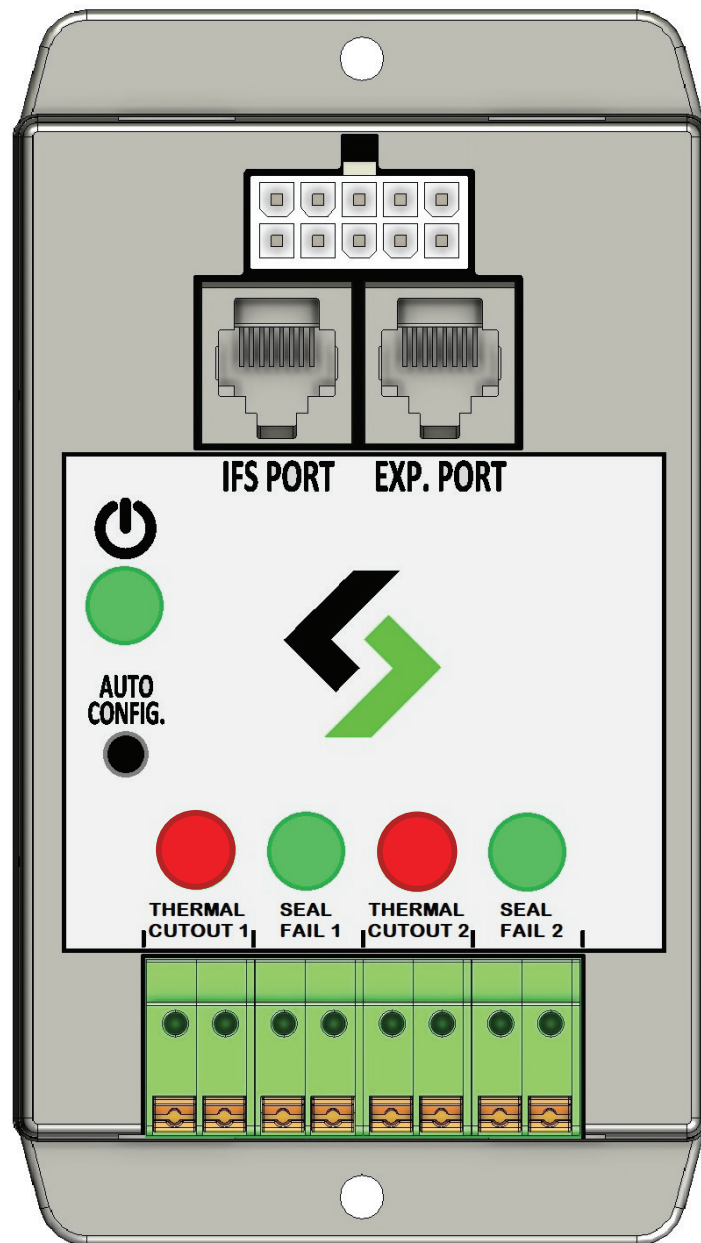Installer Friendly Series®

Combination Dual Seal Fail Thermal Cutout Module

Installation and Operation Manual

IFS PORT   EXP. PORT

AUTO CONFIG.

THERMAL CUTOUT 1 | SEAL FAIL 1 | THERMAL CUTOUT 2 | SEAL FAIL 2

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Technical Support Hours: Monday-Friday, 7 A.M. to 6 P.M. Central Time

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⚠WARNINGS

Failure to read and understand the information provided in this manual may result in personal injury or death, damage to the product or product failure. Please read each section in its entirety and be sure you understand the information provided in the section and related sections before attempting any of the procedures or operations given.

Failure to follow these precautions could result in serious injury or death. Keep these instructions with warranty after installation. This product must be installed in accordance with National Electrical Code, ANSI/NFPA 70 so as to prevent moisture from entering or accumulating within the controller housing.	
⚠WARNING	**ELECTRICAL SHOCK HAZARD** A qualified service person must install and service this product according to applicable codes and electrical schematics. Disconnect power prior to servicing any equipment.
• Do not connect power to this equipment if it has been damaged or has any missing parts. • Do not install in areas with: excessive or conductive dust, corrosive or flammable gas, moisture or rain, excessive heat, regular impact shocks, or excessive vibration.	
⚠WARNING	**EXPLOSION OR FIRE HAZARD** Do not use this product with flammable liquids. Do not install in hazardous locations as defined by National Electrical Code, ANSI/NFPA 70.

Warning: Users must read this manual and understand controller operation before changing any settings. Entering incorrect settings may result in damage to equipment.
If the controller was shipped pre-installed in a control panel, some default values may have been changed at the factory in order to properly test the control panel operation. The user must adjust the settings to the requirements of the installation.
The user should always keep a record of the settings before making changes, in case there is a need to revert to previous settings. The user should also record all settings changed for use in programming a new controller in case a replacement is ever needed.
Always thoroughly test controller operation in the installed configuration to verify user settings.

OVERVIEW

The Combination Seal Fail Thermal Cutout Module is designed to operate with one or two pumps. The unit can be wired to act as a seal fail and thermal cutout for up to two pumps.

FUNCTION

The Installer Friendly Series® Dual Seal Fail Thermal Cutout Module monitors the seal probes and over-temperature switch on one or two pumps in water and sewage applications. This pump monitoring module connects and interfaces with Next Generation Installer Friendly Series® Control Panels with a single cable. The pump monitoring module uses a simple and unique auto-configure feature to automatically set the seal fail trip points, as well as the over-temperature switch configuration, whether normally-open or normally-closed. The Installer Friendly Series® Control Panel display can also be used to manually set the seal fail trip points, if desired.

FEATURES

Dual-Colored LEDs (Green/Red)
- Power/Status
- Thermal Cutout - (Pump 1 and/or Pump 2)
- Seal Fail - (Pump 1 and/or Pump 2)

Auto-Configure Pushbutton

IFS Panel Communication Port

Expansion Communication Port

Seal Fail/Thermal Cutout Output Connector (Used for Optional Panel Mount Indicators)
- Pump 1 Over-Temp
- Pump 1 Seal Fail
- Pump 2 Over-Temp
- Pump 2 Seal Fail

Field Wiring Terminal Blocks
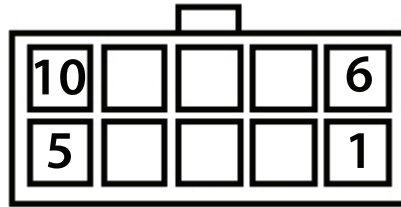- Lever Actuated Spring Clamp Type

Back Plate Mountable

SPECIFICATIONS

Power Consumption: 24VDC, 100mA max.
Fault Ouput Terminals:
- Transistor Ouput (x4)
- 24VDC, Nominal @ 25mA (x4)
     1. +24VDC
     2. +24VDC
     3. +24VDC
     4. +24VDC
     5. +24VDC
     6. SIGNAL GND
     7. SEAL FAIL 2 (-)
     8. THERMAL 2 (-)
     9. SEAL FAIL 1 (-)
    10. THERMAL 1 (-)

Operating Temperature: -20°F to 122°F (-30°C to 50°C)
Storage Temperature: -40°F to 140°F (-40°C to 60°C)
Relative Humidity (RH): 5% to 95% (non-condensing)
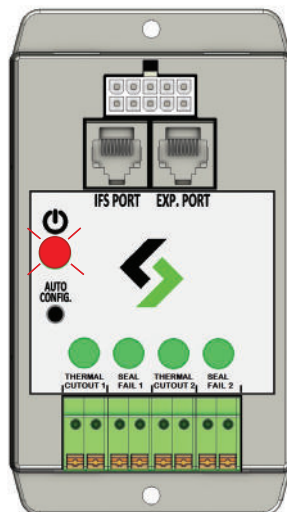**Field Wiring Terminal Wire Range:** 24 to 12 AWG

INSTALLATION STEPS

Wire the thermal cutout and seal fail from each pump to the module.
- Leave any unused inputs disconnected.

Auto-configuration
With Installer Friendly Series® control panel power applied, press and hold the Auto Config. button on the front of the module until the power/status indicator light flashes red/green.
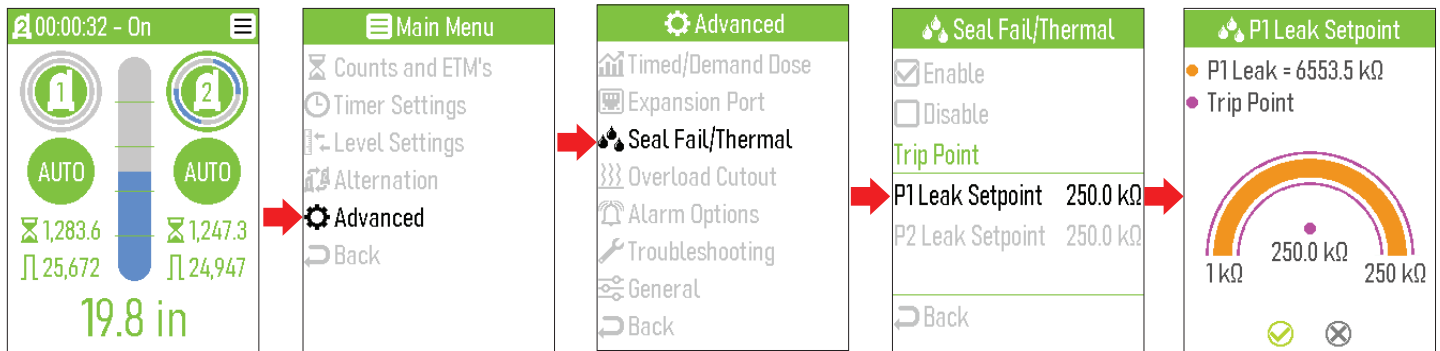
Auto-configure Complete
• Seal fail trip point will be set to 90% of the measured seal resistance.
• Thermal cutout normal position is configured automatically.
     - If open and auto-configured, it will recognize trip if it is switched to closed.
     - If closed and auto-configured, it will recognize trip if it is switched to open.
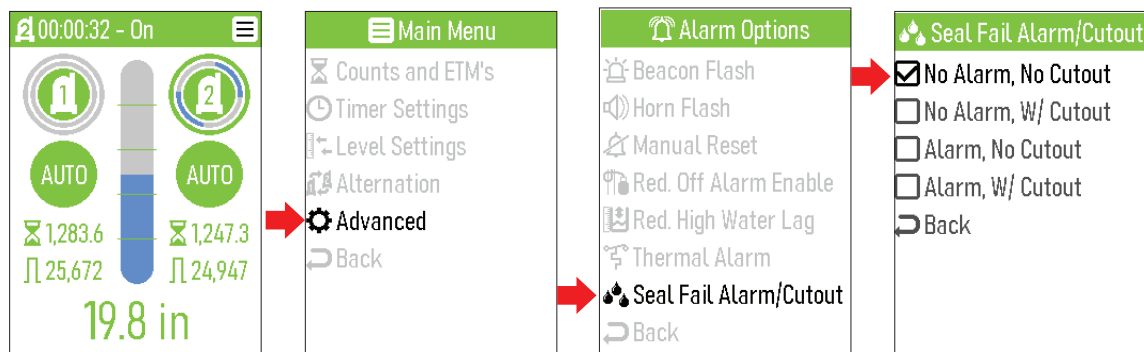   * Contact closure type seal fail circuits are also auto-configured.

Manual Configuration
• Navigate to the Installer Friendly Series® menu.
    - Menu--->Advanced--->Seal Fail/Thermal--->P1/P2 Leak Setpoint
• Manually adjust the leak trip point for each pump.
    - Use the green checkmark to save or the red x to exit without saving.

Seal Fail Alarm Options
• Navigate into the menu and select the appropriate alarm options for the installation.
    - Menu--->Advanced--->Alarm Options--->Seal Fail Alarm/Cutout

    - The panel can be set up to alarm and/or disable the pump during a seal fail event.
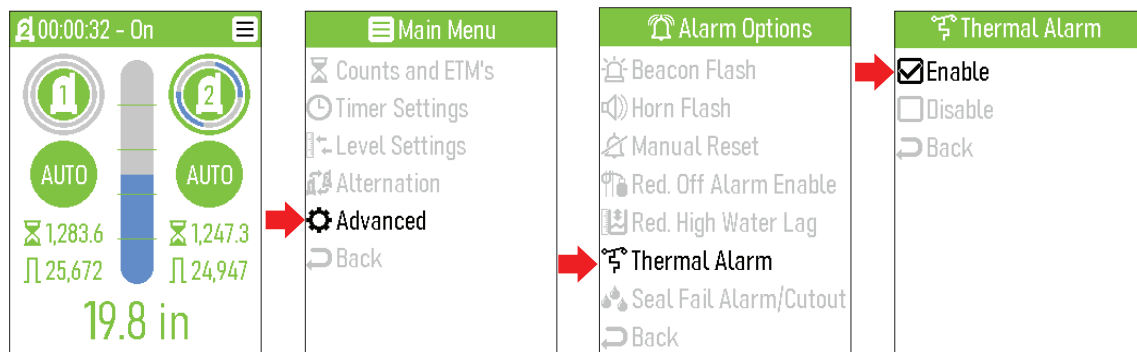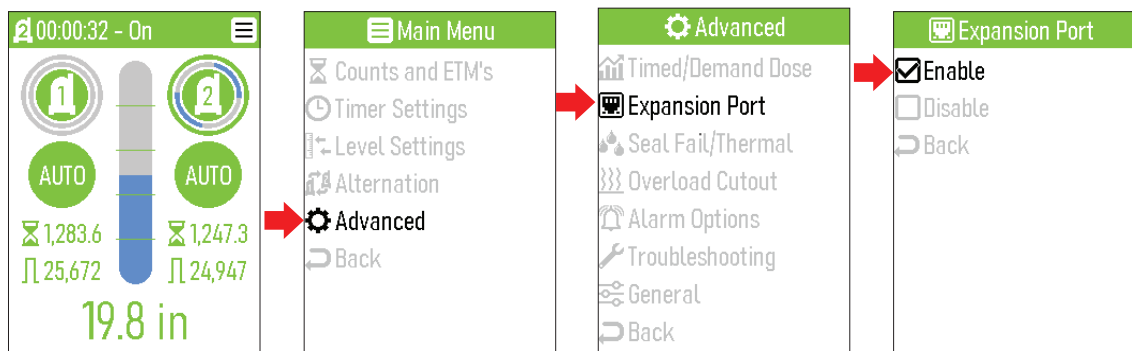
Thermal Alarm Option
• Navigate into the menu and select the appropriate alarm options for the installation.
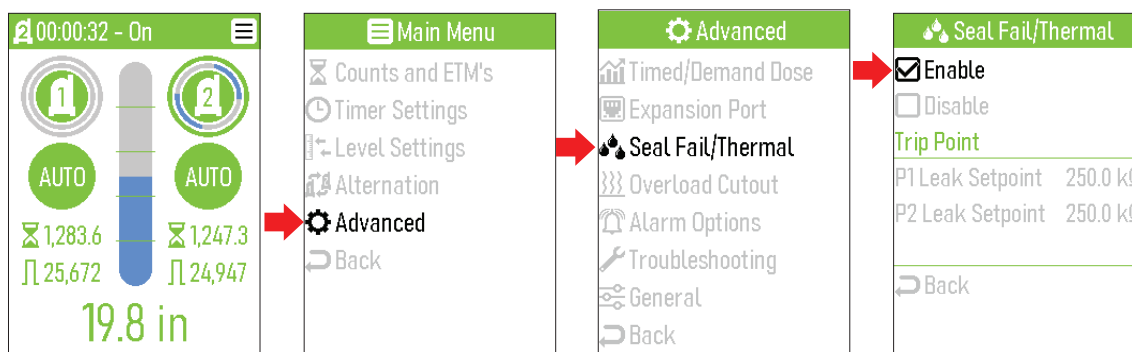   - Menu--->Advanced--->Alarm Options--->Thermal Alarm

    - The panel can be set up to alarm during a thermal cutout event.

Retrofit Seal Fail Module Installation—adding the seal fail thermal cutout module to an existing panel in the field.

• Display and controller must have firmware revision 2.00 or higher.
  - Mount the seal fail thermal cutout module securely in the control panel.
  - Connect the provided RJ45 cable to Port 1 on the Seal Fail Thermal Cutout Module and the other end to the IFS Controller EXP Port.
    Note: The EXP port is underneath the breaker bracket.
  - With control panel powered: Navigate into the menu and enable the expansion port.
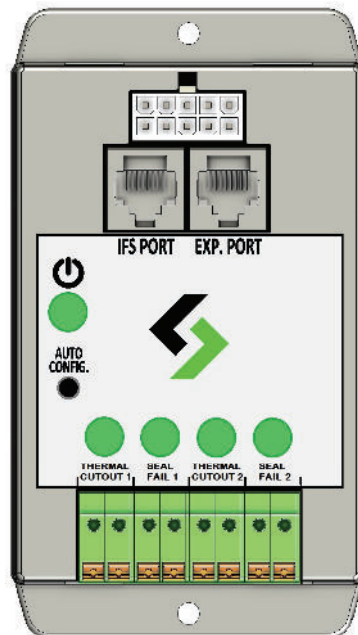   - Menu--->Advanced--->Expansion Port--->Enable

2 00:00:32 – On ☰	☰ Main Menu	⚙ Advanced	🖥 Expansion Port
① ②	⌛ Counts and ETM's	📊 Timed/Demand Dose	☑ Enable
AUTO AUTO	⏱ Timer Settings	🖥 Expansion Port	☐ Disable
⌛ 1,283.6 ⌛ 1,247.3	⇅ Level Settings	💧 Seal Fail/Thermal	⤺ Back
∏ 25,672 ∏ 24,947	🔀 Alternation	〰 Overload Cutout	
19.8 in	⚙ Advanced	🔔 Alarm Options	
	⤺ Back	🔧 Troubleshooting	
		⚙ General	
		⤺ Back	

• Navigate into the menu and enable the Seal Fail/Thermal Cutout Module.
  - Menu--->Advanced--->Seal Fail/Thermal--->Enable

2 00:00:32 – On ☰	☰ Main Menu	⚙ Advanced	💧 Seal Fail/Thermal
① ②	⌛ Counts and ETM's	📊 Timed/Demand Dose	☑ Enable
AUTO AUTO	⏱ Timer Settings	🖥 Expansion Port	☐ Disable
⌛ 1,283.6 ⌛ 1,247.3	⇅ Level Settings	💧 Seal Fail/Thermal	Trip Point
∏ 25,672 ∏ 24,947	🔀 Alternation	〰 Overload Cutout	P1 Leak Setpoint 250.0 kΩ
19.8 in	⚙ Advanced	🔔 Alarm Options	P2 Leak Setpoint 250.0 kΩ
	⤺ Back	🔧 Troubleshooting	
		⚙ General	⤺ Back
		⤺ Back	

• Follow seal fail to auto-configure and manual configuration steps as needed.

- If pump 2 is not in use, the LEDs for the seal fail and thermal cutout indicators should remain green after auto-configuration.

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