EP Series
Setup and Configuration Guide

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This document was based off the 1.16.0 version of EP firmware.
Using a Web Browser to Configure the EP-Series Controller

The web browser interface is a secure connection that is used to configure the EP Series controller. It allows the user to:

- Select the connection method of the Host computer to the controller;
- Configure the IP address (Host Communication address);
- Create and manage user logons;
- Configure Auto-save settings;
- View device information; and
- Restore settings to factory default.

Switch Settings on the Controller

The state of the switches on the controller determines the user information used for log on authorization, and communication parameters.

<table>
<thead>
<tr>
<th>Switch</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>Normal operating mode.</td>
</tr>
<tr>
<td>ON</td>
<td>After initialization, enable default User Name (admin) and Password (password). The switch is read on the fly, no need to re-boot. See Special Features for more information on configuration options available with Switch 1.</td>
</tr>
<tr>
<td>OFF</td>
<td>Use factory default communication parameters. (Address: 192.168.0.251 Port: 3001)</td>
</tr>
<tr>
<td>ON</td>
<td>Use OEM default communication parameters. Enable “Bulk Erase” Option. See the Hardware Installation Manual for more information on “Bulk Erase.”</td>
</tr>
<tr>
<td>X</td>
<td>Disable TLS secure link. Switch is read only when logging on.</td>
</tr>
</tbody>
</table>

The material provided describes the behavior of the browser with the factory default settings.

The look and feel of the web interface will vary depending on the OEM Settings. Many settings made in the browser can have an OEM specific default. Items that can be customized are in notes.

Contact Tech Support for the OEM configuration worksheet.
**Logging into the Controller**

**Step 1:** Type the address or DHCP name of the controller into the address bar of your browser:

A screen prompting you to login will appear.

**Step 2: Click Here to Login**

The link, “Click Here to Login”, will start the login process. The factory default does not have a security certificate so you may get a certificate error, depending on the browser and security settings.

**Step 3: Continue without Security certificate**

Click Continue anyway. The login page for the controller appears:
The default username (admin) & password (password) will work if Switch 1 is on. Additionally if no other users have been defined and Switch 1 is off, the default username & password will continue to work.

To disable the default username & password you need to make sure at least one user has been created and that Switch 1 is set to off.
**Home Page**

Links on the left hand side of the home page provide a way for the user to manage user login accounts, change network addresses or addressing modes, configure Auto-Save defaults, and display specific device information.

Notes may be entered to save identifying information within the controller, or give contact information. Save any entered text for display during subsequent sessions.

🔗 OEM Settings can change the look and feel of the home page in the following ways:

- Company Logo
- Navigation Button Color
- Navigation Text Color
- Title Bar Text
- Title Bar Text Color
- Title Bar Background Color
- Home page Text Area – 3 lines of customizable text.
The Network Settings page specifies the addressing mode and address for the device.

DHCP

The “Use DHCP” option will use DHCP to connect to the controller on the network. The default DHCP name uses the MAC address of the controller.

OEM settings can change this to be a customer specified prefix followed by either a 6 digit MAC address or the last 3 digits of the MAC address. The customer specified prefix can not exceed 8 characters. (See the OEM configuration worksheet for supported DHCP name formats.)

Static IP

The “Use Static IP” option sets the IP address of the controller to the specified address.

The DNS Suffix (domain name) may be specified for EP's in the Static IP configuration. This is necessary for MR51e DNS name resolution, if the EP has a Static IP address, and the MR51e's are using Public DHCP.
The DNS server address can be set, in the Static IP configuration. The options are to allow it to be obtained automatically or to have the DNS server address specified.

OEM settings can define the OEM default IP address, subnet mask and default gateway.

Click to apply any changes.

**Note:** Settings are not permanently saved in the device until saved in the “Apply Settings” web page.
**Host Communication**

The **Host Communication** page configures the communication parameters from the host system to the EP Series Controller.

The EP1502 and EP2500 support:
- IP Server
- IP Client,
- Serial - RS-232,
- and Serial-Modem communication types.

The EP1501 only supports IP Server and IP Client

The EP2500 offers the additional communication options of RS-485 and a serial adapter option to utilize adapters such as the Lantronix Micro 100.
**Dual Port Communication**

The EP has two physical port connectors: an Ethernet port and a serial port. The EP also supports two Ethernet connections using the same IP address and different port numbers. The table below details the valid combinations of primary and alternate host port settings.

**Supported Combinations of Primary and Alternate Ports**

<table>
<thead>
<tr>
<th>Primary Port</th>
<th>Alternate Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Server</td>
<td>✔</td>
</tr>
<tr>
<td>IP Client</td>
<td>✔</td>
</tr>
<tr>
<td>Serial RS-232 (EP1502 and EP2500)</td>
<td>✔</td>
</tr>
<tr>
<td>Serial – Modem (EP1502 and EP2500)</td>
<td>✔</td>
</tr>
<tr>
<td>Serial RS-485 (EP2500 only)</td>
<td>✔</td>
</tr>
<tr>
<td>Serial Cobox (EP2500 only)</td>
<td>✔</td>
</tr>
</tbody>
</table>

The alternate host port section of the Host Communication web page will be enabled or disabled depending on the OEM setting.

**Host Comm**

**Configuring Host Communication**

The **Communication Address** option is the same regardless of the host connection type.

**Communication Address:** 0 – 7

Select 0 – 7 to specify the communication address of the device.

**Connection Types**

The **Connection Types** can be configured for both the primary host port and alternate host port. Based on the selected connection type there may be different settings that are available. The various connection types will be explained in this section.
**Connection Type: IP Server:**

<table>
<thead>
<tr>
<th>Host Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Type:</td>
</tr>
<tr>
<td>Port Number:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Authorized IP Address:</td>
</tr>
</tbody>
</table>

**Data Security:** Data security can be set to None, Password/AES, TLS Required, or TLS if Available.

**Port Number:** The default port number is 3001. Select the port number the application will use for communication.

**Select connection authorizations:** Choose “Allow All” to allow any connection to specified host port. Choose “Authorized IP Address Required” to restrict connections. If this choice is selected, then enter the authorized IP addresses for connection. (Two addresses are allowed in this mode.)

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**Connection Type: IP Client:**

<table>
<thead>
<tr>
<th>Host Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Type:</td>
</tr>
<tr>
<td>HostIP:</td>
</tr>
<tr>
<td>Connection Mode:</td>
</tr>
</tbody>
</table>

**Data Security:** Data security can be set to None, Password/AES, TLS Required, or TLS if Available.

**Host IP:** enter the Host IP address or the Hostname.

**Port Number:** Select the port number the application will use for communication. The default port number is 3001.

**Connection Mode:** Select Continuous or On-demand. (Not Implemented)

**Retry Interval:** Select 5, 10, or 20 seconds retry interval.
**Connection Type: Serial - RS232 (EP2500 and EP1502):**

<table>
<thead>
<tr>
<th>Host Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Type: Serial-RS232</td>
</tr>
<tr>
<td>Baud Rate: 9600</td>
</tr>
</tbody>
</table>

**Data Security:** Data security can be set to None or Password/AES.

**Baud Rate:** Select the baud rate. Available baud rates are 9600, 15200, 38400, 57600 and 115200.

**Flow Control:** Select the type of flow control to be used, None or CTS/RTS.

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**Connection Type: Serial – Modem (EP2500 and EP1502):**

<table>
<thead>
<tr>
<th>Host Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Type: Serial-Modem</td>
</tr>
<tr>
<td>Baud Rate: 3600</td>
</tr>
</tbody>
</table>

**Data Security:** Data security can be set to None or Password/AES.

**Baud Rate:** Select the baud rate. Available baud rates are 9600, 15200, 38400, 57600 and 115200.

**Flow Control:** Flow control is set to CTS/RTS in this configuration.

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**Connection Type: Serial – RS485 (EP2500 only):**

<table>
<thead>
<tr>
<th>Host Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Type: Serial-RS485</td>
</tr>
<tr>
<td>Baud Rate: 38400</td>
</tr>
</tbody>
</table>

**Data Security:** Data security can be set to None or Password/AES.

**Baud Rate:** Select the baud rate. Available baud rates are 9600, 15200, 38400, 57600 and 115200.

**Flow Control:** Flow control is set to RTS Toggle (Transmit Enabled) in this configuration.
**Connection Type: Serial –Cobox (EP2500 only):**

<table>
<thead>
<tr>
<th>Host Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Type: Serial-Cobox</td>
</tr>
<tr>
<td>Baud Rate:</td>
</tr>
<tr>
<td>Data Security:</td>
</tr>
<tr>
<td>None</td>
</tr>
<tr>
<td>Flow Control:</td>
</tr>
<tr>
<td>RTS/CTS</td>
</tr>
</tbody>
</table>

**Data Security:** Data security can be set to None or Password/AES.

**Baud Rate:** Select the baud rate. Available baud rates are 9600, 15200, 38400, 57600 and 115200.

**Flow Control:** Flow control is set to RTS/CTS in this configuration.

🔗 OEM Settings can change the default settings on all fields.

!! Accept Click to apply any changes.
The **Device Info** page displays hardware and configuration settings on the controller. This page is refreshed every minute.
User Management

The Users page manages user definitions for the web interface. Users may be added, deleted or modified from this web page. Ten users may be authorized.

- **Edit**: Displays the account information for the currently selected user.
- **Delete**: Deletes any users that have been selected.
- **New User**: Displays the user account input form to create a new user.

**Password Strength**

The password strength in the EP Web server can be set to Low, Medium, or High.

- **Low Password Strength** – minimum of 6 characters
- **Medium Password Strength** – minimum of 6 characters and passes two of the password strength tests.

High Password Strength – minimum of 8 characters, passes three of the password strength tests, and password not based on user name

The following strong password requirements are based on Microsoft guidelines for creating strong passwords.

Password Strength Tests – contains characters from any of the following categories:
- Uppercase alphabet characters (A–Z)
- Lowercase alphabet characters (a–z)
- Arabic numerals (0–9)
- Symbol characters (‘! $ ? ^ * ( ) _ - + = { [ } ] : ; @ ’ ~ # | < , > . /)

**Example:**
The password strength is set to “Medium”, the password *Gertrude* is valid because it has more than 6 characters and is a combination of upper and lower case.

The password strength is set to “High”, the password *Gertrude8* is valid as long as the user name is not Gertrude.

**Session Timer**
The session timer specifies the period of inactivity before the user is logged out. The inactivity timer can be between 5 and 60 minutes.

OEM Settings can change the default settings for *Session Timer*.

**Special Features**
See the Special Features section at the end of this document for the additional settings that are only enabled when Switch 1 is enabled.
User Accounts

The User Account page is displayed from the Users web page. It specifies user login names, passwords, and account privilege levels.

There are three account levels which allow or restrict access to the other web pages, as listed below:

<table>
<thead>
<tr>
<th>Level</th>
<th>Allowed web pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All</td>
</tr>
<tr>
<td>2</td>
<td>View Only: Home page, Network Settings, Host Comm Settings, Device Info, and Log Out</td>
</tr>
<tr>
<td>3</td>
<td>Home page, Device Info, and Log Out</td>
</tr>
</tbody>
</table>

The password field is required for new users. For existing users, select “Change Password” to change the password, or “Don’t change password” to retain the current password.

Save user settings to retain changes.
**Auto-Save**

**Auto-Save Settings**

The **Auto Save** page configures Auto-save behavior and determines how the controller reacts on startup if host configuration changes have been lost.

Select *Restore from the last saved settings* to restore from the save point at power up, or from the re-boot button on the controller. Select *Clear all settings. Force a full download.* To force a controller reload at power-up.

**Enabling** Auto-save configures the controller to automatically save settings for configuration changes.

**Disabling** Auto-save means that configuration changes are not automatically saved. Configuration can be manually saved by command 211, Dual Port Control.

The **auto-save delay** specifies how much time to wait after a host configuration change before starting the save. The timer can be specified between 30 seconds and 30 minutes.

Checking “**Enable Network Diagnostic Log**” causes diagnostic information to be written to the debug file every 15 minutes, when debug is enabled.

**OEM Settings** determine the default setting for restoring configuration after a power up, or re-boot, and for specifying the default auto-save delay timer.

You must click on “Save Settings” for changes to be loaded to the controller.
The **Restore Settings** page restores the settings to either the factory default, or the current operating settings (before the start of this session). These settings apply only to the Network and Host Comm settings.

- **Restore Default**: Restore the settings to factory default (192.168.0.251; IP Server; Static IP configuration).
- **Restore Current**: Restore the settings to the settings at the start of the session.
The **Apply Settings** page saves the Network and Comm Settings and reboots the controller.

Save any changed network and host communications settings. This is required for these changes to be saved to controller.
The **Load Certificate** page will allow the certificates loaded by Mercury at the factory to be replaced by unique custom certificates.

The browse buttons can be used to select the related files that will be loaded to the EP once the “Load certificate files” button is pressed.

The Certificate Information section of the page lists information about the currently loaded certificates.

🔗 OEM Settings can determine whether the “Load certificate files” button is enabled or not.
Log Out

The Log Out link will end the session on the controller and the following page should appear.

If changes were made to the network or host communications settings and were not saved in the “Apply Settings” page, the web interface will display the following:
**Status Display**

The status page is displayed when allowed by the OEM settings. The Status page will display the state of the ACRS, Monitor Points and Control Points, as well as the transaction log.

Note: The status display is only available in firmware revisions 1.8.0 and later. OEM Settings can determine if the page is even accessible.
**Central Station**

The **Central Station Configuration** page is used to configure the EP to be able to communicate to a central station via an RS-232 connection. The Keltron Dialer is currently the only supported device. When used in conjunction with IPS, point changes can be configured to be sent to the central station.

The connection type supports either Serial-RS232 or Serial-Modem and is only available if the serial port is not being used for host communications.

🔗 OEM Settings can determine if the page is even accessible.
**Errors Logging In**

**User already logged in:**
If a user closes the browser without logging off and tries to log in before the inactivity timer has expired for the currently logged in user, the web interface will prompt the user attempting to log in and ask if they want the previous session terminated.

**Another Level 1 User is already logged in:**
Only 1 level 1 user may be logged in at a time. Multiple users may be logged in as long as only one level 1 user is logged in. Up to three users may be logged in concurrently.
Too many users are currently logged in:

Three users are currently logged in. A user must either log out, or the inactivity timer must be reached for another user to log in.
**Special Features**

The following special features are enabled on the **Users** page when the user logs on with dip switch 1 set to **On**.
Disabling the Web Interface
This option can be used to disable web access to the controller. (To re-enable the web interface, turn Switch 1 to **On** and login. This option will now be visible so it can be set back to being enabled.)

Enable Diagnostic Logging
This option can be used to log additional diagnostic information to the debug file. This option should only be used for diagnostic purposes and normally should remain disabled.

Disable SNMP
Currently this option cannot be selected. SNMP is currently always disabled.

Disable Bonjour
Bonjour is used to advertise supported services for discovery. Discovery of the EP using Bonjour can be disabled by selecting this option.

Enable Door Forced Open Filter
This option can be used to enable additional door forced open filtering. With this filter on, opening the door within 3 seconds of door closed will not report a door forced open. This setting will apply to all readers controlled by the EP. This overrides the individual filter that is available on a per reader basis (ACR_FE_DFO_FLTR).