

# FBxConnect™ Configuration Software

FBxConnect™ configuration software is a Microsoft® Windows®-based program that enables you to easily configure, monitor, service, and calibrate Emerson's FB1000 and FB2000 Series Flow Computers and the FB3000 RTU. Designed for ease of use, FBxConnect software provides at-a-glance monitoring, quick access to commonly performed tasks, and configuration wizards to quickly get your equipment up and running.

## Features

- **Ease of Use:** incorporates an intuitive graphical user interface
- **Faster Configuration, Commissioning, and Startup Times:** configuration wizards walk you through the steps needed to configure your device
- **Reduced Maintenance Expenditures:** troubleshoot remotely by monitoring status and diagnostic information
- **Increased User Safety:** reduce work time in the hazardous area using FBxWifi™.
- **Multi-level and Role-based Security:** restrict system access to personnel who need to change your metering or control
- **FBxVue™:** supports development of custom displays
- **Configuration Backup and Restore:** preserves configurations, displays, and SmartProcess™ applications (device-specific)

## User Interface

The graphical user interface (GUI) allows you to easily navigate device options using a ribbon-style menu. The GUI shows a visual representation of critical information, current device status, and communication statistics. You can easily view and modify the current configuration of I/O points, alarms, and history. A full-featured help system is included to assist you along the way.

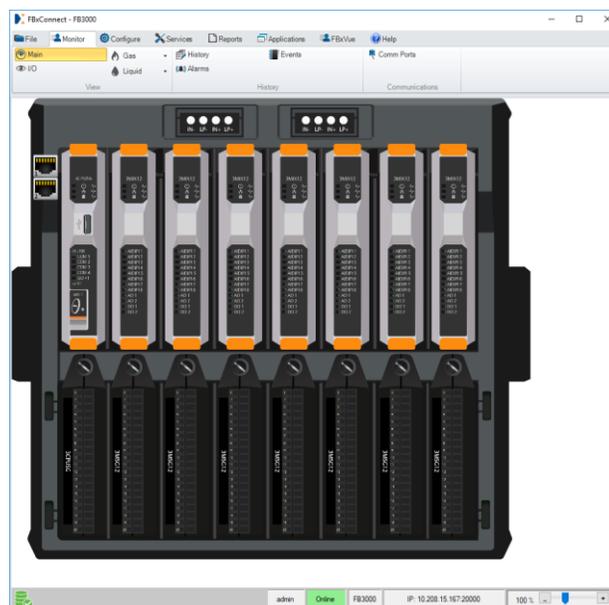
## Configuration

In today's world, we all face the same challenge to do more with fewer resources. The FBxConnect configuration software helps you achieve this. By minimizing the time to configure each device, you reduce dependence on expert resources and the time required to perform in-field tasks.

The FBxConnect software provides a guided configuration process that takes you through a step-by-step process to configure your flow computer/RTU. This wizard-driven approach simplifies configuration and ensures that you only need to enter required data once.

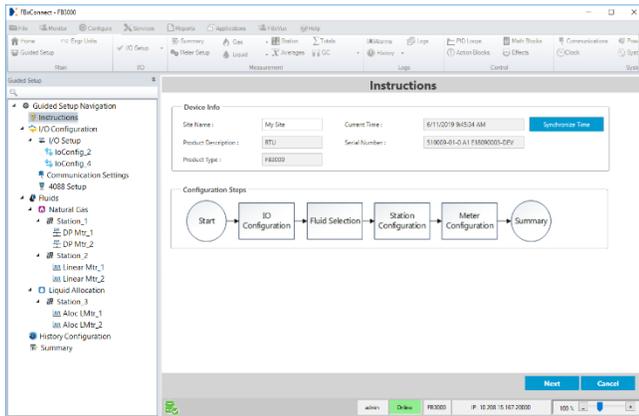
You can then either edit configurations online when connected to a device or generate and edit configurations "offline" from the comfort of the office for upload to devices at a later time.

Whether you or your newest technician performs the work, you can be confident that it is done the right way.



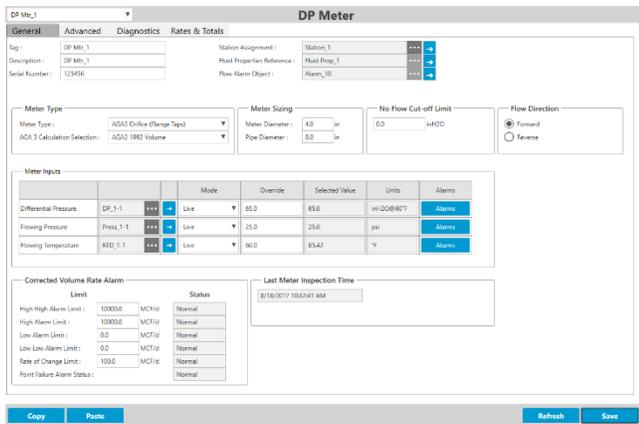
FBxConnect Monitor Screen (showing FB3000 RTU)

**Guided Setup Wizard:** For the FB3000 RTU, the Guided Setup wizard (or the Initial Setup wizard for the FB1000 and FB2000 Series flow computers) walks you through the steps of setting up and configuring your device. You're presented with only the configuration options you need for your device and meter type, thus greatly reducing the time required to configure your device.



Guided Setup Wizard

**Online and Offline:** FBxConnect allows you to securely log on to a device. Provided you have the required user role privileges you can view, back-up, or edit the device's configuration "on line." You can also work on configurations "off line" from the comfort of your office. This is particularly useful for generating new configurations either from scratch or by using an existing configuration from a similar application and making the required changes for the new site. This enables you to customize and test the configuration before leaving the office and minimize the time spent on site.



DP Meter

## Connectivity

You can easily connect to a device through a secure wired or wireless connection using the device's serial ports, Ethernet ports, or the optional FBxWifi™ connectivity via Wi-Fi (available on the FB1000 and FB2000 Series flow computers).

Once connected, you can use FBxConnect software to view process values, edit configuration parameters, update set-points, and collect logs stored in the device.

## Security

The integrity of your devices and fiscal data is paramount in the modern world.

The Emerson FB1000 and FB2000 Series flow computers, the FB3000 RTU, and FBxConnect software have been designed with security in mind to allow you to establish a secure infrastructure.

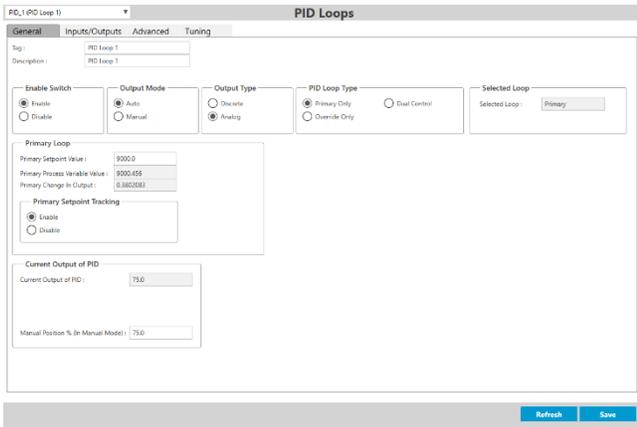
- **Role-based Security:** FBxConnect provides multi-level role-based security, allowing different users the required accessibility to perform their tasks. User authentication is more robust with stronger and longer encrypted passwords (up to 16 characters: upper, lower case, numbers, and special characters) and the ability to apply a minimum password length.
- **Security Lock-out:** A security lock-out option prevents multiple unsuccessful login attempts for a pre-configured time.
- **Authentication:** An added security feature is that flow computer firmware is authenticated by Emerson and will not load without the required signature.

FBxConnect works with the flow computers and RTUs to provide a robust audit trail to ensure that you know what changes were made when and by whom.

## Control

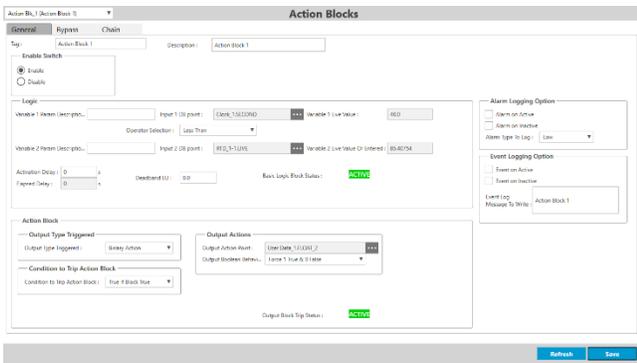
If your device supports control functionality, you can use FBxConnect to quickly configure those functions. FBxConnect makes it easy to customize control functionality with Proportional, Integral, and Derivative (PID) control loops, action blocks, effects, and math blocks.

**PID Control:** Typically, a proportional, integral, and derivative (PID) control loop maintains a process variable at setpoint. If you configure a PID override control, the primary loop is normally in control of the control device. The override loop can take over control at a process, if required.



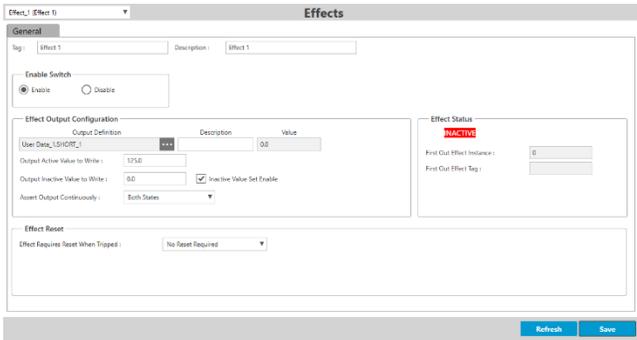
PID Loops

**Action Blocks** – Action blocks are used in conjunction with effect blocks to monitor a configured condition and to perform an action (effect) when the logic is “true.” An action block consists of a user defined Boolean logic statement with two variables. These variables can either be live parameter values or constants.



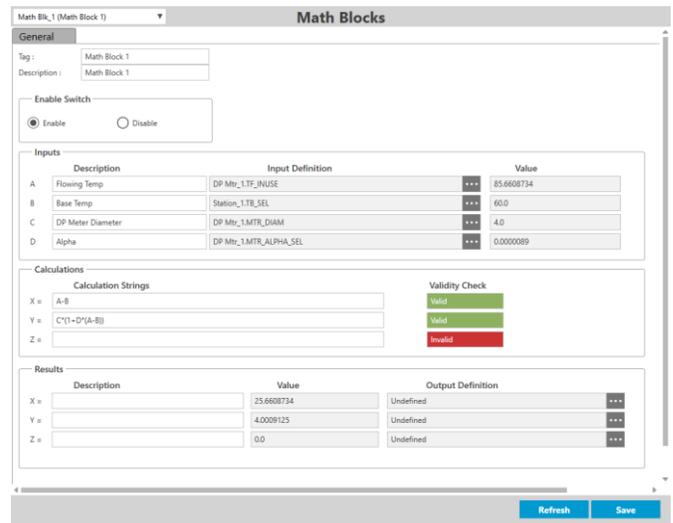
Action Blocks

**Effects** – Effects cause an action to occur when the result of one or more action blocks is active (“true”). Multiple action blocks can cause the same effect, such as shutting a valve or enabling an alert beacon.



Effects

**Math Blocks** – Math blocks perform mathematical equations using user-defined variables as inputs. Each math block consists of up to four user-defined variables, three mathematical calculations, and the results of each calculation can be assigned to “user-data” inputs and other read/write parameters. FBxConnect checks each calculation string for the correct syntax and uses double precision floating point math throughout the calculation.



Math Blocks

## Logs and Reports

FBxConnect provides the ability to set-up, view, and collect logs for periodic history, event, and alarm data.

Collection of the data from the flow computer particularly at remote sites, is simplified and safer with the use of Mobile SCADA to securely collect the data wirelessly while remaining in the safe area.

History and logs can be collected as either a .csv file or secure .pdf file on your PC for later offline analysis.

FBxConnect provides the following log reports:

- **EFM Reports** – Contains the audit trail (configuration / history / alarms / events)
- **CFX Report** – For use with the FlowCal™ Enterprise software
- **Standard Periodic History** – includes hourly, daily, weekly and monthly data
- **User Periodic History** – includes historical data based on user selected time periods typically between 1 minute and 12 hours
- **Alarms** – Alarm log entries for the device
- **Events** – Event log entries for the device  
Event log can be configured to either a standard single event log or to have separate logs for metrology/legal events and operational events

The screenshot shows the 'FB1200 - EFM Report' dialog box. It has a 'Destination' section with a 'Location' field containing a file path and a 'Browse...' button. Below is an 'Options' section with 'Station' and 'Meter' dropdown menus. The 'History type' section has checkboxes for 'Daily', 'Hourly', 'Alarms', and 'Events'. The 'Collection period' section has radio buttons for 'Since last collection' and 'Time range', with 'Time range' selected. It also has 'From' and 'To' date and time pickers. A 'Format' section has a 'Format' dropdown menu set to 'CSV'. At the bottom, there is a 'Status' field and three buttons: 'Generate', 'View', and 'Close'.

*EFM Report Collection*

The screenshot shows the 'FB1200 - Configuration Comparison Report' dialog box. It has a 'Destination' section with a 'Location' field and a 'Browse...' button. The 'Options' section has two sources: 'Source 1' with radio buttons for 'Connected device' and 'Configuration', and 'Source 2' with a 'Configuration' field and a 'Browse...' button. A 'Format' section has a 'Format' dropdown menu set to 'CSV'. At the bottom, there is a 'Status' field and three buttons: 'Generate', 'View', and 'Close'.

*Config Comparison Report Generator*

FBxConnect provides the following configuration reports:

- **Configuration** – Contains a summary of the device’s configuration
- **Config Comparison** – Allows the comparison of two configurations to determine any differences
- **Gas Composition** – Contains the record of the gas composition
- **Parameter Status** – Contains reports which show which parameters are currently in a fault state, an override state, or left in their default state

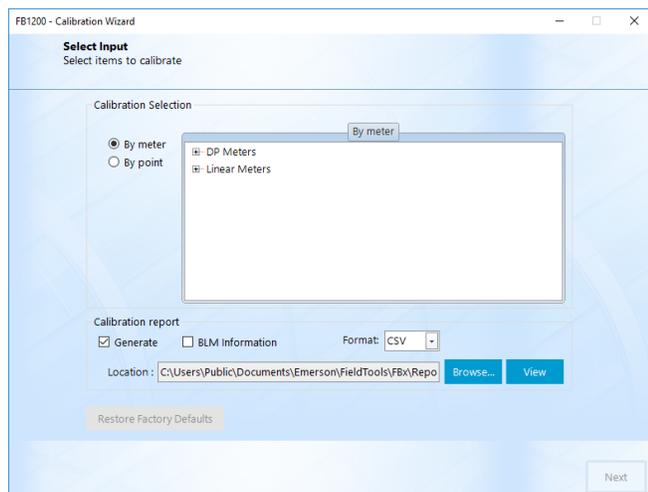
FBxConnect also creates calibration and verification reports:

- **Calibration** – Contains a summary of the calibration information for a device I/O point
- **Verification** – Contains a verification of the calibration information for a device I/O point

## Calibration Wizard

The calibration wizard guides you through the calibration and verification process for DP, pressure, and temperature as well as any analog channels.

This can be a simple zero-shift or zero and span, up to a full 5-point calibration, if required.



*Calibration Wizard*

## FBxVue™

Using the FBxVue software – a standard component of FBxConnect – you can create custom displays for your flow computers and RTUs, which you can then store on your local PC for the flow computers or RTU or download to your FBB3000 RTU. Displays can include both static and dynamic data elements, and you can incorporate “live” data as well as images and other pertinent information. For further information, refer to the FBxConnect online help.

## Requirements

The software is designed to run on a personal computer (PC), laptop, or a Windows tablet having the following minimum requirements:

- Intel® Core™ 2 Duo T7100 or similar (1.8 GHz or greater)
- Windows 7 Professional with Service Pack 1 (32- or 64-bit) or Windows 10 Professional (32- or 64-bit)
- 8 GB of RAM (Random Access Memory)
- 2.5 GB of available hard disk space
- Monitor with 1366 x 768 or better resolution
- Connection through Wi-Fi, Ethernet, or RS-232 serial port (with a USB-to-RS-232 serial converter).

FBxConnect software is a component of Emerson’s Field Tools software suite. Field Tools software and user documentation is available as a free download from our [SupportNet](#) site.

**Note:** Activating a new SupportNet account may take up to 24 hours to process; plan your need for this software accordingly.

For customer service and technical support, visit [www.Emerson.com/SupportNet](http://www.Emerson.com/SupportNet).

**Global Headquarters,  
North America, and Latin America:**

Emerson Automation Solutions  
Remote Automation Solutions  
6005 Rogerdale Road  
Houston, TX 77072 U.S.A.  
T +1 281 879 2699 | F +1 281 988 4445  
[www.Emerson.com/RemoteAutomation](http://www.Emerson.com/RemoteAutomation)

**Europe:**

Emerson Automation Solutions  
Remote Automation Solutions  
Unit 1, Waterfront Business Park  
Dudley Road, Brierley Hill  
Dudley DY5 1LX UK  
T +44 1384 487200 | F +44 1384 487258

**Middle East/Africa:**

Emerson Automation Solutions  
Remote Automation Solutions  
Emerson FZE  
P.O. Box 17033  
Jebel Ali Free Zone – South 2  
Dubai U.A.E.  
T +971 4 8118100 | F +971 4 8865465

**Asia-Pacific:**

Emerson Automation Solutions  
Remote Automation Solutions  
1 Pandan Crescent  
Singapore 128461  
T +65 6777 8211 | F +65 6777 0947

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