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Need for EPC-W

1. **Seamless Integration:** EPC-W allows for the seamless integration of Com'X models into the EcoStruxure Panel Server. This ensures that data from Com'X devices can be accurately collected, monitored, and analyzed.
2. **Integration of Third-Party Devices:** Custom models allow the integration of third-party devices.
3. **Integration of SE-Devices:** Custom models enable the integration of SE-Devices that are not natively supported by the EcoStruxure Panel Server, allowing us to customize the data and alarms.
4. **Flexibility and Customization:** Custom models provide the flexibility to define specific parameters. This customization is necessary when the built-in models do not meet the specific requirements of the devices being used.

Measurement Mapping: By defining specific measurements, users can ensure that the collected data is relevant and accurate.

Events: Events, also known as alarms, can be configured based on the Measurements. Events can be prioritized as Low, Medium, or High based on the conditions.

Frames: Frames define a continuous range of registers to be polled during device monitoring and become more efficient in getting measurement data from the device.

5. **Enhanced Functionality:** By creating custom models, users can enhance the functionality of their systems, enabling more accurate data collection and monitoring. This is particularly important for complex setups involving multiple types of devices.
6. **Future-proofing:** Custom models help future-proof the system by allowing easy updates and modifications as new devices are added or existing ones are upgraded.

Limitation

1. "Unable to manage today's devices that have multiple Modbus addresses (Multichannel devices)."

Warning: Firmware Upgrade

To benefit from the latest features implemented in EPC Web, please upgrade the firmware of your PaS device. Keeping your firmware up to date ensures the best performance and access to new functionalities.

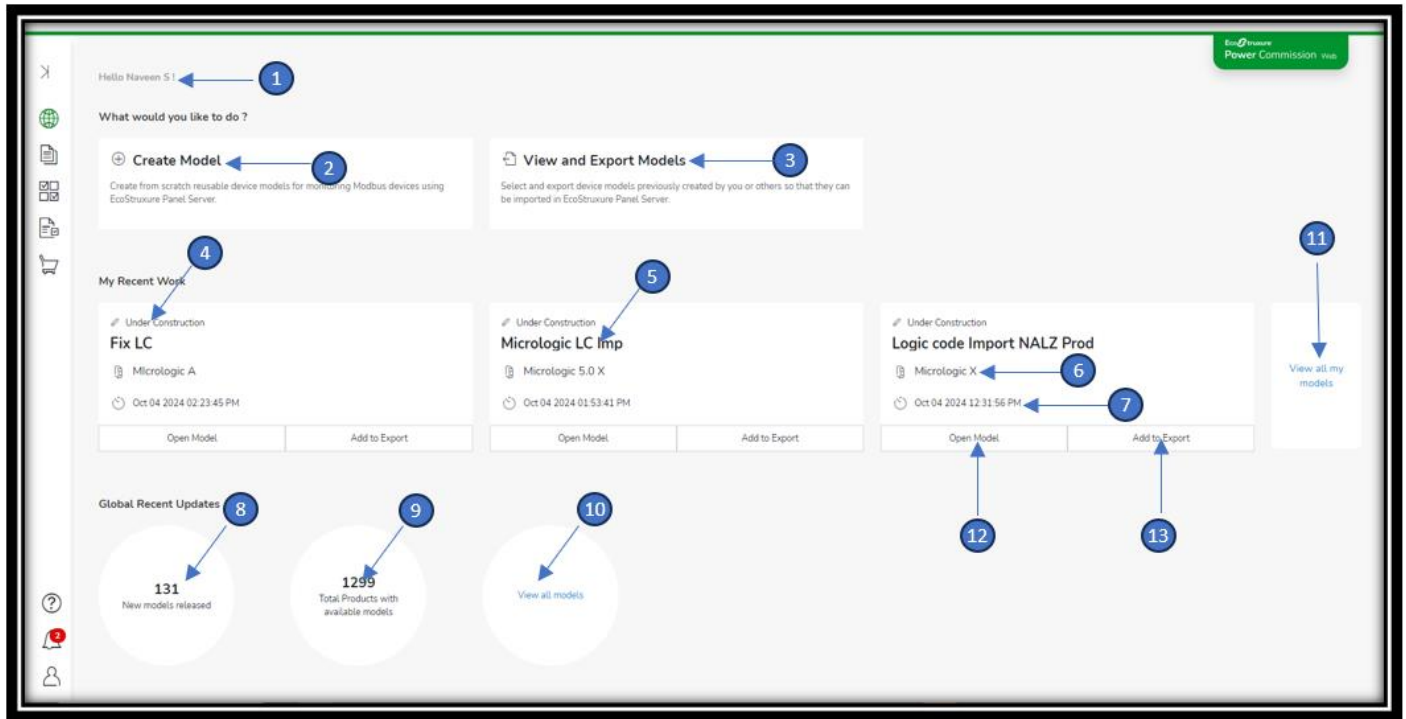
How to create a custom Modbus device model with EPC-Web

Step 1: Launch EPC-W and log in.

1. EPC Web Link: <https://ecostruxure.se.app/commissioning/epc-w>
2. Login / Registration page: If already registered with the website and created login credentials, then the user can enter the same in the Login page.

3. If not registered, then click on the 'Register' option shown above at 2.
4. Fill the registration form and generate a UserID (*email*) and Password to log in.

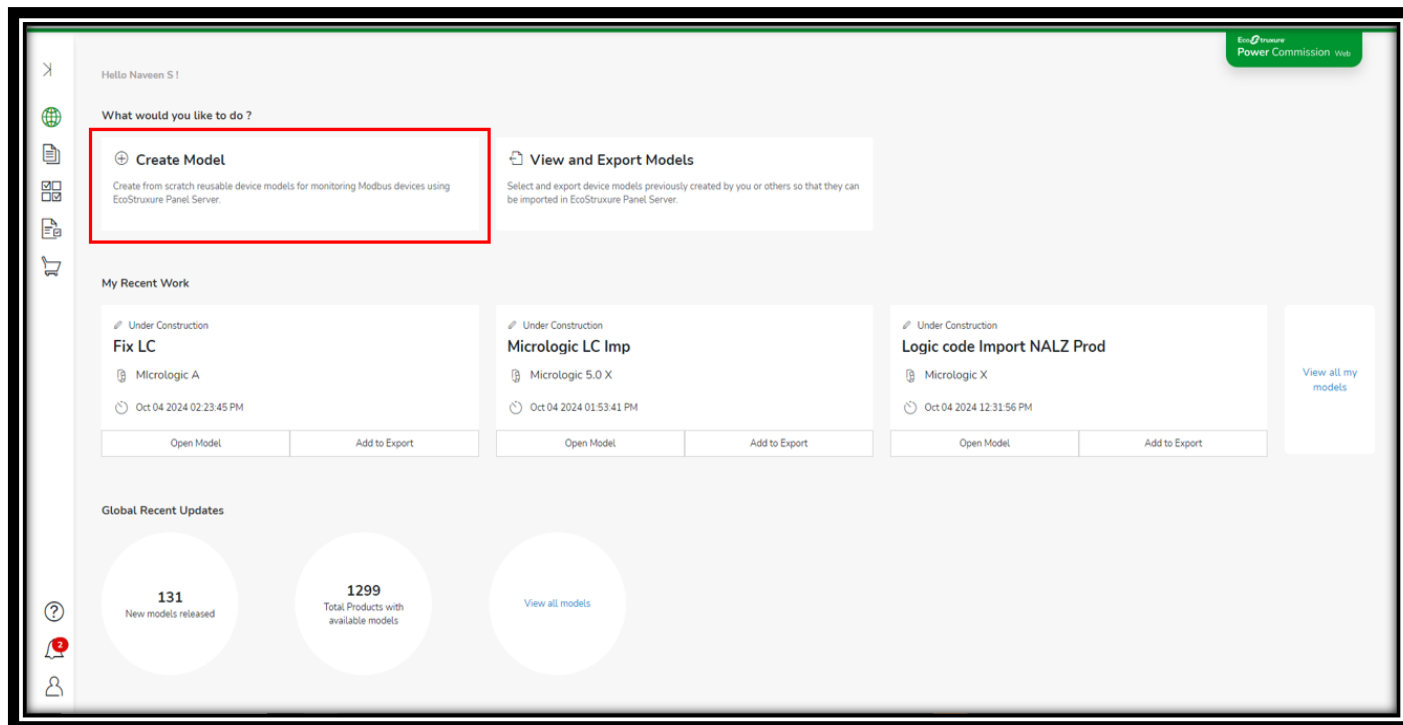
5. EPC-Web Home Page. > Continue to Step 2



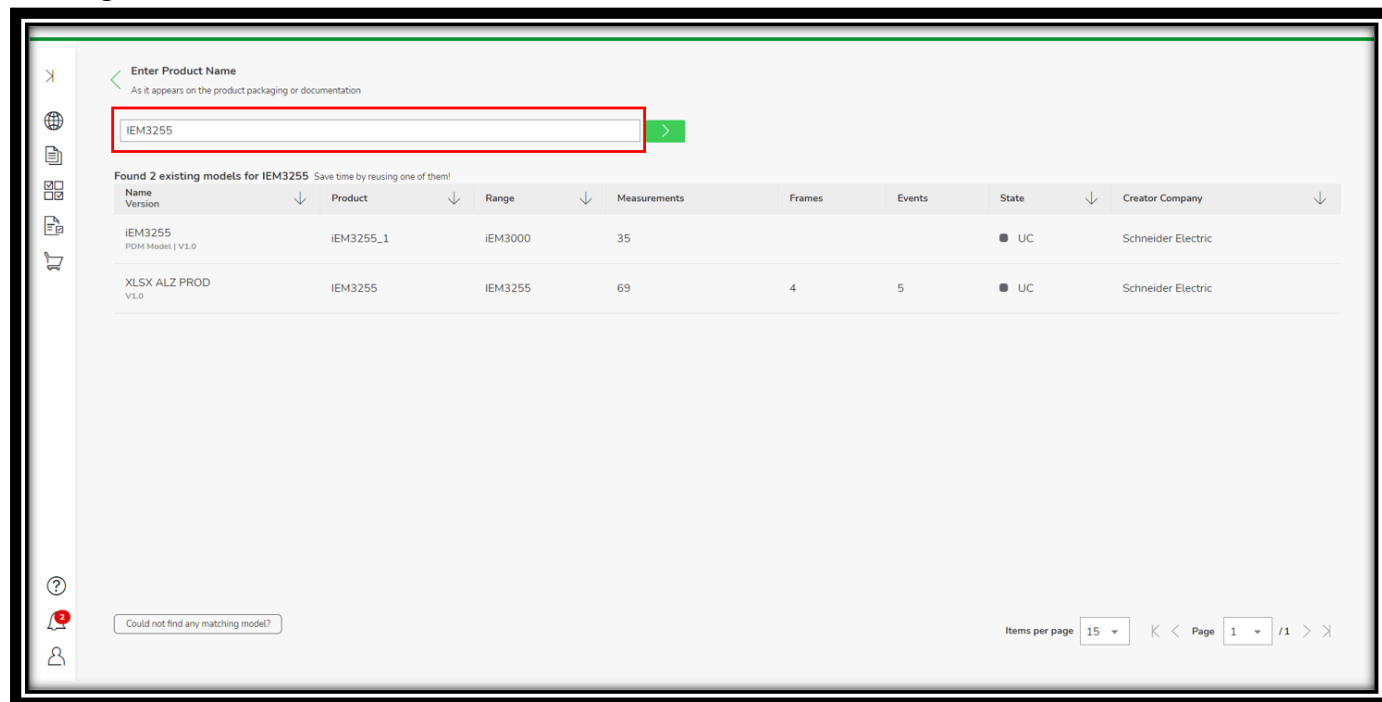
1. **Username:** Displays the user's first and last name.
2. **Create Model Button:** Allows users to create a new model or reuse an existing one.
3. **View and Export Models:** Enables users to view the Models list page and export models.
4. **Under Construction:** Shows the device model life cycle status. For more information on Device Model life Cycle, refer to page number 29.
5. **Model Name:** Shows the name of the model.
6. **Product Name:** Displays the name of the product/device for which the model was created.
7. **Date & Time:** Shows the last updated date and time of the model.
8. **New Models Released:** Shows the total number of models created in the last 30 days.
9. **Total Products with Available Models:** Shows the total number of products for which models have been created.
10. **View All Models:** Navigates the user to the Model page to display the list of all models.
11. **View All My Models:** Navigates the user to the My Models tab to display only the models created by the user.
12. **Open Model:** Navigates the user to the relevant model page.
13. **Add to Export:** Adds the relevant model to the cart for export.

Step 2: Create or Reuse the Model

1. To start the model creation or to reuse the existing model, click the “Create Model” button shown in the picture below.



2. Clicking on the ‘Create Model’ button will navigate the user to the Model search page. Here you can search the Model by entering the relevant Product name and reuse the existing model either by duplicating or creating a new version.



3. Click on any model, and the system will display a right-pane window with the necessary Model information.

a. If the model matches the required Product, Measurements, events, and Frames, click on “Add to Export,” and the model will be stored in the cart. Users can export the model from the cart. Follow **step 7** to export from the Basket/Cart.

Enter Product Name
As it appears on the product packaging or documentation

PM8000

Found 14 existing models for PM800. Save time by reusing one of them!

Name	Version	Product
PM8000	PDM Model V1.0	PM8000_3
CWP_PM8000	V1.0	PM8000_1
CWP4Test_1_Model2	V1.0	PM8000_1
CWP4Test_1Dup_Model2	V1.0	PM8000_1
EAA - Schneider Electric - PM8000		PM8000_2
Merlin_Gerin_800	V1.0	PM800_1
PM800		PM800_Series_EH
PM800_EH_CM2	V1.0	PM800_EH_CM2

Could not find any matching model?

PM8000

Model Version: 1.0
Product Range: PowerLogic
Product: PM8000_3
Commercial Ref:

Product Brand / Company: Schneider Electric
Application: Power Data Model
Firmware Version: 000.000.006
Global Swapping: NO_SWAP

Measurements [106] Events [0] Frames [0]

Name	Short Name	Function Code	Address	Registers	Encoding	Logic Code	Scale Factor	Unit	Invalid Value	Bitmask	Swapping
Current A	IA	FC03	2999	2	FLOAT32	FLOAT32ToFLOAT32	1.0	A	0xPFC00000	0xFFFFFFFF	NO_SWAP
Current B	IB	FC03	3001	2	FLOAT32	FLOAT32ToFLOAT32	1.0	A	0xPFC00000	0xFFFFFFFF	NO_SWAP
Current C	IC	FC03	3003	2	FLOAT32	FLOAT32ToFLOAT32	1.0	A	0xPFC00000	0xFFFFFFFF	NO_SWAP
Current N	IN	FC03	3005	2	FLOAT32	FLOAT32ToFLOAT32	1.0	A	0xPFC00000	0xFFFFFFFF	NO_SWAP
Current ground	IG	FC03	3007	2	FLOAT32	FLOAT32ToFLOAT32	1.0	A	0xPFC00000	0xFFFFFFFF	NO_SWAP
Current avg	IAvg	FC03	3009	2	FLOAT32	FLOAT32ToFLOAT32	1.0	A	0xPFC00000	0xFFFFFFFF	NO_SWAP
Current unbalance worst	IUnbalW	FC03	3017	2	FLOAT32	FLOAT32ToFLOAT32	1.0	A	0xPFC00000	0xFFFFFFFF	NO_SWAP
Voltage A-B	VAB	FC03	3019	2	FLOAT32	FLOAT32ToFLOAT32	1.0	V	0xPFC00000	0xFFFFFFFF	NO_SWAP
Voltage B-C	VBC	FC03	3021	2	FLOAT32	FLOAT32ToFLOAT32	1.0	V	0xPFC00000	0xFFFFFFFF	NO_SWAP
Voltage C-A	VCA	FC03	3023	2	FLOAT32	FLOAT32ToFLOAT32	1.0	V	0xPFC00000	0xFFFFFFFF	NO_SWAP
Voltage L-L avg	VLLAvg	FC03	3025	2	FLOAT32	FLOAT32ToFLOAT32	1.0	V	0xPFC00000	0xFFFFFFFF	NO_SWAP
Voltage A-N	VAN	FC03	3027	2	FLOAT32	FLOAT32ToFLOAT32	1.0	V	0xPFC00000	0xFFFFFFFF	NO_SWAP
Voltage B-N	VBN	FC03	3029	2	FLOAT32	FLOAT32ToFLOAT32	1.0	V	0xPFC00000	0xFFFFFFFF	NO_SWAP
Voltage C-N	VCN	FC03	3031	2	FLOAT32	FLOAT32ToFLOAT32	1.0	V	0xPFC00000	0xFFFFFFFF	NO_SWAP

Edit Add to Export

b. A duplicate or new version of the existing model can be created by clicking on the options given. Select “Duplicate” or “Create new version” (based on the existing model state).

EAA Micrologic X-ppr
V1.0.2
Model Range
61

EAA Micrologic X-de
V1.0.5
Model Range
60

EAA Micrologic X-RC2
V1.0.8
Model Range
61

SEPAM40-Test rc2
V1.0.1
SEPAM 40
Medium / Low Voltage
27

Compact_NSX_4P
V2.0.2
Compact NS
Compact
0

ISDA105166R1
V2.0.1
EKP COM MODBUS RS-4...
EKP
1

OMTZ-PPR WO Priority-1
V2.0.1
Test1
b
8

PDM measurements-ppr1
V1.0.2
Model Range
13

_synerf_le_gros
V1.0.13
PM810
PM810
2

A_CWP_SysVerif_ENG_Dup
V1.0.1
iEM2150
iEM2150
1

VL06_Prima duplicate
V1.0.4
Varset plus
VarPlus Logic
3

SEPAM40 Duplicate
V1.0.3
SEPAM 40
Medium / Low Voltage
27

New schema
V1.0.62
Model Range
2

1-Event duplicate
V1.0.1
iEM3155
iEM3155
2

Could not find any matching model?

PDM measurements-ppr1

Model Version: 1.0.2
Product Range: Range
Product: Model
Commercial Ref:

Product Brand / Company: Schneider Electric
Application: Asset Advisor
Firmware Version:
Global Swapping: NO_SWAP

Measurements [13] Events [0] Frames [3]

Name	Short Name	Function Code	Address	Registers	Encoding	Logic Code	Scale Factor	Unit	Invalid Value	Bitmask	Swapping
Voltage A-N	VAN	FC04	0	1	INT16	INT16ToFLOAT32	1	V	0x8000	0xFFFF	NO_SWAP
Current A	IA	FC03	0	1	INT16	INT16ToFLOAT32	1	A	0x8000	0xFFFF	NO_SWAP
Voltage B-N	VBN	FC04	1	1	INT16	INT16ToFLOAT32	1	V	0x8000	0xFFFF	NO_SWAP
Current B	IB	FC03	1	1	INT16	INT16ToFLOAT32	1	A	0x8000	0xFFFF	NO_SWAP
Voltage C-N	VCN	FC04	2	1	INT16	INT16ToFLOAT32	1	V	0x8000	0xFFFF	NO_SWAP
Current C	IC	FC03	2	1	INT16	INT16ToFLOAT32	1	A	0x8000	0xFFFF	NO_SWAP
Voltage A-B	VAB	FC04	3	1	INT16	INT16ToFLOAT32	1	V	0x8000	0xFFFF	NO_SWAP
Frequency	Hz	FC03	3	1	INT16	INT16ToFLOAT32	1	Hz	0x8000	0xFFFF	NO_SWAP
Active power total	WtIt	FC04	4	1	INT16	INT16ToFLOAT32	1	W	0x8000	0xFFFF	NO_SWAP
Temperature	Temp	FC04	5	1	INT16	INT16ToFLOAT32	1	°C	0x8000	0xFFFF	NO_SWAP
THD fund current A	THDIA	FC04	6	1	INT16	INT16ToFLOAT32	1		0x8000	0xFFFF	NO_SWAP
Frequency-1	Frequency-1	FC03	20	1	INT16	INT16ToFLOAT32	2		0x8000	0xFFFF	NO_SWAP
Active Energy	Active Energy	FC03	20	1	INT16	INT16ToFLOAT32	1	Watt	0x8000	0xFFFF	NO_SWAP

View Duplicate Create new version Add to Export

c. Enter all the mandatory fields and click on the “Create” button. A pop-up is displayed if any measurements have been converted from core measurements to custom measurements.

Note: The pop-up for converting Core Measurement to Custom Measurement will appear only when duplicating or creating a new version of a legacy model that contains unsupported measurements.

Model Details

Model Name *

Model User Version *

Protocol *

Global Swapping *

Product Minimum FW Version

Customized for Applications (only for SE user) *

Description

Create

Your device model contains 7 measurements based on unsupported definitions.
These measurements has been then automatically converted to custom to ensure an easy and consistent integration into EcoStruxure Power System

Initial measurement	Converted measurement
Device status alarm pdm:def:CALH1_DeviceStAlm	Device status alarm edm:def:cust:cust_dict:me:custom...
Earth leakage alarm from t... pdm:def:CALH1_AEFAlm	Earth leakage alarm from t... edm:def:cust:cust_dict:me:custom...
Harmonics alarm pdm:def:CALH1_HAlm	Harmonics alarm edm:def:cust:cust_dict:me:custom...
Cable 1 temperature phase... pdm:def:STMP1_Cable1TmpA	Cable 1 temperature phase... edm:def:cust:cust_dict:me:custom...
Backup power alarm pdm:def:CALH1_BackupPwAlm	Backup power alarm edm:def:cust:cust_dict:me:custom...

Okay

Step 3a: Create a new Model from scratch.

1. Click on “Could not find any matching model?”

Enter Product Name

As it appears on the product packaging or documentation

>

Found 14 existing models for PM800 Save time by reusing one of them!

Name Version	Product	Range	Measurements	Frames	Events	State	Creator Company
PM8000 PDM Model V1.0	PM8000_3	PowerLogic	106			UC	Schneider Electric
CWP_PM8000 V1.0	PM8000_1	PM8000	4	2		UC	Schneider Electric
CWP4Test_1_Model2 V3.0	PM8000_1	PM8000				UC	Schneider Electric
CWP4Test_1Dup_Model2 V1.0	PM8000_1	PM8000				UC	Schneider Electric
EAA - Schneider Electric - PM8000 V1.0	PM8000_2	BT	37	8		UC	Schneider Electric
Mertin_Gerin_800 V1.0	PM800_1	PM800				UC	NA
PM800 V2.0	PM800_Series_EH	PM800	7	2		UC	NA
PM800_EH_CM2 V1.0	PM800_EH_CM2	PM800	1			UC	Schneider Electric

Could not find any matching model?

Items per page 15 < Page 1 / 1 >

Model Details Page Instructions

- This first page is dedicated to capturing the essential details of the model. Users must provide all relevant information. Please ensure that you fill in all the mandatory fields.

Create Model

Model Details

Have Com'X device model?
The model will be automatically created from the file

Import Model

OR

Fill in the below

Model Name *

Model Version *

Product Communication Protocol *

Customized for Applications *

Description

Byte or Word Ordering (at Product Level) *

Product Minimum FW Version

Next

- Click on the 'Next' Button.

Note: "To create a custom model for PaS using a Com'X Custom model, click on 'Import Model' and then proceed by clicking 'Next'."

Create Model

Model Details

Have Com'X device model?
The model will be automatically created from the file

Import Model

OR

Fill in the below

Model Name *

Model Version *

Product Communication Protocol *

Customized for Applications *

Description

Byte or Word Ordering (at Product Level) *

Product Minimum FW Version

Next

Note: To create the Model, the user should mandatorily fill in “Vendor Name”, “Range”, “Model” & “Family”

4. Click on the “Add Details” button.

The screenshot shows the 'Create Model' interface. On the left is a sidebar with a vertical timeline of steps: Model Details (active), Add Identifications, Add measurements, Add Events, and Add Frames. The main area is titled 'Add Identifications' and has two tabs: 'Product Identification' (selected) and 'Automatic Discovery'. Below the tabs is a list of fields, each with an 'Add Details' button. The 'Vendor Name' field's 'Add Details' button is highlighted with a blue rectangular box. The fields are: Name (Details), Vendor Name *, Vendor URL, Range *, Model *, Commercial Reference, Family *, Serial Number, and User Application Name. At the bottom left is a 'Back' button, and at the bottom right are 'Finish' and 'Next' buttons.

5. Fill in the Product “Vendor Name” detail.

This screenshot shows the same 'Create Model' interface, but with a modal window open for 'Vendor Name Details'. The modal has a text input field containing 'Schneider Electric'. The background interface is dimmed. The 'Add Details' button for 'Vendor Name' in the main list is still visible. A 'Save' button is located at the bottom right of the modal window.

6: Fill in the “Product Range” Detail.

The screenshot shows the 'Add Identifications' form in the 'Create Model' section. The 'Product Identification' tab is active. The 'Range' field is highlighted in the 'Range Details' sidebar on the right. The sidebar contains a 'Range' input field with the value 'iEM3000' and a 'Save' button at the bottom right. The main form has a 'Back' button at the bottom left.

Add Identifications	
Product Identification	Automatic Discovery
Name Details	
Vendor Name *	Add Details
Vendor URL	Add Details
Range *	Add Details
Model *	Add Details
Commercial Reference	Add Details
Family *	Add Details
Serial Number	Add Details
User Application Name	Add Details

7: Fill in the Product ‘Model’ Detail.

The screenshot shows the 'Add Identifications' form in the 'Create Model' section. The 'Product Identification' tab is active. The 'Model' field is highlighted in the 'Model Details' sidebar on the right. The sidebar contains a 'Model' input field with the value 'iEM3150' and a 'Save' button at the bottom right. The main form has a 'Back' button at the bottom left.

Add Identifications	
Product Identification	Automatic Discovery
Name Details	
Vendor Name *	Schneider Electric
Vendor URL	Add Details
Range *	iEM3000
Model *	iEM3150
Commercial Reference	Add Details
Family *	Add Details
Serial Number	Add Details
User Application Name	Add Details

8: Fill in the “Product Family” Detail.

The screenshot shows the 'Create Model' interface with the 'Add Identifications' step selected. The 'Family' dropdown is open, showing a list of options including 'Power Motor' which is highlighted. The 'Family Details' panel on the right is also visible.

9: To add Protocol details for the Product Identifications, enable the protocol details button, fill in the mandatory details, and click on the “Add” button.

The left screenshot shows the 'Vendor Name Details' form with the 'Protocol Details' section expanded. The 'Protocol Details' section has a toggle switch that is turned on. The right screenshot shows the 'Vendor Name Details' form with the 'Protocol Details' section expanded. The 'Protocol Details' section has a toggle switch that is turned on. The 'Protocol Details' section has a toggle switch that is turned on.

Protocol Details: While creating Product Identifications, the following are the mandatory attributes required. Ref. Page no. 18-20 for a detailed explanation of the attributes.

1. Function Code
2. Register start Address
3. Encoding
4. Number of registers
5. Byte or Word Ordering
6. Display format
7. Bitmask

The image below shows how the swapping behaves in the Measurement Level and the Global Level (General Settings). If Any Measurement has NO_SWAP in the swapping, Global Swapping will have NO_SWAP. Only when all the images have WORD_SWAP, Global Swapping is be automatically changed to “WORD_SWAP”.

	If all measures are NO_SWAP	If only one measure is WORD_SWAP	If only one measure is NO_SWAP	If all are WORD_SWAP
Current A	NO_SWAP	NO_SWAP	WORD_SWAP	WORD_SWAP
Current B	NO_SWAP	WORD_SWAP	WORD_SWAP	WORD_SWAP
Current C	NO_SWAP	NO_SWAP	WORD_SWAP	WORD_SWAP
Current avg	NO_SWAP	NO_SWAP	NO_SWAP	WORD_SWAP
Global Swapping	NO_SWAP	NO_SWAP (with warning)	NO_SWAP (with warning)	WORD_SWAP

10: Click on the “**Next**” button to create the model.

11: EPC-W will navigate the user to the Measurement creation page. Follow **Step 4a** to continue further.

Step 3b: Automatic Discovery.

Modbus Function Code FC-43-14 & FC03 (Read Device Identification):

This function code allows a Modbus master to request information about a Modbus slave device, including its vendor ID, product code, and other identifying data, which can be used for automatic device identification and configuration.

Systems can use pre-defined device templates that map the data returned by FC43-14 & FC03 to specific device types and their corresponding parameters.

Benefits of Automatic Discovery:

- **Reduced Configuration Time:** Once shown, the right data model will be applied to the device automatically instead of requiring a manual selection of the data model for the device.
- **Improved Reliability:** Automatic configuration reduces the risk of human errors during setup.
- **Simplified Maintenance:** As new devices are added or replaced, the system can automatically adapt to the changes.

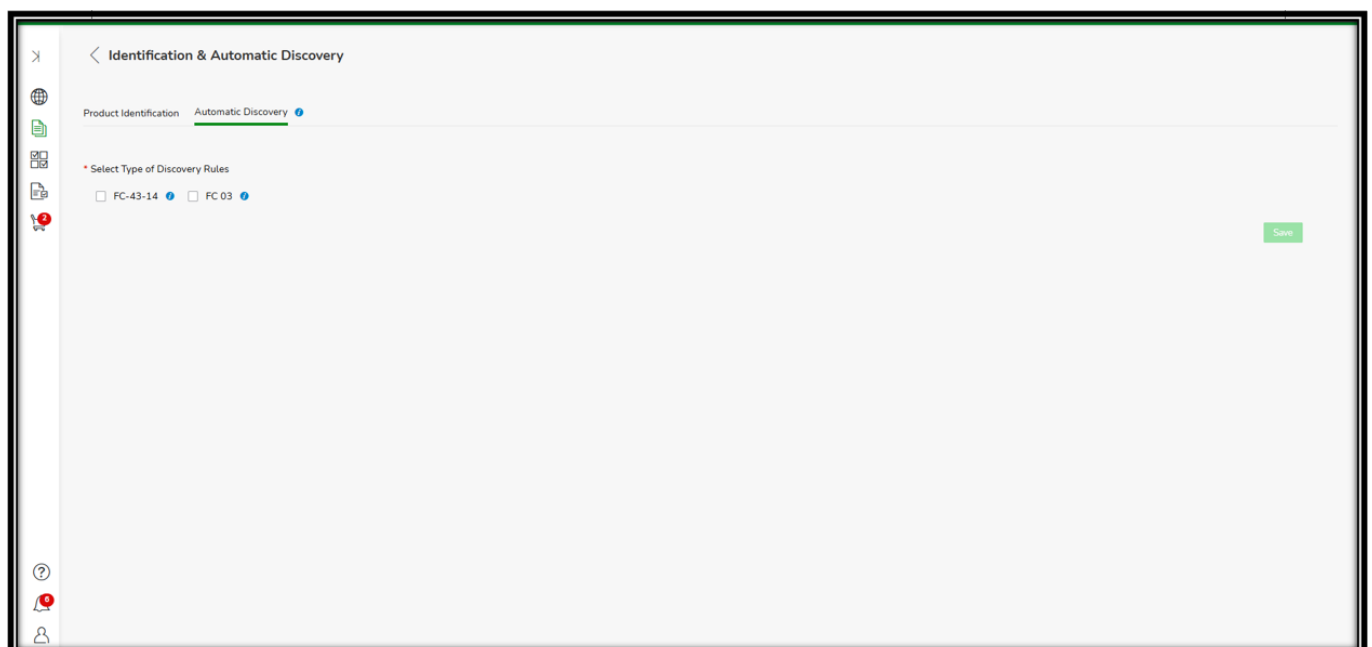
Automatic Discovery Function Codes

Automatic Discovery supports two function codes: **FC-43-14** and **FC03**.

- **FC-43-14 Function Code:** If the product supports the FC-43-14 function code, users can use both 'basic' and 'regular' identification types.
- **FC03 Function Code:** If the product supports the FC03 function code, users can use register details to add identification access data.
- **Both:** If the product supports both function codes, users can access both functionalities.

Note: Automatic discovery is optional in the custom model, and EPC-W allows the user to skip Automatic Discovery.

1. Click on the Automatic Discovery Tab.



2. Select the **Modbus Function code & Identification Type** as per the requirement.

This Modbus function, specifically MEI (Modbus Encapsulated Interface) code 14, allows for the transfer of device identification information.

In Modbus, "Add Basic" retrieves Vendor Name, Commercial Reference, and Firmware Version, while "Read Regular" adds optional Vendor URL, ProductName, Model Name, or UserApplicationName.

Note: When the FC-43-14 Modbus Function code is selected, the Identification Type 'Basic' is mandatory, while 'Regular' stays optional, and at least one basic detail must be filled.

The screenshot shows the 'Identification & Automatic Discovery' interface. The 'Automatic Discovery' tab is active. Under 'Select Type of Discovery Rules', 'FC-43-14' is selected. The 'Add Basic Device Identification Details' section includes fields for 'Vendor Name', 'Commercial Reference', and 'Firmware Version', each with an 'Add Details' button. The 'Add Regular Details' section includes fields for 'Vendor URL', 'Product Name', 'Model Name', and 'User Application Name', each with an 'Add Details' button. A sidebar on the left contains navigation icons, and a bottom bar has a help icon, a notification icon, and a user profile icon.

3. Click 'Add Details' to enter the 'Vendor Name' or 'Vendor Name Regular expression' for a product.

The screenshot shows the 'Vendor Name' modal dialog. The 'Select Entry Type' section has 'Vendor Name' selected. The 'Vendor Name' input field contains 'Schneider Electric'. There is an 'Add' button at the bottom right. The background shows the same 'Identification & Automatic Discovery' interface as the previous screenshot, but it is dimmed.

4. Select the Modbus function code by checking 'FC03'. Ensure to add at least one register with Modbus mapping, equalities, or regular expressions for Automatic discovery. A maximum of 3 Register details can be added.

Select Type of Discovery Rules

☒ FC-43-14 ☒ FC 03

Add Basic Device Identification Details
Add at least one of the below details

Vendor Name

Commercial Reference

Firmware Version

Add Regular Details

Vendor URL

Product Name

Model Name

User Application Name

Add Register details for Automatic Discovery (Max 3)
Add at least one register with Modbus mapping, equalities and/or regularExpressions

Description	Address	No. of Register	Bitmask

Vendor Name

Select Entry Type

☒ Vendor Name ☐ Vendor Name Regular Expression

Vendor Name

- 4a. Users can specify the data type [String or Integer], register start Address, Encoding, Number of registers, swapping, and bitmask. Users should enter Expected Values or Regular Expressions.

Add Details

Data Type * String **Register start Address *** 1

Encoding * UNICODE STRING **Number of registers *** 2

Swapping NO_SWAP **Bitmask** 0xFFFFFFFF

Description Version

Select Entry Type

☒ Expected Values ☒ Regular Expression

Enter Expected Values

Enter Regular Expression

Add Details

Data Type * Integer **Register start Address *** 1

Encoding * INT64 **Number of registers *** 4

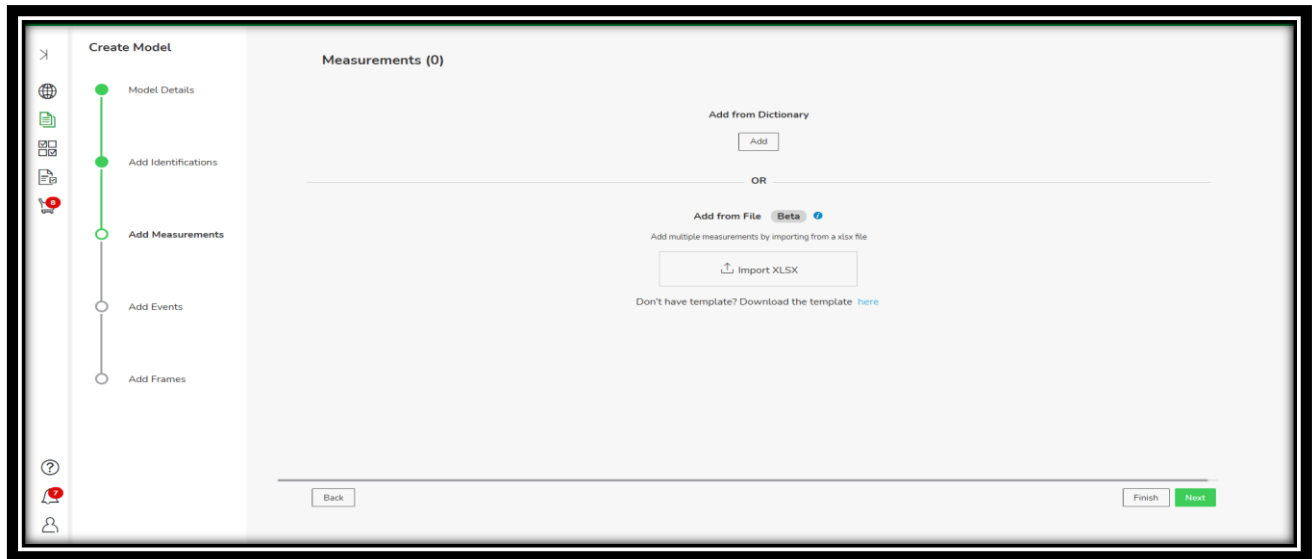
Swapping NO_SWAP **Bitmask** 0xFFFFFFFFFFFFFFFF

Description Version

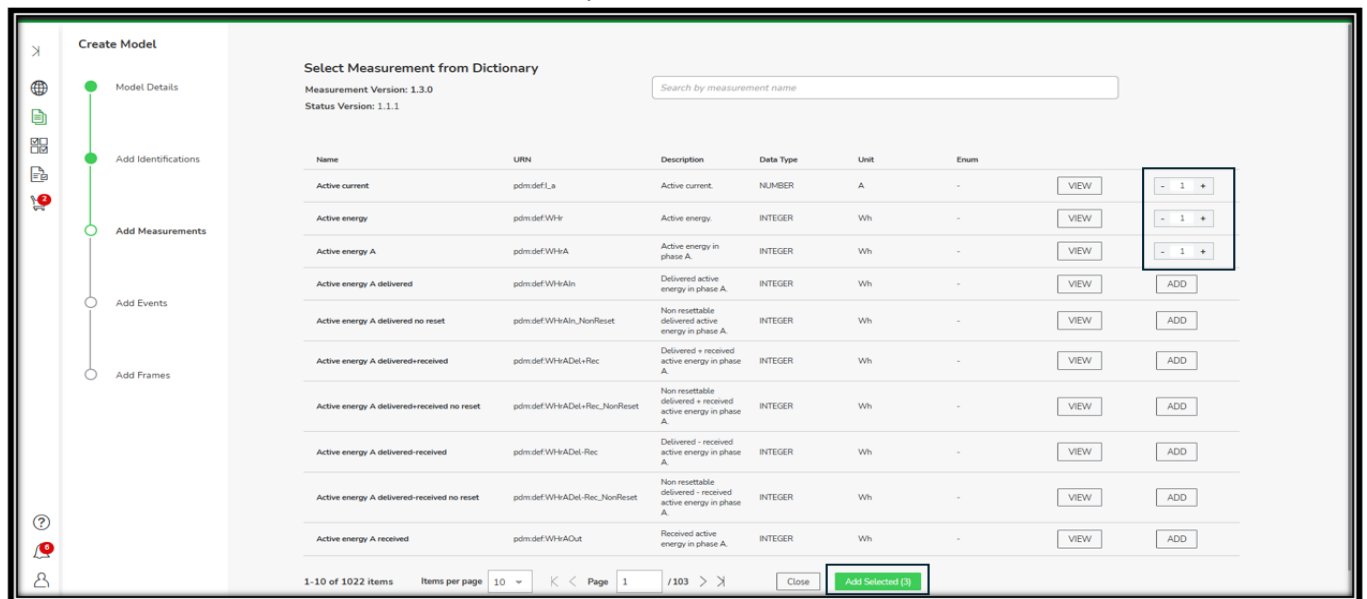
Enter Expected Values

Step 4a: Add Measurements

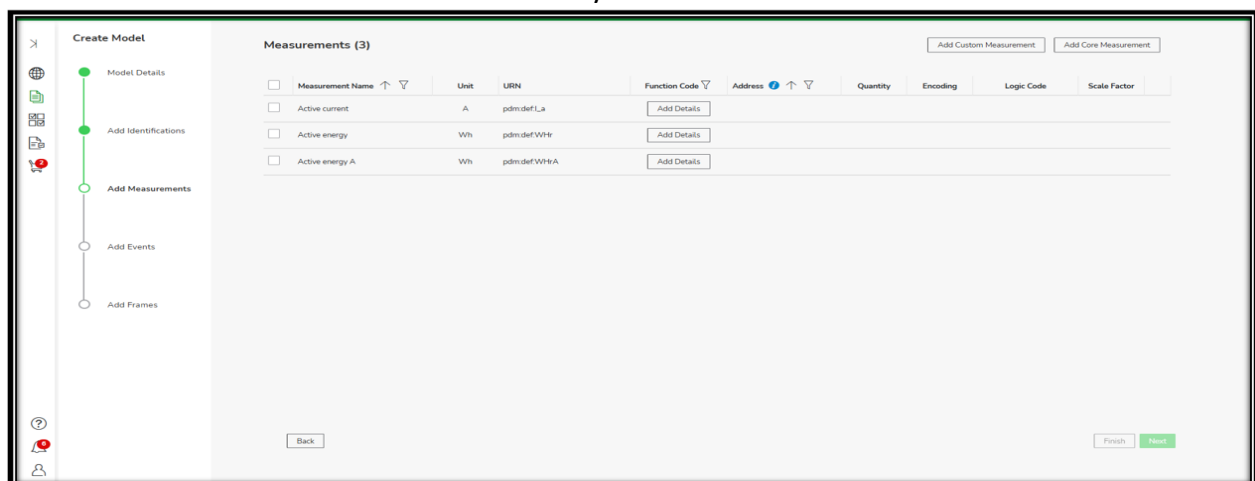
1. Click on the “Add New” button to add measurements one by one. **Or** download the Excel Template, fill in the Excel, and import it in the “Import XLSX” way.



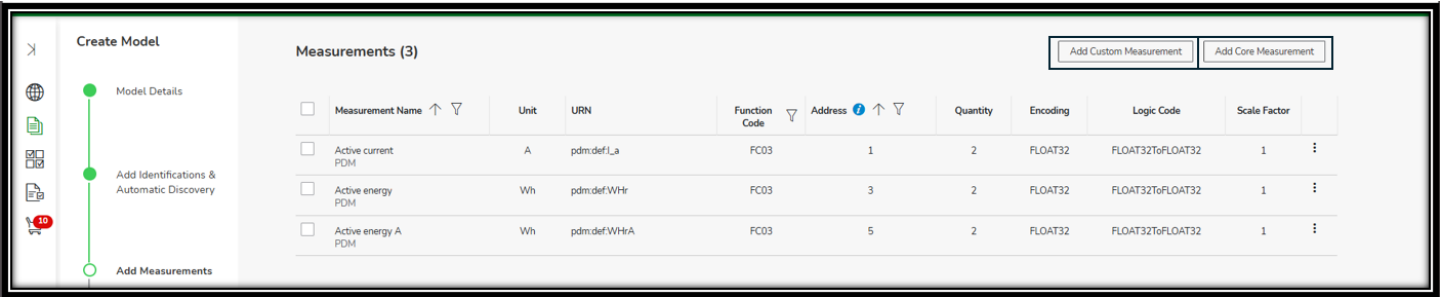
2. While creating the new model in the Wizard flow, as shown below, when the user navigates to the Add Measurement tab & clicks on “Add,” it allows the user to navigate to the Dictionary service.
3. Select the Measurements from the dictionary and click on “Add Selected”.



Click on Add Details to fill in all the mandatory fields and create the measurements.

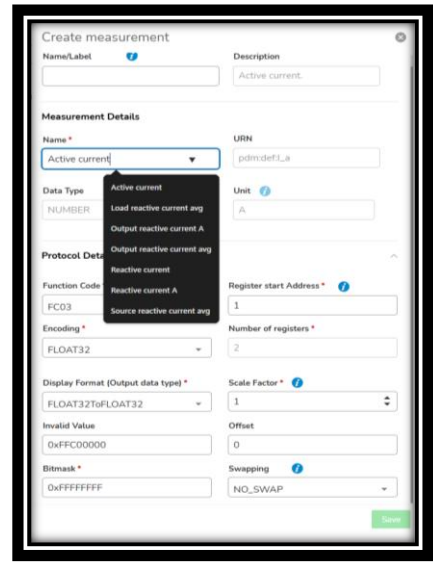


To add a Custom measurement, click on the “Add custom Measurement” button.



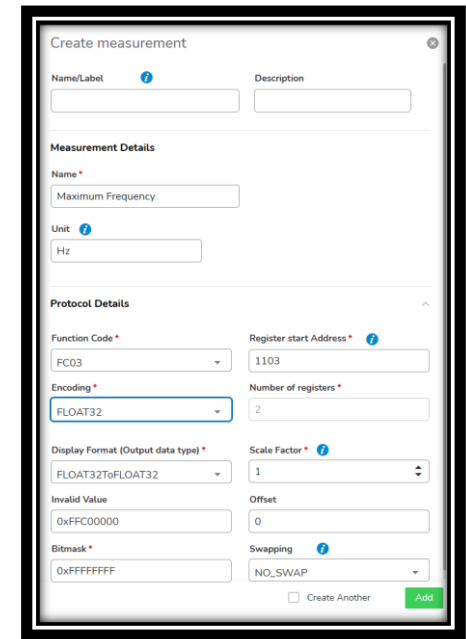
Two buttons, “Add Custom Measurement” and “Add Core Measurement”, are provided for users to add Core and Custom measurements.

Add Core Measurement: The Core dictionary includes the list of measurements known as predefined by the Panel Server gateway. Clicking on “Add Core Measurement” allows the user to navigate to the Dictionary page, and the user can select and add the measurements to the model.



1. **Name/Label:** This is a user-defined field. Where the user can enter the reference data.
2. **Description:** While adding the core measurement, the description field is auto-filled as per the Dictionary service.
3. **Name:** Enter the PDM measurement names that are listed in the dictionary service.

Add Custom Measurement: Clicking on “Add Custom Measurement” allows the user to add custom measurements that are not part of the dictionary service.



1. **Name/Label:** This is a user-defined field. Where the user can enter the reference data.
2. **Description:** While adding the Custom measurement, the description field should be filled as per the user
3. **Name:** Enter the Custom measurement name that is not part of the dictionary service.

1. **Function Code:** Select the Function code from the list displayed in the product data sheet.

2. **Address:** Enter the **address** of the register (reminder: Register start Address = Register -1)

Ex: To poll 'Frequency' Value

Address	Register	Size	NA Value	RW	MB Func	Unit	Type	Range	Enumeration	Default Value	Name	SNID
0x0C25	3110	2	NA4	R	3 100/4	Hz	FLOAT32	[45, 65]			Frequency	Hz

If the Register says **3110**, it should be subtracted by **1**, i.e., **3110-1=3109**.

The value that needs to be entered in the **Register Start Address** is **3109**, followed by the number of registers.

3. **Encoding:** Select the correct encoding from the list as per the product documentation for this measurement

4. Display Format (Output data): Select the 'Display format' or 'Publication format' suitable for the selected Encoding.

Create measurement

Measurement Name *
Current A

Short Name *
IA

Function Code *
FC03

Register start Address *
1

Encoding *
INT32U

Number of registers *
2

Display Format (Output data type) *
INT32UtoINT32U

Bit
All

Unit
A

Offset
0

Swapping
NO_SWAP

Description
Current in phase A.

☐ Create Another Add

5. Bit: This field is used to access the Bit-level information of a Modbus register.

Bit 4
Bit 5
Bit 6
Bit 7
Bit 8
Bit 9
Bit 10
Bit 11
Bit 12
Bit 13
Bit 14
Bit 15
Bit 16

Function Code *
FC03

Encoding *
INT32U

Display Format (Output data type) *
INT32UtoINT32U

Unit
A

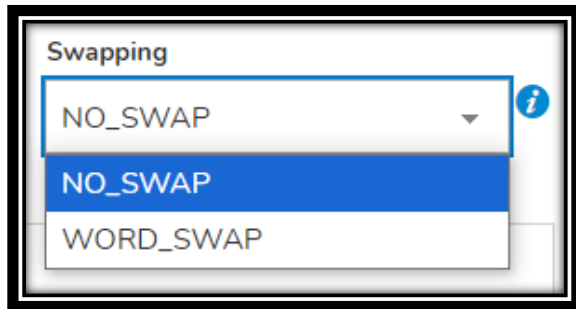
Offset
0

Swapping
NO_SWAP

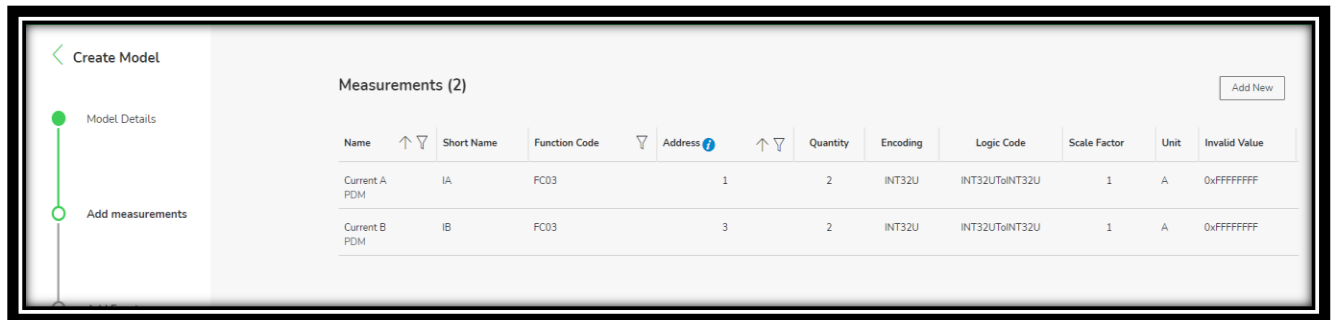
Description
Current in phase A.

☐ Create Another Add

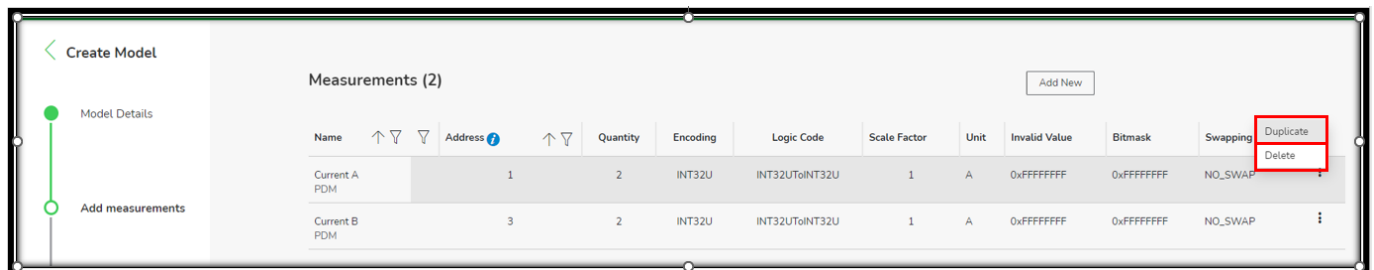
6. **Swapping:** Select as per Big-Endian & Little-Endian format for reading the value from registers
- NO_SWAP option signifies the Big-endian method – (most significant value at first).
 - WORD_SWAP option signifies the Little-endian method – (less significant value at first).



7. The rest of the parameters will be auto filled based on encoding selection. You can adjust them based on the need or product documentation.
8. Now, click on the “Add” button to add the measurement to the list.
9. After the measurements are successfully added, they are listed in a table format for the user to see or modify.

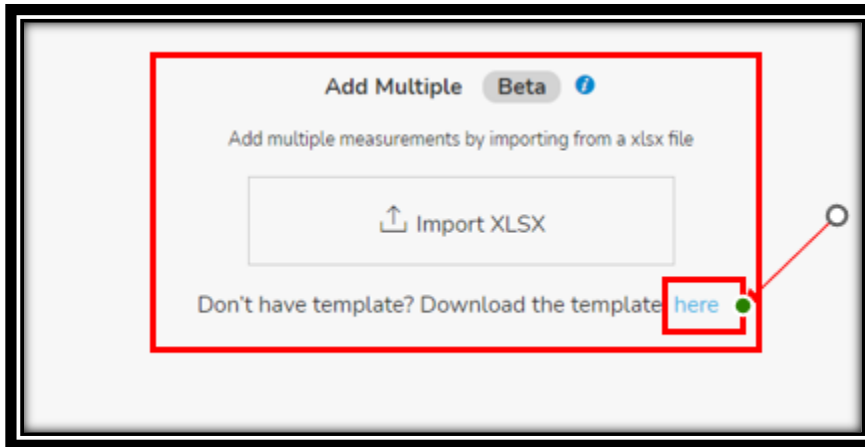


10. You can remove or duplicate a measurement by using the “kebab” menu at the right of each measurement. > **Continue to “Step 5.”**

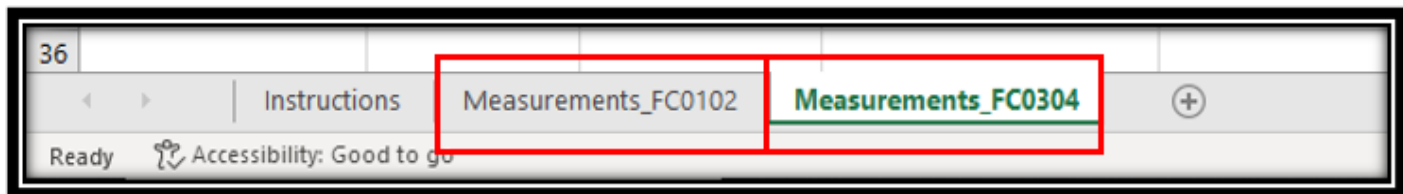


Step 4b: Add Import measurement from .XLSX file.

1. Click on “here” to download the Excel template.



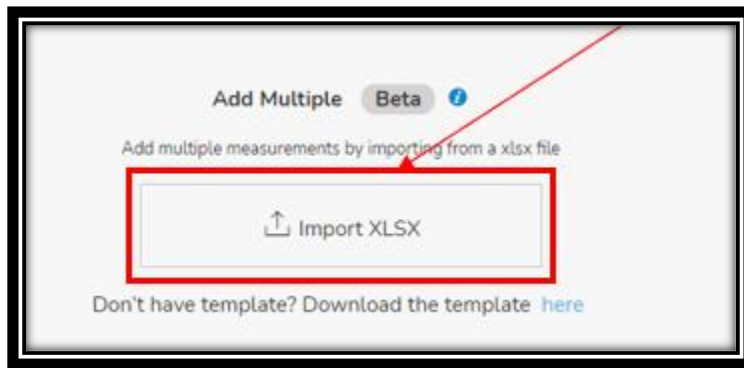
2. Open the downloaded Excel Template and fill in all the Mandatory details in the “Measurements_FC0102” Sheet & “Measurement_FC0304” Sheet.



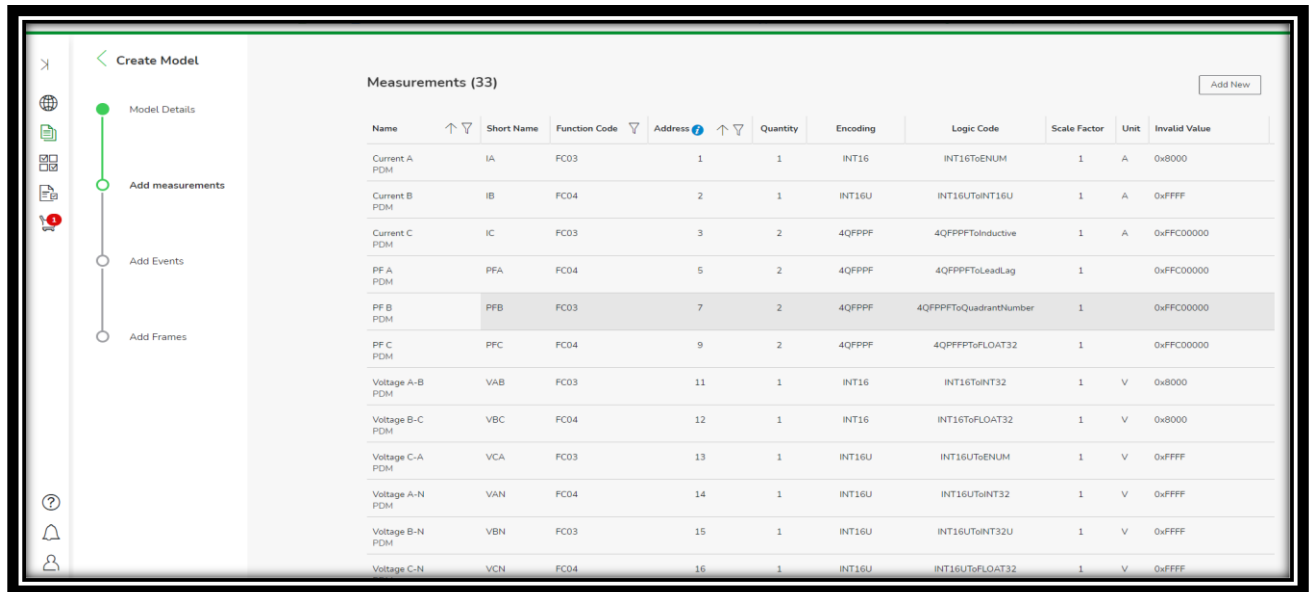
3. The Below picture shows the sample to fill the Excel template.

	A	B	C	D	E	F	G	H	I	L
1	Measurement Name	Function Code	Modbus Address	Encoding / Data Type *	Number of Registers *	Logic Code / Display Format *	Unit	Byte Ordering	Scale Factor *	Invalid Value
2	IA	FC03	1	INT16		1 INT16ToENUM		NO_SWAP		1 0x8000
3	IB	FC04	2	INT16U		1 INT16UToINT16U		NO_SWAP		1 0xFFFF
4	IC	FC03	3	4QFPPF		2 4QFPPFToInductive		NO_SWAP		1 0xFFFC0000
5	PFA	FC04	5	4QFPPF		2 4QFPPFToLeadLag		NO_SWAP		1 0xFFC00000
6	PFB	FC03	7	4QFPPF		2 4QFPPFToQuadrantNumber		NO_SWAP		1 0xFFC00000
7	PFC	FC04	9	4QFPPF		2 4QFPPFToFLOAT32		NO_SWAP		1 0xFFC00000
8	VAB	FC03	11	INT16		1 INT16ToINT32		NO_SWAP		1 0x8000
9	VBC	FC04	12	INT16		1 INT16ToFLOAT32		NO_SWAP		1 0x8000
10	VCA	FC03	13	INT16U		1 INT16UToENUM		NO_SWAP		1 0xFFFF
11	VAN	FC04	14	INT16U		1 INT16UToINT32		NO_SWAP		1 0xFFFF
12	VBN	FC03	15	INT16U		1 INT16UToINT32U		NO_SWAP		1 0xFFFF
13	VCN	FC04	16	INT16U		1 INT16UToFLOAT32		NO_SWAP		1 0xFFFF
14	VLL	FC03	18	INT32		2 INT32ToINT32	s13	NO_SWAP		1 0x80000000
15	VLN	FC04	20	INT32		2 INT32ToFLOAT32	s14	NO_SWAP		1 0x80000000
16	Hz	FC03	22	INT32		2 INT32ToINT64	s15	NO_SWAP		1 0x80000000
17	HzA	FC04	24	INT32		2 INT32ToENUM	s16	NO_SWAP		1 0x80000000
18	HzB	FC03	26	INT32U		2 INT32UToINT32U	s17	NO_SWAP		1 0xFFFFFFFF
19	HzC	FC04	28	INT32U		2 INT32UToUNICODESTRING	s18	NO_SWAP		1 0xFFFFFFFF
20	MaxHz	FC03	30	INT32U		2 INT32UToINT64	s19	NO_SWAP		1 0xFFFFFFFF
21	MinHz	FC04	32	INT32U		2 INT32UToFLOAT32	s20	NO_SWAP		1 0xFFFFFFFF
22	MinPFA	FC03	34	INT32U		2 INT32UToENUM	s21	NO_SWAP		1 0xFFFFFFFF
23	MaxPFA	FC04	36	INT32-MOD10K		2 10KToFLOAT32	s22	NO_SWAP		1 0x80000000
24	MaxIA	FC03	38	FLOAT32		2 FLOAT32ToFLOAT32	s23	NO_SWAP		1 0xFFC00000
25	MaxIB	FC04	40	FLOAT32		2 FLOAT32ToENUM		NO_SWAP		1 0xFFC00000
26	MaxIC	FC03	42	FLOAT64		4 FLOAT64ToFLOAT64		NO_SWAP		1 0xFFC0000000000000
27	MinIA	FC04	46	INT64		4 INT64ToINT64		NO_SWAP		1 0x8000000000000000
28	MinIB	FC03	50	INT64U		4 INT64UToINT64U		NO_SWAP		1 0xFFFFFFFFFFFFFFFF
29	MinIC	FC04	54	INT64U		4 INT64UToINT64		NO_SWAP		1 0xFFFFFFFFFFFFFFFF
30	MaxDPFA	FC03	58	INT64-QUAD10K		4 QUAD10KToINT64		NO_SWAP		1 0x8000000000000000
31	MinDPFA	FC04	63	INT48MOD10K		3 INT48MOD10KToINT64		NO_SWAP		1 0x800000000000
32	Hz_high	FC03	66	INT48UMOD10K		3 INT48UMOD10KToINT64		NO_SWAP		1 0x800000000000
33	Hz_low	FC04	69	INT32-SMOD10K		2 S10KToFLOAT32		NO_SWAP		1 0x80000000
34	Hz_Mean	FC03	71	INT64-SQUAD10K		4 SQUAD10KToINT64		NO_SWAP		1 0x8000000000000000
35										

4. Once the Excel is filled, import the Excel into EPC-W by clicking on the “Import XLSX” button.



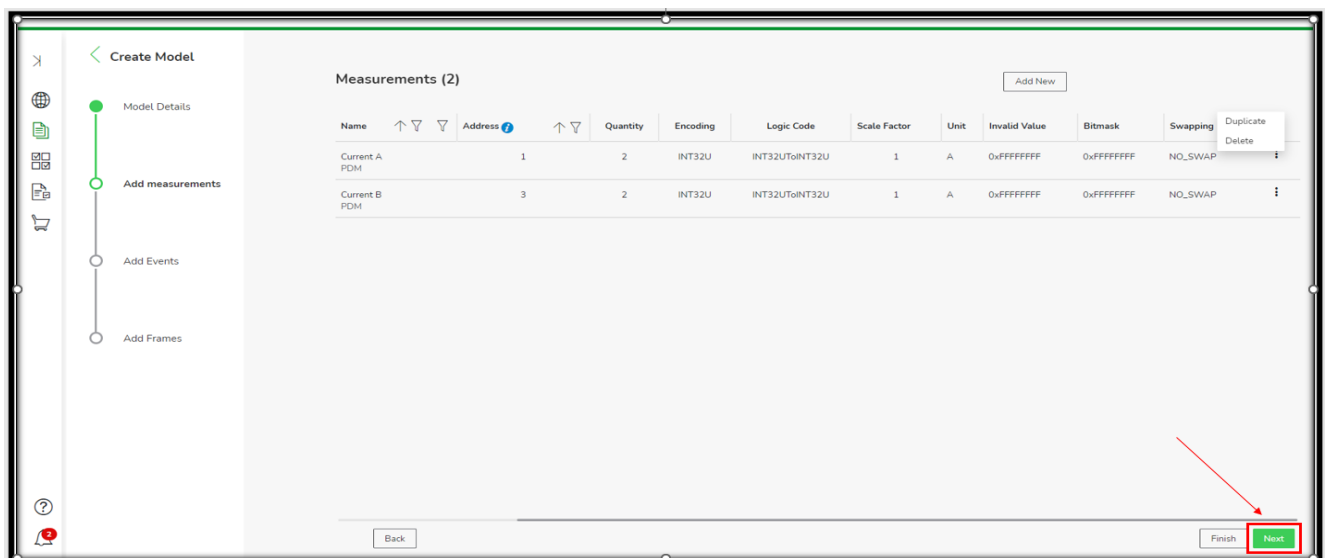
5. Once the Excel (.xlsx) file is imported Measurements will get created as shown below



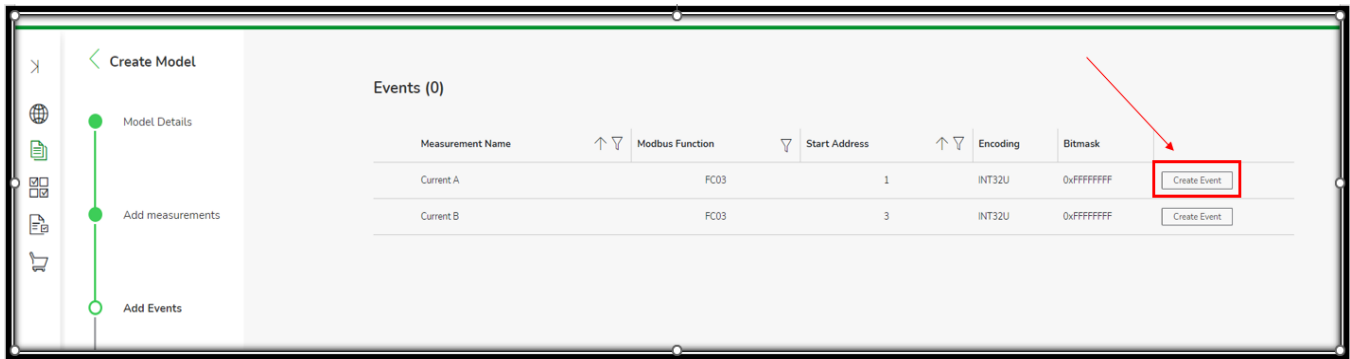
Name	Short Name	Function Code	Address	Quantity	Encoding	Logic Code	Scale Factor	Unit	Invalid Value
Current A PDM	IA	FC03	1	1	INT16	INT16ToENUM	1	A	0x8000
Current B PDM	IB	FC04	2	1	INT16U	INT16UtoINT16U	1	A	0xFFFF
Current C PDM	IC	FC03	3	2	4QPPPF	4QPPPFtoInductive	1	A	0xFFC00000
PF A PDM	PFA	FC04	5	2	4QPPPF	4QPPPFtoLeadLag	1		0xFFC00000
PF B PDM	PFB	FC03	7	2	4QPPPF	4QPPPFtoQuadrantNumber	1		0xFFC00000
PF C PDM	PFC	FC04	9	2	4QPPPF	4QPPPFtoFLOAT32	1		0xFFC00000
Voltage A-B PDM	VAB	FC03	11	1	INT16	INT16ToINT32	1	V	0x8000
Voltage B-C PDM	VBC	FC04	12	1	INT16	INT16ToFLOAT32	1	V	0x8000
Voltage C-A PDM	VCA	FC03	13	1	INT16U	INT16UtoENUM	1	V	0xFFFF
Voltage A-N PDM	VAN	FC04	14	1	INT16U	INT16UtoINT32	1	V	0xFFFF
Voltage B-N PDM	VBN	FC03	15	1	INT16U	INT16UtoINT32U	1	V	0xFFFF
Voltage C-N PDM	VCN	FC04	16	1	INT16U	INT16UtoFLOAT32	1	V	0xFFFF

Step 5: Add Events. (to Monitor Alarms)

1. Click on the “Next” button to Add Events.



2. The system navigates the user to the Event creation page. Click on the “Create Event” button.



3. **Create Event:** A right pane window is opened, and the user can enter the details to create an Event.

The 'Create event' dialog box is shown. It includes a warning message: 'Threshold values not supported today, only supports "=", "!=", and "Has changed" condition for Boolean, Enum, and Integer.' The form has the following fields:

- Event Name ***: A text input field with the value 'Event'.
- Condition ***: A dropdown menu with a red error message 'The field is required'.
- Value ***: A text input field with the value '0'.
- Event Severity ***: Radio buttons for LOW (selected), MEDIUM, and HIGH.
- Based on Status**: A section with 'Status Label' and 'IA'.
- Create Another**: A checkbox.
- Add**: A green button.

4. **Event Name:** Enter the name to be displayed when an Alarm is triggered.

The 'Event Name' input field is shown with the text 'Breaker Trip Alarm' entered.

5. **Condition & Value:** Select the Condition "=", "!=", and "Has changed" from the dropdown and enter the Value

The 'Condition' and 'Value' fields are shown. The 'Condition' dropdown is open, showing the following options: '=', 'Has Changed', and '!='. The 'Value' field contains the number '0'.

for which the Alarm is generated.

6. **Event Severity:** Select the Severity of the event from the “LOW”, MEDIUM, & “HIGH” options.

Event Severity *

☒ LOW

☐ MEDIUM

☐ HIGH

Create event

Threshold values not supported today, only supports "=", "!=", and "Has changed" condition for Boolean, Enum, and Integer.

Event Name *

Breaker Trip Alarm

Condition *

=

Value *

0

Event Severity *

☒ LOW

☐ MEDIUM

☐ HIGH

Based on Status

Status Label

IA

☐ Create Another

Add

7. This shows the Event created for a Measurement and the choice to Duplicate and Remove the Event.

Create Model

Model Details

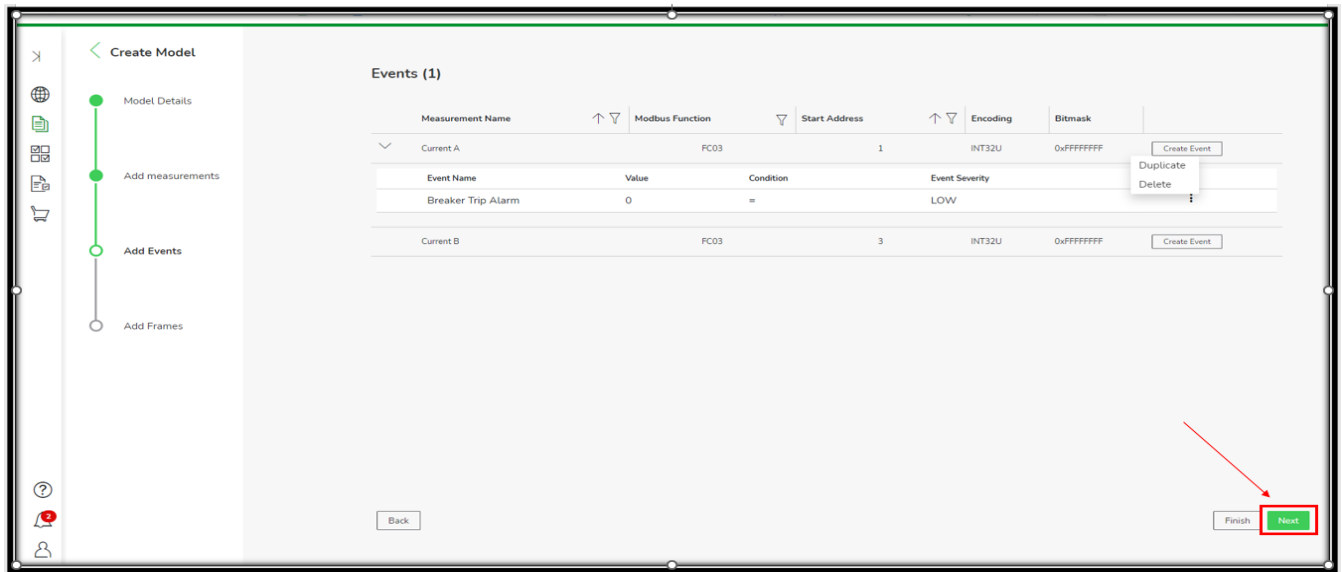
Add measurements

Add Events

Measurement Name	Modbus Function	Start Address	Encoding	Bitmask	
Current A	FC03	1	INT32U	0xFFFFFFFF	Create Event
Event Name	Value	Condition	Event Severity		Duplicate
Breaker Trip Alarm	0	=	LOW		Delete
Current B	FC03	3	INT32U	0xFFFFFFFF	Create Event

8. Click on the “Next” button to navigate to the Frames page.

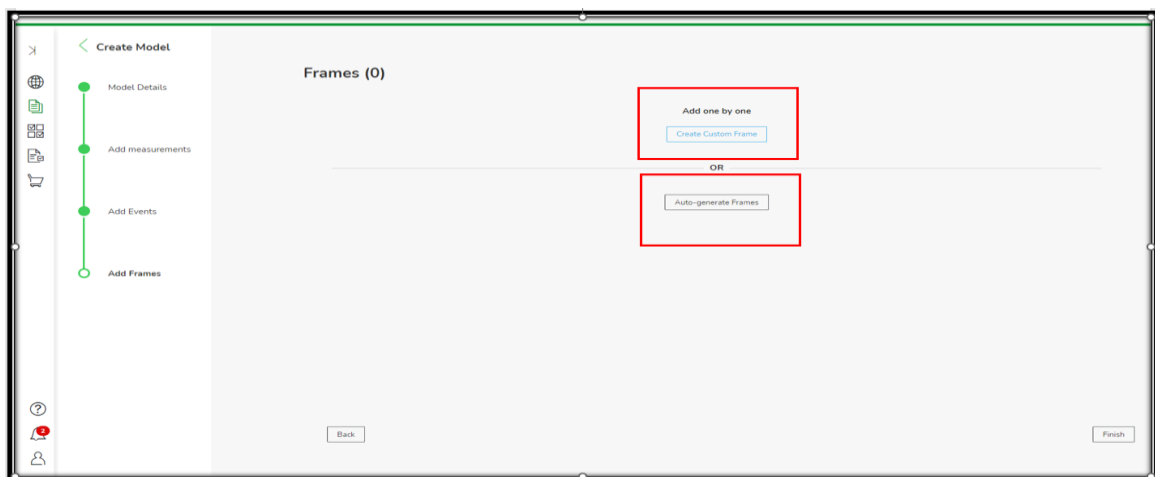
‘It is recommended to use the Auto-Generate frame option to minimize the risk of errors when manually creating frames.’



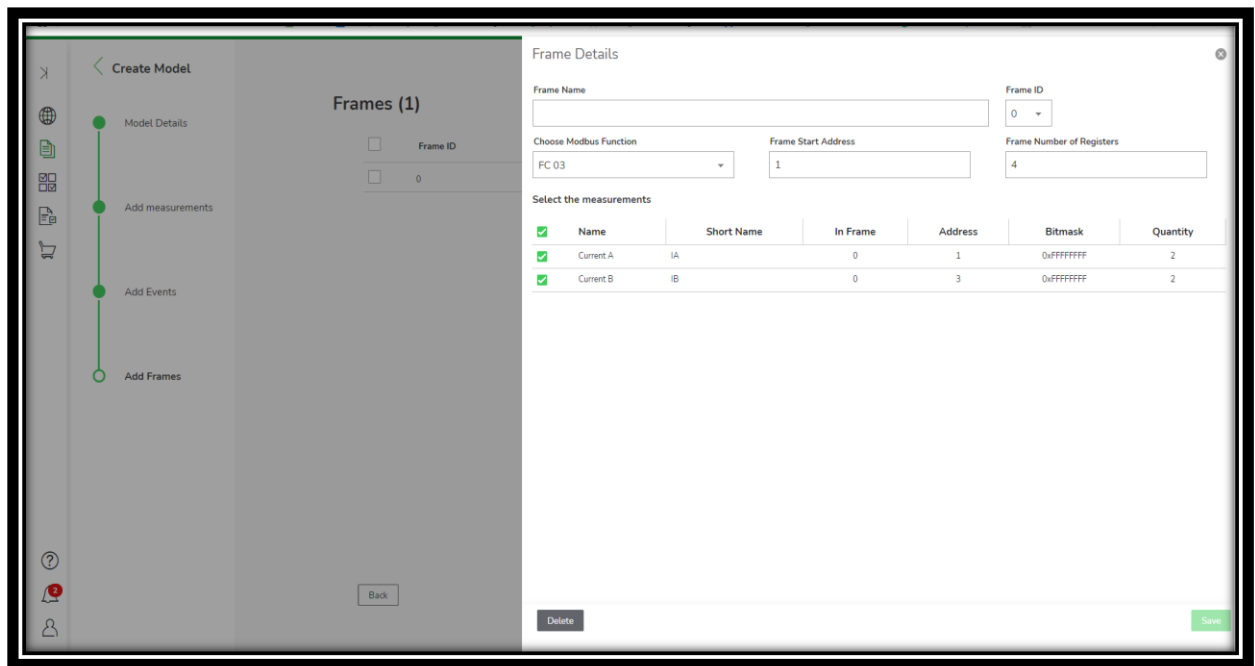
Step 6a: Create Frames.

Suppose a User has a long measurement list. In that case, you can use the Modbus Frame feature to define a continuous range of registers to be polled during device monitoring and become more efficient in getting measurement data from the device.

1. Frames can be generated in two types:
 - a. Auto-Generate Frames
 - b. Custom Frames



2. Auto-Generate frames: Clicking on “Auto-generate Frames” frames get created automatically as per the pre-defined conditions.



Frame Details

Frame Name:

Frame ID:

Choose Modbus Function:

Frame Start Address:

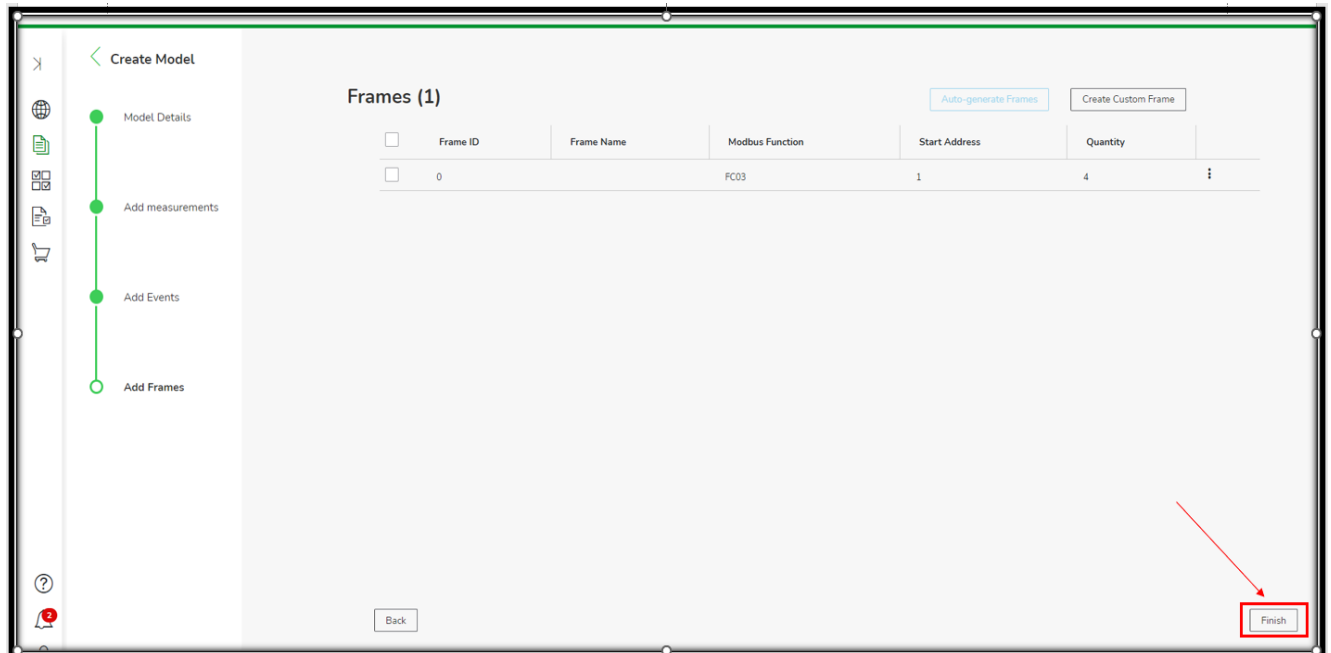
Frame Number of Registers:

Select the measurements

☒	Name	Short Name	In Frame	Address	Bitmask	Quantity
☒	Current A	IA	0	1	0xFFFFFFFF	2
☒	Current B	IB	0	3	0xFFFFFFFF	2

Back Delete Save

3. Click on the “Finish” button. **Proceed to Step 7**



Frames (1)

Auto-generate Frames Create Custom Frame

☐	Frame ID	Frame Name	Modbus Function	Start Address	Quantity	
☐	0		FC03	1	4	⋮

Back Finish

Step 6b: Creation of Custom frames.

1. **Custom Frame:** Click on the “Create custom frame” button. Select the Measurements to be selected in a frame and click on the “Create” button.

The screenshot shows the 'Frame Details' dialog box. At the top, there are fields for 'Frame Name', 'Frame ID' (set to 0), 'Choose Modbus Function' (set to FC 03), 'Frame Start Address' (set to 1), and 'Frame Number of Registers' (set to 13). Below these is a table titled 'Select the measurements'. The table has columns: Name, Short Name, In Frame, Address, Bitmask, and Quantity. Five measurements are selected with green checkmarks: Current A, Current C, PF B, Voltage A-B, and Voltage C-A. At the bottom right, there is a 'Create' button highlighted with a red box, and a 'Create Another' button next to it.

	Name	Short Name	In Frame	Address	Bitmask	Quantity
☒	Current A	IA	0	1	0xFFFF	1
☒	Current C	IC	0	3	0xFFFFFFFF	2
☒	PF B	PFB	0	7	0xFFFFFFFF	2
☒	Voltage A-B	VAB	0	11	0xFFFF	1
☒	Voltage C-A	VCA	0	13	0xFFFF	1
☐	Voltage B-N	VBN		15	0xFFFF	1
☐	Voltage L-L	VLL		18	0xFFFFFFFF	2
☐	Frequency	Hz		22	0xFFFFFFFF	2
☐	Frequency B	HzB		26	0xFFFFFFFF	2
☐	Max frequency	MaxHz		30	0xFFFFFFFF	2
☐	Min PF A	MinPFA		34	0xFFFFFFFF	2
☐	Max current A	MaxIA		38	0xFFFFFFFF	2
☐	Max current C	MaxIC		42	0xFFFFFFFFFFFFFFFF	4
☐	Min current B	MinIB		50	0xFFFFFFFFFFFFFFFF	4
☐	Max DPF A	MaxDPFA		58	0xFFFFFFFFFFFFFFFF	4

2. Pre-defined condition:

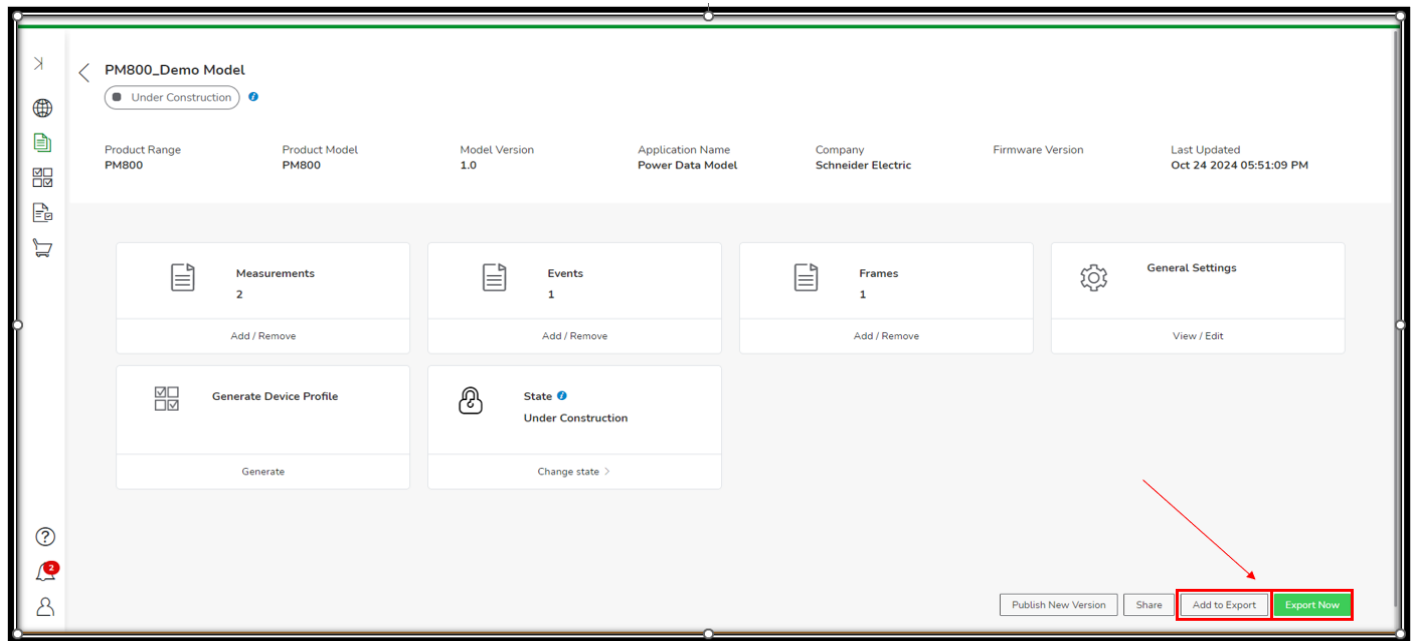
- a. Each frame can accommodate a maximum of 128 registers.

The screenshot shows the 'Frame Details' dialog box. The 'Frame Number of Registers' field is set to 151, which is greater than the maximum allowed value of 128. A red error message is displayed: 'Frame is longer than 128 registers'. The 'Create' button is disabled. The 'Select the measurements' table is visible, showing various measurements selected with green checkmarks. At the bottom, there are 'Delete' and 'Save' buttons.

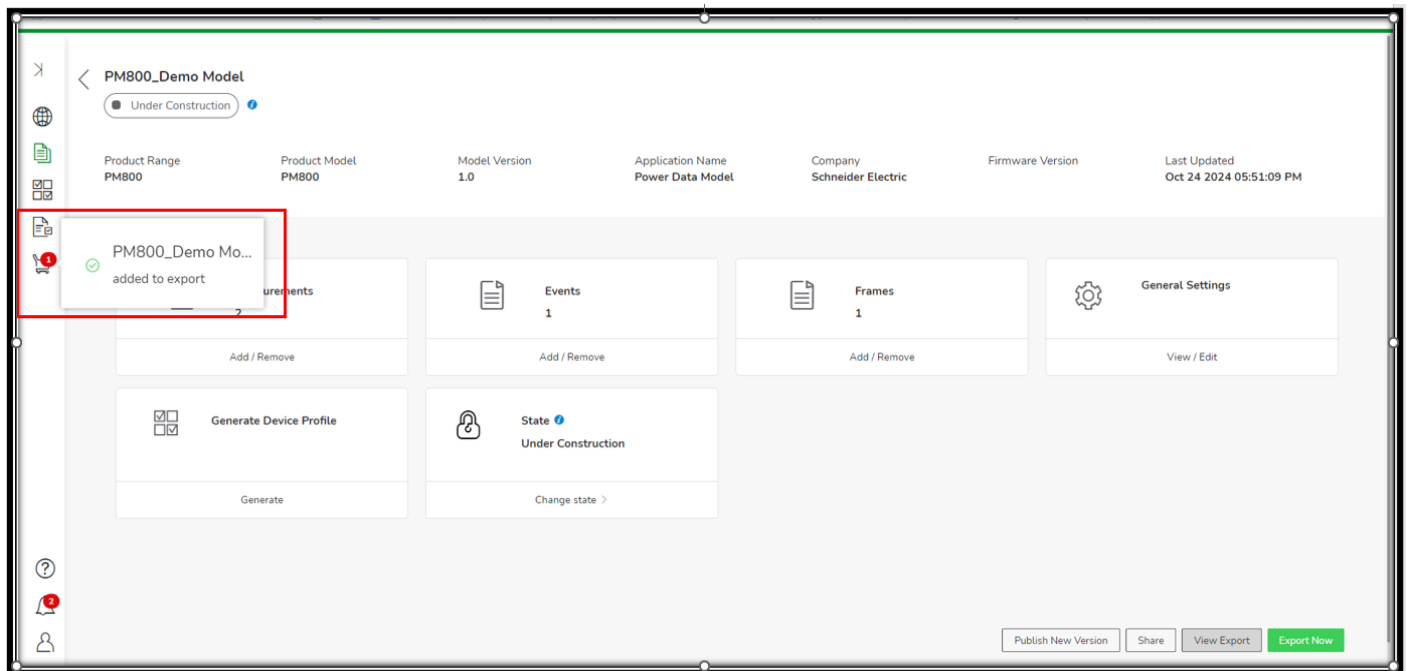
	Name	Short Name	In Frame	Address	Bitmask	Quantity
☒	Current A	IA	0	1	0xFFFF	1
☒	Current C	IC	0	3	0xFFFFFFFF	2
☒	PF B	PFB	0	7	0xFFFFFFFF	2
☒	Voltage A-B	VAB	0	11	0xFFFF	1
☒	Voltage C-A	VCA	0	13	0xFFFF	1
☒	Voltage B-N	VBN	0	15	0xFFFF	1
☒	Voltage L-L	VLL	0	18	0xFFFFFFFF	2
☒	Frequency	Hz	0	22	0xFFFFFFFF	2
☒	Frequency B	HzB	0	26	0xFFFFFFFF	2
☒	Min PF A	MinPFA	0	34	0xFFFFFFFF	2
☒	Max current A	MaxIA	0	38	0xFFFFFFFF	2
☒	Max current C	MaxIC	0	42	0xFFFFFFFFFFFFFFFF	4
☐	Min current B	MinIB		50	0xFFFFFFFFFFFFFFFF	4
☐	Max DPF A	MaxDPFA		58	0xFFFFFFFFFFFFFFFF	4
☐	Frequency high	Hz_high		66	0xFFFFFFFF	3
☐	Frequency mean	Hz_mean		71	0xFFFFFFFF	4
☒	Max frequency	MaxHz	0	150	0xFFFFFFFF	2

Step 7: Export Model.

1. By clicking on the “Finish” button user will be navigated to the Model Home page. Users can click on the “Export Now” button to export the model directly from EPC-W to the local machine.



2. Clicking on the “Add to Export” button Model will get added to the cart.



- Click on the Cart icon user will be navigated to the cart page. A right pane window will open, and the Models available in the cart are listed. Users can click on the “Export selection” button to export the model

all models selected

Export Models

Clear All X

☒	Model Name Version	Product Range	Measurements	Events	Frames
☒	Model 1 V1.0	MXXX Device Px43	44	0	0
☒	Model 2 V1.0	MXXX Device Px43	33	1	3
☒	Model 3 V1.0	MXXX Device Px43	23	6	1
☒	Model 4 V1.0	MXXX Device Px43	26	3	7
☒	Model 5 V1.0	MXXX Device Px43	2	7	2
☒	Model 6 V1.0	MXXX Device Px43	14	6	0

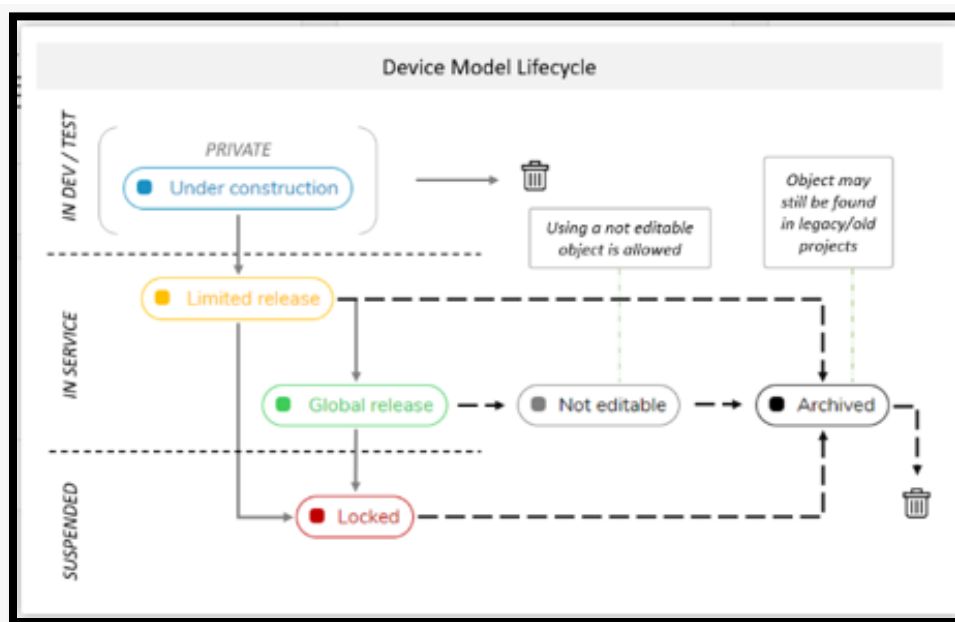
Legacy model may not work for panel server with firmware version greater than XXXX. Instead you can create new version of the model.

Remove models

Export

Device Model Life Cycle:

Device models follow a lifecycle that ensures restrictions and access based on their current phase: development, testing, or release. The state of a device model shows its status within this lifecycle. Each state has specific roles assigned, and these roles dictate the actions users can perform. Detailed information about the permissible actions for each role at every stage of the device model lifecycle is available.

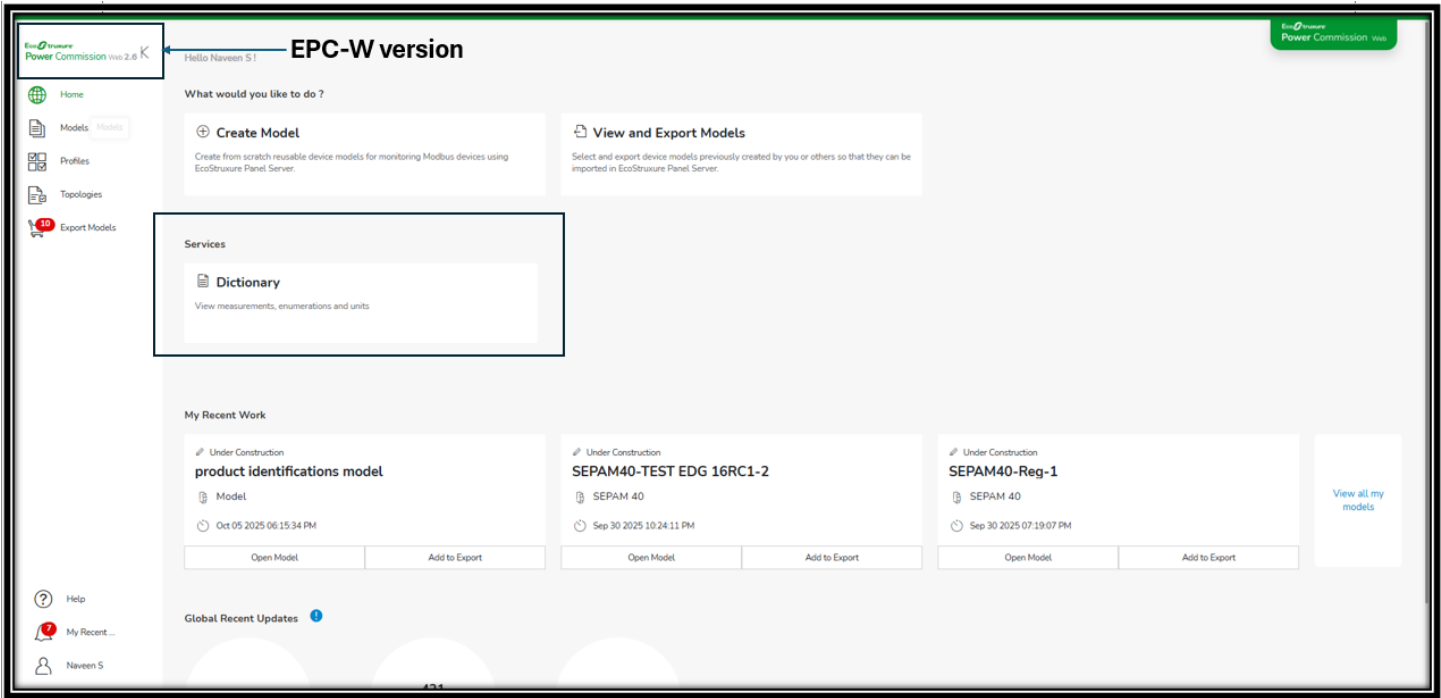


Below are the features supported in EPC-W v2.6

- 1. Dictionary Services
- 2. Old Schema Model to New Schema Model
- 3. Add Enumerations

Step 8: Dictionary Services

1. Dictionary Services enables the users to view all the Core Measurements, Status, Enumerations, and Units supported by the Panel Server and EPC-W.



2. By clicking on the Dictionary tab, the system enables the user to view 3 tabs, namely “Measurement and status”, “Enumeration” & “Units”.

The screenshot shows the "Dictionary" interface with three tabs: "Measurement and Status (1022)", "Enumeration (34)", and "Units (189)". The "Measurement and Status" tab is active. It displays the "Measurement Version: 1.3.0" and "Status Version: 1.1.1". Below this is a table of measurements. The table has columns for Name, URN, Description, Data Type, Unit, Enum, and a "VIEW" button. The measurements listed are related to active current and active energy in phase A.

Name	URN	Description	Data Type	Unit	Enum	
Active current	pdm.def.La	Active current.	NUMBER	A	-	<button>VIEW</button>
Active energy	pdm.def.WHr	Active energy.	INTEGER	Wh	-	<button>VIEW</button>
Active energy A	pdm.def.WHrA	Active energy in phase A.	INTEGER	Wh	-	<button>VIEW</button>
Active energy A delivered	pdm.def.WHrAIn	Delivered active energy in phase A.	INTEGER	Wh	-	<button>VIEW</button>
Active energy A delivered no reset	pdm.def.WHrAIn_NonReset	Non resettable delivered active energy in phase A.	INTEGER	Wh	-	<button>VIEW</button>
Active energy A delivered+received	pdm.def.WHrADel+Rec	Delivered + received active energy in phase A.	INTEGER	Wh	-	<button>VIEW</button>
Active energy A delivered+received no reset	pdm.def.WHrADel+Rec_NonReset	Non resettable delivered + received active energy in phase A.	INTEGER	Wh	-	<button>VIEW</button>
Active energy A delivered-received	pdm.def.WHrADel-Rec	Delivered - received active energy in phase A.	INTEGER	Wh	-	<button>VIEW</button>
Active energy A delivered-received no reset	pdm.def.WHrADel-Rec_NonReset	Non resettable delivered - received active energy in phase A.	INTEGER	Wh	-	<button>VIEW</button>
Active energy A received	pdm.def.WHrAOut	Received active energy in phase A.	INTEGER	Wh	-	<button>VIEW</button>

3. Clicking on the View button, the user can view the full details of the measurement and status [refer to point 5]
4. The “Search bar” allows the user to search the Measurements & status by names, depending on the tab selected.

< Dictionary

Measurement and Status (1022) Enumeration (34) Units (189)

Measurement Version: 1.3.0
Status Version: 1.1.1

Name	URN	Description	Data Type	Unit	Enum	
Active current	pdm:def:1_a	Active current.	NUMBER	A	-	VIEW
Active energy	pdm:def:WWhr	Active energy.	INTEGER	Wh	-	VIEW
Active energy A	pdm:def:WWhrA	Active energy in phase A.	INTEGER	Wh	-	VIEW
Active energy A delivered	pdm:def:WWhrAIn	Delivered active energy in phase A.	INTEGER	Wh	-	VIEW
Active energy A delivered no reset	pdm:def:WWhrAIn_NonReset	Non resettable delivered active energy in phase A.	INTEGER	Wh	-	VIEW
Active energy A delivered+received	pdm:def:WWhrADel+Rec	Delivered + received active energy in phase A.	INTEGER	Wh	-	VIEW
Active energy A delivered+received no reset	pdm:def:WWhrADel+Rec_NonReset	Non resettable delivered + received active energy in phase A.	INTEGER	Wh	-	VIEW
Active energy A delivered-received	pdm:def:WWhrADel-Rec	Delivered - received active energy in phase A.	INTEGER	Wh	-	VIEW
Active energy A delivered-received no reset	pdm:def:WWhrADel-Rec_NonReset	Non resettable delivered - received active energy in phase A.	INTEGER	Wh	-	VIEW
Active energy A received	pdm:def:WWhrAOut	Received active energy in phase A.	INTEGER	Wh	-	VIEW

Search Bar

Search by measurement name

view button

5. The user can view the Measurement details by clicking the view button.

Measurement: A measurement is a quantitative value obtained through observation, calculation, or instrumentation. It represents the actual value of a physical or logical parameter.

< Dictionary

Measurement and Status (1022) Enumeration (34) Units (189)

Measurement Version: 1.3.0
Status Version: 1.1.1

Name	URN	Description	Data Type	Unit
Active current	pdm:def:1_a	Active current.	NUMBER	A
Apparent current	pdm:def:1_app	Apparent current.	NUMBER	A
Current	pdm:def:1	Current.	NUMBER	A
Current A	pdm:def:1A	Current in phase A.	NUMBER	A
Current A demand	pdm:def:1AD	Demand of current in phase A.	NUMBER	A
Current A demand peak	pdm:def:1AD	Peak demand of current in phase A.	NUMBER	A
Current ABC highest	pdm:def:1Max	Highest current in the 3 phases.	NUMBER	A
Current ABC lowest	pdm:def:1Min	Lowest current in the 3 phases.	NUMBER	A
Current B	pdm:def:1B	Current in phase B.	NUMBER	A
Current B demand	pdm:def:1BD	Demand of current in phase B.	NUMBER	A
Current B demand peak	pdm:def:1BD	Peak demand of current in phase B.	NUMBER	A

Active current

URN

pdm:def:1_a

Statistical

INSTANTANEOUS

Description

Active current.

Time Aggregation

AVERAGE

Data Type

NUMBER

Measured Wires

N/A

Accumulation

N/A

Unit

A

Close

Status: A status is a description of the current condition or state of an object, system, or process. It reflects how something is functioning or behaving at a specific point in time.

< Dictionary

Measurement and Status (67) Enumeration (34) Units (189)

Measurement Version: 1.3.0
Status Version: 1.1.1

Name	URN	Description	Data Type
Aux power supply status	pdm:def:LPHDL_PwrSupAux_Stat	Status of auxiliary power supply.	STRING
Battery autonomy status	pdm:def:LPHDL_BatAutonomySt	Battery autonomy status.	STRING
Battery status	pdm:def:LPHDL_BatSt	Battery status.	STRING
Cradle connected position status	pdm:def:KCBIL_PosCnctGst	Status indicating that cradle connected is in connected position (C3).	STRING
Cradle disconnected position status	pdm:def:KCBIL_PosDiscGst	Status indicating that cradle connected is in disconnected position (C2).	STRING
Cradle test position status	pdm:def:KCBIL_PosTestGst	Status indicating that cradle connected is in test position (C1).	STRING
Digital input 1 status	pdm:def:Dir_GG01_In1	Digital input 1 status.	STRING
Digital input 2 status	pdm:def:Dir_GG01_In2	Digital input 2 status.	STRING
Digital input status	pdm:def:Dir_GG01_In	Digital input status.	STRING
Digital output 1 status	pdm:def:Dir_GG01_Out	Digital output 1 status.	STRING

Battery status

URN

pdm:def:LPHDL_BatSt

Statistical

N/A

Description

Battery status.

Time Aggregation

N/A

Data Type

STRING

Measured Wires

N/A

Accumulation

N/A

Unit

N/A

Enumeration: Status

ITEMS (2)	URN	Description
On	pdm:def:en:StatusID.ONID	On status
Off	pdm:def:en:StatusID.OFFID	Off status

Close

6. The Enumerations tab allows users to view the Enumerations with URN and their descriptions.

Enumeration: An enumeration is a defined set of named values used to represent a variable's possible states or options. It is commonly used in programming and data modeling to restrict values to a fixed list.

<
Dictionary

Measurement and Status (1022)
Enumeration (34)
Units (189)

Enumeration Version: 1.2.0

Name	URN	Description
Alarm status	edm:def:core:en:alarm_states_alarm_status	Alarm status possible values, as p
Breaker charged status	pdm:def:en:BreakerChargedID	List of possible values for a break
Capability for a breaker to close	pdm:def:en:BreakerCloseCapID	List of possible values for capabi
Circuit position	pdm:def:en:CircuitPositionID	List of possible values for a circui
Current input and voltage wiring	pdm:def:en:L_VWiringID	List of possible values for current
Digital output command	pdm:def:en:OutputCommandID	List of possible values for digital o
ERMS status	pdm:def:en:ERMSStatusID	List of possible values for ERMS s
Enable/disable	pdm:def:en:EnaDisID	List of possible values for enablet
Heat detection alarm	pdm:def:en:HeatAlmTypeID	List of possible heat detection ala
Heat level	pdm:def:en:HeatLevelID	List of possible values for heat lev

1-10 of 34 items
Items per page 10 ▾
K < Page 1 / 4 >

Enumeration: Heat detection alarm

ITEMS (191)	URN	Description
HeatAlarm_None	pdm:def:en:HeatAlmTypeID:HeatAlarm_None	No alarm
HeatAlarm_1	pdm:def:en:HeatAlmTypeID:HeatAlarm_1	S_uPar-Gaz3
HeatAlarm_2	pdm:def:en:HeatAlmTypeID:HeatAlarm_2	S_uPar-S_Gaz2
HeatAlarm_3	pdm:def:en:HeatAlmTypeID:HeatAlarm_3	S_uPar-Gaz3-S_Gaz2
HeatAlarm_4	pdm:def:en:HeatAlmTypeID:HeatAlarm_4	S_uPar-P_Gaz2
HeatAlarm_5	pdm:def:en:HeatAlmTypeID:HeatAlarm_5	S_uPar-P_Gaz2-Gaz3
HeatAlarm_6	pdm:def:en:HeatAlmTypeID:HeatAlarm_6	S_uPar-P_Gaz2-S_Gaz2
HeatAlarm_7	pdm:def:en:HeatAlmTypeID:HeatAlarm_7	S_uPar-P_Gaz2-S_Gaz2-Gaz3
HeatAlarm_8	pdm:def:en:HeatAlmTypeID:HeatAlarm_8	S_uPar-Gaz1
HeatAlarm_9	pdm:def:en:HeatAlmTypeID:HeatAlarm_9	S_uPar-Gaz1-Gaz3
HeatAlarm_10	pdm:def:en:HeatAlmTypeID:HeatAlarm_10	S_uPar-Gaz1-S_Gaz2
HeatAlarm_11	pdm:def:en:HeatAlmTypeID:HeatAlarm_11	S_uPar-Gaz1-S_Gaz2-Gaz3

Close

7. The Units tab provides information about the Units, Symbolic name, and respective URNs.

Units: A unit is a standard quantity used to express and compare measurements. It provides a reference for measuring physical quantities such as length, mass, time, temperature, and more.

< Dictionary

Measurement and Status (1022) Enumeration (34) Units (189)

Search by Unit name

Unit Version: 1.0.0

Name	URN	Symbolic name
% load basis current	pdm:def:ut:PctLbID	%lb
ampere	pdm:def:ut:AmpID	A
ampere hour	pdm:def:ut:AmpHourID	Ah
ampere per square meter	pdm:def:ut:AmpPerMeter2ID	A/m ²
ampere squared	pdm:def:ut:Amp2ID	A ²
bar	pdm:def:ut:BarID	bar
barrel	pdm:def:ut:BarrelID	bbl
boiler horsepower	pdm:def:ut:BHPID	BHP
british thermal unit (59)	pdm:def:ut:BTU59ID	BTU59
british thermal unit (59) per hour	pdm:def:ut:BTU59PerHourID	BTU59/h

1-10 of 189 items Items per page 10 Page 1 / 19

Step 9: Old Schema Model to New Schema Model

Deprecated Models: The Deprecated models are indicated by a Flag. These models are compatible with Panel server firmware versions up to v2.3. If the user edits the deprecated model and exports the same model, the model will still be a deprecated model.

To support higher firmware versions >= 2.4 of the Panel Server, the model must be upgraded either by duplicating the existing version or by creating a new version on the existing version.

Your device model contains 7 measurements based on unsupported definitions.

These measurements has been then automatically converted to custom to ensure an easy and consistent integration into EcoStruxure Power System

Initial measurement		Converted measurement
Device status alarm	→	Device status alarm
pdm.def.CALH1_DeviceStAlm		edm.def.custcust_dictme:custom...
Earth leakage alarm from t...	→	Earth leakage alarm from t...
pdm.def.CALH1_AEFAlm		edm.def.custcust_dictme:custom...
Harmonics alarm	→	Harmonics alarm
pdm.def.CALH1_HAIm		edm.def.custcust_dictme:custom...
Cable 1 temperature phase...	→	Cable 1 temperature phase...
pdm.def.STMP1_Cable1TmpA		edm.def.custcust_dictme:custom...
Backup power alarm	→	Backup power alarm
edm.def.CALH1_BackupPwrAlm		edm.def.custcust_dictme:custom...

Okay

Model Compatibility Notice

This model is compatible with EcoStruxure Panel Server firmware version up to **002.003.000**. If you need this model to be supported in future firmware versions, please follow one of the options below:

Update the State & Create a New Version

- Change the state of the existing model to either **Limited** or **Global**
- Create a new version of this Model: "Name" must remain the same, just increase the model version.

Note: If the custom model is already present in a Panel Server with firmware version 002.003.000 and the user upgrades to firmware version 002.004.000, the custom model will still be supported by Panel Server without modification. Only the import of a deprecated custom model into Panel Server is no longer authorized.

V1.0.200-SMD-MV-Substati...

The user can edit the deprecated model, but some of its features, like supporting Enumerations for core Measurements with value mapping and identifications (Hardware, software, and product) with Protocol details, are not available.

My ModelsAll ModelsShared with me

Type Model or Product name to search

Show most recentShow All

Model Name	Product Range	Measurements	Frames	Events	State	App	Created by	
Model is deprecated This model is compatible with Panel server versions up to 2.3 0-SMD-MV-Substation G... 0-SMD-MV-Substation ... V1.0.1	Micrologic X	20	14	3	UC	RA	SESA661405	Add to Export
A_CWP_SysVerif_1 V2.0.11	iem3255	6	6	8	UC	AA	SESA661405	Add to Export
A_CWP_SysVerif_ENG_ARCH V1.0.1	iem2150	3	2	1	UC	RA	SESA661405	Add to Export
A_CWP_SysVerif_ENG... V1.0.5	iem2150	1	1	0	ARCH	AA	esxpmcengineer@gmail.com	
A_CWP_SysVerif_ENG_LOCK V1.0.1	iem2150	3	1	0	UC	PDM	esxpmcengineer@gmail.com	Add to Export
A_CWP_SysVerif_ENG_LR V10.0.1	iem2150	1	1	0	LOCK	AA	esxpmcengineer@gmail.com	
A_CWP_SysVerif_ENG_LR_ARCH V1.0.1	iem2150	1	1	0	ARCH	AA	esxpmcengineer@gmail.com	
A_CWP_SysVerif_ENG_LR_dup V1.0.15	iem2150	1	1	0	UC	AA	esxpmcengineer@gmail.com	Add to Export
A_CWP_SysVerif_ENG_LR_GR V2.0.1	iem2150	7	5	0	UC	AA	SESA754755	Add to Export
A_CWP_SysVerif_ENG_LR_LOCK V2.0.1	iem2150	1	1	0	UC	AA	esxpmcengineer@gmail.com	Add to Export
A_CWP_SysVerif_ENG_NoEdit V23.0.1	iem2150	1	1	0	UC	AA	SESA434375	Add to Export
A_CWP_SysVerif_EXP_GR_Dup V1.0.1	Micrologic X	1	1	0	UC	AA	esxpmcexpert@gmail.com	Add to Export

Public

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Step 10: Add Enumerations

1. Create a custom model as mentioned in the above steps (up to step 3b). To Add Enumerations, add enumeration-supported measurements (Ref. page nos. 31 & 32).

Ex: “Cradle connected position status” is selected from the dictionary & click on “Add Selected”

Select Measurement from Dictionary

Measurement Version: 1.3.0
Status Version: 1.1.1

Name	URN	Description	Data Type	Unit	Enum		
Aux power supply status	pdm:def:LPHD1_PowSupAux_Ind	Status of auxiliary power supply.	STRING	-	Status	<button>VIEW</button>	<button>ADD</button>
Battery autonomy status	pdm:def:LPHD1_BatAutonomySt	Battery autonomy status.	STRING	-	Status	<button>VIEW</button>	<button>ADD</button>
Battery status	pdm:def:LPHD1_BatSt	Battery status.	STRING	-	Status	<button>VIEW</button>	<button>ADD</button>
Cradle connected position status	pdm:def:XCBRI1_RkdCntSt	Status indicating that cradle contact is in connected position (CE).	STRING	-	Status	<button>VIEW</button>	<button>- 1 +</button>
Cradle disconnected position status	pdm:def:XCBRI1_RkdDiscontSt	Status indicating that cradle contact is in disconnected position (CD).	STRING	-	Status	<button>VIEW</button>	<button>ADD</button>
Cradle test position status	pdm:def:XCBRI1_RkdTestSt	Status indicating that cradle contact is in test position (CT).	STRING	-	Status	<button>VIEW</button>	<button>ADD</button>
Digital input 1 status	pdm:def:DIn_GGIO1_Ind1	Digital input 1 status.	STRING	-	Status	<button>VIEW</button>	<button>ADD</button>
Digital input 2 status	pdm:def:DIn_GGIO1_Ind2	Digital input 2 status.	STRING	-	Status	<button>VIEW</button>	<button>ADD</button>
Digital input status	pdm:def:DIn_GGIO1_Ind	Digital input status.	STRING	-	Status	<button>VIEW</button>	<button>ADD</button>
Digital output 1 status	pdm:def:DIOut_GGIO1_Ind1	Digital output 1 status.	STRING	-	Status	<button>VIEW</button>	<button>ADD</button>

1-10 of 1022 items Items per page: 10 < > Page 1 / 7 < > Close **Add Selected (1)**

2. Supported Enumerations are displayed in the right pane while creating the measurement.

Measurements (5)

Measurement Name	Unit	URN	Function Code	Address	Quantity
Active current PDM	A	pdm:def:I_a	FC03	1	2
Active energy PDM	Wh	pdm:def:W_Hr	FC03	5	2
Active current PDM	A	pdm:def:I_a	FC03	3	2
Active energy A PDM	Wh	pdm:def:W_HrA	FC03	7	2
Cradle connected position status		pdm:def:XCBRI1_RkdCntSt			

Create measurement

Name/Label: Description:

Measurement Details

Name: URN:

Data Type: Unit:

Enumeration

Name: Values: (2)

Protocol Details

Function Code: Register start Address:

Encoding: Number of registers:

Display Format (Output data type): Scale Factor:

☐ Create Another **Add**

3. Select the Enum supported Encoding and Logic code, with the relevant Function code, Register Start Address, and Number of registers. Add Enumerations and Protocol Values, select in the Value Mapping, and click on the “Add” button.

Measurements (5)

Measurement Name	Unit	URN	Function Code	Address	Quantity
Active current PDM	A	pdmdef:la	FC03	1	2
Active energy PDM	Wh	pdmdef:WWhr	FC03	5	2
Active current PDM	A	pdmdef:la	FC03	3	2
Active energy A PDM	Wh	pdmdef:WWhrA	FC03	7	2
Cradle connected position status		pdmdef:XCBR1_RkdCntSt			

Create measurement

Protocol Details

Function Code *

FC03

Register start Address *

1

Encoding *

INT16U

Number of registers *

1

Display Format (Output data type) *

INT16UtoENUM

Scale Factor *

1

Invalid Value

0xFFFF

Offset

0

Bitmask *

0xFFFF

Swapping

NO_SWAP

Bit

All

Enumeration Value Mapping

Enumeration Values

Off

Protocol Value

0

Enumeration Values

On

Protocol Value

1

Add More

Create Another

Add

Enumeration supported Events: If Events have to be created for the Enum supported measurements, then navigate to the Events page, select the Enum Measurement, choose the values displayed in the dropdown, and click on the “Add” button.

Note: The dropdown list will be displayed only if the Enumerations are selected in the measurement.

Events (0)

Measurement Name	Modbus Function	Start Address	Encoding
Active current	FC03	1	FLOAT
Active current	FC03	3	FLOAT
Active energy	FC03	5	FLOAT
Active energy A	FC03	7	FLOAT
Cradle connected position status	FC03	10	INT16U

Create event

Threshold values not supported today, only supports "=", "!=", and "Has changed" condition for Boolean, Enum, and Integer.

Event Name *

ON Status

Condition *

=

Value *

Please select value

Please select value

Off

On

Event Severity *

LOW

MEDIUM

HIGH

Based on Status

Status Label

XCBR1_RkdCntSt

Create Another

Add