WEINTEK LABS., INC.

Energy Demand Setting & Energy Demand Display

Demo Project

Contents

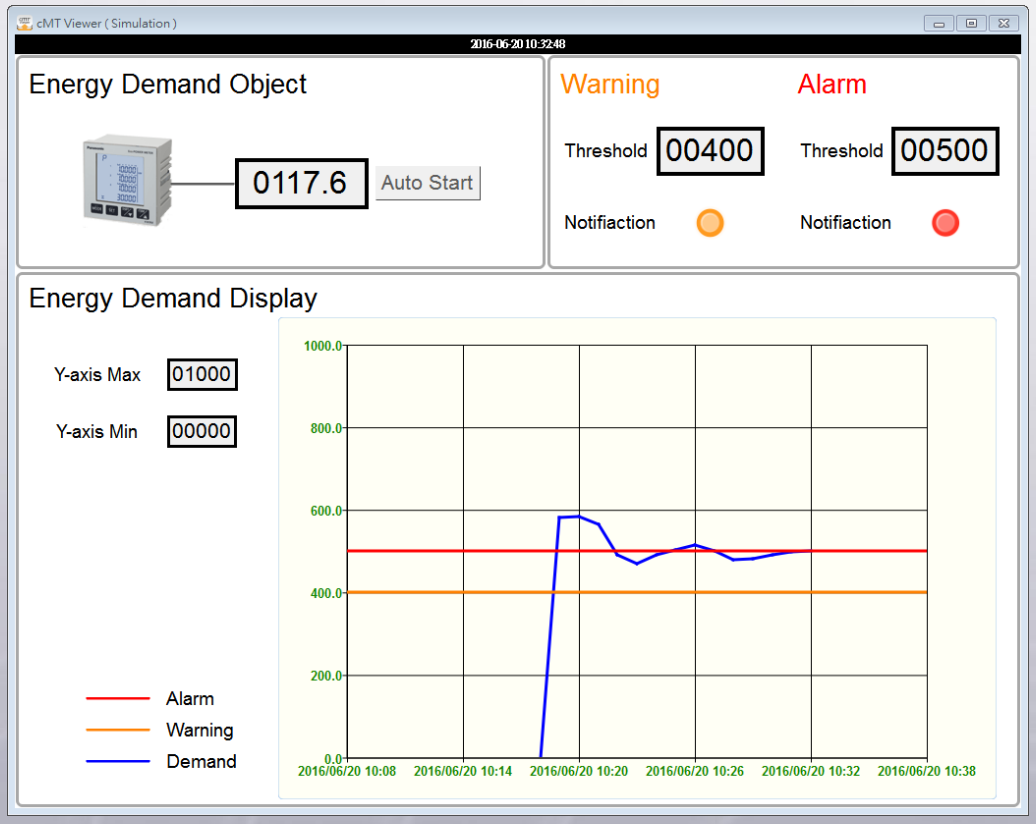
1. Overview and Operation

Overview

This demo project introduces how to use Energy Demand Setting and Energy Demand Display objects. This object, by monitoring the meter, calculates energy demands and graphs the result. In this project, the user can dynamically change limits on Y axis, or change the threshold limits. The attributes of the Energy Demand Display object can be customized.

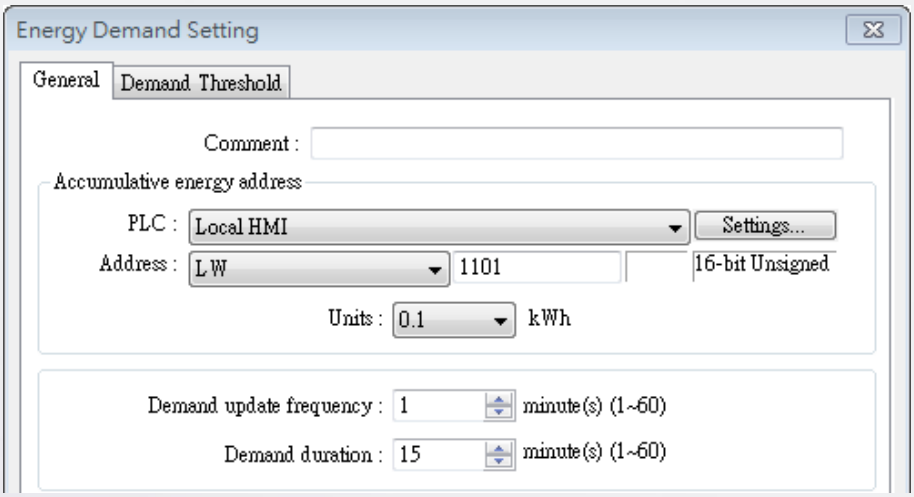
Operation

Run the project file, set the maximum and minimum limits on Y-axis, and set the threshold limits. Tap [Auto Start] button to start a simulation. Energy Demand Setting can calculate energy demands, and the result is shown in Energy Demand Display object.

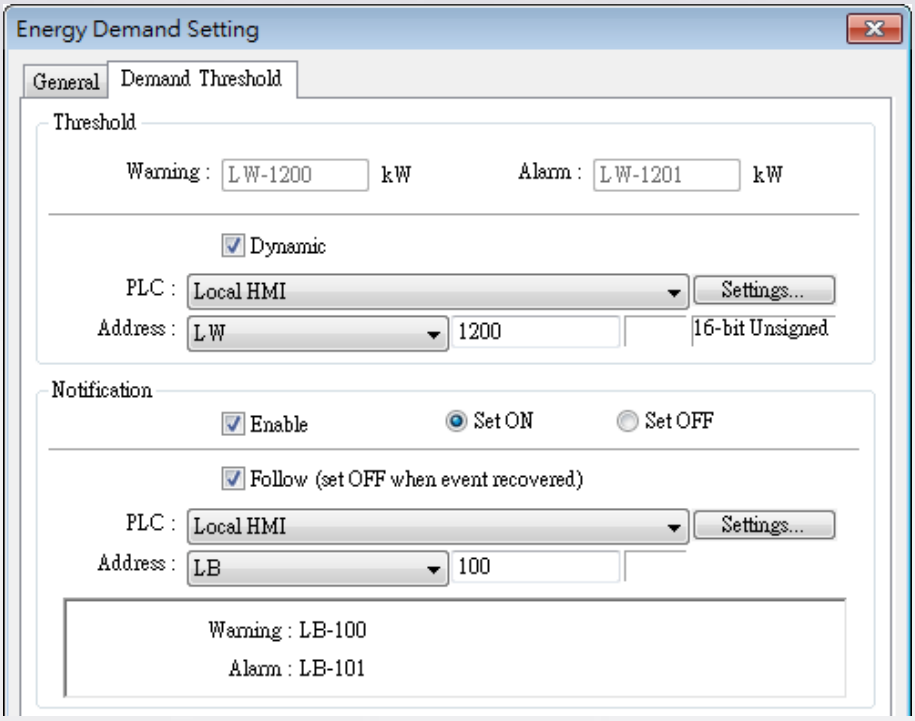


2. Setting up the Screen

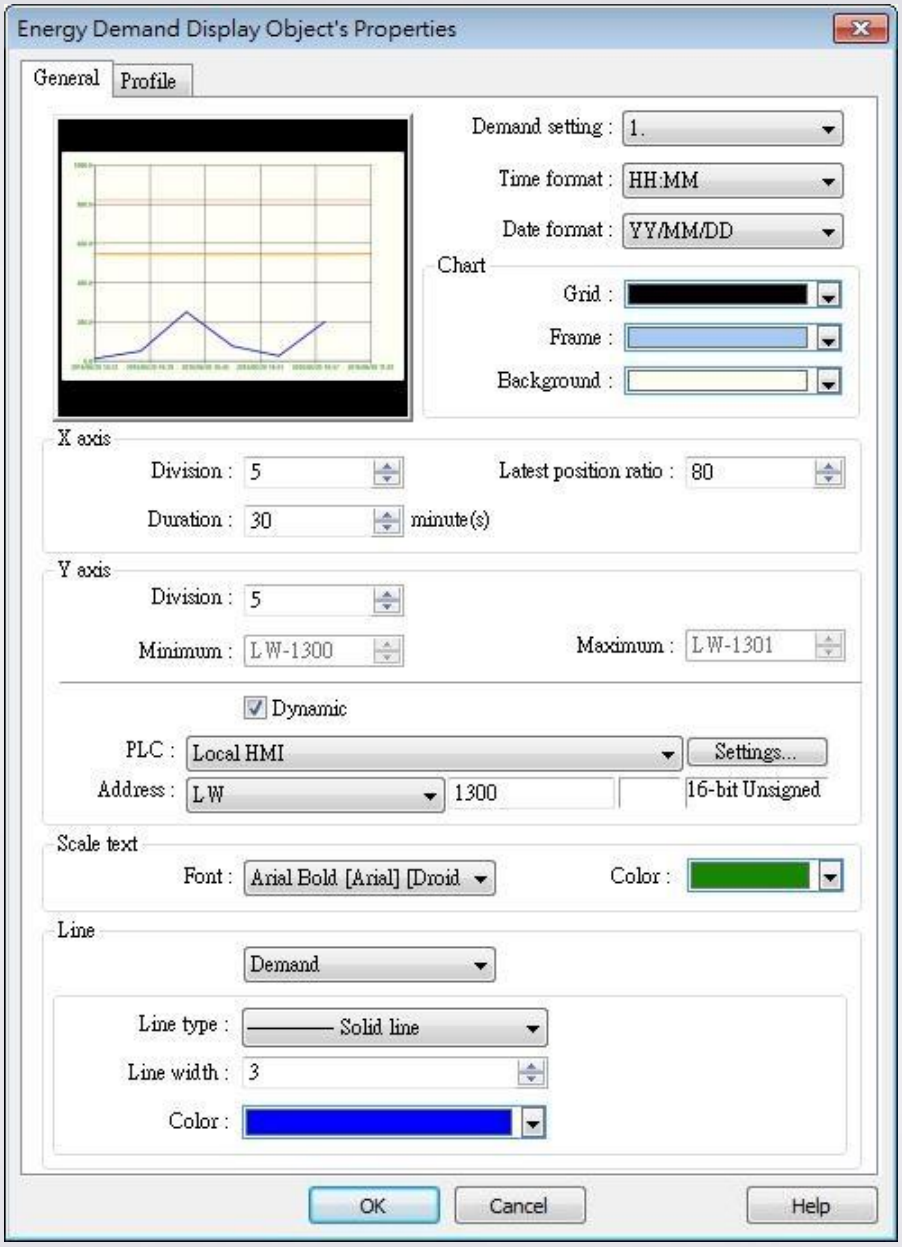
Step 1. Open Energy Demand Setting, set address to LW-1101, and in Units field select 0.1 kWh. Set Demand Update Frequency to 1 minute, and Demand Duration to 15 minutes.



Step 2. Go to Demand Threshold tab, set address to LW-1200. This address can be used to set Warning threshold, whereas LW-1201 can be used to set Alarm threshold. Set notification address to LB-100 for Warning; and LB-101 for Alarm. When the energy demand reaches the threshold limit, the status of the corresponding notification bit will turn ON.



Step 3. Create an Energy Demand Display object, and set the parameters as shown below. In the Y axis group box, addresses LW-1300 and LW1301 can be used to set the minimum and maximum limits on Y axis. In this tab, the style and color of grid line, frame, and background can be customized.



Step 4. Create a Function Key object to run the macro which simulates calculating energy demands.

Step 5. Create several Numeric objects and respectively set addresses to LW-1101, LW-1200, LW-1201, LW-1300, and LW-1301.

Create two Bit Lamps, and respectively set addresses to LB-100 and LB-101.

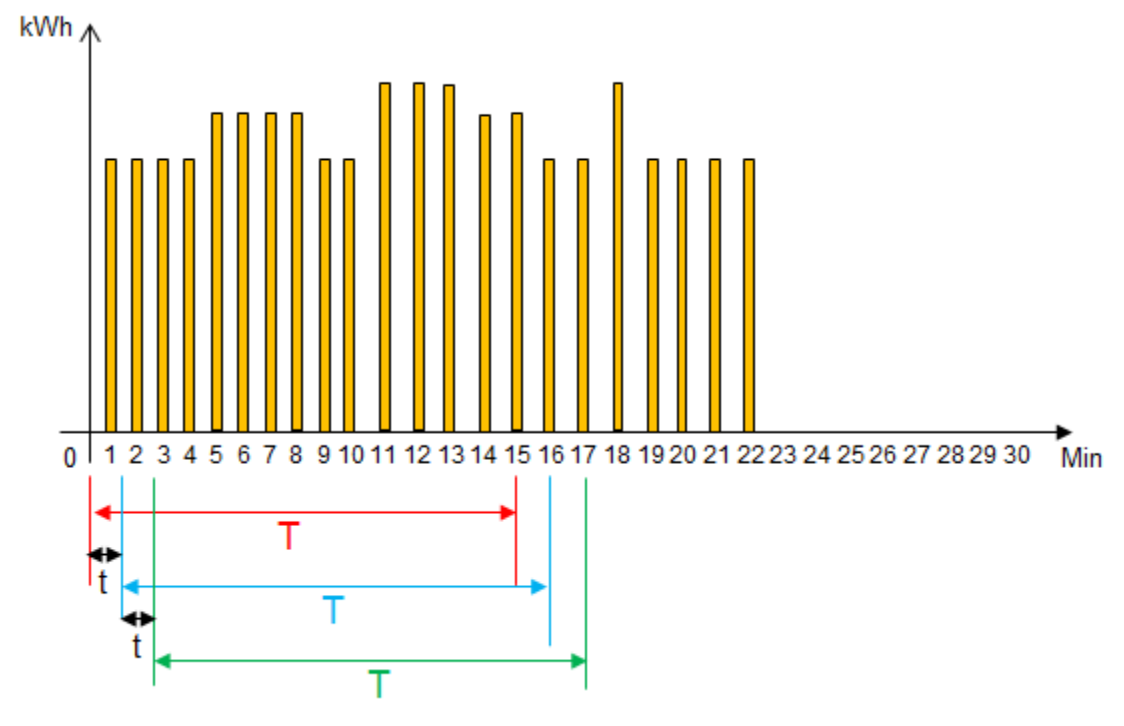
3. Addresses

The addresses of objects used in this demonstration are listed below.

Object	Address	Object ID	Description
Window 10			
Energy Demand Display	LW-1300	EI_0	Graphs the result that Energy Demand gets.
Numeric	LW-1101	ND_0	Shows the energy usage.
Numeric	LW-1200	NE_1	Sets Warning threshold.
Bit Lamp	LB-100	BL_1	Turns ON when the estimated energy demand reaches Warning threshold.
Numeric	LW-1201	NE_0	Sets Alarm threshold.
Bit Lamp	LB-101	BL_0	Turns ON when the estimated energy demand reaches Alarm threshold.
Numeric	LW-1300	NE_2	Sets the minimum limit on Y axis.
Numeric	LW-1301	NE_3	Sets the maximum limit on Y axis.
Function Key		FK_0	Triggers Macro ID=0000.

4. Example

The following example illustrates the relationship between Demand Duration (T) and Demand Update Frequency (t) mentioned in Energy Demand Setting User Manual.



1. As shown in the above figure, when t=1, the frequency to record energy consumption will be once per minute. When T=15, each 15 minutes the sum of the energy consumption measured every minute (t=1) will be calculated.
2. From the 1st to the 15th minute (red zone), the energy consumption measured each minute will be added up to get the total sum. The total sum times 4 (15 minutes is a quarter of an hour) to obtain a value (kWh) indicating the estimated energy demand.
3. From the 2nd to the 16th minute (blue zone), the energy consumption

measured each minute will be added up to get the total sum. The total sum times 4 (15 minutes is a quarter of an hour) to obtain a value (kWh) indicating the estimated energy demand.

4. From the 3rd to the 17th minute (green zone), the energy consumption measured each minute will be added up to get the total sum. The total sum times 4 (15 minutes is a quarter of an hour) to obtain a value (kWh) indicating the estimated energy demand.
5. The Energy Demand Display object will graph the estimated energy demand.
6. If t=3 and T=15, the estimated energy demand will be: Sum of the latest 5 records (15/3=5) times 4 (15 minutes is a quarter of an hour).
7. If t=5 and T=30, the estimated energy demand will be: Sum of the latest 6 records (30/5=6) times 2 (30 minutes is half an hour).