F200 Configuration Guide

Thank you for purchasing a Falcon F200. This Configuration Guide is the second step in the F200 installation process. Before you use this guide, be sure you've completed all the steps in the F200 Startup Guide. Both documents are packaged with the F200 and available in the support section of our website, rletech.com.

Before you begin to configure your device consult our website to ensure you're working with the most recent version of documentation for this product.

If you need further assistance, contact RLE Technologies at support@rletech.com.

Falcon v4.3
Compatible with firmware version 4100.18 and above (9/2017)
RLE Technologies

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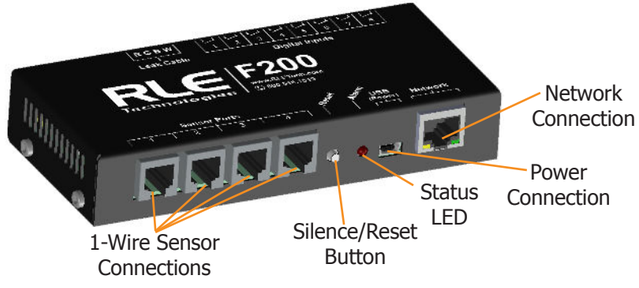
Before you begin, be sure you have access to the following equipment and information - if applicable:
F200 device
Temperature and temperature/humidity sensors
Conductive fluid or chemical sensing cable, plus leader cable kit and EOL terminator
1U rack mount bracket

The F200's serial number is found on the white sticker affixed to the bottom of the unit.

- Serial Number _____
- IP Address _____

Before you configure the F200, complete ALL STEPS in the F200 Startup Guide. The F200 should be powered up and you should be able to access the F200's web interface Dashboard via the unit's IP address or NetBIOS.

F200: Front Connections, Silence/Reset Button, and LED



1-Wire Sensor Connections

Plug in your temperature and temperature/humidity sensors. They click into place in the sensor ports on the front of the unit.

Status LED

The F200 has one multi-color LED on its front side. There are a variety of alarm and alert patterns and colors programmed for this LED. Use the following chart to determine which alarms are active on your F200.

Blink Pattern	Status Description	
Green / Off (Intermittent)	Normal status - no alarms are present	
Lt. Blue / Blue	Alarm - Leak detection cable break	
Lt. Blue / Off	Alarm - A leak has been detected	
Red / Off	Alarm - Temperature	
Red / Blue	Alarm - Humidity	
Magenta / Off	Alarm - Digital input	
Yellow / Off	No network connection	
White / Off	Unit is booting*	* Do not access or configure the F200 while these alerts are active.
Mixed	Firmware update is executing*	
Red / Magenta	Call RLE - the F200 has an internal error	

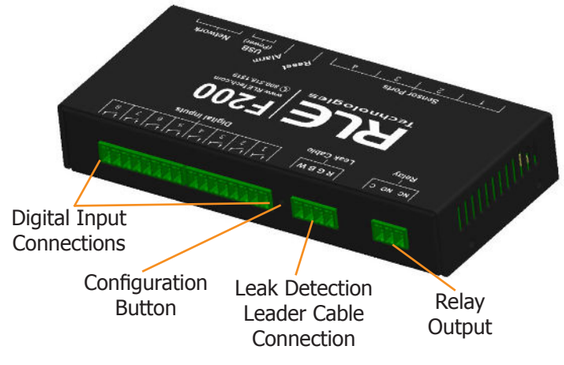
Alarm Silence and System Reset Button

The alarm reset is located on the front of the unit, near the LED. When the audible alarm is active, push this button once to silence the audible alarm. You'll know which alarm is active and associated with the audible alarm because the LED will blink to indicate a specific alarm condition.

There are several reset functions assigned to this button. Press the button (and hold when indicated) to achieve the desired functions:

Press Button and Release	LED Color	Action
One quick beep	Blinking LED error indicator	Silence audible alarm
Press Button and Hold; Release After	**LED Color**	**Action**
Two consecutive beeps	Green	Reset all alarms. If any alarms are currently active, they will immediately re-alarm.
Three consecutive beeps	Red	Toggle the relay output
Four consecutive beeps	White	Reboot the F200

F200: Rear Connections and Configuration Button



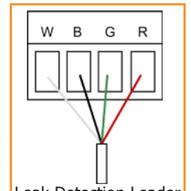
Digital Inputs

The F200 can monitor up to eight digital inputs, each of which connects to the F200 through a 2-wire connection on the back of the unit. When you're looking at the back of the unit, note that input 1 is on the right side of the terminal blocks and input 8 is on the left side of the terminal blocks.

To connect your digital inputs to the F200, loosen the screws on the appropriate slots on the terminal block connector and insert the two wires from your digital input - one in each slot. Tighten the screws to secure the connections.

Leak Detection Sensing Cable

Since leak detection sensing cable cannot connect directly to a controller, leader cable is used to connect leak detection cable to the F200.



Leak Detection Leader Cable Terminal Block Connection Wiring Order

1. Remove the 4-pin terminal block connector from the connection labeled Leak Cable on the back of the unit.
2. Insert the stripped wires of the leader cable into the appropriate slots in the terminal block connector - from left to right: white, black, green, red. Tighten the screws on the connector to secure the wires. Plug the connector - with the wires in the correct order - into the connection labeled Leak Cable on the back of the device.
3. Unscrew the EOL from the end of the leader cable.
4. Attach the length of sensing cable to the leader cable.
5. Route the sensing cable according to your cable layout diagram.
6. Secure the EOL to the unoccupied end of the sensing cable.

Relay Output

The F200 has one relay output - use this to control an external device in the event of an alarm condition. Loosen the screws on the appropriate slots on the terminal block connector and insert the wires for your relay output into the correct slots - NC-NO-C. Tighten the screws to secure the connections.

Configuration Button

The configuration button is used for advanced troubleshooting. This button needs to be accessed with the tip of a small object, like a paperclip. Insert it into the hole and press the button (and hold when indicated) to achieve the desired functions:

Press Button and Release	Action
One beep	Temporarily enables DHCP. The F200 will remain this way until it is rebooted, power is cycled, or the IP is configured. See the F200 Startup Guide for more information on DHCP and IP addressing.
Press Button and Hold; Release After	**Action**
Two consecutive beeps	Temporarily set the unit's static IP address to 10.0.0.188. The F200 will remain this way until it is rebooted, power is cycled, or the IP is configured. See the F200 Startup Guide for more information on DHCP and IP addressing.
Three consecutive beeps	Disables the administrator password.
Four consecutive beeps	Reset to all factory default settings

Mount the Controller

Once all connections have been wired to the F200, mount the device in an appropriate location. RLE recommends a secure mounting option through either the keyhole cutouts on the enclosure or through the optional 1U rack mount kit.

Web Interface

Dashboard

Accessible from any web browser or mobile device, the Dashboard includes the status of all sensors, digital inputs, and sensing cables the F200 monitors. As sensors are connected to the F200, their readings appear on the Dashboard. **If leak detection cable is connected to the F200, use the Inputs tab on the Setup menu to enable leak detection monitoring and its Dashboard display.**

Setup Menus

When you begin typing changes into the fields, they will turn either green to indicate your changes are acceptable, or red to indicate your changes cannot be submitted. If a field turns red, you've likely typed more characters than the field can accept or you've entered a character that can't be used in that field. Once you delete the excess or offending character, the field will turn green again.

When you edit a section, a Save Settings button appears at the bottom of that section. Click this button to save your changes. **Changes will neither be saved nor implemented until you click the Save Settings button.**

Network

Use the network tab to configure IP settings and view the current IP configuration. The F200 Startup Guide, packaged with this product and available at rletech.com, details this process.

Time is also set on the network tab. Two timekeeping options are available:

1. Network time protocol (NTP) is enabled by default, accessing pool.ntp.org as the NTP server.
2. The F200 also has an onboard real-time clock (RTC). To use the RTC:
   a. UNCHECK the NTP Enabled checkbox. If you do not uncheck this box, NTP will still be active and will override any RTC settings.
   b. Enter data in the Set Date/Time field, paying careful attention to syntax. If you do not use the correct syntax, this field will turn red and you will not be able to submit your date and time settings.
   c. Click the Save Settings button. NTP is now disabled and RTC is enabled.

Sensors

Use the sensors tab to configure information, alarm parameters, offset, and alarm notification (email, audible, activate relay output, etc.) for each 1-wire sensor that is currently connected to the F200. Configure each sensor separately and click the Save Settings button after you have entered settings for each sensor.

Inputs

Leak Detection

The F200 monitors up to 200 feet of leak detection cable, configured in a single zone. **If you have leak detection cable connected to the F200 you will need to use this menu to enable the leak detection monitoring.** Once leak detection is enabled, the leak detection cable widget appears on the Dashboard. When you configure the sensitivity for the cable, keep in mind:

- Low sensitivity: **more** water is required to trigger a leak alarm.
- High sensitivity: **less** water is required to trigger a leak alarm.

Digital Inputs

Use the inputs tab to name your digital inputs and to configure alarm and notification parameters (email, audible, enable relay output, etc.) for each input.

Keep in mind the "When" box tells the F200 when to send an alarm and if the alarm is latching or not. If your digital input is normally open, the F200 should generate an alarm WHEN that contact is closed. For that input, you'd select "Closed" in the When drop down, and then decide what notification action the F200 should take.

Network Links

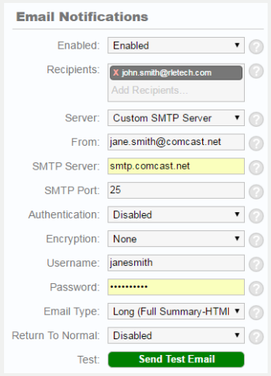
You can configure up to four network link widgets that allow you to display a static or IP web camera image and then link to any URL from the Dashboard. Configure each link and click the Save Settings button to enable this feature.

Reporting

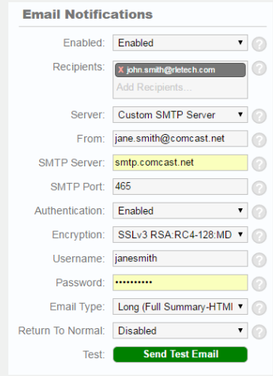
Email Notifications

Use this feature to send email alerts when the F200 goes into alarm. Users entered as email recipients will receive all email alerts generated by the F200. Email configuration is specific to your email provider and settings - if you are unsure of the appropriate email configuration settings, contact your IT Department. Sample email configurations are as follows:

Basic SMTP Server/Recipient Setup

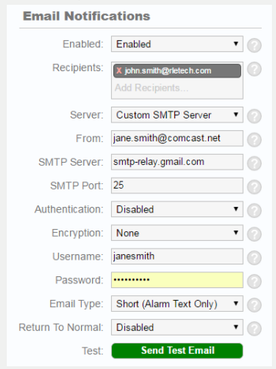


Encrypted SMTP Server Setup



Gmail SMTP Server Setup

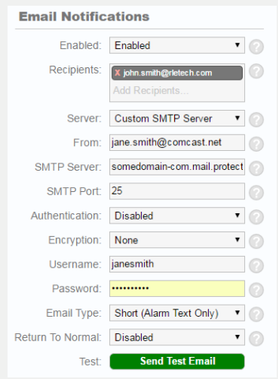
1. Set up a Gmail smtp-relay account:
   - https://support.google.com/a/answer/176600?hl=en
2. Set up a Google Apps SMTP relay:
   - https://support.google.com/a/answer/2956491



Outlook Email Server Setup

Use the Office 365 or Outlook Direct Send configuration. See Option 2 at:

- https://technet.microsoft.com/en-us/library/dn554323(v=exchg.150).aspx



SMTP Server: somedomain-com.mail.protection.outlook.com

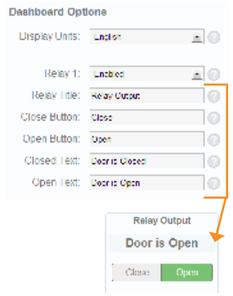
Once you save any changes made within this section, a test email button appears. Send a test email to ensure your notifications are working correctly, and that your spam filter hasn't blocked the incoming email notifications.

Dashboard Options

Designate English (Fahrenheit and feet) or metric (Celsius and meters) units. By default, the F200 is configured for English readings.

Relay Output

When you enable the relay output, a button to control the relay output appears on the Dashboard. The button allows approved users to open and close the relay output from the F200's Dashboard. Use the options to configure the button's labels. **Any alarm condition that is configured to change the state of the relay output will override the manual button control of the relay. If an alarm is active, you cannot turn off the alarm with the manual relay control button.**



Trending and Logging

Once trending is enabled, a graph will appear on the Dashboard. To examine the points on the graph in greater detail, use your mouse to highlight a section of the graph and zoom into it, or use the slider bars beneath the graph to adjust the range of the graph. Double click anywhere on the graph to return to the default view.

The sample period designates the amount of time that passes between logged data points on the trending graph, and can be set from ten seconds to one day. The F200 records up to 86,400 points - a shorter sample period records more closely grouped points for a shorter overall period of time, while a larger sample period charts data points spaced farther apart, but over a greater overall period of time. The trending log is downloadable as a CSV file.

Enabling event logging generates a table on the Dashboard that logs all major alarm and return to normal events with a date and time stamp.

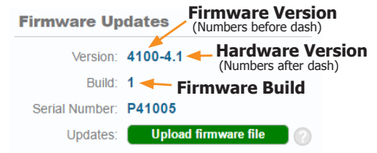
SNMPv2 and Modbus TCP

The F200 can be configured to communicate via SNMPv2 and Modbus TCP. If you wish to use this functionality, configure the settings on this page. Note that links in these headings allow you to download the SNMPv2 MIB file and to view the current readings of all the F200's Modbus TCP registers. A separate document, available in the Support section of RLE's website, further details the F200's Modbus capabilities.

Admin

Firmware Updates

Determine the current version and build of firmware running on your F200. Compare this with the firmware posted on the F200 Support page on the RLE website. If a newer version of firmware is available, download it and save it to a local computer. Manually upload it to your F200 using the Upload Firmware File link. The update will take a few minutes and the F200 will reboot itself once the new firmware is installed. Once the reboot is complete, the F200 will be ready to resume its operations.



System Controls

The reboot button allows users to remotely reboot the F200. Use the Identify button to make the unit's LED flash and its audible alarm to sound. This helps users connect a web interface with an actual physical unit.

Users

Two types of users can be configured on the F200. Up to eight usernames can be configured in each of the two categories. Each username can be used by only one user at a time. Each user should have their own username:

- Admin User - Admin Users can view and edit the F200's Setup screens. For admin users, the default username is **admin**; the default password is **admin**.
- Normal User - Normal (Read Only) Users can only view the F200's Dashboard.

There are three login configurations:

- Never - Users are never required to log in. Anyone can view the Dashboard and Setup screens, and anyone can change the F200's configuration through the Setup screens.
- To Change Settings - A login is NOT required to view the Dashboard. Only users logged in as Admin Users can view and edit the Setup screens.
- Always - All users are required to log in. View-Only Users can only view the Dashboard. Admin Users can also view and edit Setup screens.

A relay control checkbox is also located on this page. If you check this checkbox, only Admin users will be able to operate the Relay button on the Dashboard.

Logout

If you're logged in to the F200 and have finished your configuration work, click this link. It will log you out of the device and return the view via your workstation back to its read-only state.