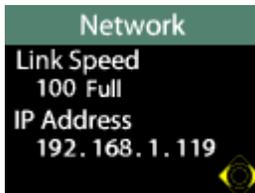


Setting up Your Optional ETH1 Ethernet Module

Your ETH1 module requires some configuration before you can begin using it. To configure your ETH1 module, you need to make a few changes to the **Setup.ini** file on your SD card. Network Setup is required to use your ETH1 Ethernet Module. The other sections are optional.

Network Setup



To set up your network connection, you may need to change the IP_Address_Method setting in the **Setup.ini** file

Your PQube supports two different methods to get network information. DHCP is the automatic method used on most modern networks and the default for your PQube. If your network supports DHCP and you use the Use_DHCP setting, simply plug in your PQube and it will get the network configuration automatically. If your network doesn't support DHCP, change this setting to Use_Fixed_IP and fill out the [Fixed_IP] section.

Your PQube displays its IP address when connected to a network. This allows you to easily access your PQube's Web Server without searching for your IP address elsewhere. This is useful if you are using DHCP.

Email Setup

Creating an e-mail account for your PQube

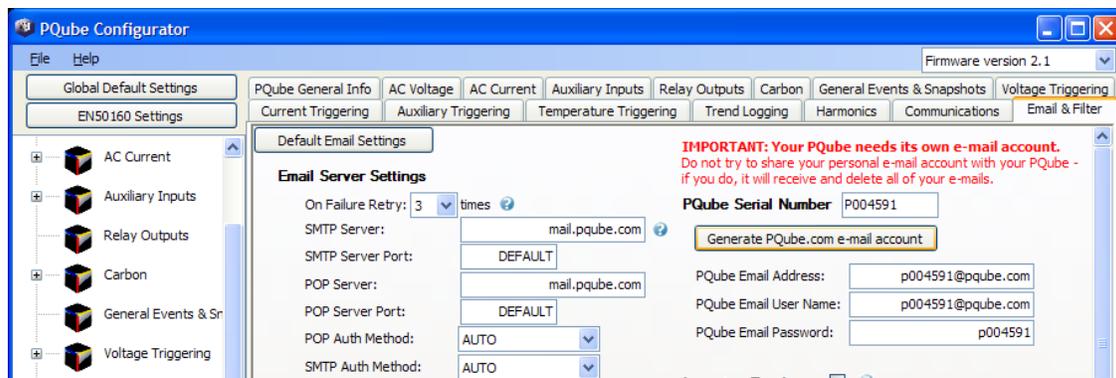
Your PQube needs its own email account in order to send email. This is because your PQube is an email client, just like your computer.

PQube.com email address

Your PQube comes with its own PQube.com email account! By default, all of the email server information is already filled out for you.

If you need to re-enter your PQube.com email information, follow these steps:

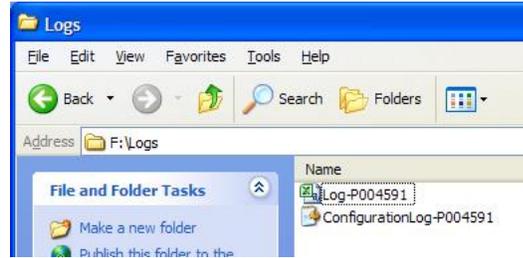
- Go to the **Email & Filter** tab in the PQube Configurator program
- Enter your PQube's serial number in the **PQube Serial Number** field.
- Click the **Generate PQube.com e-mail account** button and the program will automatically fill out your email server settings.



Your serial number can be found under the barcode on the rear label, or in the Logs filename.



OR



Creating an email account with your own domain

If you are unable to use the default PQube.com email account, you can create an email account for your PQube using your own domain. **NOTE** that Microsoft Exchange server is not supported on the PQube. You will need to give your email system administrator some information, have him or her set up an account for your PQube, and then fill in the [Email_Server_Settings] section of the **Setup.ini** file on your SD card.

SMTP vs. POP

Simple Mail Transfer Protocol (SMTP) is the standard protocol for sending email while Post Office Protocol (POP) is the standard protocol for receiving email.

Setup Configuration

Please tell your System Administrator that:

- Your PQube is a standard e-mail client.
- For outgoing mail, your PQube supports plain-text authentication, Cram-MD5, or MD5-Digest login. By default, your PQube uses port 25. Alternate ports that can be used are 26 or 587. Encrypted ports such as 465 are not supported.
- For incoming mail, your PQube supports plain-text authentication, Cram-MD5, MD5-Digest, USER-PASS, or APOP login. By default, your PQube uses port 110. Encrypted ports such as 995 are not supported.
- Ask your System Administrator to set up an e-mail account, and get the following information from them:

SMTP Server: _____ Port: _____

POP Server: _____ Port: _____

PQube e-mail address: _____

PQube e-mail user name: _____

PQube e-mail password: _____

- Use this information to fill in your **Setup.ini** file.

WARNING

Do not assign your personal email address to your PQube. Your PQube must have its own dedicated email address that it can use to send and receive email. Power Standards Lab is not responsible for any loss of data.

Specify up to 10 email recipients

In the [Outgoing_Email] section, tell your PQube who to send emails to under the Email_To_1 field. You may enter up to 10 total email addresses to receive emails from the PQube.

Sending a test e-mail from your PQube

After you have set up your PQube to use email, it is a good idea to send a test e-mail from your PQube. Use the joystick to go to the “Send test e-mail” screen, just to the left of your “Configuration” menu, and select it. If your PQube sends an e-mail successfully, you will see a green check mark.



Click the button to send a test email



The email was sent successfully



There was an error sending the email

If your PQube could not send an e-mail, you will see an ERR number on the screen. The error number corresponds to one of the following problems:

- ERR 1: You don't have an Ethernet Module with compatible firmware, or it's not attached to your PQube properly.
- ERR 4: PQube sending e-mail: Your PQube had a problem opening the e-mail body file.
- ERR 6: PQube sending e-mail: No network connection is available. Check your Ethernet cable and router, and check your network settings in your **Setup.ini** file.
- ERR 7: PQube sending e-mail: Problem connecting to your e-mail SMTP server. Check that you have the correct SMTP server name in your **Setup.ini** file.
- ERR 8: PQube sending e-mail: Your PQube successfully connected to your e-mail SMTP server, but the authentication process failed. Check that you have the correct password, and e-mail address, and that your SMTP e-mail server supports one of the following authentication methods: plain text, CRAM MD5, MD5 Digest.
- ERR 9: PQube sending e-mail: Your PQube had a problem opening an attachment file.
- ERR 10: PQube sending e-mail: Error while receiving a reply from your e-mail SMTP server (Your PQube was expecting data from your SMTP server, but PQube never received the data.)
- ERR 11: PQube sending e-mail: E-mail rejected by your SMTP server (Your PQube transmitted the email, and the SMTP server got the email, but the SMTP server rejected the email for some reason.)
- ERR 12: PQube sending e-mail: response error while transmitting to your e-mail SMTP server (Your PQube connected to your SMTP server, but there was an error sending data to your server).
- ERR 13: Domain Name Server error (Your PQube couldn't connect to the Domain Name Server you specified, or there was an error during DNS transmission, or a bad response from DNS.)
- ERR 14: The Domain Name Server says that the domain name does not exist. Check the POP and SMTP and SNTP servers that you specified in your **Setup.ini** file.
- ERR 15: Your PQube recognizes that an ETH1 Ethernet module is connected, but it is unable to communicate with it. Your ETH1 may be starting up, and may not be ready yet – try again in a few seconds. If the problem persists, you may have a mis-match between your PQube firmware and your ETH1 firmware. Upgrade your PQube firmware.
- ERR 16: PQube sending e-mail: the “To:” field or the “From:” field is blank.
- ERR 17: PQube receiving e-mail: your POP server caused a Domain Name Server error. Check the POP server that you specified in your **Setup.ini** file.
- ERR 18: PQube receiving e-mail: Unable to connect to your POP server. Check the POP server that you specified in your **Setup.ini** file.
- ERR 19: PQube receiving e-mail: POP server authentication failed. Check the POP server that you specified in your **Setup.ini** file. Check that you have the correct password, and e-mail address, and that the e-mail server supports one of the following authentication methods: plain text, CRAM MD5, MD5 Digest.
- ERR 20: PQube receiving e-mail: Checking POP server inbox failed. Your PQube connected to your POP server, and your POP server accepted your PQube's authentication, but for some reason refused to disclose the inbox

contents.

ERR 21: PQube receiving e-mail: Error retrieving a message from your POP server inbox. Your PQube connected to your POP server, and your POP server accepted your PQube's authentication, and your POP server provide the list of inbox contents, but for some reason the transfer of a message from your POP server to your PQube failed.

ERR 254: Unknown e-mail error.

NOTE: Under normal operation, your PQube will update all of its registers approximately once per second. However, you may experience delayed response times while your PQube is generating files for events and trends. These response times can range from a few seconds, up to several minutes, depending on which parameters are being recorded.

Receiving Email from your PQube

After you have configured your PQube to send and receive email and you have enabled the `Send_Email_On_Recording` tag in your setup file, your PQube will automatically send an email whenever it records Events, Snapshots or Trends. The email will contain all of the details about the recording and it will attach any related files (such as spreadsheets or graphs). Your PQube can send emails to up to 10 recipients.

In Firmware 2.0 you can specify up to 3 recipients to receive Summary-only emails after events. These emails contain the Event Type, Magnitude, Duration, Trigger Date, Trigger Time, Channel, and Threshold, with no HTML.

In Firmware 2.1, you can choose which types of emails to receive from your PQube. This is useful if you need to reduce network bandwidth. For example, you may want to enable emails for events so you can respond to problems more quickly, and disable emails for trend reports (which may include large attachments).

Sending Email to your PQube

Your PQube can respond to your emails. In your setup file, set `Incoming_Email=ON` to begin sending emails to your PQube. Your e-mail must meet all of the filter requirements in your **Setup.ini** file.

By default, your PQube is configured to check for new mail every 10 minutes. You can change this using the `Check_Every_N_Minutes` tag in your setup file. Whenever your PQube receives an e-mail, it will automatically respond with its present meter readings (unless the email does not match the incoming email filters, see the Ethernet Setup section of the **Setup.ini** documentation).

To perform an email command, send your PQube an email with the command in the Email Subject. To send new setup files and firmware updates, simply attach the file to the email.

All email commands must begin with the filter word specified by the `Subject_Must_Begin_With` tag in your setup file. By default this word is "PQube" without the quotes.

For example, to send your PQube a new setup file, write an email to your PQube with subject:

PQube New Setup File

and include the new setup file as an attachment. The subject is case sensitive.

List of Email Commands

Command (case sensitive)	Description
New Setup File	<p>Your new setup file must be named Setup.ini, and must be attached to the e-mail.</p> <p>Your PQube will send you two reply e-mails: one when it receives the new setup file, and another when the new setup file has been successfully installed.</p>
Firmware Update	<p>Obtain a firmware update from www.PowerStandards.com and attach it to the email. It should be in the format PQube_Firmware_XX_YY_ZZ_FFFFFFFF.pqf</p> <p>The XX, YY, and ZZ are digits that identify the type of firmware update, and FFFFFFFF is a checksum. Do not re-name this file. If your PQube receives a valid firmware update, it will reset and perform the update.</p>
Reset PQube	Resets PQube upon receipt of email. This is useful when loading a new setup file or firmware via FTP.
Send Logs	<p>You can ask your PQube to send you its log files via e-mail. The log files can help diagnose PQube setup problems, and they show the complete history of your PQube.</p> <p>For faster technical support, please include these files when contacting our technical support department.</p>
Send Setup	Request your PQube's existing setup file.
Generate Snapshot	Takes a snapshot of your power.
Generate Daily Stripstats	Generates the Daily Trends for today. The data ranges from Midnight to the moment the email request is received.
Reset Energy Accumulators	Resets all accumulated energy values.
Reset Peak Measurements	Resets all peak values for the Peak Amps, Peak Demand, and Peak VA meters.
Reset Analog Energy Accumulator	Resets accumulated Analog energy values.
Set Harmonic of Interest to #	Sets the Harmonic of Interest on the PQube display and Web Server. Replace # with the desired harmonic order of interest (1-50).