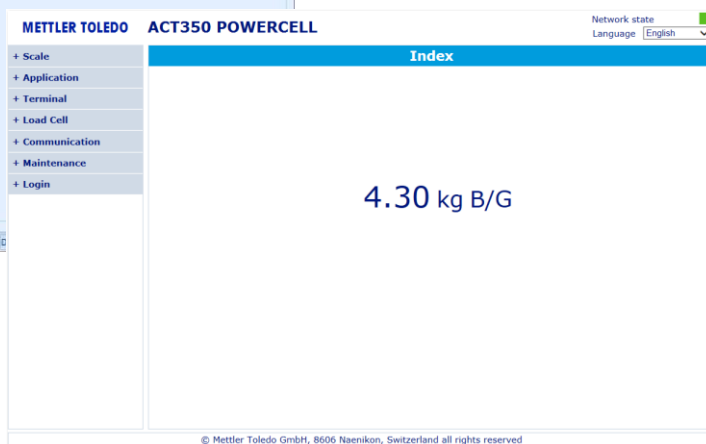
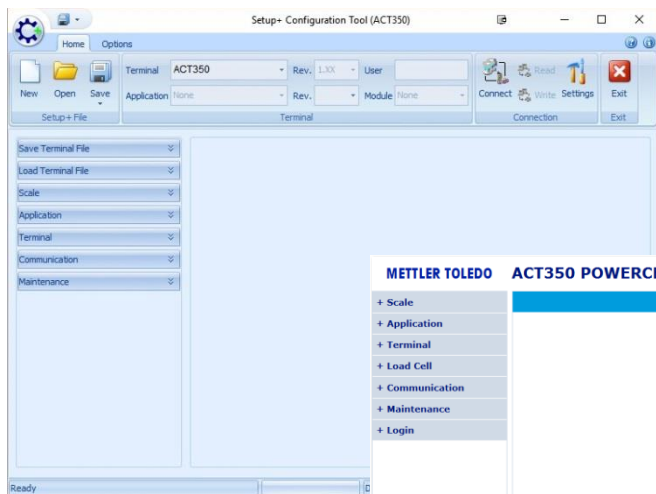


Setup+ / Webserver Configuration Tools



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Note

This documentation is provided solely as a guide for individuals who have received Technical Training in servicing the METTLER TOLEDO terminal & software products. For information, locate the closest authorized METTLER TOLEDO representative at the METTLER TOLEDO website, www.mt.com.

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1. Setup+

This chapter contains general information on Setup+ system requirements and the installation procedure.

1.1. Setup+ Installation System Requirements

This section contains details on the system requirements and recommendations, including details on the required hardware and other software needed to run Setup+.

1.1.1. O/S requirements

Setup+ runs on any of the following Windows operating systems:

- Windows 7, Windows 8, Windows 10

1.1.2. Hardware requirements

Hardware requirements match those of the chosen O/S. In addition, Setup+ requires:

- 100 MB free disk space required (not including .NET)
- Appropriate space for configuration file storage
- COM port

1.1.3. Software requirements

The following software should be installed prior to installing Setup+:

- Microsoft® .Net Framework Version 4.5

1.2. Setup+ Installation Procedure

Installation of the Setup+ software application is started by running Setup.exe.

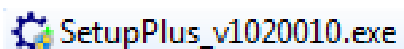


Figure 1-1: Setup.exe Icon

1.3. Setup+ Install Script Procedure

Once Setup.exe runs, an installation script is launched. The script leads through a series of dialog windows for the installation process, giving several opportunities to cancel the process before it begins.

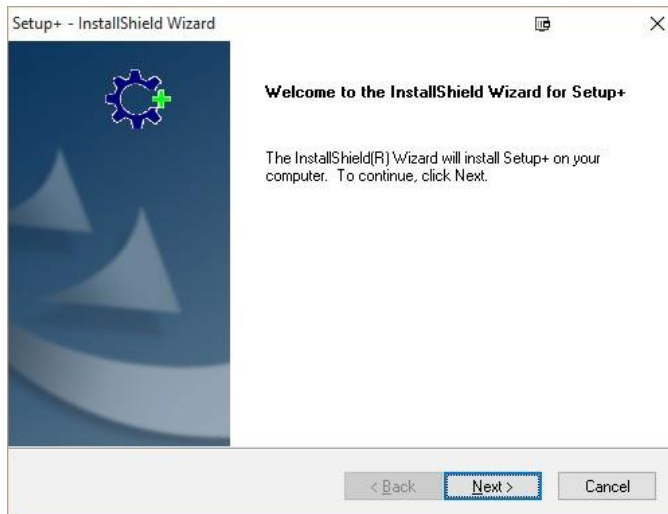


Figure 1-2: Welcome screen



Figure 1-3: EULA Acceptance Screen

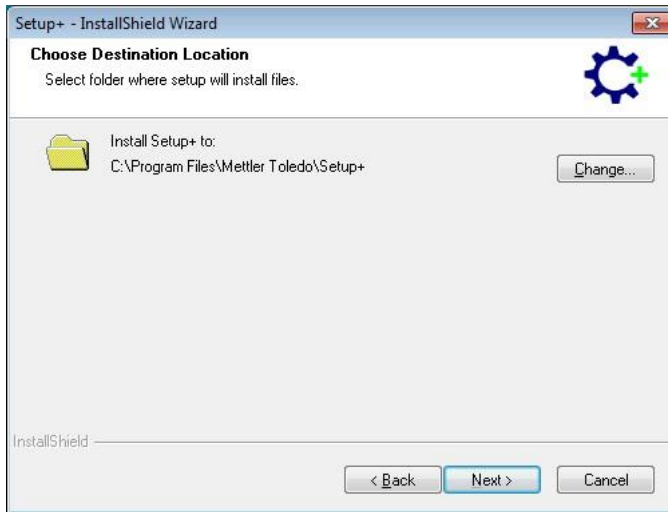


Figure 1-4: Installation Location Path Option

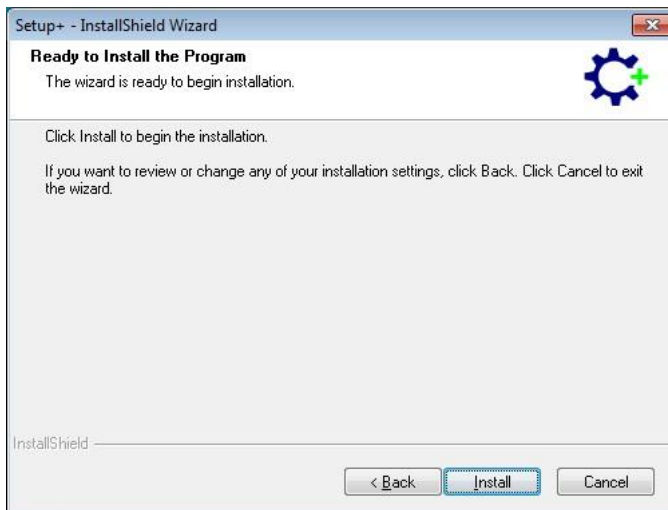


Figure 1-5: Final Installation Confirmation Screen

Once installation begins, a progress screen is shown (Figure 1-6). This screen will also indicate which component or file is currently being installed

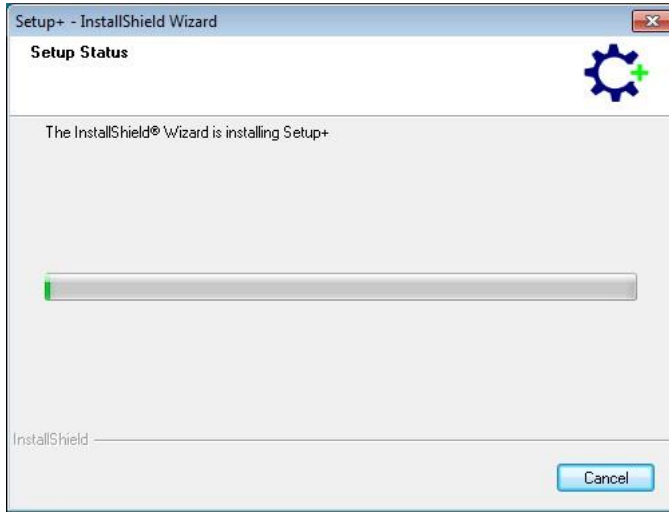


Figure 1-6: Installation Process Screen

Once installation is complete, click Finish to close the install script dialog.

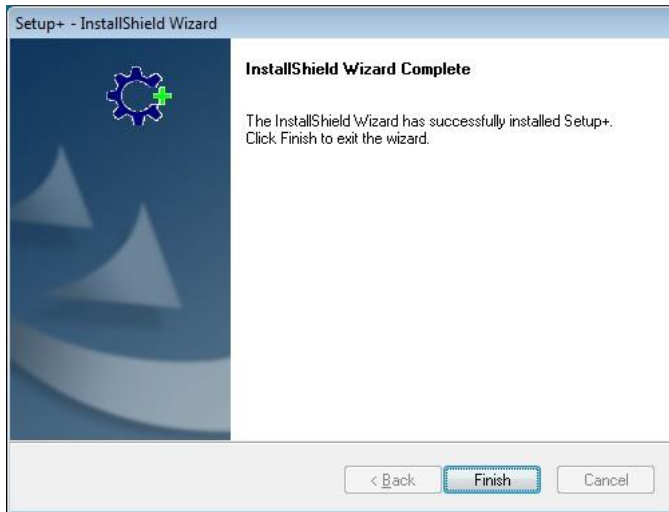


Figure 1-7: Final Installation Confirmation Screen

1.3.1. After Installation

After the installation is complete, Setup+ should be installed on the system. It can be accessed through the desktop shortcut icon or in the program list found in the Start Menu.



Figure 1-8: Setup+ Icon on the desktop

1.4. Release Notes

This documentation correctly describes the operation and functionality of the Setup+

Software versions as follows:

Revision	Date
1.0.0.xxxx	June 2015
1.0.0.0007	November 2015
1.0.2.0006	March 2017
1.0.2.0010	September 2017

Future releases will provide details on the revision history in the **Release Notes** document.

NOTICE

Actual Setup+ Software can be downloaded at www.mt.com/ind-act350-downloads.

2. Setup+ Connection Settings

In order to communicate to a connected device, Setup+ must be configured to use either a COM port for serial communications or an Ethernet IP address and port for an Ethernet socket connection. The section provides details on the steps needed to make these selections.

After starting Setup+ a new window will come up.

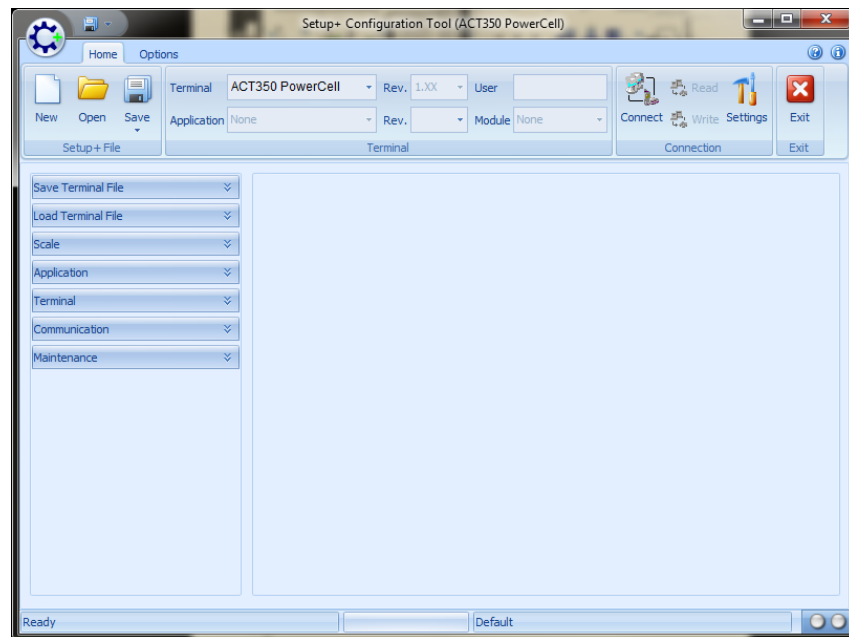


Figure 2-1: Setup+ Starting Window

2.1. Settings

The Settings tool button provides access to the communication parameters used by Setup+ for the product selected in the Terminal frame. Some devices can only support one method of communication based on hardware and software capabilities.

2.1.1. Changing Settings

To define the connection parameters to use, take the following steps:

1. Select the device type for this connection using dropdown Terminal list.

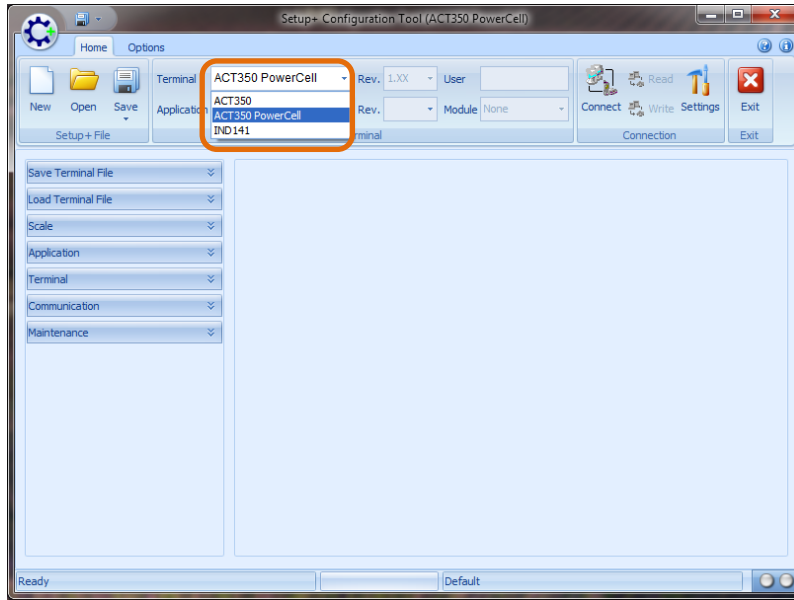


Figure 2-2: Device Type Selection

2. View the current settings by clicking on the Settings tool button.

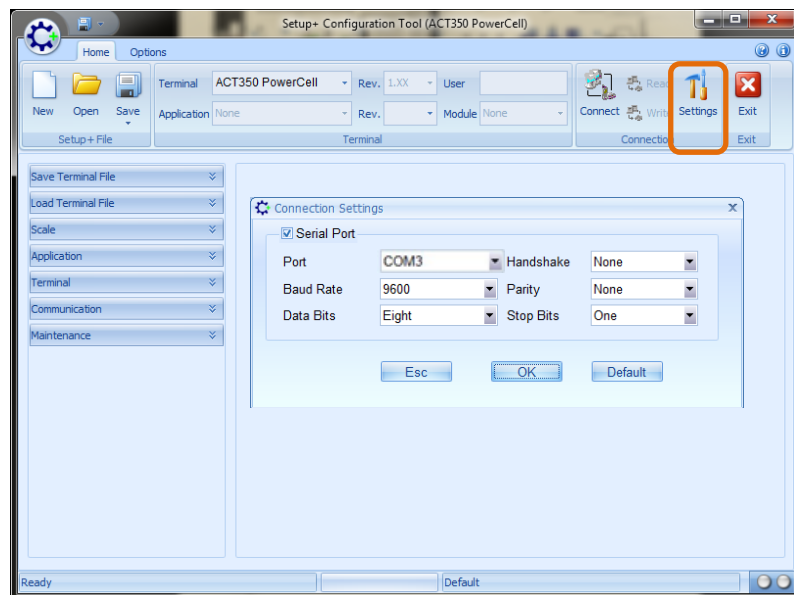


Figure 2-3: Port Settings

3. If Serial / Ethernet selections are both available, chose which type of communication should be used by checking the appropriate box (see Figure 2-3).
4. For an Ethernet connection, enter the IP address and port of the device. Setup+ will use this to establish the socket connection to it. The FTP user/password information is used when FTP access is required for file transfers. The default user/password is admin/admin.
5. For a serial connection, select the PC com port and port configuration data. Setup+ will use this information to control the PC COM port during serial communications with the device. Setup+ can use USB to serial port adapters that have been configured on the PC. It will display any serial port it can use in its selection list. Typically, the USB driver must be installed (rather than using the generic one) in order for the connection to work.

3. Save/Load via Setup+

The Setup+ Save and Load operations allow the user to transfer the configuration contents from the device to a file on the PC. Once saved, the information stored in this file may be restored into the same device or loaded into other devices

NOTICE

The Save/Load function is available only via Setup+.

3.1. Save Device File

Setup+'s Save operation establishes a connection with a device, retrieves the configuration data, and stores this data as an .ipz file on the PC. The contents of the saved file are dependent on the device's typical configuration data.

3.1.1. Save Procedure

To begin the save, follow these steps:

1. Configure the connection settings that should be used to communicate to the device. This is product-dependent, and can involve either COM port settings and/or IP address information. The COM port selects which port is used by Setup+ on the PC and should be used for serial communications. The IP address should be entered to match the connected device's IP address and should be used for Ethernet communications. Not all devices support both communication methods. Make sure valid FTP username and password entries have been placed in the connection settings for these. Setup+ will be unable to retrieve the data from the device if an invalid, an unauthorized, or no username is entered and the process requires them.
2. Open the Save tool in the tree frame.
3. Select the information desired for the save. As items are selected they will appear in the configuration frame to the right. Selections in the tree are product dependent so this view will vary based on the product selection.
4. Once the save items are selected as desired, start the save process by clicking Start.
5. A dialog window will appear, prompting for a name to give the file generated by the Save process, and to save it. Enter the name and select a location, then click Save to begin.

6. Setup+ will begin the process to collect the required data for the Save. A login screen may be presented if the device requires user / password information to access setup. In certain cases, both a shared data username and password and an FTP username and password will be required to get access to the data needed. Make sure the correct username and password is given when prompted!
7. As information is transferred from the device to Setup+, the status will be updated in the view in the configuration frame. Once all information is received, the save file will be created.
8. Once the Save is completed, close the Save window in the configuration frame to use other Setup+ features.

3.1.2. Using Save File

Files created by the Save process are named with the extension .ipz. This unique extension is used so that Setup+ can identify them and use them for its Load process. However, they are in fact .zip files, and can be opened with software that manages files of that type.

3.2. Load Device File

The Setup+ Load operation takes a saved file and sends its contents to a connected device. The Load process has a variety of selectable levels of device checking. These selections establish what set of rules Setup+ uses when it compares the saved file to the connected device.

Table 3-1: Load Selection Options

Load Selection	Setup+
Match All	Device firmware revision, application and module settings must
Match Terminal / Application	Device & application settings must match, but revision and module may be different
Match Terminal only	Only the device type must match
No match required	No match is required

3.2.1. Load Procedure

To begin the load operation, take the following steps:

1. Select the device type for this load. (This step simply establishes the connection settings that will be used).
2. Configure the connection settings that should be used to communicate to the device (this is product dependent and can involve either COM port settings and/or IP address information). The COM port selects which port is used by Setup+ on the PC and should be used for serial communications. The IP address should be entered to match the connected device's IP

address and should be used for Ethernet communications. Not all devices support both communication methods. Make sure valid FTP username and password entries have been placed in the connection settings for these. Setup+ will be unable to retrieve the data from the device if an invalid, an unauthorized, or no username is entered and the process requires them.

3. Open the Load tool in the tree frame.
4. Select which type of load selection is required, and select the Project file (stored .ipz file) to use.
5. Setup+ will then open the saved file and list its contents in the Load view in the configuration frame. Click on Start to begin the Load process.
6. A login screen may be presented if the device requires user / password information to access setup. In certain cases, both a shared data username and password and an FTP username and password will be required to get access to the data needed. Make sure the correct username and password is given when prompted!
7. As the configuration data is sent to the device, the status information will be updated in the Load view. If all information is sent successfully, the view will be cleared. Once the Load is completed, close the Load window in the configuration frame to use other Setup+ features.

NOTICE

It is strongly recommended that power to the device be cycled after loading new configuration data to insure that all changes are applied and take effect in the device's operation

4. Setup+ Disconnected Mode

The Setup+ tool can be used to create configuration files without a device and load these parameter values at a later date. Only edited fields are saved in these configuration files so any "untouched" parameters will not be overwritten by this data.

4.1. Disconnected Functionality

The Setup+ tool shows the configuration menu when disconnected in addition to the Save/Load features. Each of these submenu selections can be expanded to show the available setup pages.

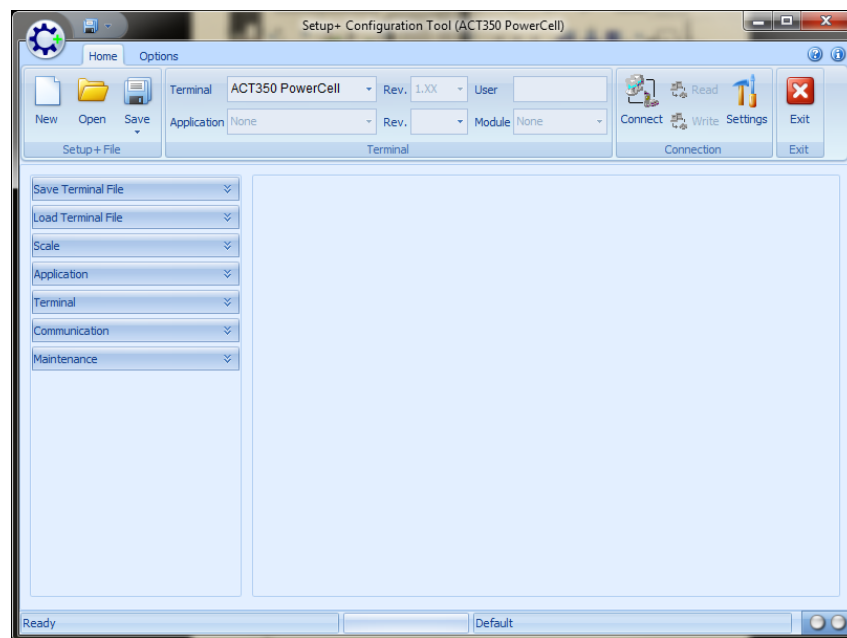


Figure 4-1: Configuration Tree Selections

To use Setup+ in the disconnected mode, use the navigation frame to select the desired configuration section. Once the section is expanded, a view of the tree is shown (Figure 5-2). From the tree, individual configuration branches may be selected. These pages are then shown in the configuration frame.

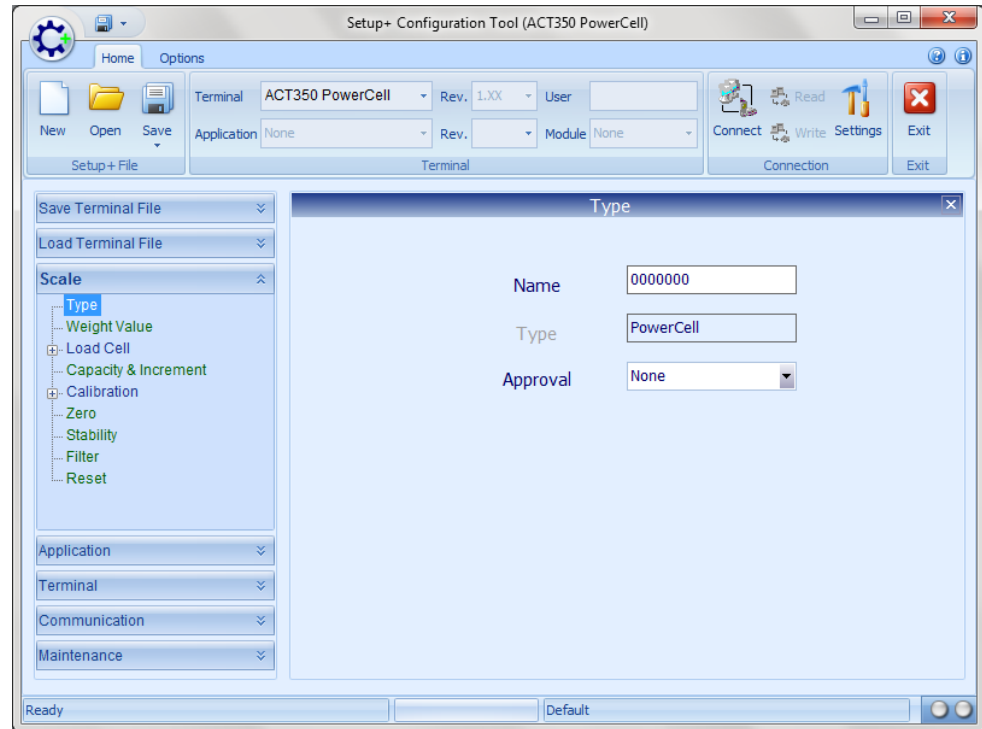


Figure 4-2: Tree View

All configuration tree and frame contents are based on specific product definitions. Configuration information, configuration selections and operation are detailed in the Chapter 7 of this document.

Any configuration parameter with a white background can be changed; those with a light or slightly darker blue background are read only – either because of access rights or restricted use as defined by another parameter selection. Many configuration fields have qualified entry checks. Setup+ may reject unacceptable data entries or selections in those cases.

4.1.1. Unique Disconnected Mode Features

Because the Setup+ tool cannot verify the device's hardware in the disconnected mode, the configuration information includes extra parameters to define what optional hardware is available for some devices. For example, in products that support multiple scale types, there will be a selection (as opposed to a read only field when connected) to choose the type of scale on which the configuration should be based. This selection can affect several other configuration parameters. It is up to the user to ensure that the appropriate hardware selections are made for disconnected configurations.

4.2. Disconnected Functionality

To use Setup+ in the disconnected mode, use the navigation frame to select the desired configuration section. Once the section is expanded, a view of the tree is shown (Figure 3-2). From the tree, individual configuration branches may be selected. These pages are then shown in the configuration frame.

NOTICE

Setup+ does not save an entire configuration image in the disconnected mode – only changes are saved.

As changes are made to the disconnected configuration, Setup+ keeps track of all changes, and only the changed information. Once the changes are complete and the user saves the setup+ file, only the changes to the configuration are saved.

4.3. Disconnected Mode Usage

NOTICE

Only bcf (setup+) files may be used or opened in disconnected mode.

The disconnected mode is useful for creating configuration files when the device is not available. The user may pre-configure any known setup information without access to hardware. Then, when the device is available, the saved information can be written to it using connected mode. This allows users to create configuration data at their own convenience.

In addition, saved Setup+ files can be used to clone common application data for devices with different hardware. Because portions of the configuration data will be different, a complete save/load would not be appropriate. Since the disconnected mode saves only the changed information, a file containing only the appropriate changes could be made and written into all devices.

5. Setup+ Connected Mode

The Setup+ tool may be used to connect to the device directly and change its current configuration, read its current configuration and save it as an Setup+ configuration file, or write saved Setup+ configuration files into the connected device.

5.1. Connected Functionality

Like the disconnected mode, the Setup+ tool will include the configuration tree selections in addition to the Save File / Load File choices for a particular product. Any product that can be used in the disconnected mode can also be used in the connected mode. To use Setup+ in the connected mode, use the terminal toolbox frame to select the desired device selection. Make sure the settings are correct for the connection, then click on the Connect button in the Connection toolbox frame to establish communication with the device.

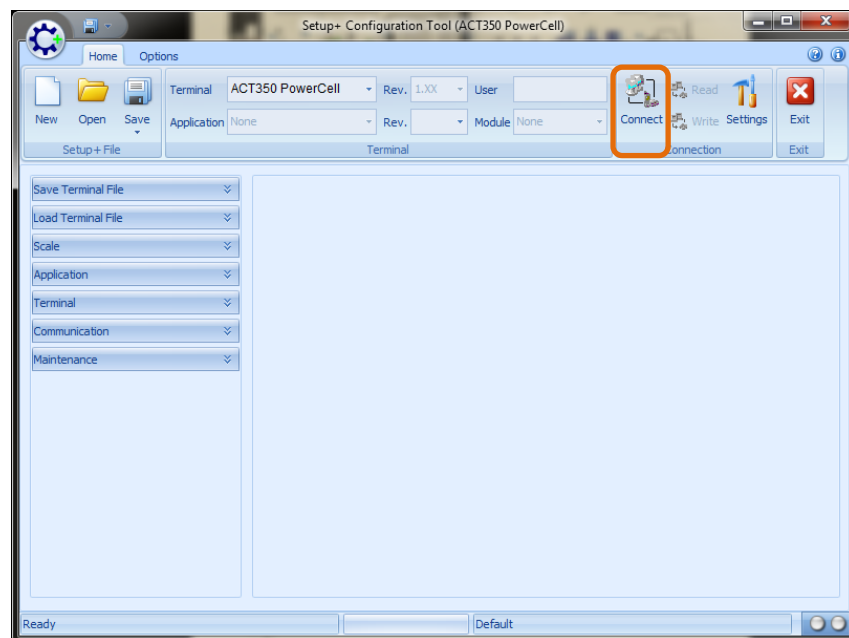


Figure 5-1: Connect Button

Some products may request login information before the connection is completed.

Once connected, use the tree view in the navigation frame to view or make changes to the current configuration of the connected device.

5.1.1. Reading Configuration from a Device

Not all parameters are read when a device is connected to the tool: only relevant parameters are read as the user navigates through the nodes in the tree frame. This was done as a concession to those who wish to connect and change only a few parameters, since reading all configuration data can be quite time-consuming. However, after connecting the user can choose to read all the values from the device.



Figure 5-2: Read Button

The Read tool button in the Connection section can be used to initiate the read all data operation. It is important to remember to do this when it is desirable to save the entire device configuration to a file.

5.1.2. Review / Change Configuration

Often, the Setup+ tool must send the device both the changed information and a trigger to make the new configuration take effect. The new device values are written after the changed parameter loses focus. In order to “write” to the device, navigate away from the changed data by clicking on another parameter or another page.

There are a few exceptions to this: special processes like calibration save the data at specific times during the process. Also in some special cases, the use of an “apply” button is required. Setup+ also writes when the page is switched if the page contains a single setup parameter.

5.1.3. Saving Device Configuration (Setup+ File)

To save the connected configuration of a device, follow these steps:

1. Connect to the device
2. Read all data

5.1.3.1. Save the configuration (as the required filename)

The write method must be used when Setup+ is in its connected mode.

5.1.4. Writing Device Configuration

When a device is connected, parameter values in a saved configuration (.bcf) file can be uploaded to the device using the Terminal | Write all data to terminal menu command.

NOTICE

It is strongly recommended that power to the device be cycled after loading new configuration data to insure that all changes are applied and take effect in the device's operation.

5.2. Special Operations

The connected mode allows the user to perform some special operations like performing firmware upgrades, accessing special service information, and printing the configuration information.

5.2.1. Firmware Upgrades

The various devices' Firmware can be upgraded using the Flash Download function found on the Options tab.

NOTICE

The Firmware upgrades function is available only via Setup+.

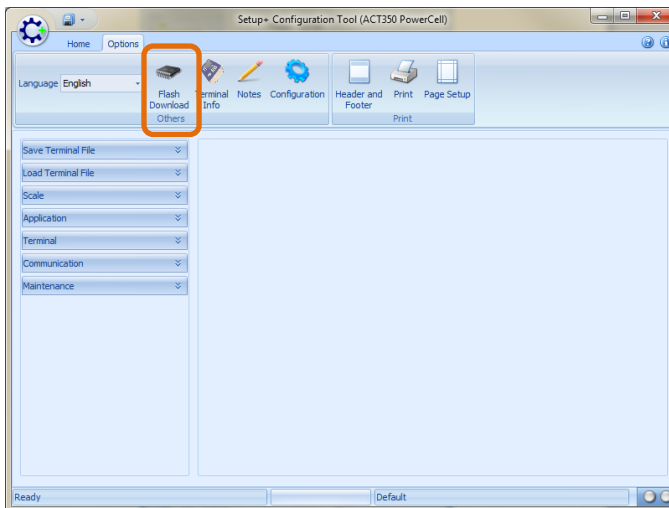


Figure 5-3: Flash Download Button

Depending on the type of device, this procedure may launch a separate application, Flash Magic that handles the upgrade process, or it may start a dialog in the configuration frame to control the firmware file selection and communication to the device.

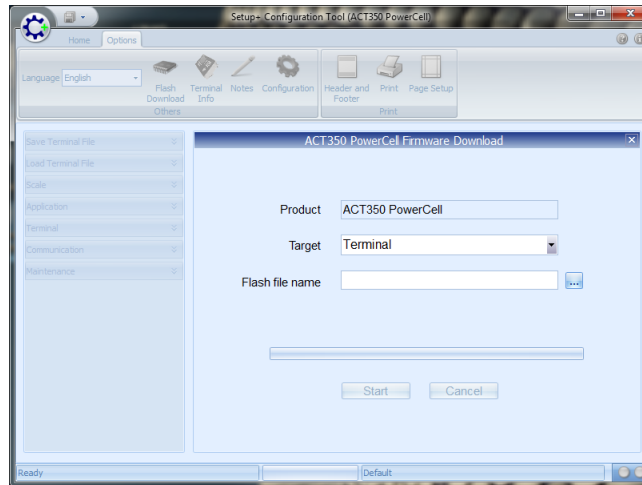


Figure 5-4: Firmware Upgrade Dialog

It is also important to remember that many devices require a special switch setting and power cycle operation in order to make the device ready to accept firmware upgrades. Consult the technical documentation of the specific device for details on the required process. Once the operation is complete, close the firmware upgrade window to exit it and access other configuration functions.

NOTICE

Don't forget to back up the device's configuration before performing the firmware upgrade. Use the save/load processes to save and then restore the setup information.

5.2.2. Configuration Report

Once the device has been configured, the configuration data can be printed from the Setup+ tool. The configuration report is generated from the Options tab, Print section in the toolbar frame.

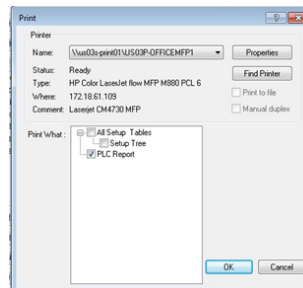


Figure 5-5: Print Options

There are options to customize the header and footer information and configure page settings. Once these are set up, the print function is used to generate to print view, which can be saved as a file or sent to a printer connected to the PC

1		11/6/2015		10:28 AM	
PLC Report					
Product		ACT350			
Serial Number		B530216679			
Tab	Branch	Parameter	Value		
PLC Report					
	Data Format				
		FieldBus Assignment	SAI		
		FieldBus Format	2 Block Format		
		Byte Order	Automatic		
	PROFINET				
		MAC Address	00:10:52:C2:01:62		
		Device Name	ACT350		
		IP Address	192.168.000.002		
		Subnet Mask	255.255.255.000		
		Gateway	192.168.000.001		
		1 of 1		11/6/2015	

Figure 5-6: Sample Configuration Report, for PLC

The header and footer can include system information like time, date, and number of pages. Custom text can also be inserted. Be careful when choosing the header and footer size – this can make the print report very large for the more advanced devices.

5.3. Connected Mode Usage

The connected mode is required when loading a saved Setup+ file created in the disconnected mode (Write) to complete cloning from another device or loading the pre-configuration data.

This mode allows instant access to read or change individual setup parameters quickly. It also has several special operations for device configuration:

- Firmware upgrades
- Configuration reports

While connected sessions can be used to save the entire configuration if the Read All function is used, Setup+ will not include any secure data. Use of the Save function is strongly recommended to archive the complete configuration. This process should work for any version – even those not yet supported in the connected / disconnected modes.

6. Webserver Connection

Webserver supports configuring of the ACT350 POWERCELL Transmitter via web browser, such as: IE, Chrome and Safari;

NOTICE

Make sure the PC and ACT350 POWERCELL Transmitter are in the same local network.

6.1. Setup Information

6.1.1. PC Setup

The typical PC configuration:

IP address: 192.168.0.X (X= 0~ 255, exclude 2);

Subnet Mask: 255.255.255.0

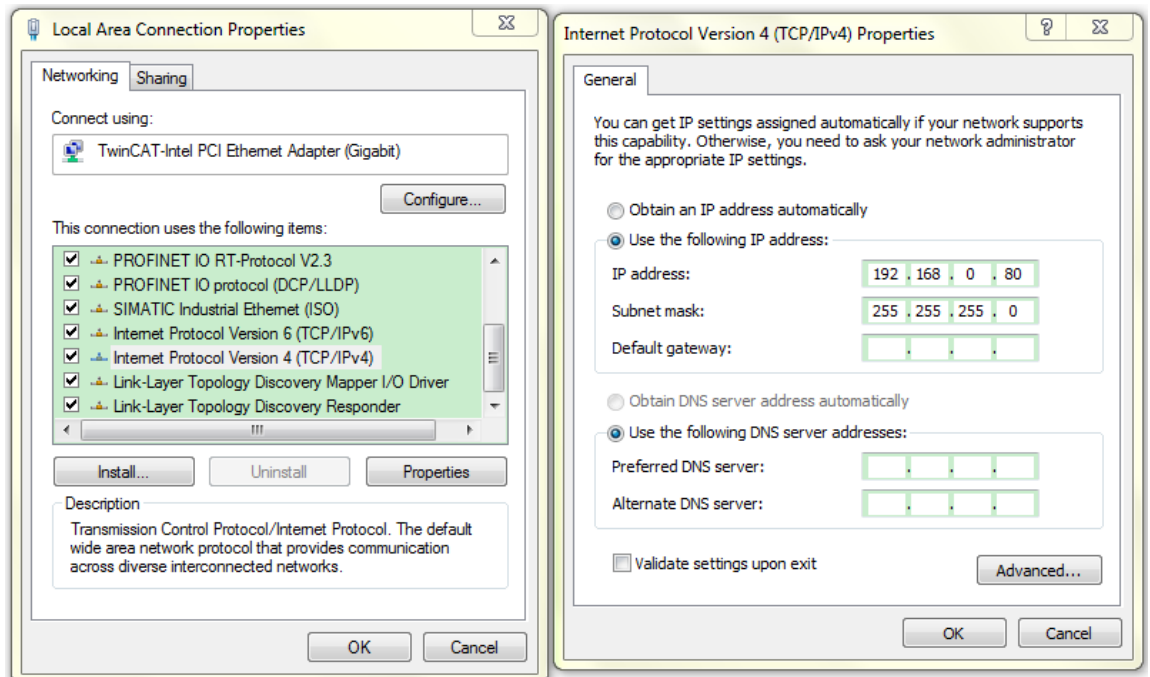


Figure 6-1: Local Area Connection Setting

NOTICE

The default setting of ACT350 POWERCELL Transmitter is as follow:
 IP address: 192.168.0.2,
 Subnet Mask: 255.255.255.0,

6.1.2. IE Setup

Go to Internet Option -> LAN setting

The Automatically detect settings should be unchecked.

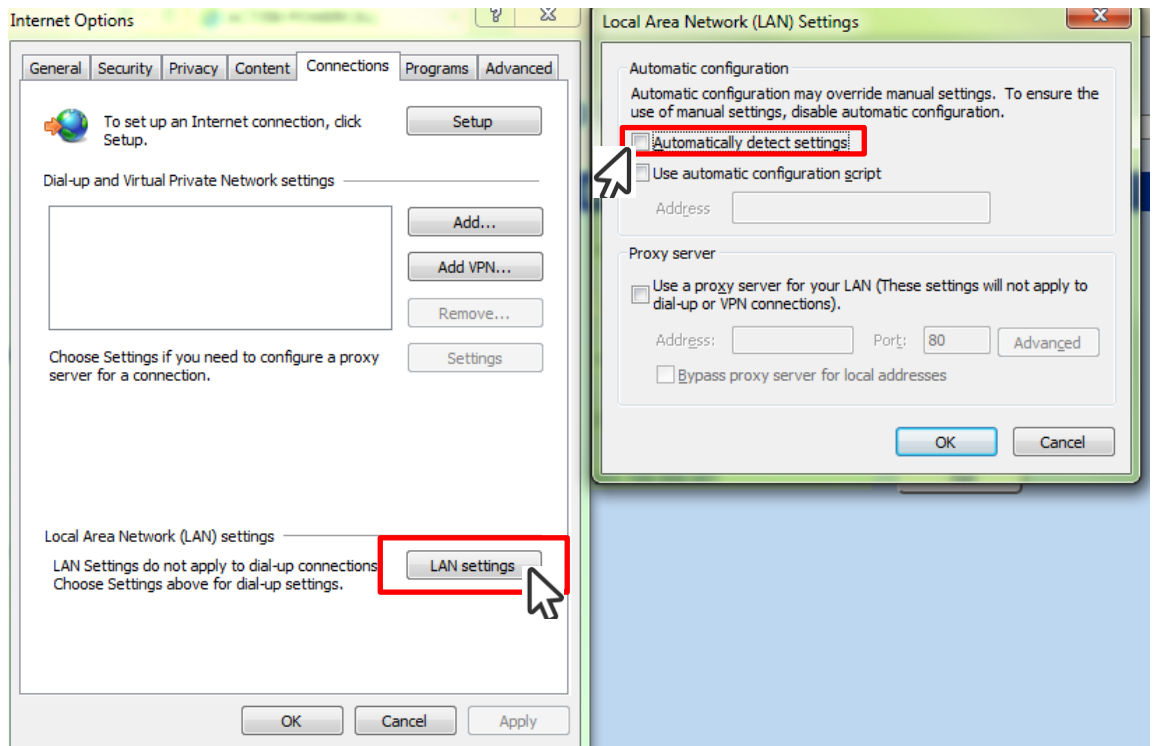


Figure 6-2: LAN Setting

6.1.3. Connect to webserver

By typing the IP address (192.168.0.2) of ACT350 POWERCELL Transmitter in the web browser, the startup screen of webserver will be displayed.

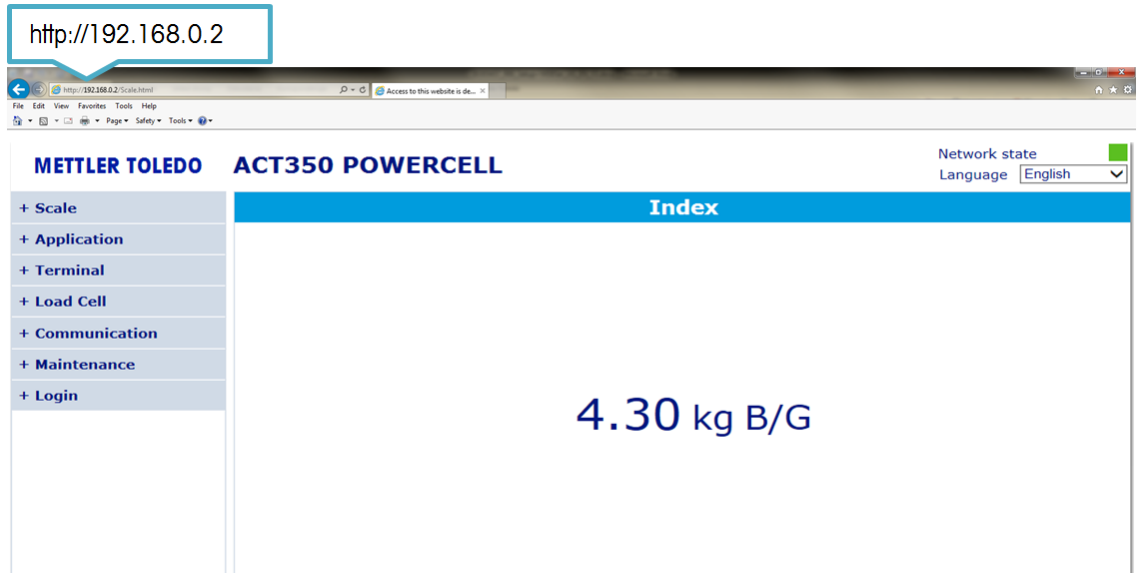


Figure 6-3: Webserver Startup Screen

NOTICE

In case of any problems please contact your local Mettler Toledo, LLC service office for support.

6.2. Connecting status

The Webserver is working only when it is connected to the ACT350POWERCELL Transmitter.

Actual connecting status can be checked on the top right corner "Network state".



Figure 6-4: Webserver Connecting status (Online/Offline)

6.3. Webserver updated

The Webserver is integrated with ACT350POWERCELL firmware. Actual release can be found at www.mt.com/ind-act350-downloads .

NOTICE

The webserver is available for PROFINET IO and EtherNet/IP types. The PRFIBUS DP version is not supported via Webserver.

6.4. Release Notes

This is the initial release of this software. Future releases will provide details on the revision history in the **Release Notes** document.

7. Setup+/Webserver Functions

This chapter contains information on Setup+ and Webserver common maintenances functionalities.

Contents of the tree and configuration frame window are product-specific but typically follow the same general organization with five main sections:

- Scale,
- Application,
- Terminal,
- Communication,
- Maintenance

NOTICE

More information about ACT350POWERCELL available functions can be found on ACT350POWERCELL User's Guide which is available at www.mt.com/ind-act350-downloads.

7.1. Scale

Scales tree consist functions related to the scale and individual load sell maintenance

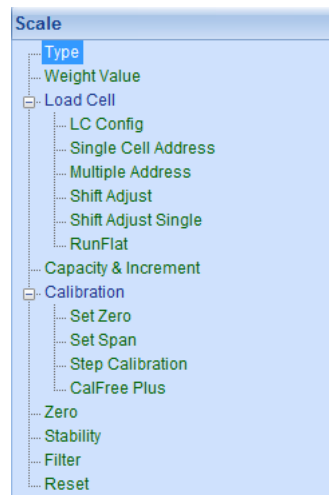


Figure 7-1: Scale Maintenance Tree

7.1.1. Type

The scale's name, type and approval (if any) is configured at **Scale ->Type**. Approval options are shown in Figure 7-2.

The screenshot shows a dropdown menu for 'Approval'. The menu is open, displaying the following options: None (selected), Canada, OIML, and USA.

Figure 7-2: Approval Options

7.1.2. Capacity and Increment

Available units are in grams, kg and lb which can be chosen from the drop down list. The maximum capacity value is 980 000. Increment value is available from the drop down list after entering the capacity.

The screenshot shows the 'Capacity and Increment' configuration screen. It contains the following fields:

- Unit:** A dropdown menu set to 'kg'.
- Capacity:** A text input field containing '980000' with 'kg' as a unit label.
- Increment:** A dropdown menu set to '10' with 'kg' as a unit label.
- OverCapacity Blanking:** A text input field containing '5' with 'd' as a unit label.

Figure 7-3: Capacity and Increment

7.1.3. Calibration

Calibration is the process of adjusting the display of the transmitter so that when the scale is empty, the display shows zero gross weight and, with a specific amount of weight on the scale, shows an accurate weight value.

The screenshot shows the 'Calibration' configuration screen. It contains the following fields:

- GEO:** A text input field containing '16'.
- Linearity:** A dropdown menu set to 'None'.

Figure 7-4: Calibration

7.1.3.1. Geo Code

The Geo Code, which sets the appropriate adjustment value for the current geographical location, is selected here. Geo codes are numbered 0–31.

7.1.3.2. Setting Linearity

Choose the number of linearity points from the selection box. Options are **None** [default], 3 point, 4 point, 5 point.

Points are distributed as follows:

- None** Linearity is disabled
- 3** Zero, midpoint and highpoint
- 4** Zero, lowpoint, midpoint and highpoint
- 5** Zero, lowpoint, midpoint, mid-highpoint, highpoint

7.1.3.3. Set Zero

Scale zero is set simply by emptying the scale and press "OK" button.

If the transmitter detects scale motion during the calibration process, it will retry the start of calibration several times and then proceed, displaying a motion indication. In this case, when calibration is complete the transmitter will present two options – accept or reject the value.

7.1.3.4. Set Span

The scale's span calibration can be determined either with or without a linearity adjustment. With linearity disabled, a single reference point is used to calibrate the scale. This is the normal method of span calibration. If linearity is enabled, additional mid-range weight reference points are added to the adjustment procedure. Linearity can be enabled or disabled in the Calibration branch of the device menu.

7.1.3.5. Step Calibration

Step calibration is an iterative process in which a build-up or material substitution method of calibration is used to calibrate the span. Each step calibrates a portion of the full span.

The process can be ended after the completion of any step by clicking on the **Done** button. In the example shown below, two steps are used.

1. First, a test load is defined and the test weight placed on the scale. The process is then started by clicking OK.

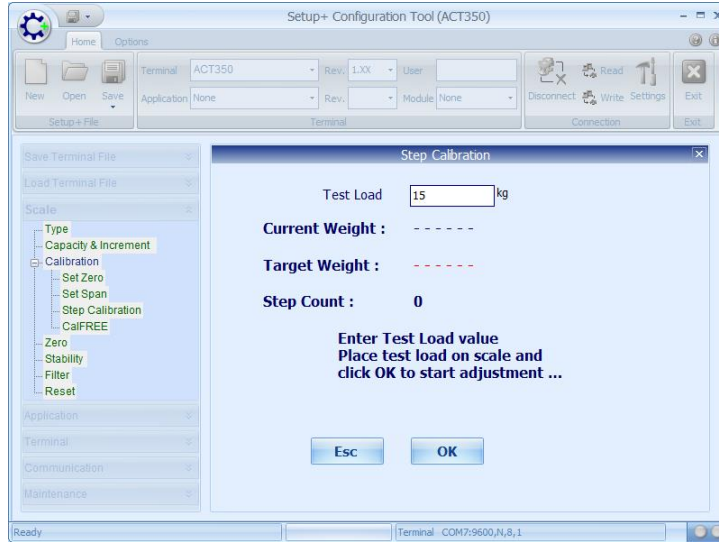


Figure 7-5: Step Calibration 1 – Ready

2. Setup+ indicates that the calibration adjustment is in process.

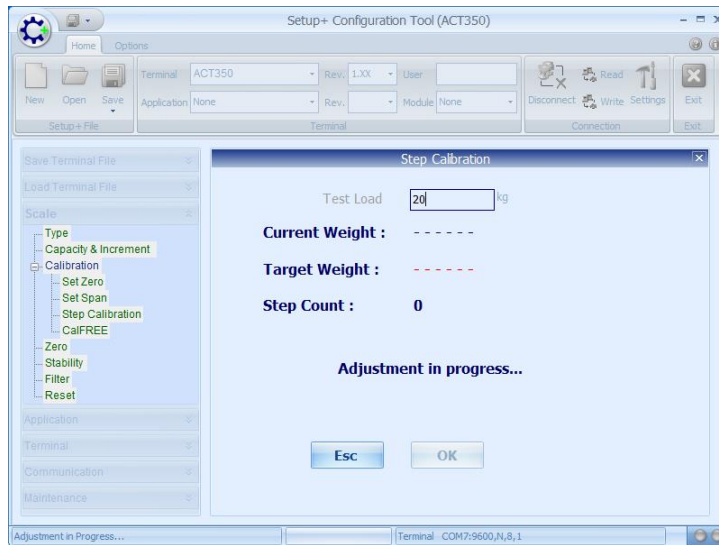


Figure 7-6: Step Calibration 2 – In Process

3. When Setup+ indicates that the adjustment has been successful, either press **Continue** to move to a new step, or **Done** to save the calibration and exit the procedure.

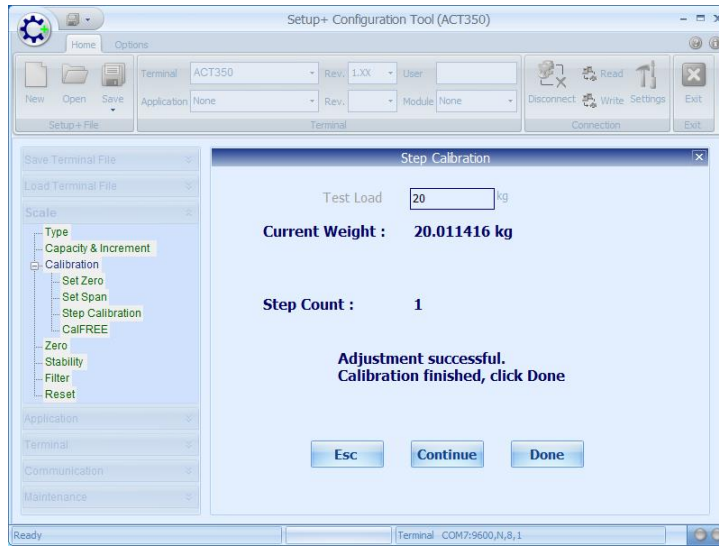


Figure 7-7: Step Calibration 3 – Step 1 Complete

- In this case, **Continue** was pressed, and Setup+ prompts to remove the test load from the scale.

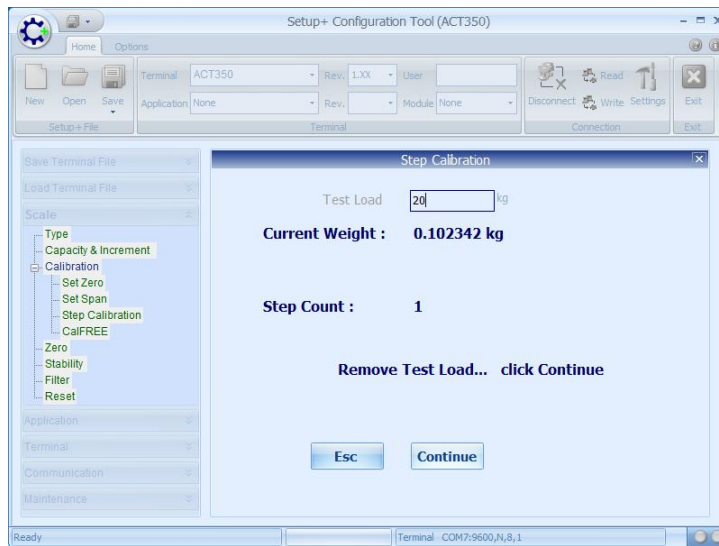


Figure 7-8: Step Calibration 4 – Removing the Load for Step 1

- Press **Continue** to run the next step. Setup+ prompts for the addition of the test weight to the scale.

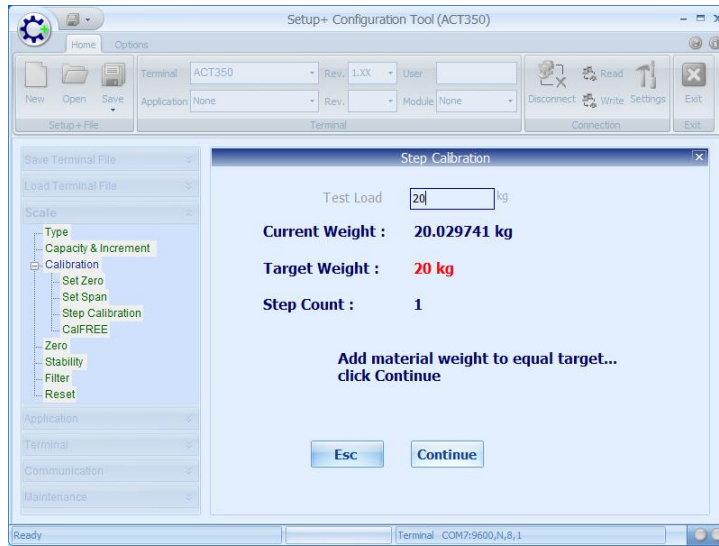


Figure 7-9: Step Calibration 5 – Ready for Step 2

6. Setup+ is now ready for step 2. Press OK to continue.

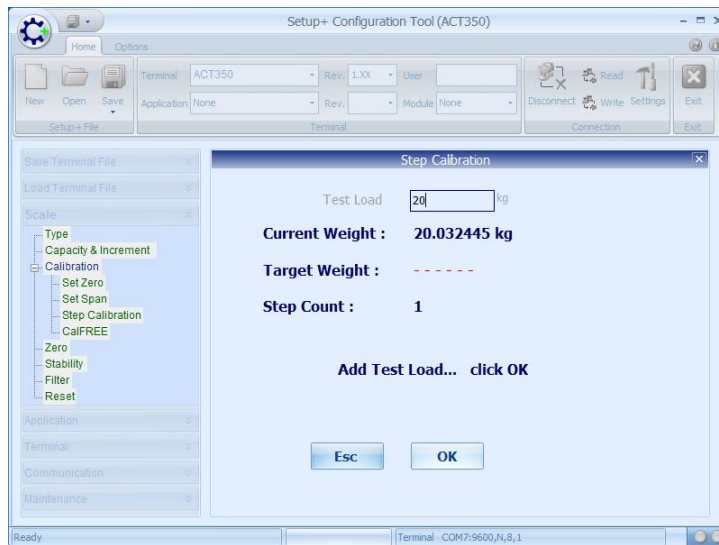


Figure 7-10: Step Calibration 6 – Ready

7. When the step completes, it is again possible to continue with another step, or click Done to complete the process.

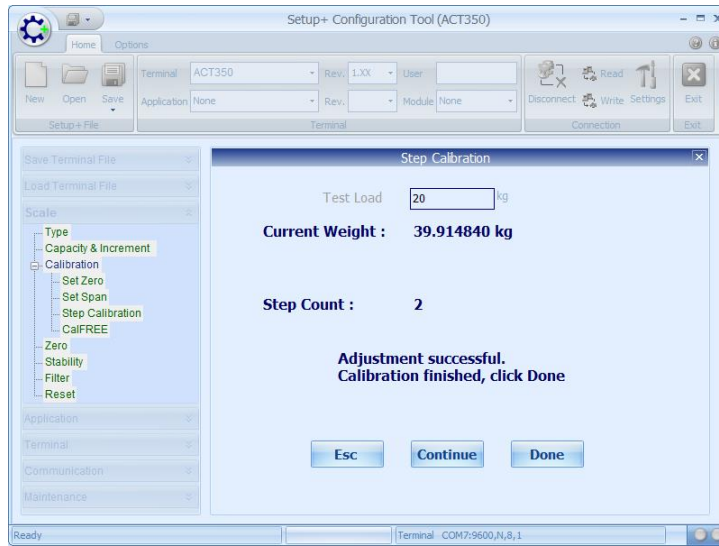


Figure 7-11: Step Calibration 7 – Step 2 Complete

8. When **Done** is clicked, Setup+ indicates that the calibration values have been saved.

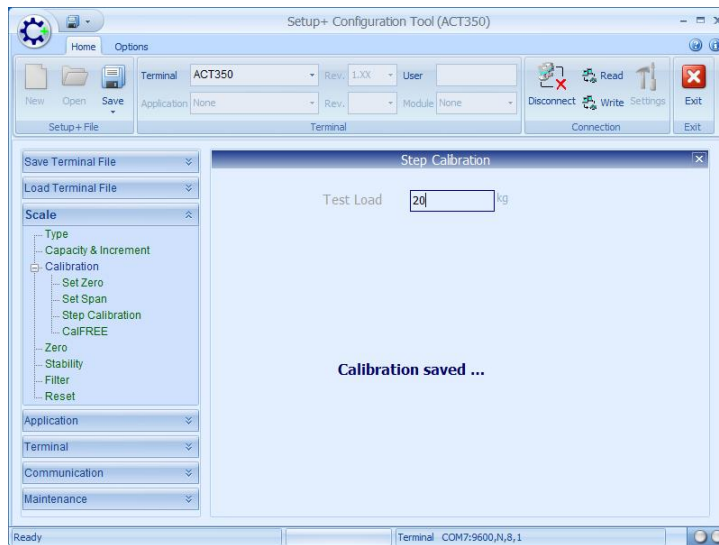


Figure 7-12: Step Calibration 8 – Procedure Complete

7.1.3.6. CalFree Plus

CalFREE Plus allows the scale to be calibrated electrically without the use of test weights. Mechanical influences in the weighing system are not taken into consideration when using CalFREE Plus. These influences may negatively impact the system performance.

7.2. Application

In Application the Comparators and digital Inputs and outputs can be set.

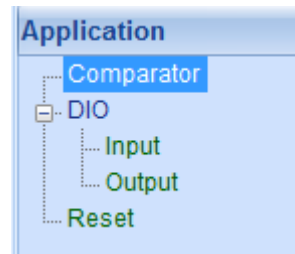


Figure 7-13: Application

7.2.1. Comparator

Up to 5 comparators can be set. Each comparator limit value is limited to 7 digits

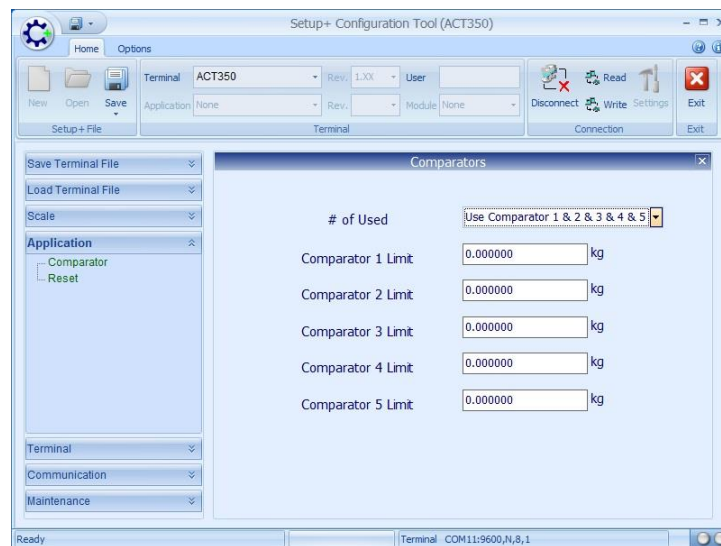


Figure 7-14: All Comparators Displayed

7.2.2. Discrete Inputs and Outputs

Three digital inputs and five Outputs can be set using Setup+ or Webserver.

7.2.2.1. Discrete Inputs

Each out of three discrete Inputs have two polarity values +True (default) and -True and four functions are assigned: None; Clear Tare; Tare; Zero.

Input Channel	Polarity	Assignment
#1	+ True	None
#2	+ True	None
#3	+ True	None

Figure 7-15: Discrete Inputs

7.2.2.2. Discrete Outputs

Five discrete outputs with None; Center of Zero; Comparator 1 ÷ 5; Fault; Motion; NET; Over Capacity; Under Zero available functions.

Output Channel	Assignment
Output Polarity	+ True
#1	None
#2	Over Capacity
#3	Over Capacity
#4	None
#5	None

Figure 7-16: Discrete Outputs

7.2.3. Terminal

The ACT350POWERCELL device can be maintain from the Terminal section.

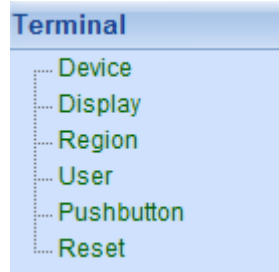


Figure 7-17: Terminal

7.2.3.1. Device

The individual Serial Number can be seen in Terminal -> Device Section.

7.2.3.2. Display

A terminal display can be disabled or auto off after 1, 10 or 30 minutes from drop off list.

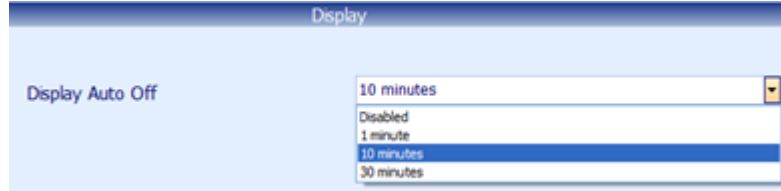


Figure 7-18: Display Auto Off

7.2.3.3. Language

The **Language** selection menu can be accessed at **Terminal | Region**. A drop-down box allows English or Chinese to be selected.

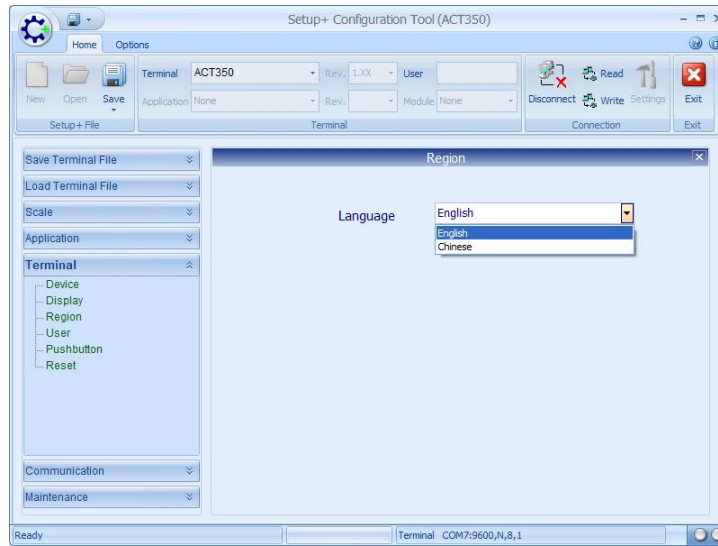


Figure 7-19: Language Selection

7.2.4. Maintenance

In this section all diagnostic and errors messages related to individual load cell and transmitter are available.

7.2.4.1. Error Message Alerts via Webserver

In Webserver an error message alert will be visible whenever something will happen. A top blue bar will change a color into a red to inform about device faults.

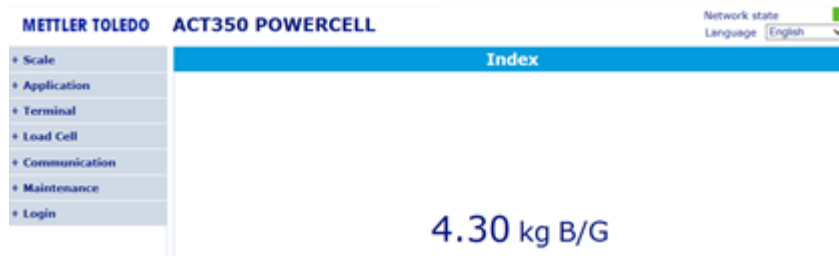


Figure 7-20: Webserver - Normal Work (Blue Bar)

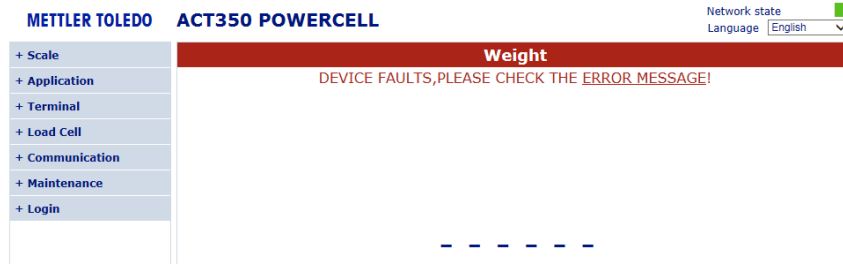


Figure 7-21: Webserver - Error Message (Red Bar)

When the Error Message information is displayed got to Maintenance -> Error Message to see more information.

There will be an error number, terminal display information, error detailed description and suggestion about next actions provided.



Figure 7-22: Webserver Error Message Information

NOTICE

The error messages function with detail information is available via Webserver only.

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For more information

Mettler-Toledo, LLC
1900 Polaris Parkway
Columbus, OH 43240
Phone 800 438 4511
Fax 614 438 4900

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