

# EcoStruxure Building Operation

## Ecowatt Smart Connector

### Installation & User Guide

March 2023



# EcoStruxure Building Operation

## Ecowatt Smart Connector

### Installation & User Guide

March 2023

Copyright © 2023 Schneider Electric. All rights reserved.

The Schneider Electric brand and any registered trademarks of Schneider Electric Industries SAS referred to in this guide are the sole property of Schneider Electric SA and its subsidiaries. They may not be used for any purpose without the owner's permission, given in writing. This guide and its content are protected, within the meaning of the French intellectual property code (Code de la propriété intellectuelle français, referred to hereafter as "the Code"), under the laws of copyright covering texts, drawings and models, as well as by trademark law. You agree not to reproduce, other than for your own personal, non-commercial use as defined in the Code, all or part of this guide on any medium whatsoever without Schneider Electric's permission, given in writing. You also agree not to establish any hypertext links to this guide or its content. Schneider Electric does not grant any right or license for the personal and non-commercial use of the guide or its content, except for a non-exclusive license to consult it on an "as is" basis, at your own risk. All other rights are reserved.

Trademarks and registered trademarks are the property of their respective owners.

# Contents

## Contents

- 1 Functional Overview..... 6
- 2 Restrictions & Limitations ..... 7
  - 2.1 SmartConnector Service Version.....7
  - 2.2 EWS Supported Systems.....7
  - 2.3 Ecowatt Supported System.....7
- 3 Installation ..... 7
- 4 Configuration & Settings..... 8
  - 4.1 Processor Configuration.....8
  - 4.2 Adding the Custom Assembly to the Service.....9
- 5 Revision History ..... 14
- 6 References ..... 14

# 1

## Functional Overview

The Ecowatt SmartConnector extension is a middleware application that enables communication between power forecast data server with EcoStruxure Building Operation via EcoStruxure Web Services (EWS). The interface communicates with the data server rest API to get the information about the power consumption forecast for current Day, D+1,D+2, D+3 and stores it in the EcoStruxure Web Services (EWS).

The processor leverages the SmartConnector Service framework and details of the application (release history, installation notes etc.) are available separately and are not covered in this manual.

The SmartConnector application is licensed on a single server basis but may also be configured to connect to both Automation Server (AS-P) devices as well as Enterprise Servers (ES).

## 2 Restrictions & Limitations

### 2.1 SmartConnector Service Version

The processors have been configured to operate with the SmartConnector version 2.5.4.18, use with any other version of the SmartConnector framework is not supported.

### 2.2 EWS Supported Systems

The processors can support EcoStruxure systems operating with the EcoStruxure Web Services (EWS) protocol v1.1 and v1.2.

### 2.3 Ecowatt Supported System

The SmartConnector has been tested and validated against the following government data server for power forecast API v4. (<https://digital.iservices.rte-france.com> ). Other versions may cause issues and are not supported. Please check with your supplier.

## 3 Installation

Please refer to the SmartConnector Installation and Configuration Guide.pdf for guidance on SmartConnector installation. To deploy the Ecowatt SmartConnector assembly, copy the files “**ISC.SmartConnector.EcowattApiExtension.dll**” and “**Smartconnector.Utilities.dll**” into the service installation directory. Normally “C:\Program Files (x86)\Schneider Electric\SmartConnector”

# 4

# Configuration & Settings

## 4.1

## Processor Configuration

With a default installation of SmartConnector, the configuration pages for the server can be reached at the following address on the server the service has been installed on:

<http://localhost:8082/>

The screenshot shows a web browser window with the URL `localhost:8082/status`. The page has a green navigation bar with the following items: Status, Configurations (dropdown), EWS Servers, Setup (dropdown), About, and Logged in as admin (dropdown). Below the navigation bar is the title "Status" and a "Refresh" button. There are four tabs: "Processor Threads" (selected), "Active Endpoints", "Configuration Requests", and "EWS Server Requests". The "Processor Threads" tab contains a table with the following data:

#	Status	Elapsed Time (hh:mm:ss)	Processor Configuration
1	Waiting For Work		
2	Waiting For Work		
3	Waiting For Work		
4	Waiting For Work		
5	Waiting For Work		

Below the table, it says "5 items present". At the bottom of the page is the Schneider Electric logo and the text "Copyright © Schneider Electric 2013-2017".

## 4.2

# Adding the Custom Assembly to the Service

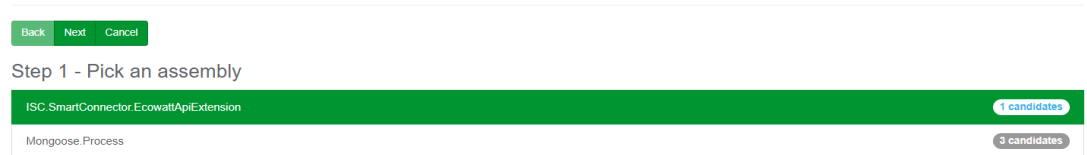
Switch to the Configurations tab and select Processor and click on Add New +



At the Add Configuration window, Step 1 – Pick an assembly, select the reference to “**ISC.SmartConnector.EcowattApiExtension**” (this will be highlighted green when selected)

### Adding Ecowatt Monitor Processor

#### Add Processor Configuration

A screenshot of a web interface for "Add Processor Configuration". At the top, there are three buttons: "Back", "Next", and "Cancel". Below them is the text "Step 1 - Pick an assembly". There are two rows of selection options. The first row is highlighted in green and contains the text "ISC.SmartConnector.EcowattApiExtension" and a "1 candidates" badge. The second row contains the text "Mongoose.Process" and a "3 candidates" badge.

Select Next and proceed to Step 2 Choose a Class

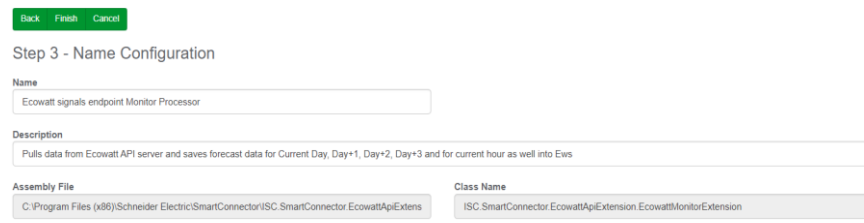
Ensure the class “**ISC.SmartConnector.EcowattApiExtension.EcowattMonitorExtension**” is selected first

#### Add Processor Configuration

A screenshot of a web interface for "Add Processor Configuration". At the top, there are three buttons: "Back", "Next", and "Cancel". Below them is the text "Step 2 - Choose a Class". There is one row of selection options highlighted in green, containing the text "ISC.SmartConnector.EcowattApiExtension.EcowattMonitorExtension".

Select Next and proceed to Step 3 Name Configuration

#### Add Processor Configuration

A screenshot of a web interface for "Add Processor Configuration". At the top, there are three buttons: "Back", "Finish", and "Cancel". Below them is the text "Step 3 - Name Configuration". There are four input fields: "Name" with the value "Ecowatt signals endpoint Monitor Processor", "Description" with the value "Pulls data from Ecowatt API server and saves forecast data for Current Day, Day+1, Day+2, Day+3 and for current hour as well into Ews", "Assembly File" with the value "C:\Program Files (x86)\Schneider Electric\SmartConnector\ISC.SmartConnector.EcowattApiExtens", and "Class Name" with the value "ISC.SmartConnector.EcowattApiExtension.EcowattMonitorExtension".

Enter a meaningful name and description for the Processor which will enable you to identify this process in the configuration window later.

Select Finish and proceed to the Configuration screen.

In the configuration window select the Details Tab, you will then be presented with the screen to enter the configuration information. Much of the configuration has default options however they should be checked and validated for the installation. Edit the applicable fields as follows.

The screenshot shows the configuration window for the "Ecovatt signals endpoint Monitor Processor". The "Name" field is "Ecovatt signals endpoint Monitor Processor" and "Is Active" is "True". The "Description" is "Pulls data from Ecovatt API server and saves forecast data for Current Day, Day+1, Day+2, Day+3 and for current hour as well into Ews". The "Processor" tab is selected, and the "Details" sub-tab is active. The configuration fields are as follows:

Field	Value
Class Name	ISC.SmartConnector.EcovattApiExtension.EcovattMonitorExtension
Assembly File	ISC.SmartConnector.EcovattApiExtension.dll
Assembly Description	This smartconnector extension, integrates the power forecast data into the EwsServer
Assembly Company	Schneider Electric - Integration Solutions Centre
Assembly Copyright	Copyright © 2023
Assembly Version	1.0.0.4

For the Ecovatt Monitor extension Processor following details needs to be checked and validated.

The screenshot shows the configuration window for the "Ecovatt signals endpoint Monitor Processor". The "Name" field is "Ecovatt signals endpoint Monitor Processor" and "Is Active" is "True". The "Description" is "Pulls data from Ecovatt API server and saves forecast data for Current Day, Day+1, Day+2, Day+3 and for current hour as well into Ews". The "Processor" tab is selected, and the "Details" sub-tab is active. The configuration options are as follows:

Option	Value
Ecovatt Api Config Options	Expanded
Ecovatt Ews Server	Expanded



## **Expand the Ecowatt Api Config Options**

### **API Base Url**

The Base URL to connect to the French power forecast Rest API server. By default, it can take the value of <https://digital.iservices.rte-france.com>

### **Secret Key**

Secret Key required to get access to the power forecast Rest API endpoints.



The screenshot shows a configuration interface for 'Ecowatt Api Config Options'. It features two input fields. The first field is labeled 'Secret Key \*' and contains a long alphanumeric string: 'MTcyOGYwY2QlNGE5NS00MDIhLTg0ZTUuNDQyOTIhYTc1NjUxOmQzNGFhNDM4LWlkZmUuNDU5MS1iZjZLTy2MDByNTFYIzcwZQ=='. The second field is labeled 'Ecowatt Api Base Url \*' and contains the URL 'https://digital.iservices.rte-france.com'. A 'Details' tab is visible at the top left of the configuration area.

## **Expand Ecowatt EWS Server.**

### **Ews Address**

This property should be set to the full address required to access the EWS Server being hosted. This is normally in the case of a Struxureware ES or AS device as follows:

[http://<IPADDRESS>:<PORT\(51358\)>/EcoStruxure/DataExchange](http://<IPADDRESS>:<PORT(51358)>/EcoStruxure/DataExchange)

### **Realm**

Realm for the EWS Server.

### **Server Name**

This property is just a friendly text name field to allow you to easily identify the specific Endpoint you are configuring.

### **Username**

This property is required to allow the EWS server connection to be authenticated.

### **Password**

As above, this is the password related to the user credentials

Ecowatt Ews Server

Ews Address \*  
http://localhost:51358/EcoStruxure/DataExchange

Realm  
Key

Server Name \*  
Ecowatt Ews Server

Username \*  
~ Encrypted ~

Password \*  
~ Encrypted ~

In the configuration window select the Control Tab, you will then be presented with several options to define the Processor's default behavior. It is recommended to set the following:

Runs On Start – Yes (To enable the Processor to automatically start with the machine)

Runs On Schedule – Yes (Define a schedule that determines how often the server is updated with data received from the data source server). **In this case, we would recommend scheduling it for every 15 mins, as the source data server allows only one hit to the API for every 15 minutes.**

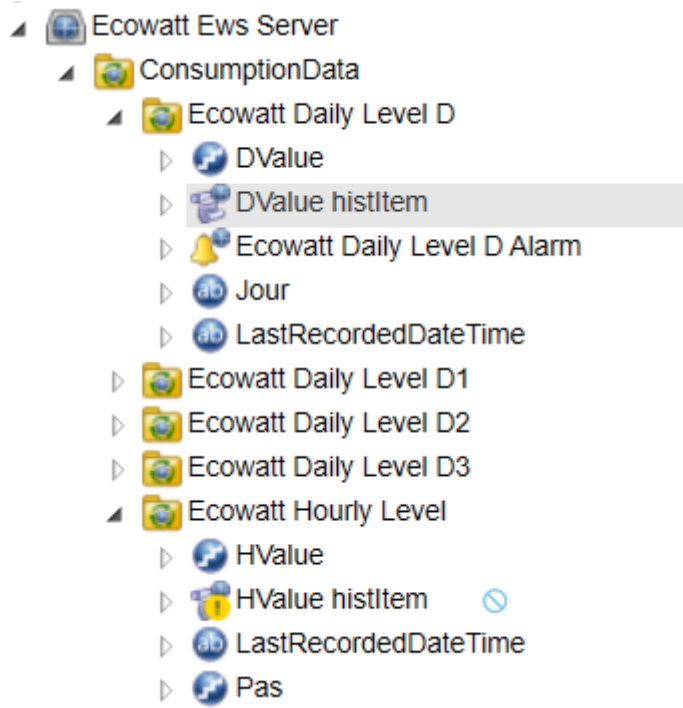
Manually Startable – Yes (To allow a user to start through the configuration window)

Manually Stoppable - Yes

The Save Button allows the process configuration to be saved to the database.



In the Ecowatt Ews Server, the following details will be collected and organized as depicted below



Forecast Data Mapping Info is illustrated below

	Daily Level D	Daily Level D1	Daily Level D2	Daily Level D3	Hourly Level
DValue	Current Day Forecast	D1 Day Forecast	D2 Day Forecast	D3 Day Forecast	Current Hour Forecast value
DValue histItem	Current Day Forecast History Item records based on DValue	D1 Day Forecast History Item records based on DValue	D2 Day Forecast History Item records based on DValue	D3 Day Forecast History Item records based on DValue	Current Hour Forecast History Item records based on DValue
Daily Level D alarm	Alarm trend for current day	Alarm trend for D1 day	Alarm trend for D2 day	Alarm trend for D3 day	Alarm trend for current hour
Jour	Server timestamp on forecast data	Server timestamp on forecast data	Server timestamp on forecast data	Server timestamp on forecast data	Server timestamp on forecast data
Last Recorded DateTime	Local datetime when data is stored in Ews	Local datetime when data is stored in Ews	Local datetime when data is stored in Ews	Local datetime when data is stored in Ews	Local datetime when data is stored in Ews

# 5 Revision History

Version	Assembly File Details	Date
1.0.0.4	ISC.SmartConnector.EcowattApiExtension.dll	24 March 2023

**Assembly files required:**

ISC.SmartConnector.EcowattApiExtension.dll

Smartconnector.Utilities.dll

# 6 References

SmartConnector Installation and Configuration Guide.pdf  
(TDS-M-INSTALLCONFIG-US.BU.N.EN.12.2017.2.30.CC)

SmartConnector Version 2.2 Release Notes.pdf  
(TDS-M-RELEASENOTES-US.BU.N.EN.12.2017.2.30.CC)

Schneider Electric

[www.schneider-electric.com/buildings](http://www.schneider-electric.com/buildings)

© 2023 Schneider Electric. All rights reserved.

March 2023