to **Bleed Meter**

PRESS



Percent Time, base feed Method displays, skipped in this example

Fluorescent ppm not displayed if optional card not installed

Controlled by: R2
 Fluorescent ppm
 Press to Select
 NOW EXIT

Changes feed Method to ppm sensor control

PRESS



6. Configure

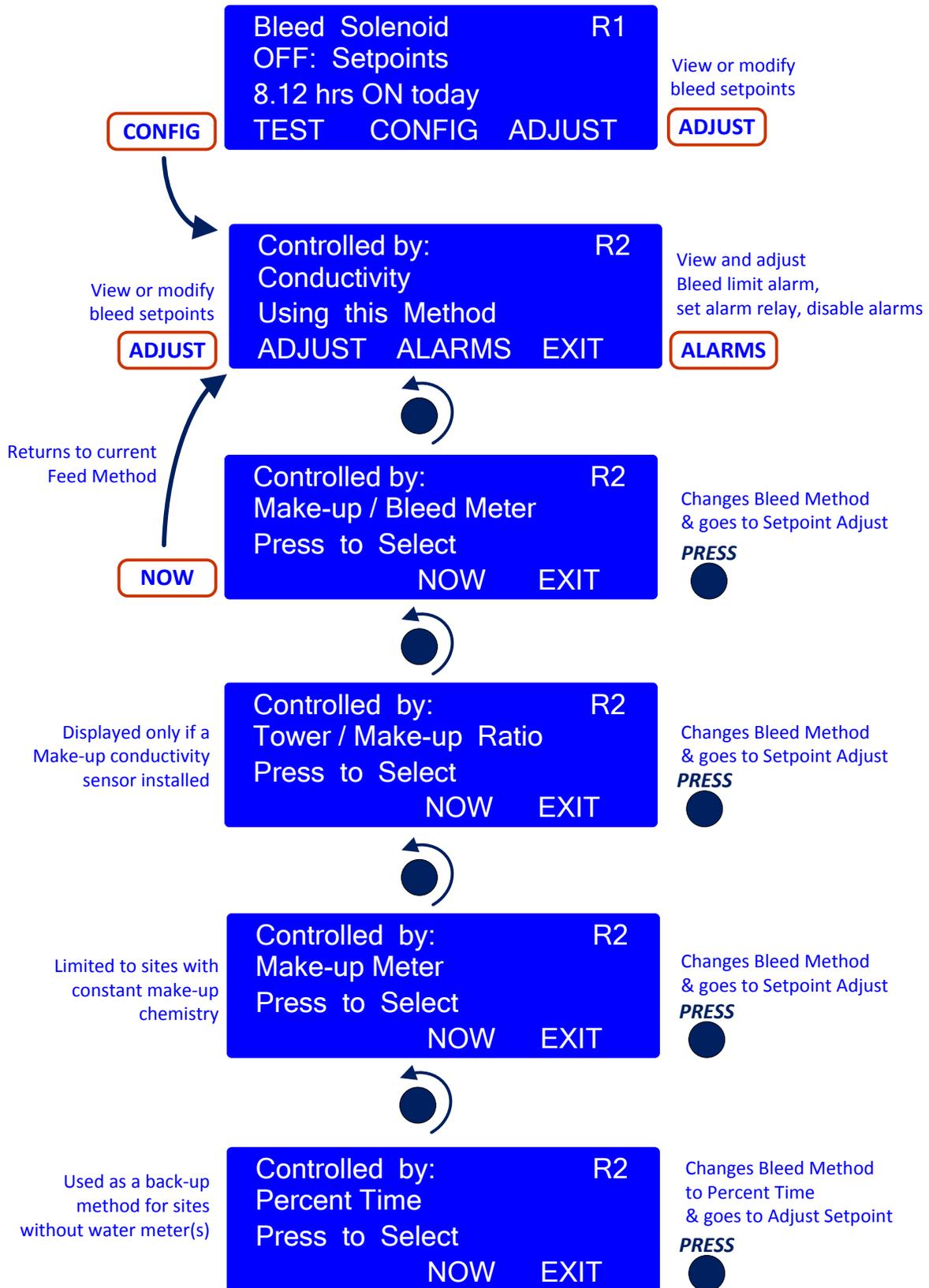
CONFIG Page 1 of 1

Bleed Solenoid

PRESS



Press to return to the power-up, summary display



6. Configure

CONFIG Page 1 of 1

Oxidizing Biocides

PRESS
 Press to return to the power-up, summary display

View & Modify: Prebleed, Lockout, Event Cycle & ORP setpoint during Events

CONFIG

Oxidant Pump R3
 ON: 38.4 min
 4 Events Day 6 of 7
 STOP CONFIG ADJUST

View and adjust ORP setpoint

ADJUST

#of Events & event cycle alternates with ON time today

Press or Adjust Modifies Prebleed minutes

PRESS

ADJUST

Event Controls: R3
 Prebleed 5 minute
 Rotate for options
 ADJUST ALARMS EXIT

View and adjust Feed limit alarm, set alarm relay, disable alarms

ALARMS

 Rotate counter-clockwise to Event ORP setpoint. Clockwise displays Prebleed, Lockout...

Press or Adjust Modifies ORP Setpoint during events

PRESS

ADJUST

Event Controls: R3
 ORP 650mV on Event
 Rotate to Adjust
 ADJUST ALARMS EXIT

Use event ORP setpoint to control @ high oxidant levels during events

Returns the ORP to the current Event setpoint

RESET

Event Controls: R3
 ORP 735mV on Event
 Rotate to Adjust
 RESET EXIT

Leaves the current ORP Event setpoint unchanged.

EXIT

 Rotate to Adjust alternates with Press to Accept

PRESS


Oxidant Pump R3
 ON: 38.4 min
 4 Events Day 6 of 7
 STOP CONFIG ADJUST

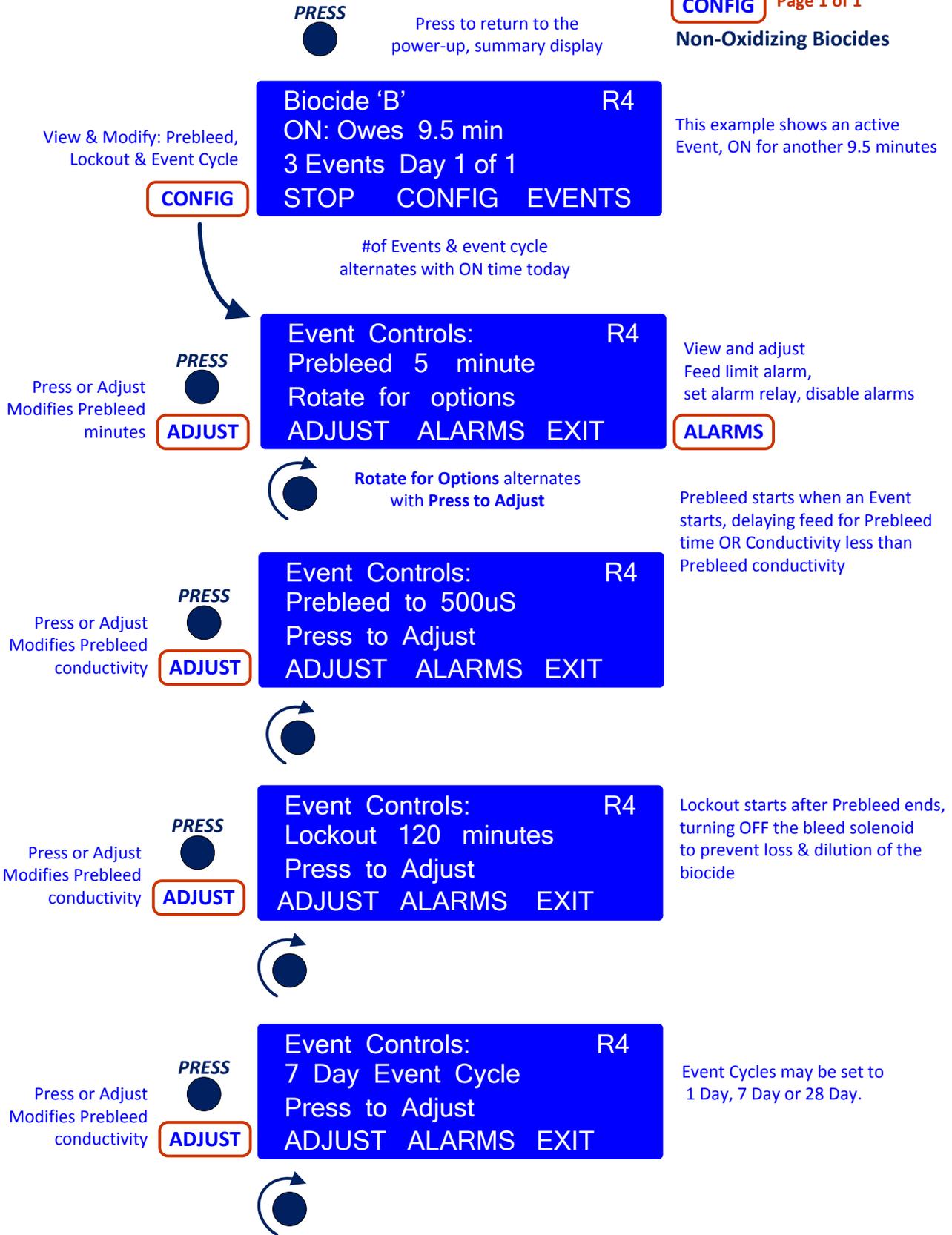
ORP Event setpoint Now 735 mV

PRESS
 Press to return to the power-up, summary display

6. Configure

CONFIG Page 1 of 1

Non-Oxidizing Biocides



6. Configure

CONFIG Page 1 of 1

Water Meters

PRESS
 Press @ any time to return to the power-up, summary display

View and adjust High & low alarms, delay on alarm, set alarm relay, disable alarms

ALARMS

Makeup Meter H
 Today 65400G
 2012 1200500G
 ALARMS CONFIG

View & Modify Meter type, scaling, zero meter

CONFIG

 Rotate to view other I/O

Volume/contact H
 100 G
 Press to modify
 EXIT

Displays Volume/contact for Contact Meter & 'K factor for Turbine Meter.

EXIT No change to Meter

Press to Modify alternates with Rotate to View



Meter Type H
 Contact Meter
 Press to modify
 EXIT

Meter Type is either Contact Meter or Turbine Meter.

Press to Modify alternates with Rotate to View



Makeup Meter H
 Zero Meter
 Press to modify
 EXIT

PRESS
 Zeroes today and year to date

Not displayed if used to control a pump or solenoid

Bleed Meter I
 Disable Meter
 Press to modify
 EXIT

PRESS
 Removes meter from LCD display And control method options. Enabled using **System Settings**

The Makeup water meter cannot be disabled. The Bleed Meter connected to input 'I' may be disabled if not used for control.

4-20mA Outputs

4-20mA outputs are Optional & may not be installed in your ProMtrac



Press @ any time to return to the power-up, summary display

Turns OFF AUTO **MANUAL**

View & select the sensor and its 4mA & 20mA setpoints

4-20mA Out #2 E
 11.2mA 44.8%
 514uS AUTO
MANUAL CONFIG VERIFY

Set to 20mA(span) or 4mA(zero) & adjust span or zero

VERIFY

Displays loop current and % of full span and controlling sensor value with mode



4-20mA Out #2 E
 20mA = 1150uS
 Press to modify
EXIT

The 20mA value is displayed with controlling sensor units & resolution.

EXIT

No change to 4-20mA

Press to Modify alternates with Rotate to View



4-20mA Out #2 E
 4mA = 0uS
 Press to modify
EXIT

The 4mA sensor value may be more or less than the 20mA value. The 4-20mA output may be set to increase or decrease with changing sensor value

Press to Modify alternates with Rotate to View



Control by:
Conductivity
 Press to modify
EXIT

Any installed sensor including 'Manual Input' may be selected to control either of the 4-20mA outputs

Press to Modify alternates with Rotate to View

MANUAL is useful when commissioning, allowing you to set the loop to 0%, 50% & 100% to verify that the terminating end of the loop is measuring the correct loop current

4-20mA Out #2 E
 Manual 60.0 %
 Press to modify
EXIT

When **MANUAL** is selected, the 4-20mA output goes to the user selected current 0-100% = 4-20mA

Press to Modify alternates with Rotate to View

VERIFY Page 1 of 1
4-20mA Outputs

4-20mA outputs are
Optional & may not be
installed in your ProMtrac

PRESS  Press @ any time to return to the
power-up, summary display

Turns OFF AUTO **MANUAL**

View & select the sensor and
its 4mA & 20mA setpoints

CONFIG

4-20mA Out #2 E
11.2mA 44.8%
514uS AUTO
MANUAL CONFIG VERIFY

Displays loop current and % of full span
and controlling sensor value with mode

Set to 20mA(span) or 4mA(zero)
& adjust span or zero

VERIFY

VERIFY overrides sensor
& manual control
of the loop to adjust
Zero, 4mA & Span, 20mA

4mA

4-20mA Out #2 E
Current = 20mA
Rotate to Adjust
4mA EXIT

 Rotate to Adjust alternates with
Press to Accept

EXIT

No change to 4-20mA

PRESS 

Use a DVM & measure loop
current while the adjust
the 4mA & 20mA levels

20mA

4-20mA Out #2 E
Current = 4 mA
Press to modify
20mA EXIT

 Press to Modify alternates with
Rotate to View

EXIT

Exits VERIFY

PRESS 

Toggles between
4mA, Zero &
20mA, Span

4-20mA Out #2 E
Conductivity
Press to modify
EXIT

EXIT

Exits VERIFY

Note.

The ProMtrac powers the 4-20mA loop and the current loop return is connected to the PromTrac control common which is connected to electrical ground.

This loop powering method is unlikely to create a ground loop for loops terminated @ a single monitoring DCS or BAS.

8. Passwords

LOGIN Page 1 of 1

Power ON display will show **LOGIN** if passwords turned ON (**Note 1**)

Step thru a typical start-up, Setting feed & bleed methods, biocide timing...

STRTUP

Tower 1234uS 74.6F
386.4 mV 420 ppm
OK, No Alarms
STRTUP LOGIN STATUS

STATUS

View & Modify all I/O
View active alarms

LOGIN

View & Modify all I/O
View active alarms

Moves the underline cursor to the next password character

NEXT

Login
4
Rotate to Edit
NEXT RESET EXIT

RESET

Password used as the 'reset passwords' code (**Note 2**)



Rotate to Edit alternates with Press to Accept

Passwords may be up to 8 characters.

NEXT

Login
4 2
Rotate to Edit
NEXT RESET EXIT

EXIT

Exits to Power ON



Rotate to Edit alternates with Press to Accept

Logged in using password '42' at Operator, Configure or Admin level

LOGOUT

Tower 1234uS 74.6F
386.4 mV 420 ppm
OK, No Alarms
STRTUP LOGOUT STATUS

LOGOUT automatic after 30 minutes without rotate or key press

PRESS

Checks all users for Password = '42'

Login
Password incorrect
Advisory
Press to Exit

No users have the password '42'

Any key or press exits Advisory

Note 1.

You do not have to **LOGIN** to view I/O values. When you attempt to modify the controller, you'll be prompted for a password, if passwords are ON & you have not logged in.

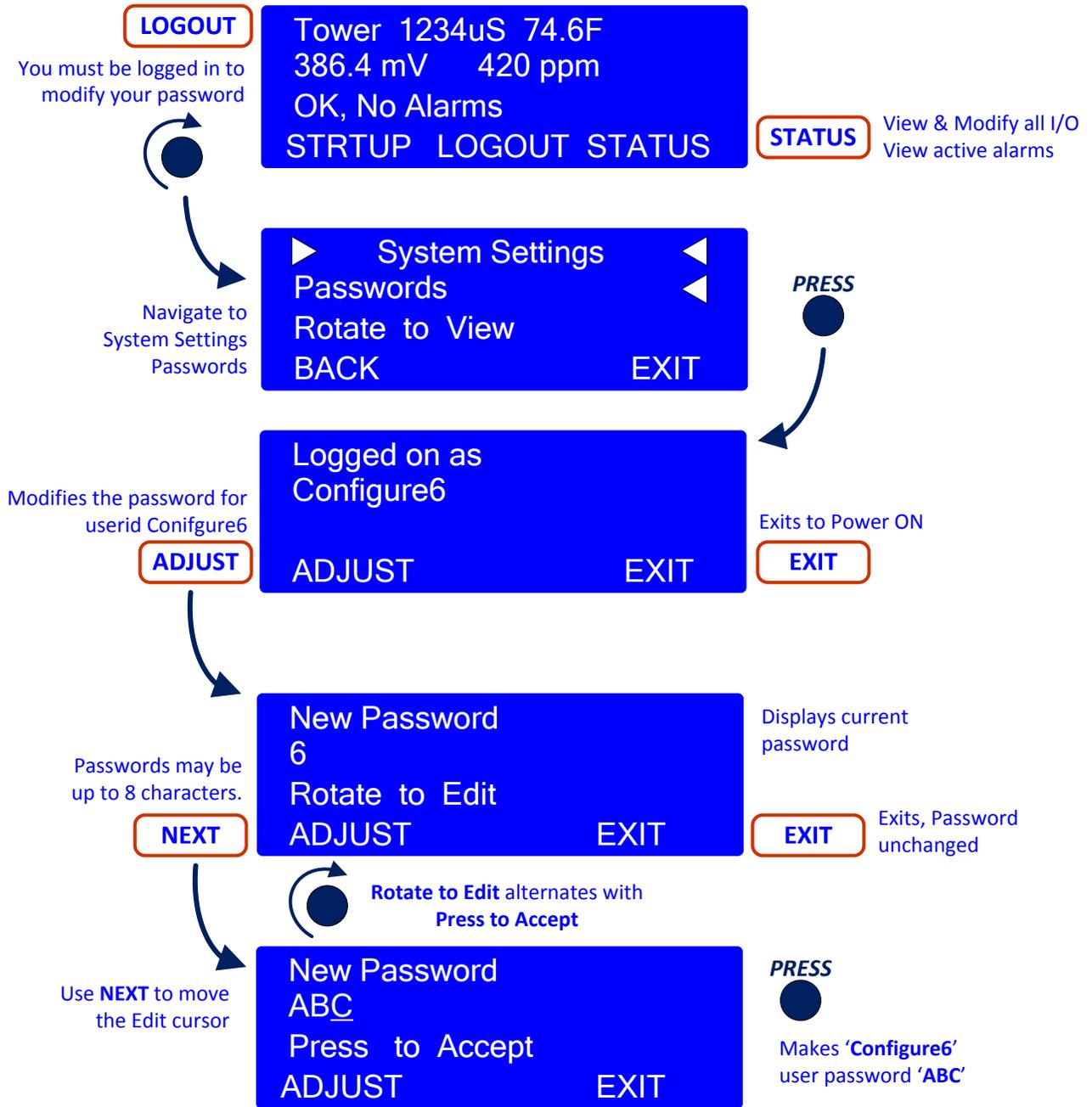
Note 2.

If you forget passwords, Prominent can supply you with a Reset code locked to your controller Serial Number which will reset all passwords to factory defaults.

8. Passwords

Modify Password Page 1 of 1

Power ON display will show LOGIN if passwords turned ON (Note 1)



Note.
Browse to modify 'Configure6' user id.
Passwords cannot contain spaces or HTML characters.
Passwords with lower case characters cannot be entered using the keypad.

9. Wiring

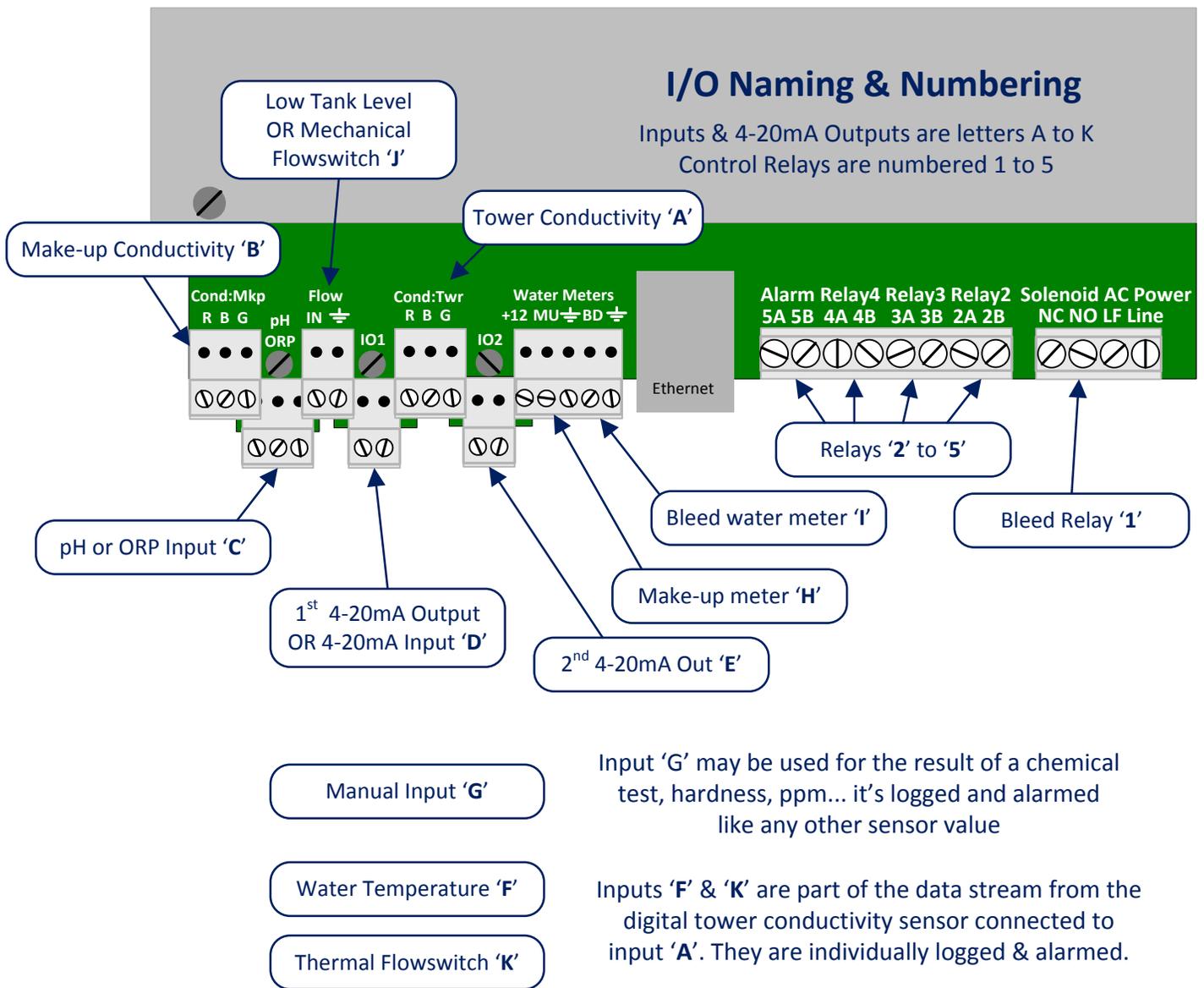
Sensor and controls may be renamed by users. Each I/O is also tagged by a letter, 'A' to 'K' for inputs & 4-20mA outputs and numbers '1' to '5' for control relays so that wiring locations can be connected to user I/O names.

Sensors **A**: Conductivity, **F**: Temperature, & **H**: Make-up Meter exists in every ProMtrac controller.

Sensors: **B**: Make-up Conductivity, **C**: pH or ORP, **D**: 4-20mA Input or Output, **E**: 4-20mA Output are optional sensors

Sensors: **G**: Manual Input, **I**: Bleed Meter & **J**: Tank Level switch may be user enabled-disabled.

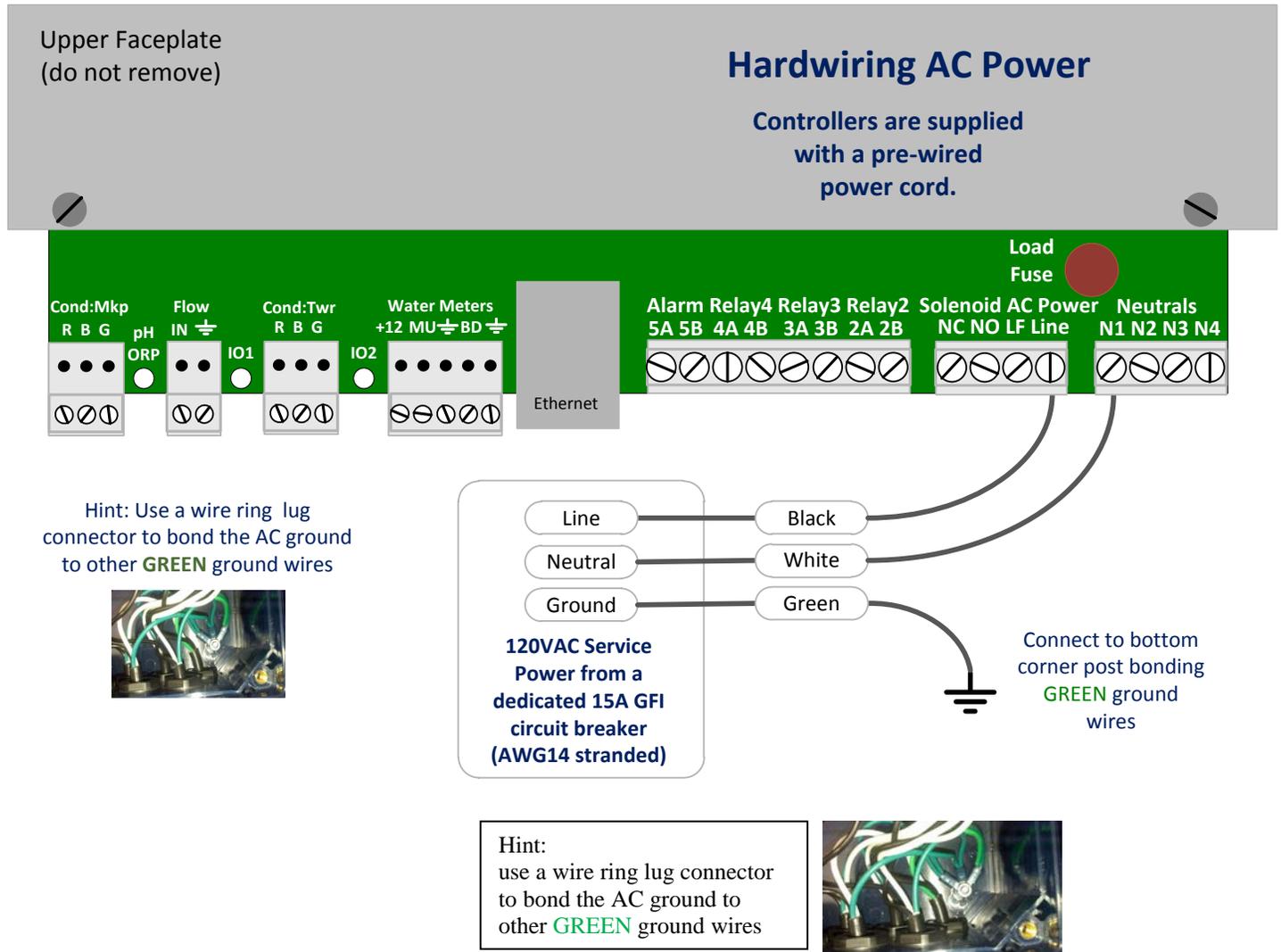
Sensor: **K**: Thermal Flowswitch may be disabled by making **J** the flowswitch.



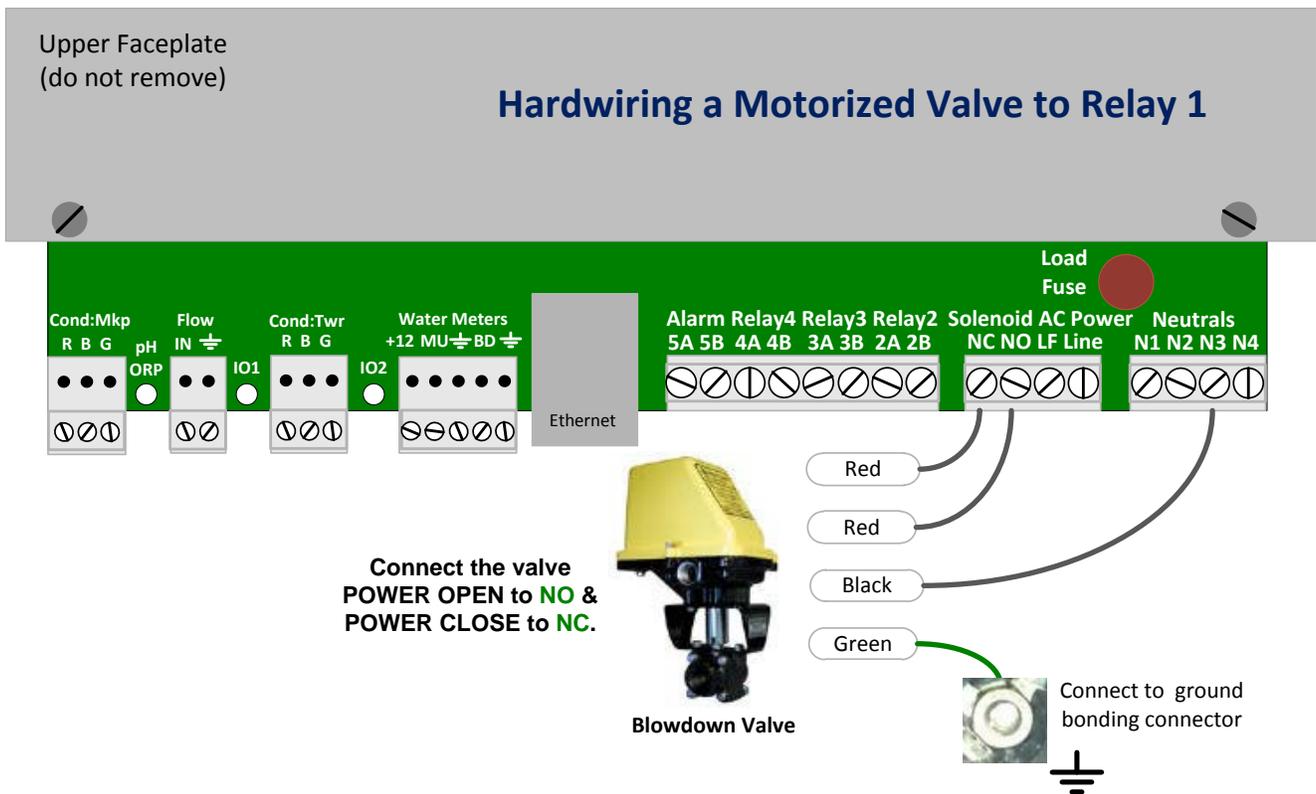
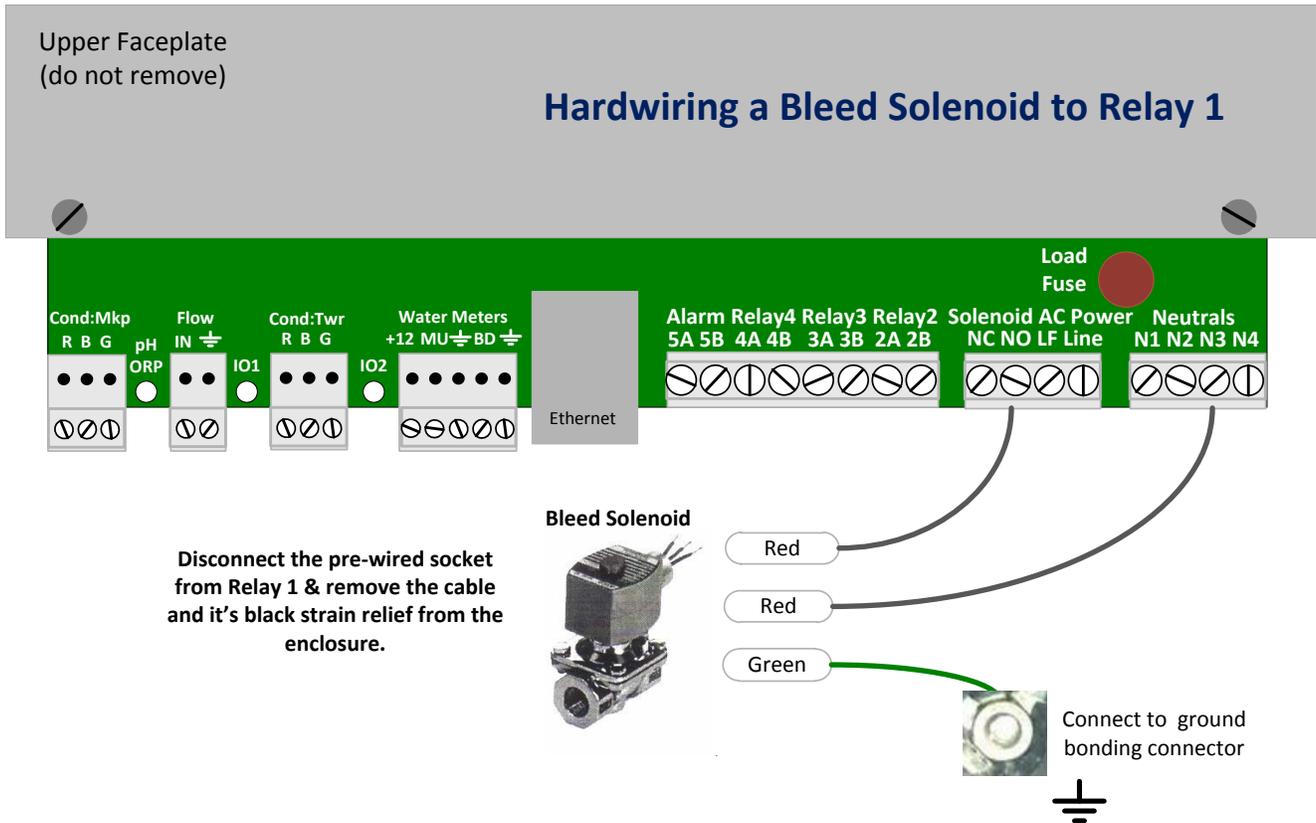
Open the enclosure door, unplug the power cord & remove the lower faceplate:

North American ProMtracs are supplied with a prewired power cord & 120VAC for the bleed solenoid and 3 or 4 pumps.

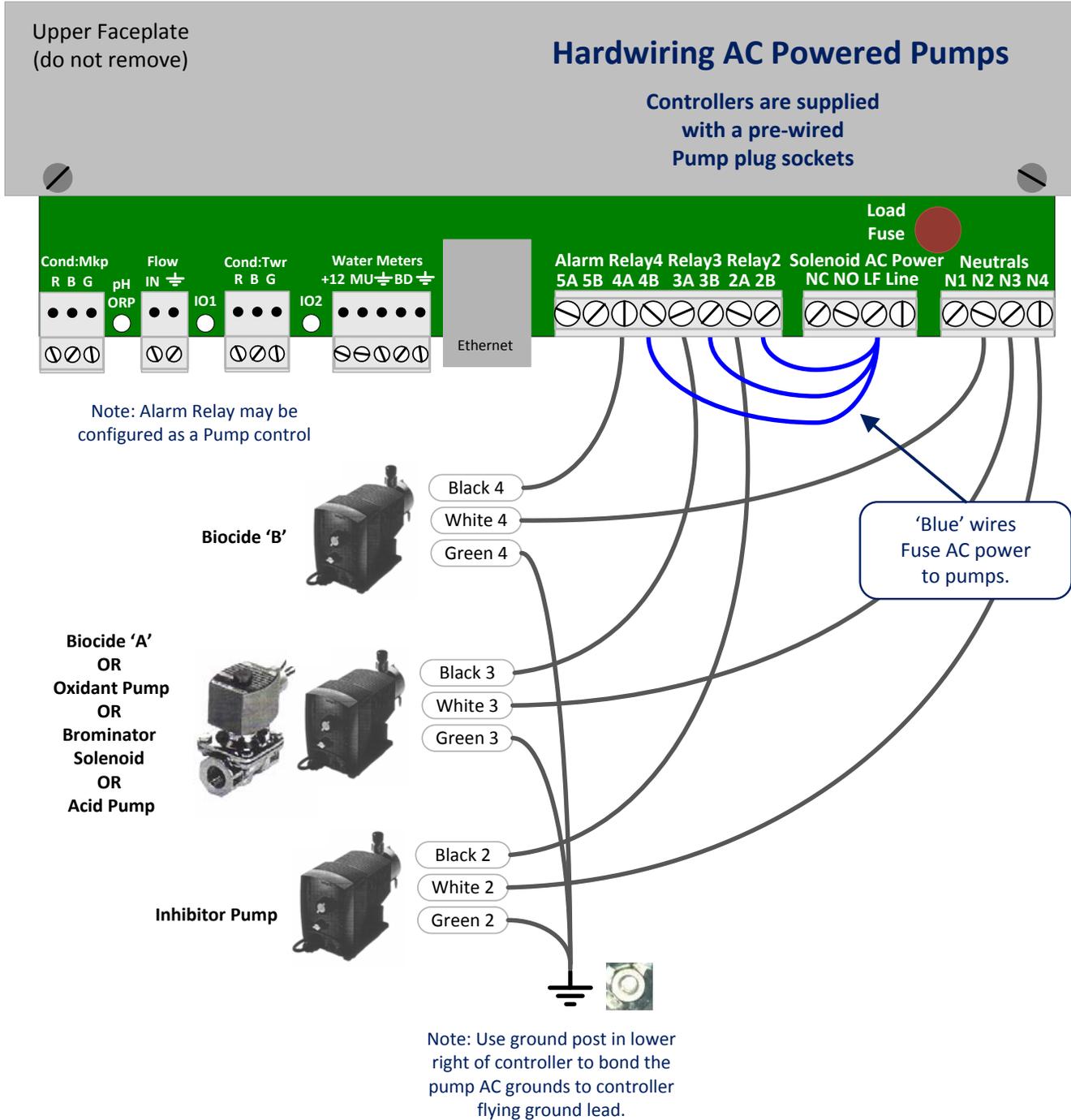
Alarm relay #5 may be used for control, as a 120VAC switch on alarm, or as a dry contact alarm relay.



Open the enclosure door, unplug the power cord & remove the lower faceplate:



Open the enclosure door, unplug the power cord & remove the lower faceplate.
 If relay 5 is not used as an alarm relay, it may be reconfigured to control a pump.

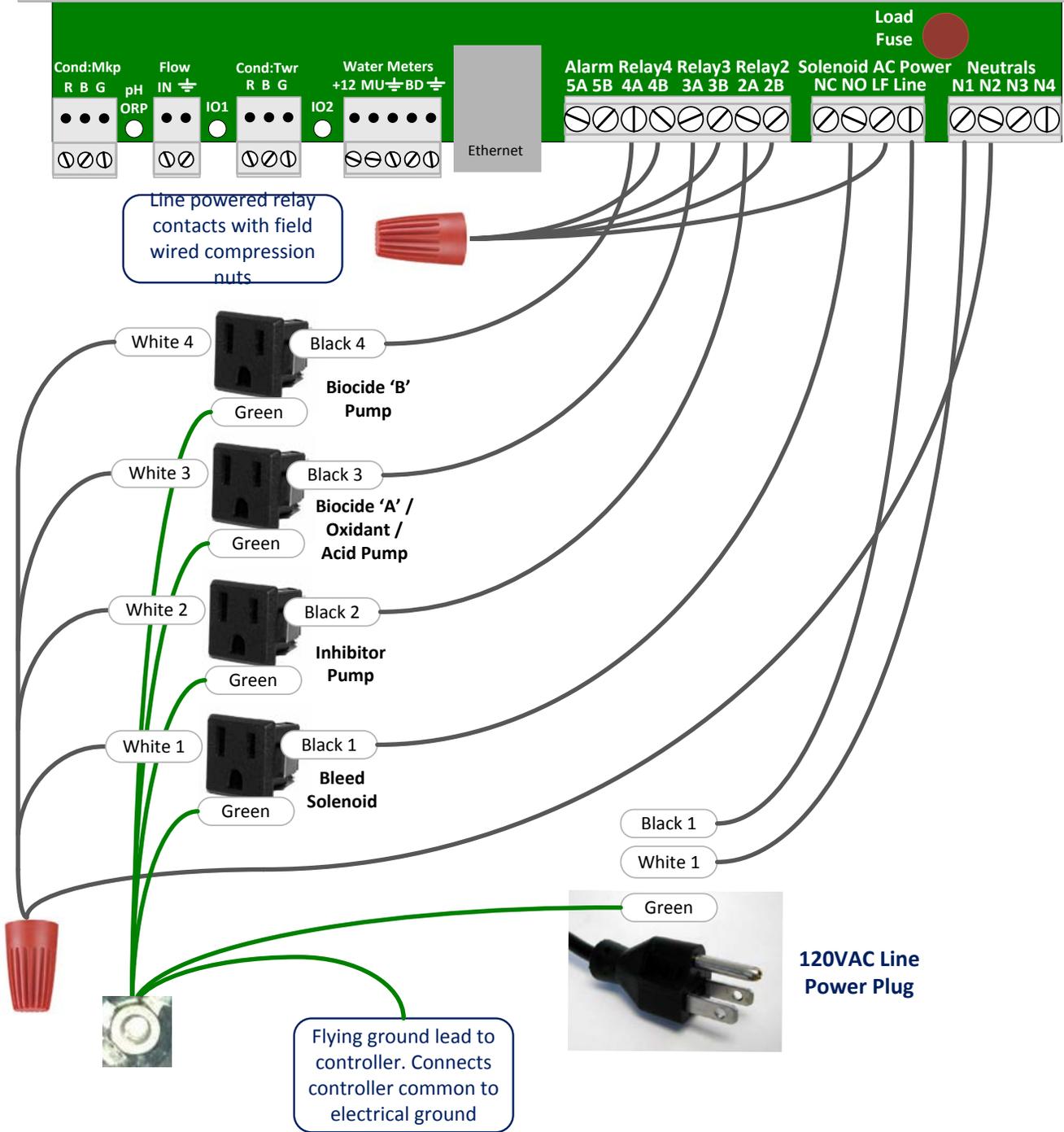


Open the enclosure door, unplug the power cord & remove the lower faceplate.
 If relay 5 is not used as an alarm relay, it may be reconfigured to control a pump.

Upper Faceplate
 (do not remove)

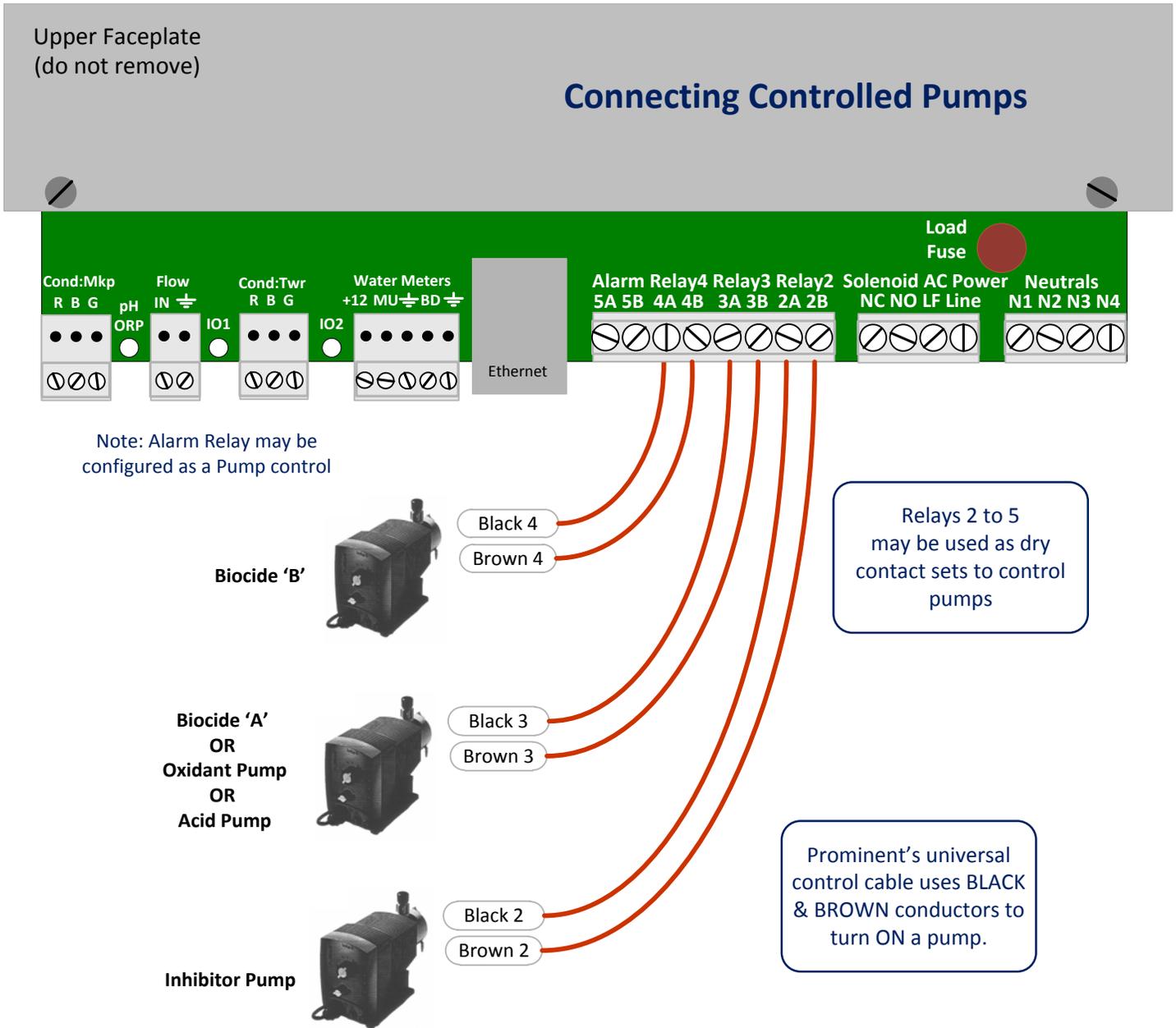
Prewired Power, Solenoid & Pump Sockets

North American ProMtracs



10. Dry Contact Pump Wiring

Open the enclosure door, unplug the power cord & remove the lower faceplate:
 If relay 5 is not used as an alarm relay, it may be reconfigured to control a pump.

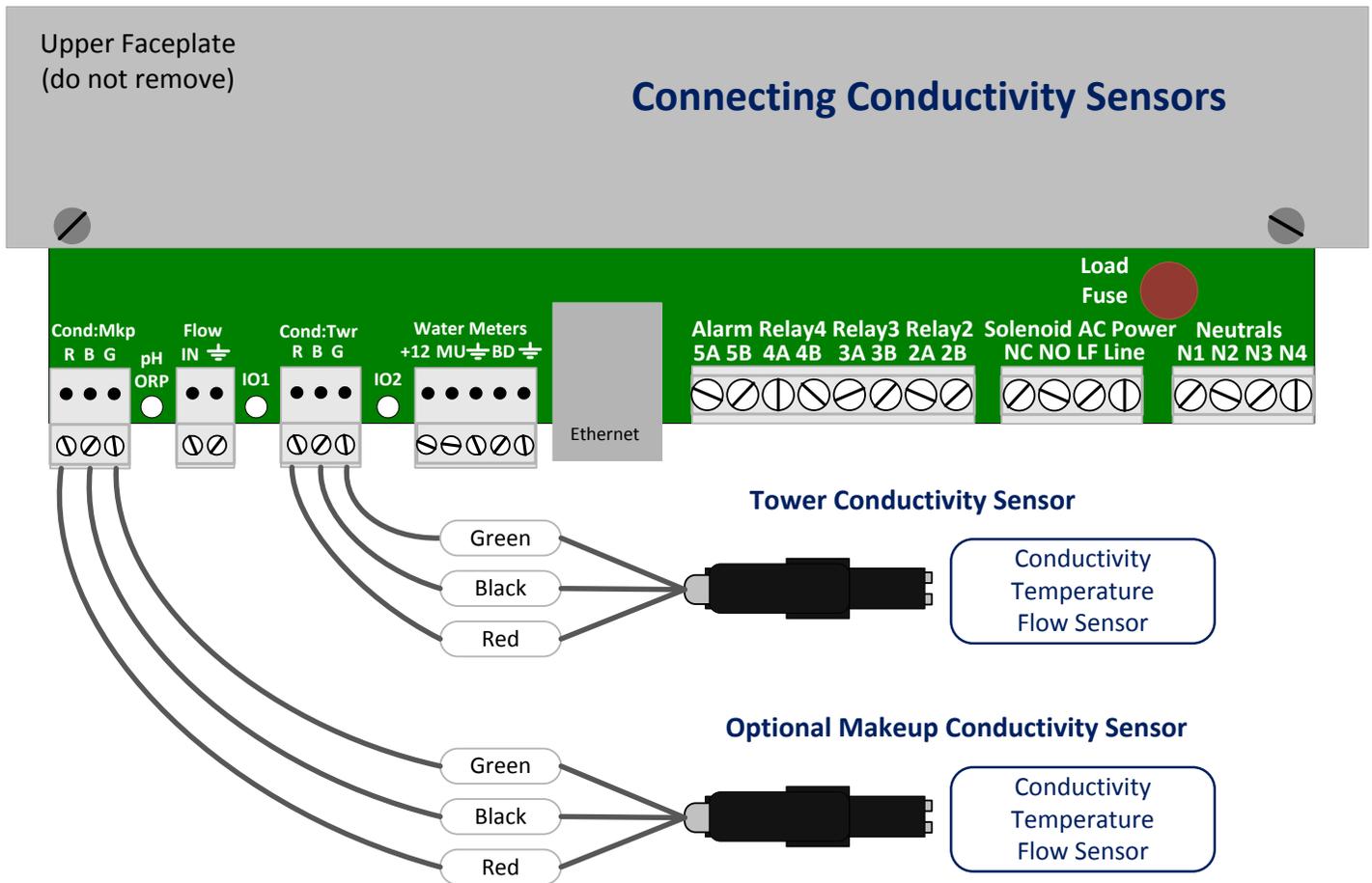


11. Sensor & Water Meter Wiring

Open the enclosure door, unplug the power cord & remove the lower faceplate:

Tower and make-up conductivity sensors are identical & may be interchanged. PromTracs are typically shipped with the tower sensor connected.

All sensor, meter & 4-20mA in-out terminal blocks are 2 piece. The block can be removed to make it easier to connect wiring.

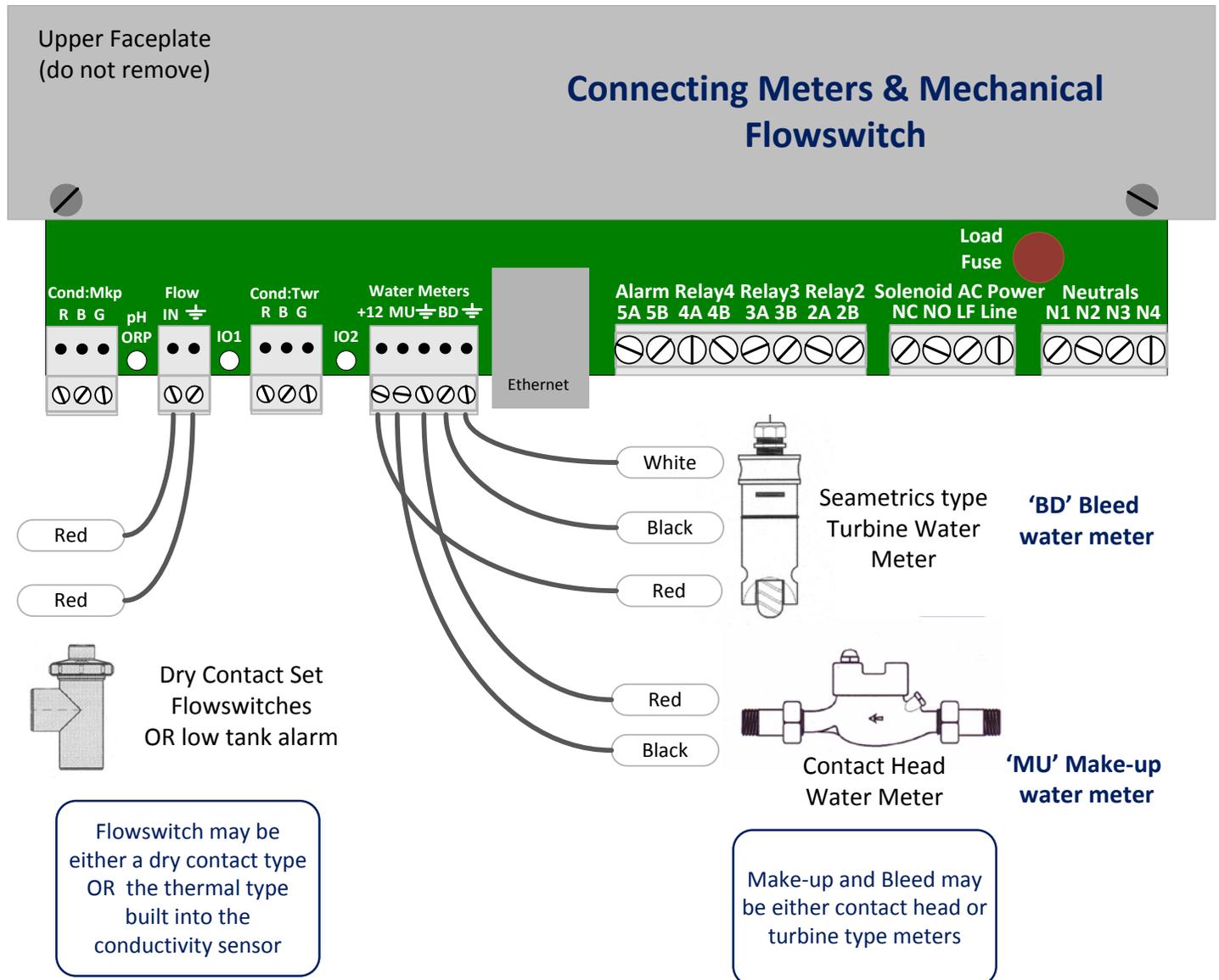


11. Sensor & Water Meter Wiring

Open the enclosure door, unplug the power cord & remove the lower faceplate:

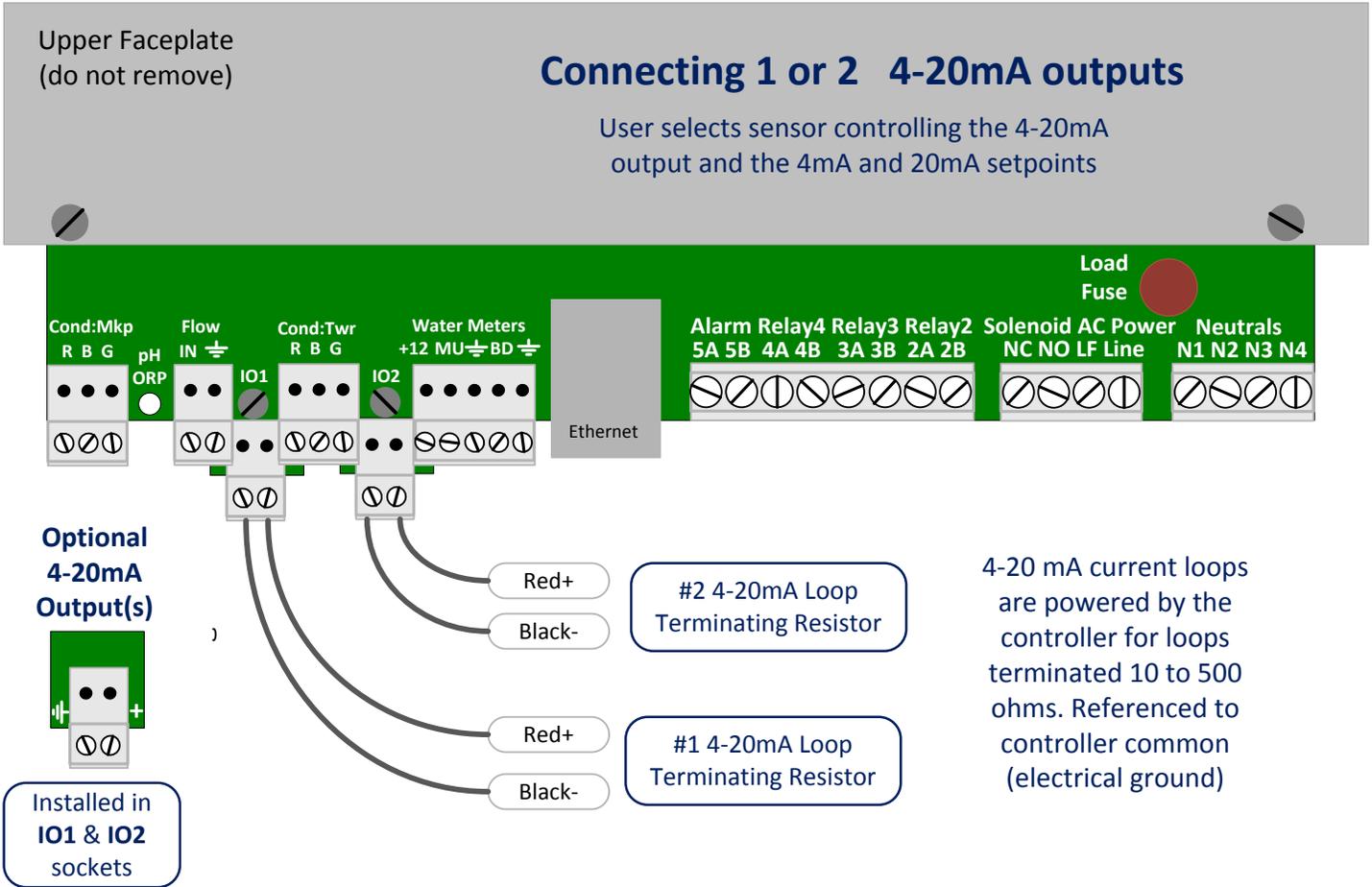
Flowswitch choice: Users may select to use the thermal flowswitch built into the tower conductivity sensor or a dry contact set connected as shown in the flowing graphic.

Select is a [System Settings / Site Options](#) (see [1.2 User Menus](#)).



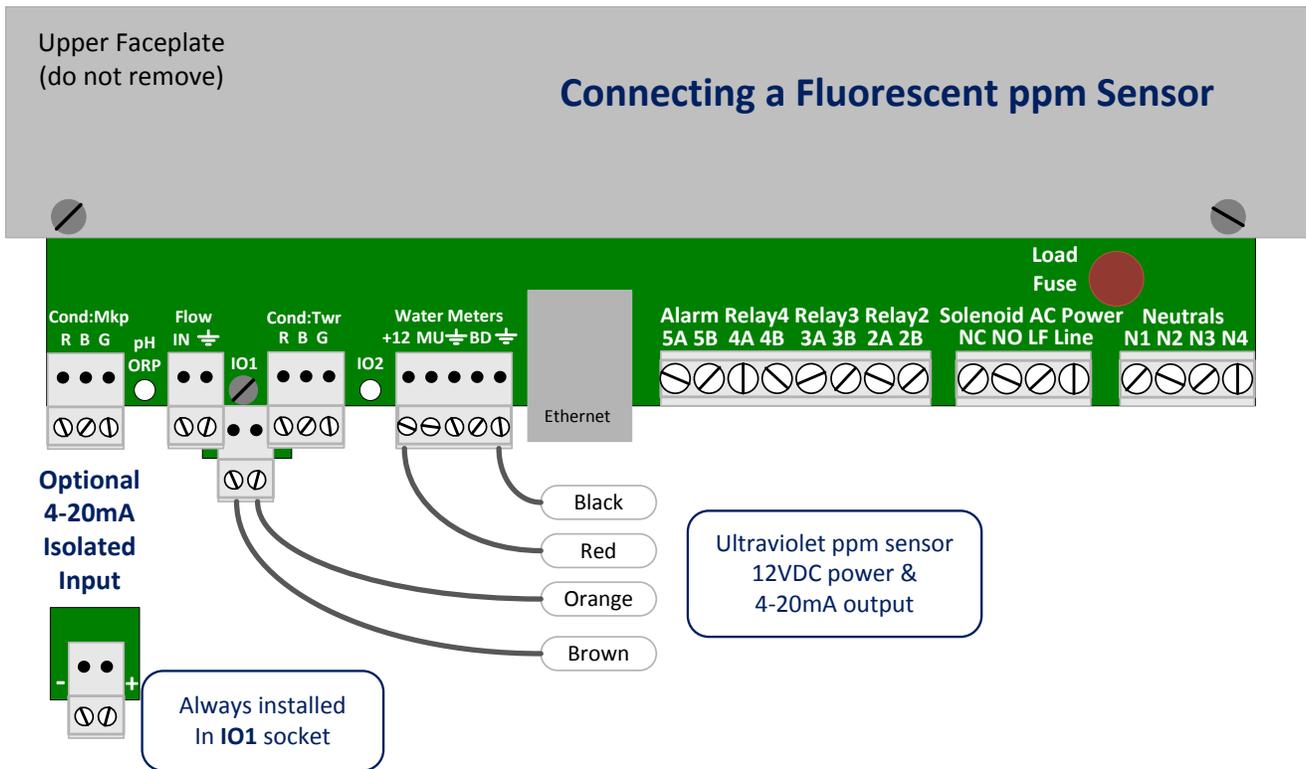
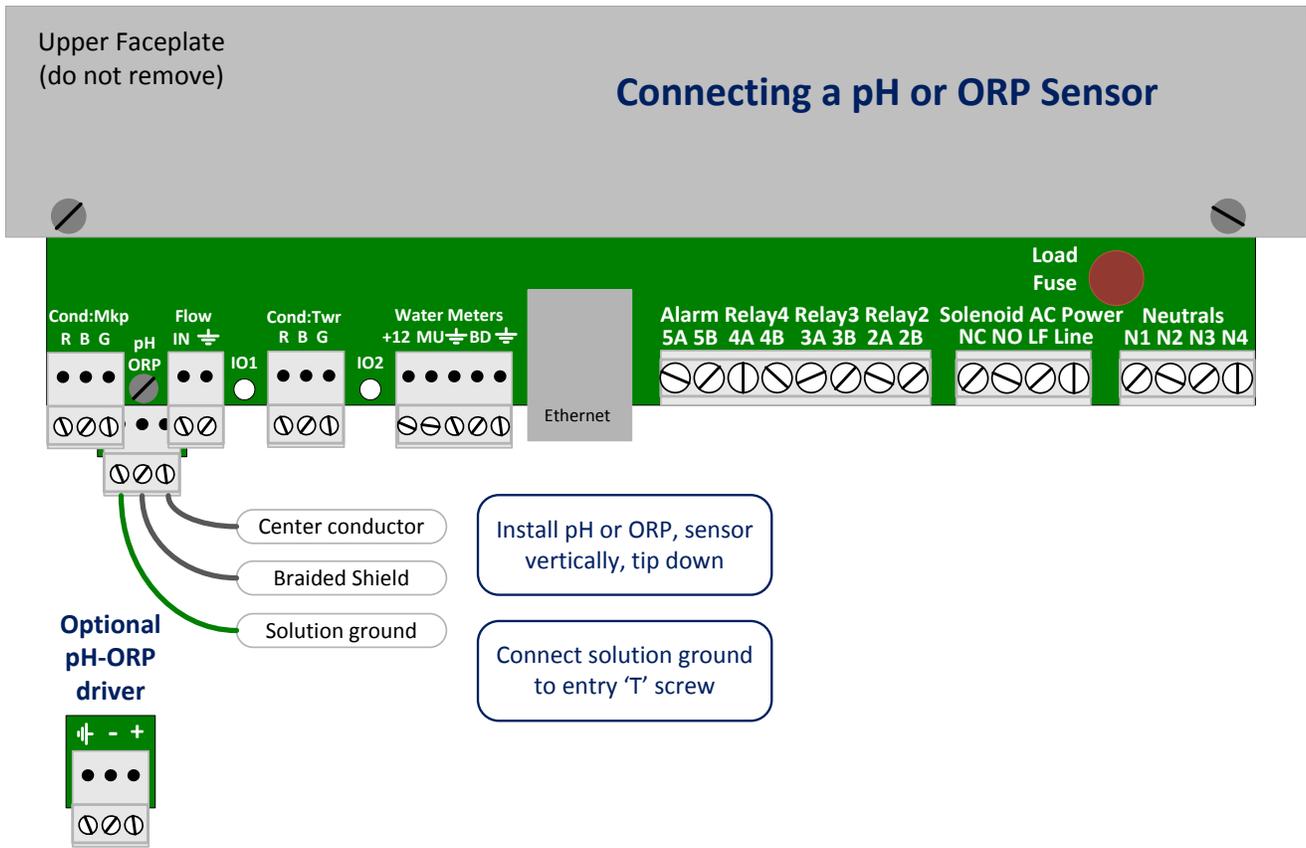
11. Sensor & Water Meter Wiring

Open the enclosure door, unplug the power cord & remove the lower faceplate:



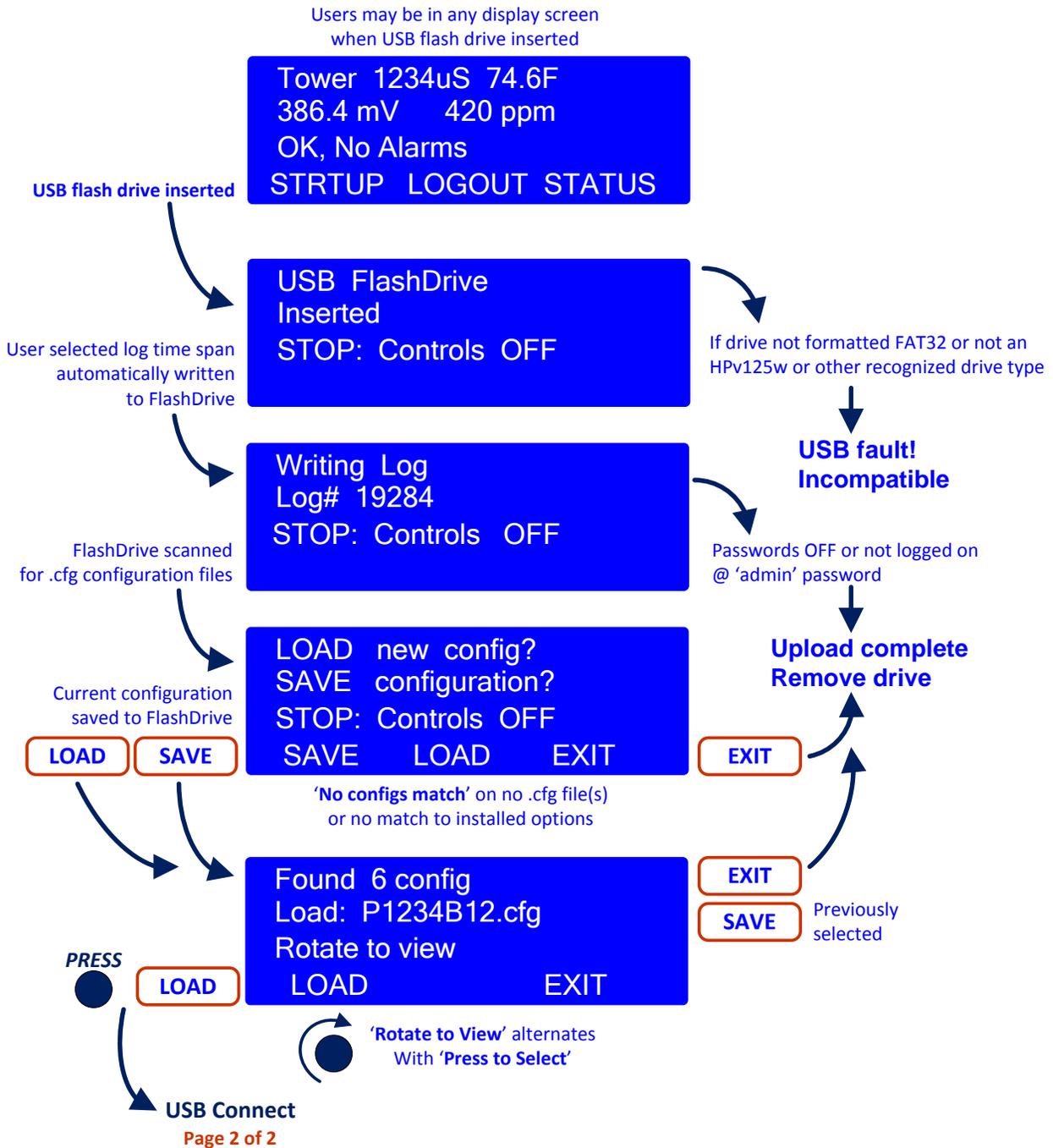
11. Sensor & Water Meter Wiring

Open the enclosure door, unplug the power cord & remove the lower faceplate:

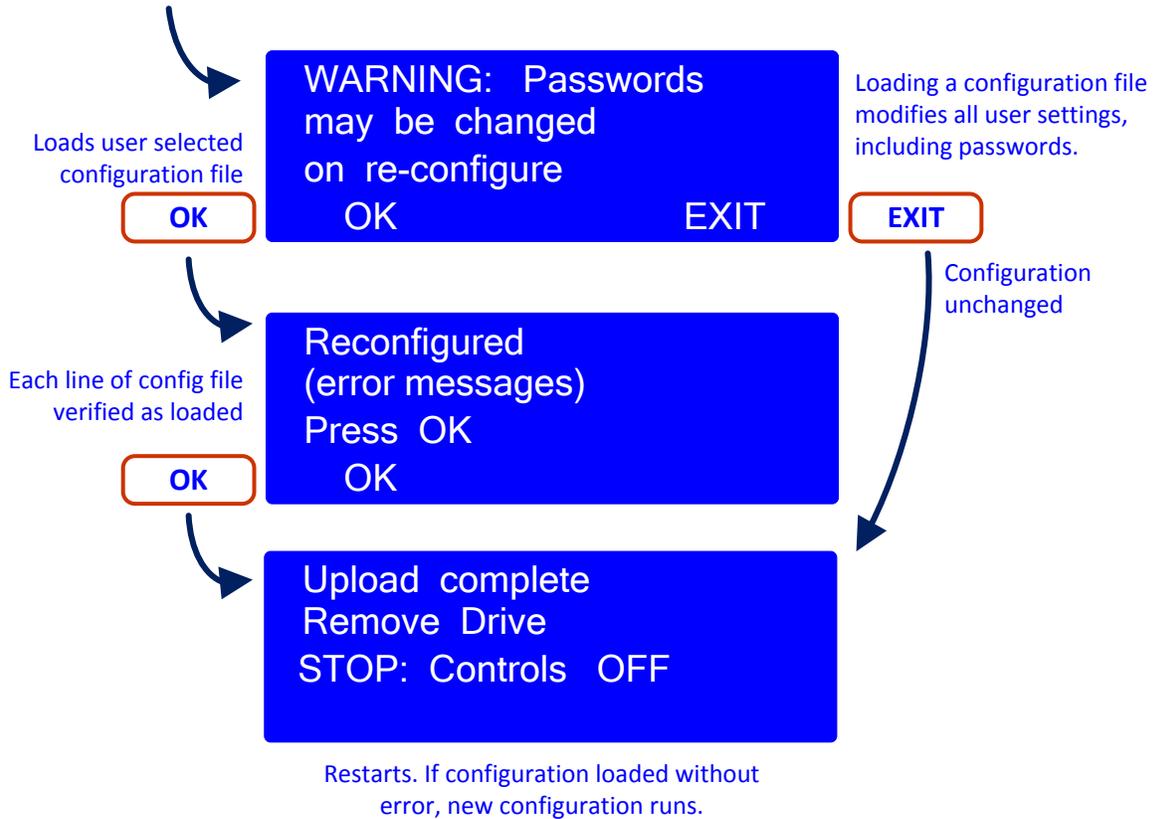


12. USB Flash Drive Data Logs & Configuration Files

WARNING: Relays 1 to 5 turn OFF when the flash drive is inserted
 Plug an HP v125w type flash drive or any compatible FAT32 formatted drive into the USB socket.
 The time span of the log file is user selected @ **System Settings / Site Options**
 (see **1.2 User Menus**).



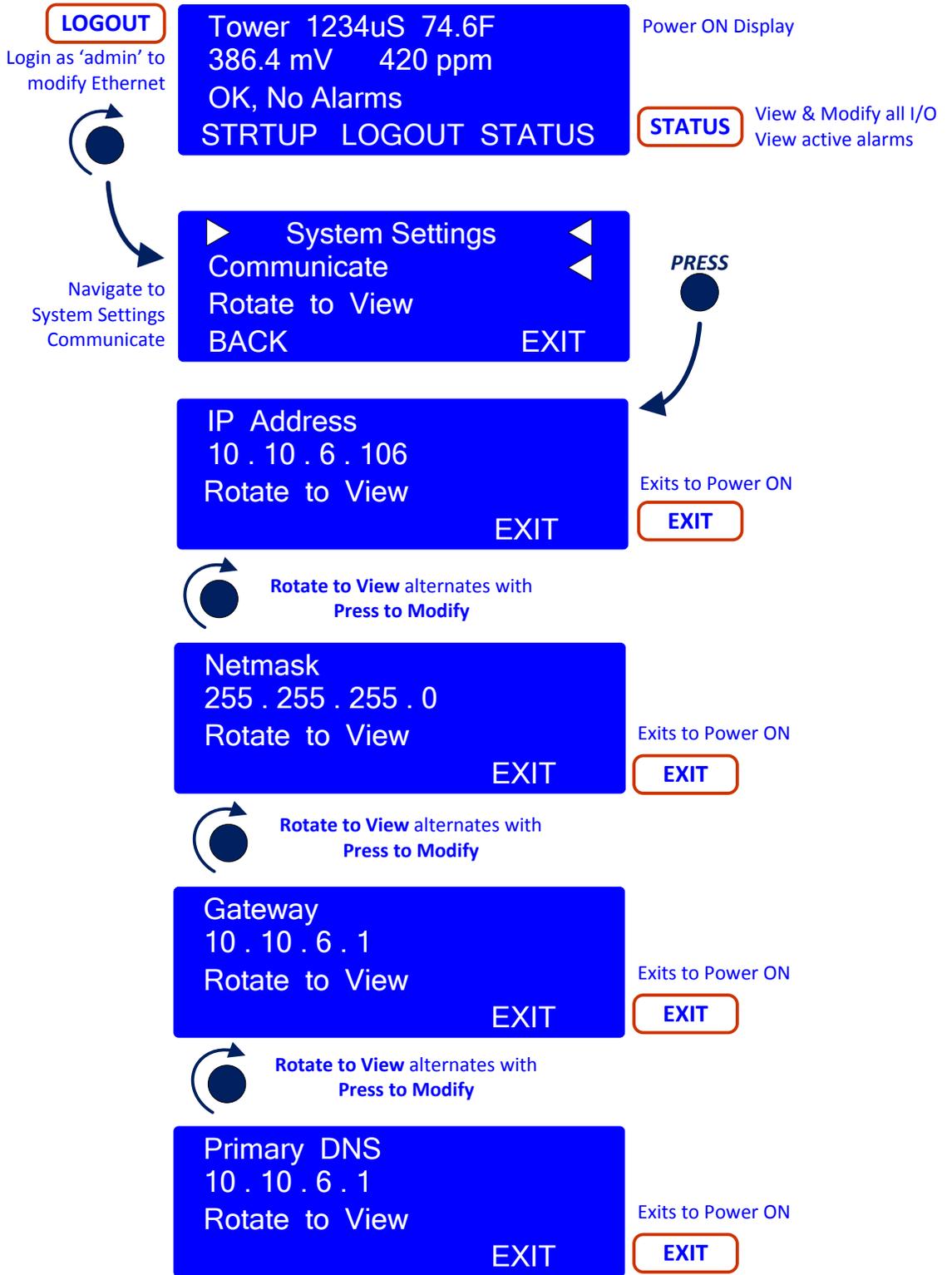
- Notes.**
1. Log files are named PXXXLDDD.txt where XXX = last 3 numbers of serial# & DDD = year Day#
 2. Configuration files are named PXXXXMDD.cfg where XXXX = last 4 numbers of serial# & MDD = Month 1..C & day 1..31.
- If you **SAVE** more than one configuration file in any 1 day, the first is named as noted previously & the most recent is named PXXXXNEW.cfg.

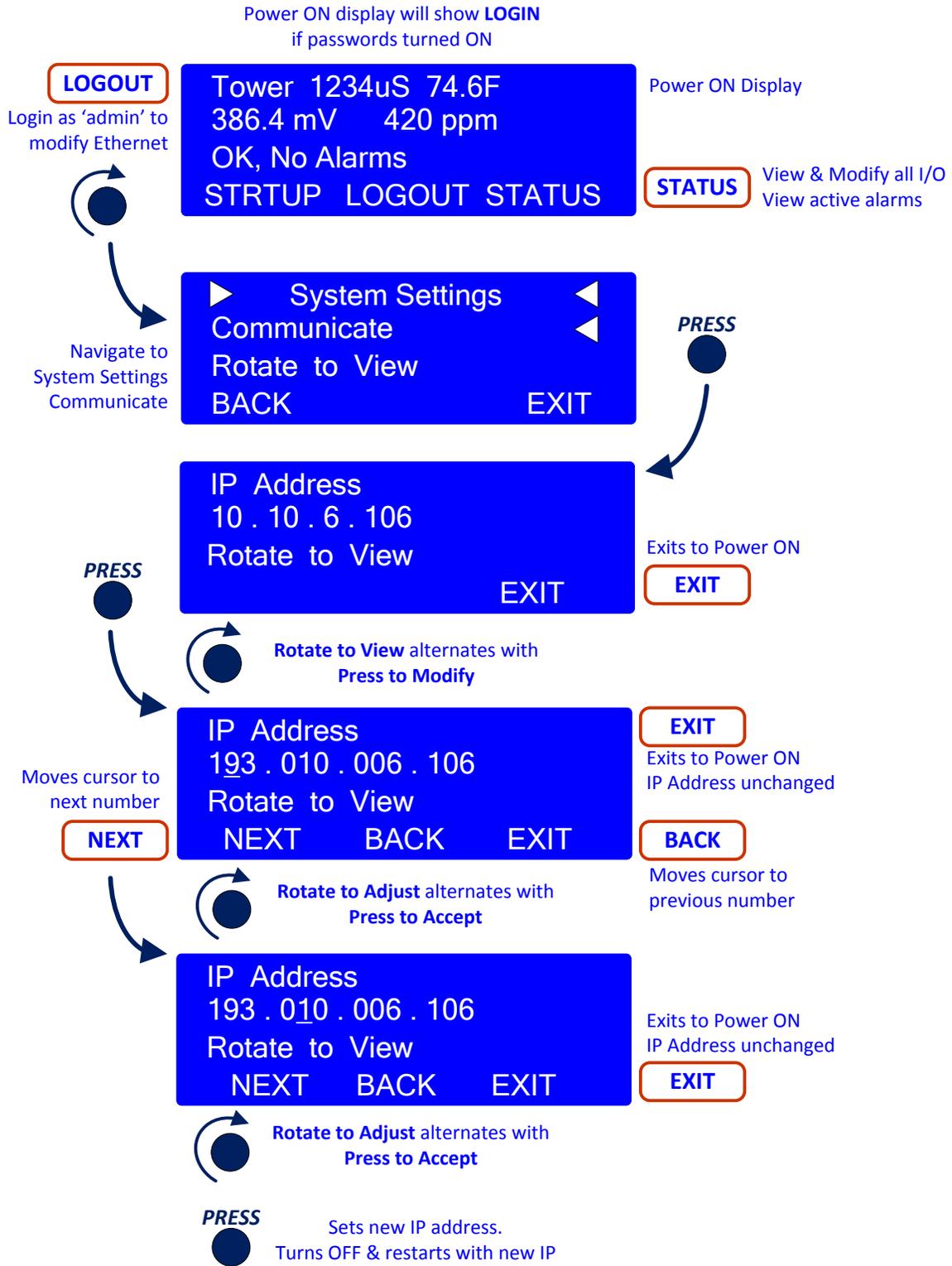


Notes.

1. Today's configuration file has been written on the flash drive with today's log file. You can always return to this initial configuration & it's passwords. Today's files are named PXXXXMDD.cfg where XXXX = last 4 numbers of serial# & MDD = Month 1..C & day 1..31. For example, if the controller's serial number is PA12x1424 & today was June 12 the configuration file name would be P1424612.cfg
2. When you re-insert the flash drive to **LOAD P1424612.cfg**, the controller will auto-save the current configuration. To prevent overwriting P1424612.cfg, if more than one configuration file is **SAVE**ed in any 1 day, the first is named as noted previously & the most recent is named PXXXXNEW.cfg.
3. If you are creating & saving multiple configurations on the same day, rename or put each configuration in a sub-directory on the flash drive after you **SAVE** & it will not be renamed. Subdirectory .cfg files will not appear on the list of available configurations. You're going the have to rename to avoid more than 1 file with the same name. Any .cfg type file name of up to 8 letters maximum will be recognized by the ProMtrac.

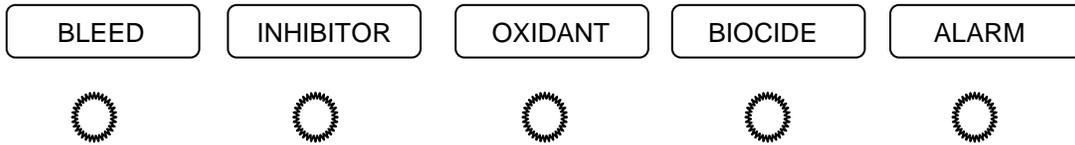
Power ON display will show LOGIN if passwords turned ON



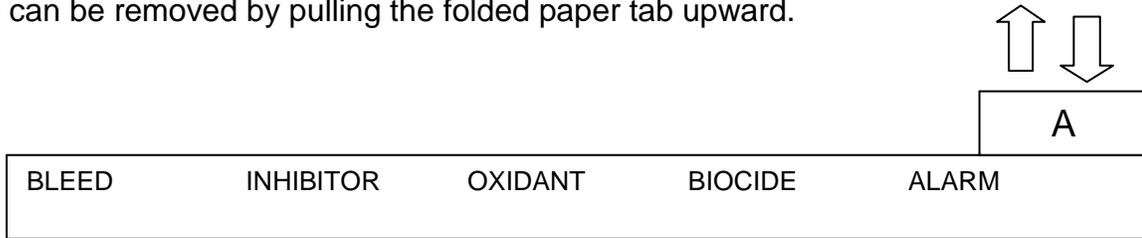


14. Relay Assignment

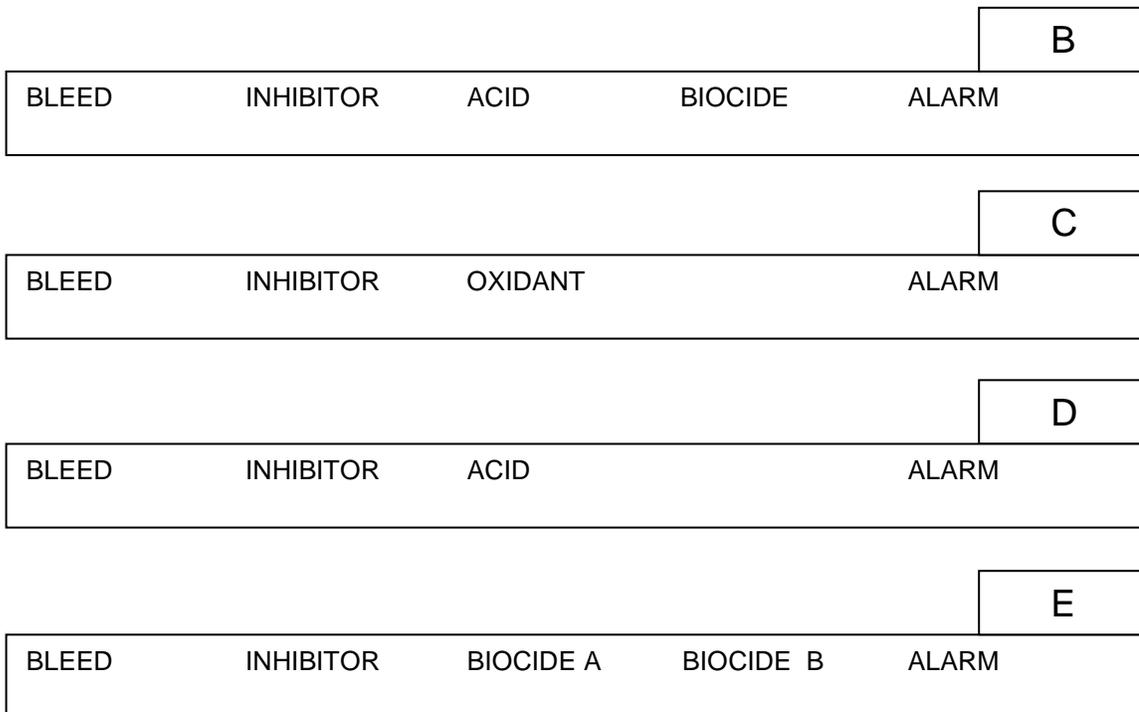
All units are shipped with the relays configured so that the front top controller panel displays the assigned relay captions in the windows associated with these functions, and indicate the status of each relay by the color of the LED immediately below each individual window (see page 4). Relays are numbered 1 - 5 from left to right.



It is possible to change the relay configuration if required by the application. The LED window captions can be changed by first turning power off to the controller and then removing the top panel. Inserted into the top edge of this panel is the paper legend 'A' or 'B' shown below which can be removed by pulling the folded paper tab upward.



In addition to the original factory configuration, additional paper legends are included with the controller for possible field changes – they are marked on the tab as shown below: 'B' for pH with biocide, 'C' for ORP and no biocide, 'D' for pH and no biocide, and 'E' for two biocides.



ProMtrac User Manual

SPARE PARTS

7500979	COND/TEMP/FLOW ASSEMBLY (Probe only 7761529)
7500980	COND/TEMP/FLOW ASSEMBLY HIGH PRESSURE (Probe only 7761533)
7500850	FUSE
7500790	4-20mA OUTPUT DRIVER CARD
7500791	pH or ORP DRIVER CARD
7501032	4-20mA ISOLATED INPUT DRIVER CARD
7501031	MAIN ELECTRONIC CIRCUIT BOARD
7500727	LITTLE DIPPER FLUOROMETER
7500725	100 PPB CALIB FLUOROMETER CALIUBRATION STANDARD