

# Embedded Data Systems OW-SERVER-ENET-2



## Getting Started with the OW-SERVER Rev 1.0



## Introduction

The OW-SERVER is designed to provide a simplistic yet effective method for continuous monitoring a wide array of 1-Wire<sup>®</sup> sensors. The HTTP, SNMP and HTTP POST capabilities of the OW-SERVER make it well suited for monitoring applications ranging from a few sensors in a single installation to large dispersed sensor networks. Locations such as computer server rooms, manufacturing facilities and commercial freezers/refrigerators are ideal locations for deploying an OW-SERVER based monitoring system. The sensor data is provided in open, industry-standard formats (e.g., XML, SNMP) making it easy to integrate with existing business automation and monitoring systems.

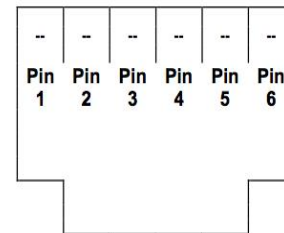
This document is divided into the following sections:

- **Quick Start Guide** - this section provides simple and easy steps to get up and running quickly with your OW-SERVER-ENET-2.
- **Web Access Overview** - this section describes how to utilize the on-board web application to access real-time monitoring of your connected 1-Wire sensors.
- **Programmatic Overview** - this section describes how to access the OW-SERVER-ENET-2 programmatically with existing systems and network services.

# Quick Start Guide

Getting started with the OW-SERVER-ENET-2 is simple. Simply follow a few easy steps:

1. **Apply power to the OW-SERVER-ENET-2.** The green PWR/ACT LED will begin to flash at one-second intervals, indicating that the product is operating normally.
2. **Connect it to your Network.** Connect a live network cable to the Ethernet Port on the device.
3. **Connect a 1-Wire Device.** Connect a supported 1-Wire device to any of the 1-Wire RJ12 jacks.
4. **Identify the IP address of the OW-SERVER-ENET-2** by checking your DHCP server logs or using EDS Appliance Scanner Software at ([short.eds.bz/apps-edsscanner](http://short.eds.bz/apps-edsscanner)). If the OW-SERVER-ENET-2 does not find a DHCP server running on your network, it will default to the following IP address: 169.254.1.1. (Please consult your network administrator if you cannot locate the DHCP address.)
5. **Configure your device.** Type the IP address of the OW-SERVER-ENET-2 into your Web browser (e.g., <http://192.168.1.27>) and press enter. The home page will then display the sensor data for the supported connected devices. To access the System Configuration pages the username “admin” and password “eds” will be required.



1-Wire RJ12 Jack Pinouts	
Pin 1:	No Connection
Pin 2:	No Connection
Pin 3:	1-Wire Signal / Data
Pin 4:	Ground
Pin 5:	No Connection
Pin 6:	+5V Out

**CONGRATULATIONS!** You have successfully installed your Embedded Data Systems' OW-SERVER-ENET-2.

## Web Access Overview

### Home

The OW-SERVER-ENET-2 provides a robust, on-board, Web-based tool to access connected 1-Wire devices from any Web browser<sup>1</sup> whether on a computer, tablet or smartphone! From the default *Home* page you can:

- View OW-SERVER-ENET-2 Summary data (number of devices connected, loop time,..)
- View basic 1-Wire Device information (Temperature, ROM ID,..)
- Graph a single value for devices connected
- Download small logs into a .csv file
- Select whether English or Metric units are displayed
- Select additional Menu items such as *Advanced*, *System Configuration* or *Contact Us*
- Access individual sensors to modify alarm settings and graph data

EMBEDDED DATA SYSTEMS		OW Server v2 Enet OWServer_v2-Enet			
Home   Advanced   System Configuration   Contact us					
Devices Connected:	2	Channel 1	Channel 2	Channel 3	
Loop Time:	1.214 Sec	Devices:	1	1	0
Poll Count:	772	Errors:	0	0	0
Supply Voltage:	4.96	Voltage:	4.71	4.72	4.72
Description	ROM ID	Device	Channel	Health*	Value
Temp, Humidity, BP and Light Sensor	430000400021057E	EDS0068	1	7	74.3 °F, 34.3 %, 29.310 inHg., 1 Lux
Thermometer with PIO	A200000038D1542	DS28EA00	2	7	74.3 °F, A_Pin: 1, A_Latch: 1, B_Pin: 1, B_Latch: 1
<small>*Health ranges from 0 to 7, 0 is disconnected, 7 is healthy</small>					

<sup>1</sup> Some features are not supported by Internet Explorer.

## Individual Sensor Selection

By highlighting and clicking on a sensor listed on the *Home* page, the user can access alarm settings, modify limits and graph up to 3 different sensor values.

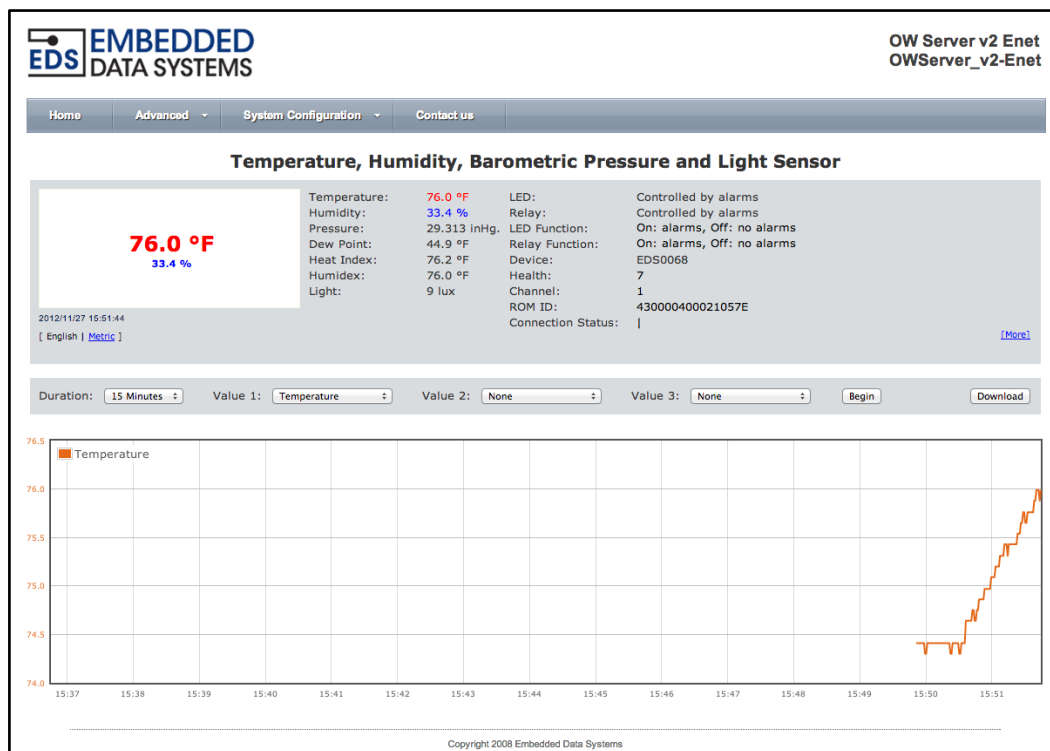
After an individual sensor is selected a new screen will appear that displays variables associated with the sensing device. Sensors with many variables will have some hidden; in such a case the *More* button may be used to view the extended list of variables.

## Device Data

The top part of the screen displays information about each connected device. Sliding the cursor over and selecting a programmable value allows users to assign a limit, change a function or reset an alarm. When the unit does go into alarm, the current value will display in red if the unit is in high alarm, or blue if in low. Because each supported device may have different elements, they are not covered in detail in this Getting Started Guide.

## Graph

The opening screen of the Individual Sensor Selection will begin graphing the value *Temperature* automatically with 15-minute display duration. Two additional values may be graphed, but the user must use the *Begin* button to start the modified graphing. The duration of the graph window ranges from 15 minutes to 3 days. *Data is not stored - if you leave the Web page, the graph will be lost.*



## Download

This feature captures all data currently displayed in the graph and saves it to a .csv file or displays it on a new Web page which allows you to manually save the data as a .csv file. *The download method is browser dependent.*

*Please refer to the Web Access section of the Operation Manual to obtain a more thorough understanding of the function of each of the Web pages served by the OW-SERVER-ENET-2.*

## Programmatic Overview

Through a number of different channels, you can access the OW-SERVER-ENET-2 programmatically to create integration with existing systems and network services:

**HTTP** - This mechanism enables programmers to utilize a GET command to retrieve various data elements which are contained in an XML file as well as write data to 1-Wire devices that support control functions.

- **Retrieving Details.xml** - Performed by accessing the corresponding URL. (For example: <http://192.254.1.1/details.xml>) Each "owd\_xxx" element contains the device name (Name), family code (Family), ROM ID (ROMId), health (Health), raw data used to obtain the data fields (RawData) displayed in hex format, and a list of the data fields where the name of the data field provides the description.
- **Writing Data to 1-Wire Devices** - To write data to a connected 1-Wire device that supports control commands simply make a request of devices.htm with the appropriate URL parameters. Below is an example:  
devices.htm?rom=4300000200AD1928&variable=UserByte1&value=75

The URL parameters in the example are as follows:

- **ROM** - the ROM ID of the device to modify, alpha characters must be upper case.
- **Variable** - the name of the variable to modify. The name is the same as the XML field name, only XML fields with attributes of '**Writable="True"**' may be written, (e.g., <UserByte....).
- **Value** - the new decimal value to write to the 1-Wire device.

**POST Client** - This feature automatically, on a timed basis, sends the XML file "details.xml" to a HTTP server. Its primary purpose is to get data that's behind a firewall to a server residing on the Internet. By using the standard HTTP POST originating from behind the firewall, firewalls and other Internet filters see the communication as a standard browser request and typically will not block it. An HTTP proxy server has been included for the POST Client.

The HTTP POST feature requires a properly configured server to receive the file. Find example configurations at <http://short.eds.bz/javacode>.

**SNMP** - Simple Network Management Protocol (SNMP) is a protocol commonly used to maintain network equipment. Every piece of equipment in a network is described in its .mib file (Machine Information Base file); Using an SNMP application, network administrators can monitor and interact with equipment throughout the network.

**Telnet** - Service provides ability to monitor the internal activities of the OW-SERVER-ENET-2 for diagnostic purposes.

**UDP Broadcast** - Listener on port number 30303 will respond to properly formatted packets broadcast to this port number, this allows other devices and applications to EDS devices on the network *Additional Resources* regarding [EDS Appliance Scanner Software](#).

**1-Wire Interface** - Service provides a TCP client that implements a command/response low level interface which may be used to directly control the 1-Wire bus.