




ROLEC SMARTCARD

Metering and management system

Amendments

Amendment Number	Details	Date
Ver 1 Rev 0	New Document.	May 2024
Ver 1 Rev 1	Minor Update to password information.	May 2024
Ver 1 Rev 2	Added optional update to IR Device drivers information.	Jul 2024
Ver1 Rev 3	Added clarification about meter compatibility	Dec 2024

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Product Support


- Updates to this manual will be made available on the Rolec website at:
 - <https://www.rolecserv.com/downloads-marina-services>
 - <https://www.rolecserv.com/downloads-caravan-hook-ups>
- Check the document date, and the **V**ersion and **R**evision number shown at the end of the Document Code (V01-R0, V01-R2, V02-R0, etc).
- For installation assistance and advice, contact your preferred electrical installer.

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Safety

This manual is specifically applicable to the Smartcard Meter product and is provided as a guide to the setup and use of its management software.



IMPORTANT: Installers and End Users must read and understand the content of this manual before installation/use.

- The information provided in this manual must ONLY be used with the model(s) listed on page 1 of this manual.
- The content of this manual may be updated by the manufacturer as required.
- Do NOT use the equipment for anything other than its intended purpose.
- Do NOT modify the equipment unless specifically instructed to do so by the manufacturer.
- Do NOT attempt to repair the equipment unless specifically instructed to do so by the manufacturer.
- Damage to the product may render it unsafe. The product must be electrically isolated and NOT used until appropriate remedial action has been performed.

Product Overview

The Rolec Smartcard meter system is designed for simple, cost-effective pre-payment electricity metering.

Existing users will notice that the PC software has been updated. Whilst the core functionality of the software is largely the same as before, this update brings compatibility with a range of Microsoft Windows operating systems which has allowed system performance gains, decreased opportunities for operating errors, and improved elements of security to combat emerging threats.



In addition, we can now offer the option of permanently 'locking' site meters to prevent operation by cards from other sites. This is available on both new and existing Rolec MID meter installs but is NOT compatible with older non-MID meters.

Requirements

- Windows PC with a Type A USB port.
- Windows Laptop PC with a Type A USB port – this can be the only PC if it will also be used as the site PC.
- Operating Systems: Microsoft Windows 7 though to 11 and beyond.
 - A Windows PC is required to manage SmartCards and is usually located in the site office.
 - A Windows PC laptop is required to manually configure meters around the site with the enhanced security. The laptop can also be the site office PC if required.
 - This software is NOT for use with Mac, Linux or Chrome systems. It is for use with Windows only.

About the Software

Like any electronic/computerised system vulnerabilities are sought by unscrupulous operators. Whilst there has not been any evidence of organised crime, systems hacking or similar activity aimed at defrauding site operators through Rolec meters, we are conscious of customer concerns and, using these concerns and documented information about fraudulent activities used with other electricity payment systems, have applied a range of security measures to significantly reduce the opportunities for such crimes.

This manual talks about two software packages but within these packages and the tasks required to install, license and operate them, there are a number of security enhancements.

1. The first package is the software used to manage Smartcards used for moving credit to and from the site office management system, and the smartcard meters on the site.

Existing users may notice that this is a reworking of the previous software package but has improved functionality and usability. If you are happy with the previous software, you can continue to use it and do not need to install this new software.

However, this new software is required to take advantage of the additional security provided by the second software package. If additional security is not a concern, the second package does not need to be applied. You can continue to run your current software, or you can install this new software without needing to run the second application.

Both the old and new software can exist on the same PC at the same time, but the databases are not transferable, and a database created in one system cannot be read by the other system. In addition, features within the new system may mean smartcards used in the new system may no longer be useable in the old system.

2. The second software package is a no-cost option that has been produced to communicate directly with the Rolec SmartCard meters in a bid to counter evolving security concerns. These security upgrades can be applied as individual elements:
 - This second software application has been made optional because although it takes less than 2 minutes to apply, to be fully installed, it must be applied manually to each Rolec SmartCard meter on the site, and this may require some planning.
 - The first element can be applied at any time and to just one meter or to all meters. Meters that have not received the update will simply not benefit from the extra security it provides.
 - If the second element is wanted, ALL Rolec SmartCard meters on the site must be manually updated, along with applying the enhanced security to the Site PC used to manage the cards. Until this is done the system cannot be used.
 - The first element is applied by default by Rolec to new meters that come with this manual but can also be applied to existing installations and meters purchased at an earlier date.
 - The second element cannot be applied during manufacturing as it requires information about you and your PC to create a 'lock' that is unique to you.
 - This information can be provided to Rolec as part of the software licensing tasks.

Part 1 – Card Reader and Software

Connect the Card Reader/Writer

1. Connect the Card Reader to a Type 'A' USB port on your computer.
2. The Card Reader will 'beep' on successful connection. Please note the first time the reader is connected to the computer it may take a short time to automatically configure itself.



Figure 1 Typical Card Reader

IMPORTANT:

1. Some PCs may not have the drivers required by the card reader. This is not a Rolec issue and performing a Windows update may resolve this by adding the appropriate drivers. Alternatively, drivers are supplied on the memory stick containing the SmartCard software. These drivers are not a Rolec product and although they have been checked for issues and have been seen to be compatible with the card reader, Rolec cannot vouch for their compatibility with all PCs. Use of these drivers is at the operators own risk.
2. Make sure the card reader is connected, and, if required, operating system drivers have been installed before starting the SmartCard Manager software.
 - The SmartCard manager software expects the reader to already be connected to the PC when the software is started. If the card reader is connected after the software is started, it may not be recognised correctly, and cards will not be read.
3. If the card reader is disconnected then reconnected to a different USB port, it may take a short time to be recognised and configured again. This is normal behaviour for USB devices.

Install Software

IMPORTANT: Users who are upgrading – This software installation does not overwrite or remove the previous version of the software and both versions can be run on the same PC but the first version that is started will control the card reader.

- The database for each software version is separate so actions performed using the previous 'old' system will NOT be seen in the new system. Similarly, actions performed in the new system cannot be seen in the old system, and the databases cannot be exported or imported between systems.
- The new system is capable of reading and adopting cards previously used in the old system, but the old system may not be able to read cards from the new system. Once a card has been adopted it may not be accessible to the old system.
- If the enhanced security option is used, the meter, the card and the new software will each be encoded with the same unique system ID and the old system can no longer be used.

1. Run the file '**Rolec Smartcard Setup_v2.exe**' then follow the on-screen instructions to install the software.

If the Create desktop shortcut option is selected, you will see this icon on your screen when the installation is complete.



2. At the end of the installation, click the **Finish** button.

The Launch... option is selected by default and the SmartCard software should start automatically.

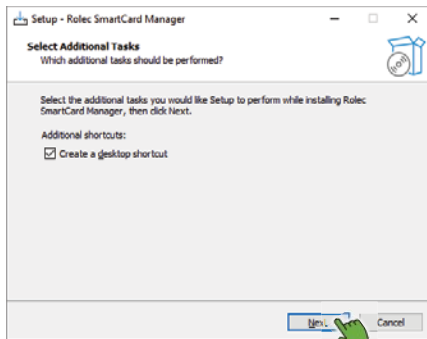


Figure 2 Installation Screen 1

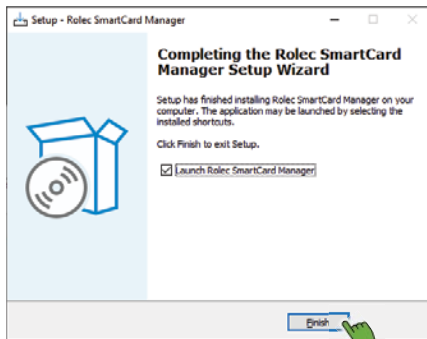


Figure 3 Installation Screen 2

Configuration

1. If not already started, click on the desktop icon to run the software.
2. Click on the **Log In** button to display the Log in pop-up.
3. Enter the new system 'admin' password of **'password'**
4. Click on the **Settings** button.
5. On the Admin Settings pop-up, click on the **Licence** button.

The Licencing pop-up will be displayed.

The Licencing system is an important security feature that means only sites that are registered with Rolec will receive a licence to allow operation of the software. This extends to similar but separate licencing of the additional enhanced security utility that is applied to the meter.

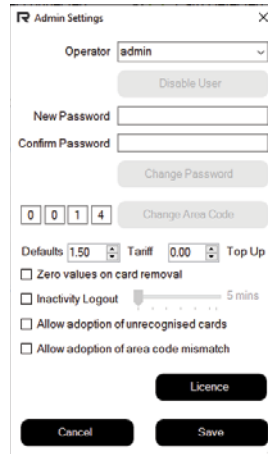


Figure 4 Admin Pop-up

IMPORTANT: As well as allowing software operation, the **Licence File** enables or disables the enhanced security option. When contacting Rolec for a licence file(s) you should state whether you want to apply the enhanced security. If not, you will be sent a 'default' security licence file. Enhanced security does not cost any more money than default security but there is a cost in the time you must spend updating every Rolec smart meter on your site. Some sites have many security concerns, but others have none. You can always change your mind later, but you will need to request new licence files to set the required level of security.

REMEMBER: It is the Licence File used with the software that controls which level of security will be applied. This means...

For the **Card Management** software:

- There is a default licence file.
- There is an enhanced security licence file.

For the **Meter Utility** software:

- There is a default licence file.
- There is an enhanced security licence file.

1. If choosing to use Enhanced level security, both the card software and the meter software will need their own Enhanced Level licences files, even if both software products are installed on the same PC.
2. If choosing to use Default level security for the Card Management software, a licence file for the Meter Utility software is NOT required unless Enhanced security has been previously applied to the meters.
 - If the meters have been updated to use Enhanced level security, a DEFAULT level licence file for Meter Utility software will be required to return the meters back to Default level.

3. FULLY complete ALL fields of the form that is displayed.
 - If the PC has an internet connection and email software, click on the **Open Email** button. The details you have added to the form will be automatically added to an email.
 - If this does not work on your system, click on the **Copy To Clipboard** button.

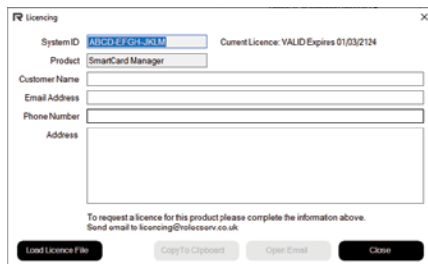


Figure 5 Licencing pop-up

All the details you have entered and the Rolec email address will be copied, and this can be manually added to an email.

- Alternatively, if required, manually enter all of the same details requested by the form into an email the to be sent to Rolec from a different PC.
4. Rolec will respond to your email as soon as possible, Monday-Friday (except public holidays) between the hours of 09:00 and 15:30 and will send you a **License key file** that is unique to this installation and cannot be used on another PC. The licence file must be loaded onto the PC that will be using the SmartCard Manager Software.
 5. Load the licence code provided to you by Rolec.
 - Open the Licencing screen again.
 - Click on the **Load Licence File** button.

Additional license codes can be provided if more than one copy of the software is needed on the same site – for example, you operate more than one payment desk. Contact Rolec for details and any costs.

NOTES:

1. If using multiple installations of the card management software, the database of one installation cannot be seen by the other installation. The database for each installation is held only on the PC on which that software is installed.
2. Licencing of the Meter Utility software is performed in the same way but is explained in detail on page 27.

As the 'admin' user, you have the most control of the system and its security.

Admin settings are only available to the Admin User account so must be protected by a unique password.

The default password with a new system is 'password' and should be changed as soon as possible.

- **Operator:** Currently only the 'default' **admin** user is shown. The name of other users can be added later but for now, do not change anything.
- **New Password:** Enter a new password for the admin user. Confirm the new password then click on the Change Password button to enter it into the system.

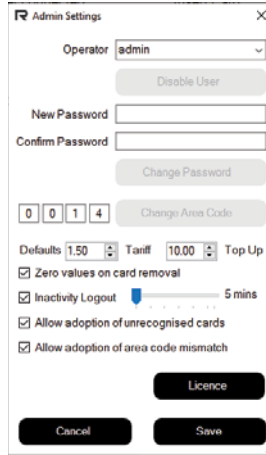


Figure 6 Admin Settings Window

NOTE: The **Change Password** button will not become active if the New Password and Confirmation Password do not match and meet the following criteria:

- Numbers and/or letters (upper and/or lower case).
- Minimum of 6 characters, maximum of 32 characters.
- **Change Area Code:** Enter a 4-digit number to be used to lock cards to the site computer. This is the first line of defence and identifies cards that are from a different site (area).
 - Choose a number that is meaningful to you but that is unlikely to be also used by a nearby business who may also use Rolec SmartCard Meters.
 - For security, the area code already saved on a card is not displayed. Only the area code for 'this' site is shown.
 - Easy (lazy) codes such as 1111, 9999, 1234 should be avoided as they are often repeated and could compromise the security of your system.
- **Tariff:** Enter the default cost of each unit of electricity that will be applied when a customer buys electricity 'credits'. This may be changed later if required.
 - Costs are shown without a currency symbol so that they can be applied to any decimal currency around the world.
- **Top Up:** This is a default amount of credit that can be applied to new or empty cards and is designed to prevent the need to manually add the same figure every time.
 - In the example, shown above the cost will be 10.00 and, at a default of 1.50 per kWh, the customer would receive 15 kWh of power before their credit expired.
 - It is common that tariffs are fixed by the site for the season so the Top Up figure could, for example be set to be the amount most requested by customers.
 - There is the option to override the defaults on the main software screen if or when required.

- **Zero values on card removal:** The tariff and amount of credit to be applied to the card can be set manually on the main screen. The option to 'zero the values' removes the manually entered figures when the current card is removed, preventing those values being applied accidentally to the next card to be used with the system.
 - **Inactivity Logout:** Logs the current user out of the system if they have not performed any system tasks for a set amount of time. Time ranges from no logout, and then between 5 and 60 minutes.
 - **Allow adoption of unrecognised cards:** Unrecognised cards will most likely be those created with an earlier version of the software. If enabled, operators should check the details shown on-screen for the card before adopting or rejecting it.
 - **Allow adoption of area code mismatch:** Looks at the area code applied to the card.
 - If the site used a previous Rolec SmartCard system and has upgraded, or the area code has been deliberately changed, operators will probably want to recognise cards from their site that were in circulation prior to the upgrade.
 - The software will also recognise cards from another site (that uses the same system) allowing you the choice of handing the card back to the customer or offering to adopt the card. Adopting the card will allow you to Blank the card or remove any credit that remains. This will prevent that credit being used to acquire electricity that has not been paid for at your site.
 - Use of Enhanced Security which matches meters, cards and software aids the prevention of electricity theft/fraud, but site operators should still be vigilant and suspicious of unusual customer activity and requests around issues such as corrupt cards, corrupt meters, and refunds of significant amounts of credit or, conversely, customers who don't appear to have purchased credit for the length of their stay.
3. When all required settings have been entered, click on the **Save** button.

Card Reader Software Log In

1. When the software starts, the main screen is displayed but none of the operation buttons or fields can be clicked.
2. Click on the **Log In** button.

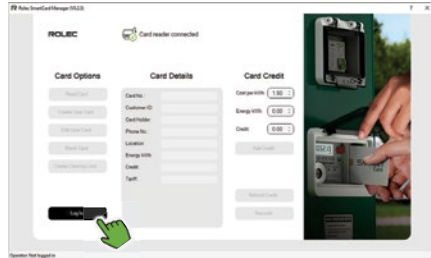


Figure 7 Software Start

3. On the Login window, **admin** is the default login name. If a different operator is to log in, click on the dropdown and select the name.
 - New operator names and passwords must first be added by the admin user.
4. When the correct name is shown, enter the password associated with that name.
5. Click on the **Log In** button to enter the software.

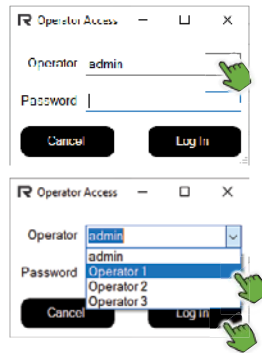


Figure 8 Login Windows

NOTE: Make sure the card reader is connected to the PC.

- Make sure the LEDs on the front of the reader are illuminated with either 2x Red LEDs or 1x Red and 1x Green.
- If the card reader is not showing as connected, close the software, check the physical connection then restart the software and log in again.

The card reader should now show as being connected.

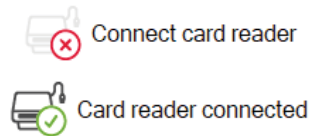


Figure 9 Card Reader Connection Status

Add an Operator

Password protected login's can be created for individual staff and these are linked to the transactions performed under that login and are shown in the transaction records and cannot be individually deleted.

To help maintain the security of your system, different operators should not share logins.

NOTE: To preserve the data in the transaction records, the 'name' added to those available for login cannot be deleted.

While it is possible to use people's actual names for the login, staff can leave the company or move into different roles, and you may eventually have a long list of names that are no longer required.

Instead, it may be preferable to add 'Roles' even if that is as simple as 'Operator 1', 'Operator 2', etc.

NOTE: Only the admin user can access the admin settings and create a login for another user.

1. Start the software and login as the **admin**.
2. Once logged in, click on the **Settings** button to access the Admin Settings pop-up window.
3. Click in the Operator field and change the Operator label to whatever is appropriate for the new user.
 - This does NOT have any effect on the login that was previously shown.
 - Make sure the new name is correct. It cannot be edited later.
4. Click on the **Add User** button.
5. Enter and confirm a unique password for the new user then click on the **Change Password** button.

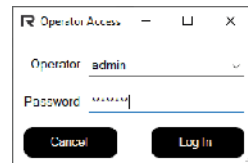


Figure 10 Admin Login

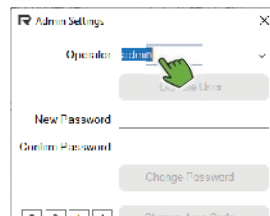


Figure 11 Admin Settings Window -1

6. Click on the **Save** button at the bottom of the window.

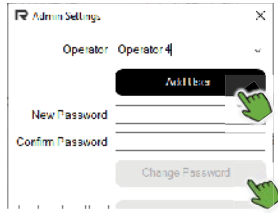


Figure 12 Admin Settings Window -2

When the new user wants to login...

7. Select their name/or role from those listed in the dropdown.
8. Enter the **password** for that role.
9. Click on the **Log In** button.

The user will now have access to all software functions except for the Admin Settings.

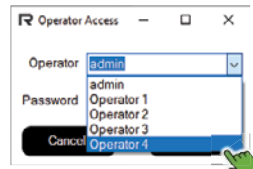


Figure 13 New Operator Login

Change a Login Password

NOTE: The **Change Password** button will not become active if the New Password and Confirmation Password do not match and meet the following criteria:

- Numbers and/or letters (upper and/or lower case)– no special characters.
- Minimum of 6 characters, maximum of 32 characters.

Operator passwords can be changed at any time, but a forgotten password cannot be recovered. If anyone other than the admin has lost their password, the admin operator can login to the Admin Settings screen and create a new password for that user.

1. Open the Admin Settings.
2. Select the Operator whose password is to be changed.
3. Enter and confirm a new unique password for the selected user then click on the **Change Password** button.
4. Click on the **Save** button at the bottom of the window.

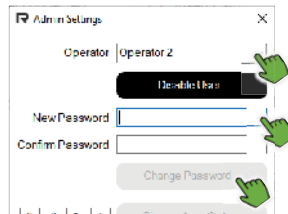


Figure 14 Change Operator Password

If an operator wants to change their own password they must first login with their current password. This will allow access to the Password area of the Admin settings and from there they can change the password.

Admin Password Recovery

If an Admin password is lost, they cannot access the Admin Settings where the password would normally be changed.

To recover an admin login,

1. If not already started, click on the desktop icon to run the software.
2. Move to the top of the software window and click on the '?' menu.
A pop-up window will be displayed.
3. Make a note of the **System ID** then contact Rolec with this ID to obtain a temporary password.

- Temporary passwords are only valid on the day of issue by Rolec and will expire at midnight UK time. The temporary password must be replaced by a new user generated password as soon as the temporary password allows access to the system.

Site admins located in distant time zones should be aware that the window of opportunity when a code can be requested, sent, entered and updated, may be smaller than in closer time zones and should alert Rolec to this when making contact.

4. Access the software using the temporary password then immediately change your password to a new password you will remember.

System Overview

Information about the cost per kWh of energy, the number of kWh of energy that has been purchased, and the cost of that purchase are calculated within the software. It only needs two of the figures to calculate the third.

When the card is placed in the meter, the information about the credit and kWh is moved from the card to the meter which will now deliver electricity until either all the credit/kWh are consumed or, the user chooses to return any remaining credit back to their card.

- If the balance on the meter is above 0, only the card that added the credit can add more credit.
- If the balance on the meter is 0, any other card from the site (that has credit) can be used with the meter.

Remaining, unused credit/kWh that is transferred back to the card from the meter can be read by the card reader in the site office and the cost of the unused credit can be refunded to the user.

Card Reader Operations

- Make sure the card reader is shown as connected.
- Operational functions of the software are not enabled until a card is inserted into the card reader.
- Cards are read automatically when they are inserted into the card reader. Any data already held on the card will be displayed on-screen. If the card has no data, it is recognised as a new card.
- If a card is removed from the reader while the system is logged out and a second card is inserted, the details of the first card will be deleted from the screen and replaced by the details of the second card when someone logs into the system.
- The **Read Card** button should not normally be needed because cards are read automatically. Click on the **Read Card** button if you want to manually initiate the card to be read and confirm what is shown on screen is correct for that card.
- Card data is deleted from screen when the card is removed from the card reader.

Create a User Card

1. Insert a card into the card reader with the chip in the slot and facing upwards.
2. If the card is unused, the software will display **New Card Detected.**
3. Click **Ok** to acknowledge and close the message.

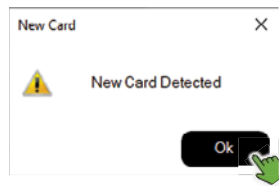


Figure 15 New Card Notification

When the main screen is shown, there will be the options to:

- Create User Card.
 - Create Clearing Card.
4. Click on the **Create User Card** button.

This option is only available when a new card or blank card is in the card reader.

The system will pre-configure all the settings required to create a card for a new customer and will also provide fields for additional information about the customer if you wish to record it. We will look at this in a moment.

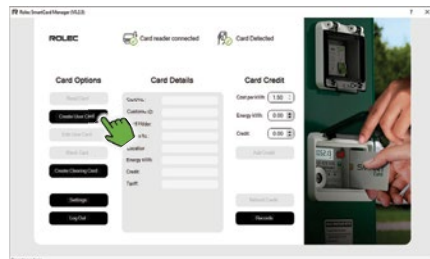


Figure 16 Create User Card

If you simply want to sell credit for electricity, only the Tariff and the amount of Credit need to be checked/added.

Add Customer Data

The Card Details panel of the screen can display a range of data about the customer that, if it is required, is held on the card.

- Site operators should be aware of any privacy regulations in their region which may govern what data is recorded, how long it is kept, etc. You should only collect and store information that is used as part of your management of the meters and/or of the site.

Customer data can be added when a...

- new customer card is created.
- customer card is edited using the **Edit User Card** button.

Cells shown in grey cannot be edited. Cells shown in white can be edited.

Click on **Write Card** to save any changes that are made.

- **Card Number** is automatically assigned by the system when the card is created and cannot be changed.
- **Customer ID** can be a number, or some other code used by the site to help manage its records.
- **Card Holder** is usually the customer's name.
- **Phone Number** is usually the customer's phone number.
- **Location** is just a label to aid management and could be where the customer is staying. For example, Pitch 25C or Berth A15, or Meter 21.
- **Energy kWh**, **Credit** and **Tariff** are the figures that were last applied to the card and cannot be amended in the Card Details panel but can be amended in the Card Credit area.

The example shown above is for a new card that has not yet has any credit applied, and where the default tariff (set in the Settings screen) is 1.50.

Card Details

Card No.:	00000000
Customer ID:	<input type="text"/>
Card Holder:	<input type="text"/>
Phone No.:	<input type="text"/>
Location:	<input type="text"/>
Energy kWh:	0.00
Credit:	0.00
Tariff:	1.50

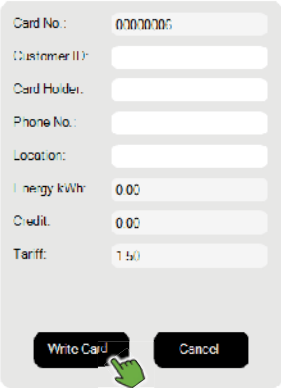


Figure 17 Create User Card

Opposite, you can see how this looks when credit has been applied to the card.

The Tariff is shown as the cost that applied at the time of the purchase, and this tariff stays with the card until there is 0 credit on the card.

- Remember... Costs/Credits are shown without a currency symbol so that they can be applied to any decimal currency around the world.

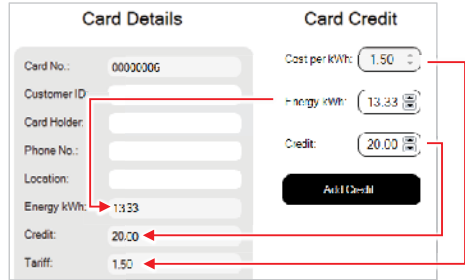


Figure 18 Energy kWh, Credit and Tariff Figures

Edit User Card

- Click on **Edit User Card**.
- The Card Details panel will become editable as just described in the section **Add Customer Data** on page 16.

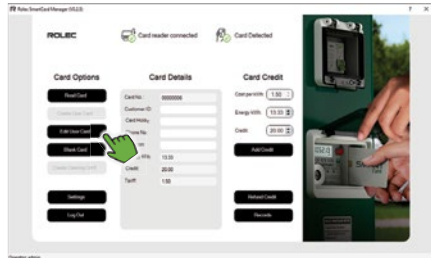
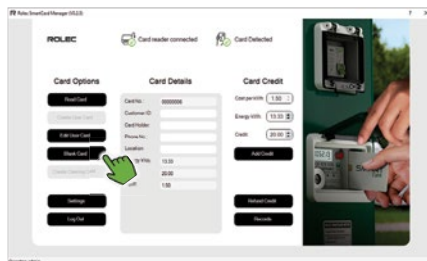


Figure 19 Edit User Card

Blank Card

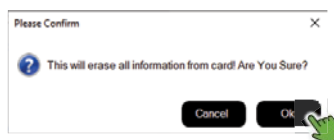
The Blank Card function removes all data from the card that is in the card reader.

1. Click on the **Blank Card** button.



2. Click **Ok** to accept the confirmation message.

When the card is blank, the system will see the card as a New Card.



3. Click **Ok** to acknowledge the New Card message.

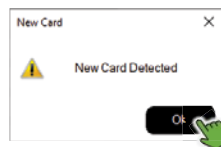


Figure 20 Blank Card Process

Create Clearing Card

If a customer has left the site and there is credit remaining on their meter, that meter cannot be used by a new customer until the credit has been removed (deleted) through the use of a Clearing Card.

To create a clearing card...

1. Place a blank card into the card reader.
2. Click **Ok** to acknowledge the New Card message.

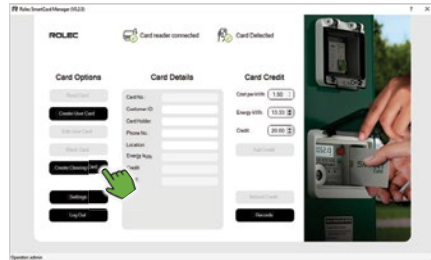


Figure 21 Create Clearing Card

3. Click on the **Create Clearing Card** button.

The Clearing Card will be created without any further warnings or messages.

When the card has been created, none of the data on the card can be seen or edited and the card cannot be used to access any of the functions of the software, other than the main screen and the Records screen.

Although the card will be detected by the software, make sure to label the card in some way so it does not get confused with other cards.

Clearing Cards should be used with care. It is good practice to make a note of the credit shown on the meter before it is cleared.

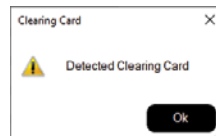


Figure 22 Clearing Card Detected

The remaining credit will automatically be removed when a Clearing Card is placed into the meter and cannot be recovered.

However, because you are only dealing with figures on a screen and not physical money, if a mistake is made and, for example, the wrong meter is cleared, the site office could reissue credit to the user at no additional cost to either party.

NOTE: If enhanced card/meter security is being used, Clearing Cards and meters must have the same embedded code.

Add Credit to a Card

1. Insert a card into the card reader.
 - Check that the **Tariff** is correct at the bottom of the Card Details panel. If not correct, either...
 - edit the **Current Tariff** in the Card Credit area to make a one-off change.
 - edit the default tariff on the settings screen to make a more permanent change.
 - Enter the amount of credit to be purchased in the Card Credit area, the Energy figure will be calculated automatically.

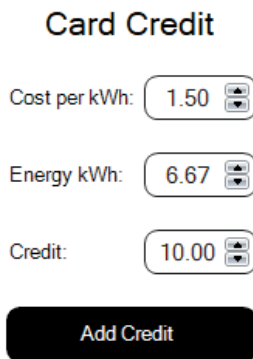


Figure 23 Add Credit

2. The screen should now show the tariff, how many kWh of energy will be available and how much that will cost if all the credit is used.
3. If you are happy that the figures appear to be correct, click on the **Add Credit** button to record these figures to the card.
4. When the card is placed into the SmartCard meter, the meter will transfer the credit to the meter and the card would show 0 credit if it was placed back into the card reader.

Remove Credit from a Card

If a customer has not used all the credit they put onto the meter, they can return the remaining credit from the meter to the card and get a refund at the site office.

1. Insert the card into the card reader. When the card is recognised, the credit on the card will be displayed at the bottom of the Card Details panel.
In the example opposite the card is showing that it has credit of **20.00** that can be refunded.
2. Refund the customer with the correct amount of money.
3. Click on the **Refund Credit** button.

The Energy and Credit figures for the card will now show as **0.00**.

Notice that the Tariff shows **1.50**. This is the tariff that was set at the time the credit was added. It may not be the same as the current tariff.

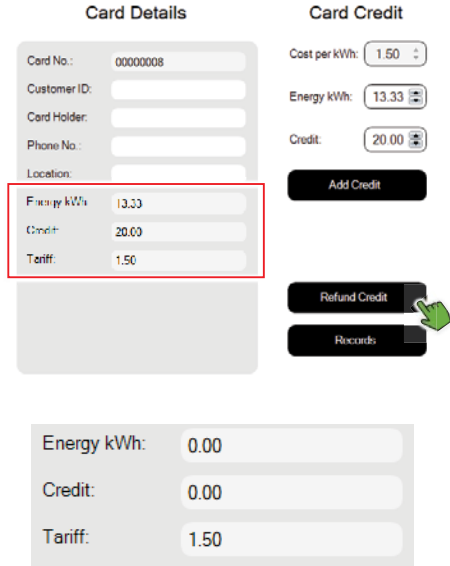


Figure 24 Refunding Credit

Records

1. Click on the **Records** button.

The main software window will be removed from the screen and replaced by the Records window.

- If required, click on the **Export CSV** button to send whatever is shown in the currently displayed table to a CSV file that can be opened in a spreadsheet such as Excel.
- The **Cards** tab shown below, is always displayed first.

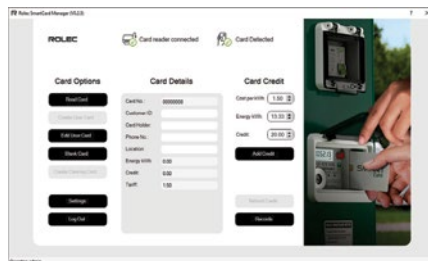


Figure 25 Access to Records

The **Cards** tab shows the data that is stored on the cards that have been accessed by the software.

Card Number	Customer	Card Holder	Phone Number	Location	Date Created	Last Tariff	Last kWh
00000001	1234	Barry	012345678	A17	22/03/2024	0.00	0.00
00000002		Victoria		A21	22/03/2024	1.00	0.00
00000003		Freda		P9	22/03/2024	0.50	0.00
00000004					04/04/2024	1 GC	6.4K

Figure 26 Example of a Cards Record Window

The **Transactions** tab will show the credits and refunds for a selectable date range but when first viewed the table may be empty.

2. Click on the **Query** button to display transactions for the dates range shown above the table.
 - The date range defaults to the current day but can be changed to any date range. If events took place within the selected date range, they will be displayed in the table below.
 - If required, the transaction data can be expanded to provide more detail about the event by clicking the **Show Details** check box.
 - The table can be filtered in various ways depending on what data has been recorded and the selections made.
 - Column headings can be clicked to change the order in which the rows are displayed.

Id #	Date/Time	Type	Operator	Card Number	Customer ID	Card Holder	Location	Energy kWh	Credit
1	22/03/2024 10:47:03	credit	admin	00000002		Victoria	A21	10.00	10.00
2	22/03/2024 10:47:51	credit	admin	00000001		Barry	A17	20.00	10.00
3	22/03/2024 10:48:36	credit	admin	00000003		Freda	P9	10.00	5.00
4	22/03/2024 11:44:14	refund	Operator2	00000003		Freda	P9	-10.00	-5.00

Figure 27 Transactions Default View

Delete the Software

As with most Windows software, the Smartcard Manager can be deleted through Windows own **Add or Remove Programs** function. The option to remove the database should be presented but if it is not or you choose to delete the database at a later date, the database can be removed manually.

1. Navigate to the file location on your PC **C:\ProgramData\RolecSmartCard**
2. Delete the whole **RolecSmartCard** folder.

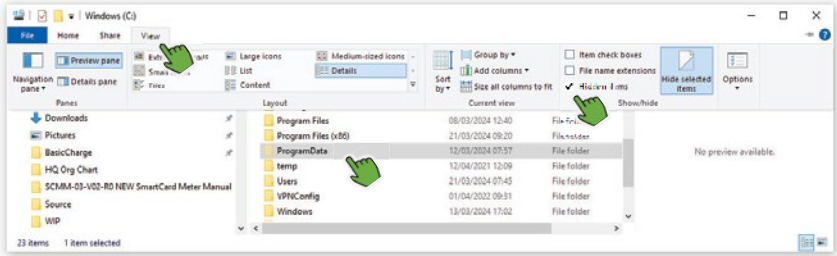
If you need to keep or move the database or the license key file...

1. Navigate to the file location **C:\ProgramData\RolecSmartCard**
2. Within the **RolecSmartCard** folder you will see the database file and the License key file.

NOTE: The **ProgramData** folder will be a hidden folder on most systems. To see the folder...

- Go to the menus at the top of the screen.
- Click on the **View** tab.
- Now select **Hidden files**.

All hidden files in this folder should now be displayed.



The screenshot shows a Windows File Explorer window for the 'Windows (C:)' drive. The 'View' tab is active, and the 'Hidden files' checkbox is checked. The 'ProgramData' folder is selected and highlighted in blue. Other folders visible include Program Files, Program Files (x86), temp, Users, VPNConfig, and Windows. The status bar at the bottom indicates '23 Items' and '1 item selected'.

Part 2 – Meters

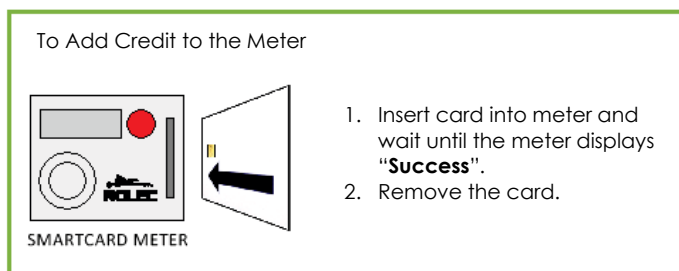
Rolec Smartcard meters can be used without applying the new enhanced security software to them. This manual will look at the normal use of the meters and will then move on to applying enhanced security.

Use the Smartcard Meter

1. If required, a brief press of the red button on the front of the meter will activate a display backlight for low light conditions.
2. If the button is pressed and held, the meter may enter the refund credit mode (refer to the instructions on the next page).

Add Credit to the Meter

1. Insert a card that has credit applied to it into the slot on the meter.
Make sure the card is the correct way up (The chip on the Smartcard should be facing left).
Credit will NOT be added if any existing credit from a different Smartcard remains on the meter (The meter will display 'IN USE'). Either the remaining must be used, or a Clearing Card is required to set the credit on the meter to zero.
2. If the meter is able to accept the credit it will be automatically transferred from the card to the meter.
3. The meter will indicate when the credit has been transferred successfully.



View Remaining Credit on the Meter

1. The Smartcard meter displays the remaining credit as kWh.
2. If there is no credit remaining the meter screen will display the words **NO CREDIT**.

Low Credit Warning

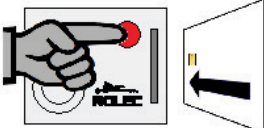
If the remaining credit is less than 3 kWh's the meter will alternate what is shown on the screen between the remaining **kWh's** and **TOP UP**, to remind the user to obtain more credit if required.

Refund Credit from the Meter

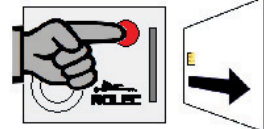
Any credit remaining on the meter can be transferred back to the Smartcard, allowing the card to be used another service/meter or to be returned it to the issuing office for a refund.

NOTE: Credit on the meter can only be transferred to the same Smartcard that issued the credit.

To Refund Credit from the Meter



1. Press and hold the red button then insert card.



2. When the meter displays "**b_good**" remove the card and release the red button. The credit has now been transferred back to the card.

Smartcard Meter Specifications

Compliance	IEC 65052-11
Working Voltage	230 V
Rated Current	63 Amp
Impulse Constant	1000 imp/kWh
Frequency	50 Hz
Accuracy Class	1
Display Mode	LCD 6+2
Working Temperature	-20 to +55 °C
Storage Temperature	-25 to +70 °C
Power Consumption	<1.2W
Average Humidity	<75%
Start Current	0.4 % IB
Protection Class	IP51
Dimensions (mm)	171.5 H x 106 W x 54.5 D

Enhanced Security

In response to evolving security threats, this software now includes a system that encodes the Software to the SmartCard and the SmartCard to the Meter.

Once the software has been applied to the meters and the site PC, in normal use...

- it is 'invisible' and has no impact on genuine customers.
- SmartCards from a different site will be rejected by the meter.
- site operators will be alerted to cards that are from a different site if a customer attempts to obtain a credit refund.

The encoding used is deliberately designed to be optional and is unique to each site so cannot be applied during the equipment manufacturing process. This means there is a little work to be done by the site operator who will need to apply the security encoding to the site office software and to each meter on site.

The encoding can be applied to previously purchased cards and meters but is only compatible with this version (or newer) of the software. The encoding is also compatible with new Rolec SmartCard meter purchases.

IMPORTANT: It is important to be aware for reasons of compliance, the update that will be done to meters does not change their programming in any way. The 'update' uses existing encoding but makes sure the same encoding is used by all elements of the system so that outside elements that are not the same are easily identified and barred from use.

The Enhanced Security update must be applied directly to all Rolec SmartCard meters (of the same type) on the site by connecting a laptop PC to the meter via the supplied IR communications cable.

Requirements

1. Meters to be updated must be Rolec SmartCard MID compliant meters. Meters that are not Rolec branded and are not MID compliant cannot be updated.

A MID compliant meter will display the letter M followed by two numbers similar to the highlighted example shown opposite. A non-MID meter will show virtually no information.



2. The 'updated' SmartCard Manager software, must be installed on the site office PC.
 - The Licence applied to the software must be for 'enhanced security'.
3. Rolec SmartMeter Utility software tool – installed on a Laptop PC that can run from its battery.
 - The Licence applied to the software must be for 'enhanced security'.
4. Magnetic USB/IR data communication device – supplied as part of the package or upgrade kit.
5. Access to all meters on site that are to receive the security upgrade.

Install the SmartCard Meter Utility Software

1. Install the Rolec SmartMeter Utility (enhanced security upgrade) to a portable 'laptop' Windows PC.
 - If the same laptop will be used to manage meter SmartCards, both the Rolec SmartCard Manager software and the Rolec SmartMeter Utility software can be installed on the same computer.

The Rolec SmartCard Meter Utility must be licenced in a similar way to that described for the main PC, Rolec SmartCard Manager software.

2. Open the SmartCard Meter Utility software.
3. Click on the **License** menu.

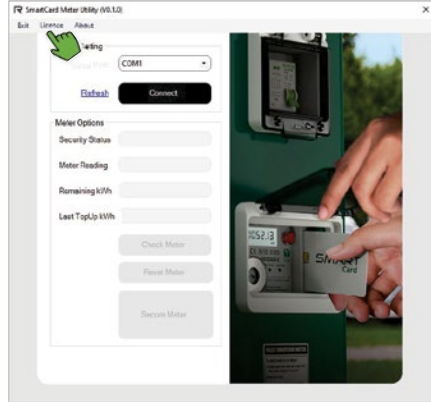


Figure 28 SmartCard Meter Utility

4. FULLY complete ALL fields of the form that is displayed.
 - If the PC has an internet connection and email software, click on the **Open Email** button. The details you have added to the form will be automatically added to an email.
 - If this does not work on your system, click on the **Copy To Clipboard** button.

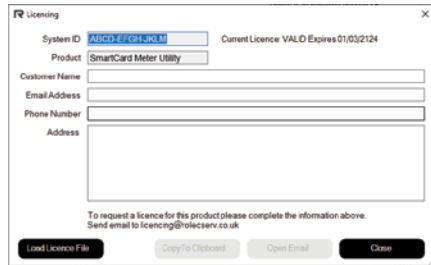


Figure 29 Licence Pop-up

All the details you have entered and the Rolec email address will be copied, and this can be manually added to an email.

- Alternatively, if required, manually enter all the same details requested by the form into an email to be sent to Rolec from a different PC.
5. Rolec will respond to your email as soon as possible, Monday-Friday (except public holidays) between the hours of 09:00 and 15:30 and will send you a **License key file** that is unique to this installation and cannot be used on another PC. The licence file must be loaded onto the PC that will be using the SmartCard Manager Software.

6. Load the licence code provided to you by Rolec.
 - Open the Licencing screen again.
 - Click on the **Load Licence File** button and navigate to the file to be loaded.

Additional license codes can be provided if more than one copy of the software is needed on the same site –Contact Rolec for details and costs.

IMPORTANT: As well as allowing software operation, the **License File** enables or disables the enhanced security option. When contacting Rolec for a licence file(s) you should state whether you want to apply the enhanced security. If not, you will be sent a 'default' security licence file. Enhanced security does not cost any more money than default security but there is a cost in the time you must spend updating every Rolec SmartCard meter on your site. Some sites have many security concerns but others have none. You can always change your mind at a later date, but you will need to request new licence files to set the required level of security.

Update the Meter Security

1. Make sure all meters are functioning and have power applied to them. They do not need to be supplying power, but they must be receiving power from the grid and operational.
2. Connect the IR Communication Device USB cable to the laptop.
3. In the Rolec SmartMeter Utility, click on the **Connect** button.
 - If connection is successful, the Connect button will change to a Disconnect button.
 - If not successful, select a different COM port option from the drop-down menu above the button then attempt to connect again.

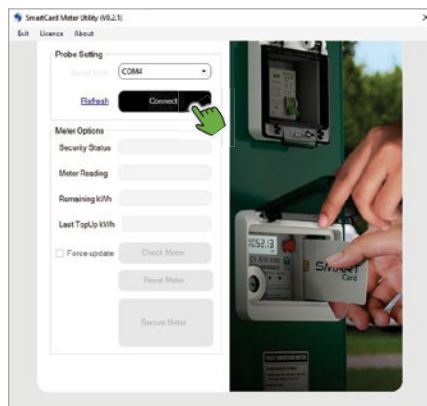


Figure 30 Connect to the IR Device

NOTE: Some Laptops/PCs do not have the device drivers required to allocate a COM port to the IR device. Device drivers along with instructions for their installation are available on the USB memory stick alongside the main software installation files. These drivers should only be used if a COM port cannot be allocated.

- 4. Connect the IR communication device to the meter. The device is magnetic and attaches to the silver ring on the front of the meter. Make sure the cable hangs downwards in the 6 o'clock position.
 - IR Device designs may differ.



Figure 31 Meter + IR Device

- 5. When the IR Device recognises that it is connected to the meter, an automatic check of the 'default' software is done. If it needs to be updated, an on-screen prompt will alert you.

NOTE: This is not a check of the enhanced security. It is a check of whether the most recent version of the default level security has been applied.

If you want to make sure it has been applied, a forced update can be done... Refer to **Update Default Level Security** shown on the next page.

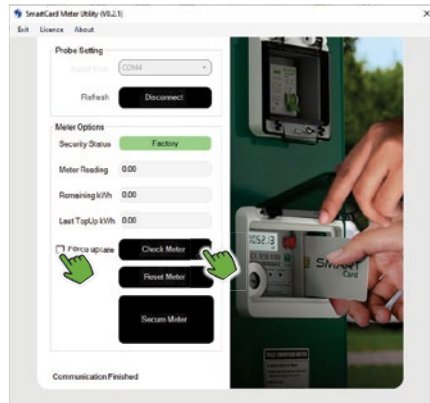


Figure 32 Check the Meter

- 6. The screen will also show:
 - the current meter reading.
 - any remaining kWh of power that may be on the meter.
 - how many kWh of power were 'credited' to the meter the last time it was added.

These last 2 points can be compared against the figures recorded in the SmartCard Manager software if you have any concerns about fraudulent cards or credit obtained.

Update Default Level Security

1. Make sure the IR Device is correctly connected to the meter.
2. Make sure the **Force update** option is selected.
3. Click on the **Check Meter** button.

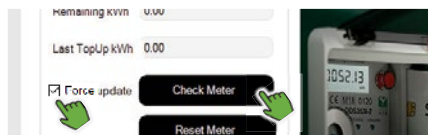


Figure 33 Force Default Security Update

Security Status	Description
Factory	The meter is configured to use the factory default passcode.
Secured	The meter is configured to use a unique passcode.
Invalid	Not the correct passcode.
Factory	Shown <u>immediately</u> after a successful Reset Meter command to use the factory default passcode. This will change to the green version when next checked.

4. A pop-up window allows control of the update.
5. Click on the **Update** button to install the update.

It will take just over a minute to install the update and a pop-up message will be displayed when it is complete.

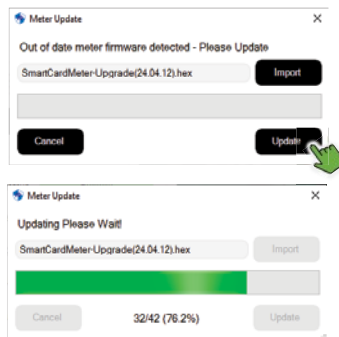


Figure 34 Update Controls

NOTE: This software is able to install future meter software updates that may be required. By default it will install the software shown in the image above but if you are sent a new update file, this can be installed instead.

- Place the new file in an accessible location on your laptop.
- In the Smart Meter Utility, follow steps 1 – 4 as shown above.
- Click on the **Import** button.
- Navigate to where you have saved the new update file on your PC and select the file to be used.
- Click on the **Open** button to load the file into the meter utility software.
- Make sure the new file name is shown and has replaced the default software.
- Click on the **Update** button to install the update.

Install Enhanced Security

REMEMBER: It is the Licence File used with the software that controls whether enhanced security will be applied. This means...

For the **Card Management** software:

- There is a default licence file.
- There is an enhanced security licence file.

For the **Meter Utility** software:

- There is a default licence file.
- There is an enhanced security licence file.

The Card Management software and the Meter Utility software must both use the same type of licence for the system to work.

IMPORTANT: Meters returned to Rolec for repair will be reset by the manufacturer before any fault investigation and/or repair can be performed. If the meter (or a new meter) is returned to you, make sure you reapply the enhanced security (if it is required). It cannot be done by the factory as it is unique to you and the PC it is used on.

1. Make sure the enhanced security Licence Files have been used with both the card management software and the meter utility software.
2. Make sure the IR Device is correctly connected to the meter.
3. Press and hold down the **RED** button on the meter then, within the software, click on the **Secure Meter** button to install the enhanced security features that will lock the meter, the cards and the card management software together.
4. Release the red button when the 'Secure: Success' message is shown on the software screen.

From this point forward, the meter should only accept SmartCards created at your site using your card management software.



Figure 35 Apply Enhanced Security

Remove Enhanced Security

Whilst rare, there may be the possibility that you want to remove the enhanced security.

1. Simply press and hold down the **RED** button on the meter, then click on the **Reset Meter** button within the software to remove the enhanced security and return the meter to its factory defaults.
2. Release the red button when the 'Reset Success' message is shown on the software screen.

If enhanced security is currently applied to the site PC (used for managing cards), this meter will no longer work with that system unless the enhanced security is also removed from that PC.



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ROSCMM-V01-R3 Smartcard Meter Manual

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