StruxureWare Energy Object

Title	StruxureWare Energy Object
Affects	Everyone
Description	Energy Conscience TGML Application
Action	Promote StruxureWare Energy Awareness
Deadline	Available Now

The Energy Object is a "Schneider Electric Shared Standard Application" that has been designed to promote the power and capability of StruxureWare for Buildings Automation Server (AS) and TGML graphics environment.

Available today using version 1.0 and is intended to:

- Promote Schneider focus & direction
- Demonstrates power of StruxureWare & EcoStruxure
- Adapt to small or large project use
- Be simple to implement or reuse
- Low or no cost to business units

HIghlights:
- Uses power of TGML Graphics
- Reusable TGML Components
- Color Dynamic Chart Symbols
- "Hover Type" Data Points
- Trend and data capture registers
- Customizable

Disclaimer:
The Energy Object is available for use by Schneider Electric business units and Partners only and is provided as a "shared standard application". While every attempt has been made to ensure it's functionality is complete and validated, it is offered as non-product, unsupported shareware and should be fully tested and validated for your specific application prior to selling or implementing to end user Customers.
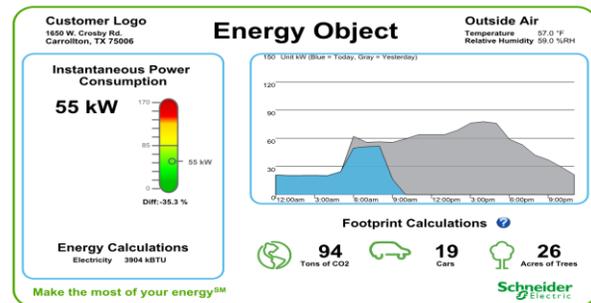
The Energy Object can function as either a simple standalone solution or as a modular component within a larger system. It is designed to reside in a StruxureWare Automation Server and display live graphics on an operator workstation, public kiosk, over the web, or a combination of the three.
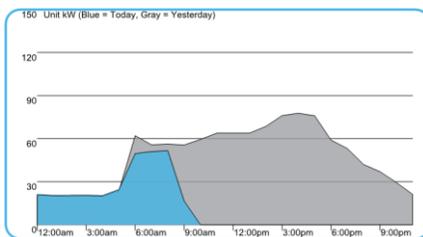
The Energy Object currently consists of one TGML graphic and supporting programs and signals that can collect consumption data from a meter via hardware pulse input from an IO module, modbus TCP, RTU, or ASCII communication, BACnet communication, LON communication, or across the network from a field bus controller. This initial offering of the Energy Object is designed for a single meter, but can be easily modified or multiplied to accommodate any size project. We hope that it provides value for your customers and can help introduce StruxureWare to your client base.

The graphical portion of the Energy Object resides in one TGML graphic that displays the current energy consumption and up to two days of consumption history. The graphic contains a footprint calculation that lets the user estimate the environmental impact of a fixed percentage reduction in consumption over a one year span. The TGML graphic allows you to personalize the page with a customer logo, or you can choose to have a Schneider Electric branded design.

The Energy Object computes current demand in kW, daily power consumption in both kWh and BTUs, and tracks up to 48 hours of hourly consumption data. For additional trending of energy data, you can simply create a trend log in the Automation Server, and to satisfy complex trending and retention requirements, add one or more extended logs in an Enterprise Server. If the customer requires SQL access to the data, simply add a Reports Server. You also have the ability to set a target energy consumption and the energy object will show you your percentage above and below your target usage.

Requirements for the Energy Object

- Automation Server (AS-B or AS-L) and base (TB-AS-W1)
- Power Supply (PS-24V) and base (TB-PS-W1)
- Digital Input (DI-16) module and base (TB-IO) if using pulse input option

To install the Energy Object on an Automation Server, perform the following steps:

1. Import the desired version of the Energy Object xml into an Automation Server.
2. Proceed to step 3 if your meter data is from a pulse input, or proceed to step 6 if from a networked Wh accumulator input.
3. Bind your pulse input to the PulseIn digital value.
4. Enter the appropriate value for the WattHoursPerPulse analog value.
5. Bind the WattHoursIn RO in the PulseConvert program to the WattHoursIn analog value (skip step 6).
6. (Only perform this step if you are not using the PulseConvert program) Bind your Wh input to the WattHoursIn analog value.
7. Setup Complete. View the EnergyObject graphic to verify that realtime consumption and demand now appear.

Brief descriptions of all the parts within the Energy Object:

EnergyObject graphic – the TGML file used to display current and historical data
Main Meter Folder:
PulseIn – multistate value that should be bound to a counter input if using an I/O module to read pulses from the energy meter
TotalKw – bind either to a networked meter's kW value or to the TotalKw output of the PulseConvert program if using a pulse input
TotalKwTarget – analog value used to set the scale of the demand gauge and to calculate the percentage over or under target demand
WattHoursIn - bind either to a networked meter's accumulated Wh output or to the WattHoursIn output of the PulseConvert program if using a pulse input
WattHoursPerPulse – this amount is added to WattHoursIn with each pulse sensed. Refer to your meter's configuration for the appropriate value
Programs Folder:
KWSliceCalc – tracks and stores hourly consumption data for the current and previous day; also calculates BTUs for the previous day's total KWH for use in the environmental impact calculations
PulseConvert – accumulates Wh and calculates kW based on a pulse input from the meter and the user supplied multiplier.
RatioCalc – performs simple arithmetic to compare current demand to the target demand

Please note that the Energy Object is provided free of charge on an as-is basis. If you require assistance in using or customizing it, please reach out to the Americas StruxureWare Launch Team via the following email:

Americas.StruxureWare@Buildings.Schneider-Electric.com

We value your feedback. Please feel free to share your thoughts or suggestions with us.

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