

Willabay Design EDMS Setup Guide

Installation Related Information for the Willabay Design EDMS Application

Version 5, Date: 3/6/2018

Introduction

This document is a condensed version of the full EDMS Provisioning and Installation User Guide which may be referenced for additional details. This document should be sufficient to initially set up a working EDMS System.

Part 1: Configuration Assumptions and Terminology

Preliminary Requirements

This document assumes that the customer will only need one Tibbo device, one EDS Meshnet Controller (MN-CTRL), and three EDS Meshnet sensors.

The Tibbo device may be a first (G1) or second (G2) generation TPS TPP2L package configured with an LCD display or a Tibbo DS1101. The EDMS Provisioning Guide explains all the necessary hardware options for these devices. A link to this guide is provided at the end of this document.

See <http://tibbo.com/tps.html> for Tibbo TPS information.

Several Different types of EDS Meshnet Sensors are currently supported.

For temperature monitoring alone, use MN-ENV-T wireless sensors.

For combined temperature and Humidity operation, use MN-ENV-TH sensors instead. The EDS MN-ENV-THX sensor is also supported and will be treated just like a TH sensor as far as installation is concerned. See the THX sensor section of this document for further information on this sensor type.

See http://www.embeddeddatasystems.com/Wireless_c_68.html for all EDS Meshnet information.

In order to be able to connect both the Tibbo device (TPP2L or DS1101) and the EDS Meshnet Controller (MN-CTRL), a customer needs the capability of plugging both Ethernet devices into their IP network. The network must support DHCP IP addresses assignment.

It is assumed that a given customer has obtained their copy of the EDA application from the Willabay Design website at <http://dgysservices.com/edms-software-products/order-wd-eda-products>. The downloaded file is a zip file with an enclosed pcode (.tpc) file. This .tpc file is the EDA application.

The customer needs to note and retain the 8 character **License Code** that was delivered with their equipment order via email from Willabay Design's product distributor.

A new user should also have downloaded and installed Tibbo's **Device Explorer** (DE) installation and device administration tool prior to any attempt to install this equipment. It is assumed that the installer is familiar with the basic operation of the Device Explorer. Tibbo's DE can be found at <http://tibbo.com/support/downloads/tide.html>

Basic Terms

There are a few basic terms that should be understood before a customer starts to work with the Willabay Design EDMS system.

1. We use the term **System** to be the full set of equipment that the customer intends to install, even if this equipment is installed at multiple locations with distinct sets of controllers at each location.
2. Each System may be comprised of multiple sites that will host the common controller equipment. Each of these sites is called a **Host Site** and will have one EDS MN-CTRL and one Tibbo device. The maximum number of host sites for one system is 20 and the maximum number of EDS Meshnet Sensors that we can support for one Host Site is currently 16 sensors using a Generation 2 Tibbo device for the EDA. Otherwise, the maximum is 8. Very large systems with more than 50 sensors should be avoided at this time. A given Host Site may also include one or two EDS Meshnet Repeaters.
3. EDMS customers are assigned a **Customer Code** (CC) when they first use their EDA license to set up their system. The same CC can support multiple systems but this is not expected to be a typical arrangement. Each System can be assigned a name but the name must end with a **System Number** (SN) that ranges from 1 to 10. This number has to be prefixed with "WD" this any name must end with "WDn" with n the System Number. An example is SITEAWD2 for System 2. The Host Sites must be consecutively numbered, starting with 1.

Please refer to the **EDA Technical Specs** in the EDMS Details section of our website for all of the naming restrictions and conventions used in this product.

Part 2: EDA Product Database Setup

Assuming that this is the customer's first EDMS system and the first EDA to be installed, the customer will need to initialize their remote portal on Willabay Design's server at this time. This process is explained on Willabay Design's website at <http://dgysservices.com/new-customer-remote-portal-setup-page>

Step 1 on this page has a **Customer Code Request Form** that is used to assign your first system.

When this step is completed, the customer will have an assigned **CC** of the form 13xxx and an assigned System Number (**SN**) (1 will be the first one assigned). Completion of these steps will also initialize the server's internal database tables for the EDA to work. The EDA's first assigned **Host Number (HN)** will be 1 at this point but additional Host Numbers can be used to install controllers for other locations on the same system. These three items (CC, SN, HN) will be used in the following steps.

Note that the subsequent installation of additional Host Sites on the same System will require numbering these Host Sites from 2, 3, etc. You should not skip Host Site numbers but it is possible to move sensors from one Host Site (the MN-CTRL) to another. This capability is described in the EDS MN-CTRL documentation.

Step 2 on this same page has a **System Setup Form** that can be used to assign any subsequent EDMS System Numbers and their associated database entries.

Part 3: Initial Tibbo Device Setup (Assuming a TPP2L)

After purchasing a specific Tibbo device (DS1101, TPP2L, or TPP2L-G2) from Tibbo or one of their distributors, the following steps are required to set up the device for our EDA application.

1. The installer needs to load both the required Tibbo device firmware (file such as `tios-tp2w-3_60_00.bin`) and the EDA application (the `.tpc` file) separately onto their TPP2L device using Tibbo's **Device Explorer**.

Simply highlight the appropriate IP address on the Device Explorer page and click upload. Then select each item (firmware and application) separately to upload files.

The Device Explorer also has a way to assign a password to your device to prevent unauthorized use. This is highly recommended

2. The TPP2L should be connected your network and powered up. If the EDS MN-CTRL Controller is also powered up, the IP addresses of both devices can be observed on the LCD screen. The TPP2L IP address will be a DHCP address that is assigned by the customer's router or a fixed address (192.168.0.200), if DHCP is not available or the router is not able to assign an address.

Touching the buttons below the LCD screen will refresh the screens display.

3. Using any web browser on a device connected to this router (laptop, tablet, etc), the installer should access the EDA's main web page by entering the device's IP address and port number 64400 (Example: 192.168.0.230:64400). The device will prompt for a password which is defaulted to 1234 at startup.
4. The first display page that is encountered will be the **Startup Page**. There are also a few links on this page that can be used at this point to initially configure the EDA. In particular, the **Network Settings** link can be used to assign a static IP address at this time.
5. The Startup Page also has an **Assign Program License** link to a **License Provisioning Page** which must be used to officially register the product. After entering the license code on the License Provisioning Page, there may be a wait of up to 10 minutes before the registration is complete. When this step is complete and the registration is successful, a revisit to the standard home page (the IP address and port plus the 1234 password steps) will bring up the standard **Home Page**.
6. At this point, a user may choose to setup up the system's **Customer Code** and **System Name** using the **Configuration Settings** link or defer this step until Part 6 of this procedure.

The System Name must be 10 characters or less and has to end with ..."WDn" with n the System Number.

Part 4: EDS Equipment Installation and Setup

There is nothing unique in the setup of the EDMS version of the EDS equipment other than the need for several special names for the MN-CTRL Device and Host names and a certain convention for the Sensor User Names.

Specific instructions on how to bring up and configure the EDS equipment may be found in the MN-CTRL manual on the EDS website.

The EDMS specific assignments in the MN-CTRL are listed below. Steps 1-4 can be done at once on the MN-CTRL's **Network Page** (Under System Configuration). Before a new MN-CTRL is configured, the default configuration id and password are "admin" and "eds".

1. The **Device Name** must be of the form: MNCTRL_HCxx, where xx is the **Host Number** that the customer plans to use for this host site (starts with 1). On the same page, the **Host Name** must end in MNCTRLxx (with xx the Host Number) and its total character length must be 10 or less.

Note that if more than one MN-CTRL is deployed in the same EDMS System, the Host Numbers must be different on each controller and the numbers must agree with their associated EDA.

2. It is strongly recommended to assign static IP addresses for your local network on the EDA and MN-CTRL from this point on. The MN-CTRL's Network Page lets you do this assignment. You also have to identify the MN controller that you are using by means of its subnet number (last 3 digits of the IP). The default EDA setup assumes that the MN controller's last IP segment is 220 (Example 192.168.0.220). You also need to assign the appropriate gateway IP address and Network Mask (typically 255.255.255.0). The usual arrangement for the DNS IP address is the same as the gateway IP address.

3. The **HTTP Port number** on the Network Page must be set to 64500 for the EDA application.

When the Network Page assignment is complete and saved, the MN-CTRL will reboot and will come up on whatever IP address is assigned. This address can be observed on the EDA's LCD screen if you power cycle your device (TPP2L in our case).

4. Note that if more than one MN-CTRL is deployed within the same wireless range, the Pan ID on the **Wireless Page** (Under System Configuration) must be different for the system to work properly.

5. The **Devices Page** on the MN-CTRL is used to quickly link your Meshnet Sensors to your controller. There is nothing special about this process for our EDMS application. Note that the EDMS system is not sensitive to the order for which the EDS sensors appear on the MN-CTRL.

6. The **SNTP Client Page** on the MN-CTRL is used to set up your correct Date and Time.

Part 5: EDMS Meshnet Sensor Name Assignment

Under the MN-CTRL's **Advanced** tab there is a **Details** section that must be used to assign official names to the EDS sensors that were previously installed.

Each section of the Details Page covers one sensor with the **UserName** field the name of the sensor. The UserName field is writeable and must be used to rename the default sensor names.

Each sensor must be named using the following convention:

- | | |
|---|-----------------|
| Temperature Sensors (MN-ENV-T) | - Use "WD T-n " |
| Combined Temp/Humidity Sensors(MN-ENV-TH) | - Use "WD TH-n" |

High Power Temp/Humidity Sensors(MN-ENV-THX) - Use "WD TH-n"

Meshnet Repeaters (MN-ENV_RPT) - Use "WD R-X"

The "n" must start at 1 and go to the last sensor installed (assuming 3 in our case). Any Meshnet Repeaters in the configuration should just use an X. You do not have to number the repeaters. The new long range MN-ENV-THX sensors are treated just like the TH sensors with regard to names.

It is very important that all of the sensors are numbered in sequence and all of the sensor types and Repeaters have to be named. An example would be WD T-1, WD TH-2, WD T-3, WD R-X, etc.

There are some other items in the sensor configuration that may be useful for this EDMS application but this is all that needs to be set up at this time. Please reference the appropriate sections of the EDS MN-CTRL Manual or the EDMS Provisioning Guide for more information. Some of these items relate to how long your sensor batteries will last.

Part 6: Final EDA Installation Steps and System Activation

Following the installation of the Meshnet Controller and sensor equipment, the EDA can be configured to work as an EDA with your new system. This is handled by several simple steps.

1. Using the EDA's **Network Settings** Link, a customer can complete the necessary network setup steps to make their device and EDA and have it communicate with the EDS MN Controller.

If not already set to the correct IP addresses, set the desired addresses for this EDA on this page. Also set the Meshnet Controller IP segment to the segment you assigned on the MN-CTRL setup (default was 220). Then set the Assigned Host Number to the Host Number you used during the MN-CTRL setup in Part 4 of this document.

It is very important that the Host Numbers match on the EDA and the Device and Host Names on the MN-CTRL. This keeps everything straight.

2. Using the EDA's **Configuration Settings** link, a customer can assign the correct Customer Code (CC) and System Number (actually a name on the EDA) for their use if they have not already done so.

Remember: The System Name must be 10 characters or less and has to end with "WDn" with n the System Number.

The same page can be used to change their login access password, set the desired remote portal reporting frequency in minutes and seconds, and assign the total number of sensors and repeaters that the system is going to use.

The reporting interval is the time period for which the sensor data that was read by the Meshnet Controller is sent to the Remote Portal on our server. This period is recommended to be between 5 and 10 minutes.

Additional fields on this form can be used at any time to configure the low and high temperature or humidity thresholds for the EDA. All of the standard T and TH sensors in the same host will use these same thresholds and the THX sensors have their own set of thresholds. However, there are certain special case assignments for sensors that will be placed in a very cold area. These cases are explained in the EDMS Provisioning Guide.

3. The **SMTP and EMAIL Settings** link is used to set up the desired email access for the system to be able to send emails when an alert condition is detected. These functions are pretty standard for most networks.

It is recommended to use port 587 for the Outgoing Server Port for most networks. Your email provider can usually supply the necessary ports to send emails. Also note that secure SSL connections or IMAP is not supported.

4. The **Location Data Assignment** link is used to assign actual names for your sensors as they will appear on the target server's display of the customer's environmental data.

It is very important to note that these names are assigned at the installation site on the EDA itself. This is explained in considerable detail in the Provisioning Guide and on the Location Data Assignment form itself.

5. The final step that needs to be performed is called a **Network Activation** and should only be completed when you are finished installing every host in your system. In this simplistic view with only one host, this can be completed right away.

Under different circumstances, with multiple hosts assigned, the host number would be assigned in sequence, up to the maximum that your system will be equipped with. The Network Activation link is the place to perform this final network allocation and assign your maximum host number for this system. This step is very important and will insure that your database updates are done as efficiently as possible. When this step is completed, your system is declared active and background system audits that run in the server will be operational for your EDMS system.

Note that if a customer later determines that they need more hosts, and subsequently want to assign those hosts, the Network Activation link can be used to restore the system to its Growth state where new hosts can be assigned by the same process described above.

6. The **Display Site Data** link on the EDA's Home Page is a short cut to view the actual reported data as it was received at the Remote Portal. This is very handy during installation.

Part 7: Cleanup Steps and System Password Assignment

At this point, the full system should be up and running. However, it is highly recommended that a couple of additional steps be performed using the Willabay Design website's support pages.

1. In order to add additional security to the entire network that comprises this System, it is advisable to update the system's internal communication password by using the **Update_System_Form** provided on the Willabay Design website at <http://dgysservices.com/customer-remote-portal-search-and-update-form-instructions>. This actually changes the password at every Host Site in the system using a proprietary update mechanism. This same form should be used to assign or change the default system wide Email Addresses (both from and to) if this is a new system for this customer. The system uses email to communicate with its owner when certain system errors are detected.
2. The EDMS System also provides for a way to view the customer data on the Remote Portal by means of the search forms provided on the Willabay Design website at <http://dgysservices.com/customer-remote-portal-search-and-update-form-instructions>. This is the same information as the Display Site Data link on the EDA.

Should a customer experience any difficulty with this installation process, the details can be found in the Provisioning Guide at

<http://dgysservices.com/wp-content/uploads/2017/03/Complete-EDMS-Provisioning-User-Guide-Ver-4.1.pdf>.

Any questions or issues with this document should be brought to our attention via email to support@willabaydesign.com.

Willabay Design LLC

Other Documentation

EDA Product Notes (supplied with the software)

EDMS/ EDA Release 4.2 Equipment and Software (available on our website)

EDMS System Provisioning and Installation User Guide (available on our website in the EDMS Support section)

EDMS Product Description (on our website)

EDMS Product Features and Capabilities(on our website)

EDA Technical Specifications Sheet (on our website)

EDMS FAQs –Typical Questions and Answers (on our website)

Willabay Design Website: <http://www.willabaydesign.com>