TESCO METERING

INSTALLATION/USER'S GUIDE

TESCO DEVICE MANAGER

TDM

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INSTALLATION/USER'S GUIDE

TESCO METERING

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1. INTRODUCTION

Welcome to TESCO Device Manager (TDM), your complete data management solution.

TDM is the desktop software platform used to interface with supported TESCO devices. It allows the user to connect to supported equipment, synchronize database records, run supported workflows, review results, manage device preferences, and generate reports.

TDM is designed to streamline data management for your TESCO devices. Working with TDM makes it quick and easy to extract, organize, and analyze essential metering information.

What Can TDM Do for You?

With TDM, you can:

- **Manage Data with Ease—Extract data from multiple TESCO devices simultaneously.**
- **Import and Organize—Quickly import meter, site, and charger information from CSV files.**
- **Export Test Results:**
- **Generate PDF reports with custom branding, unit conversions, and chart/graph color adjustments.**
- **Export results in CSV format for easy data analysis.**
- **Create custom exports using SQL queries and regular expressions.**
- **Update Multiple Devices at Once—Save time by updating TESCO units simultaneously.**
- **Remote Control Meter Test Boards—Manage test boards through a secure network link.**

For over a century, TESCO has been a trusted name in metering, delivering accuracy and reliability. With TDM, managing your devices has never been easier.

TDM Supported Devices

TDM supports the following device groups:

- **NextGen Meter Test Boards** ***include Cat. Nos. 2199, 2990, 3200, 3050.***
- **Meter Site Analyzers** ***including Cat. No. 6330.***
- **Turbo Tester** ***Cat. No. T3.***
- **EVSE Testers** ***including Cat Nos. T4000, T4350.***
- **Knopp Comparators** ***including Cat. Nos. KATC-C2, KATC-C2-1, KATC-V2, KCTS-8000XA.***
- **KCTS-8000XA,** ***the new automatic extended range Knopp Comparator.***

TDM Device Support Matrix

The capabilities available in TDM depend on the device that is connected and the testing function being performed:

Device Name	DB Sync	Update Software	Remote Tests	View Results / Export Reports	Remote Screen	Calibration
Meter Test Boards (NextGen)	✓	✓*	✓	✓	✓	✓
Meter Site Analyzers (6330)	✓	✓		✓	✓	✓
Turbo Tester (T3)	✓	✓		✓	✓	
Knopp Comparators (KATC-C2, KATC-V2)		✓*		✓	✓	
EVSE Testers	✓	✓		✓	✓	✓
KCTS-8000XA (KATC-C3)	✓		✓	✓	✓	

Function Definitions

DB Sync
Synchronize supported records, test data, and related device information between TDM and the connected unit or database.

Update Software
Automatically update the software or firmware version for applicable devices.

*Some NextGen devices running older software may need manual upgrades. If the latest version of TDM advises an assisted upgrade, please contact your TESCO representative.

*Software updates are not available for KATC-C2X as of TDM release 2.0.0r

Remote Tests
Start, control, and monitor supported metering & transformer-rated workflows through TDM.

View Results / Export Reports
Review completed test results in TDM and generate documents in PDF and CSV formats.

Remote Screen
View and interact with the device screen through TDM when remote access is activated.

Calibration
Allows access to calibration tools and workflows, including device-specific functions. Options including Standard Validation, RD Calibration, Fluke Calibration, AC Calibration, and DC Calibration may be available, depending on the device type and TDM configuration.

Notes

- The range of functions available may depend on the device and the current TDM release.
- Some workflows may require a specific TDM version, and in particular those for newer devices.
- Refer to the relevant sections in this manual for detailed device-specific instructions.

2. CONTACTING TESCO

For Technical Support or Calibration/Repair, please call +1 215.228.0500.

You can also send an email to **support@tescometering.com** with any questions.

To view, print, or download the latest manual supplement, visit tescometering.com.

3. INSTALLATION

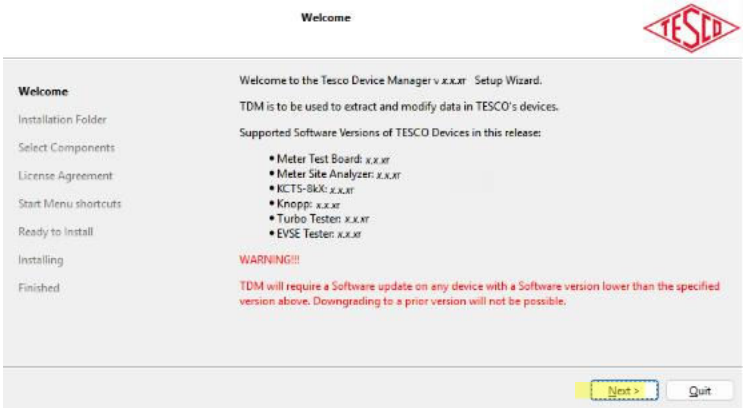
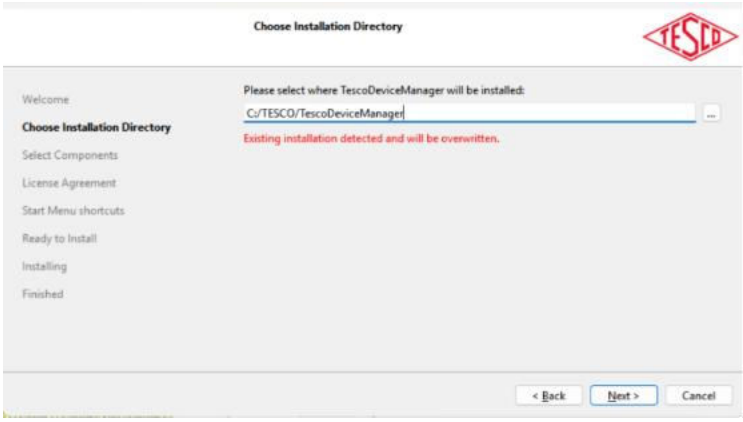
To download TESCO Device Manager (TDM) click here:
https://www.tescometering.com/software/tdm/ or go to: tescometering.com, click resources, download TDM, scroll to the bottom and click on Download TDM Here.

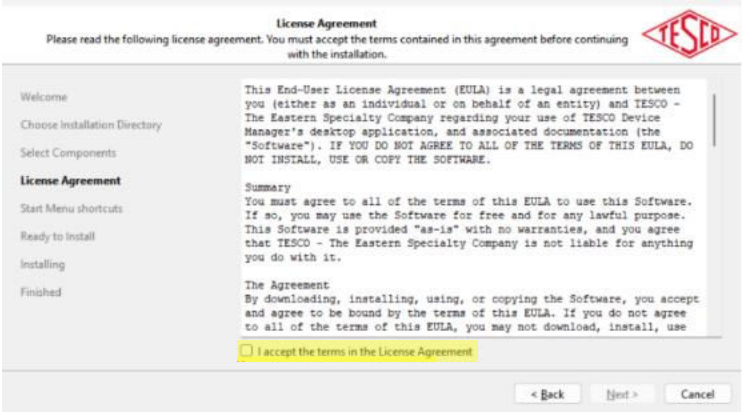
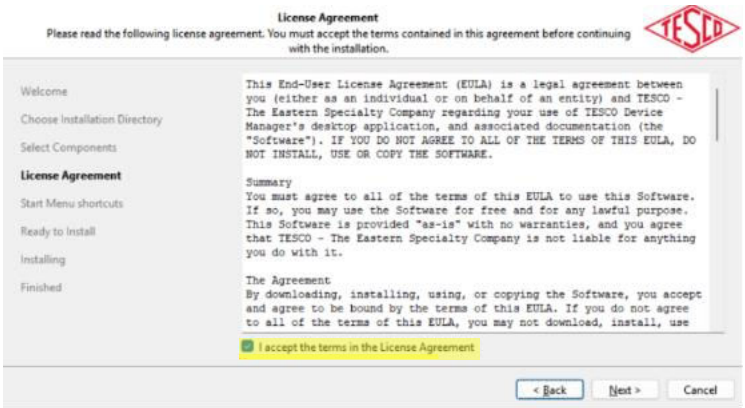
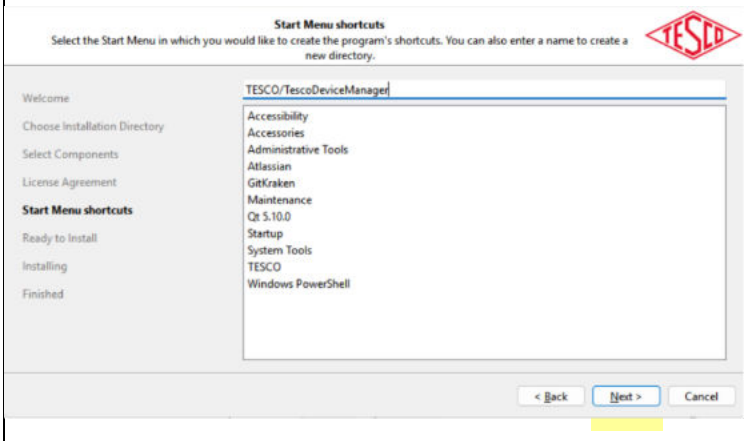
After downloading you can start installing, by running
TescoDeviceManager_Setup_x.x.xr.exe**.**
Before running the installer, you can validate its authenticity using the provided hash (checksum) file.

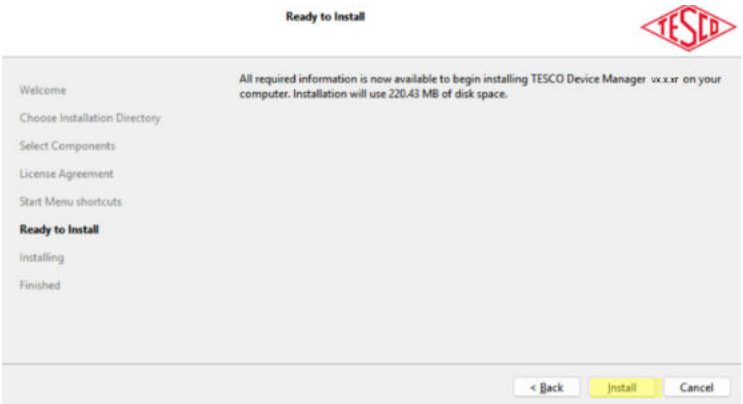
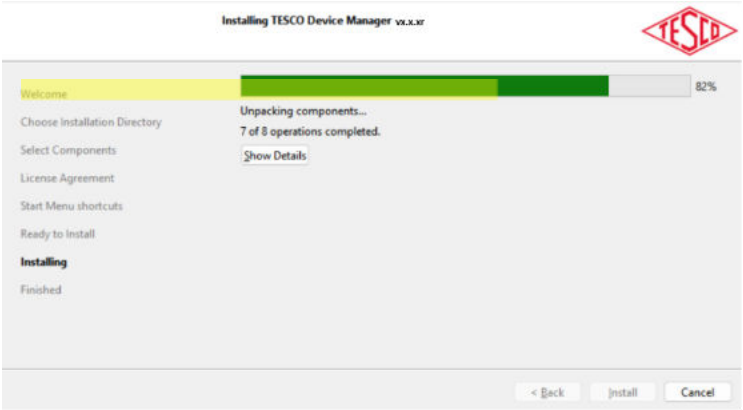
An installation wizard will pop up to guide you in the installation process.

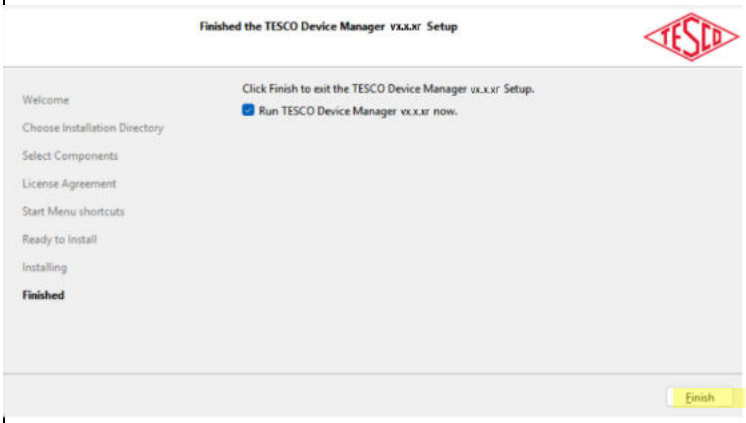
Note:
- **The installer will only run on Windows 8, 10 & 11.**
- **Administrative rights are not required to install the application.**
- **X.x.x reflects the most current version of TDM.**

3.1 Installation Steps

SCREEN	DESCRIPTION
STEP 1: Welcome screen  	The software version of the TESCO Device Manager application that is about to be installed is indicated on this screen, along with the software versions of the TESCO Devices that this version TDM supports. Press "Next >" to proceed with the installation. **Choices Are: Extract All/Run/Cancel** Select: "**EXTRACT ALL**"
STEP 2: Installation Directory  	The default installation directory of the application is: **C:\TESCO\TescoDeviceManager** The user can change the installation folder by clicking the ellipsis button and browsing the desired directory. **Note:** When installing a new version, be sure it uses the same path as the current one to ensure that it will overwrite it. "Next >" to continue with the installation.
STEP 3: Selection of Application Components 	The information on the required disk space to install the application is provided. Press "Next >" to continue with the installation.

SCREEN	DESCRIPTION
STEP 4: License Agreement   	This screen contains the license agreement in using TESCO Device Manager. After accepting the terms, the installation process can continue. Press “Next >” to proceed to the next step.
STEP 5: Start Menu Shortcut  	In this screen, you can change the Start Menu shortcut location for TDM.

SCREEN	DESCRIPTION
STEP 6: Begin Installation  	Press "Install" to confirm and start the actual installation process.
STEP 7: Installation in Progress  	This screen shows the progress of the installation process.

SCREEN	DESCRIPTION
STEP 8: Successful Installation  	If no errors are encountered during the installation process, this step will show up and indicate that the installation is successful. Press "Finish" to successfully end the installation. Note: The application is now ready to be used and does not require a computer restart.

Once the installation is complete, launch the software by double clicking the TDM icon to access the login screen.

Simply press "Enter" to log in.

4. USER INTERFACE

The main user interface includes:

- Toolbar at the top
- Side navigation menu for easy access to features,
- Workspace area where you can efficiently perform tasks

The Toolbar is broken down into four sections:

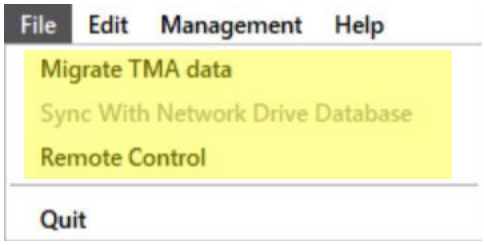
1. File:
    a. Migrate TMA
    b. Sync with Network Database

   c. Remote Control
   d. Quit
2. Edit
3. Management
4. Help

For those currently using TESCO's TMA software, please start here. Other users skip to section 4.1.2/EDIT.

4.1 Menu Bar

4.1.1 File



Under File menu, we have 4 items:

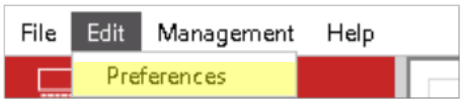
1. **Migrate TMA data** - This is a one-way operation which copies the data from older database versions (i.e., Test Management Application) to TDM.

2. **Sync with Network database** - This is a two-way operation which will make both TDM and Network databases up to date with each other. All new records in TDM will be copied over to the Network database and all new records in the Network database will be copied over to TDM. New records also include records that have been marked as "Dirty".

3. **Remote Control** - Launches the Remote-Control Utility from within the app. This is a one-way action (TDM just starts the external tool).

4. **Quit** – Close the application.

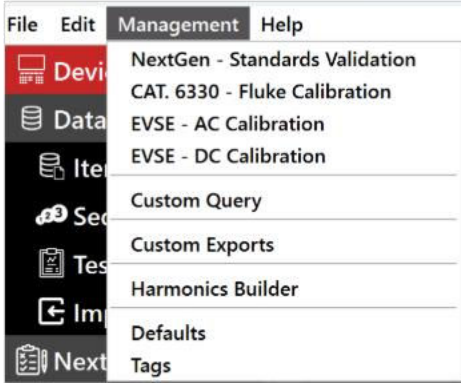
4.1.2 Edit



Edit has one item under it titled Preferences. Under Preferences there are five different tabs (General, Database, Report, User Interface, Testing and Others) that will enable the end user to customize TDM, so it is exactly the way they want it to be. **Section 5, Setting Up Preferences** will walk you through that process.

4.1.3 Management

Under the **Management** tab, end-users can customize settings and configurations, giving them advanced control and customization options to optimize their experience and enhance system functionality.
The Management section displays a list of supported equipment. However, the devices shown may not all apply to your setup. You will only need to configure and manage the equipment specific to your installation. If a device is listed that you do not own, you can simply disregard it.

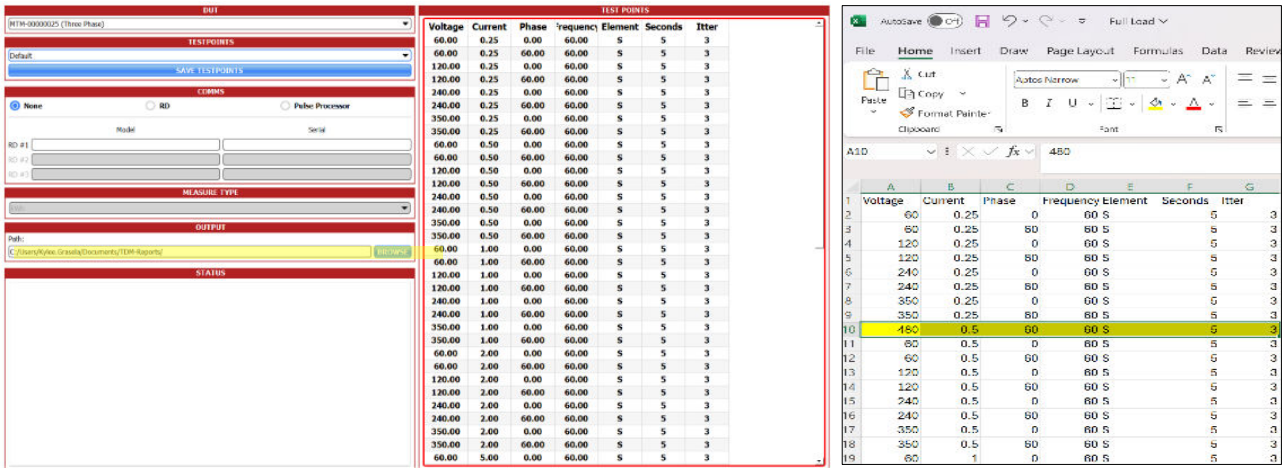


NextGen – Standards Validation

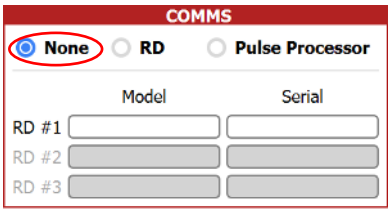
This is where you can compare measurements from a Meter Test Board based on RD-2x/RD-3x, or a Pulse Processor setup with 3 RD-2x.

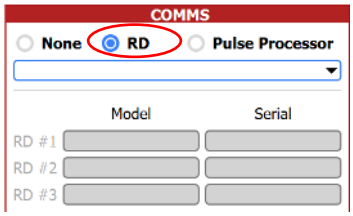
Device Under Test (DUT). The device in which you are testing.

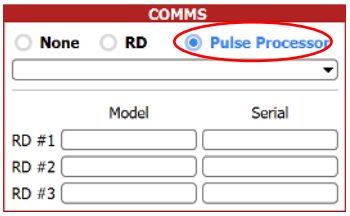
Test points: Test points can be added on the fly in the matrix; right click to add or delete rows. By clicking save test points, the system will automatically save an excel spreadsheet to the folder that is defined in “Output” path. If you prefer working or editing in Excel you are able to do so; once the document is saved, the system will automatically pull that information into TDM.



Communications (Comms). Select the device you will be communicating with.



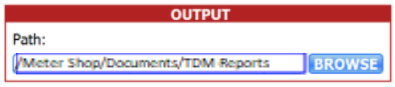




Communications (Comms) refers to how the test system receives data from the meter. Users can select from three options: **None**, **RD (**Radian**)** for standard reference communication, or **Pulse Processor** when using a dedicated pulse counting device

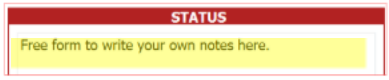
Measurement Type. Choose from kWh, kVARh or kVAh.

Output. Path in which reports will be exported.



Status. Status is a free-form text field that allows users to enter notes or context related to the test session. This field is optional and can be used to document conditions, observations, or internal tracking details.
Examples of how the Status field might be used:

- Noting environmental conditions (e.g., *"High humidity in test area"*)
- Indicating meter condition (e.g., *"Meter requires re-inspection"*)
- Logging operator initials or shift details (e.g., *"Checked by PM – Night Shift"*)
- Adding a reminder or flag for future review (e.g., *"Review kVARh drift"*)



CAT. 6330 – Fluke Calibration

Calibrate the TESCO 6330 Meter Site Analyzer with a Fluke 6105A.

Device Under Test (DUT).

DUT Serial #. Drop down menu will populate based on device attached.

Software Revision: Version will populate based on device.

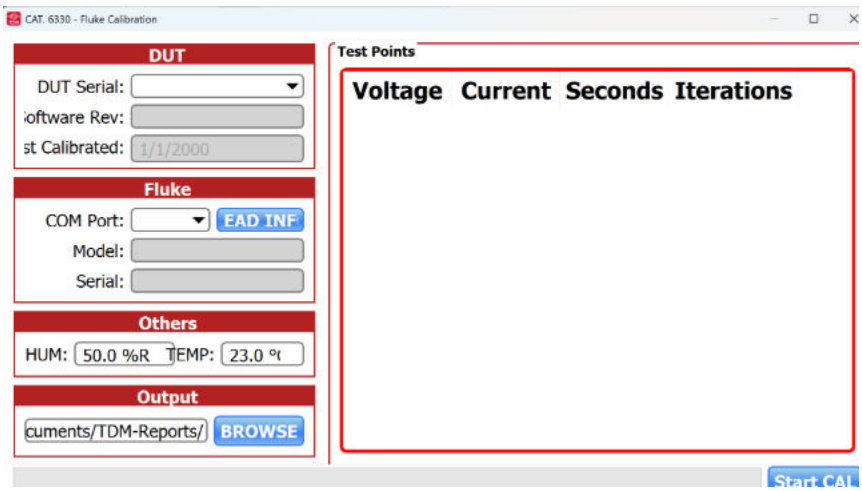
Last Calibrated: Date will populate based on device.

Fluke. Information pertaining to the fluke device.

Communication Port: Use drop down to select, Model and Serial # will populate based on device attached. Click "Read Info"

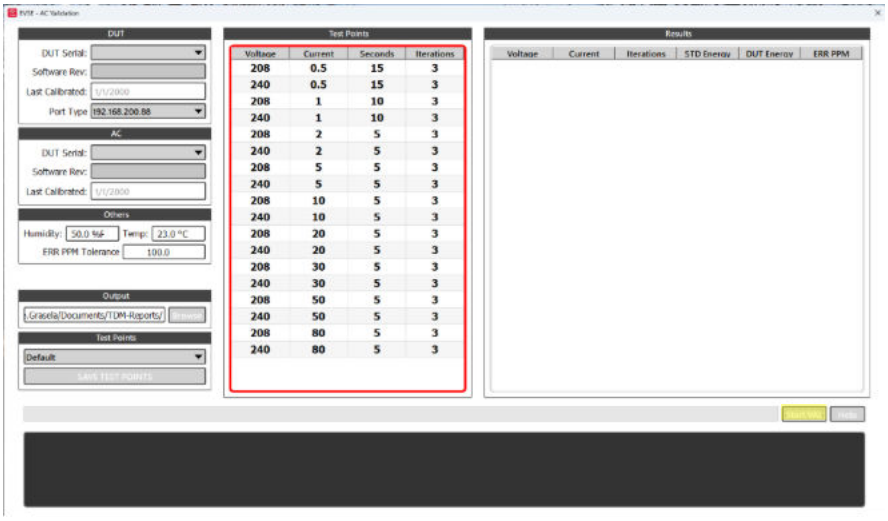
Others. Enter the room humidity and temperature.

Output. Path in which reports will be saved.



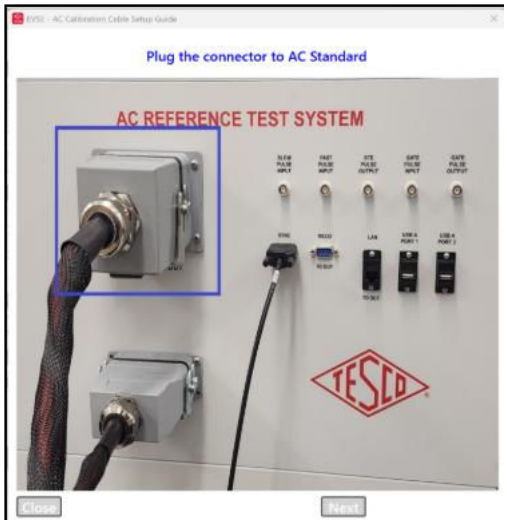
EVSE – AC Calibration

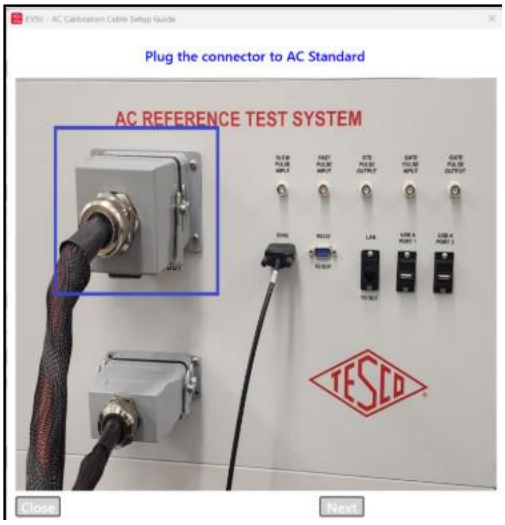
Conduct AC calibration on an EVSE Tester with TESCO ACTM.

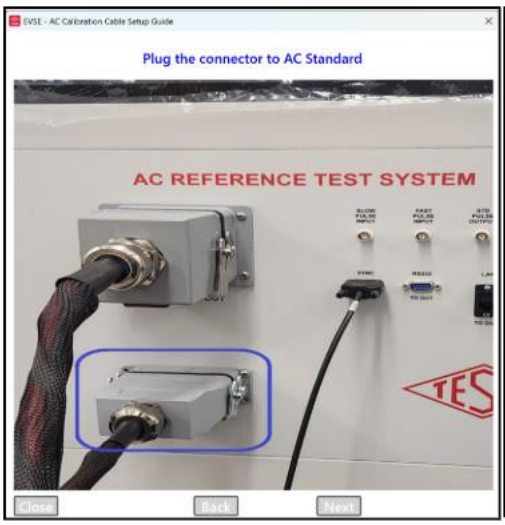


Not sure how to do it?

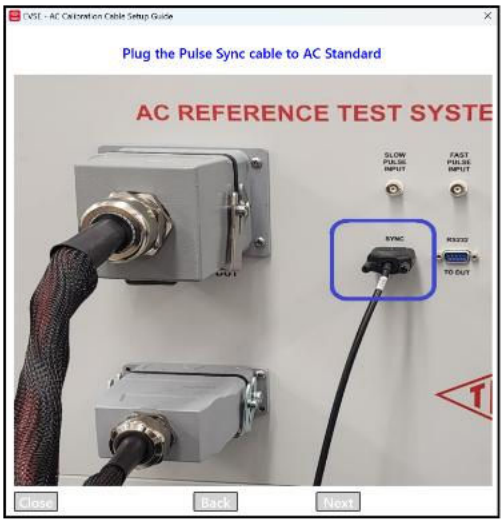
Click Help to access AC Calibration Cable Setup Guide.



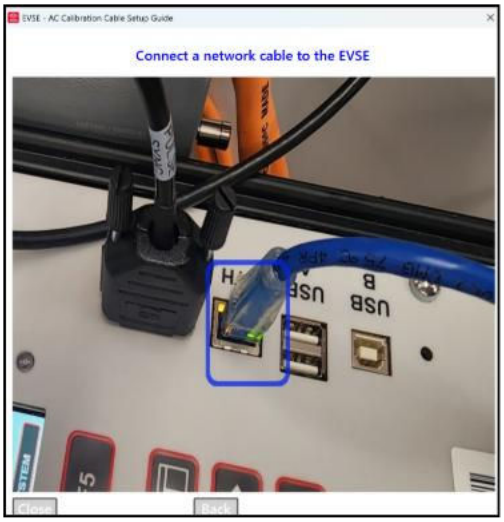



EVSE - AC Calibration Cable Setup Guide
Plug the connector to AC Standard
AC REFERENCE TEST SYSTEM
Close
Back
Next

EVSE - AC Calibration Cable Setup Guide
Plug the connector to EVSE
Close
Back
Next

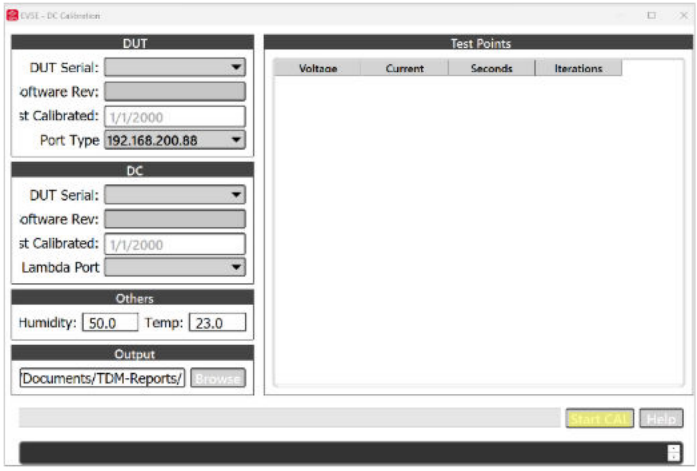

EVSE - AC Calibration Cable Setup Guide
Plug the Pulse Sync cable to AC Standard
AC REFERENCE TEST SYSTE
SLOW PULSE INPUT
FAST PULSE INPUT
SYNC
RS232
TO OUT
Close
Back
Next

EVSE - AC Calibration Cable Setup Guide
Plug the Pulse Sync cable to EVSE
AUX POWER
USB
Close
Back
Next

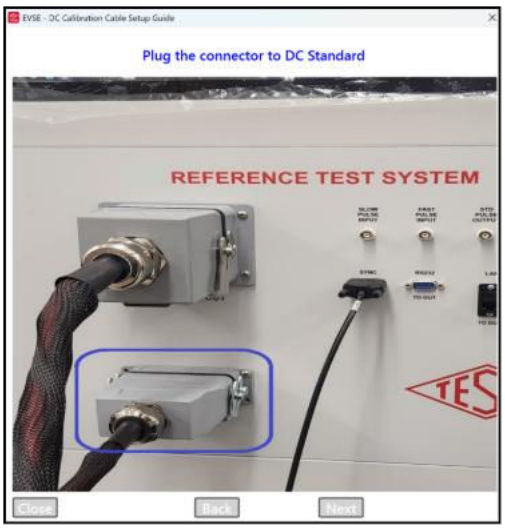

EVSE - AC Calibration Cable Setup Guide
Connect a network cable to the EVSE
USB
Close
Back

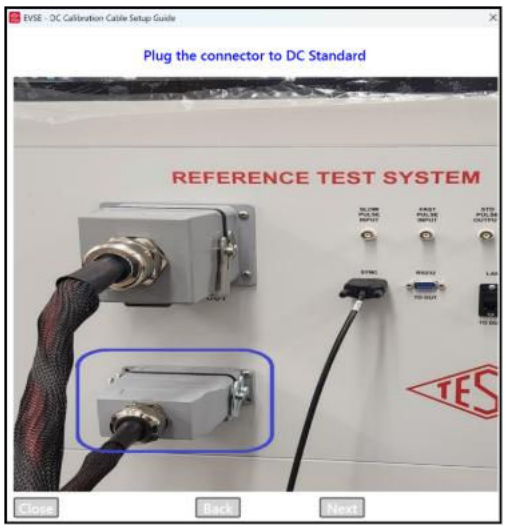
1. EVSE – DC Calibration

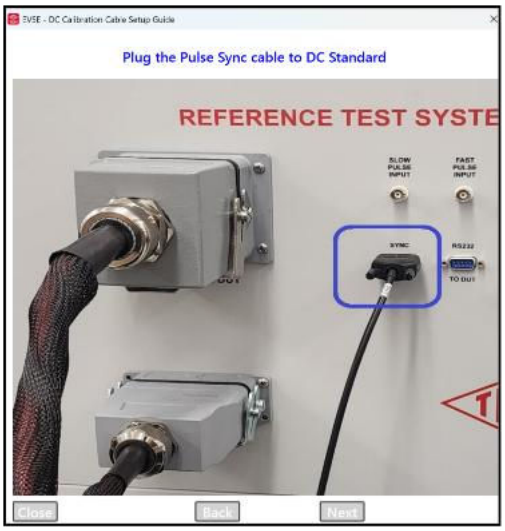
Conduct DC calibration on an EVSE Tester with a TESCO DCTM.



Not sure how to do it? **Click Help to access DC calibration cable setup guide**


EVSE - DC Calibration Cable Setup Guide
Plug the connector to DC Standard
REFERENCE TEST SYSTEM
Close
Back
Next


EVSE - DC Calibration Cable Setup Guide
Plug the connector to DC Standard
REFERENCE TEST SYSTEM
Close
Back
Next


EVSE - DC Calibration Cable Setup Guide
Plug the Pulse Sync cable to DC Standard
REFERENCE TEST SYSTE
SLOW PULSE INPUT
FAST PULSE INPUT
SYNC
RS232
TO DUT
Close
Back
Next

EVSE - DC Calibration Cable Setup Guide
Plug the Pulse Sync cable to EVSE
USB B
F5
F4
Close
Back
Next

EVSE - DC Calibration Cable Setup Guide
Connect a network cable to the EVSE
USB B
F5
F4
Close
Back

Custom Query

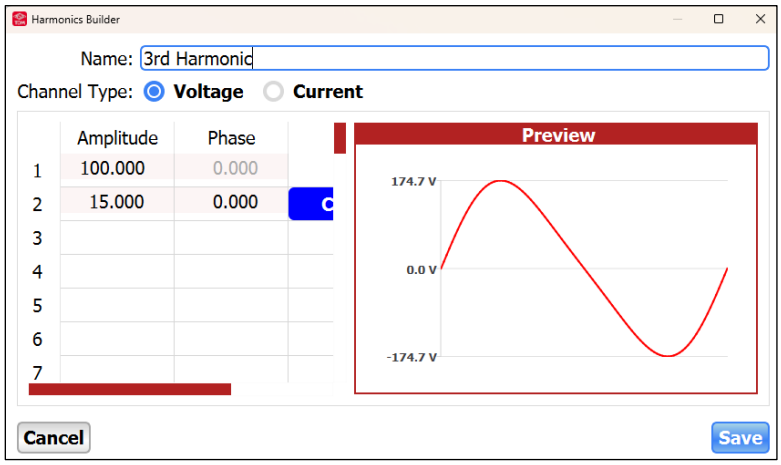
End-users can create and run custom SQL queries within the TDM database offering meter shops enhanced data management, reporting and efficiency.

Custom Exports

Custom exports in TDM allow users to create custom export scripts by leveraging a combination of SQL queries and Regular Expressions (RegEx) to extract, filter, and format data in a highly tailored way.

Harmonics

Create custom waveform based on harmonics. Build your own library of voltage and current harmonics based on amplitude and phase.



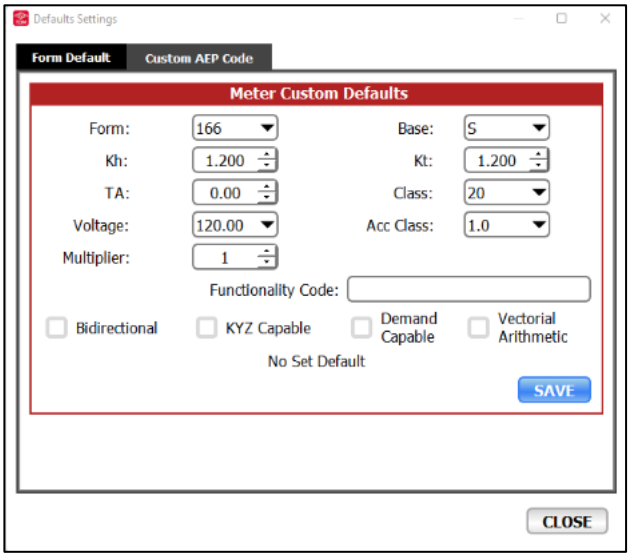
4.1.4 Default Settings Popup

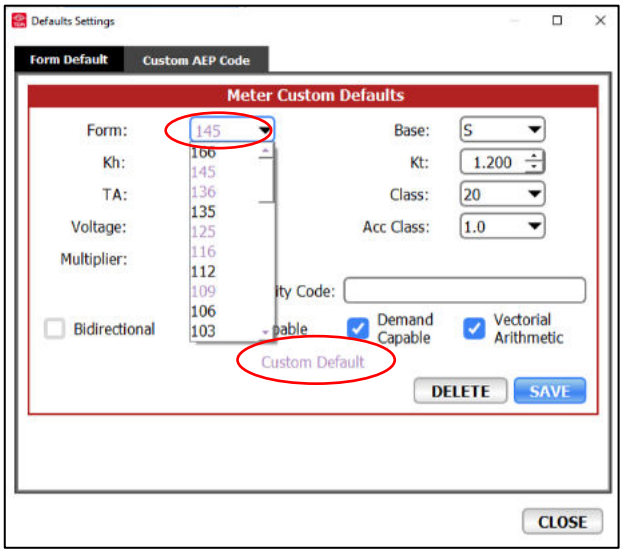
The Default Settings give users the ability to set custom default settings.

4.1.4.1 Form Default

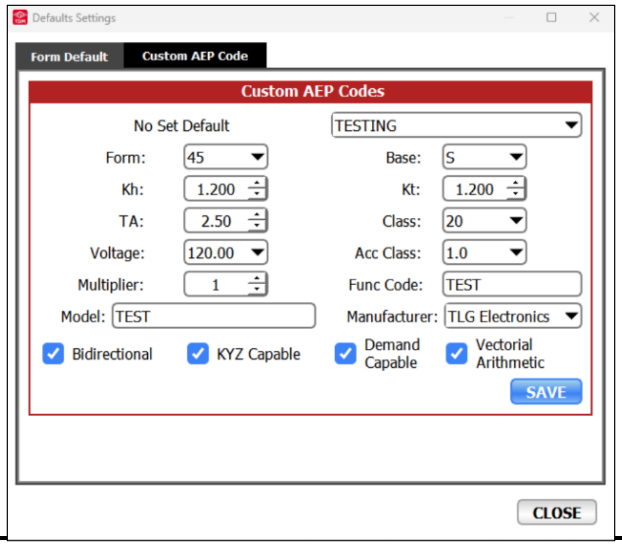
The system allows you to configure custom default settings for a meter if desired. Custom defaults are easy to recognize, as they appear in light purple text. Setting default values for a Meter form helps streamline workflows, reduce errors, and improve overall efficiency.

This Default Form is used to define the values applied to Meter Forms across all TDMs. When you create a new Meter Form and select this form in the popup, the meter values will automatically be populated with the defaults configured here.





4.1.4.2 CUSTOM AEP CODE



This **Custom AEP Code** tab is used to create and manage Custom AEP Codes. A Custom AEP Code allows users to save a specific set of meter information so it can be reused later with an SN.

At the top right of the window, a dropdown displays all previously saved Custom AEP Codes. Selecting a code from the list will load its saved meter information into the fields below.

Next to the dropdown, a status message indicates whether the selected code is already saved or currently overriding the default AEP code.

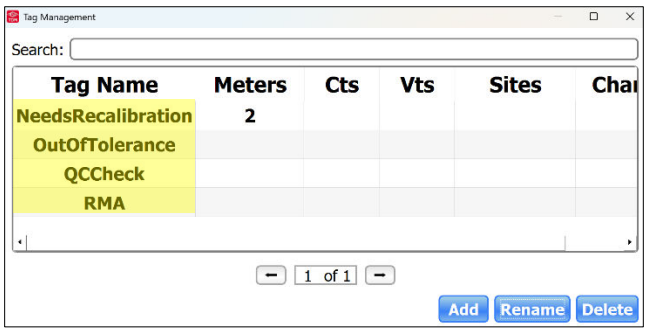
The remaining fields in the popup allow users to enter or edit the meter information for the selected Custom AEP Code. These include *Form, Kh, TA, Voltage, Multiplier, Model, Base, Kt, Class, Acc Class, Func Code, Manufacturer, and Meter Capability* options.

After updating the meter information, users can click “Save” to store the Custom AEP Code along with its associated settings for future use.

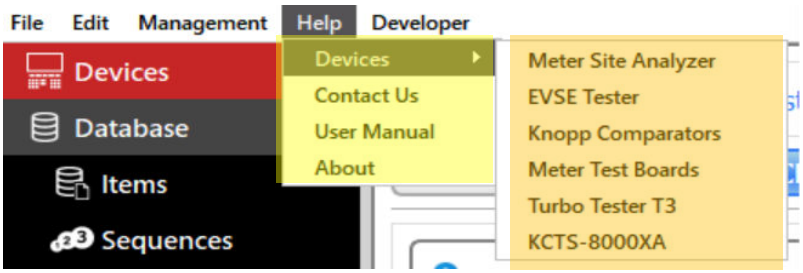
To use AEP, it must first be enabled in the **Preferences** popup.

Tags (refer to section 15 - Tags for complete setup).

Create, edit and delete tags. Tag management in a meter shop serves as a tracking and organizational tool, helping technicians and managers efficiently categorize, locate, and manage meters, test equipment and related assets.



4.1.5 Help



On the Help menu are four items:

1. **Devices**

   Under devices, you will find a submenu listing TESCO's device types. By clicking on one, you will be directed to the product page on TESCO's website.

2. **Contact Us**

   Not sure how to contact TESCO? Click here to get the details.

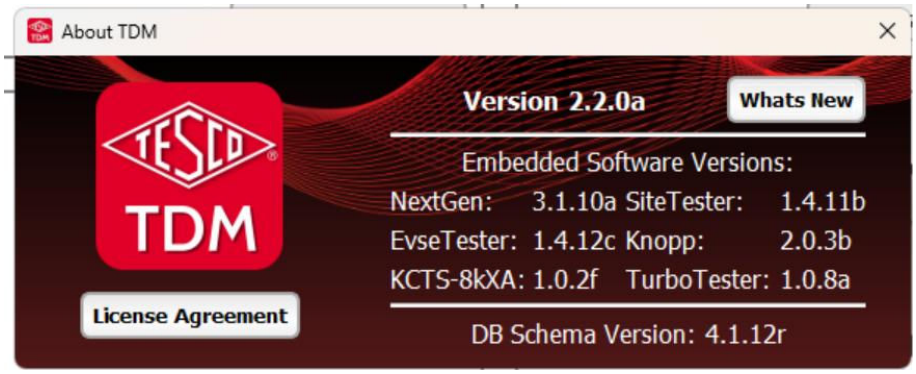
3. **User Manual**

   Access the TDM User Manual for the most current version.

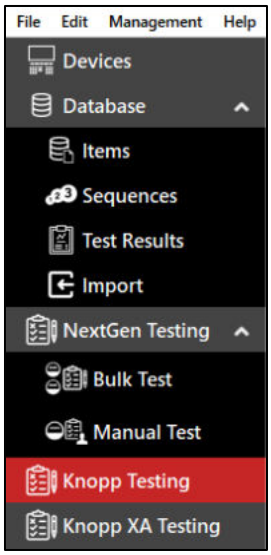
4. **About**

   Selecting this menu item opens a popup with details on TESCO device software versions supported by TDM, along with a button to view the license agreement accepted during installation.

5. About now has a button to view the "What's new" popup releases notes that appear after installation/update



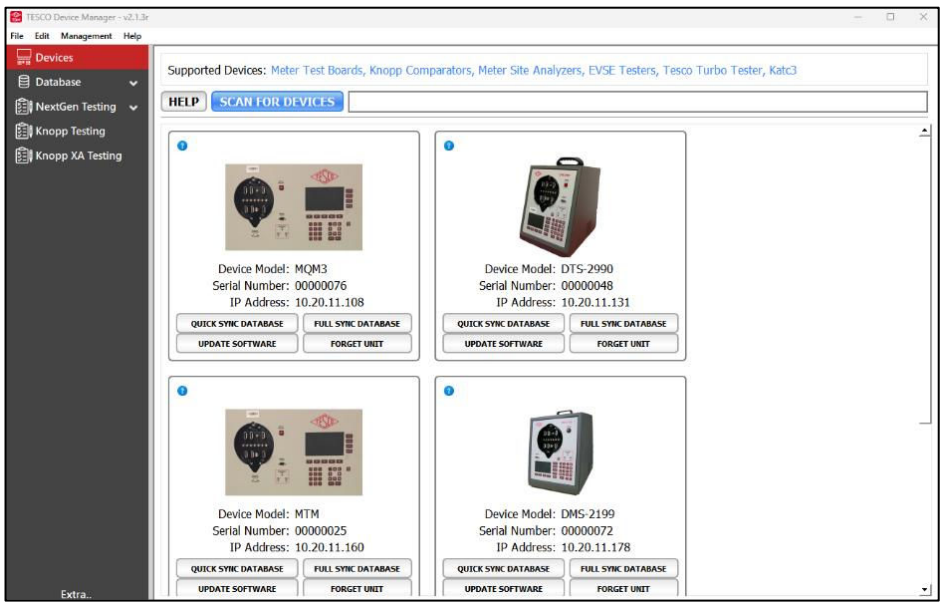
4.2 Side Navigation Bar



TDM's side navigation bar has five main items, "Devices", "Database", "NextGen Testing", "Knopp Testing" and "Knopp XA Testing". "NextGen Testing", "Knopp Testing" and "Knopp XA Testing" can be shown/hidden depending on the supported device types that were selected under Edit/Preferences/Supported Devices from the toolbar.

4.2.1 Devices

All supported devices that TDM was able to detect or scan on the list of subnets/IP addresses set by the user will be found here. Your desktop might look like this:

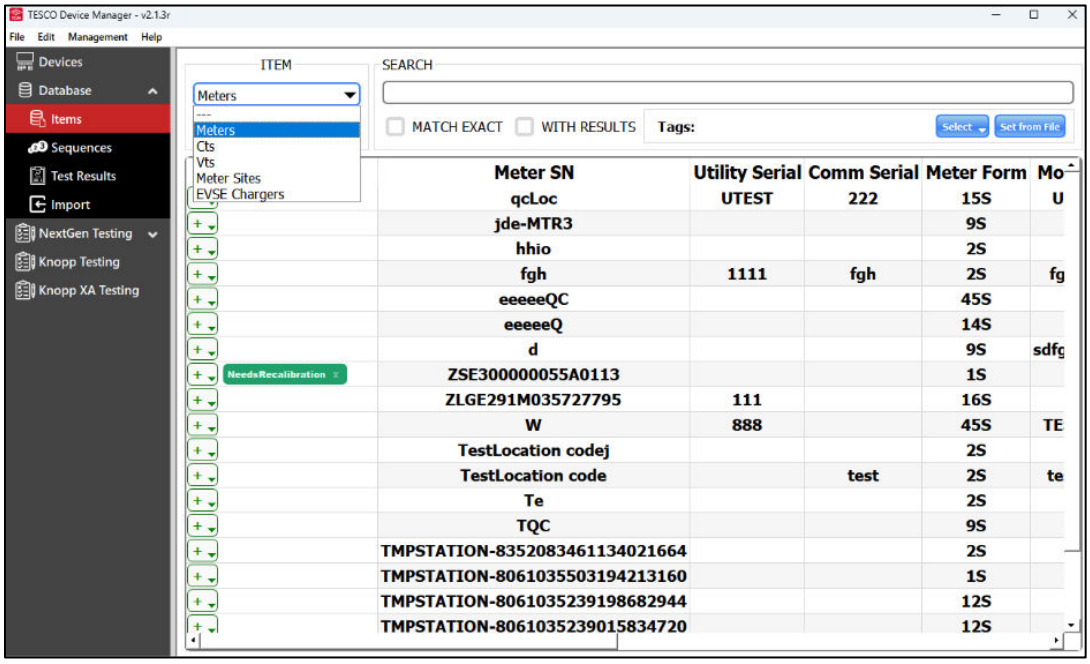


4.2.2 Database

The Database has four submenus: **Items, Sequences, Test Results** and **Import.**

1. Items

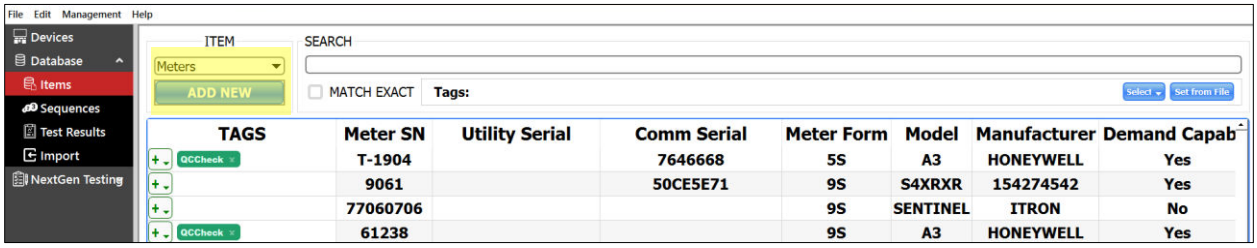
End users will manage the Item records. Item record types are "**Meters**", "**Cts**", "**Vts**", "**Meter Stations**", and "**EVSE Chargers**".

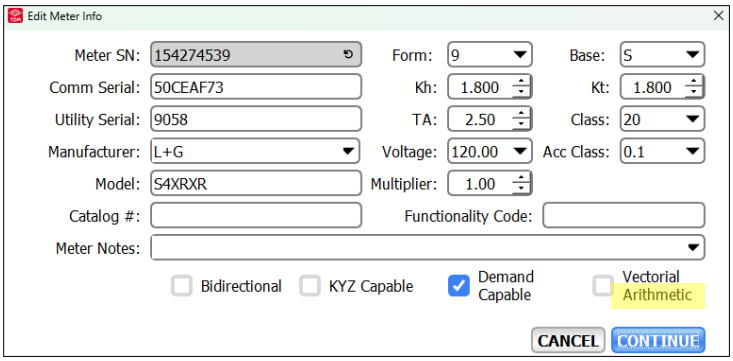


From this screen items can be:

- Added on the fly.
- Imported from a CSV file.
- Edited.
- Searched by a specific word or a "tag".
- Edited, deleted, viewed (test results), or exported. Right click to edit, delete, view results (which brings you to test results for the item that is selected) and custom export. Please note a custom export needs to be set up under Management/Custom Export on the toolbar before you can perform this task.

To Add a Meter: From Item drop down select **Meters**. Click "**ADD NEW**". A new record will pop up for you to input your meter information.





Meter Setup Fields:

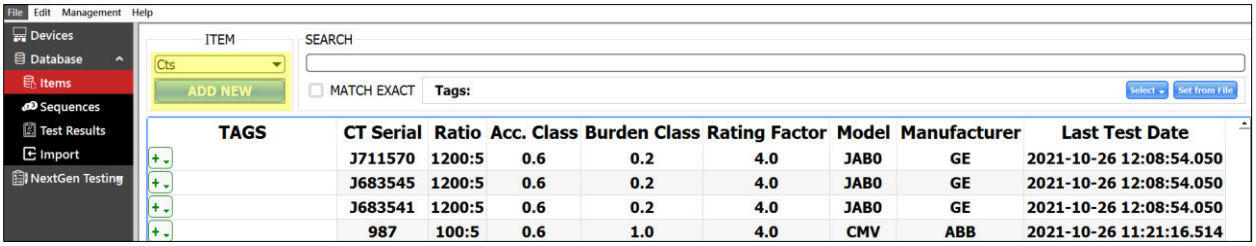
- **Identification:** Meter/Commercial/Utility Serial #
- **Specifications:** Manufacturer, Model, Catalog #, Meter Notes
- ***Form Selection** (dropdown) → Populates **Electrical Ratings:** Kh, Kt, TA, Class, Voltage, Accuracy Class, Multiplier, based on Form Chosen
- **Base:** S, A, B, K, R, T, Z
- **Functionality Code** (open form)
- **Capabilities** (Check boxes):

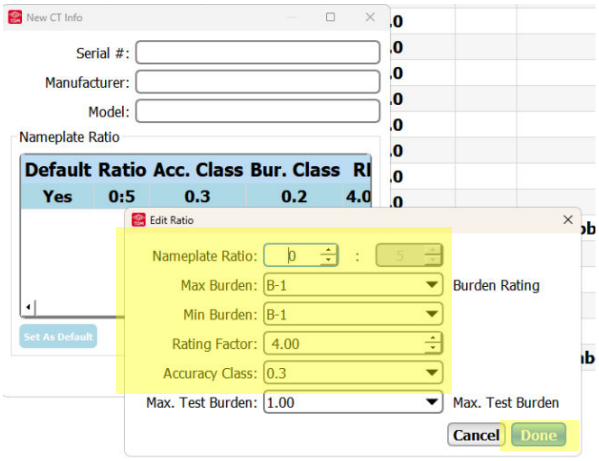
Bidirectional | KYZ Capable | Demand Capable | Vectorial Arithmetic

*Selections for **Form defaults** update dynamically based on the chosen **Form**.

Click "**CONTINUE**" to save record.

To add a CT: From Item drop down select **Cts**. Click "**ADD NEW**". A new record will pop up for you to input your CT information.





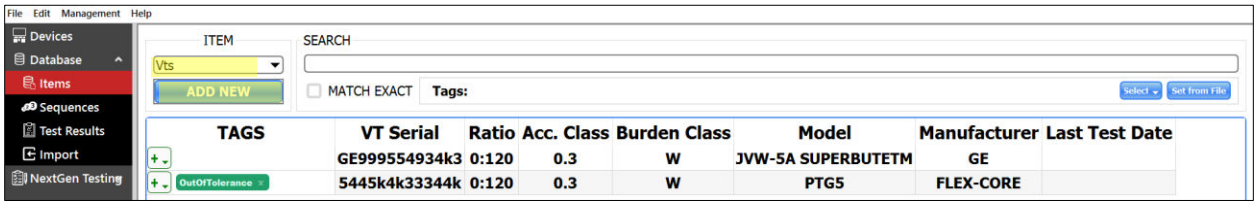
CT Setup Fields. Enter key details to set up a Ct:

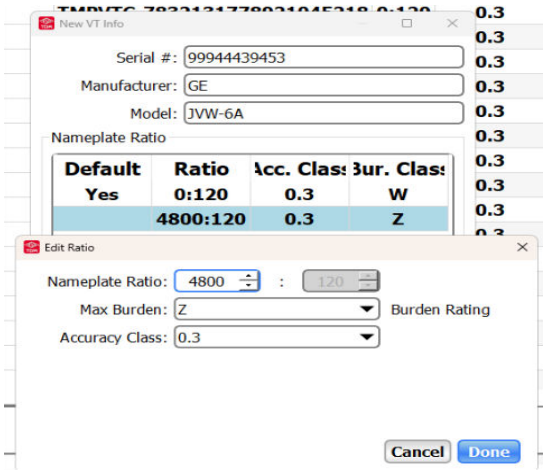
- **Identification:** Serial #, Manufacturer, Model #
- **Nameplate Ratio Information:**
  - Ratio Number
  - Burden Rating (dropdown)
  - Rating Factor
  - Accuracy Class
  - Max Test Burden (dropdown)

Click Done

Click Save CT

To add a VT: From Item drop down select **Vts**. Click "**ADD NEW**". A new record will pop up for you to input your VT information.





Enter:

- Serial #
- Manufacturer
- Model

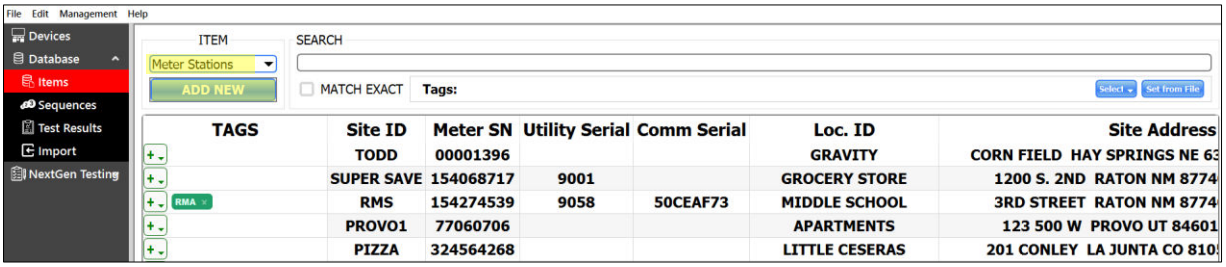
Add Ratio Information:

- Nameplate Ratio
- Burden Rating
- Accuracy Class

Click Done

Click Save VT

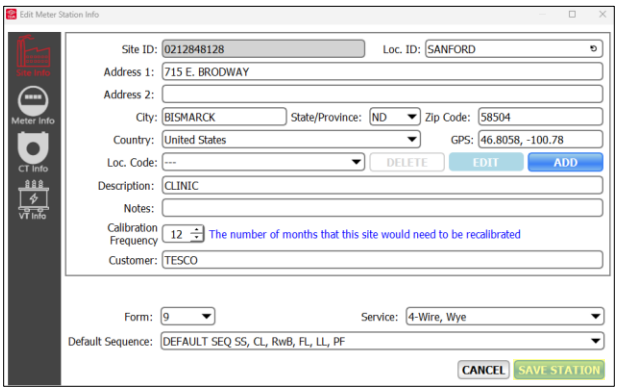
To add a Meter Station: From Item drop down select **Meter Stations**. Click "**ADD NEW**". A new record will pop up for you to input the appropriate information.



Setting Up a Meter Station. When setting up a meter station, there are four main components, each represented by a corresponding screen in the system:

- **Site Information**
- **Meter Information**
- **CT Information**
- **VT Information**

While not all stations will require data for every category, the system is designed to accommodate a complete setup when needed. Simply enter the information relevant to the specific station you are configuring.

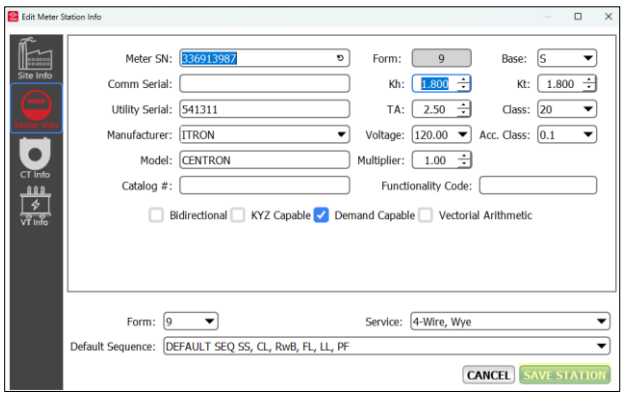


Site Setup Fields. Enter key details to define a site:

- **Identifiers**: Site ID, Location ID, Location Code (unique & user-defined, can add on-the-fly)
- **Address**: Address 1 & 2, City, State, ZIP, Country, GPS Coordinates
- **Additional Details**: Description, Notes (if applicable)
- **Settings**: Calibration Frequency, Customer, Form (dropdown), Service (dropdown), Default Sequence (dropdown)

Only relevant fields need to be filled based on your setup.

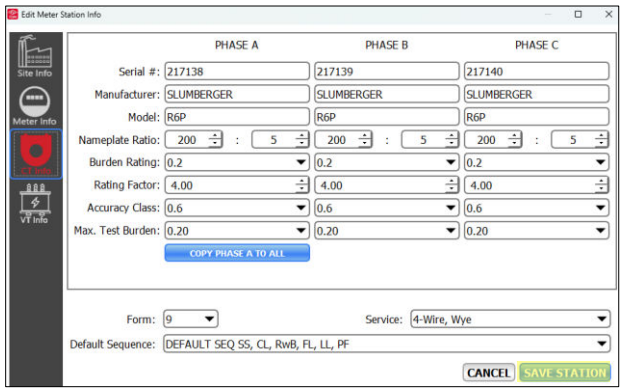
SAVE STAION



Meter Setup Fields. Enter key meter details:

- **Identification**: Meter Serial, Utility Serial, Comm Serial, Manufacturer, Model, Catalog #
- **Configuration**: Form (dropdown) → Populates **Service Type & Default Sequence***
- **Electrical Specs**: Base, Kh, Kt, TA, Class, Voltage, Accuracy Class, Multiplier
- **Functionality**: Functionality Code
- **Capabilities** (Check boxes): Bidirectional, KYZ Capable, Demand Capable, Vectorial Arithmetic

*Selections for **Service Type & Default Sequence** update dynamically based on the **Form** chosen. **SAVE STATION**

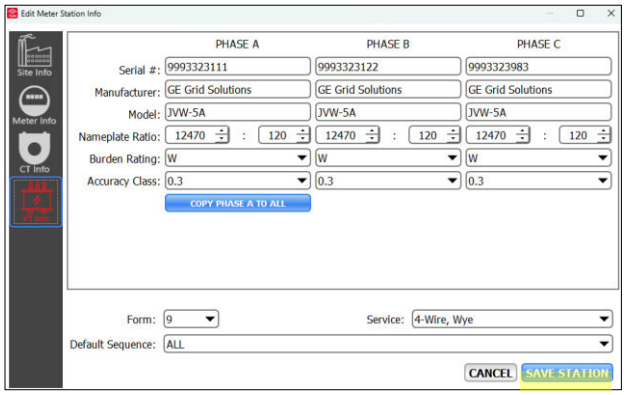


CT Setup Fields. Enter CT details:

- **Form Selection** (dropdown) → Populates ***Service Type & Default Sequence**
- **Phases (A, B, C)** → Visible based on form selection
  For Each Phase (A, B, C):
  Serial # | Manufacturer | Model | Nameplate Ratio
  Burden Rating | Rating Factor | Accuracy Class |
  Max Test Burden

*Selections for **Service Type, Default Sequence, and Phases** update dynamically based on the **Form** chosen.

SAVE STATION



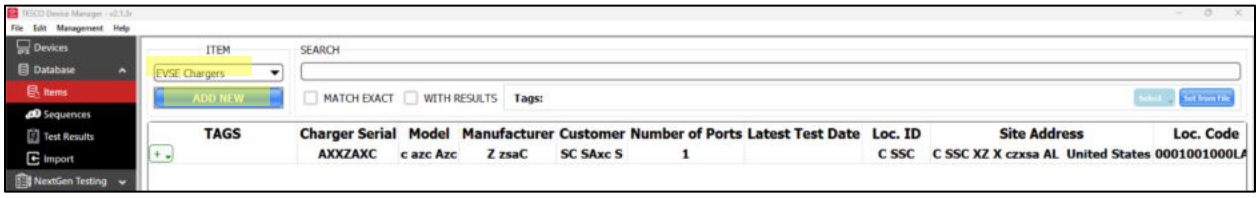
VT Setup Fields. Enter VT Details:

- **Form Selection** (dropdown) → Populates ***Service Type & Default Sequence**
- **Phases (A, B, C)** → Visible based on form selection
  For Each Phase (A, B, C):
  Serial # | Manufacturer | Model | Nameplate Ratio
  Burden Rating | Accuracy Class
- Click **Copy Phase A to All**→ Streamlines data entry

*Selections for **Service Type, Default Sequence, and Phases** update dynamically based on the **Form** chosen.

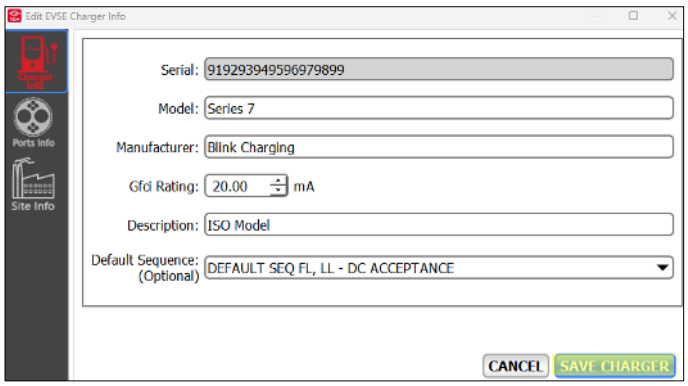
SAVE STATION

To add an EVSE Charger: From Item drop down select **EVSE Chargers**. Click "**ADD NEW**". A new record will pop up for you to **input your EVSE Charger information.**



Setting Up EVSE Chargers. When setting up a charger, there are three main components, each represented by a corresponding screen in the system:

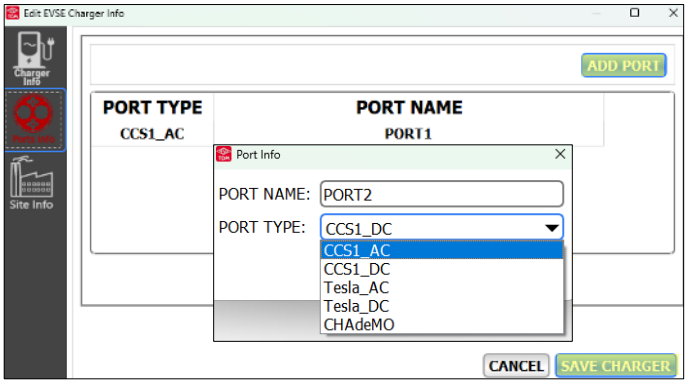
- **Charger Information**
- **Ports Information**
- **Site Information**



Charger Info Setup:

- **Identification:** Serial Number, Model Number, Manufacturer
- **Specifications:** Gfci Rating (mA)
- **Description:** Open text field
- **Default Sequence (optional). Choose from:**
  - Default SEQ FL, LL - AC Acceptance
  - Default SEQ FL, LL - AC Maintenance
  - Default SEQ FL, LL - DC Acceptance
  - Default SEQ FL, LL - DC Maintenance

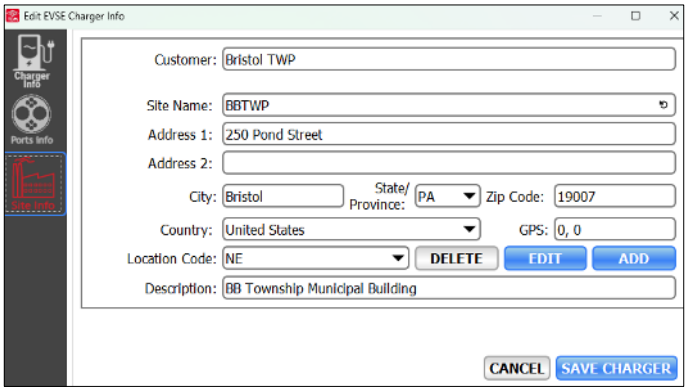
SAVE CHARGER



Port(s) Info Setup: Click Add Port

- **Port Name:** Can be user defined, or system default will name Port 1, Port 2, etc.
- **Port Type:**
  - CCS1_AC
  - CCS1_DC
  - Tesla_AC
  - Tesla_DC
  - CHAdeMO

SAVE CHARGER



Site Info Setup:

- **Customer Name**
- **Site Name**
- **Address/City/State/Zip/Country**
- **GPS:** Coordinates
- **Location Code:** User defined; can add on the fly
- **Description:** Open Form

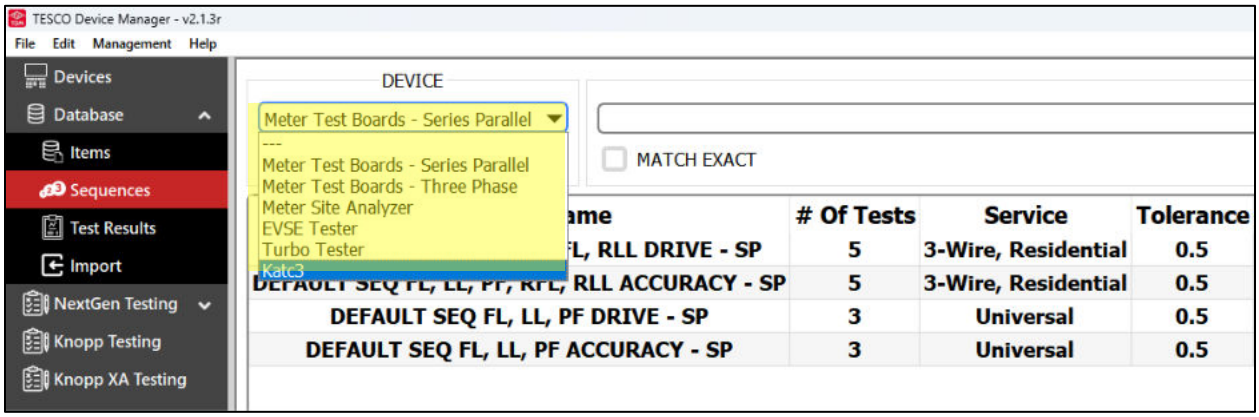
SAVE CHARGER

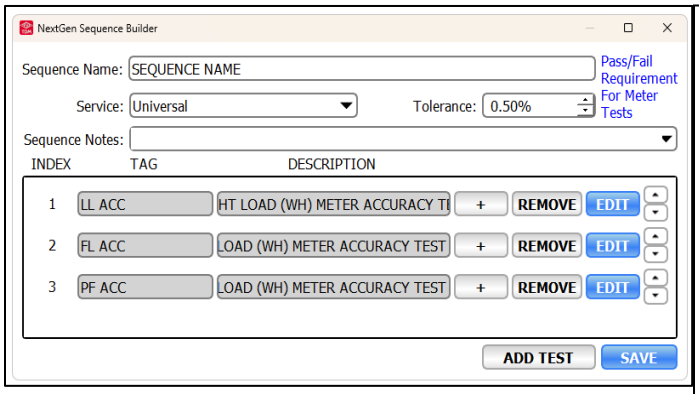
2. **Sequences:** The **Sequence Section** allows users to manage test sequences for different equipment types. These sequences define structured test procedures to ensure accurate and reliable metering results.

Devices/Equipment Using Sequences:

- **Meter Test Boards – Series Parallel**
- **Meter Test Boards – Three Phase**
- **Meter Site Analyzer**
- **EVSE Tester**
- **Turbo Tester**
- **KATC-3**

Users can create, edit, and manage sequence records to match testing requirements for various metering and EVSE applications.





Sequence Builder:

- **Sequence Name** – Name of the sequence.
- **Service.** Choose from:
  Universal | 2-Wire 1 Ph | 3-Wire 1 Ph | 3-Wire Delta CG
  3-Wire Network | 4-Wire Wye (2V2I) | 4-Wire (2V3I)
  4-Wire Wye | 4-Wire Delta (3V2I) | 4-Wire Delta
- **Tolerance %.** Pass/Fail Requirements.
- **Sequence Notes.** Free form entry.
- **INDEX Tag |Description**
  - TAG – Name/Type.
  - Description – Brief explanation of what it is.
  - "+ "– Adding a new Test.
  - REMOVE – Deleting a Test.
  - EDIT – Editing a Test.
  - UP and DOWN arrows – Changing the order of the Test Tag.

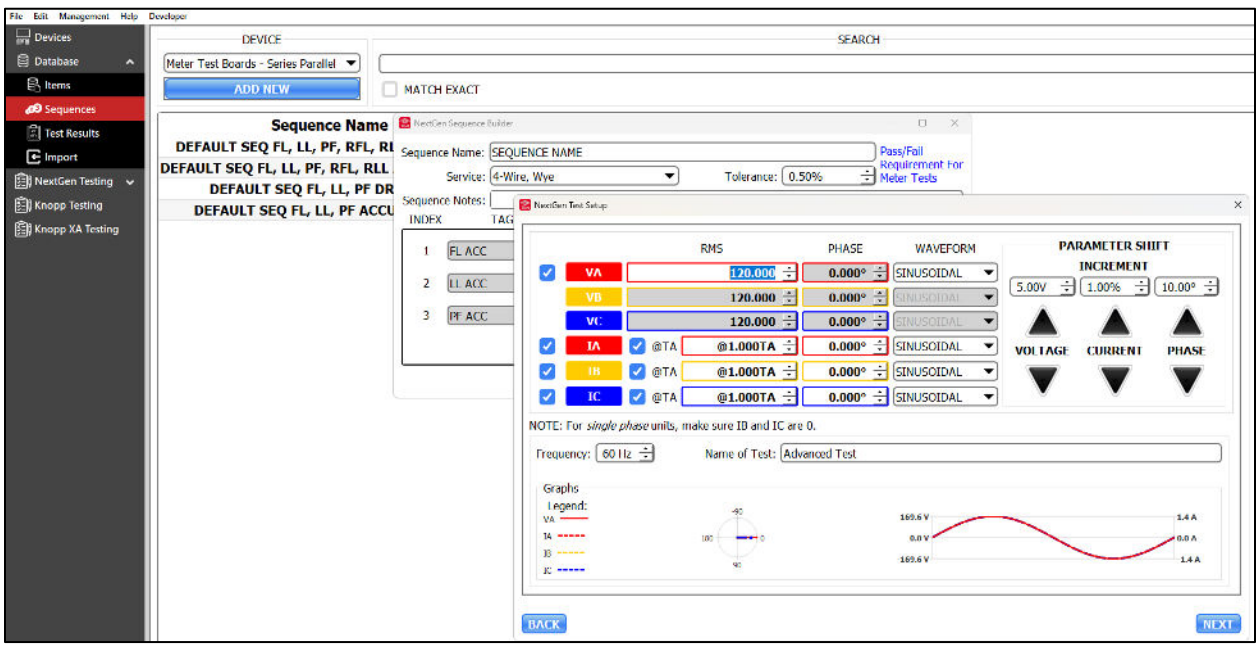
Meter Test Boards – Series Parallel & Three Phase

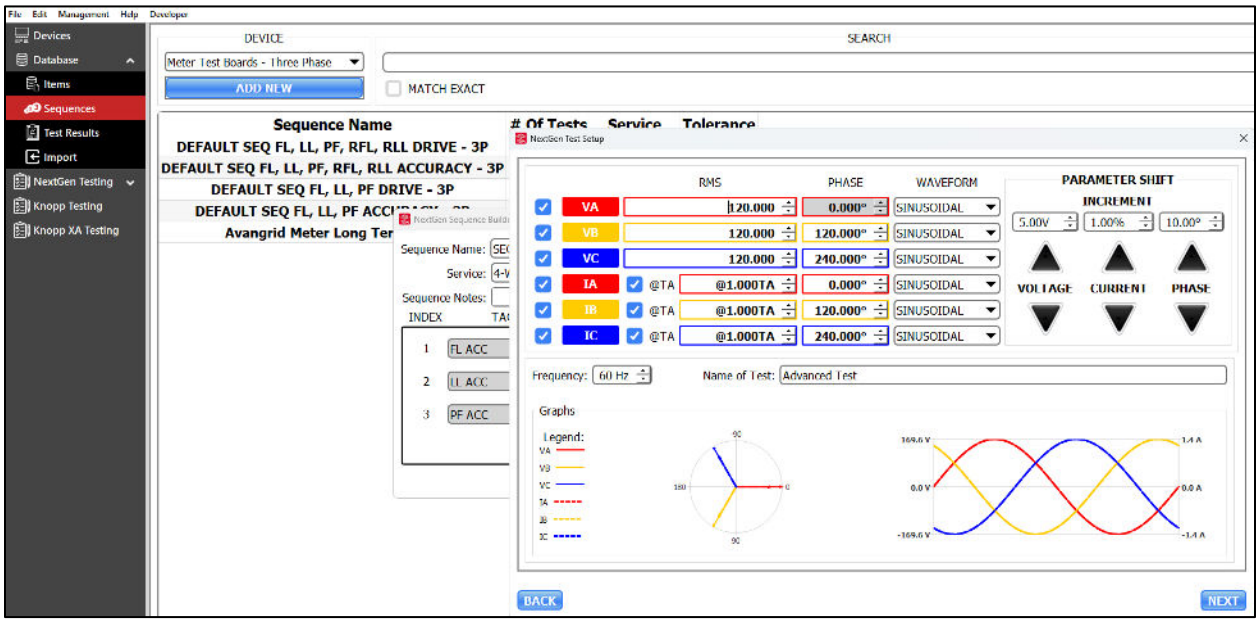
For Meter Test Boards (Series Parallel or Three Phase), when a user selects a service type other than *Universal*, an Advanced Tag option becomes available under the Load Type section. (The Advanced Tag option appears as "ADV" in the drop-down menu) Within this option, users can configure **Parameter Shift Increment**, like the functionality available in **TMA**.

This feature enables users to adjust key test parameters, including:

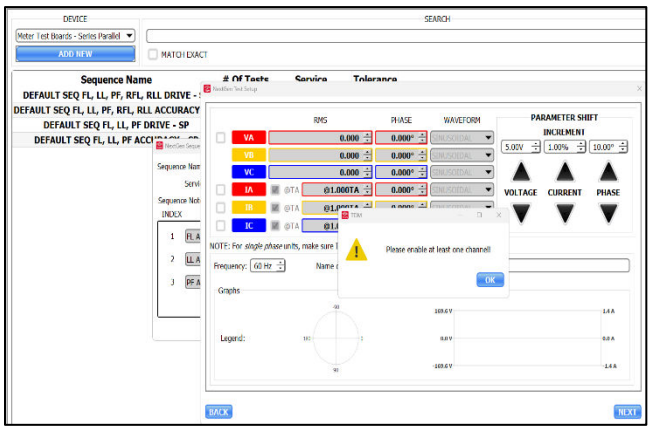
- Voltage
- Current
- Phase

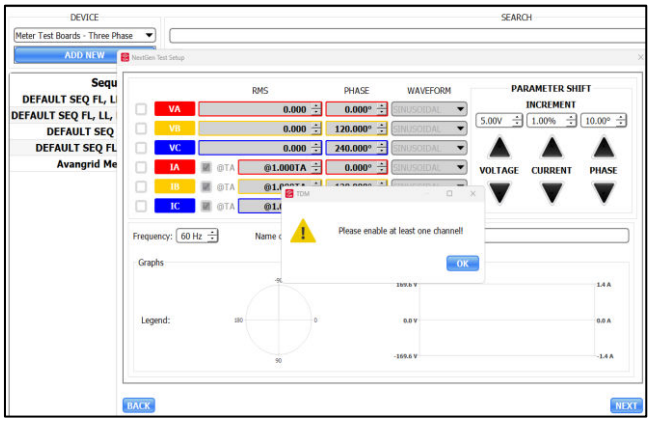
In addition, the interface provides checkboxes that allow users to enable or disable specific channels, such as voltage or current, based on the testing requirements.





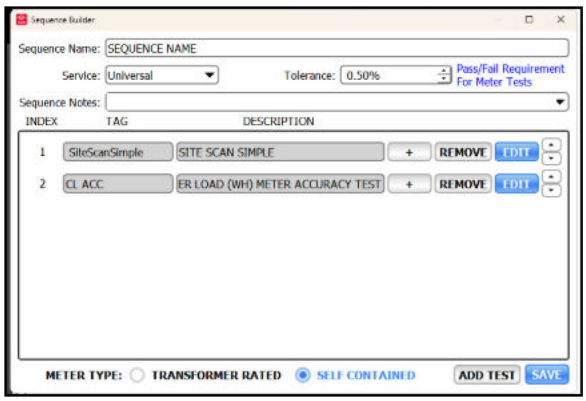
Note: To save the sequence, the user must **enable at least one channel** in both Series Parallel and Three Phase Meter Test Boards.

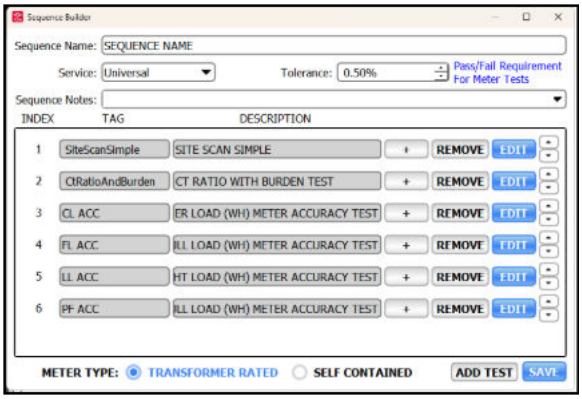


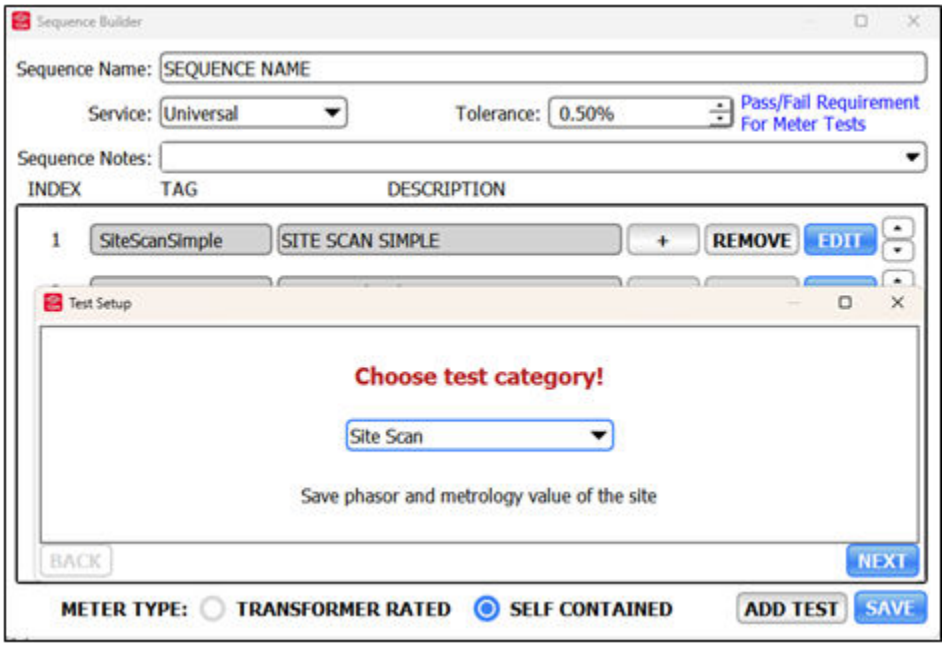


To save the sequence, the user must **enable at least one channel** in both **Series Parallel and Three Phase Meter Test Boards**.

When creating sequences for **Meter Site Analyzer** devices, available test options are dependent on the meter type selection **(transformer-rated or self-contained).**



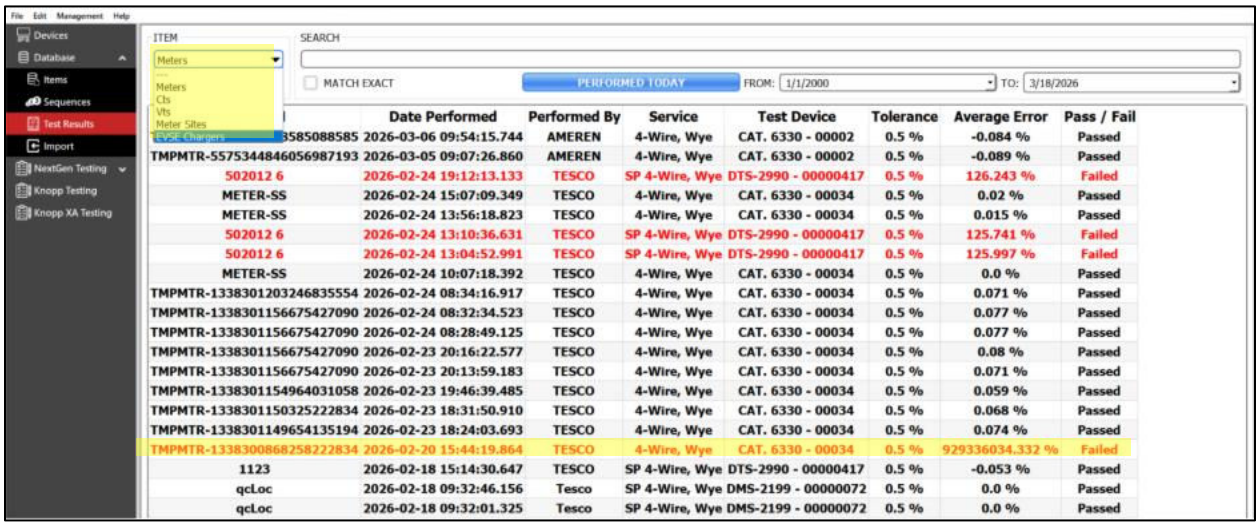




3. Test Results

Users can view and export test results for:

- Meters
- Meter Stations
- EVSE Chargers
- CTs
- VTs



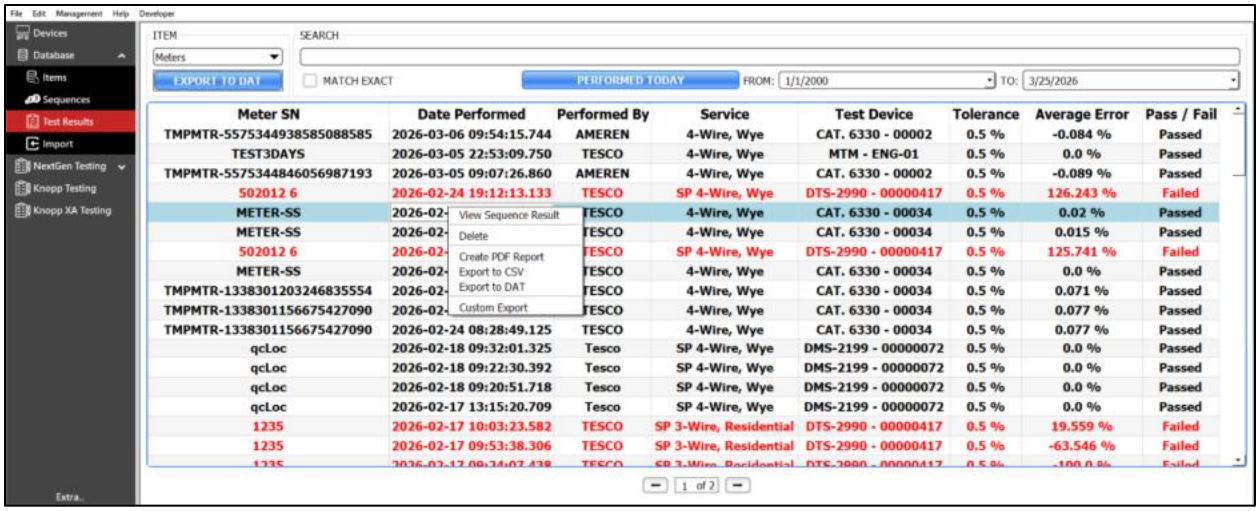
	Date Performed	Performed By	Service	Test Device	Tolerance	Average Error	Pass / Fail
3585088585	2026-03-06 09:54:15.744	AMEREN	4-Wire, Wye	CAT. 6330 - 00002	0.5 %	-0.084 %	Passed
TMPMTR-5575344846056987193	2026-03-05 09:07:26.860	AMEREN	4-Wire, Wye	CAT. 6330 - 00002	0.5 %	-0.089 %	Passed
502012 6	2026-02-24 19:12:13.133	TESCO	SP 4-Wire, Wye	DTS-2990 - 00000417	0.5 %	126.243 %	Failed
METER-SS	2026-02-24 15:07:09.349	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.02 %	Passed
METER-SS	2026-02-24 13:56:18.823	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.015 %	Passed
502012 6	2026-02-24 13:10:36.631	TESCO	SP 4-Wire, Wye	DTS-2990 - 00000417	0.5 %	125.741 %	Failed
502012 6	2026-02-24 13:04:52.991	TESCO	SP 4-Wire, Wye	DTS-2990 - 00000417	0.5 %	125.997 %	Failed
METER-SS	2026-02-24 10:07:18.392	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.0 %	Passed
TMPMTR-1338301203246835554	2026-02-24 08:34:16.917	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.071 %	Passed
TMPMTR-1338301156675427090	2026-02-24 08:32:34.523	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.077 %	Passed
TMPMTR-1338301156675427090	2026-02-24 08:28:49.125	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.077 %	Passed
TMPMTR-1338301156675427090	2026-02-23 20:16:22.577	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.08 %	Passed
TMPMTR-1338301156675427090	2026-02-23 20:13:59.183	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.071 %	Passed
TMPMTR-1338301154964031058	2026-02-23 19:46:39.485	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.059 %	Passed
TMPMTR-1338301150325222834	2026-02-23 18:31:50.910	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.068 %	Passed
TMPMTR-1338301149654135194	2026-02-23 18:24:03.693	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.074 %	Passed
TMPMTR-1338300868258222834	2026-02-20 15:44:19.864	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	929336034.332 %	Failed
1123	2026-02-18 15:14:30.647	TESCO	SP 4-Wire, Wye	DTS-2990 - 00000417	0.5 %	-0.053 %	Passed
qcLoc	2026-02-18 09:32:46.156	Tesco	SP 4-Wire, Wye	DMS-2199 - 00000072	0.5 %	0.0 %	Passed
qcLoc	2026-02-18 09:32:01.325	Tesco	SP 4-Wire, Wye	DMS-2199 - 00000072	0.5 %	0.0 %	Passed

The **right-click context menu** in the **Test Results** table adapts depending on the number of selected rows.

When a **single test result** is selected, the menu displays options specific to that result. If the selected row has a result that can be opened, the menu includes **View Sequence Result**, which opens the View Results popup for that test result. If **no result is available**, this option does not appear, even when only one row is selected.

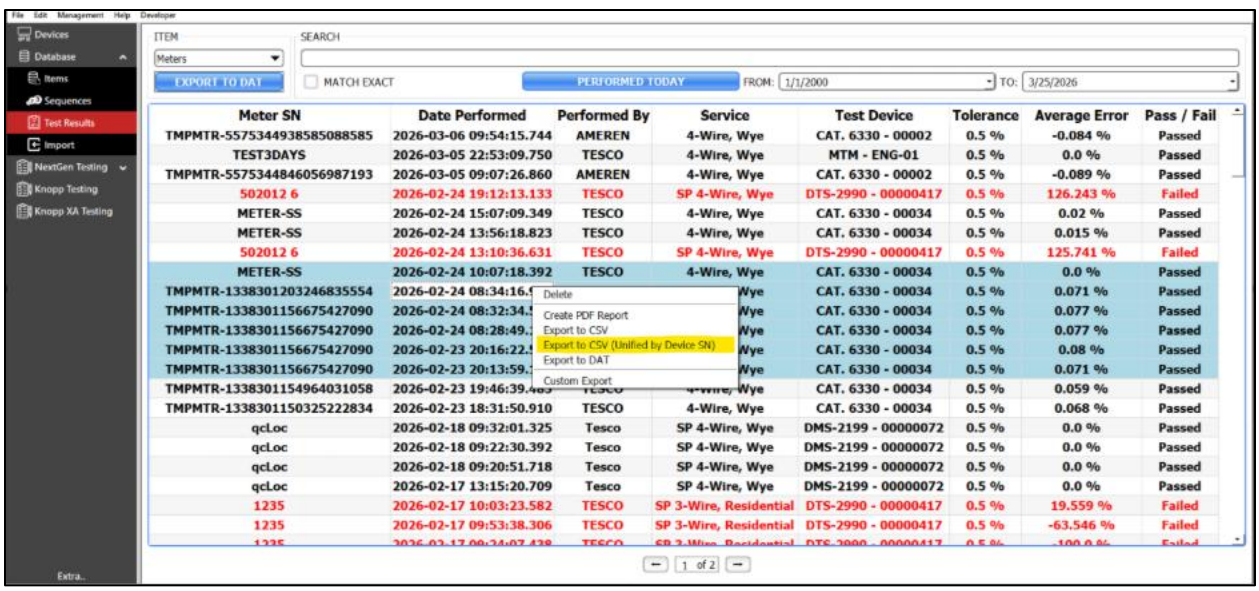
Other actions available for a single selection may include:

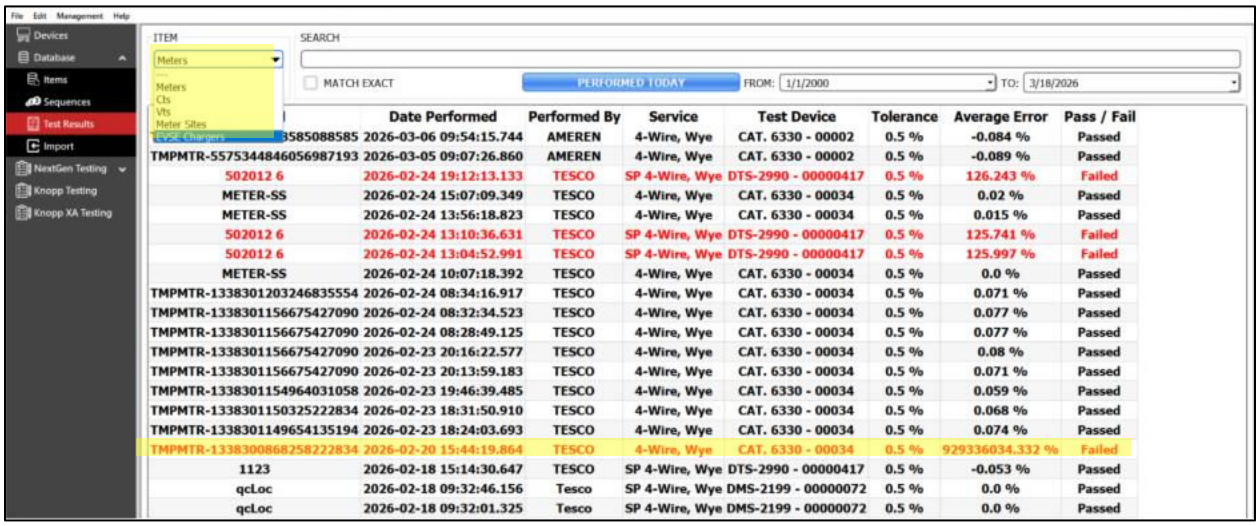
- **Delete**
- **Create PDF Report**
- **Export to CSV**
- **Export to DAT**
- **Custom Export**



When multiple test results are selected, the context menu displays options that apply to the entire group. Most of the same actions are available, with the addition of **Export to CSV (Unified by Device SN)**. **View Sequence Result** is not shown, since it only applies to a single selected result with a viewable sequence.

This design allows users to perform either single-result actions or batch actions, depending on the number of selected rows and the availability of viewable results.





	Date Performed	Performed By	Service	Test Device	Tolerance	Average Error	Pass / Fail
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502012 6	2026-02-24 19:12:13.133	TESCO	SP 4-Wire, Wye	DTS-2990 - 00000417	0.5 %	126.243 %	Failed
METER-SS	2026-02-24 15:07:09.349	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.02 %	Passed
METER-SS	2026-02-24 13:56:18.823	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.015 %	Passed
502012 6	2026-02-24 13:10:36.631	TESCO	SP 4-Wire, Wye	DTS-2990 - 00000417	0.5 %	125.741 %	Failed
502012 6	2026-02-24 13:04:52.991	TESCO	SP 4-Wire, Wye	DTS-2990 - 00000417	0.5 %	125.997 %	Failed
METER-SS	2026-02-24 10:07:18.392	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.0 %	Passed
TMPMTR-1338301203246835554	2026-02-24 08:34:16.917	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.071 %	Passed
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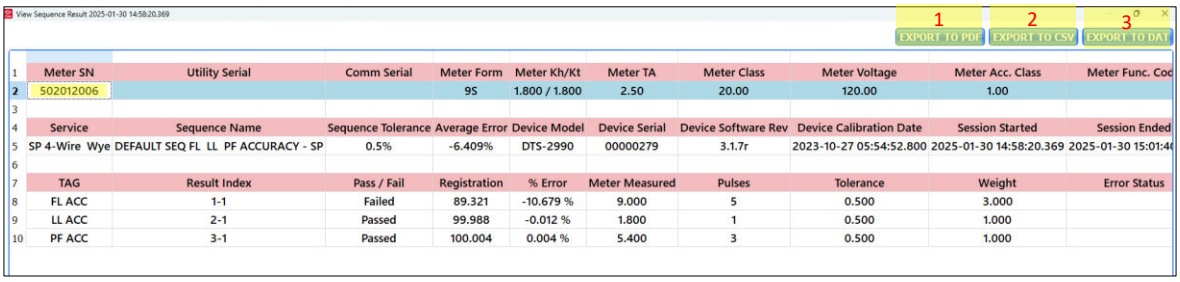
TMPMTR-1338301156675427090	2026-02-24 08:28:49.125	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.077 %	Passed
TMPMTR-1338301156675427090	2026-02-23 20:16:22.577	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.08 %	Passed
TMPMTR-1338301156675427090	2026-02-23 20:13:59.183	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.071 %	Passed
TMPMTR-1338301154964031058	2026-02-23 19:46:39.485	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.059 %	Passed
TMPMTR-1338301150325222834	2026-02-23 18:31:50.910	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.068 %	Passed
TMPMTR-1338301149654135194	2026-02-23 18:24:03.693	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	0.074 %	Passed
TMPMTR-1338300868258222834	2026-02-20 15:44:19.864	TESCO	4-Wire, Wye	CAT. 6330 - 00034	0.5 %	9293360 34.332 %	Failed
1123	2026-02-18 15:14:30.647	TESCO	SP 4-Wire, Wye	DTS-2990 - 00000417	0.5 %	-0.053 %	Passed
qcLoc	2026-02-18 09:32:46.156	Tesco	SP 4-Wire, Wye	DMS-2199 - 00000072	0.5 %	0.0 %	Passed
qcLoc	2026-02-18 09:32:01.325	Tesco	SP 4-Wire, Wye	DMS-2199 - 00000072	0.5 %	0.0 %	Passed

Easily Identify test failures by the red font; double click on the device you would like more information on, and a new pop-up screen will open and show all the details for that record.

From here you have three choices: **EXPORT TO PDF, EXPORT TO CSV, EXPORT TO DAT** (data file) – will be saved automatically in the default path that is set in the system **(refer to section 11 for complete export instructions).**

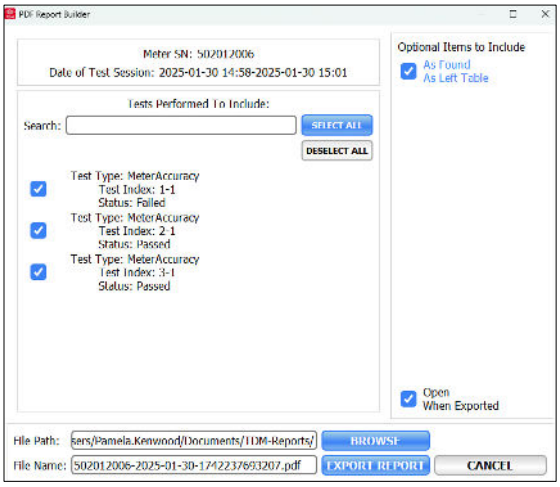


	Meter SN	Utility Serial	Comm Serial	Meter Form	Meter Kh/Kt	Meter TA	Meter Class	Meter Voltage	Meter Acc. Class	Meter Func. Coc
2	502012006			9S	1.800 / 1.800	2.50	20.00	120.00	1.00	

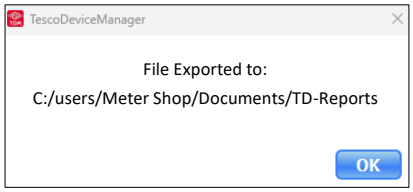
	Service	Sequence Name	Sequence Tolerance	Average Error	Device Model	Device Serial	Device Software Rev	Device Calibration Date	Session Started	Session Ended
5	SP 4-Wire Wye	DEFAULT SEQ FL LL PF ACCURACY - SP	0.5%	-6.409%	DTS-2990	00000279	3.1.7r	2023-10-27 05:54:52.800	2025-01-30 14:58:20.369	2025-01-30 15:01:4

	TAG	Result Index	Pass / Fail	Registration	% Error	Meter Measured	Pulses	Tolerance	Weight	Error Status
8	FL ACC	1-1	Failed	89.321	-10.679 %	9.000	5	0.500	3.000	
9	LL ACC	2-1	Passed	99.988	-0.012 %	1.800	1	0.500	1.000	
10	PF ACC	3-1	Passed	100.004	0.004 %	5.400	3	0.500	1.000	

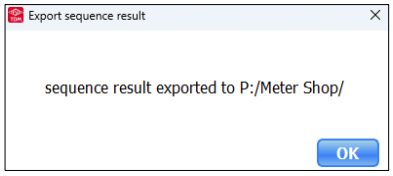
EXPORT TO PDF



EXPORT TO CSV



EXPORT TO DAT



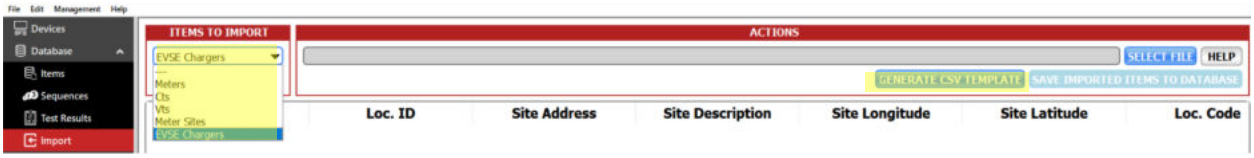
4. Import (Refer to Section 12 for complete import instructions).

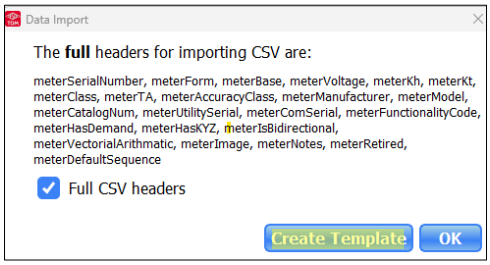
End users can import a CSV file to create **item records** for:

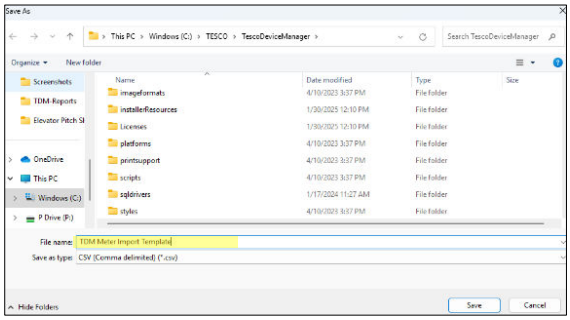
- Meters
- CTs
- VTs
- Meter Stations
- EVSE Chargers

To ensure accurate data mapping, the system can generate a CSV template to use, or you can choose to select a file. Be sure that the template headers in your file match those of the CSV Template.

Use drop-down menu to pick item types to import, **Click GENERATE CSV TEMPLATE** – a pop up will appear identifying headers for import. **Click Create Template**. Another popup will appear for end-user to choose path for file to be saved.





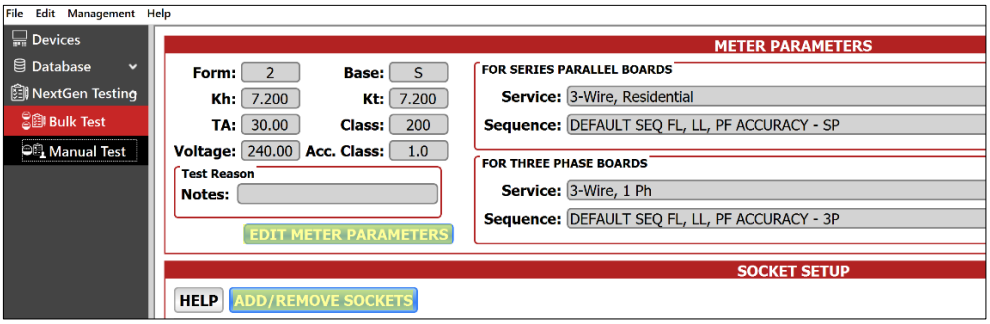


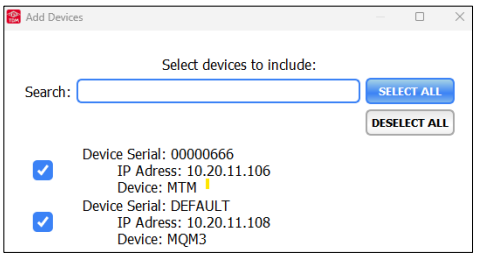
4.2.3 NextGen Testing

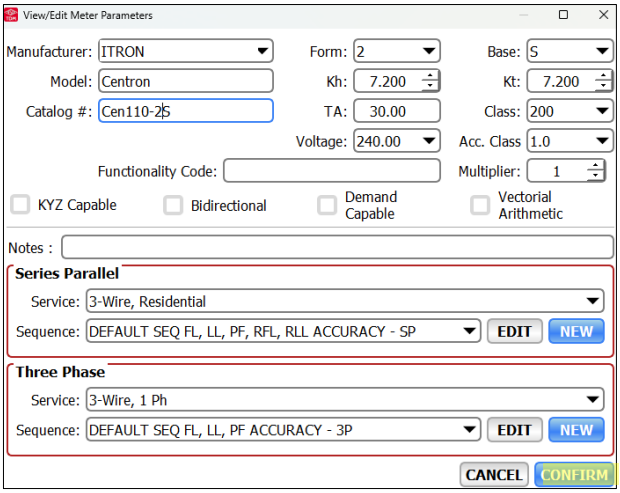
NextGen Testing allows users to control their meter test board(s) remotely. Meter shops can remotely trigger meter diagnostics, verify meter accuracy, check demand and KYZ pulse functionality and detect errors or tampering. Test choices include **Bulk Test** and **Manual Test**.

Bulk test allows you to test multiple devices/test boards simultaneously if they are connected to the network. The **Manual testing** is for just one device**.**

In the **Bulk Test** section, the end-user can set/edit meter parameters as well as add/remove sockets (devices to be tested).







View/Edit Meter Parameters

- **Unit Details:** Manufacturer, Model, Cat#
- **Form | Base**
- **Kh | Kt | TA | Class | Voltage |Acc. Class**
- **Functionality Code**. Open Form
- **Multiplier**. Use up down arrow to select.
- **Meter Function:**
  KYZ Capable | Bidirectional
  Demand Capable | Vertical Arithmetic
- **Notes.** Free form entry
- **Series Parallel**. Service/Sequence
- **Three Phase**. Service/Sequence

CONFIRM

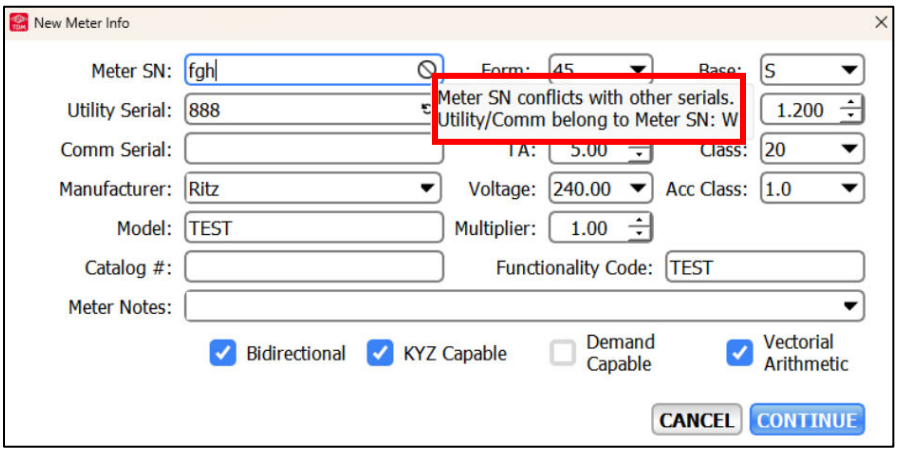
Meter Lookup Icons

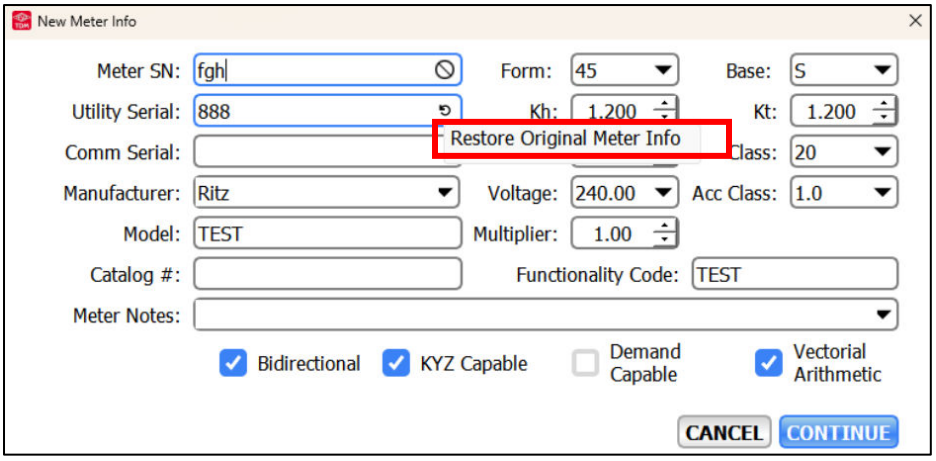
The icons next to the meter lookup fields help show the status of the entered serial number values. If the meter is new, it is not already in the database, and does not conflict with another meter record, no icon is shown.

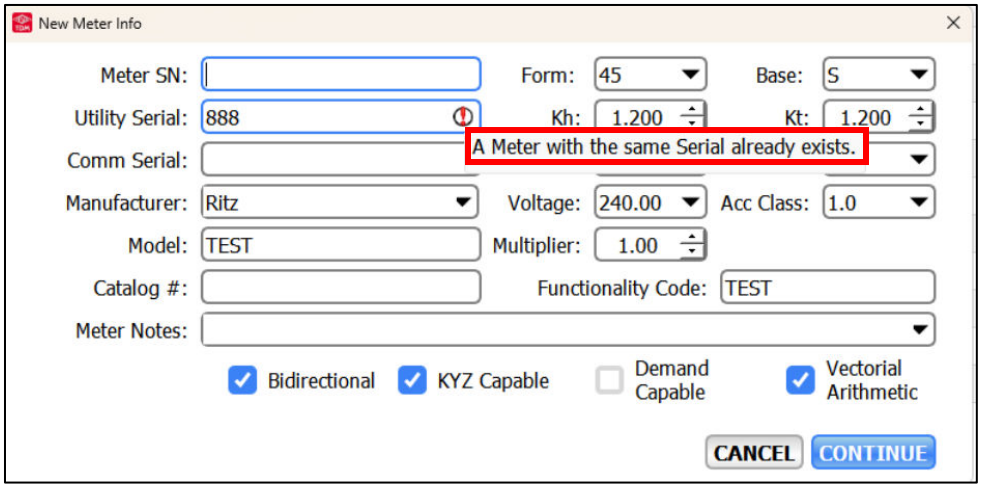
The **revert icon** is shown only when the meter already exists in the database and one of the fields has been changed from the value stored for that meter. This allows the user to restore the original value from the database.

The **crossed-out circle icon** means the entered serial number cannot be used because it already exists in the database as part of a different meter record.

The **exclamation mark** in a circle icon means there is already a meter in the database with that same serial number.

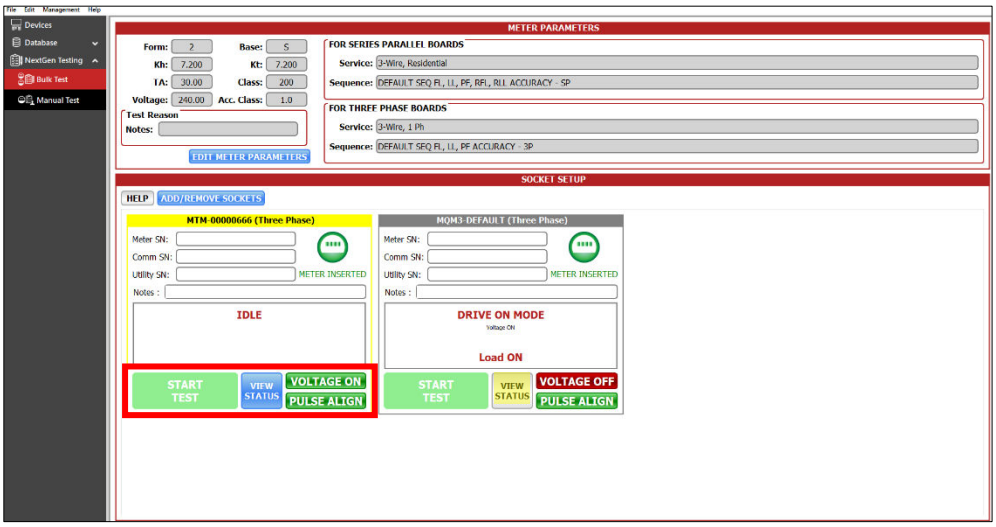


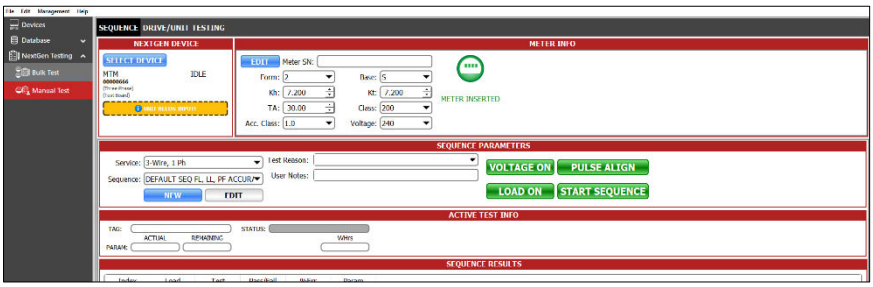




Bulk Testing. During the bulk testing process, end-users can:

- Start Test
- View Status
- Click Voltage On/Off
- Click Pulse Align/Stop P.A.





Note: Click "VIEW STATUS" will provide information specific to that meter. You will notice that manual test is highlighted – that is a result of viewing **one meters'**

information. You are still in **Bulk Testing**. Click on "**Bulk Test**" once again and it will bring you back to your Bulk Testing Screen.

Manual Testing. During manual testing select the device you wish to test.

With a **Manual test** you will find two different tabs:

- Sequence: certify meters to precise specifications.
- Drive/Unit Testing: simulate field conditions.

1. **Sequence:** This tab is used for *manual test step control*—essentially walking through a test plan one step at a time, typically with the help of a reference standard.

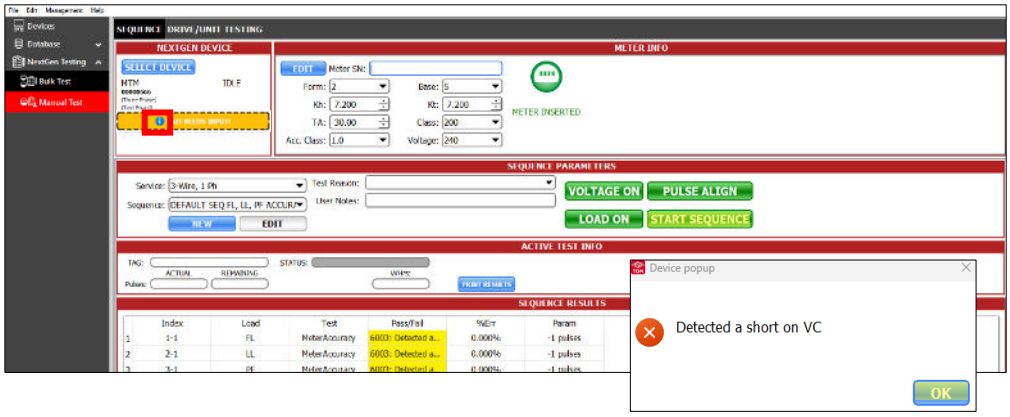
   Use Case in a Meter Shop:

   - When a technician wants to *manually validate each element* of the meter test process (e.g., different loads, power factors, or service types).
   - Ideal for *custom tests, troubleshooting*, or when *fine control* is needed over the test environment.
   - Each step in the sequence might change things like current/voltage levels or timing, and the operator can choose to advance or repeat steps.

   Why It Matters:

   - Gives full control for *diagnostic* or *non-standard tests*.
   - Helpful for training new technicians, so they can see the result of each test step.
   - Useful when testing complex meters that might not fit into a default auto test plan.

   End-users select a device; attributes associated with that meter are populated automatically. Click "**EDIT**" if any of the information needs to change because of configuration differences, test procedure adjustments, field conditions or regulatory/compliance updates. Once sequence is selected click "**START SEQUENCE**" to test.



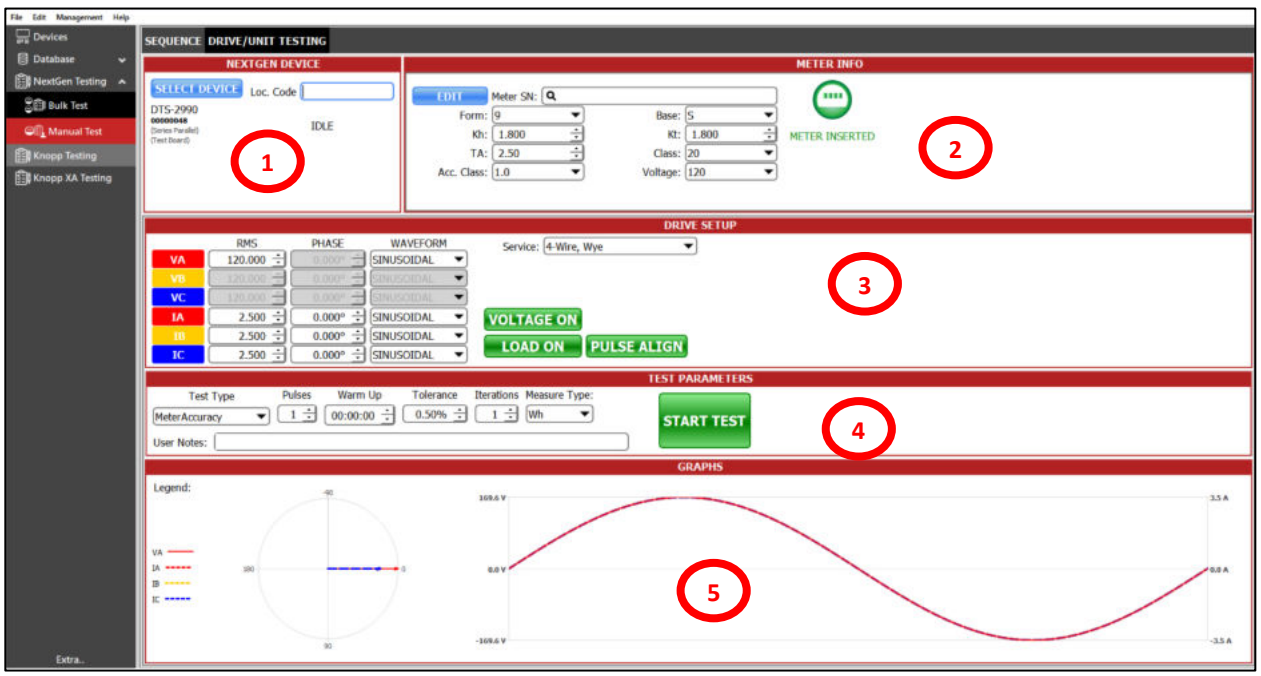
Protocols have been set in place to notify end-users of any issues that need to be addressed. In this example you will see a flashing message "**unit needs input**" notifying you that attention is required and that there is a possible issue detected. Click on the "**i**" to find out what the issue is. In this case the system **Detected a short on VC,** informing you that perhaps you will need to verify the wiring, check for damage, and troubleshoot as needed. Click "**OK**" to close the window.

NOTE: Once the issue is recognized by clicking "**OK**", the flashing message will disappear.

2. Drive/Unit Testing

Drive/Unit testing is central to *manual control testing* in a meter shop and gives technicians real-time control over the power applied to the meter.

Let's break the screen down into five sections (see image below – section 5 GRAPHS):



Section 1: NEXTGEN DEVICE

Select **Device** (this list displays all devices/test boards that are connected to network).

Note**:**
The **Meter Information** section is dynamic and will automatically adjust based on the type of device or test board selected. For example, selecting a Three Phase Test Board, Three Phase Qualification Board, or Series Parallel Qualification Board will display different configuration fields specific to the capabilities and requirements of that hardware. Ensure that the correct test board is selected prior to entering meter data, as this directly affects the available input options and test parameters.

Section 2: METER INFORMATION

If applicable, Click "**EDIT"** if you need to change any of the following parameters:

Meter SN (Serial Number): Internal tracking of the specific meter being tested.

Comm Serial / Utility Serial: Optional fields for **communication module serial number** or a **utility-assigned identifie**r.

Manufacturer: Dropdown to select the manufacturer (e.g., Landis+Gyr, Itron, etc.).

Model: Specific model number of the meter.

Catalog #: Internal reference or part number for utility inventory tracking.

Meter Notes: Free text field for special conditions, known issues, or testing context.

Form: Indicates the meter wiring configuration (e.g., 9S for 3-phase, 4-wire).

Base: Typically either *S* (socket-based) or *A* (bottom-connected).

Kh: Watt-hour constant; the energy represented by one pulse.

Kt: Test constant; used by the test system to calculate expected pulses.

TA: Test Amps; usually matches CT rating or nominal current for test setup.

Class: Meter class, representing load capacity (e.g., Class 20 = 20 amps).

Voltage: Nominal service voltage the meter is rated for.

Acc. Class: Accuracy class, such as 0.5 or 1.0, defines the maximum allowable error under test.

Multiplier: External multiplier applied when actual load exceeds meter capacity (common in CT-rated meters).

Functionality Code: Optional entry to capture special features or firmware revisions.

□ Check box for:

Bidirectional: Indicates the meter can measure both import and export energy (used for net metering or solar applications).

KYZ Capable: The meter has KYZ outputs—dry contact pulse outputs for load profiling or SCADA integration.

Demand Capable: Meter supports demand measurements (e.g., kW demand tracking).

Vectorial Arithmetic: Meter uses vector math (phasors) instead of arithmetic summation—important for polyphase power accuracy.

Click "**continue"** to save changes.

Section 3: Drive Section

RMS / PHASE / WAVEFORM Settings:

- **VA / VB / VC**: Voltage each phase
- **IA / IB / IC**: Current
- **Phase Angles**: Represents the timing offset of each phase.
- **Waveform**: The availability of specific waveform options depends on the selected device/test board and the configured service type (e.g., 4-Wire Wye, Delta, Series-Parallel, etc.). Not all waveforms are available for every configuration.

Waveform	Description
SINUSOIDAL	Standard clean sine wave; used in most accuracy tests.
Quad_V.ansi/Quad_I.ansi	Quadrature waveforms (90° phase shift) to simulate leading/lagging loads.
Pulse_V.ansi/Pulse_I.ansi	Pulsed waveform to simulate rapidly switching or bursty loads.
Peaked_V.ansi/Peaked_I.ansi	Peaked or high crest factor waveform; used for testing non-linear load effects.
MZCV / MZCC (V/I)	Custom waveforms used for meter qualification or standard compliance testing.
90_deg_V.ansi / 90_deg_I.ansi	Extreme 90-degree phase shift to test reactive power scenarios.
3rd Harmonic	Voltage waveform with injected 3rd harmonic distortion.

Section 4: TEST PARAMETERS

The Test Parameters section is dynamically configured based on the selected device or test board. Not all test boards support the same range of test types, and available fields may change accordingly. For example, a three-phase Qualification Board may only allow one test type and duration while a three-phase Test Board will have a choice of test type, pulses, warm up, tolerance, iterations and measurement type.

Select: **"Test Type"**. (Some) Test Types Available

Test Type	Purpose
Meter Accuracy	Verifies meter accuracy against a reference standard by comparing pulses to expected values.
Meter Drive	Tests the mechanical drive of the meter (used for electro-mechanical units).
Meter Time Run	Measures the time it takes for a specific number of pulses—used in legacy methods.
Meter Timed Register	Times the register's operation over a known load condition.
Meter Energy Delivery	Confirms the meter is recording energy flow correctly (especially in bi-directional meters).
Meter Demand	Evaluates the meter's ability to calculate and report demand over time.

Click: "**Start Test"**

Section 5: GRAPHS

The graphs section provides a real-time visual representation of the voltage and current waveforms applied to the meter under test.

4.2.4 Knopp Testing

This section allows users to monitor live measurements from the KCTS/KVTS and to retrieve and store measurement results from the unit. It provides two measurement views: Main and Engineering (described below). In addition, users can configure reference standard information (REF INFO) and settings for the TUT.

Connecting to a Device

To connect to a device, click the SELECT DEVICE button and choose from the list of available Knopp devices.
IMPORTANT: Ensure that the ***Knopp Comparators*** option is enabled under Supported Devices in Preferences. Refer to section 5.1 for more details.

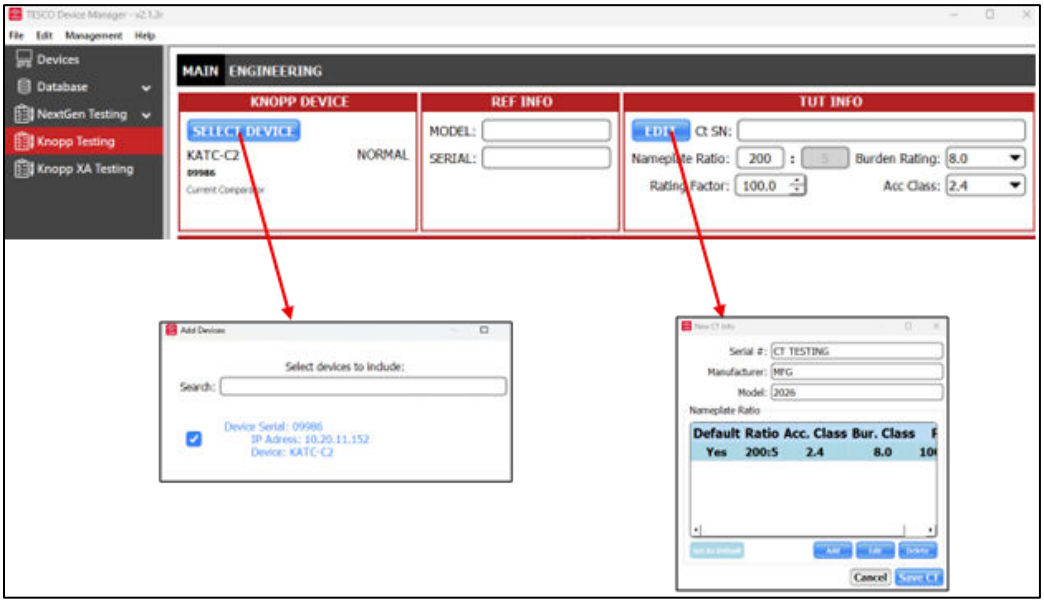
Updating TUT Information

In TUT INFO section, basic TUT information fields can be set:

Ct SN	Serial number of CT.
Nameplate Ratio	Ratio (Primary, Secondary) as indicated in the CT nameplate.
Rating Factor	CT rating factor.
Burden Rating	CT ANSI burden rating.
Acc. Class	CT accuracy class.

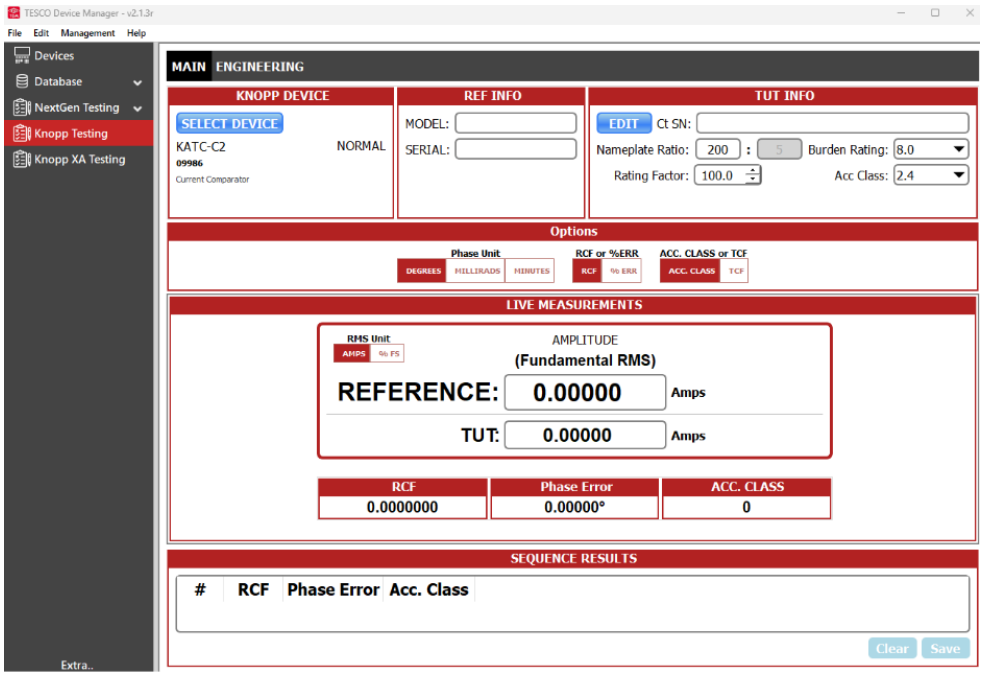
For a more thorough update of CT information, users can also click EDIT button (*see* Setting of CT information section).

NOTE: TUT information must be set in order to save captured measurement results.



MAIN VIEW

This view displays key measurement values for both the reference standard and the Transformer-Under-Test (TUT), including RMS and accuracy-related data. Options are available to adjust the measurement units (see below).

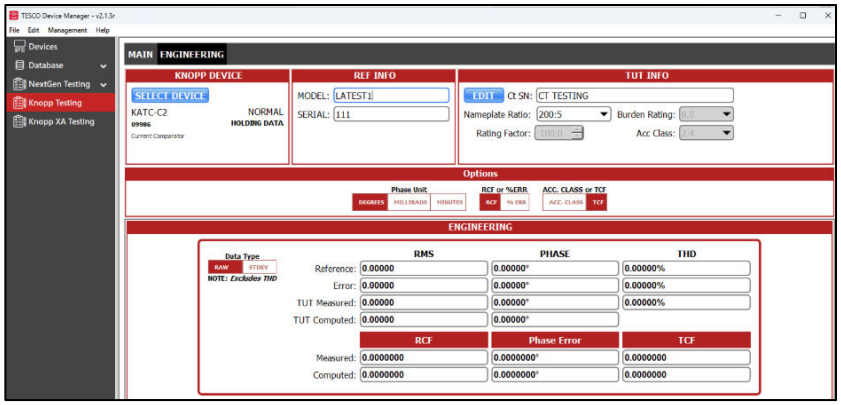


RMS Unit	
AMPS	Express REFERENCE / TUT RMS in Amperes.
% FS	Express REFERENCE / TUT RMS in percentage where full scale (FS) is 5 Amps.
Phase Unit	
DEGREES	Express Phase units in degrees.
MILLIRADS	Express Phase units in milliradians.
MINUTES	Express Phase units in minutes.
RCF or % ERR	
RCF	Express error in Ratio Correction Factor.
% ERR	Express error in percentage.

ACC. CLASS or TCF	
ACC. CLASS	Express TUT accuracy in percentage.
TCF	Express TUT accuracy in Transformer Correction Factor.
LIVE MEASUREMENTS	
REFERENCE	Fundamental RMS readings of REFERENCE transformer (secondary).
TUT	Fundamental RMS readings of TUT transformer (secondary).

ENGINEERING VIEW

In contrast to Main view, this option shows a lot more information which can be useful for engineering assessment. Furthermore, values can be expressed as raw or standard deviation as indicated by the Data Type option.



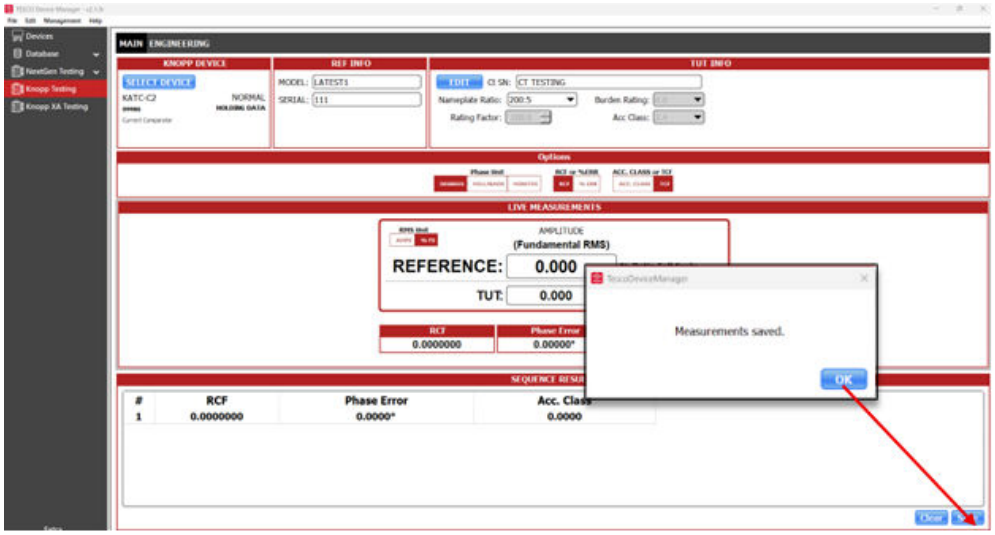
CHANNEL DATA	
RMS	RMS readings of either REFERENCE, ERROR or TUT channels.
PHASE	PHASE readings of either REFERENCE, ERROR or TUT channels. NOTE: All phases are referenced from the REFERENCE channel.
THD	Total Harmonic Distortion values for REFERENCE, ERROR and TUT channels.
ACCURACY DATA	
RCF	Ratio Correction Factor of the TUT.
Phase Error	Phase Error of the TUT.
TCF	Transformer Correction Factor of the TUT.

Measured vs Computed Values

Measured values are measurements coming directly from metrology of the unit. Computed values are *derived* values using the error channel measurement of the unit.

Saving Results

Results are displayed on a table in the SEQUENCE RESULTS section once they become available. This requires the operator to perform a HOLD DATA and RELEASE in the KCTS unit.
To save results into TDM, click "**Save**" button. NOTE: KCTS/KVTS does not have an internal database, so it is a good idea to save the results in TDM.



4.2.5 Knopp XA (KATC-3) Testing

This section allows users to remotely perform testing on the Knopp XA unit. It also enables configuration of test parameters, including the test ratio and selection of active TUTs. Live measurement results can be viewed in either Basic or Engineering modes.

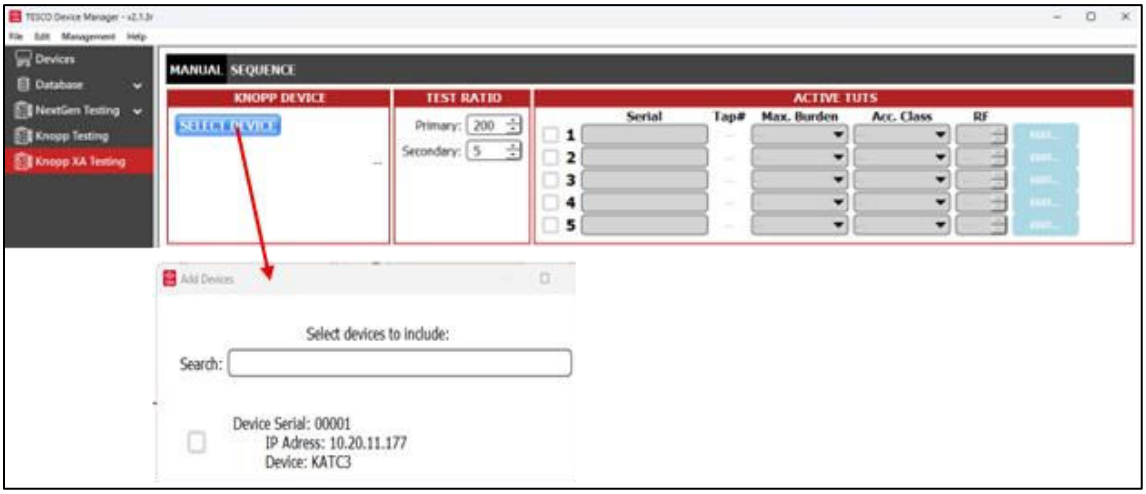
How to Connect to Device

To connect to a device, click on "**SELECT DEVICE**" button and select from a list of available Knopp devices.
IMPORTANT: Make sure Knopp Comparators option is enabled in the Supported Devices in Preferences. See section 5.1 for more information.

Setting TUT Parameters
TUT parameters are configurations related to the TUTs to be used for testing. First, set the ratio (Primary and Secondary) of the TUTs to be tested. Next, in the ACTIVE TUTs section, check all necessary TUT numbers that will be used for testing then fill out their basic information:

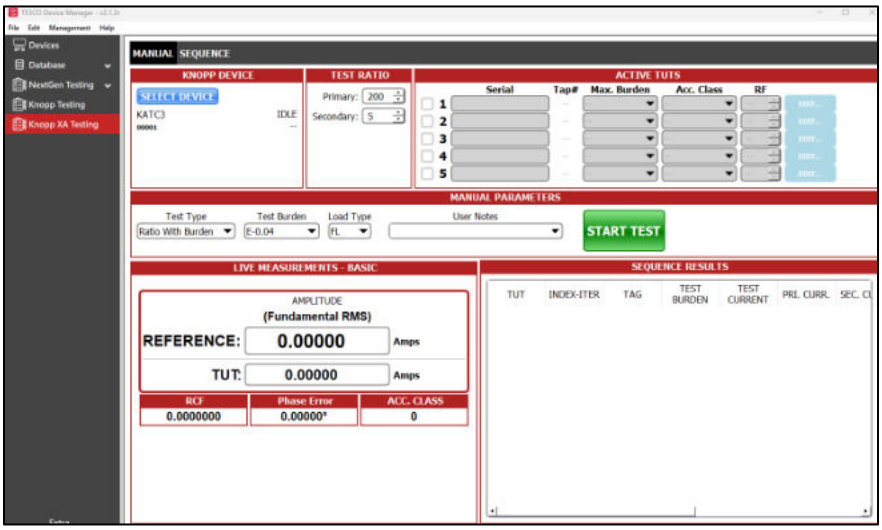
Serial	TUT serial number.
Tap #	(*Read-only)* Indicator of TUT tap number that matches Test Ratio.
Max. Burden	TUT max. ANSI burden.
Acc. Class	TUT Accuracy Class rating.
RF	TUT Rating Factor.

NOTE: When selecting TUT 5, all the other TUTs are disabled.
Click "**EDIT…**" button for a more complete way of setting the TUT information
For ease of use, each Serial field has an auto-matching feature that can list down all matching serials from the database.



MANUAL VIEW

This option allows users to run a single test. The MANUAL PARAMETERS section provides the following test parameters:



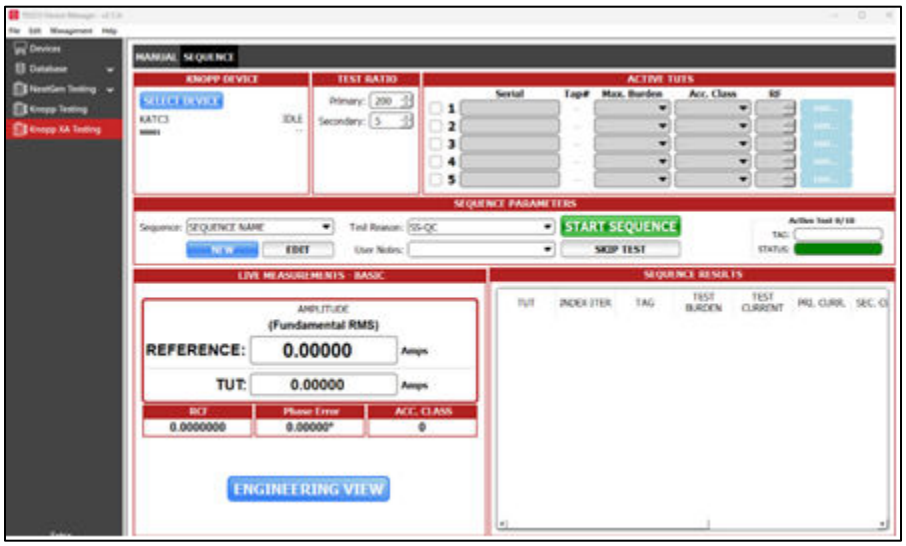
Test Type	The test to perform (*Ratio with Burden, Demagnetization*).
Test Burden	ANSI Burden to use for testing.
Load Type	Secondary test current: FL – Full Load test current (5 Amps) LL – Light Load test current (0.5 Amps) RF – Derive test current from Rating Factor of each active TUT (5*RF) Amps – Custom test current in Amps %FS – Custom test current in percent full scale
Sec. Test Current	NOTE: Available only for AMPS and %FS Load Types The actual test current.
User Notes	Test Notes that get saved with the results. *This is not required*.

After setting the test parameters, START TEST button can be clicked to start the test.

NOTE: At least one active TUT should be selected for the test to start.
When test is running, the START TEST button becomes the STOP TEST button that can be clicked to stop the test.

SEQUENCE VIEW

This option allows users to run a sequence (series of tests). The SEQUENCE PARAMETERS section provides the following test parameters:



Sequence	Name of selected sequence to run.
NEW button	Creates a new sequence to run.
EDIT button	Edits the currently selected sequence.
Test Reason	The reason for running the sequence. *This is not required*.
User Notes	Test Notes that get saved with the results. *This is not required*.
SKIP TEST button	*Available only when test is running.* Click to skip current test in the sequence.
Active Test	*Available only when test is running.* Shows the progress of the running sequence.

Viewing Results

The Knopp XA testing page provides these sections to view live measurements and results of the running test.

LIVE MEASUREMENTS Section

This section displays live measurements data in either BASIC or ENGINEERING view. BASIC view displays the following:

LIVE MEASUREMENTS - BASIC	
ACC. CLASS	TUT Accuracy class.
Phase Error	TUT Phase error.
RCF	TUT Ratio Correction Factor.
REFERENCE	Fundamental RMS readings of REFERENCE transformer (secondary).
TUT	Fundamental RMS readings of TUT transformer (secondary).
ENGINEERING VIEW button	Click to show ENGINEERING values.
LIVE MEASUREMENTS - ENGINEERING	
Data Type	Option to either show RAW or Standard Deviation (STDEV) values.
RMS	RMS readings of either REF, ERROR, TUT, VOLTAGE or Z channels.
PHASE	PHASE readings of either REF, ERROR, TUT, VOLTAGE or Z channels. NOTE: All phases are referenced from the REF channel.
RCF	TUT Ratio Correction Factor.
Phase Error	TUT Phase Error.
TCF	TUT Transformer Correction Factor.
THD	Total Harmonic Distortions for either REF, ERROR or TUT channels.
BASIC VIEW button	Click to show BASIC values.

Measured vs Computed Values

Measured values are measurements coming directly from metrology of the unit. Computed values are *derived* values using the error channel measurement. After setting the test parameters, START SEQUENCE button can be clicked to run the sequence.

NOTE**: At least one active TUT should be selected before running sequence.**
When sequence is running, START SEQUENCE button becomes CANCEL SEQUENCE button that can be clicked to abort sequence.

SEQUENCE RESULTS section

Partial and final results for each test in the sequence are listed in this section.

TUT	The TUT no. for the test.
INDEX-ITER	The Index and Iteration of the test.
TAG	The test TAG.
TEST BURDEN	The target test burden of the test (blank for Demagnetization test).
TEST CURRENT	The target test secondary current of the test (blank for Demagnetization test).
PRI. CURR.	The measured primary current of the test (blank for Demagnetization test).
SEC. CURR.	The measured secondary current of the test (blank for Demagnetization test).
RCF	The computed RCF of the test (blank for Demagnetization test).
Δ PHASE	The computed delta phase of the test (blank for Demagnetization test).
COMP. ACC. CLASS	The computed accuracy class of the test (blank for Demagnetization).
STATUS	The live status of the test. Possible values: (PASSED, FAILED, ONGOING, PENDING, SKIPPED, ERRORED).

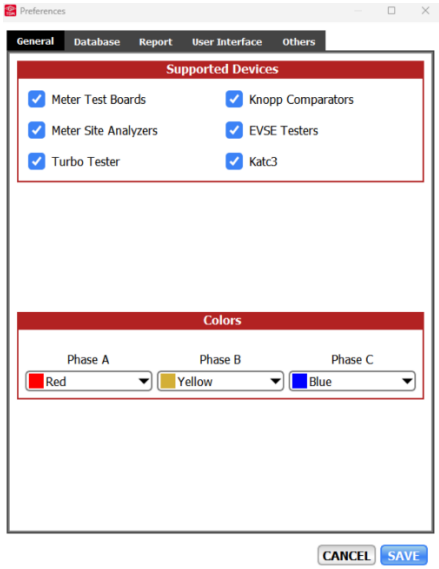
5 SETTING UP PREFERENCES IN TDM

The **Preferences** section of TDM allows users to tailor the software environment to meet their specific needs and workflow requirements. From selecting the devices you'll be working with—such as test boards, site analyzers, or EVSE testers—to customize the visual elements of charts, diagrams, and graphs, this area provides flexibility to align TDM with your operational standards.

Here, users can define critical settings such as backup locations for the TDM database, default directories for saving reports, and even the structure and nomenclature of reporting fields. Customization options also extend to reporting capabilities, ensuring that the data output from TDM matches the format and style preferred by your organization.

By configuring these preferences, users can enhance efficiency, maintain consistency, and create a more intuitive and user-friendly experience within the TDM platform.

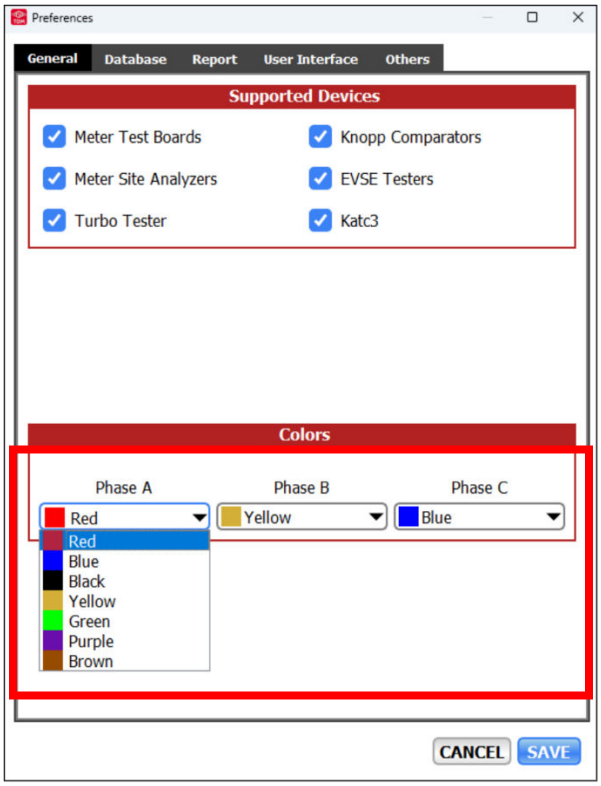
5.1 Setting Supported Devices



On the **General Tab** you choose two settings: supported devices and color scheme for reporting purposes.

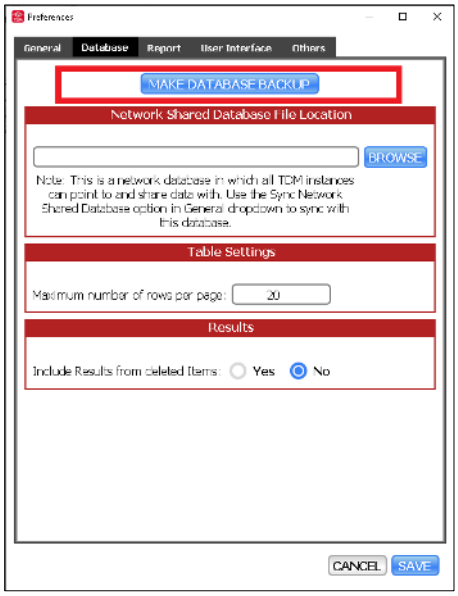
The first setting allows users to select the supported device types they plan to use within TDM, such as Meter Test Boards, Meter Site Analyzers, or Knopp Comparators. Enabling a device type prompts the system to recognize and communicate with that equipment, unlocking all the relevant features for testing and data collection. Disabling a device type will hide and deactivate any associated tools or functions to streamline the interface.

5.2 Setting Colors for Charts/Diagrams/Graphs



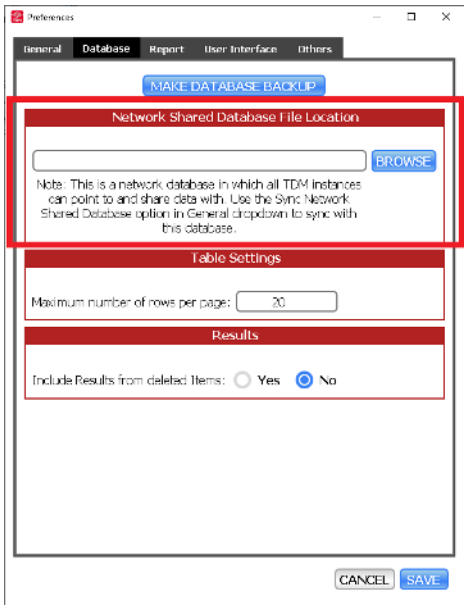
The second setting customizes the colors used in charts and diagrams, including Phasor diagrams and waveform setup previews. This allows you to create visually distinct and easy-to-read representations of your data, helping you quickly analyze patterns and insights.

5.3 Backing up TDM's Database



This option allows users to create a secure backup copy of TDM's database, helping to preserve data integrity and prevent data loss in the event of system failure or unexpected issues.

5.4 Creating and Syncing with a database on a Network folder



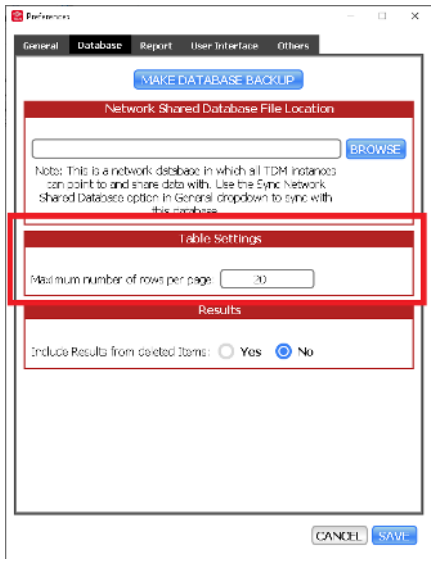
Network Shared Database File Location allows users to specify the path to a shared folder on a network drive, enabling TDM to access and store its database in a centralized location. If a database does not already exist at the specified path, TDM will automatically create one.

This feature is designed to support collaboration by allowing multiple TDM users to connect to the same network database. When all instances of TDM are pointed to this shared location, users can maintain a consistent and up-to-date dataset across systems.

To enable this functionality, the selected path must be located on a shared network drive accessible to all intended users. Once configured, the option to **Sync with Network Drive Database** becomes available under the *File* menu on the toolbar. This allows users to share their local data by pushing it to the shared network database—ideal for updating the centralized repository with new data pulled from field devices.

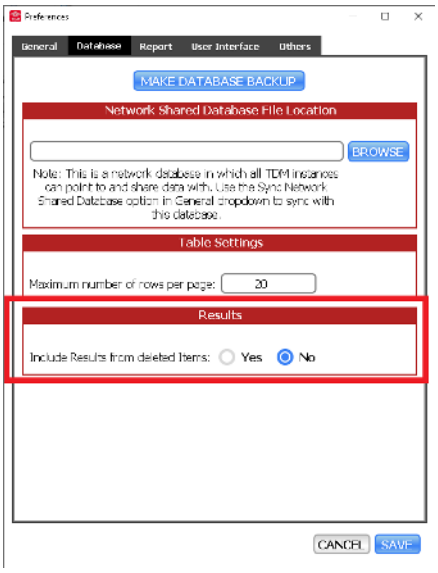
NOTE: Use the *Sync Network Shared Database* option in the *General* dropdown to ensure your local TDM instance stays in sync with the shared network database.

5.5 Changing the number of rows shown at a time on the tables in TDM



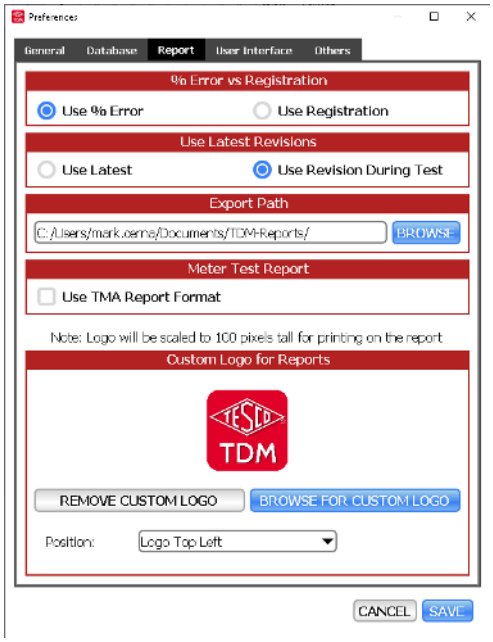
This setting allows users to define the number of rows displayed in TDM tables, primarily affecting tables on the Database page and sync popup tables.

5.6 Showing results from deleted Items



This setting allows users to include or exclude test results associated with deleted items—such as Meters, Meter Stations, or EVSE Chargers—from the database results table. When set to **Yes**, results from previously deleted items (including Meter Sequence Results, Meter Station Sequence Results, and EVSE Sequence Results) will continue to appear in the results display. When set to **No**, these results will be hidden from view.

5.7 Setting Report preferences



The **Report** tab allows users to tailor the appearance and content of test reports generated by TDM. These settings control formatting, data references, export preferences, and branding. *Please note changes made in this tab will only apply to reports generated after the changes are saved.*

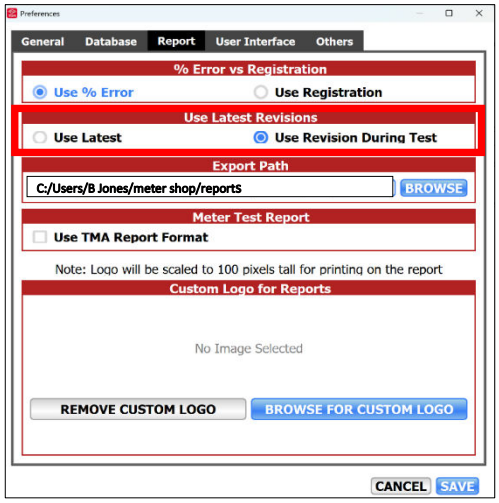
5.7.1 % Error vs Registration

This setting determines how measurement results are displayed in the final calibration report. Users can choose between two display formats:

- **Use % Error**. This is the default and most commonly used format. It displays the measurement result as a percentage error, calculated using the difference between the reference value and the DUT (Device Under Test) value. This format is recommended for most testing scenarios and aligns with standard accuracy reporting methods used in compliance testing.
- **Use Registration**. This option displays the DUT's actual registered value (such as pulse count or energy reading) instead of calculating a percentage error. It is typically used when comparing energy registration or pulse-based devices and may be required in specific testing protocols.

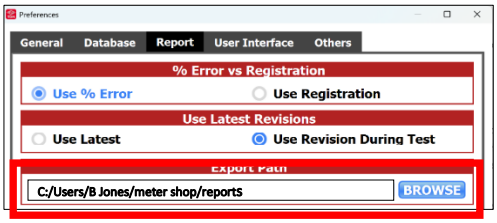
Recommendation: Unless your calibration process specifically requires registration values, it is recommended to use **% Error** for consistency, traceability, and reporting clarity.

5.7.2 Use Latest Revisions



By default, TDM will use the Revised data during test. However, users may discover that they must make some corrections on the item records, i.e. Meter's manufacturer is incorrect. By selecting "Use Latest" after making the changes, TDM will use the updated information in exporting the reports.

5.7.3 Export Path



The Export Path field specifies the folder location where all calibration reports will be saved. Users can modify this path by clicking the "Browse" button and selecting a preferred directory.

5.7.4 Meter Test Report

By default, TDM generates calibration reports using its own standardized format. If preferred, users can select the **"Use TMA Report Format"** option to generate reports in the legacy style used by TESCO's previous software, TMA. This option may be helpful for end users who are familiar with that format or who require consistency with historical documentation.
Note: The TMA format is optional and primarily provided for backward compatibility.

5.7.5 Custom Logo for Reports

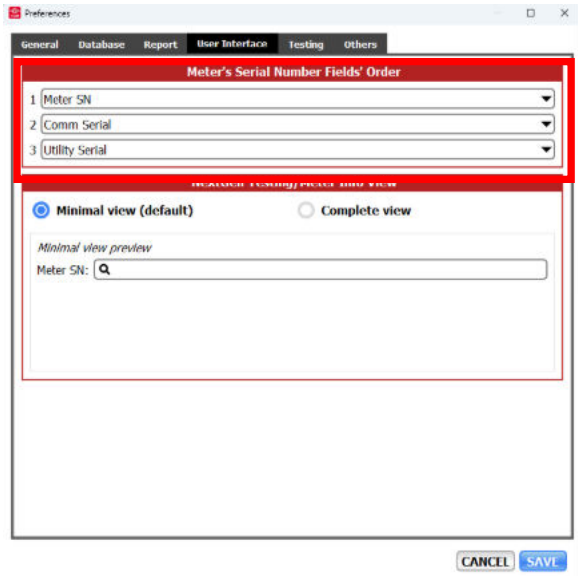
TDM allows users to personalize their calibration reports by adding a company logo. To upload a logo, click **"Browse for Custom Logo"** and select an image file in one of the supported formats: .jpg, .jpeg, .bmp, or .png. The selected image will be scaled to a height of 100 pixels for optimal placement on the report.

Note: You can remove or update the logo at any time using the **"Remove Custom Logo"** or **"Browse for Custom Logo"** options.

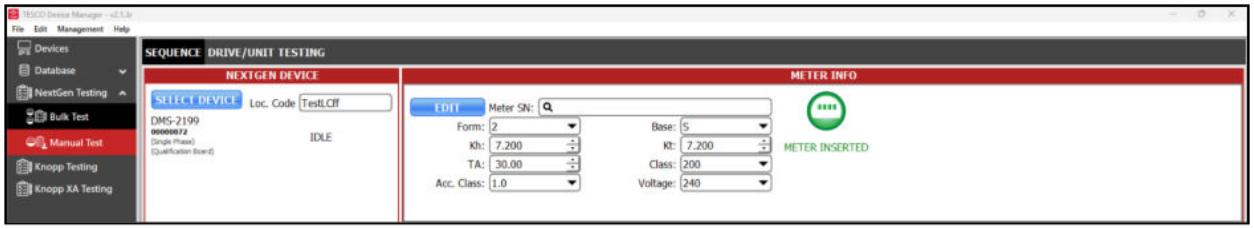
5.8 Changing the placement order of Meter Serial fields

Minimal View (default)

This is the standard meter information view from previous versions of TDM. It shows limited meter information fields and meter information look up is always based on the Meter Serial Number (see *Meter Lookup Process* section).

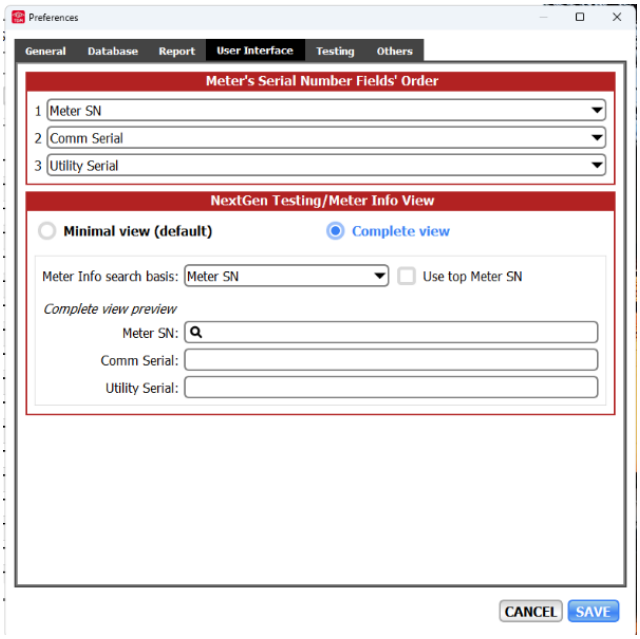


Preview (Minimal view)

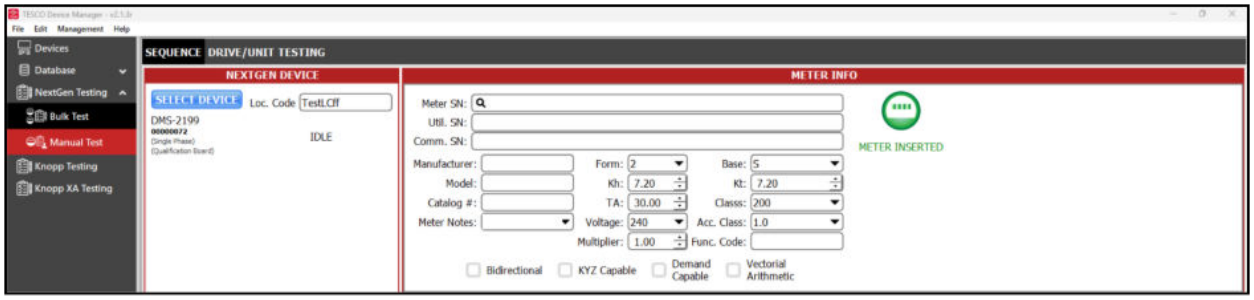


Complete view

In *Complete View*, all the meter information fields become available. In contrast to *Minimal View* where only the Meter Serial Number is the basis to look up meter information, this view allows for customizing the meter *search basis* which can either be **Meter Serial Number**, **Utility Serial Number** or **Comm. Serial Number**. The selected search basis field is indicated by the icon.

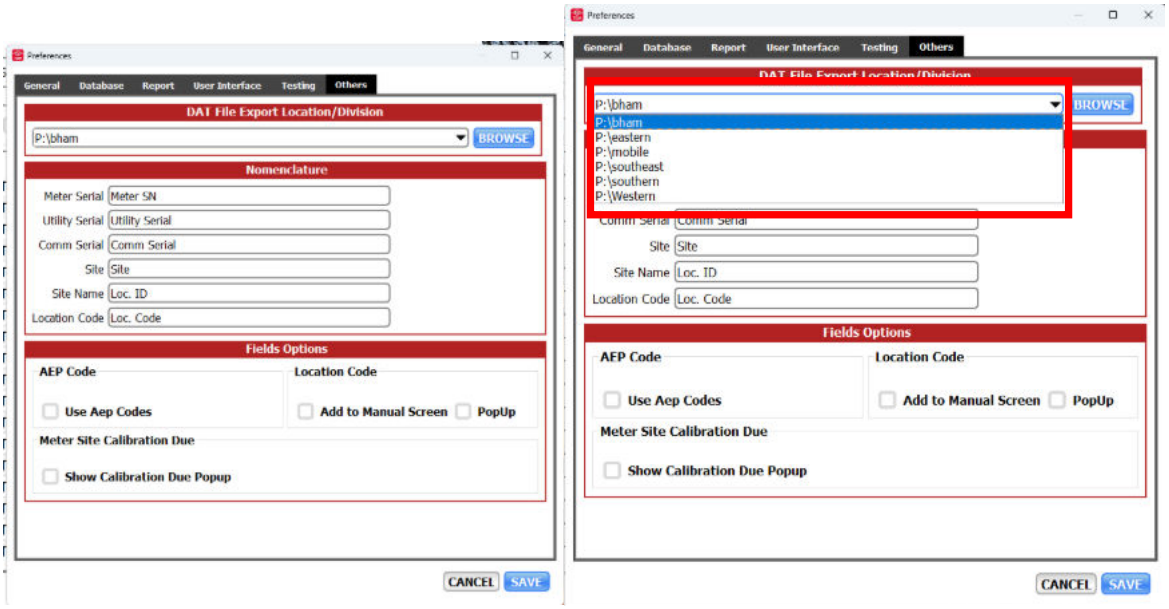


Preview (complete view)



By default, the meter serial fields are arranged in the following order: **Meter Serial Number**, **Comm Serial**, and then **Utility Serial**. Users may modify this sequence as needed to align with their organizational preferences or reporting standards.

5.9 Setting the default DAT file export location



When TDM exports DAT files, it refers to a predefined export path. The following preset locations are currently available:

1. P:/bham
2. P:/eastern
3. P:/mobile
4. P:/southeast
5. P:/southern
6. P:/Western

Alternatively, users may define a custom export path by clicking **"Browse"** and selecting a preferred directory.

<u>Note:</u> Ensure the selected path is accessible to all users who will need to retrieve or upload DAT files.

5.10 Changing the displayed text for certain labels

TDM allows users to customize the displayed text for specific labels to better match internal naming conventions. The following labels can be renamed:

1. Meter SN
2. Utility Serial
3. Comm Serial
4. Site ID
5. Loc. ID
6. Loc. Code

<u>Note:</u> Updating label text affects only how the fields are displayed within the application and reports. It does not alter the underlying database fields or stored data.

5.11 Autofill based on AEP Codes

The **AEP Code** feature automatically loads meter information based on the selected AEP code. When AEP Codes are enabled in Preferences, users can enter or select an AEP code on supported screens, such as the **New/Edit Meter popup** and the **NextGen Manual** page.

When an AEP code is entered, the application retrieves the meter information associated with that code and populates the relevant fields. This may include details such as Form, Kh, TA, Voltage, and other supported meter settings, allowing users to complete meter information more quickly and consistently.

The **Custom AEP Code** feature functions similarly but uses user-defined configurations instead of only the standard default AEP data. A **Custom AEP Code** can store its own complete set of meter information. When a saved Custom AEP Code is entered, the application loads the associated values into the page.

If a Custom AEP Code is configured to override the **default AEP code**, its custom meter information will be applied instead of the standard default values. This provides flexibility, allowing users to maintain standard AEP behavior while also supporting company-specific or test-specific meter configurations.

In summary, the AEP feature loads meter data based on the selected code, while the Custom AEP feature loads data from a user-defined version of that code when available.

This feature is only available when the meter search basis is set to **Meter SN** or **Utility SN**.

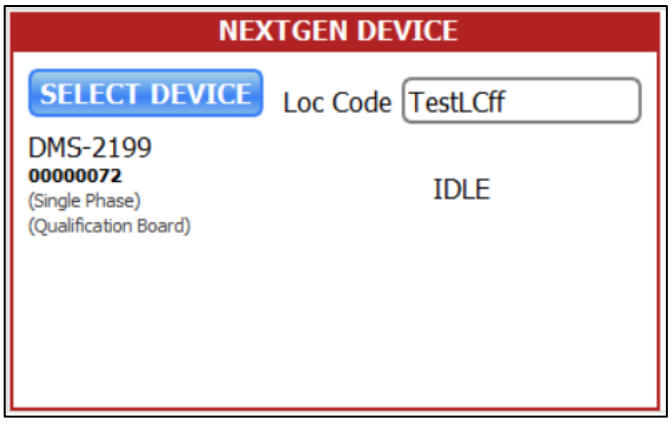
FIELD OPTIONS

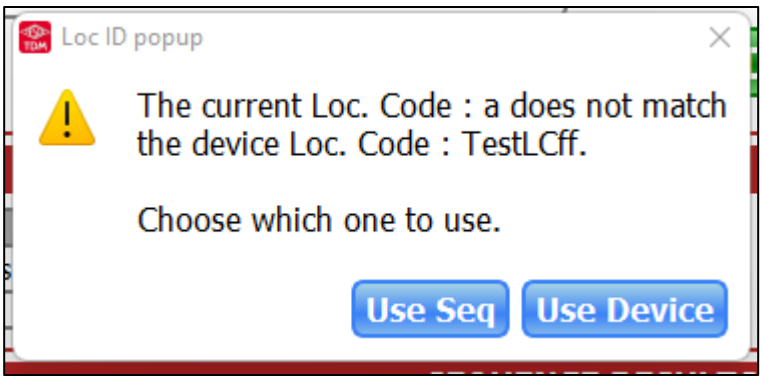
AEP CODE: This option enables AEP Codes within the application. When selected, the system will use AEP Codes wherever they are supported, including the New/Edit Meter popup and the NextGen Manual page. For more details on how AEP works, refer to the Default Settings popup.

LOCATION CODE: This option adds a Location Code field to the NextGen Manual page. It is used to specify the location of the device under test.

METER SITE CALIBRATION DUE: This option, when enabled, upon launching TDM, should there be any Meter Sites due for calibration(based on set calibration frequency in months) a popup will notify you to perform tests on sit then sync results with TDM.

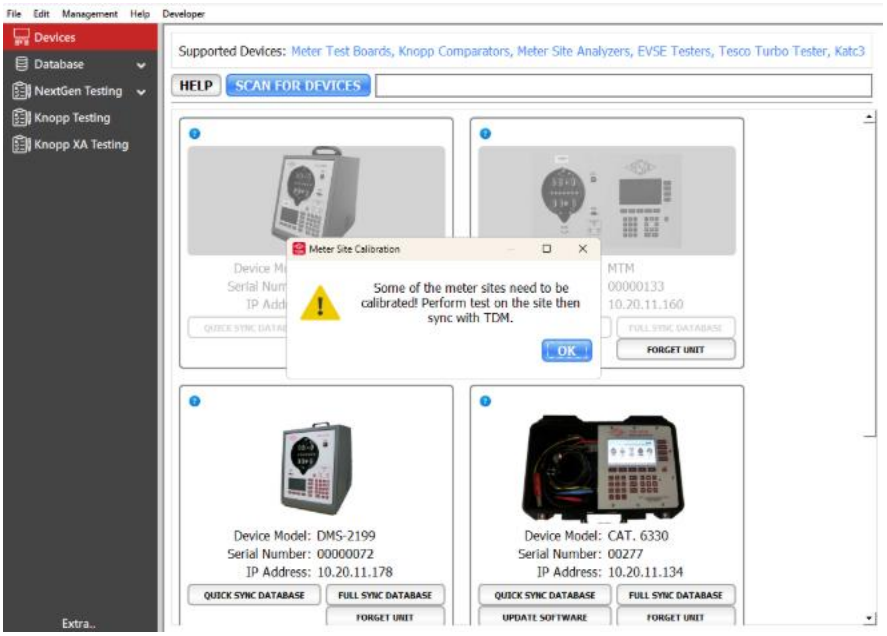
NextGen Manual Page Preview

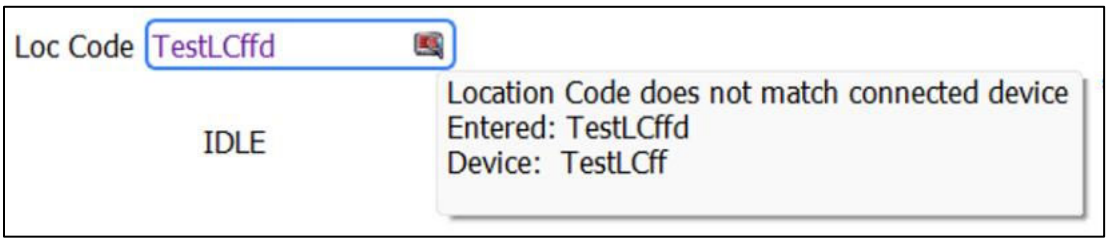




Location Code Popup: Enabling this option in Preferences will warn the user with a popup if the Location Code does not match before the sequence starts.

Meter Site Calibration Due Popup: Enabling this option in preferences will initiate a popup upon launch notifying of any Meter Sites due for calibration.





The **Location Code icon** indicates whether the entered **Location Code** matches the connected device.

On the **NextGen Manual** page, the Location Code field allows users to set the Location Code for the device **for the current test sequence**.

When a Location Code is entered, the application compares it to the value reported by the connected device. The icon provides a quick visual cue when the values do not match.

If there is a mismatch, a warning icon appears next to the field. Hovering over the icon displays a tooltip with additional details, including:

- A message indicating that the **Location Code** does not match the connected device
- The **Entered** Location Code
- The **device's** reported Location Code

This feature helps users quickly identify when the Location Code entered on the page differs from the one detected from the connected device

5.12 TDM Scanner Setup (Prefix + Enter)

Purpose

Configure the barcode scanner to send a prefix so TDM can recognize scanner input and place the scanned value into the appropriate search field on the Manual Testing page, based on the user's Meter Info search basis preference.

Required Scanner Behavior

- **Prefix:** <T>
- **Suffix / Terminator:** Enter (Carriage Return)
- **Each scan should follow this format:** <T>052000044577<ENTER>

How to Program the Scanner Prefix

The scanner must be configured to send the prefix characters <, T, and > before the barcode value. For the scanner model currently used by Tesco, scan the *Add Prefix* QR code to begin prefix programming. For other scanner brands or models, this specific QR code may not work. In those cases, refer to the scanner manufacturer's programming manual and scan the required setup barcodes for the ASCII prefix characters in the following order: < T >

After programming the prefix, save or exit configuration if required by the scanner.

Add Prefix

Add Prefix QR code
(scanner-specific ex. Tera)

ASCII prefix barcodes for other scanners: < T >

3C	60	<		
54	84	T		
3E	62	>		

How to Program the Suffix (Enter)

The scanner must be configured to send an Enter key at the end of each scan. This can be set as:

- Enter
- Carriage Return (CR)
- CR/LF (if Enter alone is not supported)

TDM expects each scan to end with an Enter input so it can recognize that the scan is complete.

How TDM Determines Where to Place the Scanned Value

In TDM Preferences, the selected *Meter Info search basis* controls which field receives the scanned value:

- **Meter SN** - the value is entered into the Meter SN field
- **Comm Serial** - the value is entered into the Comm Serial field
- **Utility Serial** - the value is entered into the Utility Serial field

Users can control where scanned data is placed by selecting the desired search basis in **Preferences**.

6 SETTING TESCO DEVICES UP WITH TDM

6.1 Setting up a device's network connection

TESCO Device Manager (TDM) communicates with TESCO devices over a network connection. Depending on your organization's IT environment and security requirements, there are two supported methods for establishing this connection:

1. **Through a Router, Switch, or Ethernet Wall Jack**
   Connect the TESCO device to your network using a standard Ethernet cable. This allows the device to operate within your organization's network infrastructure, making it accessible to TDM from any authorized workstation on the same network.

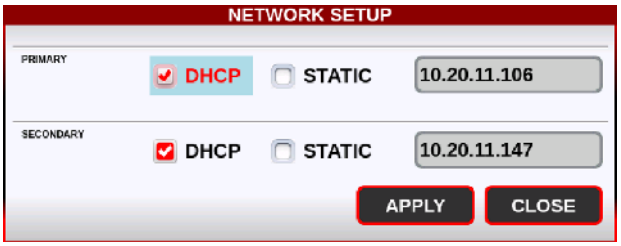
2. **Peer-to-Peer (Ad-Hoc) Connection**
   For standalone setups or restricted network environments, you can connect the TESCO device directly to a laptop or PC using an Ethernet cable. This creates a direct point-to-point connection without requiring additional networking equipment.

Note: Configuration steps for each method, including IP address setup and scanning options, are detailed below.

6.1.1 Through a router/switch/ethernet wall jack

To connect a TESCO device to TDM over your organization's network:

1. Use an Ethernet cable to connect the TESCO device (such as a meter test board, meter site analyzer, or EVSE tester) to an available router, network switch, or Ethernet wall jack.
2. On the TESCO device, navigate to its **Network Settings** to locate the current IP address:
   a. For **Meter Test Boards**:
      Navigate to SETTINGS → PREFS → GENERAL → NETWORK
      Some models may display two IP addresses; if so, note the **primary address**.



b. For **Meter Site Analyzers and EVSE Testers**:
Navigate to PREFS → GENERAL → NETWORK.

Optional: You may choose to assign a **static IP address** to the TESCO device. To do so, check the **"STATIC"** option and enter the desired IP address manually.

⚠️ ***Important*: If using a static IP, consult with your IT team to ensure the address does not conflict with other devices on the network.**

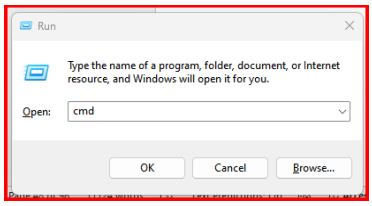
6.1.2 Peer-to-Peer/Ad-Hoc

A peer-to-peer (or "ad-hoc") connection allows you to connect a TESCO device directly to a PC or laptop using an Ethernet cable, without requiring a router or switch. This method is ideal for standalone setups or when working outside of a corporate network.

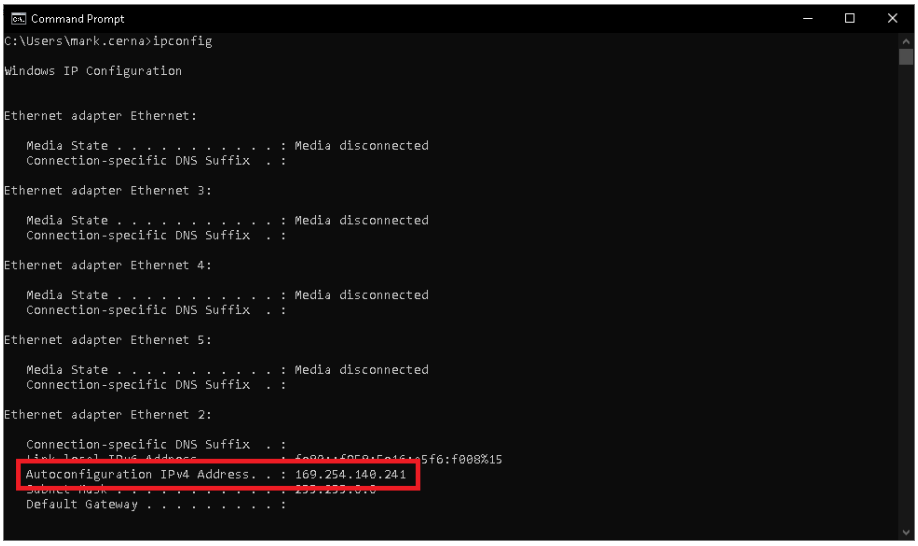
Step-By-Step Instructions:

1. **Connect the Devices**
   Using an Ethernet cable, connect the **TESCO device** (e.g., **Meter Test Board**, **Meter Site Analyzer**, or **EVSE Tester**) directly to a Windows laptop or PC.
2. **Check the Computer's Auto-IP Address**
   On your PC:
   a. Press **Windows + R** to open the **Run** dialog.

   b. Type `cmd` and press **Enter** to launch the Command Prompt.



c. In the Command Prompt, type `ipconfig` and press **Enter**.
d. Locate the **Autoconfiguration IPv4 Address** (typically starts with 169.254.x.x).
Example: *169.254.140.241* — this is your PC's address on the ad-hoc network.



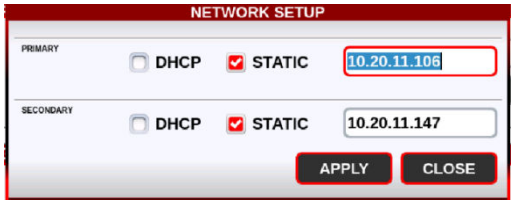
3. **Configure the TESCO Device's Network Settings**
On the TESCO device, you will assign a compatible static IP address that is in the same range but not identical to the PC's.

- If your PC address is 169.254.140.241, set the TESCO device to 169.254.140.242.

⚠️ Do not use the same IP address as your PC. Acceptable range: 169.254.140.0 – 169.254.140.255 (excluding the PC's IP).

Accessing Network Settings on TESCO Devices:

- **For Meter Test Boards**:
Navigate to SETTINGS → PREFS → GENERAL → NETWORK.



- **For Meter Site Analyzers and EVSE Testers**: Navigate to PREFS → GENERAL → NETWORK.

- Set the mode to "**STATIC".**
- Enter the selected IP address.
- Click "**APPLY"**, then "**CLOSE".**

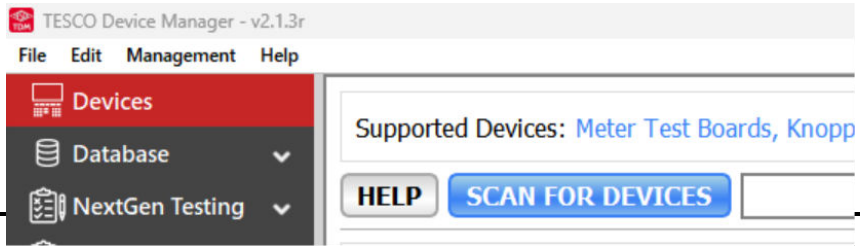
4. **Optional: Confirm the Connection**
   Back on your PC, you can confirm the devices are communicating:

- Open the Command Prompt.
- Type "ping" followed by the IP address you assigned to the TESCO device (e.g., "ping 169.254.140.242") and press **Enter**.
- If the setup is correct, you should receive a reply, indicating that the connection is active.

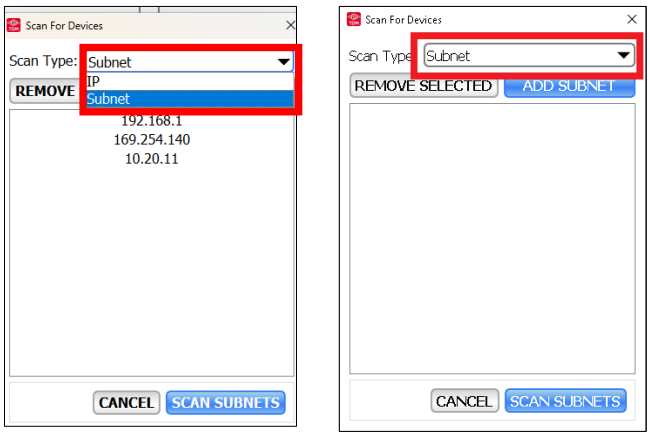
```
C:\Users\mark.cerna>ping 10.20.11.200

Pinging 10.20.11.200 with 32 bytes of data:
Reply from 10.20.11.200: bytes=32 time=1ms TTL=64
Reply from 10.20.11.200: bytes=32 time=1ms TTL=64
Reply from 10.20.11.200: bytes=32 time=1ms TTL=64
Reply from 10.20.11.200: bytes=32 time=1ms TTL=64

Ping statistics for 10.20.11.200:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms
```

6.2 Adding a subnet to the scan list and performing a network scan

1. In TDM, click **"Devices"** from the side menu, then select **"Scan for Devices"** to open the device scan window.

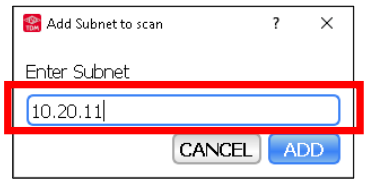


2. In the **Scan for Devices** popup window, select **"Subnet"** from the scan type dropdown menu.

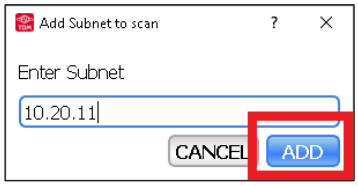


3. Click "**ADD SUBNET**" button.

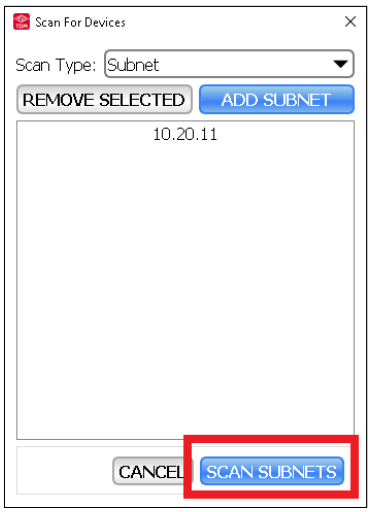
4. In the **Add Subnet** popup, enter the first three groups of numbers from the TESCO device's IP address (left to right). For example, if the TESCO device has an IP address of "10.20.11.242", you will need to enter "10.20.11".



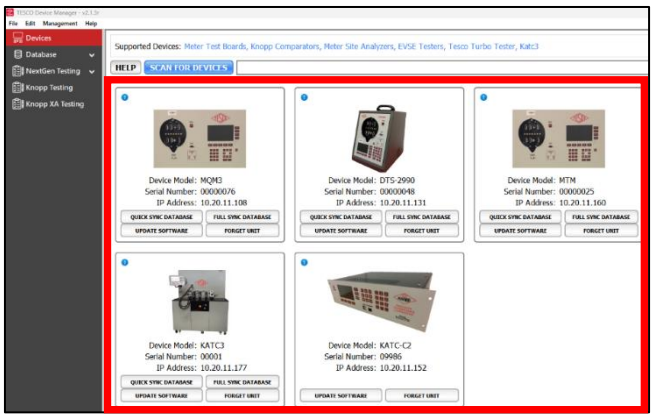
5. Click **"Add"** to save the subnet to the list.



6. Click "**SCAN SUBNETS**" to begin scanning the specified network range.



7. Any detected TESCO devices will be listed on the **Devices** page.



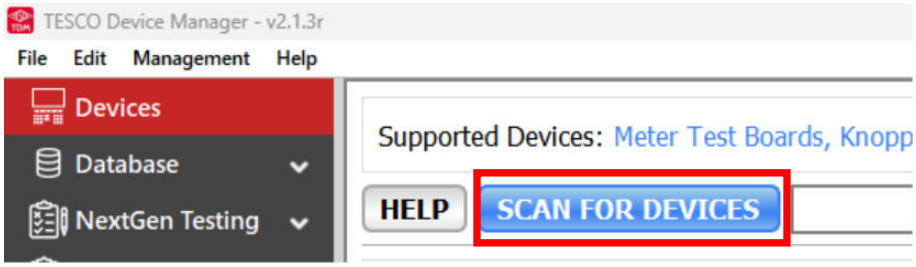
Tip: Scanning by subnet is ideal for finding multiple devices on a shared network without needing to know individual IP addresses.

6.3 Adding an IP address to the scan list and performing a network scan

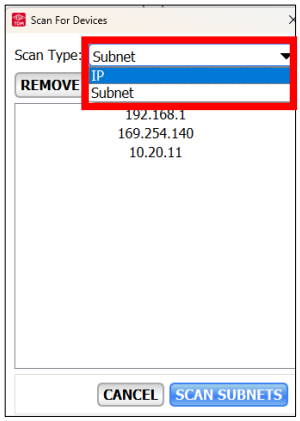
This option allows you to scan for a specific TESCO device when you know its exact IP address. It's useful when working with static IP assignments or when scanning a broad subnet is not necessary.

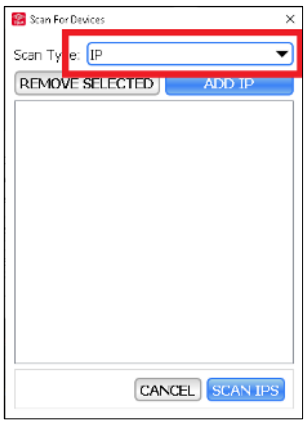
Step-by-Step Instructions:

1. In TDM, click **"Devices"** from the side menu, then select **"Scan for Devices"** to open the scan window.



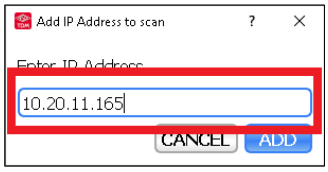
2. In the **Scan for Devices** popup, choose **"IP"** from the scan type dropdown menu.



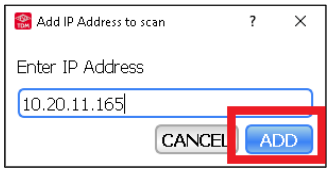


3. Click the **"Add IP"** button.

4. In the **Add IP Address to Scan** popup, enter the full IP address of the TESCO device.



5. Click **"Add"** to close the popup and save the IP address to the scan list.



6. Click **"Scan IPs"** to begin scanning the specified address.

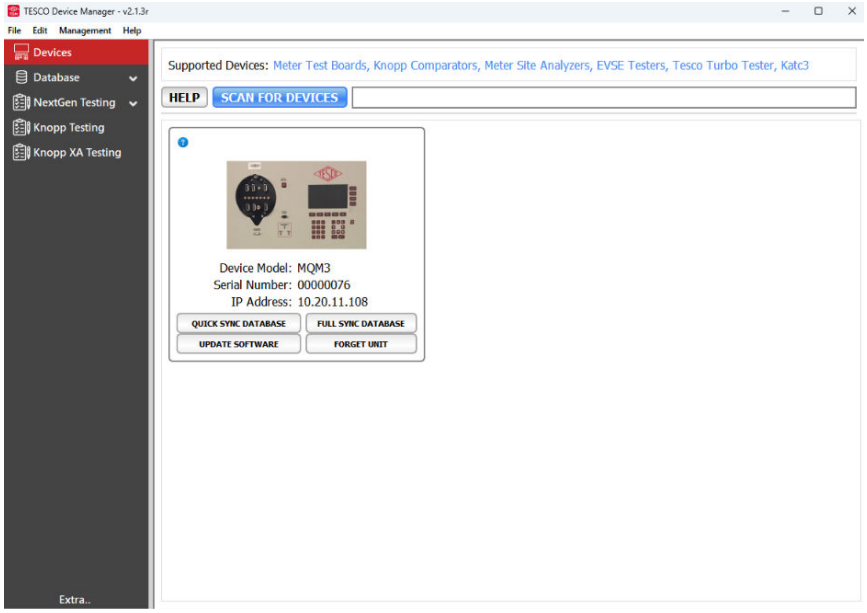
Scanning by IP *is* ideal when you're connecting to a **single known device** — especially when you already know the exact IP address.

7. Help Icon on Device Cards

   A tooltip is also shown when the user hovers over an icon. The tooltip provides more information about what the icon means and what the user should understand from that status.

6.4 Removing/Forgetting a device

If a device is no longer in use or needs to be removed from the TDM device list, you can manually delete it using the **Forget Unit** option.



Step-by-Step Instructions:

1. Navigate to the **Devices** page in TDM.
2. Locate the device you wish to remove.
3. Click the **"FORGET UNIT"** button on that device's cell.

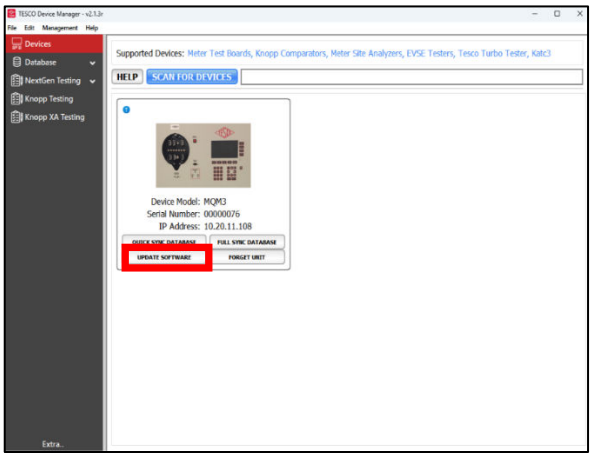
Once selected, the device will be removed from the visible list and will no longer appear in future scans unless re-added.

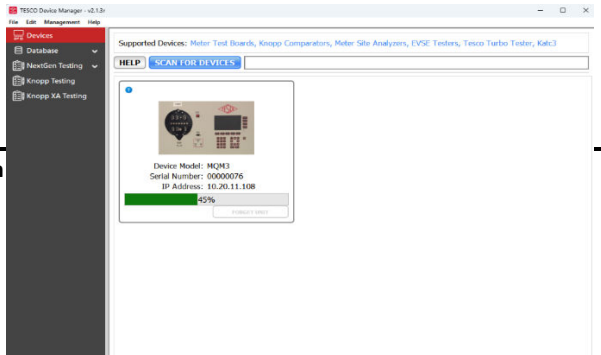
Note: This action only removes the device from the current view in TDM. It does not affect the device itself or its network settings.

6.5 Performing Software update on a device

⚠️ **WARNING**: Ensure the device's network connection is stable before starting a software update. Interruptions during the update process may result in incomplete installation or device communication issues.

TDM allows users to update the software on supported TESCO devices when a newer version is available. **This option is only visible if the device is running outdated software**.





Step-by-Step Instructions:

1. On the **Devices** page, locate the TESCO device you wish to update.
2. If the device is eligible for an update, an **"UPDATE SOFTWARE"** button will appear on its device cell.
3. Click **"UPDATE SOFTWARE"** to begin the update process.

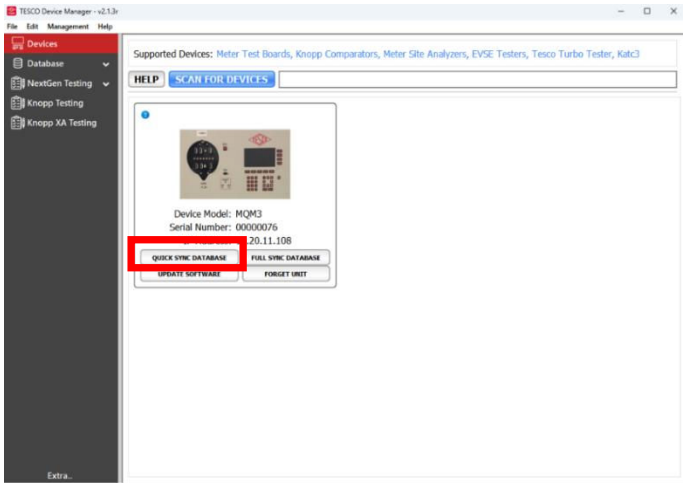
During the update, the device's screen may go blank (white or black) and restart automatically. This is normal behavior.

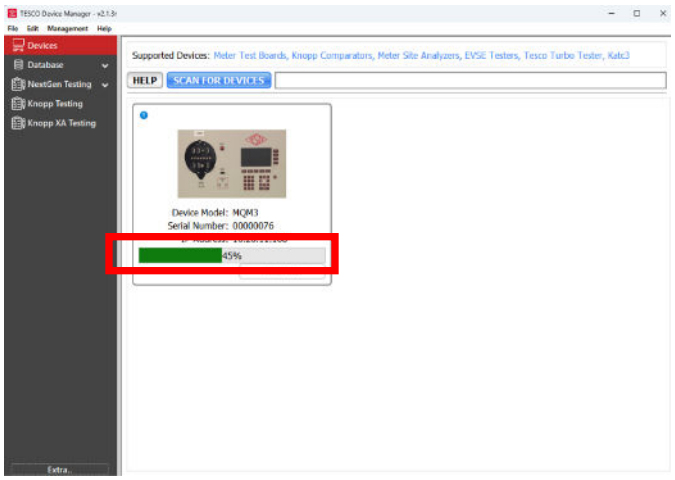
4. A progress bar will appear on the device cell in TDM, showing the update status in real time.
5. Once the update is complete, the device will automatically reboot and return to its normal operating state.

Note: Do not disconnect power or network cables while the update is in progress.

7 PULLING RECORDS FROM A DEVICE TO TDM (Quick Sync)

Clicking the **"Quick Sync Database"** button on the device cell initiates a one-way transfer of data from the connected device to your local TDM installation. This process updates the local database stored on your computer with the latest records from the device.





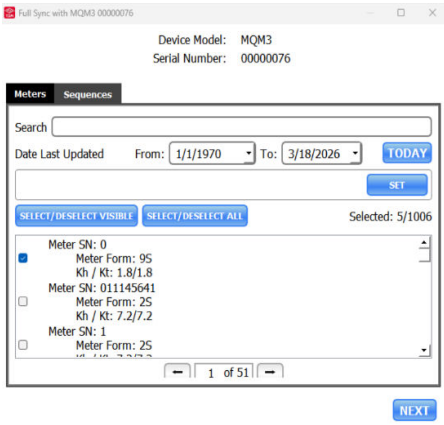
Step-by-Step Instructions:

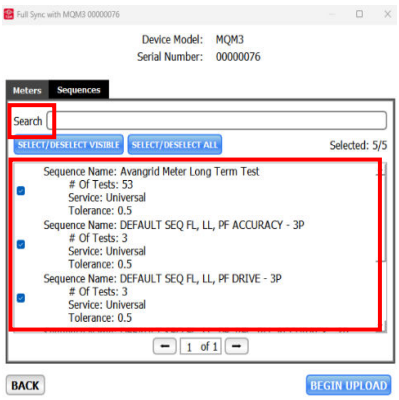
1. On the **Devices** page, locate the device from which you want to pull records.
2. Click the **"QUICK SYNC DATABASE"** button on the device cell.

A progress bar will appear, indicating the status of the synchronization process. Once complete, the retrieved records will be available in the local TDM database for review or export.

Note: This action does not remove or alter records on the device itself. It simply ensures that your local copy of the database reflects the most current data available.

8 MANAGING RECORDS ON A DEVICE (Full Sync)





To manage meter and sequence records stored on a TESCO device, click the **"Full Sync Database"** button located on the device cell.

This will open the **Full Sync** window for the selected device.

Unlike Quick Sync, which only pulls data from the device into TDM, *Full Sync is bidirectional* meaning it updates and synchronizes records *between the device and your local TDM database*.

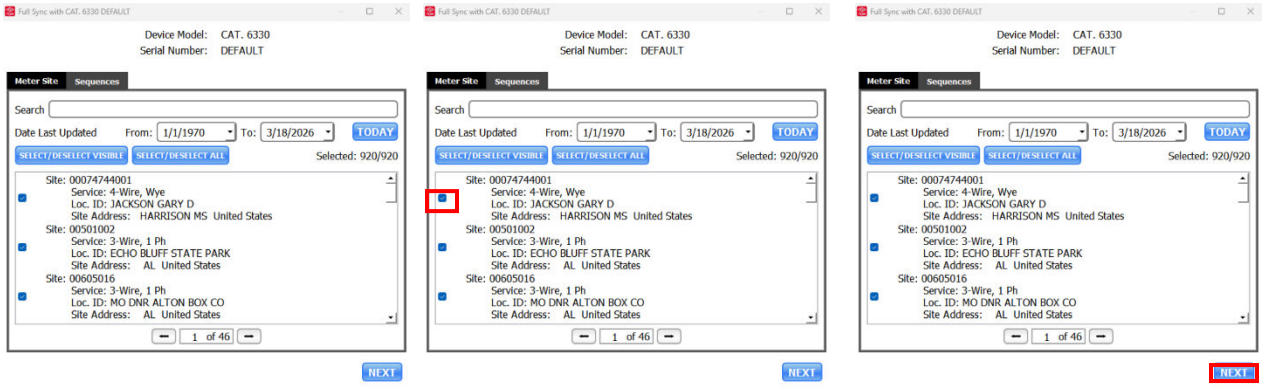
Once the Full Sync window is open, you can review and select which items should be retained or removed on the device. The interface is organized into two tabs:

- **Meters** – Displays all meter records available for syncing. Please refer to section **8.1** for more information/instructions.
- **Sequences** – Displays all test sequences available for syncing. Please refer to section **8.2** for more information/instructions.

After selecting the desired records, click **"Next"** to proceed through the tabs, then select **"Begin Upload"** to finalize the sync.

8.1 Selecting which items to keep on the device

The items displayed in this section will vary depending on the connected device type. Items that are **checked** indicate records currently stored on the device, while **unchecked** items are not present on the device but still exist in TDM.



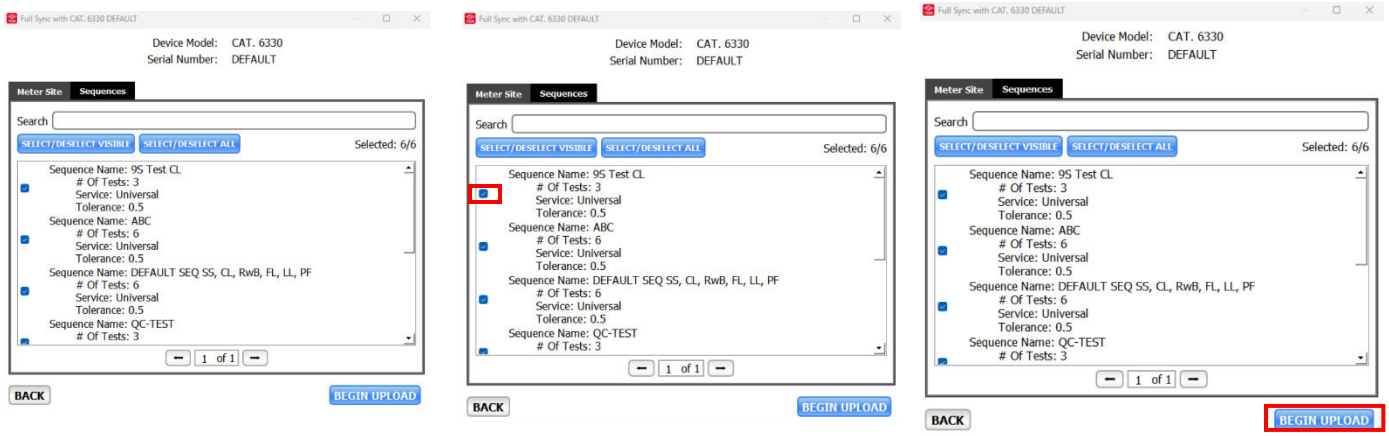
- To **add** an item to the device, check the box next to it.
- To **remove** an item from the device, uncheck the box.

Note: Unchecked items are removed from the device but remain stored in TDM and can be re-added at any time.

- Once your selections are made, click "**NEXT"** to continue to the **Sequences** tab.

8.2 Selecting which sequences to keep on the device

The sequences displayed in this tab will vary depending on the connected device type. **Checked** sequences are currently stored on the device, while **unchecked** sequences are not present on the device but remain available in TDM.



- To **add** a sequence to the device, check the box next to it.
- To **remove** a sequence from the device, uncheck the box.

<u>Note:</u> Unchecked sequences are removed from the device but remain stored in TDM and can be re-synced at any time.

Once your selections are finalized, click "**BEGIN UPLOAD"** to apply the changes and complete the sync.

9 MANAGING ITEMS IN TDM

TDM allows users to create, edit, and delete items within the local database. Once changes are made, they can be synced to a connected device, making the updated items immediately available for use—without the need to manually re-enter details on the device.

To begin managing items in TDM:

1. From the **TDM side menu**, click "**Database"** to expand the submenu.
2. Select "**Items"** to access the item management screen.

From this view, you can perform the tasks outlined in Sections **9.1** through **9.4.**

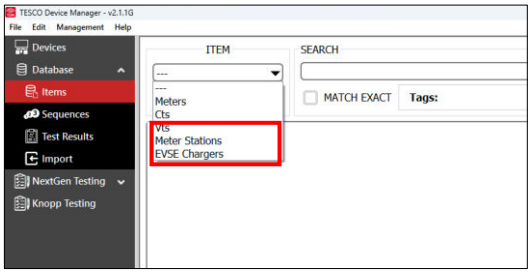
NOTE: Please refer to section 4.2.2 for a full overview of all the steps associated setting up:

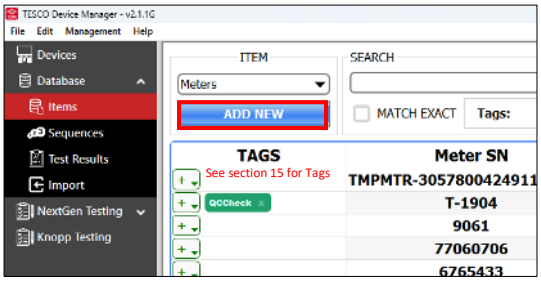
Meters, CTs, VTs, Meter Stations and EVSE Chargers.

9.1 Creating Items

To create a new item in TDM, follow these steps:

1. Select the type of item you wish to create (e.g., *Meter, Meter Station, or EVSE Charger*).
2. Click the **"Add New"** button.

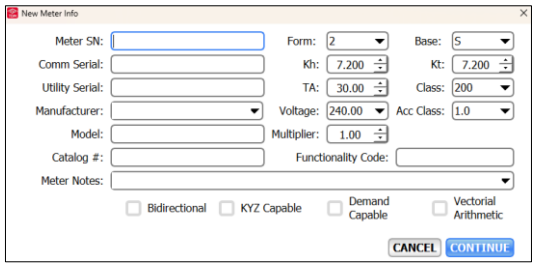




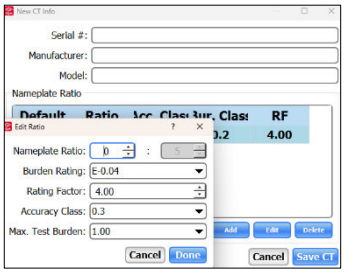
In the item editing popup, fill in the required details for the selected item type.

- <u>Note:</u> The fields presented in the editing window will vary depending on the selected item type. For example, the information required for *Meters, CTs, VTs, Meter Stations, and EVSE Chargers* is specific to each category.

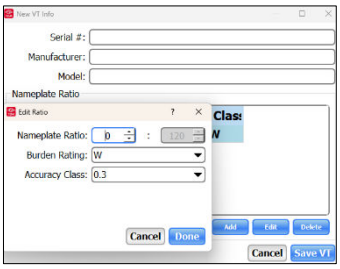
Meter



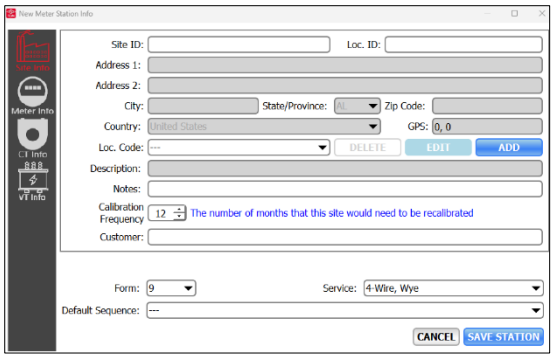
CTs



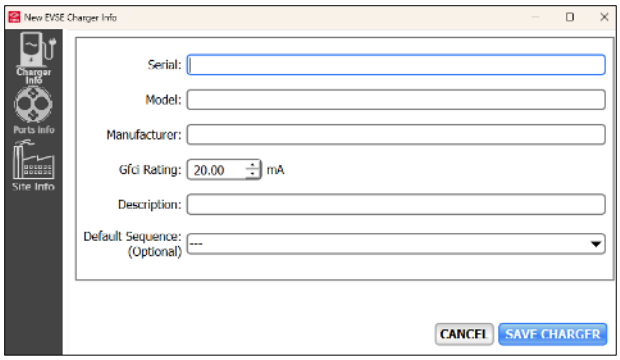
VTs



Meter Stations



EVSE Chargers



2. Click **"Continue"** or **"Save"** to confirm. A confirmation popup will appear once the item has been successfully saved to the database.

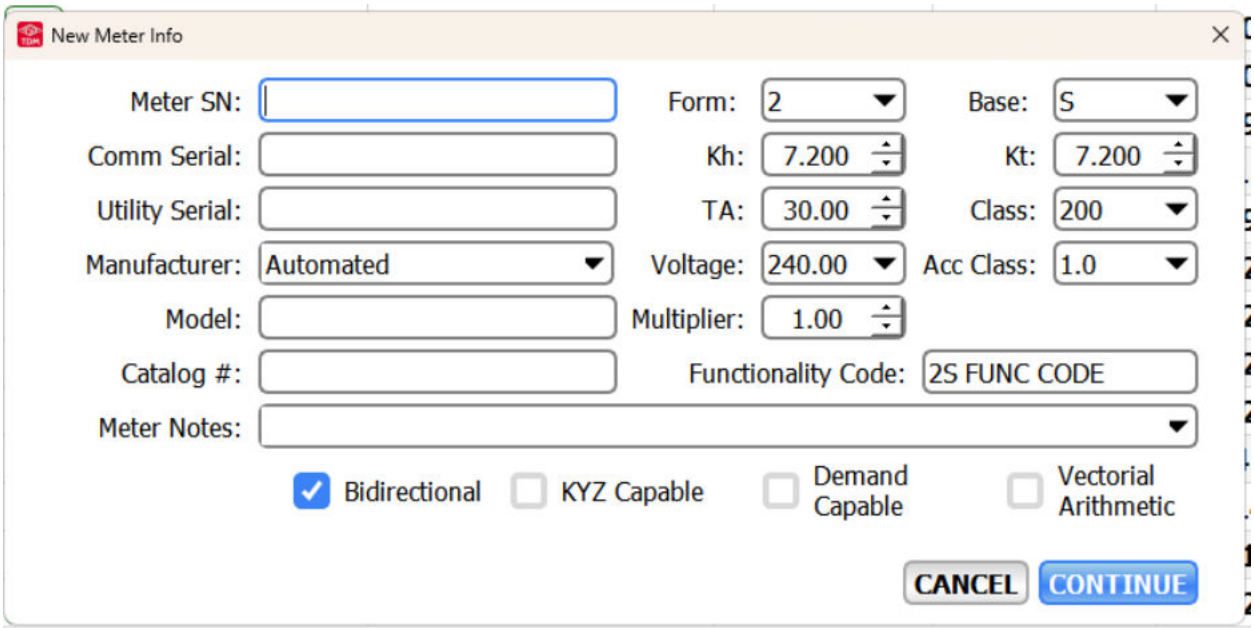
Important Note:

- Each item must have a unique ID. Duplicate IDs are not allowed.

- **Meter**: Identified by *Meter SN*
- **Meter Station**: Identified by *Site ID*
- **EVSE Charger**: Identified by *Charger Serial*

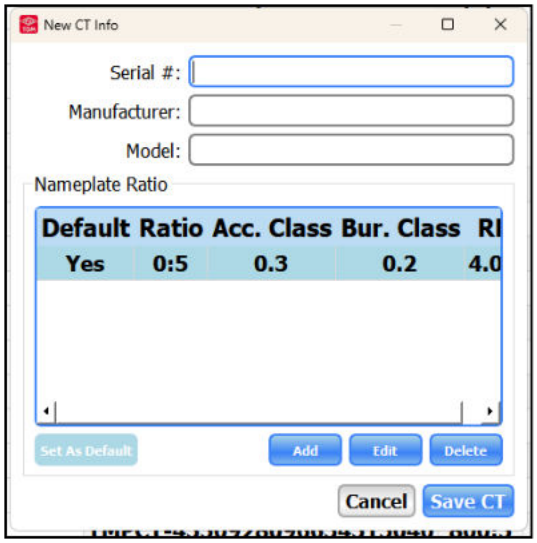
9.1.1 Meters

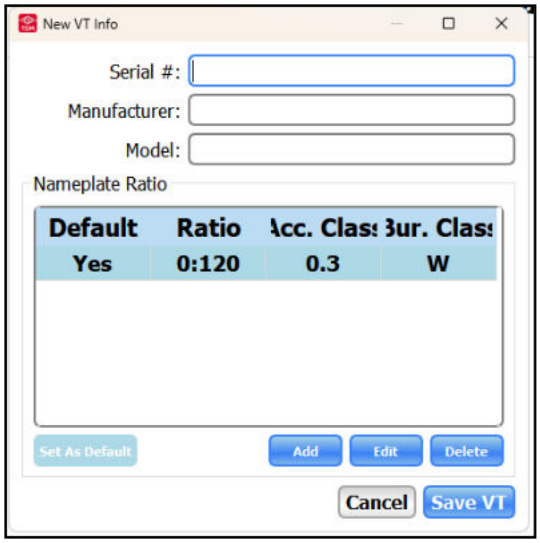
Items under section 'Meters' are applicable to meters tested via NextGen Devices and Tesco Turbo Tester.



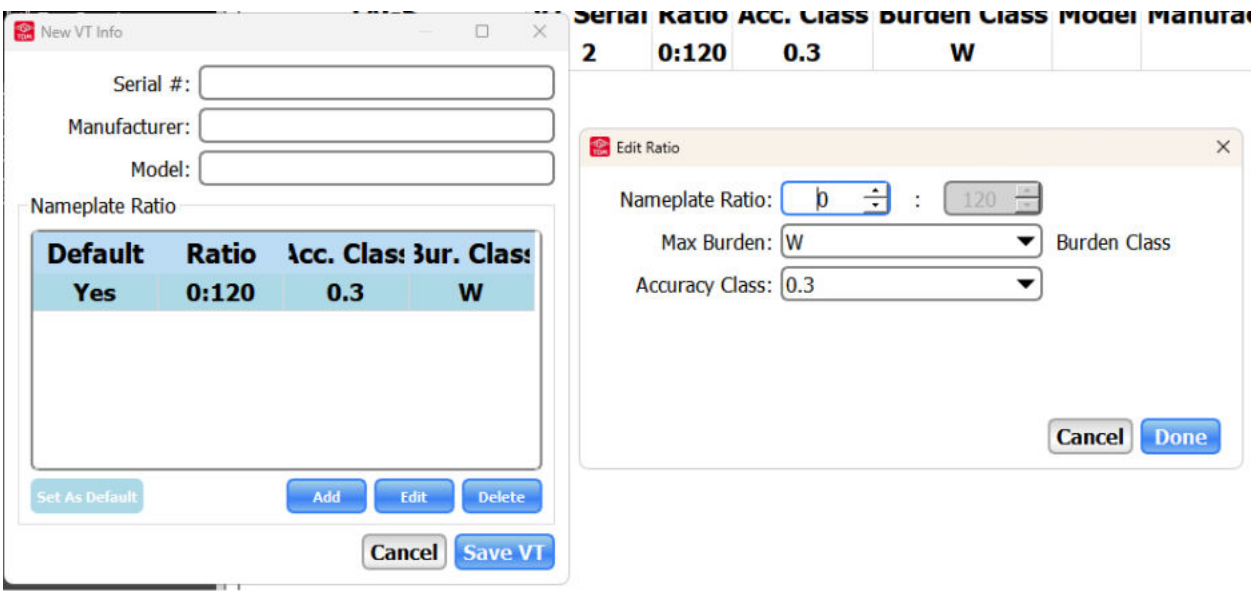
9.1.2 CTs & VTs

Items under section 'CTs' or 'VTs' are applicable to transformers tested via Knopp KCTS devices.



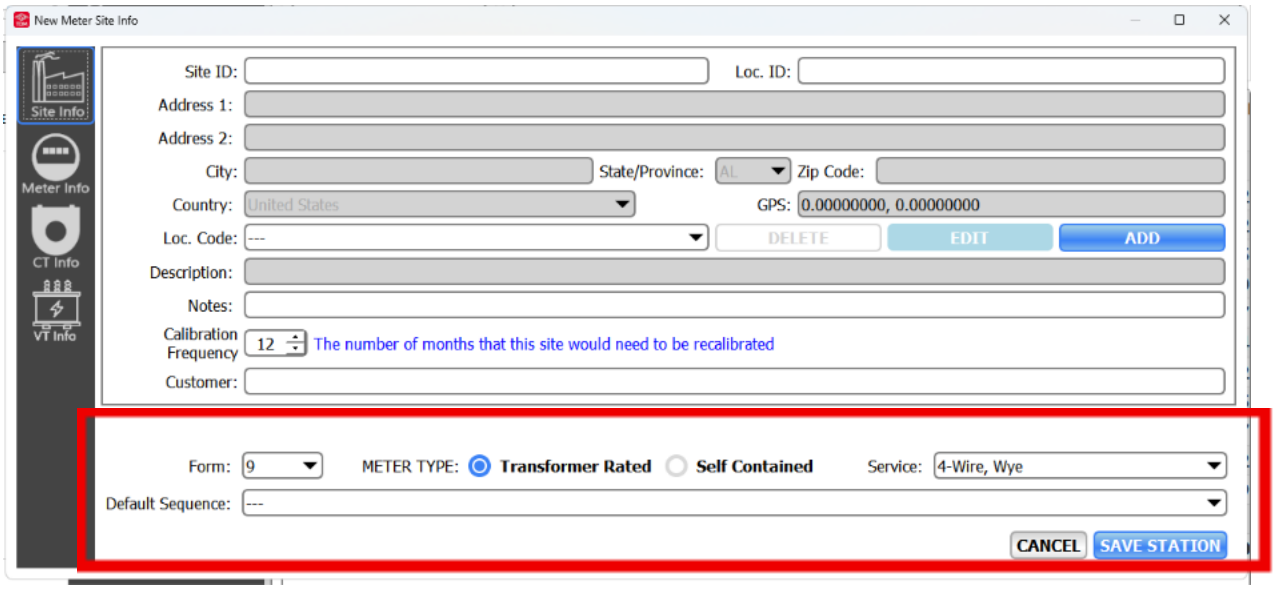


Within the CT & VT creation popup multiple nameplate ratios can be defined to account for transformer nameplate, wiring, and taps. Each ratio can be added, edited, and deleted.



9.1.3 Meter Sites

Items under the section 'Meter Sites' are applicable for Meter Sites (which are comprised of meters, CTs, and VTs) tested by Meter Site Analyzers Devices.

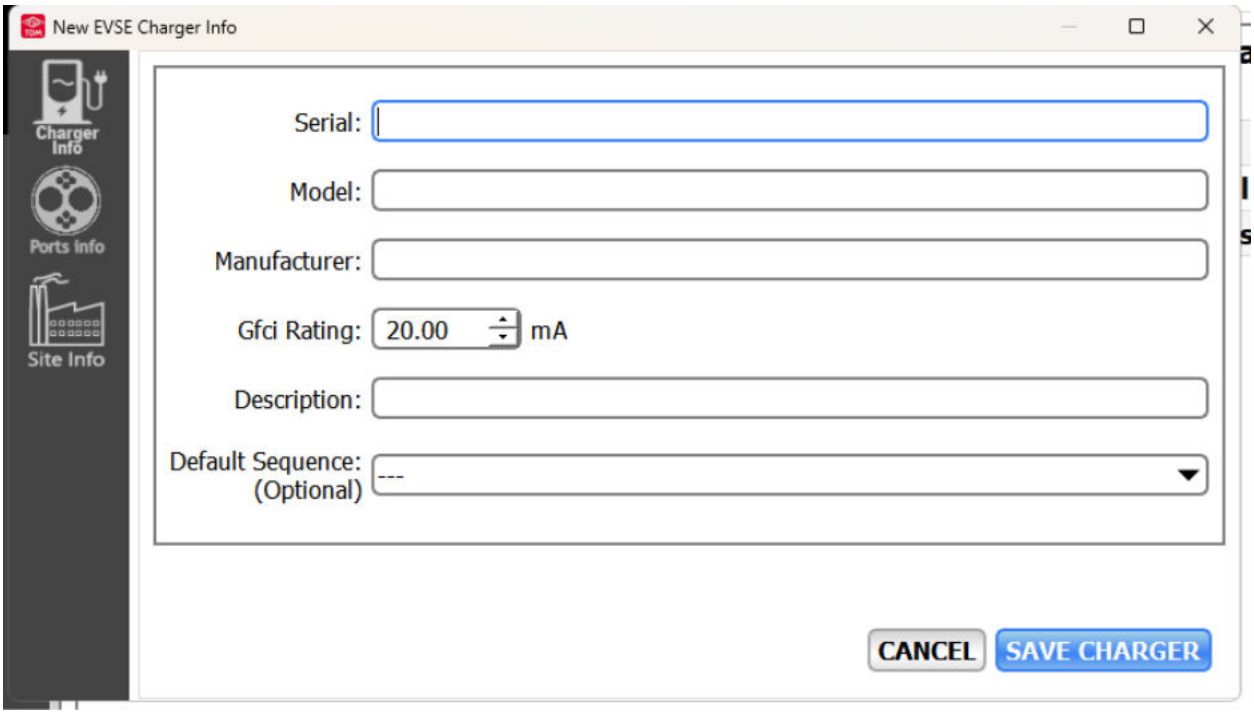


The blurb at the bottom of the popup defines the site's meter form, type, service, and default sequence. ***The 6330 Meter Site Analyzer is capable of both self-container and transformer-rated testing.

Note: Upon **Meter Type** selection, only forms & services that match the selected type will be available.

9.1.4 EVSE Chargers

Items under the section 'EVSE Chargers' are applicable for sites/chargers tested with the Portable Electric Vehicle Charger Test System (T4350), aka. EVSE, device.

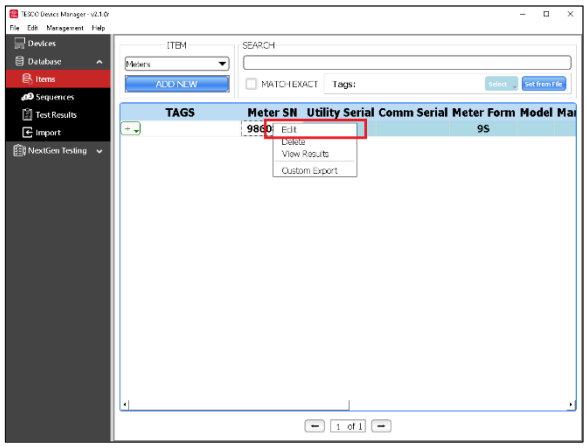


9.2 Editing Items

To edit an existing item:

- Either **double-click** the item, or
- **Right-click** the item and select **"Edit"** from the context menu.

This will open the editing popup, where you can modify item details and save your changes.

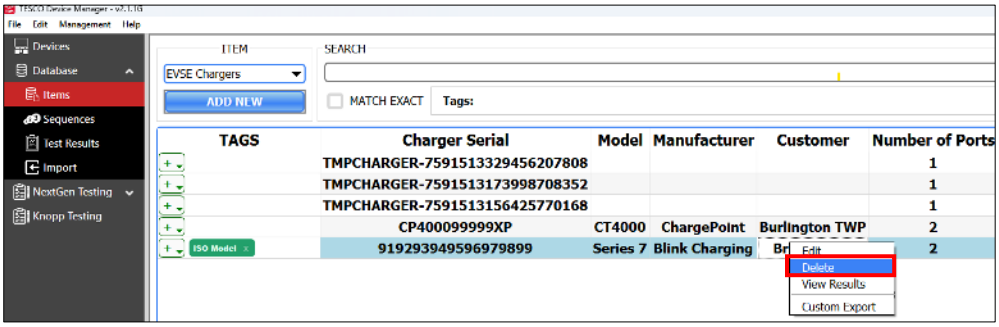


9.3 Deleting Items

To delete an Item.

- **Right-click** the item and select **"Delete"** from the context menu.

⚠️ **Note**: Deleted items cannot be recovered. Ensure accuracy before confirming deletion.

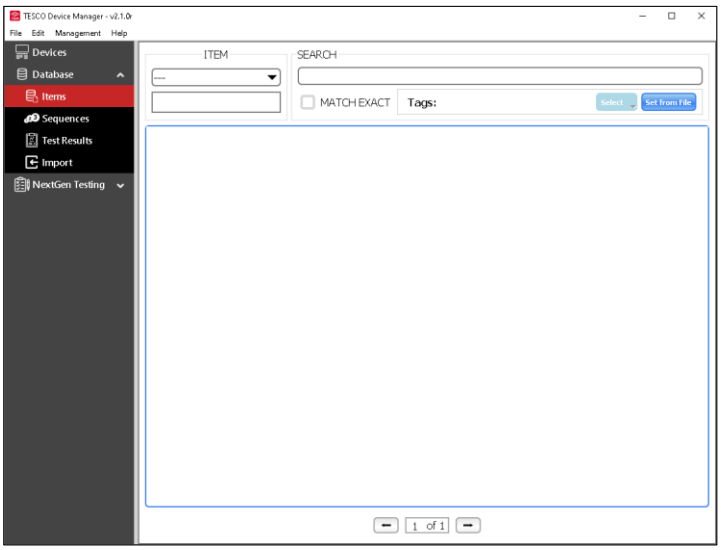


9.4 View Results

To make sure that TDM has all the latest records from a device, do a **Quick Sync** (refer to **Section 7** for details/instructions) first on the Devices page with the test device.

To view a test result for a specific item:

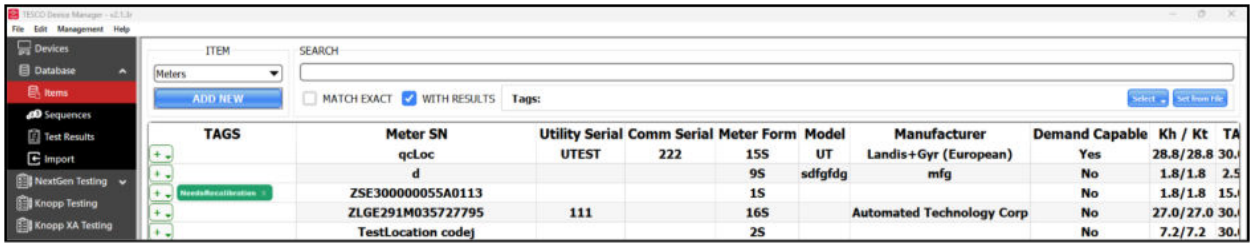
1. Navigate to Database -> Items page.



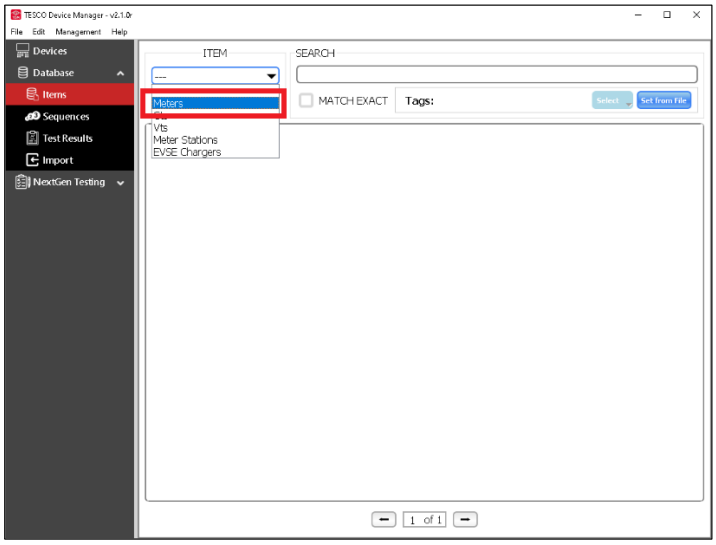
2.

WITH RESULTS OPTION

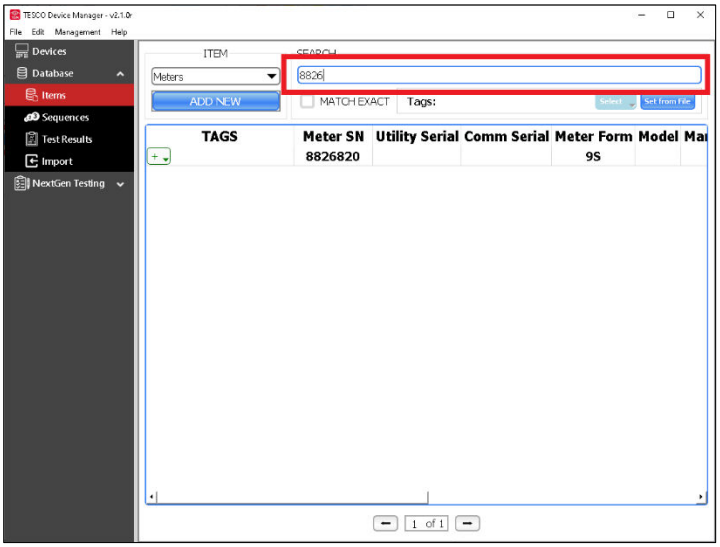
This option enables users to see Items with Results only.



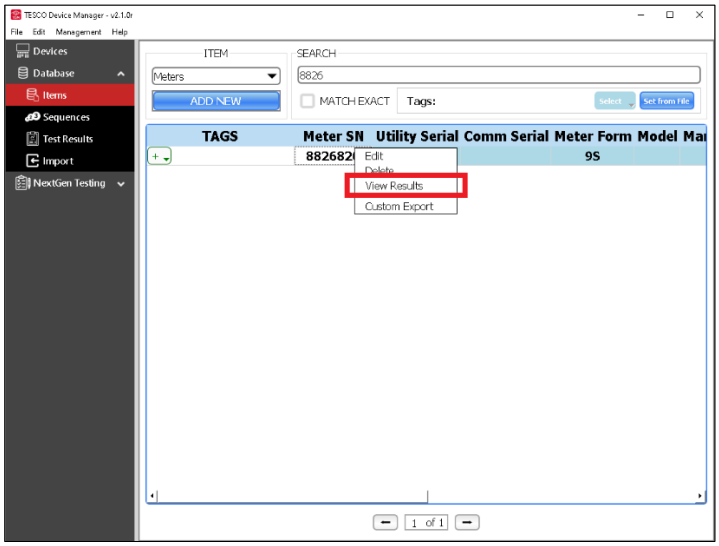
3. Select the item's record type (Meter/Meter Station/EVSE Charger) on the dropdown at the upper left corner of the page. In this example, we are going to view a Meter's test result.



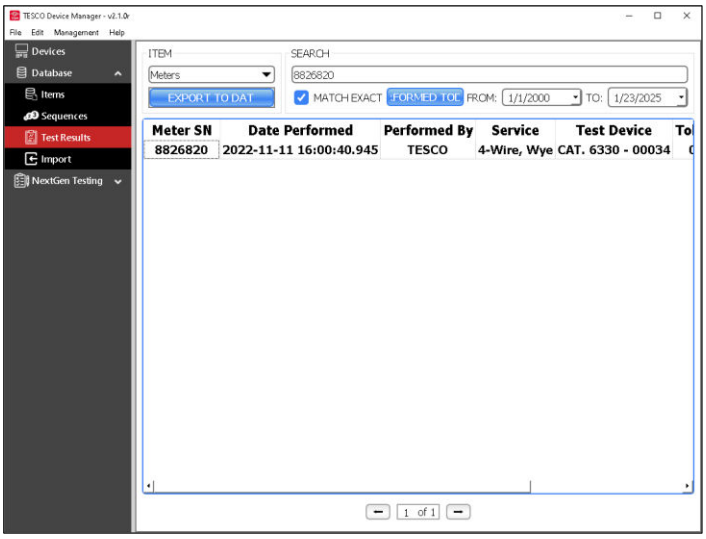
4. Look for the item associated with the results that you want to view. You may filter the item by entering a text on the search bar or by applying tags.



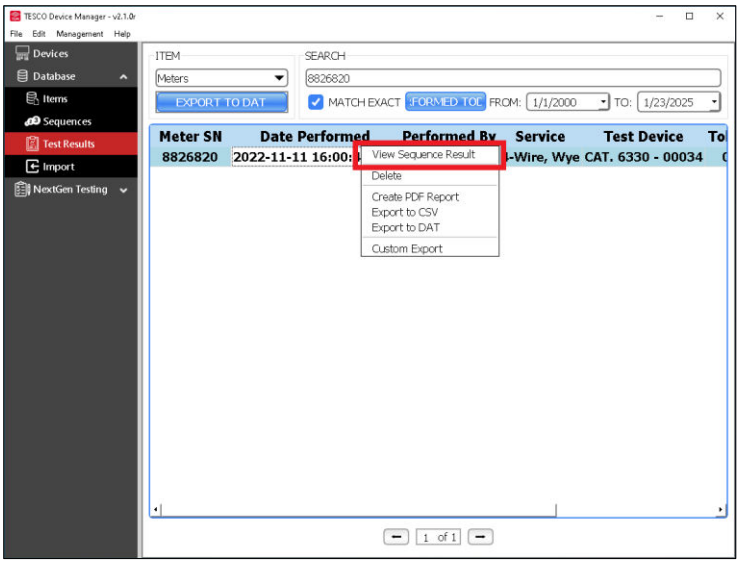
5. Right click on the item then click “View Results” on the context menu.



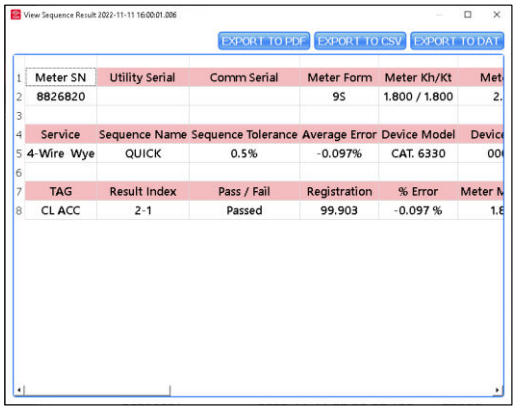
6. TDM will switch the page to Test Results and display the test results of that item.



7. Right click on a result you wish to view then click “View Sequence Result” on the context menu to open the View Test Result popup. This can also be done by double clicking on a result on the table.

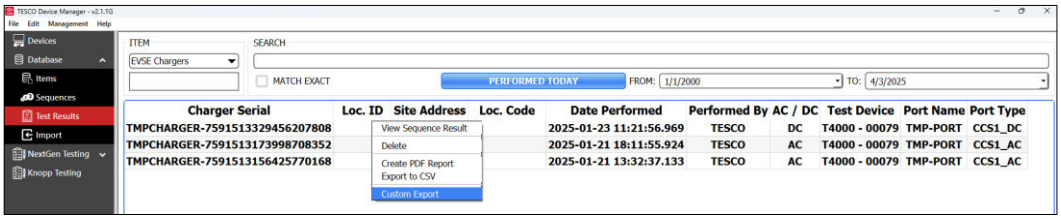


8. Test Result details will be shown on the View Test result popup



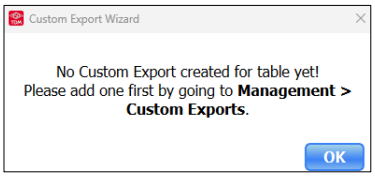
9.5 Custom Export

To run a custom export on the selected items, right click on one of the selected/highlighted items and then click “Custom Export” on the context menu.



NOTE: Custom export scripts are categorized on which item/result type the script would be run. An error would be shown if a custom export script is run against an unsupported category.

IMPORTANT NOTE: If no custom export script has been created for the selected table, TDM will display the message: “**No Custom Export created for table yet! Please add one first by going to Management > Custom Reports.”**

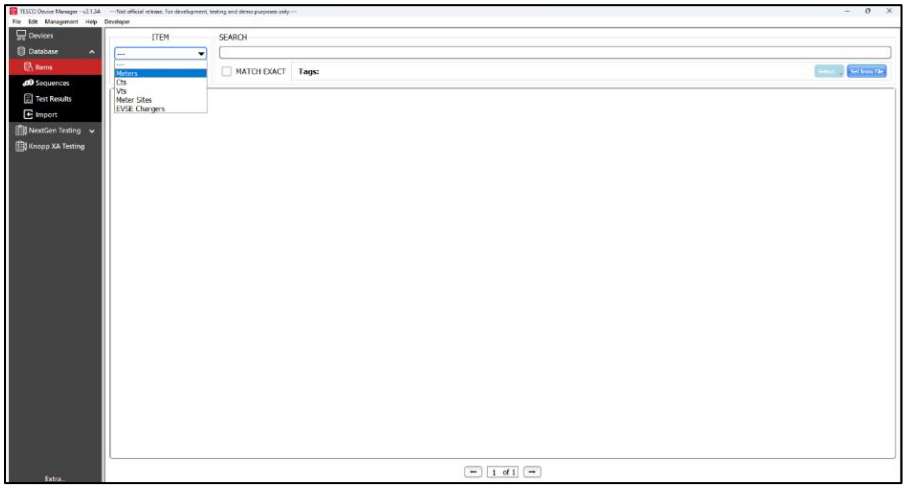


To resolve this, navigate to **Management > Custom Reports** and create or assign an export script for the relevant item or result type.

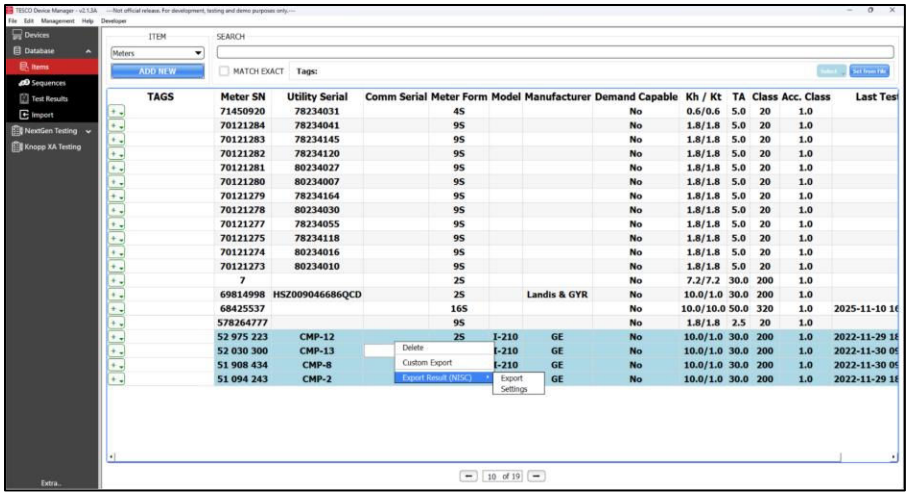
9.6 NISC Export Features

To export **NISC Meter Test Data** Format**:**

Navigate to TDM. In TDM, go to Database Items, then select Meters from the Items list.



After selecting one or more-meter records, right-click and choose **Export Results (NISC)**.



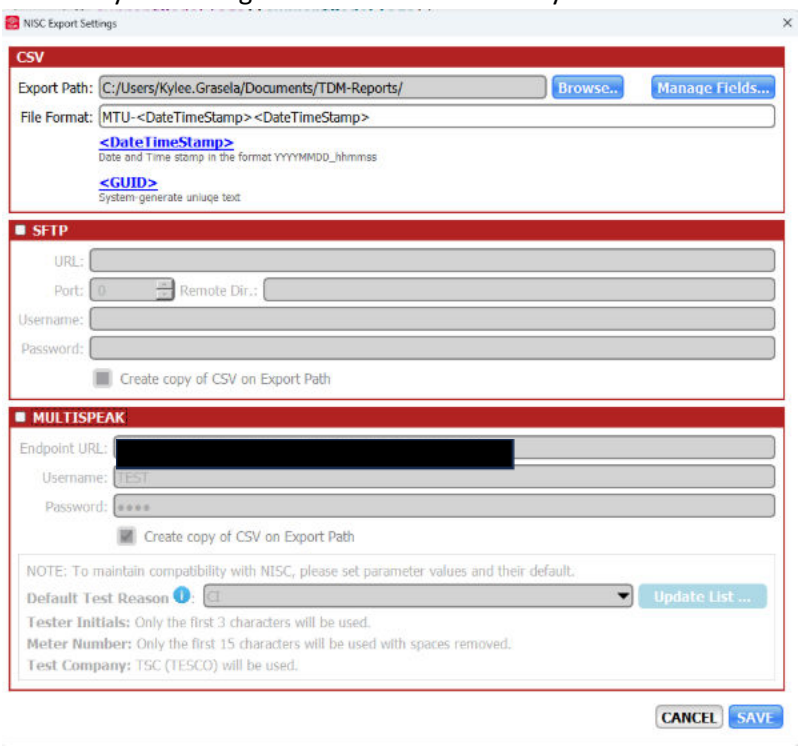
Next, go to **Settings** and specify the Export Path and Set the **file format**.

There are three options for exporting NISC meter test records: -

Option 1 is to export the file to the **Export Path only**. In this case, SFTP should be turned off, and the system will generate the CSV file solely in the local folder.

There are three options for exporting NISC meter test records: -

Option 1 is to export the file to the **Export Path only**. In this case, SFTP should be turned off, and the system will generate the CSV file solely in the local folder.

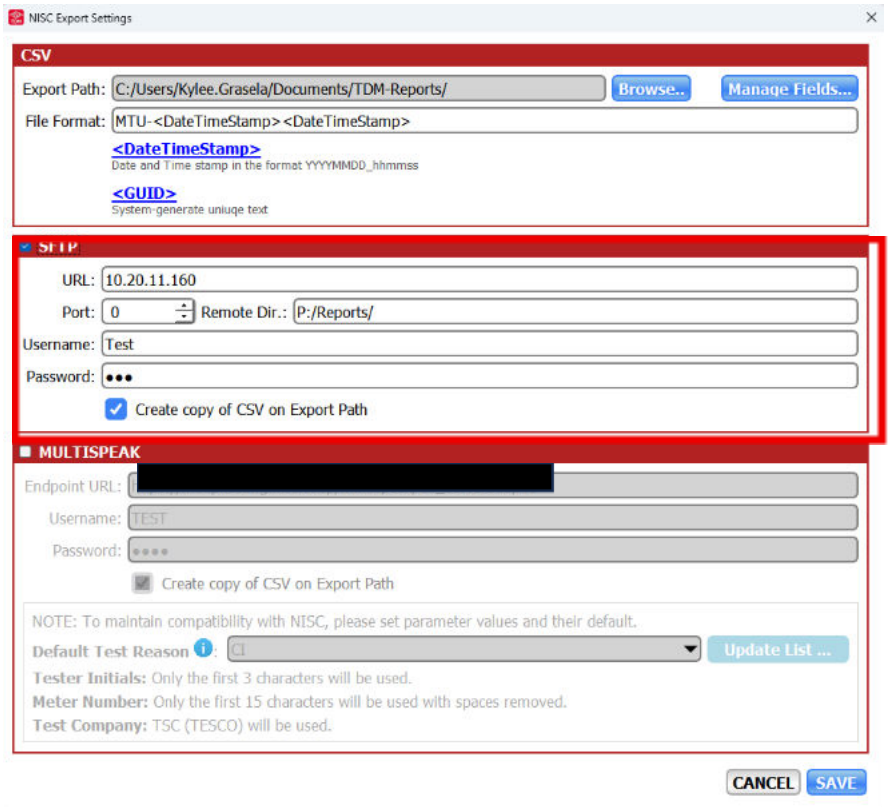


There are three options for exporting NISC meter test records: -

Option 1 is to export the file to the **Export Path only**. In this case, SFTP should be turned off, and the system will generate the CSV file solely in the local folder.

Note:

- **Export Path**: This is directory where the CSV file will be exported to.
- **File Format**: This is the filename format of the CSV file. Filename parameters (<DateTimeStamp>, <GUID>) can be used to automatically insert system-generated values.
    - <DateTimeStamp> - Inserts a date/time stamp value
    - <GUID>- inserts a Globally Unique Identifier (GUID) value.
- See, **RFC-4122 (https://www.rfc-editor.org/rfc/rfc4122) for more information on this standard format**)

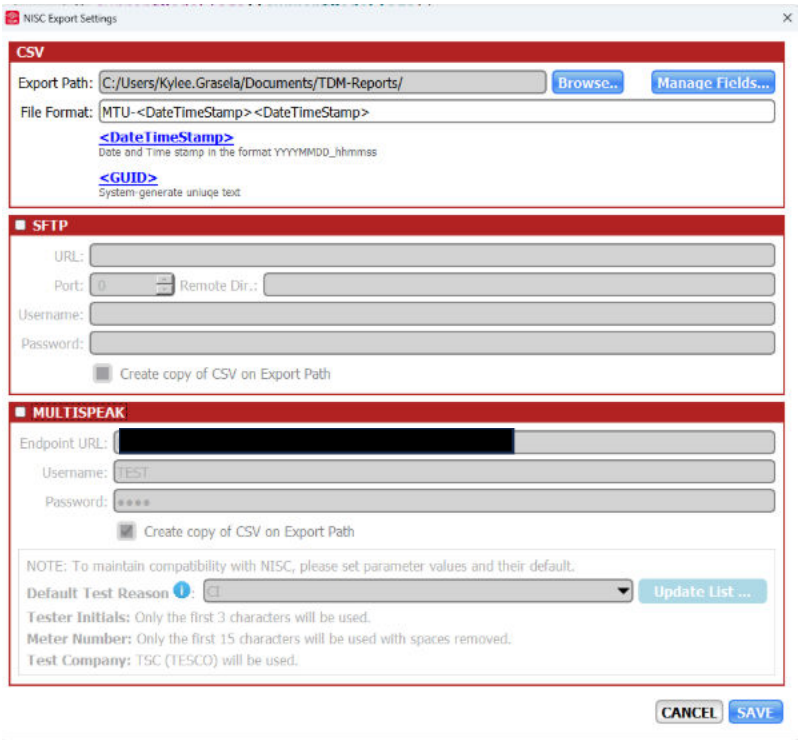


From the above image (SFTP):

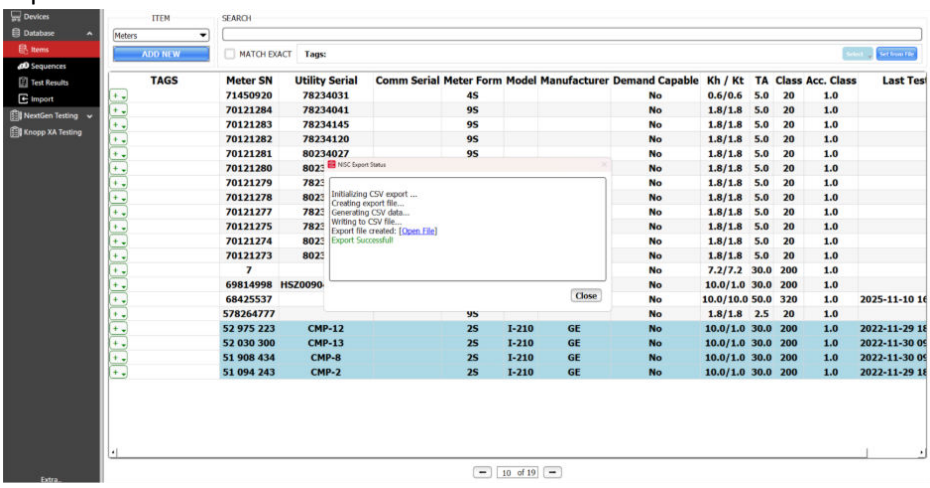
- **URL:** This refers to the IP address or URL of the SFTP server.
- **Username:** This is the username used to log in to the SFTP server.
- **Password:** This is the password associated with the SFTP account.

There are two options for exporting NISC meter test records: -

Option 1 is to export the file to the **Export Path only**. In this case, SFTP should be turned off, and the system will generate the CSV file solely in the local folder.

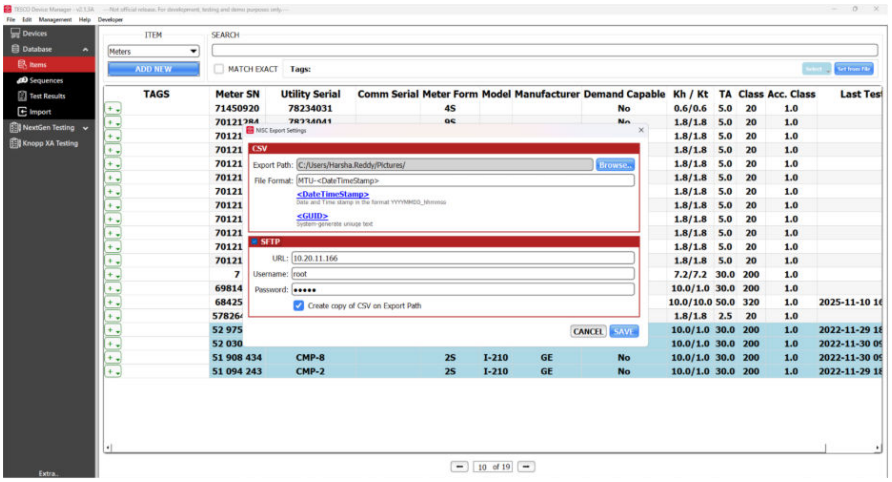


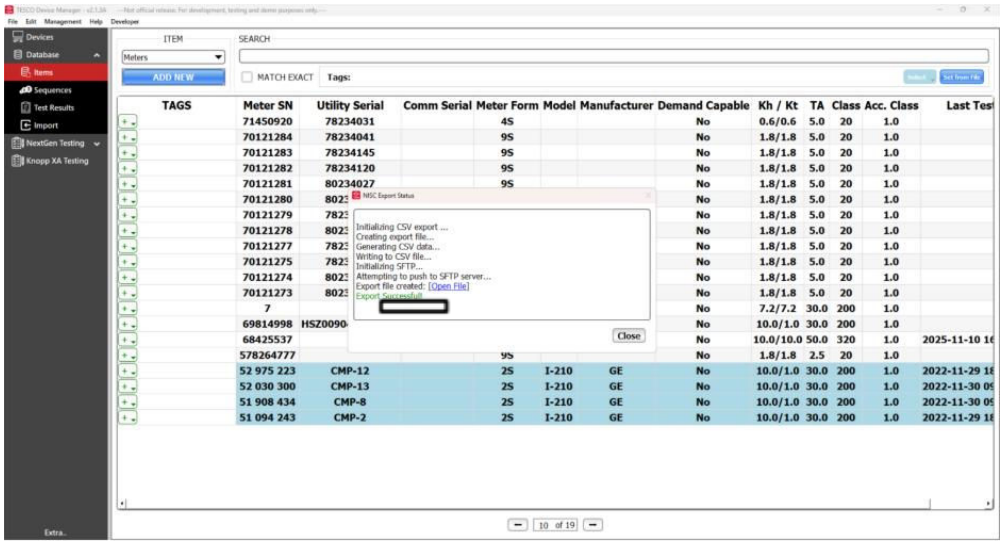
The above image shows that SFTP is disabled. the file will be generated only in the specified Export Path



The popup in the above image indicates that the CSV file has been generated and the export file has been created. Clicking Open File will navigate to the file location

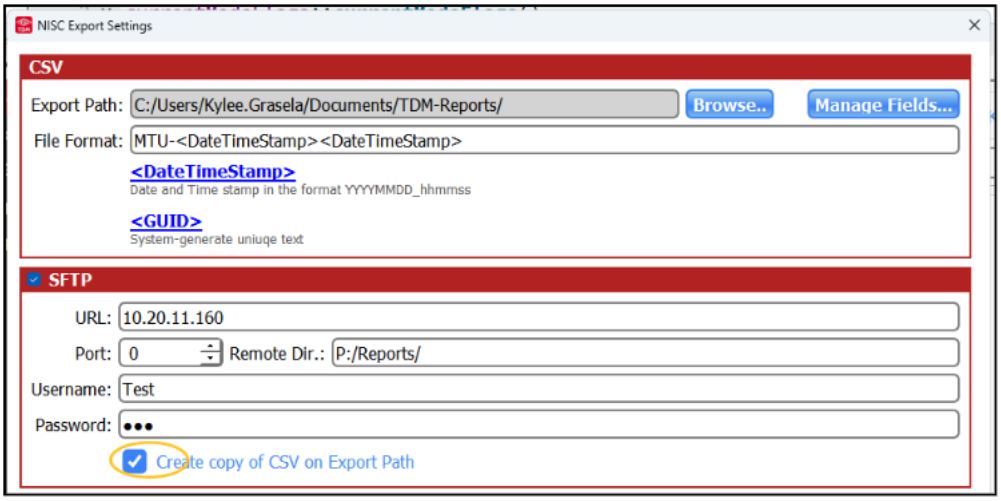
Option 2 allows exporting the file to **both the Export Path and an SFTP location**. To use this option, **SFTP must be enabled**, and the destination Client Server Software details (URL, Username, Password) should be provided in Settings. Once these details are saved, exporting the records will generate the CSV file in both locations, ensuring the data is available locally as well as on the remote server.

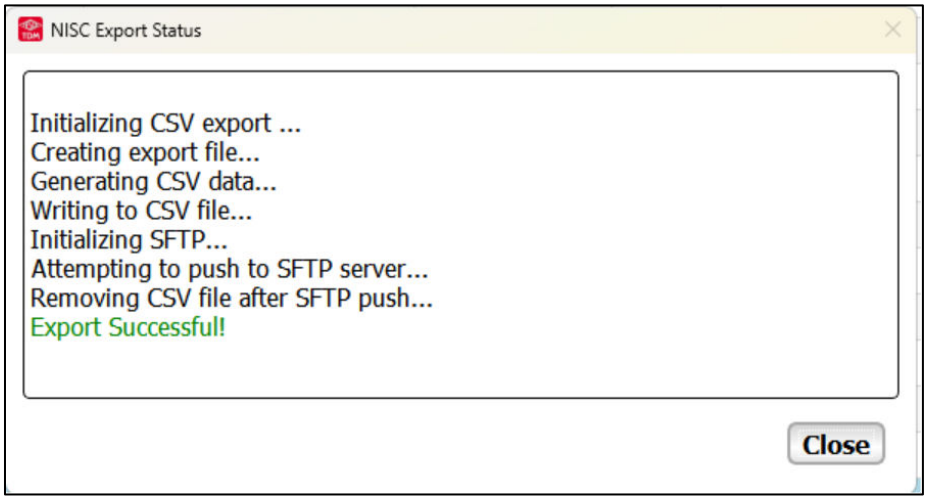




The above popup shows that the CSV file has been generated and successfully pushed to the SFTP server, and the export file has been created. Clicking Open File will take you to the file location

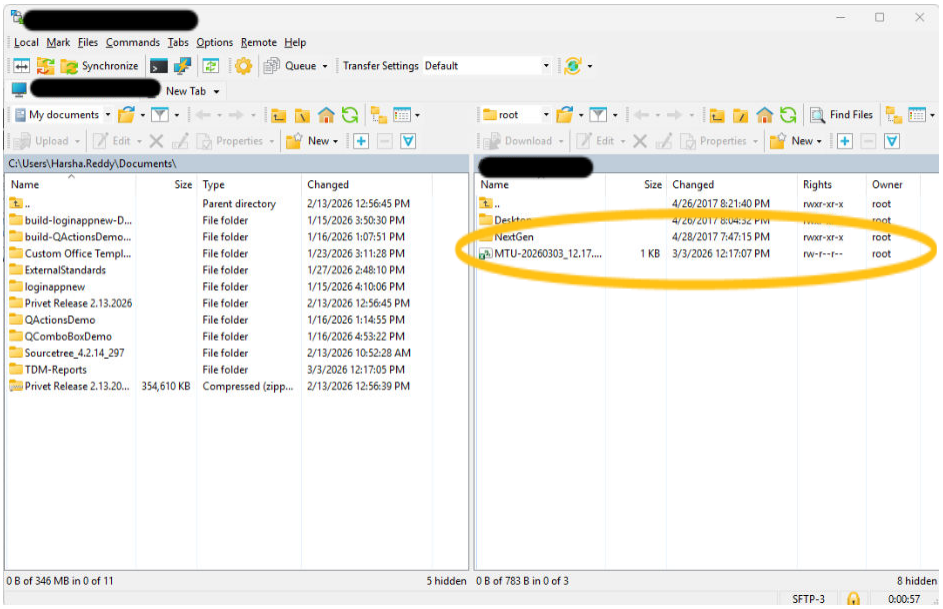
When using **Option 2**, if you do not want a local copy of the **CSV**, you can uncheck **Create copy of CSV on Export Path**, as shown in the image below.





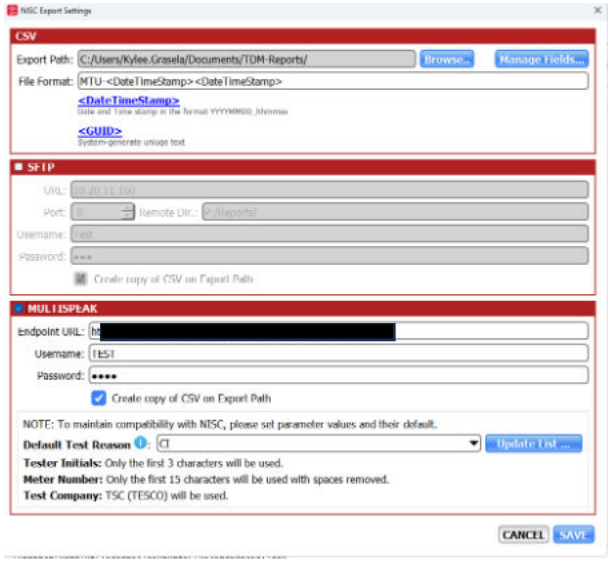
The above image shows the CSV file was generated and successfully pushed to the SFTP server

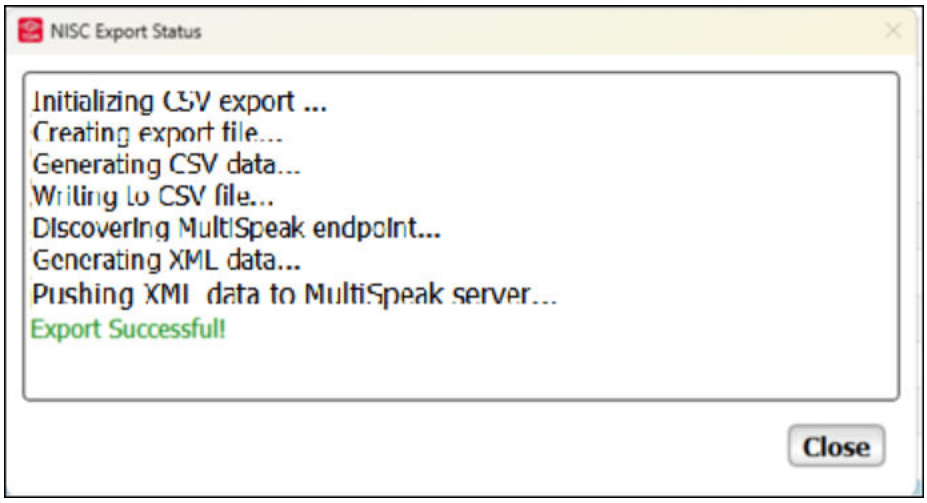
To verify the exports: We can use **WinSCP** or any **SFTP client software** and log in with the same credentials that were used to configure the SFTP. This allows you to confirm that the CSV file has been successfully uploaded to the remote location.



The image shows that the file has been successfully exported to the remote location using WinSCP

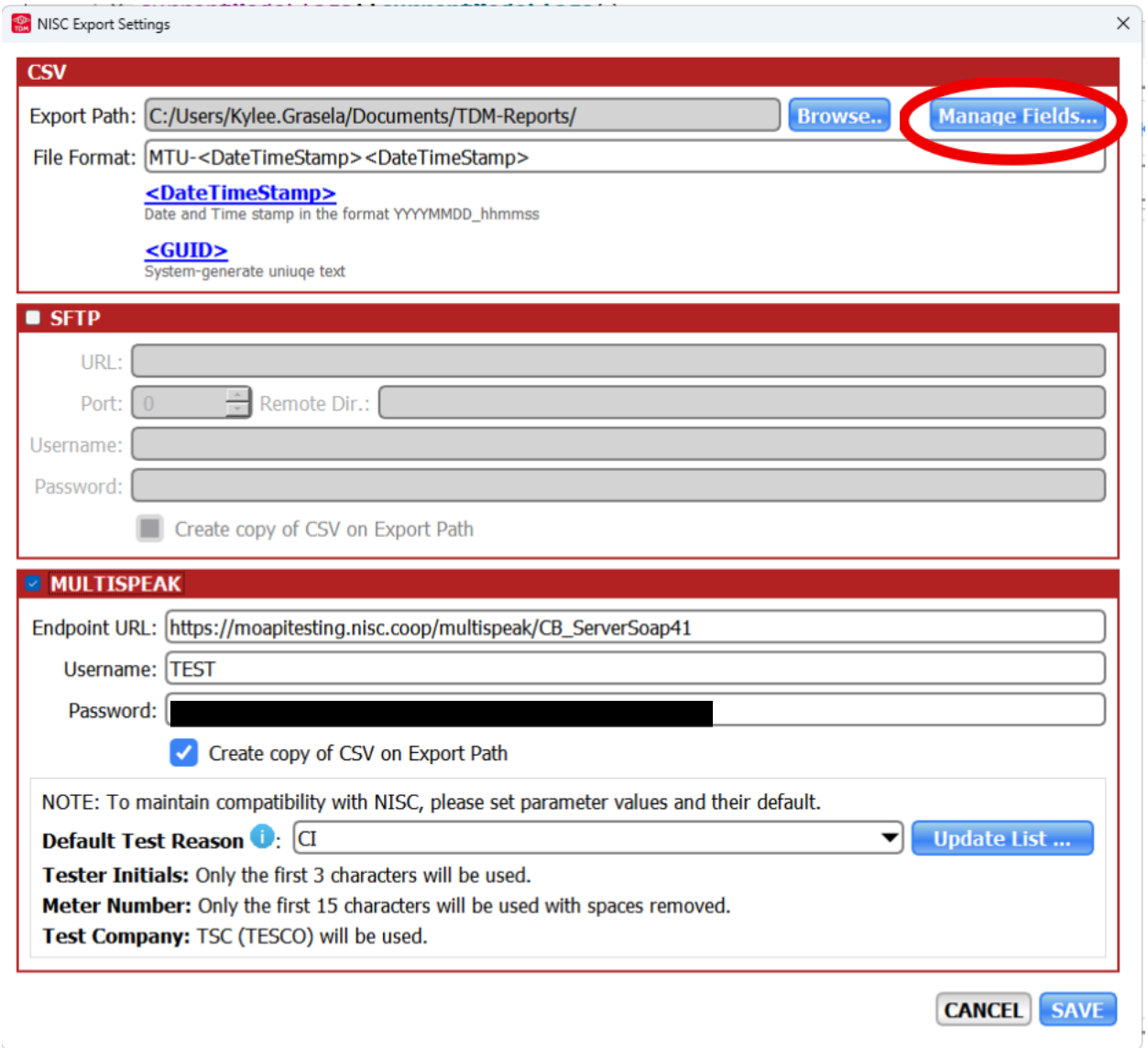
Option 3 allows exporting data via **MultiSpeak**, converting it to an XML file and pushing it to a MultiSpeak server. To use this option, MultiSpeak must be enabled, and the destination Client Server Software details (**Endpoint URL, Username, Password**) should be provided in Settings. Once these details are saved, exporting records will push the generated XML file to your MultiSpeak server, and if **Create copy of CSV on Export Path** is enabled, a CSV file will also be generated locally, ensuring the data is available both locally and on the remote server.





The above image shows the CSV file was generated, the XML data was created, and successfully pushed to the MultiSpeak server.

NISC Fields Management & Set Defaults



The **Manage Fields** option lets you assign default values to NISC export fields. TDM uses these defaults to fill in fields automatically when it generates NISC export files.

To open NISC Fields Management:

1. Open the **NISC Export Settings** window.
2. In the **CSV** section, click **Manage Fields...**

The **NISC Fields Management** window opens and lists all available NISC fields. For each field, it shows the field number, a description, the maximum number of characters allowed, the associated view screen, the current default value, and the available options.

To set or change a default value:

1. Find the field you want to configure.

2. In the **Options** column, click **Manage...** next to that field.
3. Enter or select the default value.
4. Click **Save**.

To delete a default value:

1. Find the field you want to clear.
2. Click the **X** next to the **Manage...** button for that field.
3. Click **Save**.

Fields marked **FIXED/SUPPLIED** in the Options column are set by the system and can't be changed. Each default value must fit within the field's **Max # of characters** limit. To see only the fields that currently have a default value, select **Show set fields only**. To close the window without saving your changes, click **CANCEL**. After you save in NISC Fields Management, click **SAVE** in the NISC Export Settings window to apply your changes.

10. EXPORTING RESULTS

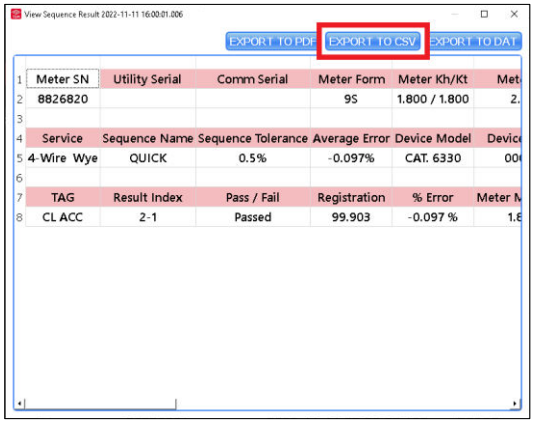
TDM supports exporting test results from connected TESCO devices in a variety of formats, including **CSV**, **PDF**, and **Custom Export** formats. These exports can be used for reporting, archiving, or integrating with other systems.

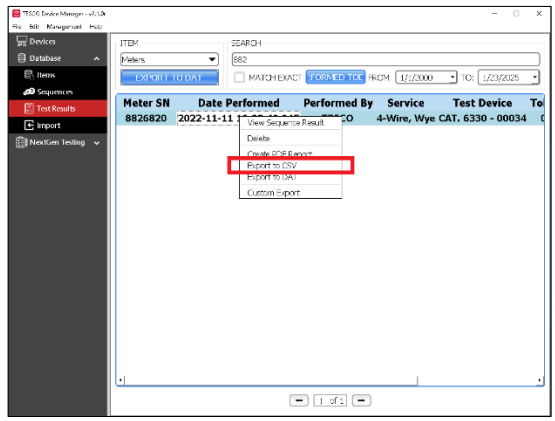
10.1 Exporting to CSV

TDM allows users to export test results in a **CSV format** that is designed for readability and ease of use. Unlike a standard flat-file CSV with a single header row, TDM's CSV format mirrors the layout of the **View Test Result** popup for consistency.

There are few ways to perform a CSV export:

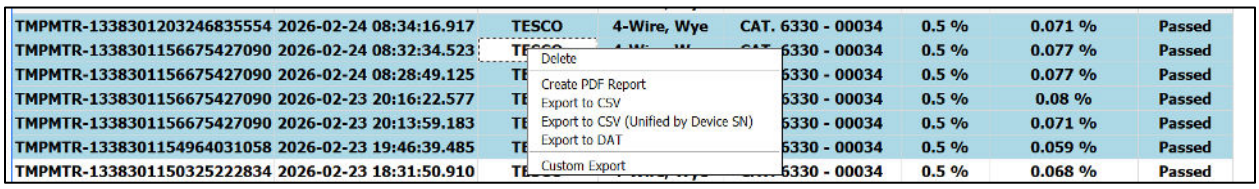
- From the **View Test Result** popup, click the **"Export to CSV"** button.
- From the **Test Results** page, right-click one or more test results and select **"Export to CSV"** from the context menu.





- From the **Test Results** page, right-click one or more test results and select **"Export to CSV"** from the context menu.
- The files will be saved to the directory specified in the **Export Path** under the **Report** tab in the **Preferences** popup. To access this setting, go to **Edit > Preferences**.

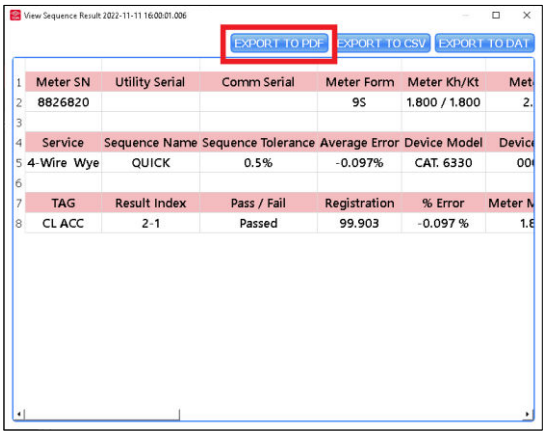
- When exporting multiple test results using **Export to CSV (Unified by Device SN)**, the selected results are combined into a single CSV file. For **CT** and **VT** results, the export is formatted so that each individual result appears in a single row, making the data easier to review, sort, and compare.

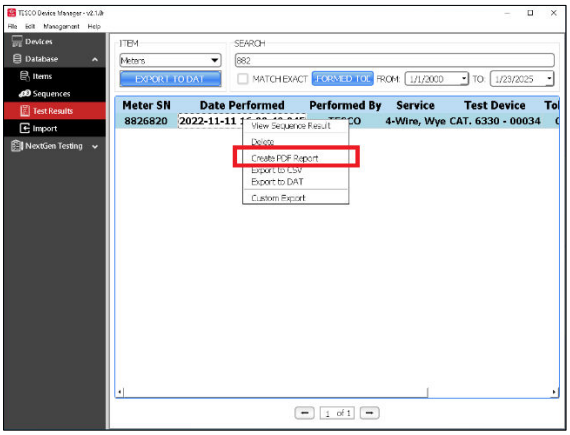


10.2 Exporting to PDF

PDF exports can also be generated in two ways:

- From the **View Test Result** popup by clicking the **"Export to PDF"** button.
- From the **Test Results** page by right-clicking one or more test results and selecting **"Create PDF Report"**.





If only one test result is selected, the **PDF Report Builder** will appear, allowing you to:

- Choose which test results from the session to include.

- Specify the file name.
- Select the save location for the PDF report.

To customize the appearance and layout of PDF reports, go to the **Report** tab in the **Preferences** popup (found under **Edit > Preferences**).

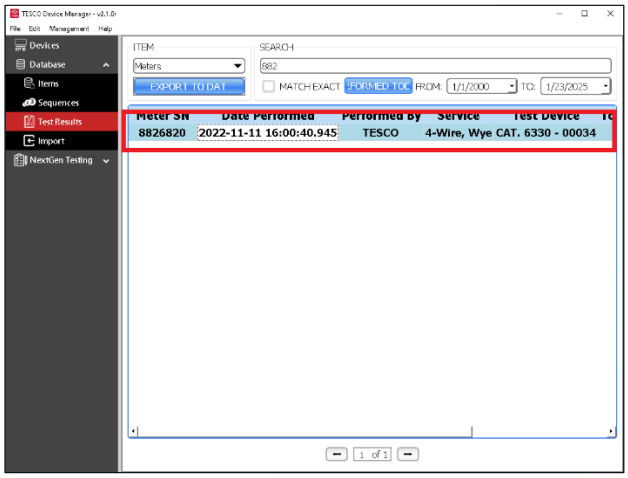
When exporting multiple test results, the files will be saved to the path defined in the **Export Path** setting in **Preferences**.

10.3 Custom Export

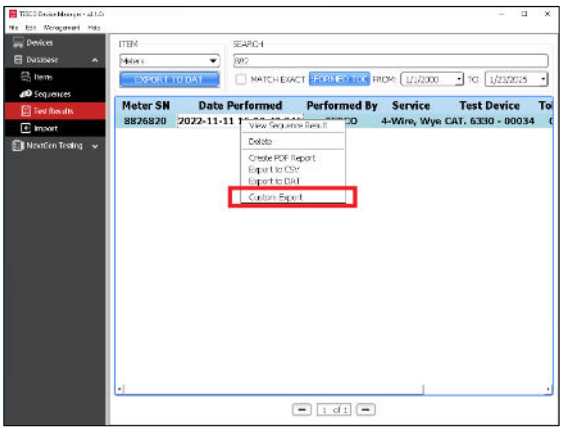
TDM also supports Custom Export scripts, which can be used to format data according to specific internal or third-party requirements.

To perform a custom export:

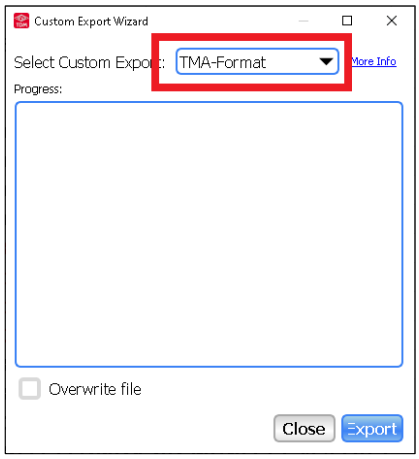
1. Select or highlight the test results to be exported.



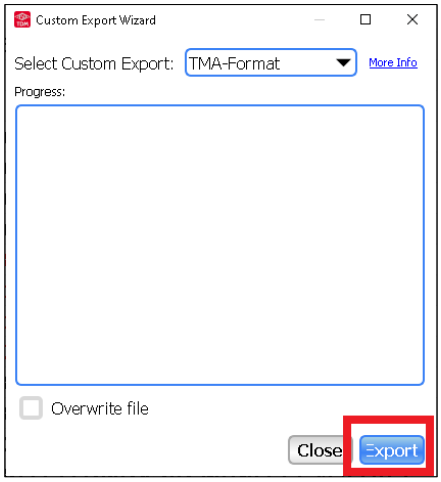
2. Right-click and choose **"Custom Export"** from the context menu. This opens the **Custom Export Wizard**.

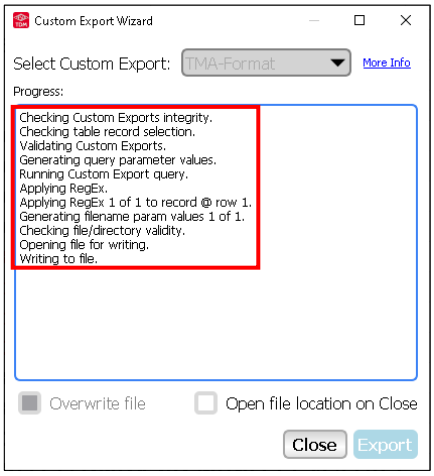


3. In the wizard, select the desired script from the dropdown list.

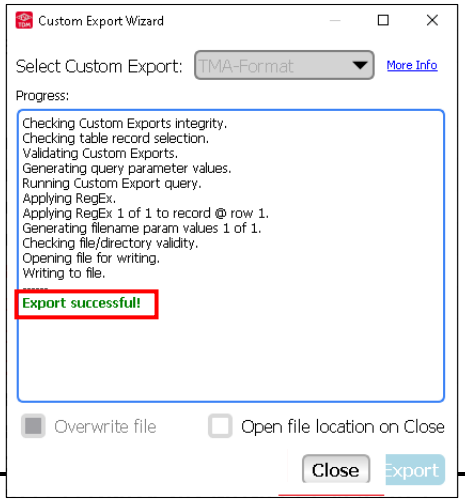


4. Click **Export** to run the script.



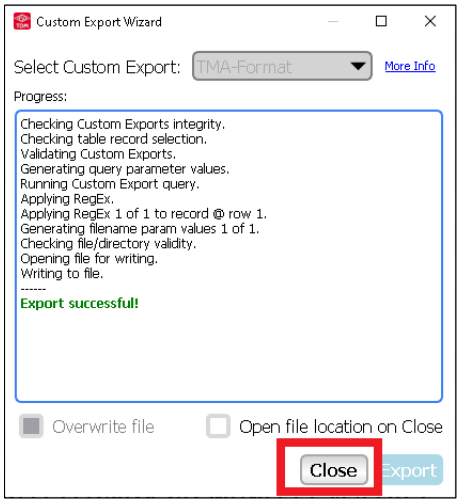


5. Once complete, a green confirmation message will appear stating “Export Successful” along with an option to open the export folder will be shown.



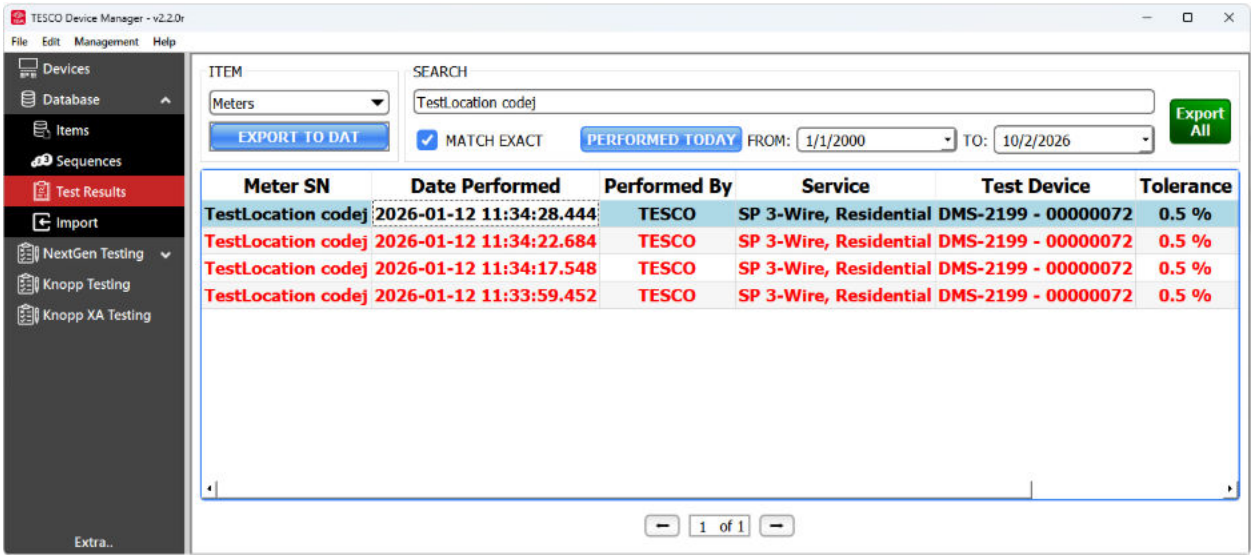
6. The resulting file will be saved to the path defined in the **Export Path** under **Preferences**.

7. Click "**Close"** to exit the wizard.



Note: Custom export scripts are grouped by item or result type. If a script is applied to an unsupported item, an error message will be displayed.

10.4 Export All Results

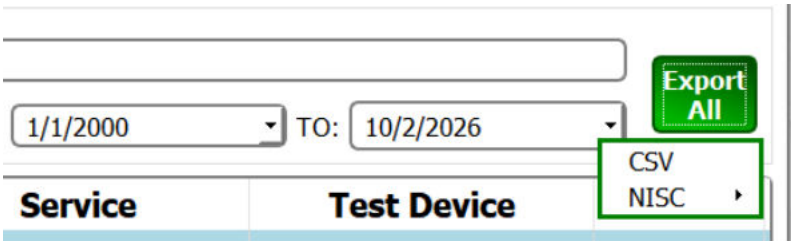


The Export All button is located at the top right of the Test Results page, next to the search filters. Clicking it opens a menu with two export formats:

CSV – exports the results to a CSV file.

NISC – exports the results in the NISC format. See NISC Export Features for the available options and settings.

To export all results:

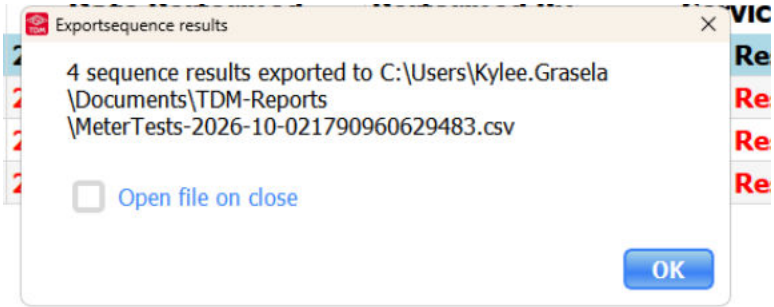


Go to Database > Test Results.

Optionally, narrow the list using the Item, Search, and From/To date filters. Export All applies to the results shown on the page.

Click Export All and choose CSV or NISC.

When the export finishes, a confirmation popup shows how many results were exported and where the file was saved. Select Open file on close to open the file automatically, then click OK.



The exported file is saved to the path defined in the Export Path setting in Preferences (Edit > Preferences, Report tab).

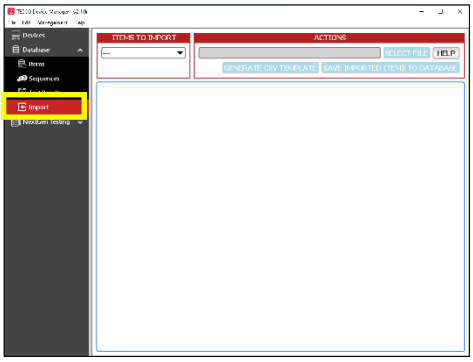
11 IMPORTING ITEMS INTO TDM

TDM allows users to create item records by importing data from a formatted CSV file. This process is useful for loading multiple records at once, such as *Meters, Cts, Vts, Meter Sites or EVSE Chargers*.

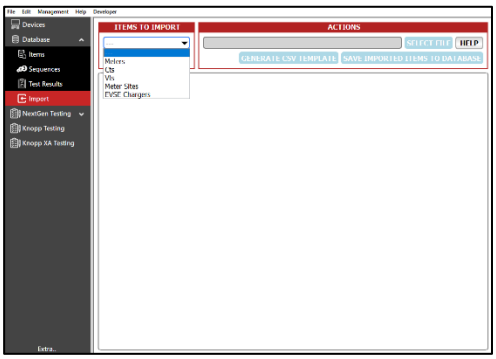
Follow the steps below to complete the import:

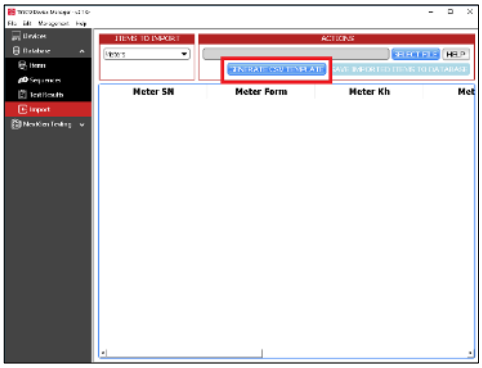
10 Step-by-Step Instructions:

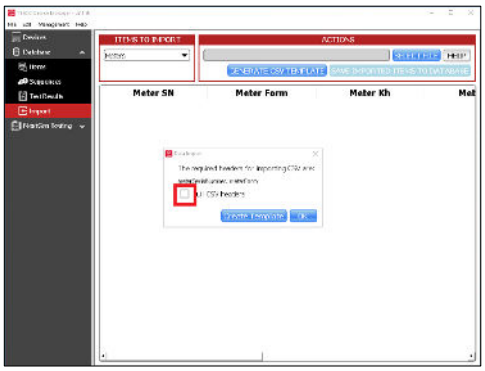
1. From the **Database** menu, select "**Import"** to open the import screen.

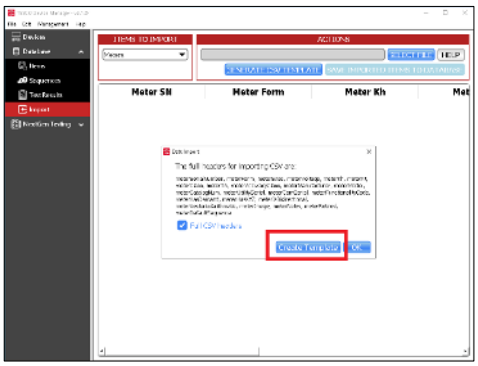


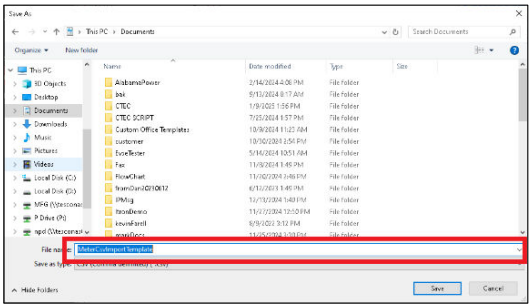
2. Select the type of items to import. The available items to import as *Meters, Cts, Vts, Meter Sites or EVSE Chargers*. After an item type has been set, the "GENERATE CSV TEMPLATE" button will be enabled. Users may now use this feature to create a CSV file template as basis or fill this file with item data. For this example, we are going to import meters.

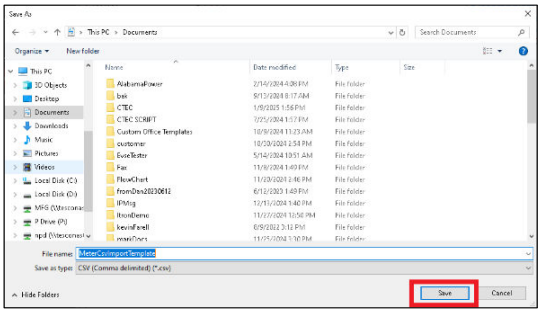




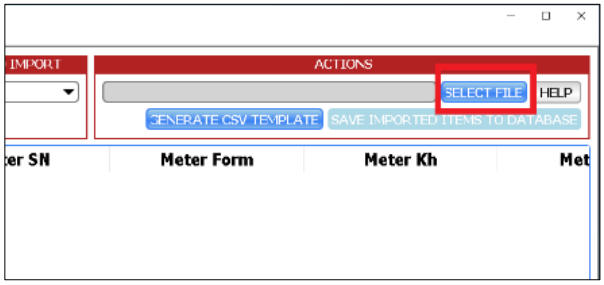


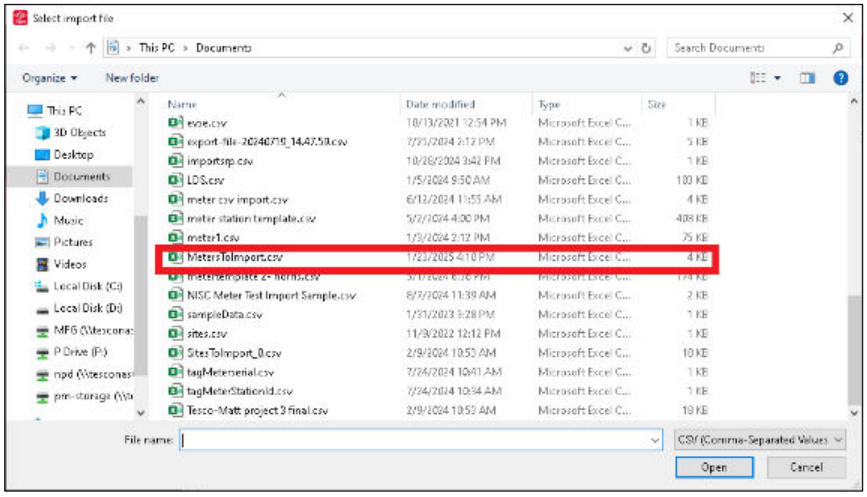


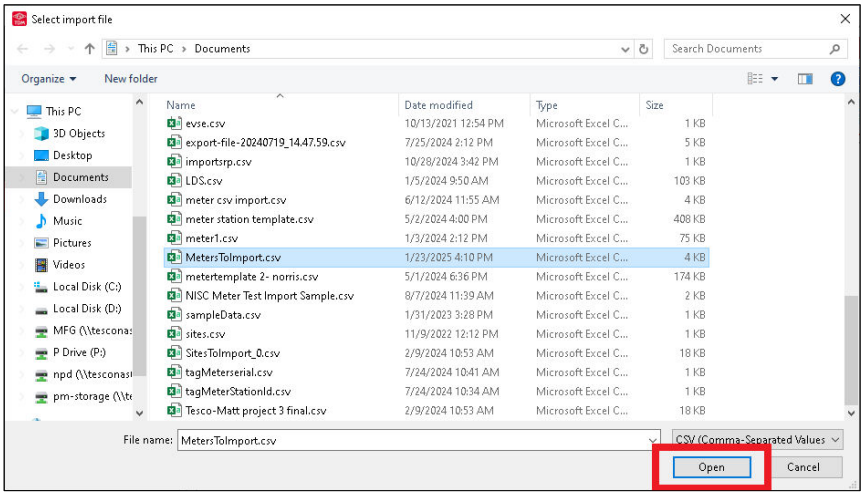




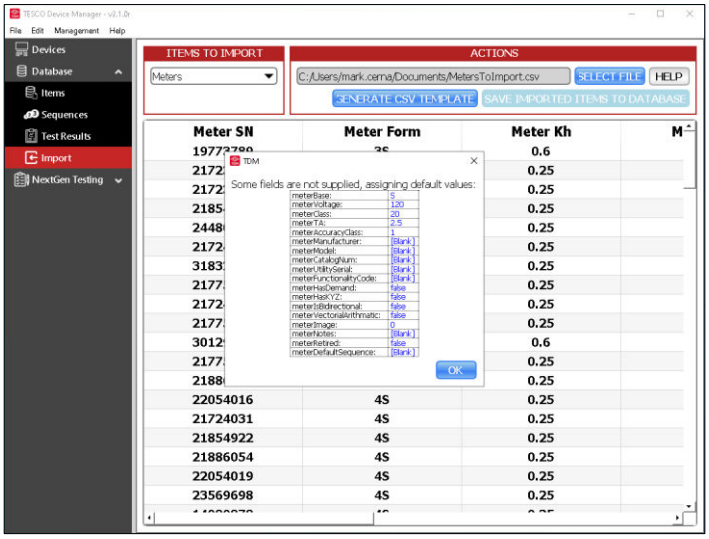
3. Click “SELECT FILE” to browse and locate the csv file to be imported.

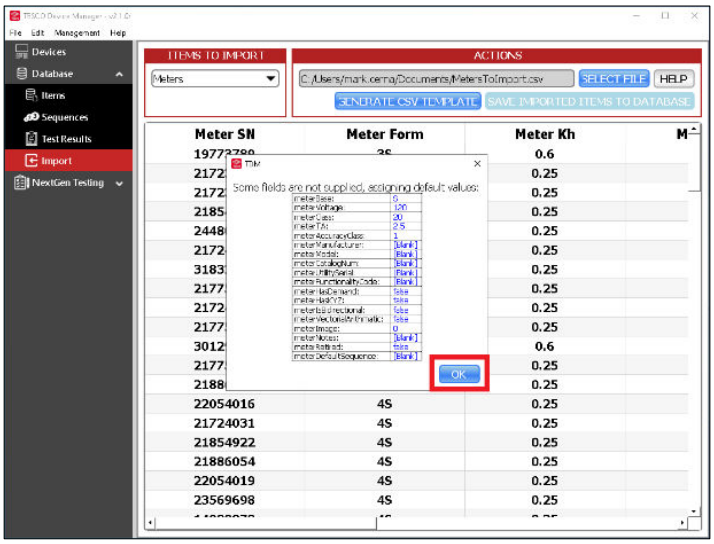




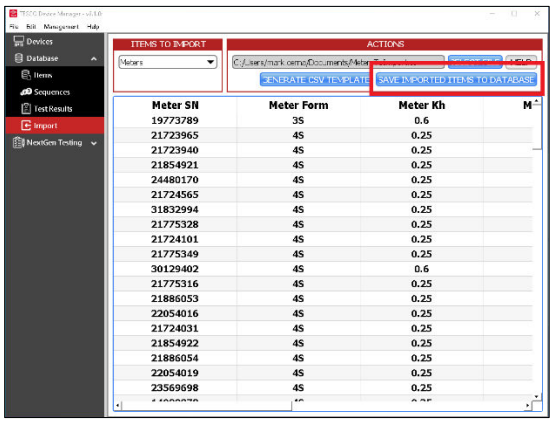


4. Once TDM finishes parsing the CSV file, a preview of the records to be imported will be displayed. A popup may appear with a warning if any fields are missing or left blank. TDM will automatically assign default values such as blanks, zeros, or “false” to those fields. Click “OK” to close the popup.

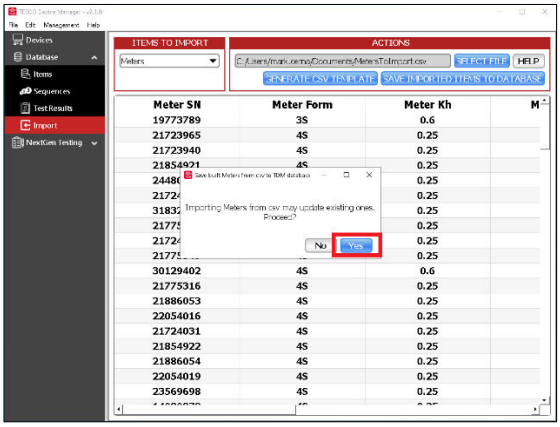




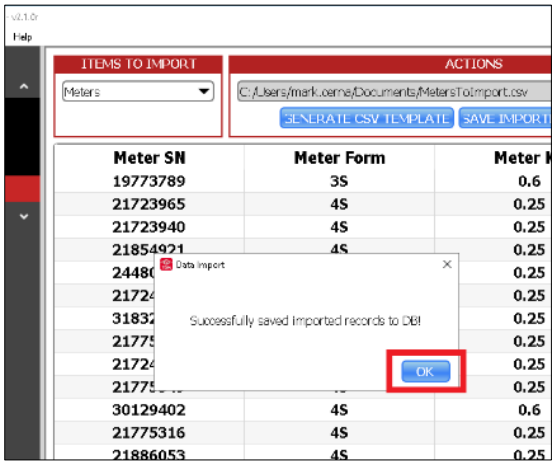
5. To proceed with saving these data into the database, click “SAVE IMPORTED ITEMS TO DATABASE”



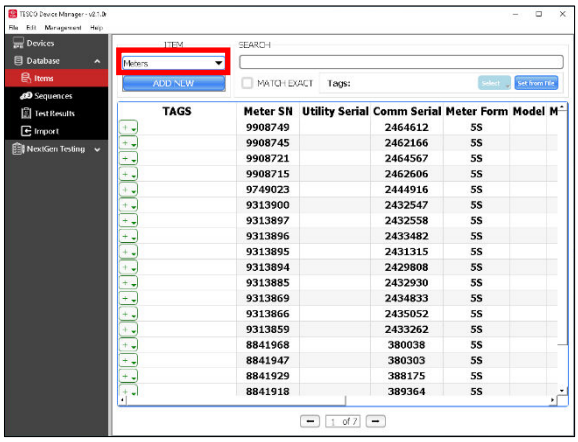
6. TDM will prompt you to confirm if any existing items with matching IDs should be overwritten with the new data.
   Click “**Yes”** to confirm and continue.



7. Once the import is complete, TDM will notify the end user that the import was successful. Click “**OK”** to close the popup.



8. Navigate to **Database** in the TDM side menu and click to expand the submenu. Then select "**Items**". Locate and select the item type you imported (e.g., **Meters**).
   The imported records will now be visible in the list.

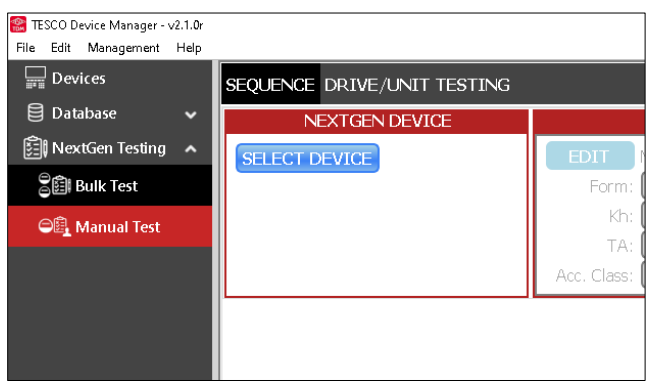


12 CONTROLLING A METER TEST BOARD REMOTELY

TDM provides the ability to control and run tests on supported **Meter Test Boards** over the network. This functionality is available through the **NextGen Testing** interface.

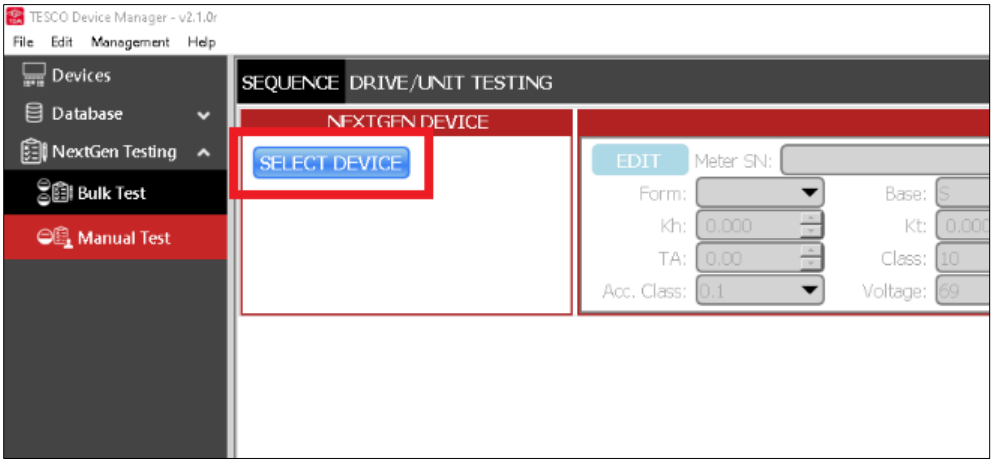
To begin, click "**NextGen Testing**" from the sidebar, then click "**Manual Test**".

<u>IMPORTANT NOTE</u>: This option will only be available if **"Meter Test Boards"** is/was selected under **Supported Devices** in the **Preferences** popup. If you don't see it, refer to section **5.1**, Setting Up Supported Devices.



12.1 Selecting a Meter Test Board to control

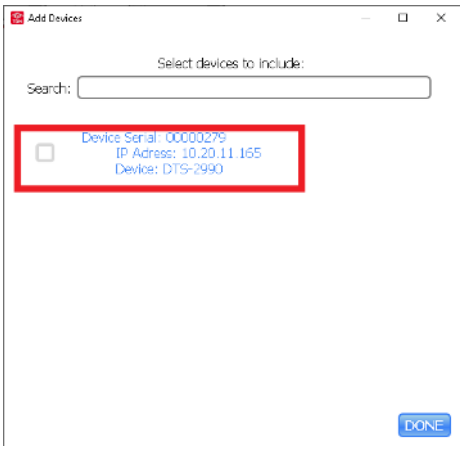
On the Manual Test screen, click "**Select Device"** to open the device selector.



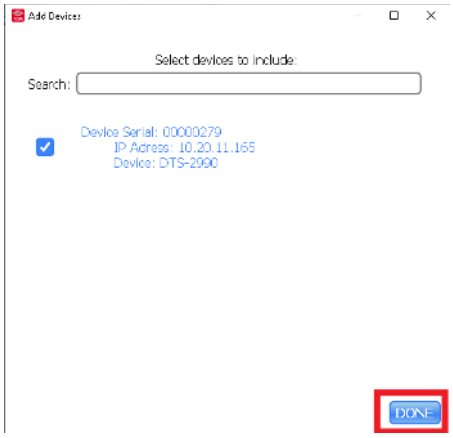
The popup will display any Meter Test Boards currently discovered on the network.

- If the device does not appear, return to the **Devices** page and perform a network scan.

Select the desired device.

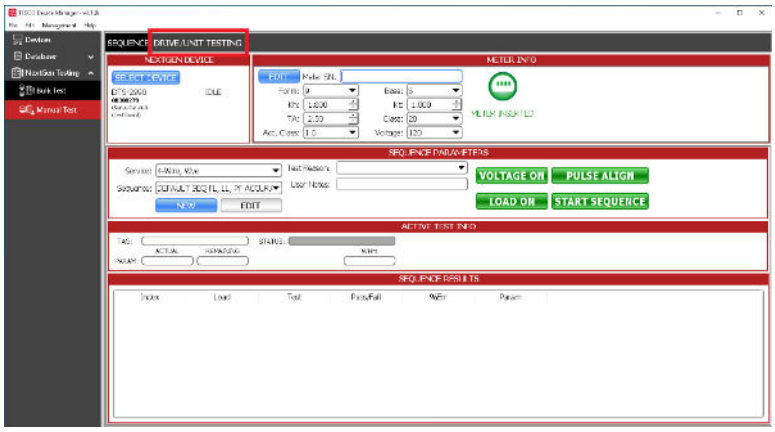


Click “**Done”** to close the popup.



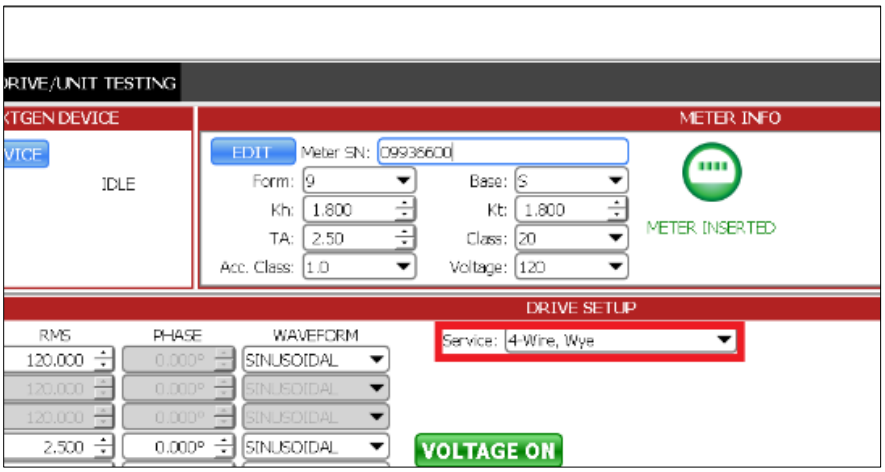
12.2 Setting Meter information & Service

On the Manual Test screen, click “**Drive/Unit Testing”** above the **NextGen Device** ribbon.



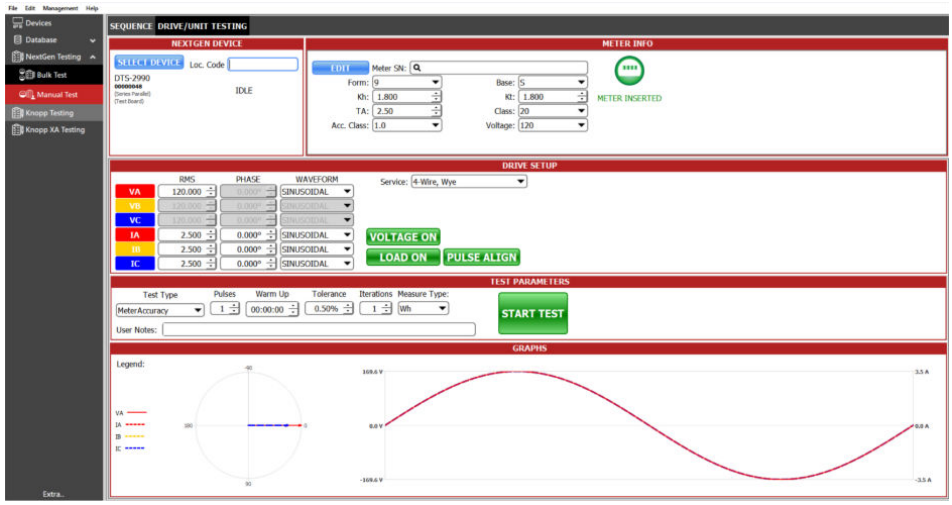
Under the **Meter Info** ribbon, set the **Meter Form** based on the meter currently installed in the socket on the Meter Test Board.

In the **Drive Setup** ribbon, use the **Service** dropdown to select the appropriate service for the test.

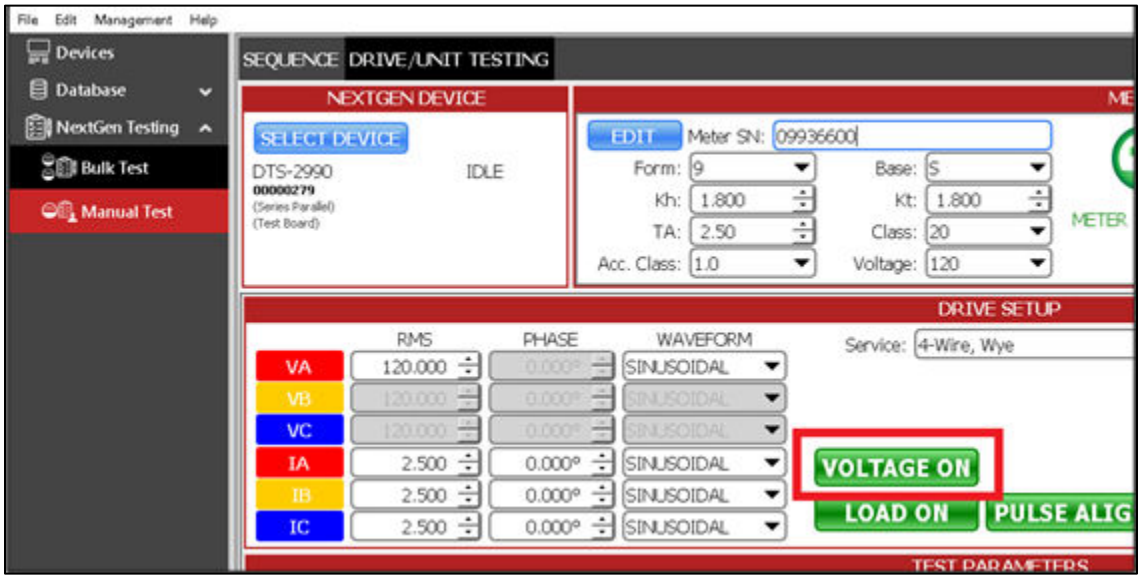


12.3 Turning the Voltage and/or Current ON/OFF

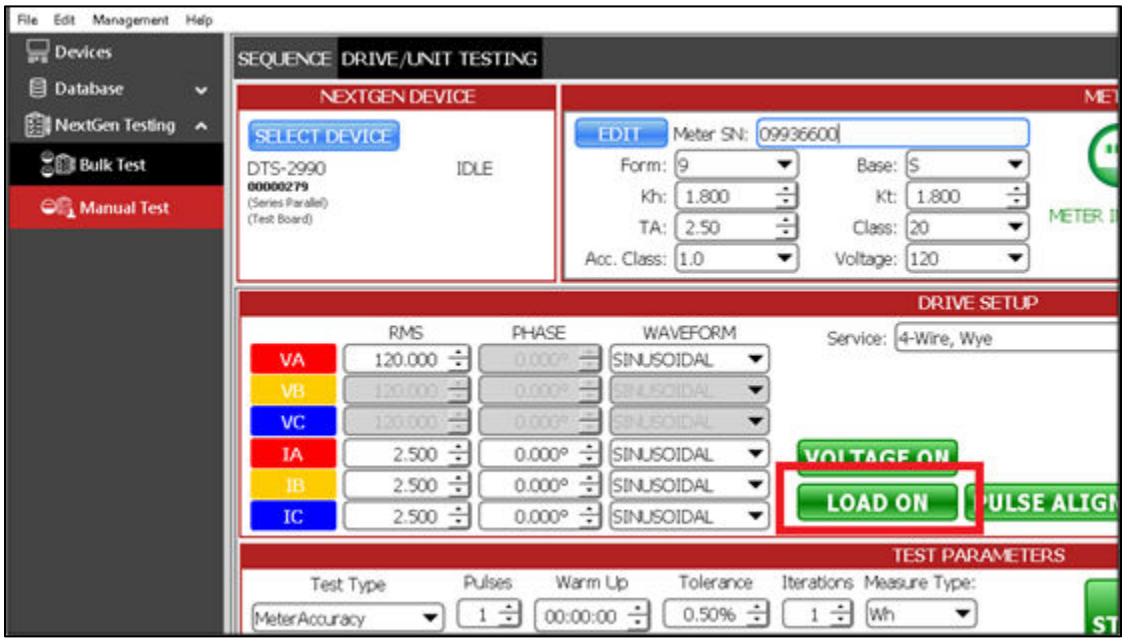
The **Drive/Unit** tab in Manual Test displays waveform setup fields for voltage, current, and phase. These fields may be edited to generate custom waveforms as needed.



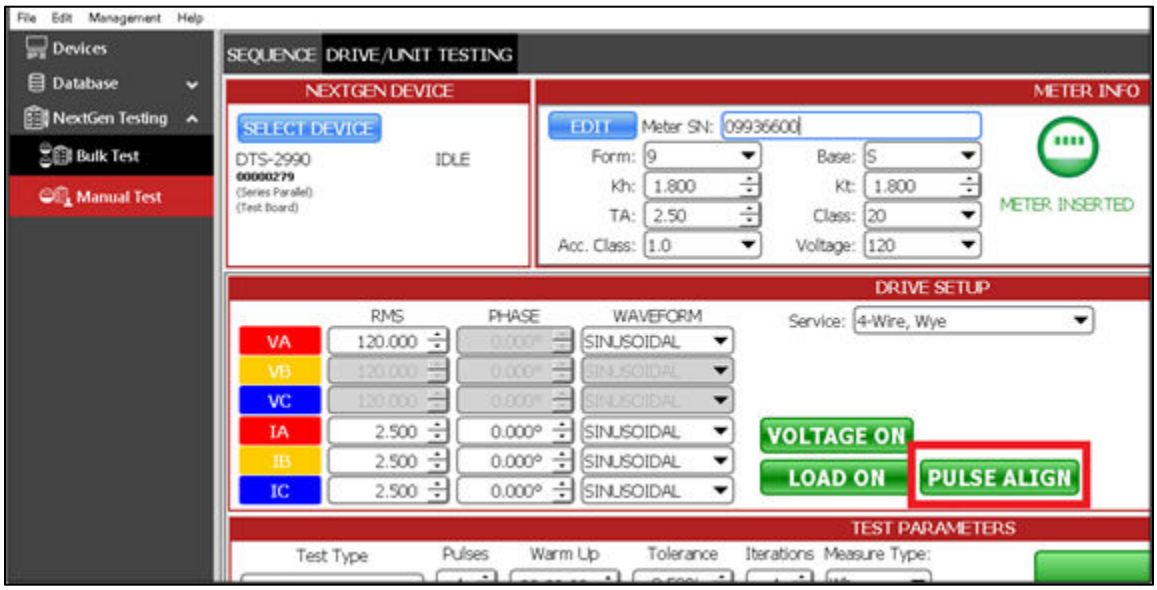
Click "**Voltage On"** to activate the voltage channels. Once turned on, the button will change to **Voltage Off**, which can be clicked to turn voltage off.



Click "**Load On"** to activate the current channels. Once active, the button will change to "**Load Off"**, which can be clicked to disable the current output.



Click "**Pulse Align (P.A.)"** to begin detecting pulses from the connected meter. The button text will change to "**Stop P.A"**, which can be clicked to stop pulse detection and turn off the current channels.



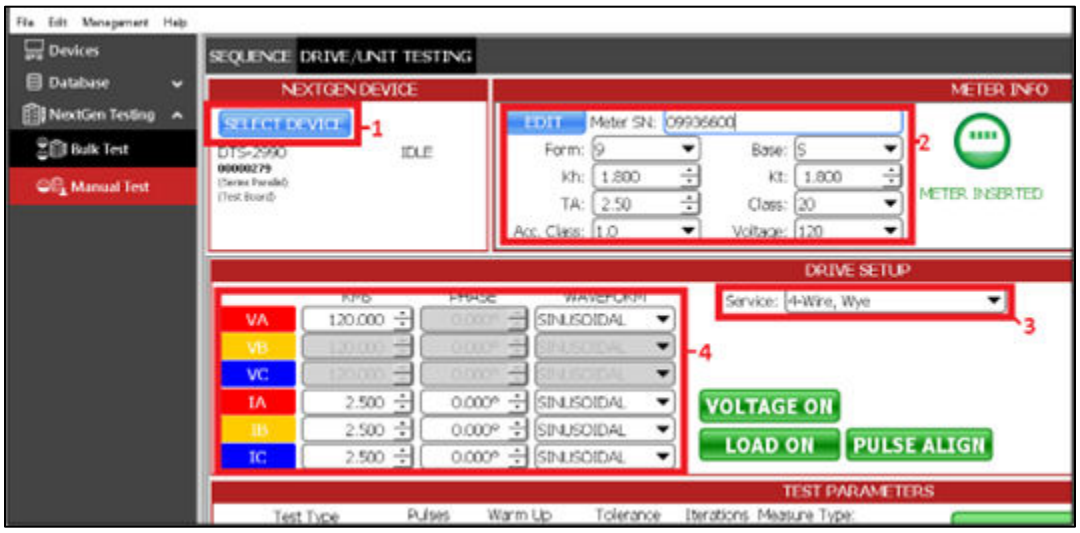
Tip: Use these controls to simulate test conditions in real time without running a full test sequence.

13. RUNNING A SINGLE TEST ON A METER TEST BOARD

To perform a single test using a Meter Test Board, begin by navigating to the **Manual Test** page in TDM.

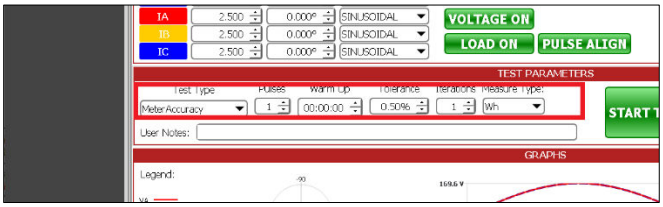
Step-by-Step Instructions:

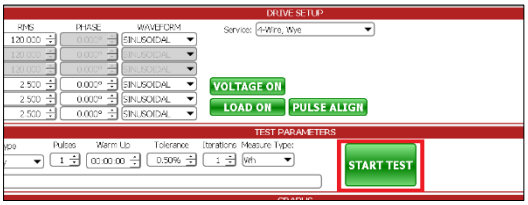
1. Click the "**Drive/Unit Testing"** tab.
2. Select the Meter Test Board that will run the test.
3. Enter the appropriate **meter information** and select the **service**.
4. Define the **target waveform** using the available voltage, current, and phase settings.



Test Setup:

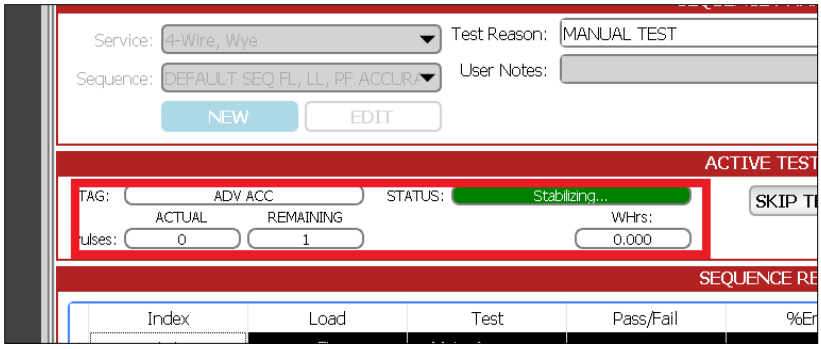
- In the **Test Parameters** section, select the desired test type and update its parameters as needed.
- Click "**Start Test"** to begin the test.





Monitoring and Results:

- While the test is in progress, real-time information will be displayed in the **Active Test Info** section.



Upon completion, a summary of the results will appear in the **Sequence Results** section.

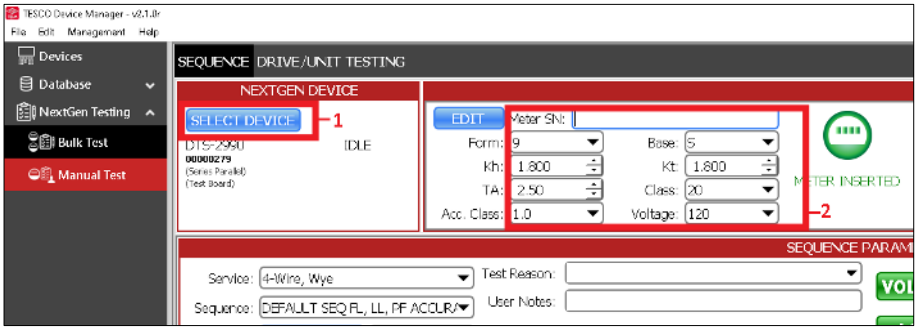
<u>Recommendation:</u> After completing the full test session, perform a **Quick Sync** to retrieve the test results from the device.
To view the results, refer to the **Viewing Results** section **(9.4)** of this manual.

14. RUNNING A SEQUENCE ON A METER TEST BOARD

To run a predefined test sequence on a Meter Test Board, navigate to the **Manual Test** page in TDM.

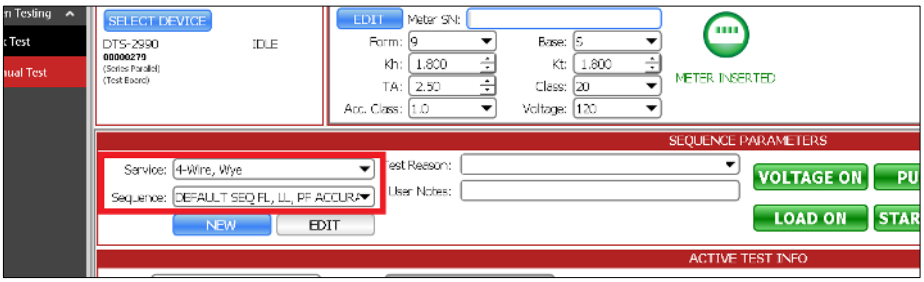
Step-by-Step Instructions:

1. Click the "**Sequence"** tab.
2. Select the Meter Test Board that will execute the sequence.
3. Enter the required **meter information** for the test setup.



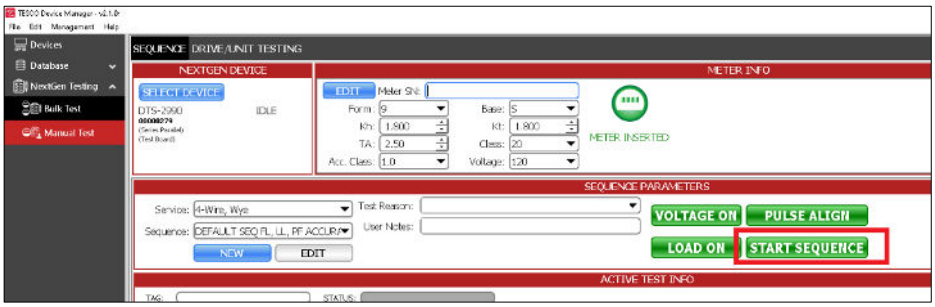
Sequence Configuration:

- In the **Sequence Parameters** section, choose the appropriate **service** and **sequence** to be run on the selected device.



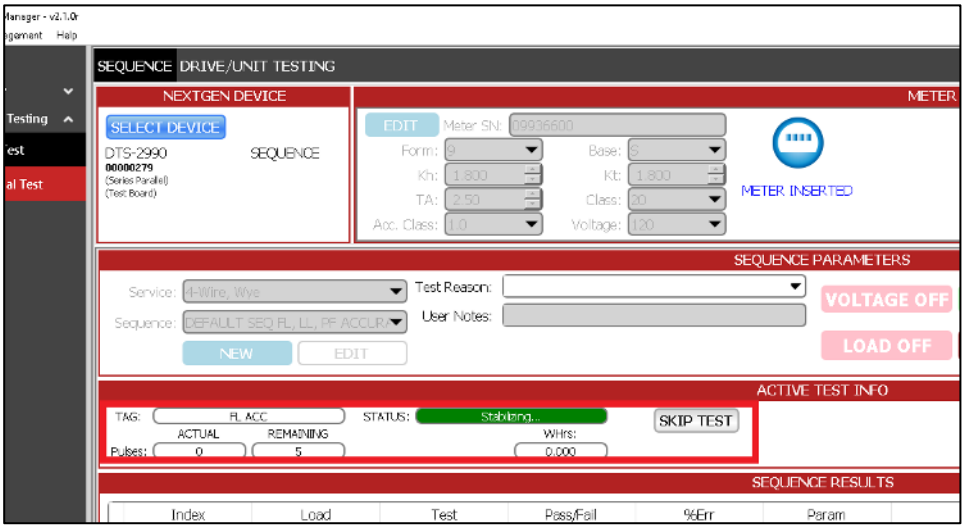
Running the Sequence:

- Click "**Start Sequence"** to begin executing the test sequence on the Meter Test Board.

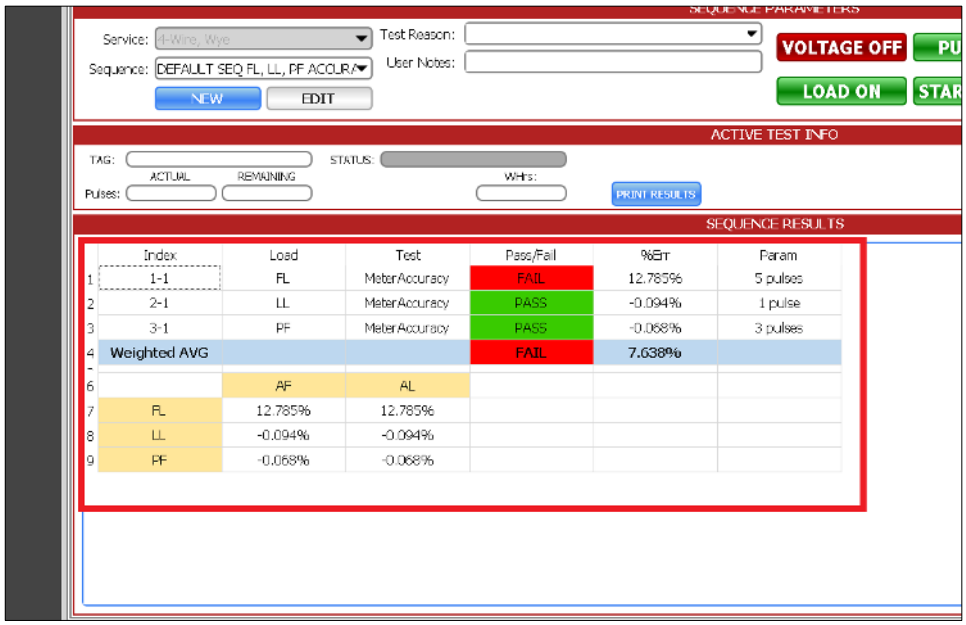


Monitoring and Results:

- Real-time details of the active test will be shown in the **Active Test Info** section.

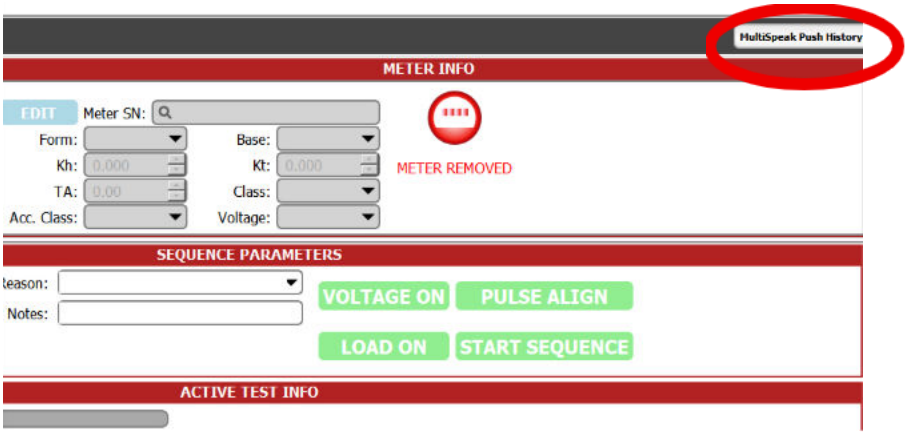


- Once completed, a summary of the sequence will appear in the **Sequence Results** section.

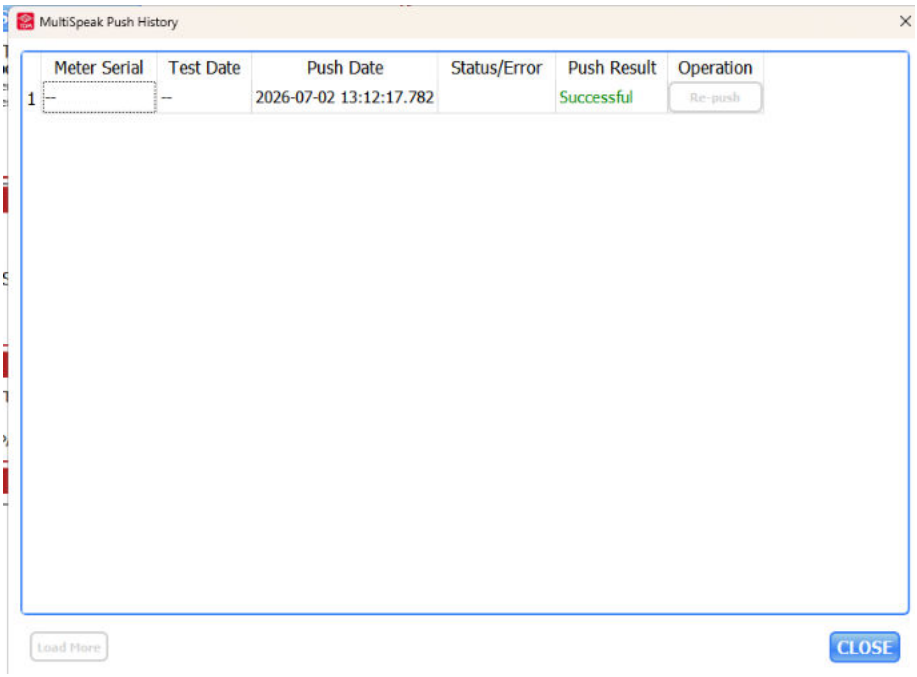


<u>Recommendation:</u> After the sequence has finished, perform a **Quick Sync** to retrieve test results from the device.

For instructions on how to view test results, refer to the **Viewing Results** section **(9.4)** of this manual.



*When MultiSpeak is enabled, you can view your push history by clicking the "Multispeak Push History" button.

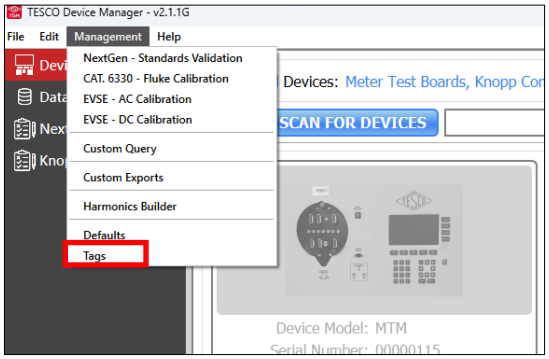


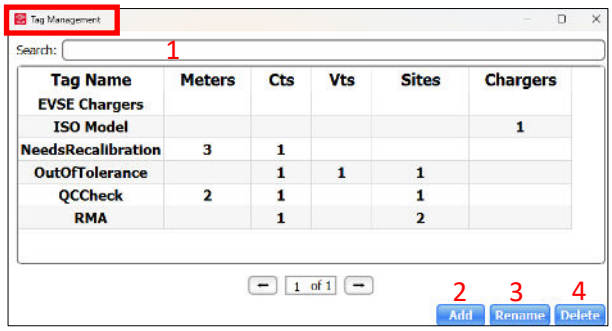
15.TAGS

Tags provide a flexible way to organize and categorize records in TDM, such as *Meters, CTs, VTs, Sites, and Chargers*. Tags can be managed centrally and applied to items for sorting, filtering, and reference.

15.1 Managing tags

To manage tags, click "**Tags"** under the **Management** menu from the toolbar. This will open the Tag Management popup, displaying all available tags for supported item types.





Available options include:

1. **Search**: Use the search bar to filter tags by keyword.
2. **Add a Tag**: Click the "**Add"** button in the lower-right corner to create a new tag.
3. **Rename a Tag**: Select a tag and click "**Rename"** to update its name.
4. **Delete a Tag**: Select a tag and click "**Delete"** to remove it from the system.

<u>Note:</u> Tag names must be unique and cannot be reused after deletion.

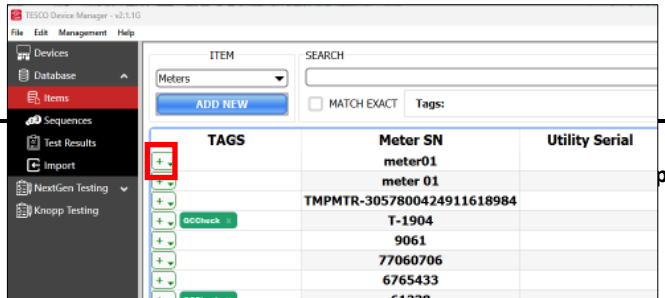
15.2 Using tags

Currently, tags can be applied and managed on the **Database > Items** page found on the sidebar menu.

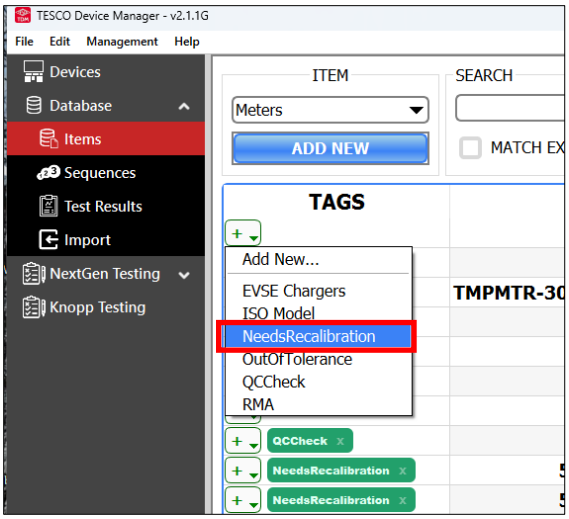
15.2.1 Assigning a tag to an item

To assign an existing tag to an item:

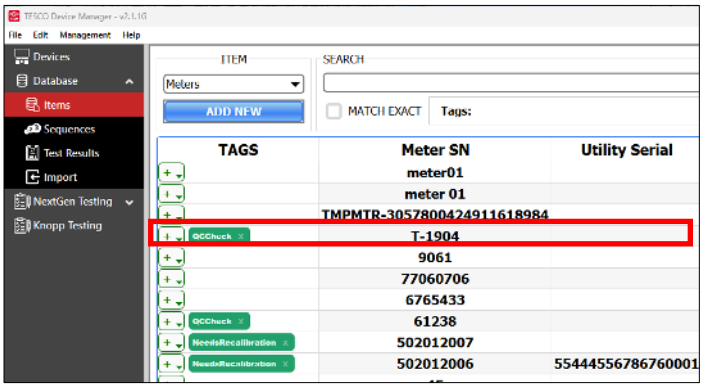
- Click the **"+"** button on the leftmost side of the item's row.



- Select a tag from the list.



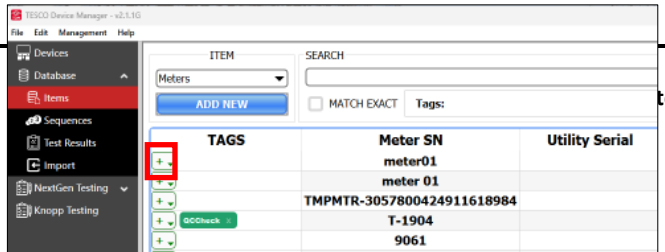
- A green tag widget will appear in the **Tags** column for that item.



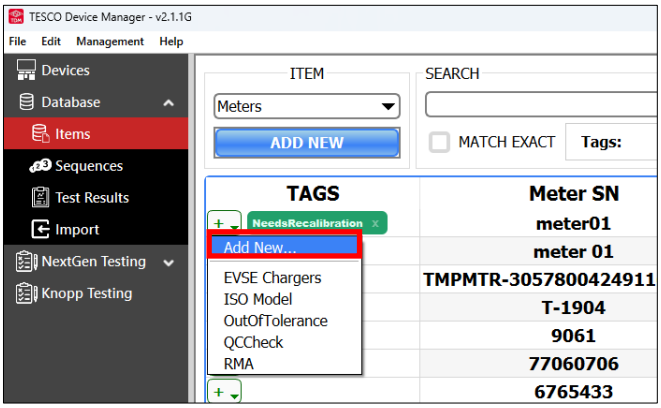
15.2.2 Creating a tag and assigning it to an item

To create and assign a new tag in one step:

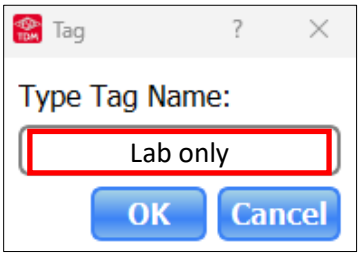
- Click the **"+"** button on the leftmost side of the item's row.



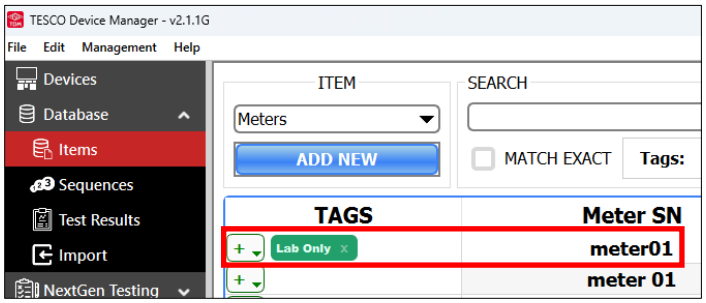
- Select "**Add New**".



- Enter the tag name and click "**OK**".



- A green tag widget will be added to the **Tags** column for that item.

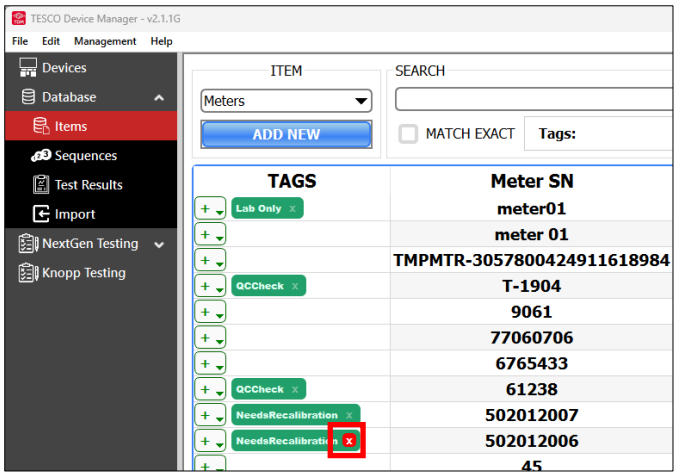


15.2.3 Removing a tag from an item

To remove a tag from an item:

- Click the **"×"** icon next to the tag in the **Tags** column.

- The tag will be removed from that specific item.

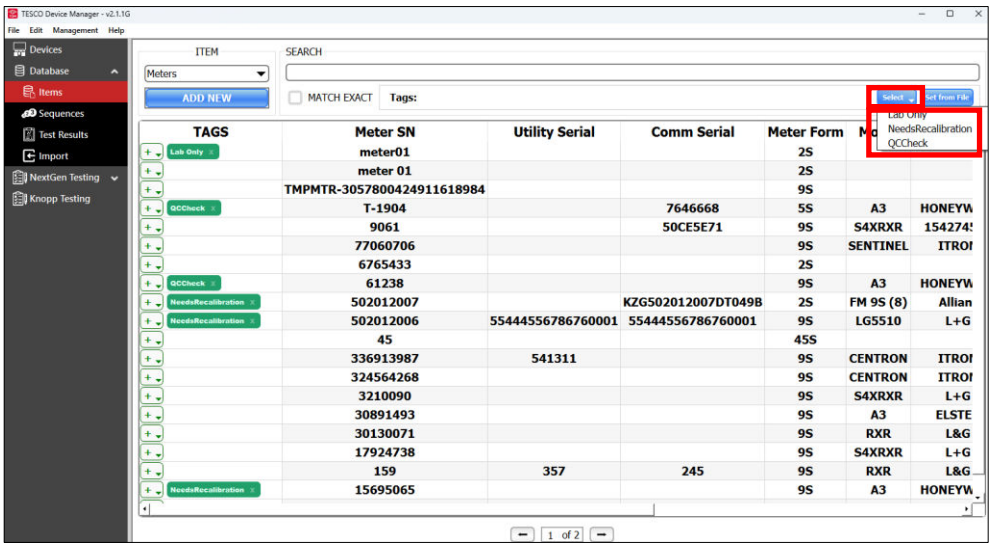


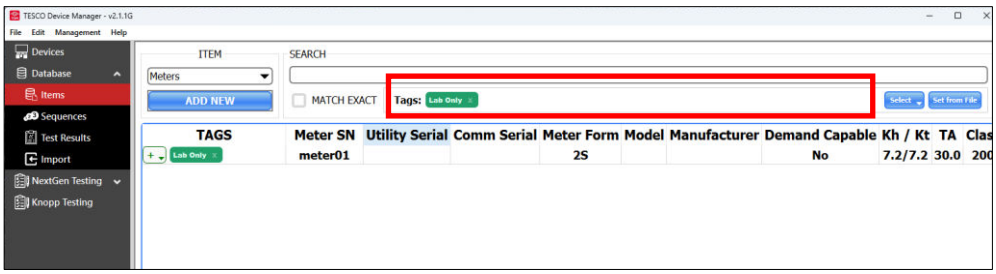
15.2.4 Filter items using tags

To filter the item list using tags:

- Click "**Select**" under the **Search** section and choose a tag.

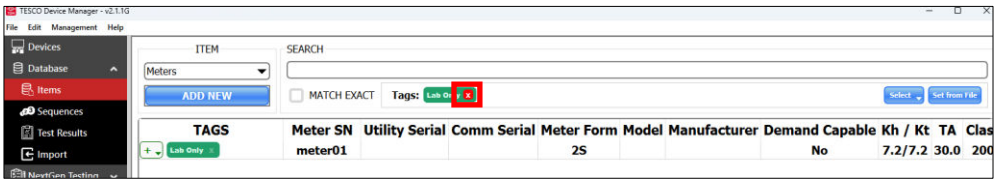
- A green tag widget will appear in the tag filter list, and the table will refresh based on the selected filters.





To remove a tag filter:

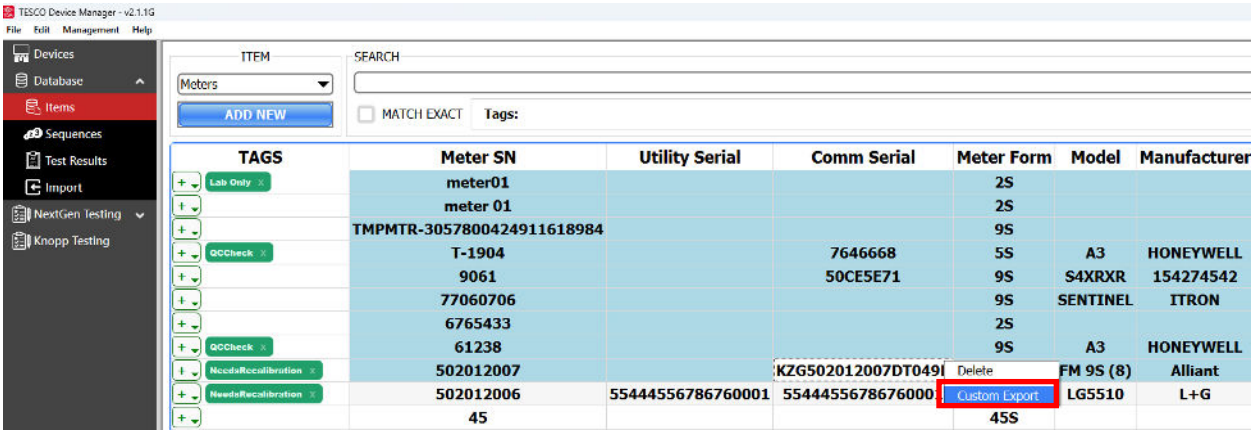
- Click the **"×"** icon next to the tag in the **Search** section.



- The table will refresh automatically based on the remaining filters.

16. CREATING/EDITING CUSTOM EXPORT SCRIPTS

TDM allows users to build **Custom Export Scripts** to generate report files in formats that meet specific organizational or third-party requirements from selected records in either the **Database Items** or **Database Test Results page**.



*Performing **Custom Export** via Database Items table record selection*

These scripts are made up of two main components: a **SQL query**, which defines the data to be retrieved, and a **Regular Expression**, which formats the output.

In most cases, users will only need to define the **SQL** portion, as the regular expression can be kept simple for standard formats.

To create a new custom export script:

- Click "**Custom Export"** under the **Management** menu.
- Click "**Add"** to create a new script.
- Enter a "**name"** for the script and proceed to define its components.

16.1 SQL query

- From the **Select Target Data** dropdown, choose the database table where the *Custom Export* will be usable. Click **DB Schema** to open a reference diagram showing the structure and relationships of available tables.
- The **Input parameter** represents the type of data that can be extracted from the **Target Data**. It can either be **${serials}**, representing the comma-separated list of *serial numbers* of the selected rows (*see above*) or **${resultKeys}**, representing the comma-separated list of result keys for test results.

  NOTE: The **Input parameter** should be used in the SQL query.

- Input your **SQL query** with the applicable **Input parameter**. As an example, below is a query with *Meter* table as the **Target Data** using the **${serials} Input parameter**:

SELECT meterSerial, meterForm FROM Meter WHERE meterSerial IN (**${serials}**)

Upon query execution, the **${serials}** parameter will be substituted by the selected serial numbers. As an example, using *Figure 1* selections, the *final query* will be

SELECT meterSerial, meterForm FROM Meter WHERE meterSerial IN (**'meter02', 'meter01', 'meter02', 'meter01', '6789', '43t aef'**)

- For easy representation, the query result is converted into a comma-separated value (CSV format). This is important to keep in mind when extracting and formatting the final output using **Regular Expressions**.

Note: Ensure your SQL query returns data in a format compatible with your export needs. Advanced users may incorporate JOINs, filters, and aliases as required.

Note: Only SELECT (read-only) queries are allowed

16.2 Regular Expression

Regular Expression can be used to extract (*capture*) data from the CSV data of the SQL query, and to rearrange them freely.

Suggested Steps:

1. After entering your SQL query, click Next button.
2. You may tick **Include Headers from CSV Results** checkbox if you want to include query columns from the CSV data.
3. Click **Add RegEx** button to add as many *regular expression* definitions as necessary.

   RegEx field: This is the actual *regular expression*. At least one *capture* should be included in the expression.

   Format field: This is the format of the exported data using the *regular expression* captures. *Captures* are represented by **${1}** for *capture 1*, **${2}** for *capture 2*, so on and so forth.

   Description field: This is the description of the *regular expression,* the *format*, or anything that relates to the *regular expression* definition. This field is *optional*.

   As an example, below is *regular expression* definition that includes the CSV Header from the example query above and the resulting export output:

   SQL Result (CSV-formatted):

```
meterSerial,meterForm
meter02,2
meter01,2
:
43t aef,9
```

Regular Expression Definition:

RegEx: `^(.*),(.*)$`
Format: `${2}:${1}`
Description: `Extract 2 data between commas, reverse order and join them with a colon`

Export Output:

```
meterForm:meterSerial
2:meter02
2:meter01
:
9:43t aef
```

NOTE: For Custom Exports with more than one *regular expression* definitions, the output of the first will be fed to the next one and so on and so forth until the last definition is performed.

NOTE: All Regular Expression should follow the *Perl-compatible* format.

16.3 Regular Expression for Header

Regular Expression Header can be used to replace the original CSV header row from the SQL query results with a custom header. This allows you to standardize or rename columns freely for the exported data.

Suggested Steps:

1. After entering your SQL query, click “Next” button.
2. Click “Add RegEx” Header button to define a header override.
3. In the RegEx field, enter a pattern to capture the header row (e.g., ^(.*)$).
4. In the Format field, define the new header row. The captured original header can be ignored if not needed.
5. Optionally, enter a description for the RegEx Header override.

RegEx Header Fields:

- RegEx field: This is the regular expression to capture the original header. At least one capture group should be included.
- Format field: This is the new header row for export. Use ${1}, ${2}, etc., if you want to include captured values, or ignore captures to fully override.
- Description field: Optional text to describe the purpose of the header override.

<u>NOTE:</u>

- This operation applies only to the header row; data rows are not affected.
- If multiple header overrides are used, they are applied sequentially, with each override replacing the previous result.

16.4 File name and file format

This section determines how the exported file will be named and what format it will use when saved.

Suggested Steps:

1. In the **Filename Format** text field, type the desired file name format which can include *fixed* and *generated* sections. To include a *generated* data like date/timestamp in the filename, the **<DateTimeStamp>** placeholder can be used. See *Filename Format Parameters* section for a list of available *generated* data with their corresponding descriptions.
2. In the **File Extension** text field, type the desired file extension (without the dot). This can be any known extension like **csv**, **json** or a custom one like **dat**.

As an example, the following **Filename Format** value of

Exportedby_<username>_on_<DateTimeStamp>

with a **File Extension** of

frt

will yield a file

Exportedby_TESCO_on_20250407_160817.frt

assuming that the logged in username is *TESCO* and the export was generated on *April 7th, 2025,* at *04:08:17 pm*.

16.5 Output Directory

This section sets the location where the Custom Export file will be saved. By default, it will use the **Export Path** in the Preferences if left unchanged.

17. CUSTOM SQL QUERIES

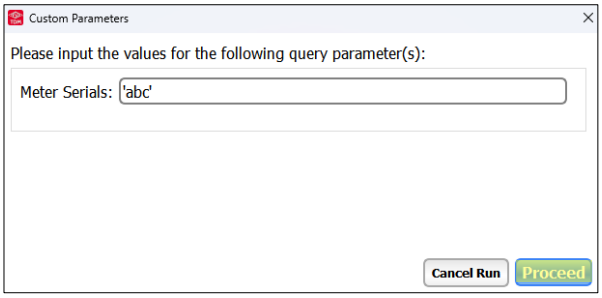
17.1 Creating Custom SQL queries

This feature allows users to define ad-hoc SQL queries to extract data from the TDM database for analysis, validation, or custom reporting.

Suggested Steps:

1. Navigate to **Management > Custom SQL**.
2. Click **Add Query** and enter a name for your custom query.
3. Enter your SQL query in the editor field.

   Query Parameters can be inserted anywhere in the SQL query to allow input of query details through a popup. This is useful to make the query more flexible.
   As an example, below is a query that searches for specific records from the **Meter** table based off a meter serial list using the query parameter **${Meter Serials}** to get that list from the user.
   SELECT * from Meter where meterSerial IN (**${Meter Serials}**)



   The query parameter value is then substituted to the original query making it
   SELECT * from Meter where meterSerial IN (**'abc'**)

4. Click "**PROCEED**" to store the query for future use.

Note: Use the **DB Schema** button to view available fields and relationships between tables.

17.2 Running Custom SQL queries

To execute a previously created custom query:

1. Navigate to **Management > Custom SQL**.
2. Select the desired query from the list.
3. Click **Run** to execute the SQL command.
4. Results will be displayed in a table format within the interface.

Optional: Export the query results using the **Export to CSV** button.

18. CHANGELOG

This section provides a detailed record of manual revisions, including software updates, procedural adjustments, and any other relevant information you may want to track.

Date	Author	Log

19. TECHNICAL SUPPORT

Technical Support Contact Information:
For any technical issues, questions about TDM, you can reach TESCO through the following:

- **Phone (Technical Support):** +1 (215) 228-0500

This is TESCO's main support line.

Hours of operation are Monday – Friday, 7:00 AM – 6:00 PM (Eastern Standard Time).

- **Email:** support@tescometering.com

Email is great for non-urgent inquiries or to send a detailed description of an issue (even screenshots). TESCO's support team monitors this address and typically responds within one business day.

When contacting support, always provide the following information to ensure efficient assistance:

- The current firmware or software version, if known
- A concise description of the issue, including any error codes and/or system behavior.

Thank you for your patronage, we look forward to working with you!

-The TESCO Team