

EasyDirect™ Pipette Asset Management

EasyDirect™ PAM

METTLER TOLEDO

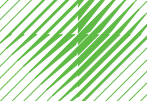


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1 Introduction

This guide is designed to help you to get started using EasyDirect™ Pipette Asset Management (henceforth referred to as EasyDirect™ PAM) and to explain the features included in the software.

Note: This document is updated for EasyDirect™ PAM v1.1.0 and if you are using an older version, please update the software immediately. New version always brings a lot of fixes and new features to enhance your experience. See 5.2 Check for Software Update for more details.

Easy and Reliable Asset Management

Along with the SmartStand, EasyDirect™ PAM is meant to simplify the management of all your pipettes. The software is designed to work with both METTLER TOLEDO RAININ pipettes as well as with other brands. Simply upload your spreadsheet into EasyDirect™ PAM and manage your assets from there. In conjunction with the SmartStand you can start to track your assets throughout your lab. All SmartStands will connect to EasyDirect™ PAM and you can start measuring usage data of pipettes, and see where pipettes were last seen (helping you locate pipettes when they are due for service). Also, updating your EasyDirect™ PAM database becomes really easy with SmartStand and the RFID enabled XLS(+) pipettes as EasyDirect™ PAM automatically retrieves the next service date from the RFID tag. No more manual typing needed on your end.

If you have any additional questions, Mettler-Toledo Rainin, LLC is always available to assist you.

- Find out more and visit us on: www.mt.com/rainin

2 Design and Setup

2.1 EasyDirect™ Pipette Asset Management

The EasyDirect™ PAM software consists of two parts:

- Main Application (User Interface Components)
- Background Application (Windows Service Components)

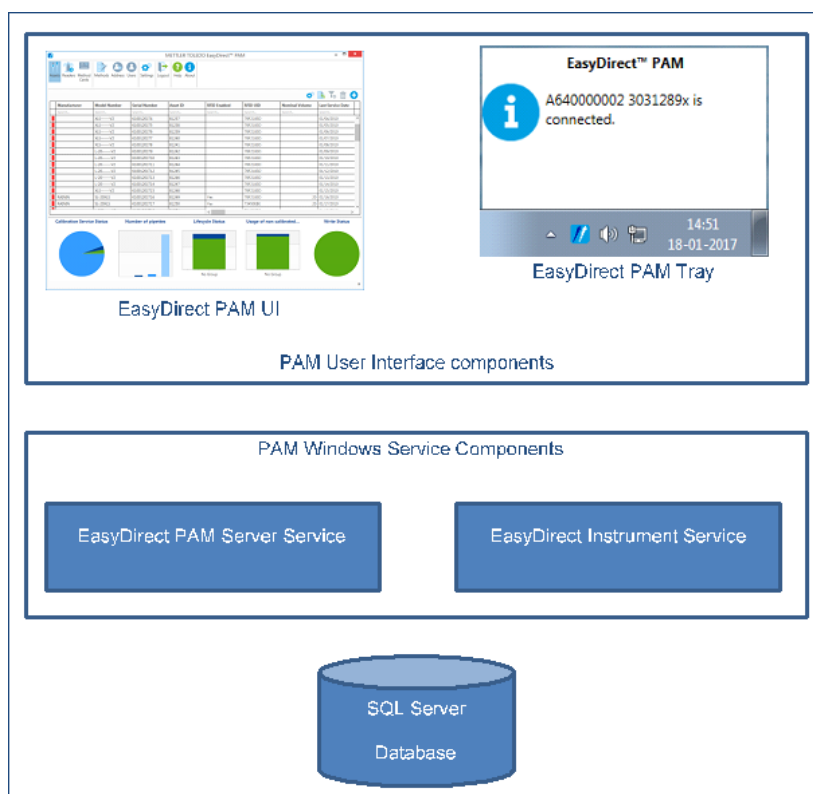


Figure 1: EasyDirect™ Pipette Asset Management

The background application runs automatically when the PC is running. The status will be indicated with an  in the Windows taskbar. The background application maintains connection to the RFID readers and to the database. It logs data received from the connected readers regardless of whether you are logged in or not. To view the data stored in the database, EasyDirect™ PAM application has to be started and depending on your rights, information can be looked upon. The collected data are shown in different views and tables.

- Assets
- Readers
- Methods and
- Method Cards

2.2 Start and License the Software

You can use the software for 45 days as trial period. To use the software permanently, you need to activate the software by entering a license key. This one-time use license key, you might have received with the SmartStand (attached to the back of the SmartStand quick guide) or via the EasyDirect™ PAM license key paper sheet (if you purchased EasyDirect™ PAM license separately).

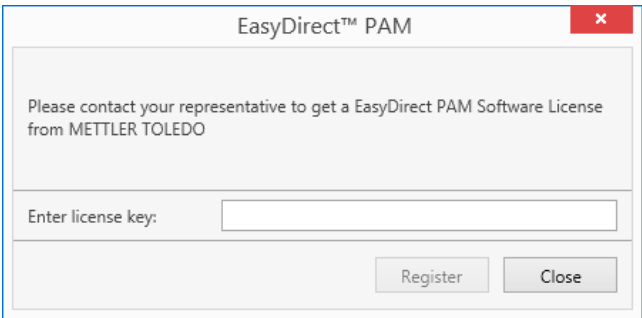


Figure 2: Register License Key

Please click "Register" in the window that appears upon opening EasyDirect™ PAM. This will activate the software.

2.3 Prepare the Software

We strongly advice you to follow the steps as presented below in order to make setting up the software a breeze. The steps below assume that you are logged in EasyDirect™ PAM as Administrator. If not, you might be limited in what you can see and do at this point. Please refer to the user role reference table to see what you can do with the role you have been assigned by your administrator.

When prompted you can initially log in to the software with user "Admin" and password "Admin". This initial password for the user "Admin" should be changed immediately after the initial login.

3 Functions

Functions described in this manual are listed in a logical sequence on how EasyDirect™ PAM needs to be prepared for daily operational use.

3.1 Manage Addresses

First specify the lab addresses from within your company you would like to assign to your assets.

Address UID	Address ID	Address status	Name 1	Name 2	Street 1	Street 2	Street 3	City	State	Zip code	Country	Sold-to number	Bill-to number	Ship-to number
LAB 1	LEDA Lab EW	Active	LEDA Lab	East Wing	Baker Street 1176			Cincinnati	OH	45242	United States			
LAB 2	LEDA Lab WW	Active	LEDA Lab	West Wing	Baker Street 1176			Cincinnati	OH	45242	United States			
LAB 3	LEDA Lab SW	Active	LEDA Lab	South Wing	Baker Street 1176			Cincinnati	OH	45242	United States			
LAB 4	LEDA Lab NW	Active	LEDA Lab	North Wing	Baker Street 1176			Cincinnati	OH	45242	United States			

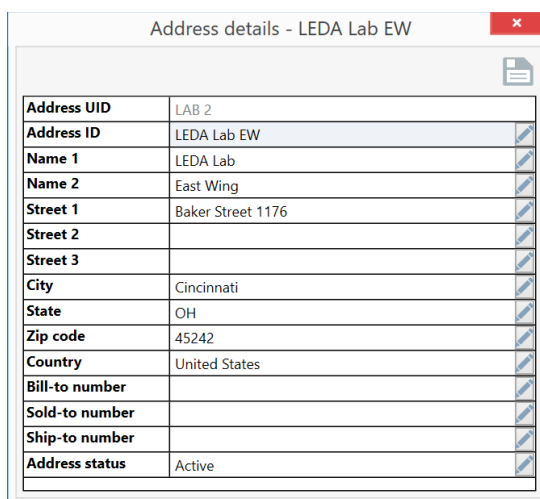
Figure 3: Address List

Enter here the addresses of the different labs. Click on  in top ribbon bar and subsequently on  to the top-right of the screen in order to add a new address. Add all the details and click  in order to save the record. Notice that you can add your own Address ID to an address name to make it easily identifiable when you have to assign it to users or assets later (if you need to add many addresses, think about a logical naming structure, so you can easily find them afterwards). To edit the content of an existing address, double click on the record in the list.

You can always change the status of an address later when needed. When an address is no longer needed, you can delete the address by setting the status as "retired". By doing so, you will not be able to assign this address to assets or users anymore. Also *note that you have to reassign the assets and users manually when you set an address to Retired.*

Meaning of the different status:

- **Active:** The address is active and can be assigned to users or assets.
- **Inactive:** The address is inactive (currently not in use), but kept on record in the system.
- **Retired:** The address is retired (not used anymore) and can't be assigned to users or assets anymore.

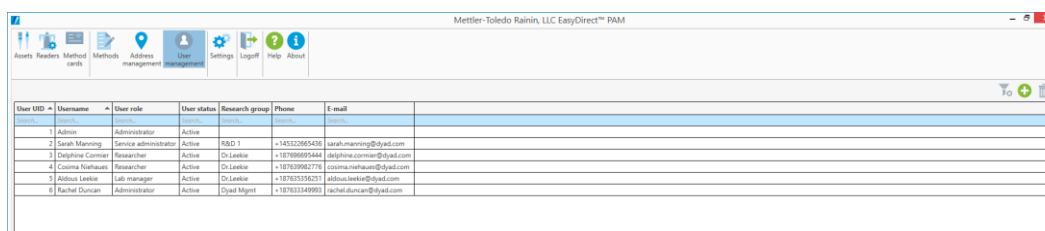


Address details - LEDA Lab EW	
Address UID	LAB 2
Address ID	LEDA Lab EW
Name 1	LEDA Lab
Name 2	East Wing
Street 1	Baker Street 1176
Street 2	
Street 3	
City	Cincinnati
State	OH
Zip code	45242
Country	United States
Bill-to number	
Sold-to number	
Ship-to number	
Address status	Active

Figure 4: Address Fields

3.2 Manage Users

After you have added addresses to EasyDirect™ PAM, you can now add users. Click on the "User Management" icon  from the top ribbon. The default user profile that is setup is the "Admin" profile. You can add any number of users and assign each user a role. To edit the content of an existing user, double click on the record in the user list.



User UID	Username	User role	User status	Research group	Phone	E-mail
1	Admin	Administrator	Active			
2	Sarah Manning	Service administrator	Active	R&D 1	+141232955438	sarah.manning@syad.com
3	Delphine Cormier	Researcher	Active	Di Leukin	+187898955444	delphine.cormier@syad.com
4	Cosima Niehaus	Researcher	Active	Di Leukin	+187839982776	cosima.niehaus@syad.com
5	Abigail Leukin	Lab manager	Active	Di Leukin	+187831556251	abigail.leukin@syad.com
6	Rachel Duncan	Administrator	Active	Di Leukin	+187831556251	rachel.duncan@syad.com

Figure 5: User List

There are 4 different user roles:

- **Administrator:** Access to all functionality of the software and user status is always active.
- **Service Administrator:** Person who is in charge of handling all the assets and their service.
- **Lab Manager:** This role can manage the assets that are assigned to his lab or group.
- **Researcher:** This role can see the assets for just his lab.

For detailed description on user-rights, have a look at User role reference table.

Add a user by clicking on  to the top-right of the screen in order to add a new user. Define the **User role** and assign a **Research group** this user belongs to. Add phone and email address of the user and set the password. Once the password is set, it can be changed either by the respective user or by the Administrator.

User details - Delphine Cormier	
User UID	3
Username	Delphine Cormier
User role	Researcher
Research group	Dr. Leekie

Figure 6: User Fields

Once saved, the user's status can be set to

- **Active:** The user profile can be assigned to assets and the user can login.
- **Inactive:** The user profile cannot be used to login.
- **Retired:** Once a user gets deleted, it will get the status retired. It is still contained in the system, but cannot be used.

As an Administrator you can also delete a user which actually keeps the record in the system while setting the status to "Retired".

Note that if you change the language from the "Settings" page, it is set only for the current user.

3.3 Manage QuickCheck Methods

If you want to use QuickCheck in your lab, follow this step. Else, you can skip to 3.4 Manage Readers.

3.3.1 QuickCheck

QuickCheck is a great tool to ensure your pipettes are performing according to spec and catch out-of-specification events early. By defining the methods according to which the **QuickCheck** has to be performed and then assigning it to a pipette you ensure that the **QuickCheck** is performed in the right way. There are three ways to use **QuickCheck**:

Manual:

Setup the method in EasyDirect™ PAM, print out the method (not available from EasyDirect™ PAM), perform the **QuickCheck** on any 5 or 6digit balance and update the next **QuickCheck date** in EasyDirect™ PAM manually.

Advantage:

- Methods are all centrally managed and version controlled.
- Can be applied to any pipette on any 5 or 6digit balance.

Semi-automated:

Setup the method in EasyDirect™ PAM, assign the method to a Method Card, activate the **QuickCheck** Application on a METTLER TOLEDO XPE or XSE balance by holding the Method Card over an EasyScan™ Flex reader at the balance, and perform the **QuickCheck**. Afterwards you update EasyDirect™ PAM with the next **QuickCheck date**.

Advantage:

- Methods are all centrally managed and version controlled.
- Settings for **QuickCheck** Method are automatically activated on the balance (no manual entry).
- Check by balance whether volume of pipette corresponds to nominal volume of method.
- Can be used for any pipette. 

Automated (Recommended):

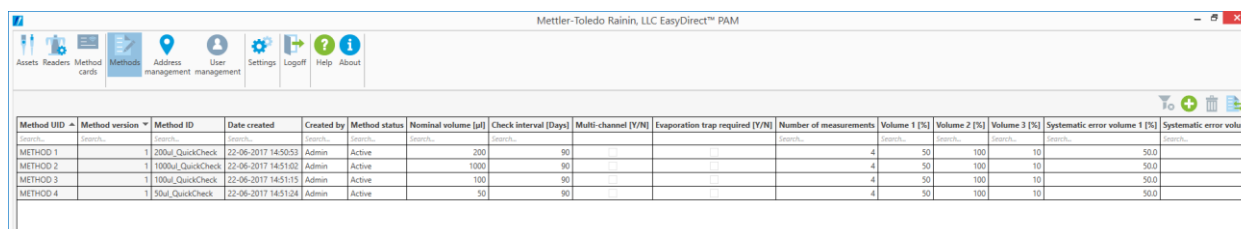
Setup the method in EasyDirect™ PAM, assign the method to an RFID enabled pipette, activate the **QuickCheck** Application on a METTLER TOLEDO XPE or XSE balance by holding it over an EasyScan™ Flex reader at the balance, perform the **QuickCheck** and when passed let the balance write back the next **QuickCheck date** on the RFID chip, which updates EasyDirect™ PAM when connected to EasyDirect™ PAM via SmartStand or an external reader.

Advantage:

- Methods are all centrally managed and version controlled.
- End-to-end control from method creation to method execution at the balance to updating the next **QuickCheck date**. No human errors can be made throughout the entire process flow, from assigning the wrong method to the wrong volume pipette to executing the wrong method on the balance, to falsely updating the next **QuickCheck date**.

3.3.2 Add Methods

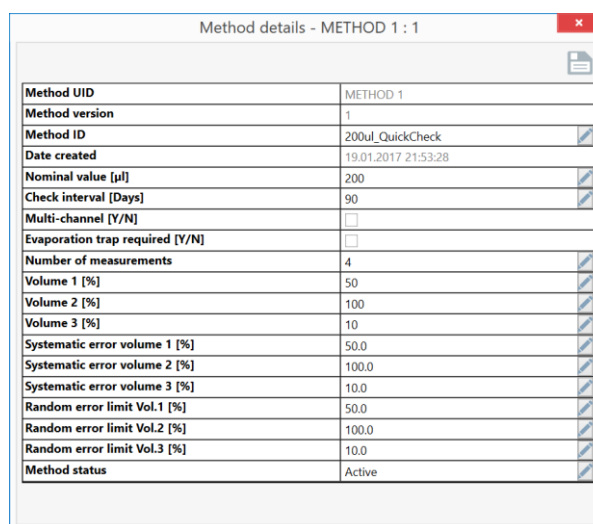
The method view shows all defined methods that can be used for **QuickCheck**:



Method UID	Method version	Method ID	Date created	Created by	Method status	Nominal volume [µl]	Check interval [Days]	Multi-channel [Y/N]	Evaporation trap required [Y/N]	Number of measurements	Volume 1 [%]	Volume 2 [%]	Volume 3 [%]	Systematic error volume 1 [%]	Systematic error volume 2 [%]	Systematic error volume 3 [%]	Random error limit Vol.1 [%]	Random error limit Vol.2 [%]	Random error limit Vol.3 [%]	Method status
METHOD 1	1	200ul_QuickCheck	22-06-2017 14:50:53	Admin	Active	200	90			4	50	100	10	50.0	100.0	10.0	50.0	100.0	10.0	Active
METHOD 2	1	1000ul_QuickCheck	22-06-2017 14:51:03	Admin	Active	1000	90			4	50	100	10	50.0	100.0	10.0	50.0	100.0	10.0	Active
METHOD 3	1	100ul_QuickCheck	22-06-2017 14:51:13	Admin	Active	100	90			4	50	100	10	50.0	100.0	10.0	50.0	100.0	10.0	Active
METHOD 4	1	50ul_QuickCheck	22-06-2017 14:51:24	Admin	Active	50	90			4	50	100	10	50.0	100.0	10.0	50.0	100.0	10.0	Active

Figure 7: Method List

To add a method, click on , the following window appears.



Method UID	METHOD 1
Method version	1
Method ID	200ul_QuickCheck
Date created	19.01.2017 21:53:28
Nominal value [µl]	200
Check interval [Days]	90
Multi-channel [Y/N]	☐
Evaporation trap required [Y/N]	☐
Number of measurements	4
Volume 1 [%]	50
Volume 2 [%]	100
Volume 3 [%]	10
Systematic error volume 1 [%]	50.0
Systematic error volume 2 [%]	100.0
Systematic error volume 3 [%]	10.0
Random error limit Vol.1 [%]	50.0
Random error limit Vol.2 [%]	100.0
Random error limit Vol.3 [%]	10.0
Method status	Active

Figure 8: Method Fields

In order to assign methods to pipettes, you will have to setup a **QuickCheck** method in "Methods" for each nominal volume or type of pipette (single vs multi-channel). Also bear in mind that the number of measurements applies equally to all volumes - in order to get a statistically relevant result.

You can create new methods in 2 ways:

Manual (individual methods)

- Click on 
- Define the Method ID and continue filling out the other fields as you work your way down through the fields. The systematic error volume and random error limits are set either in your SOP, by the ISO 8655 Standard or in the manufacturing specs (depending on what guideline you are defining your tolerances to).

Manual (mass uploading methods)

Step 1: Create an export file which serves as template for an upload:

- Click on 
- Select export data.
- Select "New" in the target field.
- Define the location where you want to store the file in the pop-up "Save-as" window and give it a file name.
- Save the file.

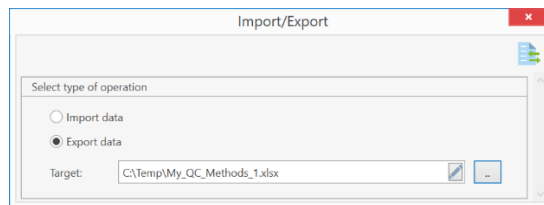


Figure 9: Import / Export

- Click on  to export.

Step 2: Edit/Complete the upload file:

- Open the newly created upload file and complete the fields in the columns in there. You cannot create new columns in the upload file.
- Save the file.

Step 3: Import the upload file:

- Click on .
- Select Import data.
- Select the file you want to upload by clicking  and click "Open".

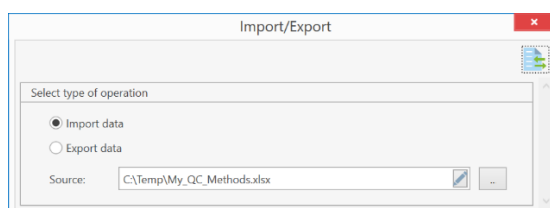


Figure 10: Import / Export

- Click  in the top right corner to import your file.

3.3.3 Method Version and Method Status

When you add a method, version is automatically set to 1 and is incremented whenever you modify/change the contents.

When a new version is created, the previous version records' status is automatically set to "**Retired**".

Also, note that if you modify an older version method (set to retired or not current version), a new version record is created and the modified records stays "**Retired**".

If an imported method exists already in EasyDirect™ PAM (same Method ID), the imported one will become the new active one.

When a method is set to 'Retired', you have to manually reassign the method in all the Pipettes to a newer version. To help you, the **QuickCheck** method field in the Asset view becomes red.

3.3.4 Delete Method (set to "Retired" status)

As an Administrator or Lab Manager you can also delete a method which actually keeps the record in the system while setting the status to "**Retired**".

3.3.5 Import/Export Methods

Methods can be exported to a .xls file to allow preparing any mass import of methods created/edited in EXCEL or to exchange methods between different EasyDirect™ PAM systems. See description in section 3.3.2.

3.4 Manage SmartStands & Readers

Currently 3 types of Readers are supported by EasyDirect™ PAM.

- SmartStands
- EasyScan™ Flex readers
- Legacy USB RFID readers
-

They can be managed in Readers.

Status	Model number	Serial number	Asset ID	Firmware	Date on SmartSta...	Time on SmartSt...	Pipette 1	Pipette 2
	Search...	Search...	Search...	Search...	Search...	Search...	Search...	Search...
	RFIDReader	RFID-RDR	SCS-B-00009	1.0.0.7	07/22/2016	3:03:45 AM		

Figure 11: Readers View

3.4.1 Add Readers (based on connection type)

When a USB device like a SmartStand or RFID reader is connected to the PC, it is automatically detected (assuming the drivers are installed properly) or, if paired once via Bluetooth, automatically detected and shown as paired. The instrument is identified by its type and serial number. Once added to EasyDirect™ PAM, it will automatically recognize the device when it is connected and switched on. An exception to this is the EasyScan™ Flex Reader with an RS-232 port connection. This instrument cannot be auto detected and needs to be added manually the first time. If it stays connected at the same port, EasyDirect™ PAM will detect it automatically after the initial setup.

EasyDirect™ PAM automatically checks for latest version of SmartStand firmware every day when you start the application for the first time. If a new firmware is available, EasyDirect™ PAM automatically downloads the firmware and marks the "firmware" field as red. When you click on this hyperlink, you get an option to upload the firmware on to the SmartStand. Please note that the firmware update is possible only through USB connection. It is recommended to update to the latest firmware for smoother experience.

If the selected Pipette user or Lab name is retired, then the relevant fields are marked in red. You have to update the details to set them right.

3.4.1.1 USB Connection

- Start the EasyDirect™ PAM application.
- Wait for the application to load and login.
- Click on the Readers icon in the ribbon.
- Power Off and On the SmartStand, wait 10 seconds.
- Connect the USB cable from the SmartStand or USB RFID reader to the PC.
- Wait for the drivers to be installed**.
- Now you will see a message to accept, e.g.

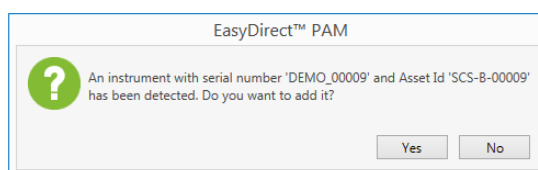


Figure 12: SmartStand Detection

- The SmartStand or reader now should be listed in the reader table.

The same procedure is applicable for both SmartStand and Legacy USB RFID readers.

**** see EasyDirect™ Pipette Asset Management Installation Guide if drivers do not install automatically when connecting the SmartStand the first time.*

3.4.1.2 Serial Connection

- Start the EasyDirect™ PAM application.
- Wait for the application to load and login.
- Click on the Readers icon in the ribbon.
- Select  to add a reader.
- Navigate to “FlexScan” tab.
- Click  to list all the available COM ports.
- Select the appropriate COM port through which the EasyScan™ Flex reader is installed.

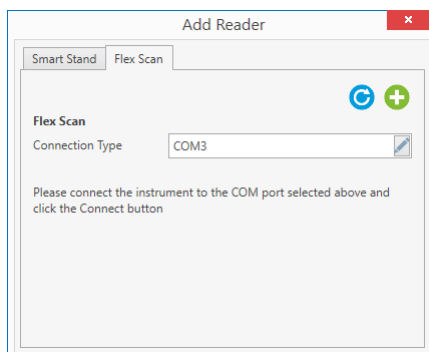


Figure 13: Add EasyScan™ Flex reader

- Select  to add the reader.
- The reader now should be listed in the reader table.

Note:

- *Make sure to select the correct COM port. Selecting a port which is connected to some other devices may cause undesirable results.*
- *If you are using a serial-USB cable, after you have installed its driver and have the cable connected to you PC, you will see in the Windows Device Manager on which COM port it is available.*

3.4.1.3 Bluetooth connection

- Start the EasyDirect™ PAM application.
- Wait for the application to load and login.
- Click on the Readers icon in the ribbon.
- Select  to add a reader.
- Activate Bluetooth on the SmartStand.
- Navigate to “SmartStand” tab.
- Click on  to see all the visible Bluetooth devices.
- Select the correct device to pair and click on .

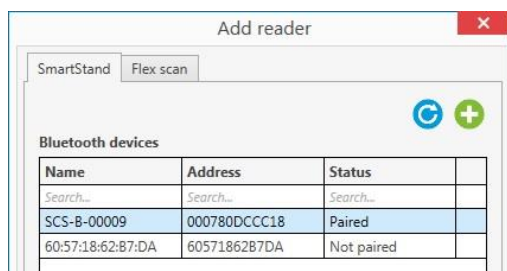


Figure 14: Add SmartStand via Bluetooth

- Follow the instructions on the screens (SmartStand, EasyDirect™ PAM) to confirm pairing request.

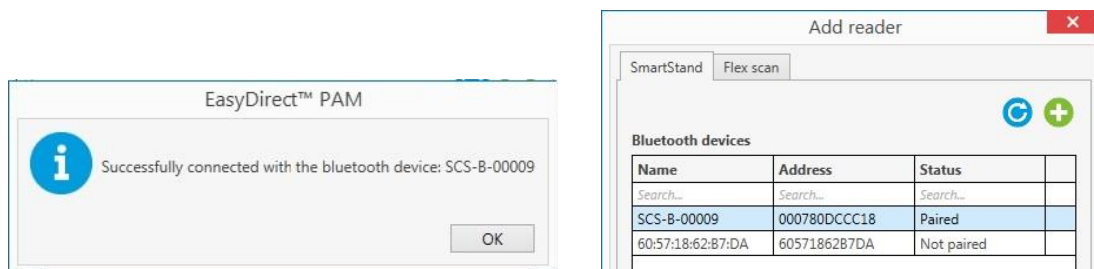


Figure 15: SmartStand via Bluetooth paired

Notes:

- You can only pair each device once. If you wish to re-pair, please delete the connection first by selecting  from the Readers page, reset the SmartStand to factory reset and then attempt to pair.
- While connecting/pairing for the first time, please wait until all the drivers are installed and ready for pairing.
- You can use MT prescribed Bluetooth dongle to connect to the Smart Stand (See EasyDirect™ Pipette Asset Management Installation Guide).
- If you are not sure whether the SmartStand was paired before with another PC/device factory reset the SmartStand first before applying this procedure and ensure that it is also removed from the Windows Bluetooth device list.

3.4.2 Delete Reader

To stop EasyDirect™ PAM from communicating with the connected/configured reader, please click on . Once removed, EasyDirect™ PAM shall not communicate again with the instrument until you Plug Out and in the instrument again. Now, EasyDirect™ PAM will try to detect the instrument again and ask you if you need to connect to it. You can add the instrument again by accepting it.

3.5 Manage Assets (Pipettes)

The assets view is the default view upon opening the software. It contains the details of all the Assets (Pipettes) and can be used to monitor Calibration and Service details. The key functionalities are explained below.

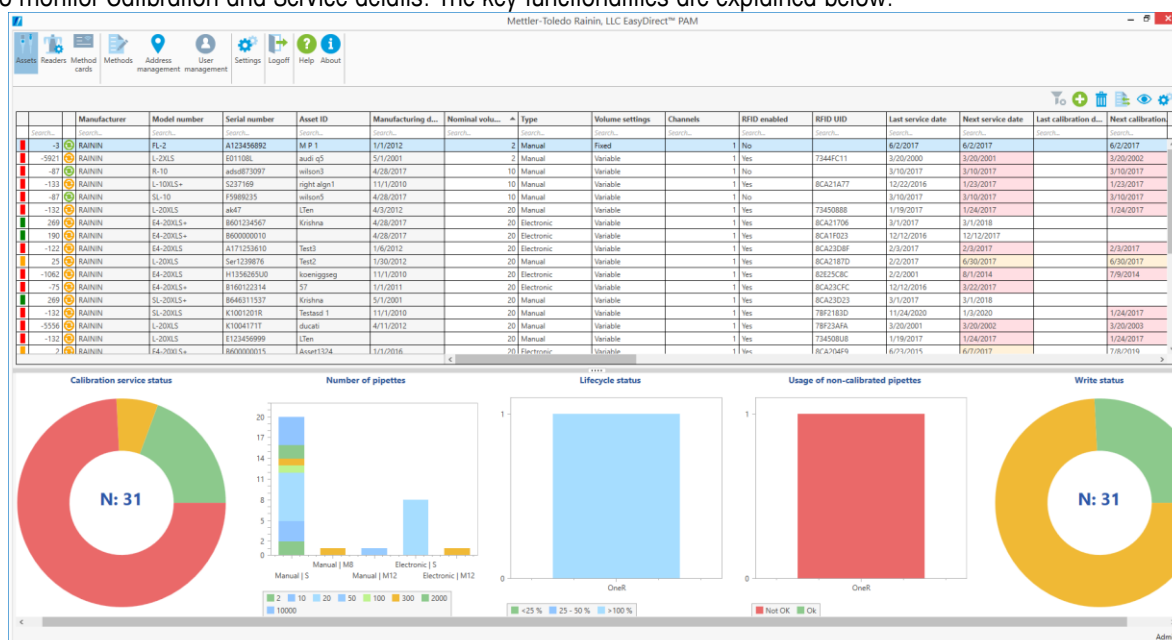


Figure 16: Asset View

Calibration & Service Status

You can view the Calibration and Service status of each pipette from the first column in the grid. A Red bar  indicates the Pipette is due for Calibration or Service. A Yellow bar  indicates the Pipette will be due for Service or Calibration in the coming days (Set in Assets->Settings->Warning Period Length for Chart). A Green bar  indicates the Pipettes are healthy.

Number of days left

The second column indicates the number of days left for the next Calibration or Service.

Write Status

The third column indicates with a yellow refresh  icon that you have modified the data of the Pipette and is waiting to be updated to the Pipette (either through Smart Stand or RFID reader).

The field changes to  once the write is successful or with a , if the write failed.

Search

You can search each field for specific contents by entering the details to be searched in the first row under "Search". The matching fields then are listed in the view.

Sorting, resizing and moving columns (move to general section)

You can sort data by Ascending or Descending by right clicking on the header and select "Sort Ascending" or "Sort Descending".

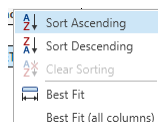


Figure 17: Sorting columns

You can resize the columns manually by dragging the columns to your need or use "Best Fit" or "Best Fit (all columns)" to automatically resize all or the current column.

Highlighted fields

There are few fields in the asset view turns to red for certain conditions. This is to indicate that there are inconsistencies in the data. Please select the pipette, set them right and write back to the Pipette (if applicable).

- **Next Service, Next Calibration, Next QuickCheck Date & Usage Frequency**
If red, indicates that the Pipette is due for service/calibration/QuickCheck.
- **Reader Location, Pipette User or Lab Name**
If red, indicates that the relevant master record is either retired or missing.
- **Custom Fields (RFID)**
If red, indicates that the RFID structure in the pipette is different from the one set in EasyDirect™ PAM.

Filter

You can filter the data by either clicking on any column header. You can select the values you wish to view from the "FILTER VALUES" tab or enter the text/range of values you wish to view from the popup window. Note that the filter options vary based on the type of field you have selected (Text, number or date).

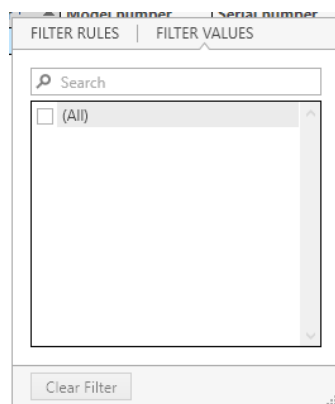


Figure 18: Filter Option

You can filter the values also by clicking on a section on the chart. This feature is available only for Pie Charts (Calibration Service Status & Write Status).

You can clear the filter by clicking on the Clear Filter icon . You can also filter the view based on the Status field by selecting the  icon from the top right corner. You can select one or more Status fields which you wish to view. Note that based on the selection the filter is applied to all the records in the database and not only to the data visible in the view (that is the filter is refreshed). Also note that some of the Status fields may not be available for you to select (greyed out) based on your User profile.

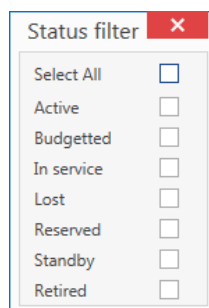


Figure 19: Status Filter

Chart

Currently EasyDirect™ PAM provides 5 charts to indicate various status and details of the assets.

- **Calibration Service Status**
This chart indicates the number of pipettes which are due for Calibration or Service (Red), due in the coming days (Yellow) and healthy (Green).
- **Number of Pipettes**
This chart provides the total number of pipettes grouped based on their volume and type (Manual or Electronic).
- **Lifecycle Status**
This chart provides the life cycle status of the pipettes.
- **Usage of Non-Calibrated Pipettes**
This chart indicates the number of pipettes used which are calibrated and serviced as well as those who were not calibrated and serviced.
- **Write Status**
This chart indicates the number of pipettes for which the data is yet to be updated to the pipettes (Yellow), write failures (Red), written successfully or nothing to write (Green).

3.5.1 Add Assets (Pipettes)

There are several ways to add assets to the software

Automatic (RAININ RFID Pipettes):

If you have a RAININ RFID Pipettes they will be automatically added to EasyDirect™ PAM the first time they are seen on a SmartStand or RFID reader. Once the record is created automatically you can edit it and update the remaining fields.

Manual (individual pipettes):

You can add an asset by clicking the  sign. Choose the Manufacturer and Model from the dropdown menu and add the serial number and your Asset ID (optional but recommended) as well as the manufacturing date. Continue filling out the other fields as you work your way down through the fields.

Manual (mass upload):

You can mass upload pipettes to the software by using the import/export functionality. To do so, follow the following steps:

Step 1: Determine whether the columns in EasyDirect™ PAM asset view contain all the information you want

- If yes, continue to step 2
- If no, click on  and scroll down to "Custom Fields (additional information)". Define the Field Name (this will be the column header in the asset view), define the Data Type and the Field Length (amount of characters). Continue doing so till you have all fields created you need.

Step 2: Determine whether information needs to be stored on the RFID chip of RFID enabled pipettes

- If no, continue to step 3
- If yes, remember that this information will only get stored on the RFID chip and hence will only get saved for RFID enabled pipettes. Define the **Field Name**, the **Data Type** and the **Field Length**. You can create a maximum of 8 fields and total bytes between all these fields is 126 bytes. EasyDirect™ PAM will limit you in creating more fields if either the maximum of 8 fields or 126 bytes' limit has been reached.

Step 3: Import data:

You can import data to EasyDirect™ PAM in two ways: directly from an existing MS-EXCEL formatted file or by using an empty upload file from EasyDirect™ PAM.

Importing data directly from an existing file:

- **Ready your file for upload:**
Make sure that your file has a column that contains a unique serial number per each pipette. EasyDirect™ PAM needs the serial number in order to upload the information.
- **Import the upload file:**
 - Click on .
 - Select import data.
 - Select the file you want to upload by clicking  and click "open".
 - Click  in the top right corner and your file should upload.

Importing data from an empty upload file:

- **Create an upload file:**
 - Click on .
 - Select export data.
 - Select "new" in the target field.
 - Define the location where you want to store the file in the pop-up "save-as" window and give it a file name
 - Save the file.
 - Click on  to export.

Complete the upload file:

Open the newly created upload file and complete the columns in there. You cannot create new columns in the upload file. If you need more columns, create them as Custom Fields in Step 1 first prior to creating a new upload file. You will also notice that you cannot add all information to the asset view by using the import file, as some fields are calculated fields, and others are interdependent fields (like researchers and labs, that will need be selected manually in the asset view once the data has been loaded to ensure data integrity).

Save the file.

Import the upload file:

- Click on .
- Select import data.
- Select the file you want to upload by clicking  and click "open".
- Click  in the top right corner and your file should upload.

Assets records that cannot be uploaded will be shown to you in a log file and will not be added to EasyDirect™ PAM. Log Files are located in the folder C:\Users\Public\Mettler Toledo\EasyDirect PAM\ImportExportLog\.

You can use EasyDirect PAM Import Validator tool which comes with EasyDirect™ PAM package to validate the excel file you are importing before you attempt to import the file through the application. This tool will provide you with extensive errors which you can use to solve before attempting to import the file. This will save you from importing partial data to the application and avoid duplication.

3.5.2 Edit assets

Double click on an asset to view/change the contents of the asset.

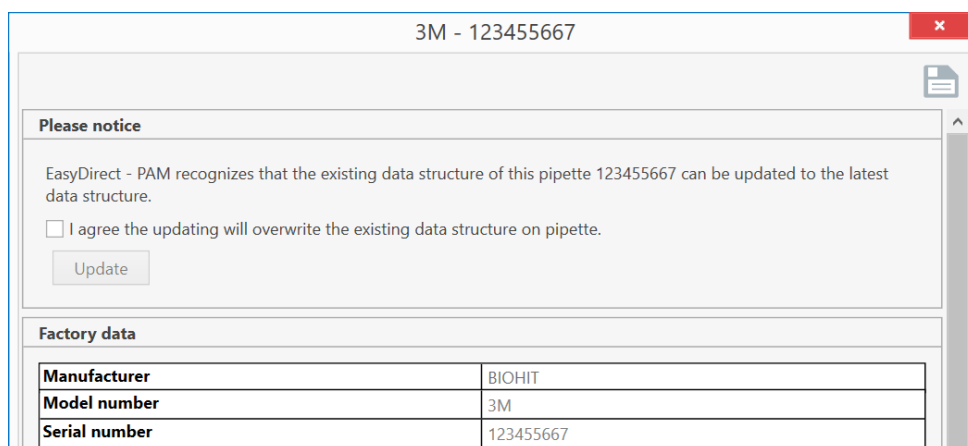


Figure 20: Modifying Pipette Data Structure on RFID-Tag

If you have altered the pipette data structure in EasyDirect™ PAM (e.g. by defining custom fields for RFID tag or for the EasyDirect™ PAM database record – see section 4.3) and/or if you modify asset data fields of a RAININ RFID pipette the first time you will be prompted to agree that the pipette data structure on the RFID tag will be overwritten. See also **4.3 RFID fields and custom fields**.

3.5.3 Enriching Asset Data

Once you have successfully loaded the asset data into the EasyDirect™ PAM database you can start enriching the data in the asset view.

Add QuickCheck Method

Assign a matching **QuickCheck** method to the pipette, based on its nominal volume. EasyDirect™ PAM will only show the **QuickCheck** methods that are relevant for the particular nominal volume of the pipette. **QuickCheck** methods that do not match the nominal volume of the pipette will not be listed in the selection list.

Add user

Assign the pipettes to users.

Add address

Assign the pipettes to an address.

Note: If you modify asset data fields of a RAININ RFID pipette the first time you will be prompted to agree that the pipette data structure on the RFID tag will be overwritten (see Figure 20). You can retain the existing structure, by not updating to the PAM structure.

3.5.4 Remove asset

When an asset is no longer used, set the status to **"Retired"** or **"Inactive"**. You can **"Retire"** an asset by clicking on . If the asset is set as **"Retired"** the asset will no more be displayed for a Researcher and Service Administrator.

As an Administrator, you will be able to also delete an asset physically by selecting the  icon. You will be prompted for either deleting the asset or to set the asset as retired. If you delete the asset, it is removed from the database. Take utmost caution before deleting an asset as you will not be able to recover the asset once deleted.

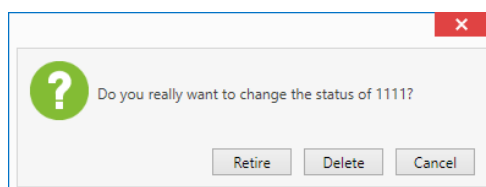


Figure 21: Delete/Retire Asset

3.6 Manage Method Cards (for non RFID pipettes)

In order to use the semi-automated **QuickCheck** process (see section 3.3.1), you can use the **Method Card**.

Under **Method Cards** you manage method cards in your lab and assign one **QuickCheck** method to a card.

- Take a **Method Card** and hold it over the EasyScan™ Flex Reader (this is the only way on how to add a method card to EasyDirect™ PAM).
- Once the **Method Card** is recognized and added in the list select the **QuickCheck** method.
- Type in the Asset ID of the card.
- Assign a laboratory to the card (so you can trace the card easier).

RFID UID	Asset ID	Date created	Card status	Method UID	Method version	Nominal volume [µl]	Check interval [Days]	Multi-channel [Y/N]	Evaporation trap required [Y/N]	Number of measurements	Volume 1 [%]	Volume 2 [%]	Volume 3 [%]	Systematic error volume 1 [%]	Systematic error volume 2 [%]
1850258500104E0	12314321321	6/17/2017 6:33:30 PM	Active	METHOD 5	3	200	90	✓	✓	4	50	100	50	50.0	50.0
3A3A2E58500104E0	12432132199	6/17/2017 6:33:30 PM	Active	METHOD 5	3	10	90	✓	✓	4	50	100	50	50.0	50.0

Figure 22: Method Cards View

3.6.1 Add Method to Method Card

To store a **QuickCheck** method onto new method card

- Hold the empty method card onto the EasyScan™ Flex RFID reader.
- A new entry with a unique RFID UID is added.
- Double click on the record and you will see a window similar to Figure 23.
- Select the appropriate method in the “**QuickCheck method**” field (this requires you have at least one method defined in EasyDirect™ PAM – see section 3.3).
- Save the contents to the method card.
- EasyDirect™ PAM will prompt you to scan the method card on the RFID reader to write the content onto the card.

Method card details - 2B06AD59500104E0 :

Method cards

RFID UID: 2B06AD59500104E0

QuickCheck method: Please select...

Asset ID:

Card status:

Method details

Friendly name	Nominal volu...	Method
1000ul_QuickCheck	1000	METHOD
100ul_QuickCheck	100	METHOD
50ul_QuickCheck	50	METHOD

Method UID:

Method version:

Date created:

Nominal value [µl]:

Check interval [Days]:

Multi-channel [Y/N]:

Evaporation trap required [Y/N]:

Number of measurements:

Volume 1 [%]:

Volume 2 [%]:

Volume 3 [%]:

Systematic error volume 1 [%]:

Systematic error volume 2 [%]:

Systematic error volume 3 [%]:

Random error limit Vol.1 [%]:

Random error limit Vol.2 [%]:

Random error limit Vol.3 [%]:

Address details

Laboratory name: Please select...

Figure 23: Add **QuickCheck** method to **Method Card**

3.6.2 Edit method card

Double click on a method card to view/change the content of the method card.

3.6.3 Remove method card

When a **Method Card** is to be removed from using, please set the status to “**Retired**” or “**Inactive**”. You can “**Retire**” a method card by clicking on .

Note: If the card status is set as “**Retired**” the card will no more be displayed for a Researcher or Service Administrator.

3.6.4 Erase content of method card

To erase the content (QuickCheck method) from a card, double click on a method card to see its content and then click on  at the top right. Now, hold the method card over the reader. This action will clear the contents of the method cards.

4 Advanced Functions

4.1 Manage Asset Charts

By adding information to the asset view, you will see that the graphs in the cockpit start to populate. You can enlarge the graph section by dragging the top bar of the graph section upwards. This way graphs become better readable.

- **Calibration service status:**
This graph shows the readiness status of all your pipettes. The readiness of your pipettes is determined by whether it is close or passed its next service or next calibration date. How far ahead of time the color of the status changes you can determine by clicking  in the asset view and changing the “warning period length for chart”. If you want to quickly select the assets that are due, you can select any of the sections in the pie-chart and this will filter the asset table. You can undo the filter by clicking .
- **Number of pipettes:**
This graph shows you per type of pipette and volume how many pipettes you have of each.
- **Lifecycle status:**
This graph shows per research group how old their pipettes are. The lifecycle status is calculated as a fraction of the date it was put first into service, today’s date, and the assigned lifetime to the pipette. With these 3 reference points EasyDirect™ PAM determines where in its lifecycle the pipette finds itself. It will give you a quick overview on the age of your asset pool. In order to populate the graph, you would have to assign user groups to users and sequentially assign pipettes to users.
- **Usage of non-calibrated pipettes:**
If you use EasyDirect™ PAM in combination with SmartStands, the software tracks which pipettes are being used. Combined with the fact it knows the readiness status of the pipette, EasyDirect™ PAM captures events of pipettes being used that were not ready for use. This graph splits the information out per research group.
- **Write status:**
When working in conjunction with SmartStand, this graphs gives you an easy overview of how many write events EasyDirect™ PAM has pending for SmartStands. Think of it as the documents lining up in the printer queue for a printer. By selecting any of the pie chart sections, the asset view table gets filtered. This will help you identify potential connectivity issues with the SmartStand or that a pipette has not been seen for a long time and might have gone missing. It is advised to have pipettes on the SmartStand when writing to its RFID tag in order to ensure an immediate sync of information between the database and the RFID tag.

4.2 Usage frequency and out-of-spec usage

If you click the hyperlink in the Usage Frequency column, a pop-up window opens that shows how often the pipette was read, and what the calibration status of the pipette was when it was used. Every time when a pipette is taken off the stand or put back on the stand and the pipette was either passed its next service date or its next calibration date, the event will be marked red in the log. This log can be downloaded by clicking the export icon.

4.3 RFID fields and custom fields

If you wanted to store more data on the RFID fields of the pipettes (as you might need it for other applications) you can do so. The data will only be saved to RFID enabled pipettes as well as stored in the EasyDirect™ PAM database.
Note: You will not be able to save data to non-RFID enabled pipettes (as they do not contain an RFID tag).

Here it is explained how to use custom fields:

- Click on  from the Assets view page.
- Under "Custom fields (RFID)" define.

Field name (is column header).

Data type:

Text: any ASCII letter or number can be entered in the field (each character is 1 byte). You have to define the total field length of the text field.

Small number: if the value is just numerical, choose this as a number only takes up 2 bytes if specified like this. Small number are any numbers below 65535.

Big number: if the value is just numerical and larger than 65535, choose this type. Big numbers take up 4 bytes of space.

Date: if the value is a date, select date. This will take up 2 bytes.

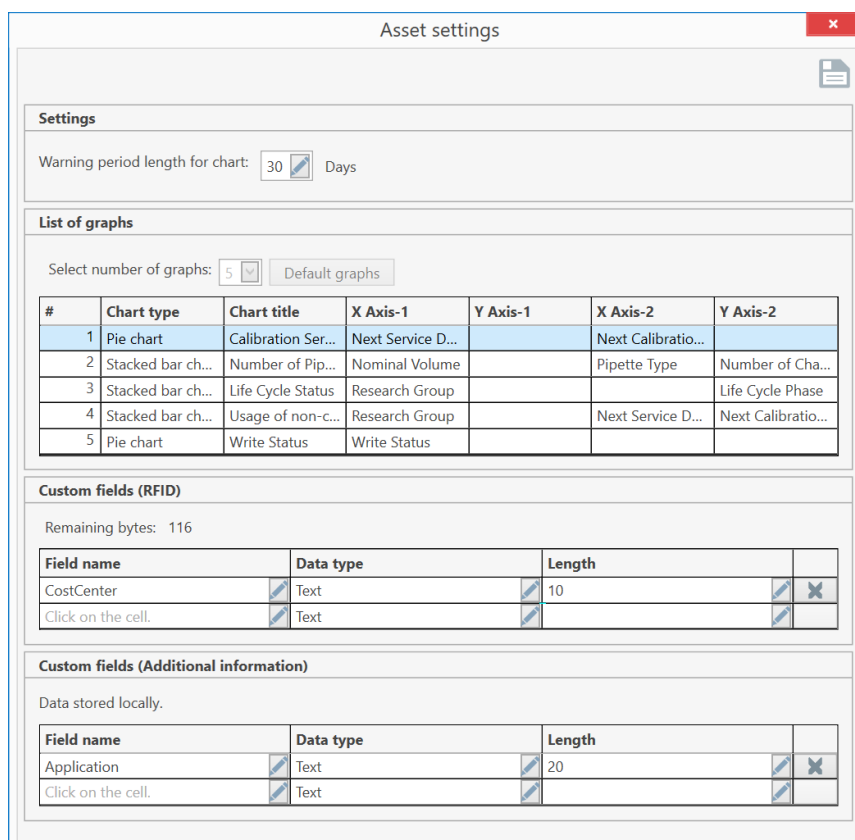
In total you have 126 bytes of free memory and / or a total of 8 free definable fields on each RFID tag. Depending on how many bytes you use per field or how many definable fields you create, you will be able to create a maximum of 8 fields or a total of 126 bytes worth of data per RFID tag.

To assign data to the RFID tag of a pipette, return to the asset view window and double click an RFID enabled pipette.

At the bottom, under "custom fields (RFID)" you can now enter information in the fields.

The same logic as above applies to custom fields, however without the limitation of 126 bytes or a maximum of 8 fields. There are no limits in the amount of custom fields you can create, nor are there limits in bytes' length.

When adding assets manually or editing them, the following screen is shown where you can add details of the Assets.



The screenshot shows the 'Asset settings' window with the following sections:

- Settings**: Warning period length for chart: 30 Days.
- List of graphs**: Select number of graphs: 5. Default graphs button.
- Graphs Table**:

#	Chart type	Chart title	X Axis-1	Y Axis-1	X Axis-2	Y Axis-2
1	Pie chart	Calibration Ser...	Next Service D...		Next Calibratio...	
2	Stacked bar ch...	Number of Pip...	Nominal Volume		Pipette Type	Number of Cha...
3	Stacked bar ch...	Life Cycle Status	Research Group			Life Cycle Phase
4	Stacked bar ch...	Usage of non-c...	Research Group		Next Service D...	Next Calibratio...
5	Pie chart	Write Status	Write Status			
- Custom fields (RFID)**: Remaining bytes: 116.

Field name	Data type	Length	
CostCenter	Text	10	X
Click on the cell.	Text		
- Custom fields (Additional information)**: Data stored locally.

Field name	Data type	Length	
Application	Text	20	X
Click on the cell.	Text		

Figure 24: Asset Settings and Custom Fields Definition

3M - 123455667

Pipette status: Active

User details

Pipette user	Admin
Pipette user e-mail	
Pipette user phone	
User role	Administrator

Address details

Laboratory name	Please select...
Lab regulation level	

Financial information

Date placed in service	20.01.2017
Age of pipette [Years]	0
Lifetime (Months)	60
Lifecycle position [%]	<25 %
Warranty expiration date	20.01.2018
Depreciable item	Yes
Purchase value	0.00
Salvage value	0.00

Custom fields (RFID)

CostCenter	2189990221
------------	------------

Custom fields (Additional information)

Application	Dispensing SHIELD 56
-------------	----------------------

Figure 25: Assets Configuration

Note:

You can add only non-RFID Pipettes using this feature. (The RFID enabled Pipettes gets automatically added when you hook the pipette to the Smart Stand or scan through RFID reader. Once done you can double click on the row to alter the contents).

Change Assets details

You can change details of the Assets by clicking twice on a row. The screen as in Figure 25, is shown.

Settings

You can view and change some of the settings by clicking on to the **Settings** . The screen as in Figure 24 is shown.

Warning Period Length for Chart

The days you enter will be used as a warning period for Calibration and Service dates. Between these days, the Calibration and Service status will be shown as yellow.

Graphs

The list shows the Type, Title and the co-ordinates used for graphs. Note: You cannot change or hide a chart.

Custom Fields (RFID & Additional Information)

You can use these fields to store specific details of the Pipette in both RFID enabled Pipette (if available) and in the local database. While adding details of the pipette using  or double clicking on an Asset row, you can store values to these fields which are stored both locally (in the database) and also in the Pipette (if RFID enabled).

To save the changes you have done, click on .

Import and Export

You can import and Export Asset details from an Excel file by clicking on .

Figure 26: Assets Import & Export

Import

To import asset details from an Excel file, you have to select an existing file and match the field name from the database with the column name from the excel file.

Export

To export to a new (Empty) excel file, select "New" by clicking on . You will need to provide a valid file name upon which the field names are automatically populated.

To export to an existing Excel file, click on and select an existing file. The application attempts to automatically populate the field names with the column names. You can select and map each field to the excel column name.

The fields marked with '*' are mandatory and needs to be mapped properly for a successful export/import.

While Exporting you get options either to Update or to Append. If you wish to maintain a file with all the asset details, select 'Update'. If you wish to duplicate the asset details every time an export occurs, select 'Append'. A duplicate set of assets are created from the bottom of the file.

Note:

- It is your responsibility to select the correct field name. The application has no knowledge on the type and content of the columns which preexist in the excel file. Selecting incorrect field names may result in incorrect data being exported to the column and thus making the exported file unusable.
- If you change the display language for EasyDirect™ PAM, the column mapping you have done for Export will retain the same names until you change it. Some of the text values (example: Pipette Status) in the exported excel file will remain in the previous language until the assets are modified from the asset view and exported back.

Once you have entered the field names, click to start Import/Exporting.

Export Scheduler

You can schedule exporting automatically the asset details to an Excel file at predefined date and time from the Setup->Export Scheduler.

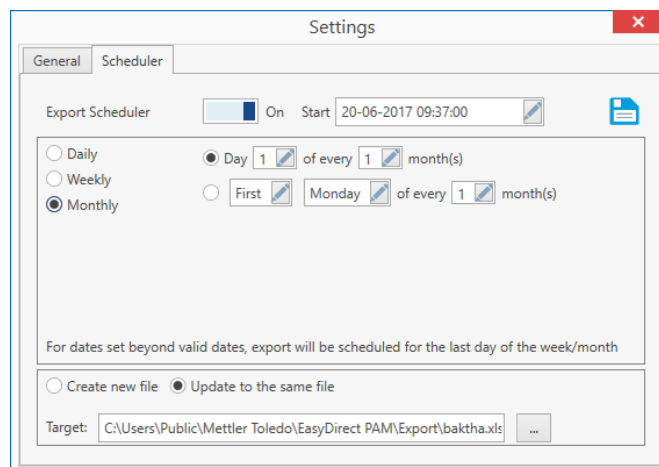


Figure 27: Export Scheduler

You can schedule the export to run Daily, Weekly or Monthly at a predefined time. Once set, the asset details are automatically exported at the predefined time even if the EasyDirect™ PAM application is not running. You can export the details either to the same file or to a new file every time. If you wish to create new file every time, the name of the excel file is automatically generated with current date and time and exported to the set folder. If the folder is not accessible or unavailable, then the file is exported to the "Users\Public\Mettler Toledo\EasyDirect PAM\Export" folder. In case you wish to update the same file, you have to provide the name of the file to be used. If the file does not exist, then the file is created.

While setting up Monthly schedule, the set date may fall beyond the available dates for some months. In this case, the export is scheduled for the last day of the month.

If your PC was not switched on when the schedule occurred, EasyDirect™ PAM attempts to export immediately after the application is started next time.

Since the language is user specific, the file exported through Export scheduler will use the language set for Admin.

5 Appendix

5.1 Add reader procedure based on reader type

5.1.1 SmartStand (#30312897 and #30312898)

This stand or hang-up has 4 RFID readers build in and reads any RAININ RFID enabled pipette. It can be connected to EasyDirect™ PAM in 2 ways:

- **Via USB (recommended for initial setup)**
EasyDirect™ PAM adds the SmartStand automatically to the Reader View upon connecting the stand to the PC. The status icon will turn to green once connected. The software can handle multiple SmartStands simultaneously via USB.
- **Via Bluetooth™**
EasyDirect™ PAM can communicate wirelessly with the SmartStand. In order to get maximum reach, it is strongly recommended to use a Class 1 Bluetooth antenna on the PC side. These USB dongles can be purchased separately in any electric store or are potentially already built in the PC. EasyDirect™ PAM has been tested for handling 10 connected SmartStands simultaneously per instance. It could potentially handle more than 10 connected SmartStands to 1 instance, but this would at the customer's own risk. For details on how to connect a SmartStand via Bluetooth, please go to the installation manual of the SmartStand.

For initial setup it is recommended to connect the SmartStand to EasyDirect™ PAM via USB. EasyDirect™ PAM automatically adds the reader in the reader view and the light turns green. Please follow the following steps after double clicking on the reader:

- **Time and Date Sync**
Sync the date and time of the reader with your PC system by clicking on .
- **Asset ID**
You can assign an Asset ID to the SmartStand by filling out the Asset ID field. The Asset ID will be shown on the home screen of the SmartStand and will also change the Bluetooth ID for that particular SmartStand.

- **Date/Time Settings**
You can change the date/time settings for the particular SmartStand from EasyDirect™ PAM if needed.
- **Display Settings**
You can change the display brightness, calibration alarm settings and the length of the period that the secondary screen (dwell screen) with the service dates should appear on the SmartStand after a pipette has been picked up or dropped on the stand. The calibration alarm settings determine how far ahead of either the next service date or next calibration date the SmartStand should warn the researcher a service event is coming up (default alarm is 30 days). Through the “Local modification lockout” you are able to centrally lock out the end-user of modifying any setting on the SmartStand itself.
- **Wireless connectivity settings**
These settings influence the response time of the Bluetooth module on the SmartStand and should only be changed if absolutely necessary.
 - **RFID read-out stability period:** This determines how long the SmartStand will wait before it will read/write the RFID tag. If set too high, the SmartStand might miss certain pick-up and drop-on events as is it waiting for the pipette to sit in the slot idle. If set too low, the SmartStand might get too sensitive to pick-up and drop-on events.
 - **Wireless connectivity frequency (seconds):** This determines how long the SmartStand will wait before connecting to EasyDirect™ PAM via Bluetooth. During an active Bluetooth connection (which only last for a few seconds) the RFID readers are shut-off and no pipette movement on the SmartStand is detected. Hence, if this value is set too low, the SmartStand potentially misses some pick-up and drop-on events on the stand (influencing the tracing functionality of EasyDirect™ PAM via the count-log). As tempting the lowering of this value might seem one has to consider whether a highly responsive Bluetooth connection is really needed or whether a small delay in connectivity is acceptable. For initial setup (pairing) a low value of 10 seconds is recommended (to speed up the pairing process), however for operation a low value of at least 60 seconds is recommended.
- **Address details:**
The address of where the stand is located can be added here. This is helpful if you try to trace down pipettes and need to determine where the pipette was last seen.
- **Check for latest firmware:**
<<xxx>> See 5.2 Check for Softwares.
- **Tray notifications:**
When a SmartStand or RFID reader is connected or disconnected, the tray application displays a notification. For a SmartStand connected through Bluetooth, the connection and disconnection happens frequently and the notification may be annoying. You can disable the notifications from the Settings window.

In order to connect the SmartStand via Bluetooth to EasyDirect™ PAM, disconnect the USB cable and factory reset the SmartStand in case you are not sure whether it was paired somewhere else before or not. Click on  in and hit the refresh button . On the SmartStand, switch on both switches in the Bluetooth menu. In EasyDirect™ PAM select the SmartStand you want to connect to and click pair. On the SmartStand, confirm the pairing request from the PC as well as the pairing code and confirm the pairing code in EasyDirect™ PAM. Now wait for the connection to build up (SmartStand is in the lead here and depending on what value you have put in the “Wireless connectivity frequency (seconds)”, you will have to wait for the first communication build up between SmartStand and EasyDirect™ PAM). Once successfully paired, EasyDirect™ PAM will communicate automatically with the SmartStand subsequently (given, the Bluetooth Settings on the SmartStand are not changed and the stand is within reach of the BT device attached / built in in the PC).

5.1.2 EasyScan™ Flex Reader (# 30215407)

The EasyScan™ Flex Reader can read both RAININ RFID enabled pipettes and method cards. Connect the EasyScan™ Flex reader to a ‘female’ RS232 port or to a USB by using any off the shelf RS232-to-USB converter in combination with an off the shelf null-modem and gender changer. Once connected to the PC and powered up, add the EasyScan™ Flex reader by clicking on  in the Reader View . Select the correct COM port (if no COM port is showing, click the refresh icon ) and add the reader. If unsure about which COM port to select, go the Windows Device Manager (Windows Start -> Control Panel -> Device Manager -> Ports (COM & LPT)), unplug and plug the reader and see which COM port got added. You can add only 1 EasyScan™ Flex Reader to the same EasyDirect™ PAM instance and you will have to delete any existing reader before adding / connecting a new one.

5.1.3 USB RFID Reader (#17011964; retired in 2016)

With EasyDirect™ PAM it is still possible to use the legacy USB RFID reader from RAININ. The reader is automatically added to EasyDirect™ PAM once connected via USB. Also with this reader you can only have 1 reader connected to EasyDirect™ PAM simultaneously and you will have to delete a registered reader prior to adding / connecting a new one.

5.2 Check for Software Updates

If installed on a PC with internet connection, EasyDirect™ PAM provides the availability check of a newer version of the EasyDirect™ PAM or of a newer firmware version of the connected SmartStands.

- Click "About" in the ribbon bar.
The About window appears.
- Click "Check for Updates" which can be found below the End User License Agreement link on the Box Dialog.
- If a newer version can be found, it will be downloaded.
- After the download is complete, the following message appears.

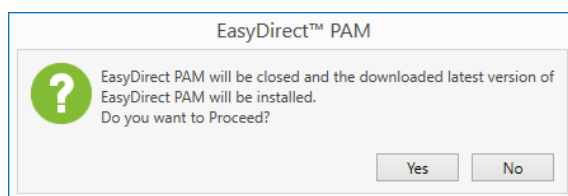


Figure 28: Software update

- Click "Yes", if you want to install the new version of the software.

Note:

After downloading the update, the setup.exe can be found in "C:\Users\Public\METTLER TOLEDO\EasyDirect PAM\EasyDirect PAM Update\" folder.

To protect your product's future:

METTLER TOLEDO Service assures the quality, measuring accuracy and preservation of value of this product for years to come.

Please request full details about our attractive terms of service.

www.mt.com

For more information

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