Intellectual property and copyright notice

©2014 by ABB Inc., Totalflow® (“Owner”), Bartlesville, Oklahoma 74006, U.S.A. All rights reserved. Any and all derivatives of, including translations thereof, shall remain the sole property of the Owner, regardless of any circumstances.

The original US English version of this manual shall be deemed the only valid version. Translated versions, in any other language, shall be maintained as accurately as possible. Should any discrepancies exist, the US English version will be considered final.

Notice: This publication is for information only. The contents are subject to change without notice and should not be construed as a commitment, representation, warranty, or guarantee of any method, product, or device by Owner.

Inquiries regarding this manual should be addressed to ABB Inc., Totalflow® Products, Technical Communications, 7051 Industrial Blvd., Bartlesville, Oklahoma 74006, U.S.A.
Table of Contents

1 Overview 5
   1.1 How to use this guide ........................................................................................................ 6
   1.2 Additional resources .......................................................................................................... 6
   1.3 Assumptions ...................................................................................................................... 7
   1.4 Requirements (pre-requisites)............................................................................................. 7
      1.4.1 User interface ........................................................................................................... 7
      1.4.2 Client (browser) ........................................................................................................ 7
      1.4.3 XSeries G4 (XRC/XFC) ........................................................................................ 7
   1.5 TFWeb Server application ................................................................................................. 8
      1.5.1 Application description (principle of operation).................................................... 8
      1.5.2 Procedure overview .............................................................................................. 8
      1.5.3 Webpages functionality (screens) ........................................................................... 8

2 Installation and configuration of Web application on XSeries ................... 10
   2.1 Verify PCCU connection and set up Expert view ........................................................... 10
   2.2 Backup configuration (station) files .................................................................................. 10
   2.3 Upgrade device flash with PCCU .................................................................................... 10
   2.4 Configure IP address for device ...................................................................................... 11
   2.5 Add the web application ................................................................................................ 11
   2.6 Add the Facility Management application ....................................................................... 13
   2.7 Verify browser initial access to the webserver ................................................................. 13
   2.8 Upload webpage (package) ........................................................................................... 14
   2.9 Verify browser access to the webserver ....................................................................... 19
List of Figures

Figure 1: TWI system overview............................................................................................................... 5
Figure 2: Facility screen........................................................................................................................................ 6
Figure 3: General overview of the TWI operation .................................................................................. 8
Figure 4: Device type selection............................................................................................................... 11
Figure 5: Web application ....................................................................................................................... 12
Figure 6: TFWeb server application added successfully ...................................................................... 12
Figure 7: Facility Management application ......................................................................................... 13
Figure 8: Browser Login ......................................................................................................................... 14
Figure 9: Upgrade Webpages .................................................................................................................. 14
Figure 10: Upgrade Screen ..................................................................................................................... 15
Figure 11: Upload Success ....................................................................................................................... 16
Figure 12: Clear Cache ............................................................................................................................ 16
Figure 13: Internet Options popup box .................................................................................................. 17
Figure 14: Delete Browsing History popup box .................................................................................... 17
Figure 15: Firefox menu .......................................................................................................................... 18
Figure 16: Firefox History submenu ...................................................................................................... 18
Figure 17: Clear All History popup box ................................................................................................ 19
Figure 18: Facility Dashboard ............................................................................................................... 20

List of Tables

Table 1: Supported browsers .................................................................................................................. 7
Table 2: Device requirements ................................................................................................................. 7
Table 3: Screen/Applications for webpages functionality ........................................................................ 9
Table 4: Flash requirements ................................................................................................................. 10
Table 5: Web pages packages ............................................................................................................... 15
1 Overview

ABB Totalflow Web Interface (TWI) is developed to enable users to browse, monitor, and update various configuration and statistical values of the Totalflow devices, using a web browser (Figure 1).

The TWI design is a system-wide solution. What this means to the user is that the capability exists to handle an operation in its entirety; from the overall facility to the individual components that comprise the facility. ABB Totalflow has adopted a three-tiered design approach to enable users to gain both a system-wide perspective of their operations, and also a component-wide perspective that looks at individual segments of the operations as a whole.

The three-tiered design approach starts at the facility level. The facility is the entirety of the operation and all that the facility encompasses (Figure 2). From this high-level view, the TWI enables users to further examine the facility by showing all sub-facilities that make up the facility whole.

A sub-facility can be viewed as similar components, such as separators, plunger lifts, etc., that have been grouped together. The TWI gives users the ability to view, monitor, and manage these sub-facilities as individual components. Using this method, users can affect certain items without impacting the facility as a whole. From the sub-facility view, users can drill down further to view the stations that individually comprise the sub-facility. These stations can be wells, tanks, or other individual components that are gathered in the sub-facility.

The TWI provides the user with monitoring and management capabilities from a facility view, a sub-facility view, and/or an individual station view. In this way, the scope of the TWI allows the user to view every facet of the operation.

---

![Diagram](image_url)  
Figure 1: TWI system overview
1.1 How to use this guide

This document instructs the user that is familiar using PCCU Software and Totalflow Devices, how to setup and operate the ABB Totalflow TWI. These basic steps are required to initially set up the TWI and connect to a Totalflow Device.

1.2 Additional resources

Additional publications for TWI are available for free download from www.abb.com/totalflow:

| TWI Help file technical reference | ML/2105166 |
| TWI: The next generation user interface sales sheet | SS_2101159_TWI |

Additionally, TWI Help files are available via:

- Customer Document Index DVD shipped with some orders: Insert the DVD into the laptop’s drive. Select “Installation & Operation Manuals” from the main screen and locate the appropriate material in PDF format.
- PCCU software: PCCU > Help >TWI Help.
- TWI Operator CD: Click on TWI Help button to install help files on your local PC/Laptop
1.3 Assumptions

- Device needs **TFWeb Server** application (Web-enabled flash) installed.
- Device needs **Facility Management** application instantiated.
- Device has connectivity using PCCU.
- Device’s Ethernet / network interface is configured.
- Device has a valid IP address.
- Device applications are configured.

1.4 Requirements (pre-requisites)

1.4.1 User interface

PCCU version 7.28 or later is required for startup configuration.

1.4.2 Client (browser)

Table 1 shows web browsers currently supported.

<table>
<thead>
<tr>
<th>Browser</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Explorer (IE)</td>
<td>9.0, 10 or later</td>
</tr>
<tr>
<td>Firefox</td>
<td>5.0 or later</td>
</tr>
<tr>
<td>Chrome</td>
<td>14.0 or later</td>
</tr>
<tr>
<td>Safari</td>
<td>5.0 or later</td>
</tr>
</tbody>
</table>

1.4.3 XSeries G4 (XRC/XFC)

For each XFC G4 (XSeries Flow Computer) and XRC G4 (XSeries Remote Controller), there are two different file installation packages provided. One package includes the **flash and web pages** and the other the **web pages only**. For this initial startup, both the flash and web package are required to be installed.

Ensure to download the software package that is specific for the device type, and also note that the 32 MB Engine Card is installed and is the proper version (Table 2).

<table>
<thead>
<tr>
<th>Device type</th>
<th>Board part#</th>
<th>Engine card version</th>
<th>Flash version</th>
</tr>
</thead>
<tbody>
<tr>
<td>XFC US</td>
<td>2103328-001</td>
<td>2103639-003</td>
<td>2105151-001 or later</td>
</tr>
<tr>
<td>XFC SU</td>
<td>2103328-001</td>
<td>2103639-003</td>
<td>2105152-001 or later</td>
</tr>
<tr>
<td>XRC US</td>
<td>2103329-001</td>
<td>2103639-003</td>
<td>2105153-001 or later</td>
</tr>
<tr>
<td>XRC SU</td>
<td>2103329-001</td>
<td>2103639-003</td>
<td>2105154-001 or later</td>
</tr>
</tbody>
</table>
1.5 TFWeb Server application

1.5.1 Application description (principle of operation)

The block diagram shows the main components of the application (Figure 3).

Figure 3: General overview of the TWI operation

1.5.2 Procedure overview

1. XSeries device configuration (using PCCU)
   a) Connect to Totalflow with PCCU.
   b) Load appropriate web-enabled flash (Table 2).
   c) Install applications in Totalflow.
   d) Setup IP address.

   **Note:** It should be noted that the user is not able to add applications while using the TWI system.

2. Client (Browser) configuration
   a) Configure browser and ensure browser is a supported version.
   b) Test/verify connectivity from web server to device.

   **Note:** Web package contains screens the user will view when connecting via the browser.

   c) Add webpage package, using Web Interface, to upload web packages onto the device.

1.5.3 Webpages functionality (screens)

The following lists the many applications and screens supported by the TWI (Table 3). For information about each of these screens go to the **Help** files tab, once connected to the Totalflow device.
<table>
<thead>
<tr>
<th>Screen/Application</th>
<th>Screen/Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>About</td>
<td>PID</td>
</tr>
<tr>
<td>AGA3 Plunger</td>
<td></td>
</tr>
<tr>
<td>AGA7 Plunger SU</td>
<td></td>
</tr>
<tr>
<td>AGA3 SU Pulse Accumulator</td>
<td></td>
</tr>
<tr>
<td>AGA7 SU Shutdown</td>
<td></td>
</tr>
<tr>
<td>Alarm</td>
<td>Station App</td>
</tr>
<tr>
<td>Analysis Trend</td>
<td>Station Dashboard</td>
</tr>
<tr>
<td>API Liquid SU</td>
<td>Sub-facility Dashboard</td>
</tr>
<tr>
<td>Coriolis Interface Tanks</td>
<td></td>
</tr>
<tr>
<td>Coriolis SU Therms Master</td>
<td></td>
</tr>
<tr>
<td>Data Points Therms Slave</td>
<td></td>
</tr>
<tr>
<td>Deployment Trends</td>
<td></td>
</tr>
<tr>
<td>Events Unsupported Browser</td>
<td></td>
</tr>
<tr>
<td>Facility and Station Config User Management</td>
<td></td>
</tr>
<tr>
<td>Facility Dashboard Valve Controller</td>
<td></td>
</tr>
<tr>
<td>Facility Management VCONE</td>
<td></td>
</tr>
<tr>
<td>Gas Lift VCONE SU</td>
<td></td>
</tr>
<tr>
<td>IO App Web Server Config</td>
<td></td>
</tr>
<tr>
<td>Login XMV</td>
<td></td>
</tr>
</tbody>
</table>
2 Installation and configuration of Web application on XSeries

2.1 Verify PCCU connection and set up Expert view

1. Connect to the XFC local port or via the network.
2. Start PCCU.
3. Click on Entry button. If connection is successful (PCCU main screen displays).
4. Click on View on the top menu.
5. Select Expert from dropdown menu. A warning dialog box will request that you answer Yes to continue to Expert mode.
6. Click Yes.

2.2 Backup configuration (station) files

If the device has been operational or the initial file configuration has been completed, back up the configuration and use Save and Restore configuration.

2.3 Upgrade device flash with PCCU

The unit requires the proper version of Flash software. Follow this procedure to update the Flash. Since this is a first-time installation, the Totalflow device must be configured first before attempting connection by the TWI. PCCU is also further needed for configuration changes or additions required to each application setup. The TWI’s main function is that of an interface for operations. Any configuration changes made while performing this setup must be backed up using normal save/restore procedures.

1. Ensure Totalflow device communicates with computer or network.
2. Download the required Flash package onto the laptop or system (Table 4).

<table>
<thead>
<tr>
<th>Device Type</th>
<th>Flash Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>XFC US</td>
<td>2105151-001EX.xfc32 or later</td>
</tr>
<tr>
<td>XFC SU</td>
<td>2105152-001EX.xfc32 or later</td>
</tr>
<tr>
<td>XRC US</td>
<td>2105153-001EX.xrc32 or later</td>
</tr>
<tr>
<td>XRC SU</td>
<td>2105154-001EX.xrc32 or later</td>
</tr>
</tbody>
</table>

3. Upload Flash package to Totalflow device.
4. Verify Totalflow device has proper Flash version.

**Note:** The 32-bit loader option is not available when connected to the unit.

5. Disconnect communication from Totalflow device.
6. Click on 32-bit loader button on PCCU32 toolbar.
7. Select device type radio button in PCCU32 window (Figure 4).
8. Click browse button (…) to locate and select the software files.

9. Check the **Shutdown Flash** checkbox (Totalflow.exe).

10. Check the **Download Flash** checkbox (Totalflow.exe).

11. Check the **Start Flash** checkbox (Totalflow.exe).

12. Go to connection and select the interface used for the update. If using Network connection (pull-down menu), select the IP address or DNS name of the device. Upgrade is faster if using Ethernet.

13. Click **Start** button. Observe status messages to verify PCCU is able to connect to the device and begin the upgrade. If the update completes successfully, the message **Operation Complete** displays.

14. Click **Close** button to exit 32-bit loader.

15. Restart communication with Totalflow device.

16. Go to (Station ID)>Registry tab in the tree view and verify that the Flash software P/N has been updated to the correct version.

### 2.4 Configure IP address for device

The Totalflow G4 allows connections through the Internet. This type of connectivity can be performed one of two ways; direct connection from the PC, or via a network, using a DHCP server and a network ID. A specific IP address must be configured using the following procedure:

1. Connect to Totalflow device.

2. Proceed to station (ID node) > **Communications > Network** in the tree view.

3. Enter **Yes** or **No** in the Enable DHCP field, depending on the IP Network configuration.

4. Type in device address in **IP Address** field and select **Send** command.

5. Set the new IP address in the device by pushing RESET button on device or remove power to perform a **warm boot**.

### 2.5 Add the web application

1. Go to station (ID node) > **Applications** tab.
2. Click the **Add Application** button.

3. Click the **Application to add** down-arrow to display the drop down list (Figure 5).

4. Locate and select **TFWeb Server** application from the dropdown list. The application is automatically assigned to application number 75.

![Figure 5: Web application](image)

5. Click the **OK** button to commit the changes.

6. Click re-read to verify the application has been added and it now appears in the application list associated with the correct application number. The application is also added to the configuration tree view on the left and should be added under the **System** applications (Figure 6).

![Figure 6: TFWeb server application added successfully](image)
2.6 Add the Facility Management application

1. Go to station (ID node) > Applications tab.
2. Click the Add Application button.
3. Click the Application to add down-arrow to display the drop down list.
4. Locate and select Facility Management App from the dropdown list (Figure 7). The application maybe assigned to any slot. In this instance we have used application number 76.

![Figure 7: Facility Management application](image)

5. Click the OK button to commit the changes.
6. Click re-read to verify the application has been added and it now appears in the application list associated with the correct application number (Figure 6). The application is also added to the configuration tree view on the left and should be added under System applications (Figure 6).

2.7 Verify browser initial access to the webserver

1. Choose any of the browsers supported (Table 1). If the browser installed in system is not the correct version, download and install a browser that is.
2. Start the browser.
3. Configure Cookies to be turned on. Please refer to browser Help for information to get cookies enables, as this task is browser specific.
4. Enter the following URL http://<device IP> and press Enter. The user login dialog box appears (Figure 8).
5. Enter the default user credentials (username: admin, and password: admin). Upon successful login, user is redirected to http://<device IP>/pages/admin.html.

2.8 Upload webpage (package)

1. Following successful login, proceed to Upgrade tab, and select Upgrade (Figure 9).

2. Click the Browse button to locate the web page packages.

**Note:** XRC and XFC packages will be different and clearly identified in the file name.

3. Select the correct web page package from Table 5 for your device. Ensure that file extension (*.xrc32 or *.xfc32) coincides with the device type.
Table 5: Web pages packages

<table>
<thead>
<tr>
<th>Device Type</th>
<th>Flash &amp; Web Package</th>
<th>Web page package</th>
</tr>
</thead>
<tbody>
<tr>
<td>XFC US</td>
<td>2105151-001_TF_2105155-001_Web1.0.xfc32 or later</td>
<td>2105155-001_Web1.0.xfc32 or later</td>
</tr>
<tr>
<td>XFC SU</td>
<td>2105152-001_TF_2105155-001_Web1.0.xfc32 or later</td>
<td>2105155-001_Web1.0.xfc32 or later</td>
</tr>
<tr>
<td>XRC US</td>
<td>2105153-001_TF_2105155-001_Web1.0.xrc32 or later</td>
<td>2105155-001_Web1.0.xrc32 or later</td>
</tr>
<tr>
<td>XRC SU</td>
<td>2105154-001_TF_2105155_001_Web1.0.xrc32 or later</td>
<td>2105155-001_Web1.0.xrc32 or later</td>
</tr>
</tbody>
</table>

4. Select the **Upload** button (Figure 10).

![Upgrade Screen](image)

**Figure 10: Upgrade Screen**

**Note:** The upload process may take a few minutes to complete. After file upload completes, the file extraction occurs.

5. Verify **File Upload Status**, which indicates the upload completion percentage during the upload process.

6. Verify extraction completes successfully and the device restarts (Figure 11).
7. Following a successful restart, the browser redirects to a page with a message to clear the cache (Figure 12). This enables access to just uploaded web pages.

8. Clear the Internet Explorer browser cache, when using Internet Explorer:
   a) Select Tools > Internet Options from Internet Explorer main menu to display Internet Options popup box (Figure 13).
   b) Select Delete button under Browsing history to display Delete Browsing History popup box (Figure 13).
   c) Check all checkboxes as shown in Figure 14 and select Delete button.

Note: If using Mozilla Firefox, proceed to step 9 on page 17.
9. Clear Firefox browsing history, when using Mozilla Firefox:
   a) Click **Menu** button at top-right corner of Firefox window to display menu (Figure 15).
b) Select **History > Clear Recent History** to display Clear All History popup box (Figure 16).

c) Select **Clear Recent History** from menu. **Clear All History** popup box displays (Figure 17).
2.9 Verify browser access to the webserver

Once the web application is added and enabled in the device, and the web page package added, verify access to the web pages (screens) to ensure normal operation.

2. Enter default credentials at the login prompt (admin, admin).
3. Verify default Facility dashboard home screen displays (Figure 18).
Figure 18: Facility Dashboard