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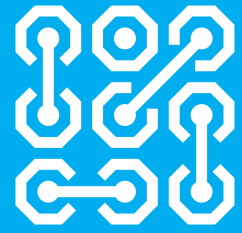
APEX TO SIMPLEKEY
WEB INTEGRATION
INSTALLERS GUIDE

SETUP GUIDE

Revision 2.0

CONTENTS

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ABBREVIATIONS

SK4 – SimpleKey 4 Access Control SKW – SimpleKey Web
CM – Comms Module
CM-4G – 4G version of the Comms Module
CM-Multi – Multi Function version of the Comms Module
CM-IP – IP version of the Comms Module, Ethernet only

MED – Main Entrance Door
RED – Rear Entrance Door
MEDA1 – Main Entrance Door with Audio call panel
MEDV1 – Main Entrance Door with Video call panel

1 INTRODUCTION

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CAME KMS and CAME Entrotec have been developing the integration of APEX and SimpleKey 4, principally enabling the connection of the APEX Digital Door Entry system into SimpleKey Web to display Door Entry event information alongside Access Control events.

The project allows the end user i.e. housing provider full visibility of the CAME Entrotec and CAME KMS Systems and their usage by tenant residents and visitors. For example, this could be key fob entry, calls to handset, handset door releases, missed calls or calls not picked up.

The additional Door Entry events will be presented within the website alongside that of the fobs, users of SimpleKey web are able to view the activity of a property and see both access control and call information from entry entrance panels to the handset. This provides full event searches, alert triggers, and scheduled event reporting.

The integration can be summarised as :

System configuration completed. APEX file exported from site and sent to CAME

A copy of the APEX system configuration is imported into CAME KMS SimpleKey Web

APEX door entry wired to SimpleKey 4 access control

Door entry event information is sent to the CAME KMS web servers where it is synchronised with the access control database

Users able to remotely edit functions of the APEX door entry system within SimpleKey Web

1.1 INSTALLER'S RESPONSIBILITY

It is the responsibility of the installer to provide a full copy of the extracted .apex file.

An APEX configuration file must be sent to CAME KMS with each new order. Synchronisation with SimpleKey Web is carried out by CAME KMS.

If the initial configuration changes at the time of installation, then it is the **responsibility of the installer** to resend the APEX configuration to CAME KMS and sufficient time allowed to process.

2 APEX EVENT CAPTURE

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Below is the list of events the APEX Door Entry System can produce from a single entrance panel.

Multiples of entry panels will be shown by an appropriate Door number or name depending on the setup with SimpleKey Web.

Note: If a handset is on 'privacy' no event type is specifically generated instead a ' Unanswered Door Entry Call'

Events will not be generated if:

- Handsets are not connected,
- Handsets are incorrectly terminated or connected.
- Entrance Panels are incorrectly connected, programmed addressed, or terminated.
- Mis-configured systems, for example incorrect addressing or vertical bus wiring.

2.1 READING FROM APEX – EVENT CAPTURE

2.1.1 1. Unanswered Door Entry Call

| 13/07/2023 23:44 | UNANSWERED DOOR ENTRY CALL | AREA HOUSING OFFICE South > BLOCK St Stephens House > DOOR Main Entrance - St Andrews Street | AREA HOUSING OFFICE South > BLOCK St Stephens House > FLAT 29 |

2.1.2 2. Answered Door Entry Call Hung Up

| 13/07/2023 18:31 | ANSWERED DOOR ENTRY CALL HUNG UP | AREA HOUSING OFFICE South > BLOCK St Stephens House > DOOR Main Entrance - St Andrews Street | AREA HOUSING OFFICE South > BLOCK St Stephens House > FLAT 19 Answered. Hung Up |

### 2.1.3 3. Answered Door Entry Call Door Opened

| 13/07/2023 23:51 | ANSWERED DOOR ENTRY CALL DOOR OPENED | AREA HOUSING OFFICE South > BLOCK St Stephens House > DOOR Main Entrance - St Andrews Street | AREA HOUSING OFFICE South > BLOCK St Stephens House > FLAT 73 Answered. Door Opened |

3 WRITING TO APEX SYSTEM CONFIGURATION

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3.1 CLIENT EDITABLE FIELDS

The following values can be edited by the client and or end users of SimpleKey Web.

- Door Open time 0- 63 seconds -where doors are controlled by a TRM or LC4.
- Voice Over Volume adjustment where fitted, edit values 0-63. Where 1 = lowest and 63 = highest.
- Coded access (PIN) 4-, 5- or 6-digits access codes.
- Welcome screen message editing:
  - 2x Messages consisting of two lines per message maximum of 16 characters per line
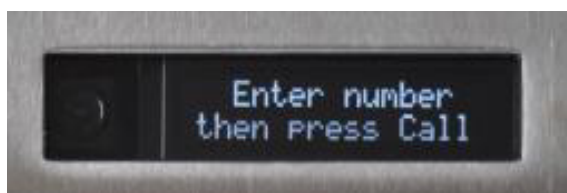
3.2 SOFTWARE

An APEX configuration file needs be sent to CAME KMS for each new system.

Synchronisation with SimpleKey Web is carried out by CAME KMS production.

If the initial configuration changes at the time of installation, then it is the responsibility of the installer to resend the APEX configuration to CAME KMS and sufficient time allowed to process.

The following is a basic description of the minimum required hardware on site.

- Compatible SimpleKey 4 Hardware – Mk3 System Controller and Comms Module with available RS485 port.
- Two wire RS485 connection between APEX and SK4
- Export of the APEX Door Entry system database via the APEX configurator software and USB tool.

4.1.1 Compatible SimpleKey 4 Hardware

This picture shows a typical SimpleKey 4 Mk3 System Controller with the CM-4G_485 Communications Module (often referred to as 'comms module') fitted to a Mk3 System Controller.

The CM-4G_485 version of the Comms Module includes a 4G modem, SIM and RS485 comms port.
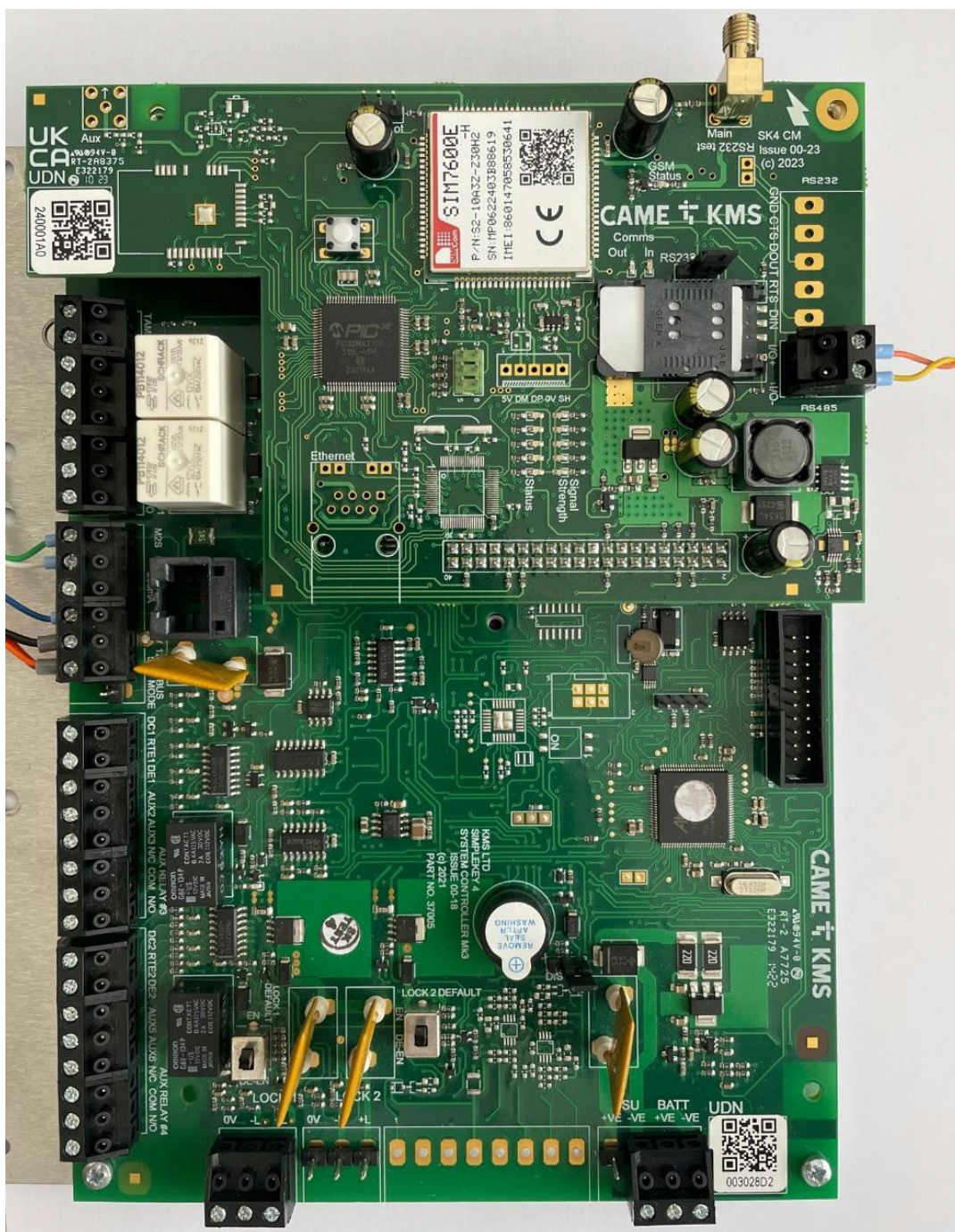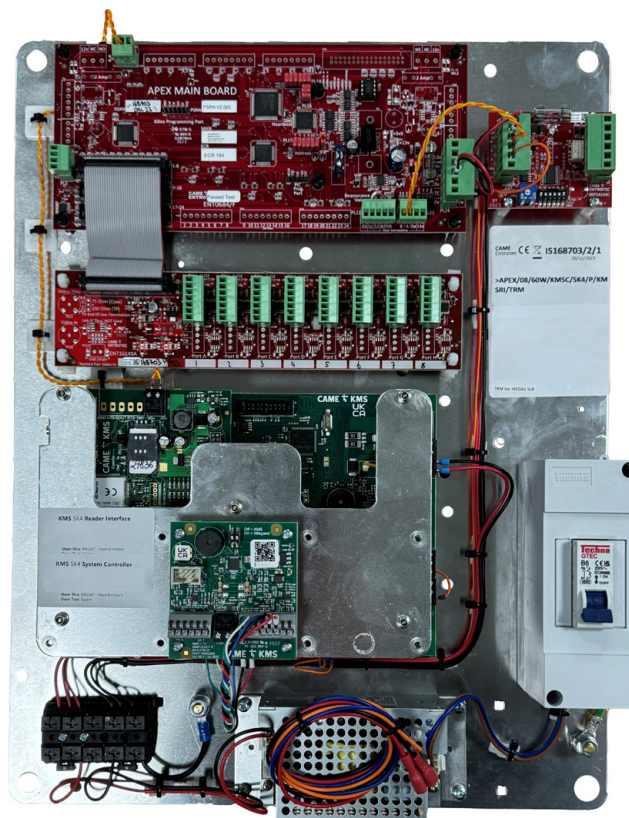

The CM-4G_485 version of the Comms Module includes a 4G modem, SIM and RS485 comms port.

4 WHAT'S REQUIRED ON SITE?

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4.1.2 Two wire RS485 connection between APEX and SK4

This picture shows the basic two wire connection between APEX door entry and SK4 access control via the RS485 of the Comms Module and APEX Vertical bus.

4.1.3 APEX programming Kit

The Apex Programming Kit allows Apex systems to be configured on site. The kit comprises of a USB programming cable and Apex Setup Software.

Apex Setup Software and USB cable drivers must be downloaded from: https://www.entrotec.com/apex-setup

The software requires Windows Vista, 7, 8 or 10. Contact CAME Entrotec for legacy versions.

The .APEX file is exported using the 'APEX SETUP' Windows application and CAME Entrotec RS485 to USB lead.

* CAME Entrotec Part Number = APEX PROGRAMMING KIT

4.1.4 APEX Setup

Full installation and connection instructions can be downloaded from:

* APEX Setup Installation
* APEX Programming Instruction

4.1.5 APEX Export upload

Once the file has been read from the APEX system and saved it will need to be sent to CAME KMS

CAME KMS Production @ ckuk.info@came.com

CAME KMS Technical Support @ ckuk.technical@came.com

5 EXPORTING THE APEX FILE

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⚠ **A full and complete export of the .APEX file is required. The system integration can not function without this.**

5.1 SOFTWARE INSTALLATION

- Download the Apex Setup installer from the link above

- Run the downloaded file

- Follow the on screen installation instructions and complete the installation using the default file paths.

- Open the Start menu and navigate to **Apex Setup -> Drivers**

- Right click the **Drivers v*.*.*** file and click **Run as administrator**

- Follow the on screen installation instructions and complete the installation using the default file paths.

- Once the drivers and software are installed, connect the USB cable. *The Update Driver Software* window may pop up to configure the device:

    - Select **Search Automatically…**

    - Click **Finish** to close the wizard once the installation is complete

## 5.2 CONNECTING PROGRAMMING CABLE TO APEX

- The Apex Programming Cable has three wires **(B, A, GND).**

- Connect these wires onto the vertical data bus of the Apex system (**PL5** on Apex main boards - ENT0684, **PL112** on Digital Expansion boards – ENT0682).

- **POWER DOWN THE SYSTEM WHILE MAKING CONNECTIONS (Connect USB connector to computer once system is Repowered).**

6 APEX SETUP GUIDE
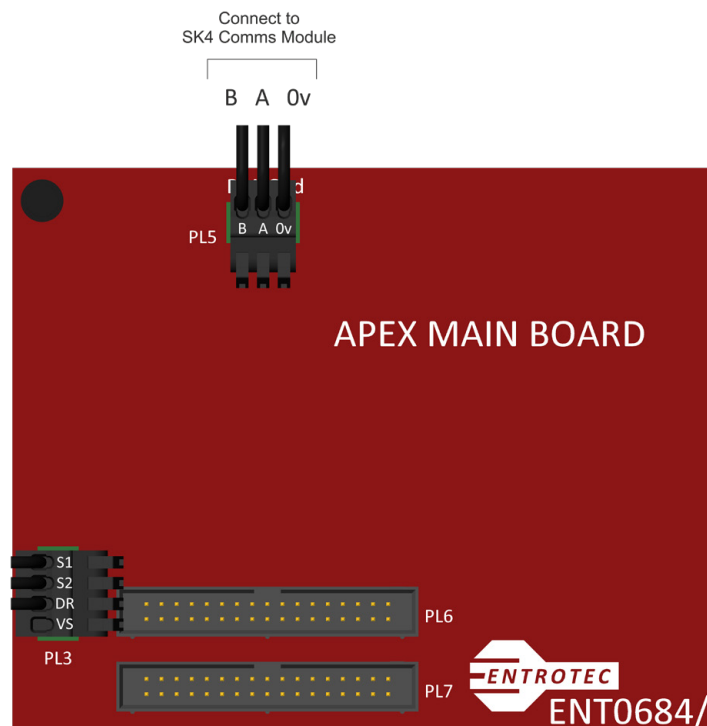
6.1 COM PORT SETTING

Determine the COM port of the Apex Programming cable:

- Open the device manager **(Start Menu -> Search)**

- Expand **Ports**

- The Apex Programming cable will be displayed as **USB Serial Port**

- **Take note of the COM port number**

- If there are multiple **USB Serial Ports** in the list, unplug the cable and check which COM port is removed. Plug it back in and it will be displayed again

- In Apex Setup, click **Apex -> Options** and fill in the COM port with the number determined.
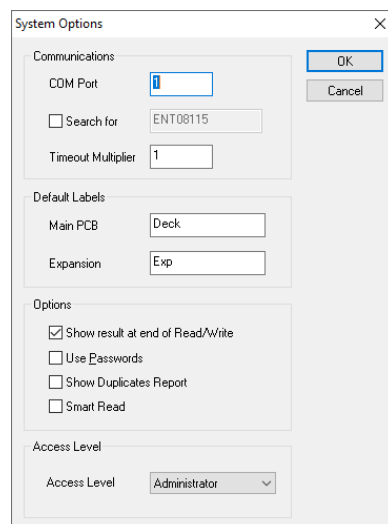
6.2 READ

- In the Apex Setup main window, perform a read by clicking **Rd**

- A new window will appear:
    - Set the first and last Apex deck addresses to be read
    - **Check/Uncheck** the various settings to be read. These settings are explained in the subsequent sections.
    - Click **OK**

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6.3 FLAT ADDRESSES

Once the system has been read with **Read Flat Addresses** checked, expand the tree to show the flat addresses assigned to each handset slot on the Apex board

- To change the number:
    - Double click the handset
    - Type in the desired number into the **Address** field and click **OK**
- Repeat for the other handsets.
- Leave the address blank if there is no flat assigned to the handset slot

- The window is split into three sections:
    - Access Areas
        - This is where a group of flats are assigned using the From and To dialogs
        - There can be up to 20 access areas
        - It is possible to set whether a group is for keys, calls, or both
    - Door Access Permissions
        - The All Area checkbox will allow access to all if checked
        - If unchecked, the access areas can be filled in for groups that are allowed through the door
    - Global Exceptions
        - Assign flat numbers here for flats that are allowed through all doors regardless of access areas.

6.4 DOOR SETTINGS

To edit the parameters for a door:

• Once the system has been read, expand the tree:

Deck (the deck where the door is connected) -> Doors

• Right click on the desired door. A new window will open

6.4.1 Access Codes/Speed Dial

6.4.2 Settings

- Lock Time
    - Use this setting to set the length of time that the door remains unlocked after being released

- Multi-Language
    - Set the desired language settings

- VA Vol/Option
    - For a call panel, set the speaker volume
    - For other devices, set the option
        - LCM
        - RF-RX
        - CB Trig
        - X Trig
        - DR & In
        - Lift Reader
        - No Answer
        - Door On
        - Unlock 2

- DR Link
    - Allows this door to open if another door is released
    - Select the address of the other door in the drop down menu
    - Set to **Off** if not required

- Input Option
    - Sets the function of the I/O port on the call panel board

- Speed Dial
    - Speed Dial (Dig)
        - The speed dial number
    - Speed Dial Display
        - The text that is displayed for the speed dial (i.e Concierge, Manager etc.)

6.4.3 Door Access

- Use this to set the flat(s) that are allowed/not allowed access to this door.

- Use the format: 1-10,13,15 etc.

- **Whitelist**: The list of flats that are allowed. Flats not in this list will be denied access

- **Blacklist**: The list of flats that are not allowed access. Flats not in this list will be allowed access

6.4.4 Welcome Screen

This edits the idle text on the call panel's display

- Click the **Welcome Screen** button

- Set the desired text in the text boxes

- Click **OK**

6.4.5 Block Select

In a Block Select system, this edits the panel type (i.e. main, sub entrance) and the block names.

- Click on the **Block Select** button

- In the new window:
    - The **Operation** setting sets the panel type (main or sub)
    - The Block Names for each block is set the text boxes

- Click **OK**

6.4.6 Custom Text

This allows the customisation of some of the text on the call panel display

- Click on the **Custom Text** button to open the Custom Text window

- Set the text if required:

  - Door Is Open:

6.5 RELAY (TRM4)

To edit the parameters for a TRM4:

- Once the deck has been read, expand the tree until the desired relay is displayed

- Right click on the relay and click Edit Relay

- A new window will be displayed.

- There are 4 sections, each section corresponds to a channel on the TRM4

6.5.1 Relay Settings

- Reverse Relay Action
    - Select this to reverse the normal operation of the relay on this channel

- Address
    - There are two ways to address the channel:
        - Address links + the channel number (this is displayed as an option)
        - Select a number in the dropdown menu
    - In default mode, this must be set to the address of the call panel/reader that is controlling this channel

- Mode
    - Default: Secure Lock Relay(SLR), Lift Control Module(LCM)
    - Unlock 2: Inner Door Interface (IDI)
    - Hearing Loop: Set if this relay channel is controlling a hearing loop

- Lock Time has 2 options:
    - External: The setting on the call panel/reader determines the lock time
    - Select the time from the drop down menu

- DR Link
    - For use in Unlock 2 mode
    - Set to the address of the outer door

- Whitelist/Blacklist
    - See 6.4.3

6.6 APEX EXPORT UPLOAD

Once the file has been read from the APEX system and saved it will need to be sent to CAME KMS to process.

Email this file over:

CAME KMS Production @ ckuk.info@came.com

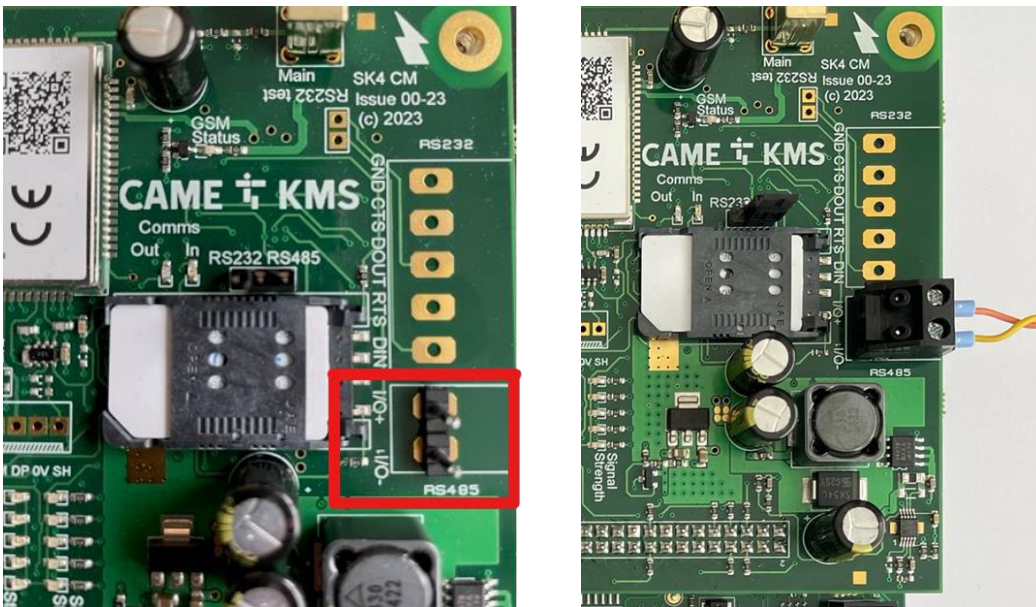CAME KMS Technical Support @ ckuk.technical@came.com

7 CAME KMS SETUP

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All system hardware and software configuration is performed by CAME KMS however it is important to check and adjust the RS485 comms port.

7.1 RS485 COMMS PORT

RS485 Comms port highlight in **RED** below.

Note wiring terminations of I/O + and I/O -

7.2 COMMS PORT JUMPER SELECTOR

The CM-4G_485 version has no RS232 comms port however the printed labelling is present on the PCB along with the jumper position on the comms selector. The jumper must be set to the correct position to enable the RS485.

Set the jumper to the right-hand position connecting the centre and right pins highlighted in **GREEN** below.
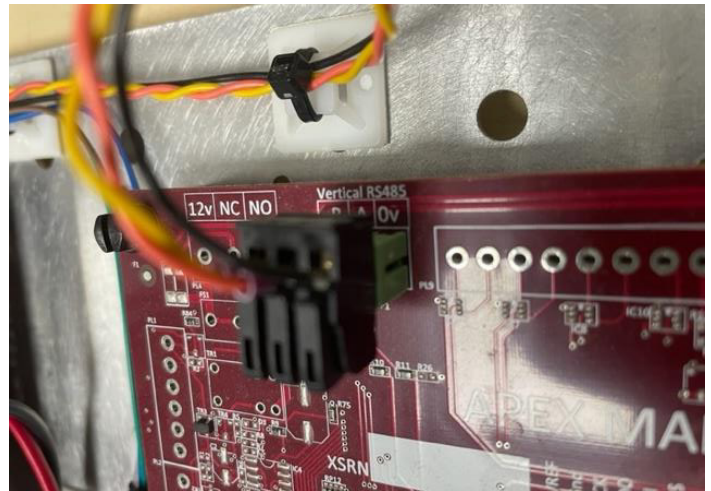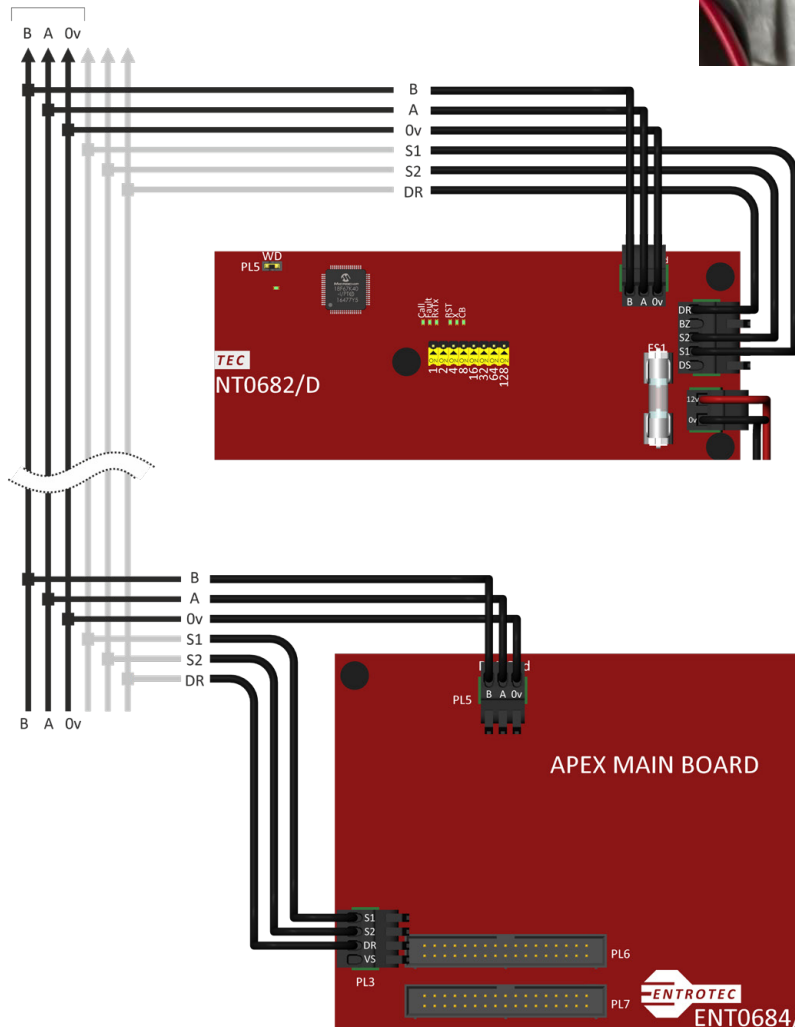
8 APEX VERTICAL BUS

Wire the CAME KMS Comms Module to the APEX Vertical bus using the terminations 'A' and 'B' are used on the APEX MAIN BOARD.

• Connect these wires onto the vertical data bus of the Apex system (**PL5** on Apex main boards - ENT0684, **PL112** on Digital Expansion boards – ENT0682).

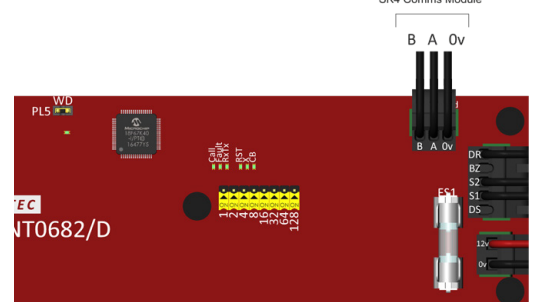• **DOWN POWER THE SYSTEM WHILE MAKING CONNECTIONS**

8.1 EXAMPLE OF APEX VERTICAL BUS SOCKET AND WIRING

8 APEX VERTICAL BUS

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8.2 CONNECTING APEX VERTICAL TO SK4 COMMS MODULE

Connect the APEX vertical bus with a twisted pair made of copper cable. All cable should be copper, tinned copper or annealed copper conductors. The use of copper clad steel (CCS) or copper clad aluminium (CSS) must not be used as this will degrade system performance.

BT1308, Cat5 Cat5e, or Cat6 are suitable cable types.

There is a maximum cable run of 500m between APEX and the SK4 Comms Module.

8.3 CABLE CONNECTIONS

The table below shows the terminations between APEX and SK4.

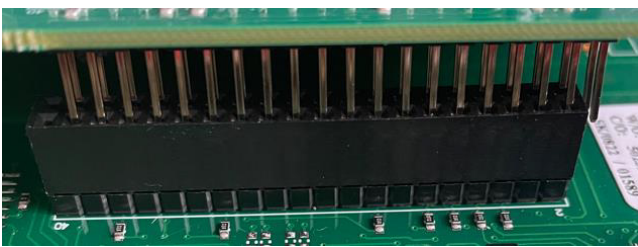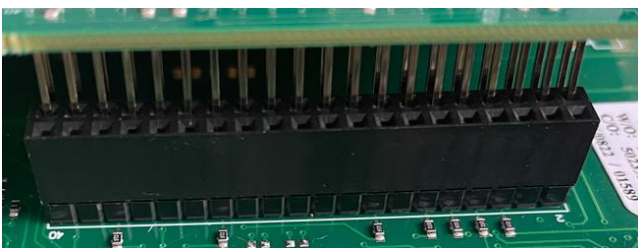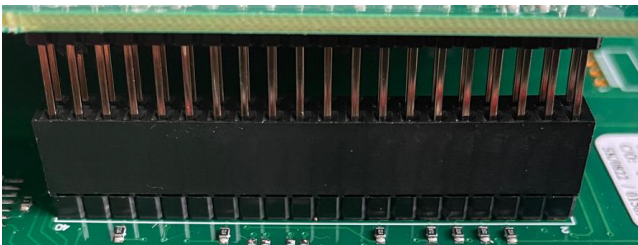| APEX RS485 Connection		SK4 Comms Module RS485 Connection
A	››	I/O +
B	››	I/O -
0V	››	Not used

9 SK4 HARDWARE INSTALLATION

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9.1 OPTION 1 UPGRADE TO COMMS MODULE

The upgrades process below assumes the installer has followed the APEX export process and sent the file to CAME KMS to validate and import.

9.1.1 Upgrading Comms Module only

1. Fully power down the system on site ensuring any battery backup devices are discon-nected.

2. Remove SIM card and keep to one side ensuring the SIM contacts are kept clean and dry.

3. Unscrew the antenna.

4. Unscrew Comms Module:
   a. In some cases, removal of a top chassis holding additional Reader Interfaces or Lock Controller is required. Where this is the case ensure any screws, washer and nuts are retained for re-fitting.

5. Remove Comms Module – ensure it is removed squarely from the System Controller to avoid damage to the pins and socket.

6. Fit new Comms module – pay particular care to the pins and their location to the System Controller.
   See further images for guidance.

⚠️ **Warning! Incorrect alignment or the forcing of this connector can result in damage to the PCBs not covered by warranty**

7. Wire the RS485 connection from the SimpleKey 4 Comms Module to the APEX Vertical BUS noting connections per table below:

APEX RS485 Connection		SK4 Comms Module RS485 Connection
A	››	I/O +
B	››	I/O -
0V	››	Not used

8. Ensure RS232/RS485 Jumper is set to the right-hand position for RS485.

   Note: As highlighted in ORANGE below. Only the TX LED will flash when used in RS485. The RX LED is only active when RS232 is use.

9. Power up the system reconnecting any battery backup devices previously disconnected.

10. Contact CAME KMS Technical Support to ensure all APEX hardware is visible and online.

9 SK4 HARDWARE INSTALLATION

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9.2 OPTION 2 UPGRADE TO SYSTEM CONTROLLER MK3

This upgrade process is very similar to Option 1 (see page 17) with the additional step of replacing the System Controller.

9.2.1 Upgrading the System Controller and Comms Module

1. Fully power down the system on site ensuring any battery backup devices are discon-nected.

2. Remove SIM card and keep to one side ensuring the SIM contacts are kept clean and dry.

3. Unscrew the antenna.

4. *Take photographs and make notes of all connections.*

   CAME KMS strongly advises the installer uses the new plugs provided with the SK4 Mk3 System Controller, replacing the older ones. This suggestion arises from a slight shift in the manufacturer and subtle variations that could lead to inadequate termination and loose/intermitant contacts.

5. If existing plugs are to be retained - Unplug all inputs, outputs, power and BUS connections noting polarity of DC voltages and the communication wires S2M and M2S.
   a. If required, the plugs can be levered off from the **outer edges of the PCB** only.

6. Unscrew all fixings from the centre and four corners of the System Controller PCB and re-move.

7. Carefully remove the new System Controller from its packing, remove Comms Module and place back inside anti-static bag keeping the 2x new metal spacers and 2x M3 screws to one side.

8. Fit Mk3 System Controller using the same fixings from the old System controller for the:
   a. Centre
   b. Bottom left and right fixings.

9. Fit the two of supplied 15mm x 3mm threaded posts into the top of the System Controller, this will support the Comms Module.
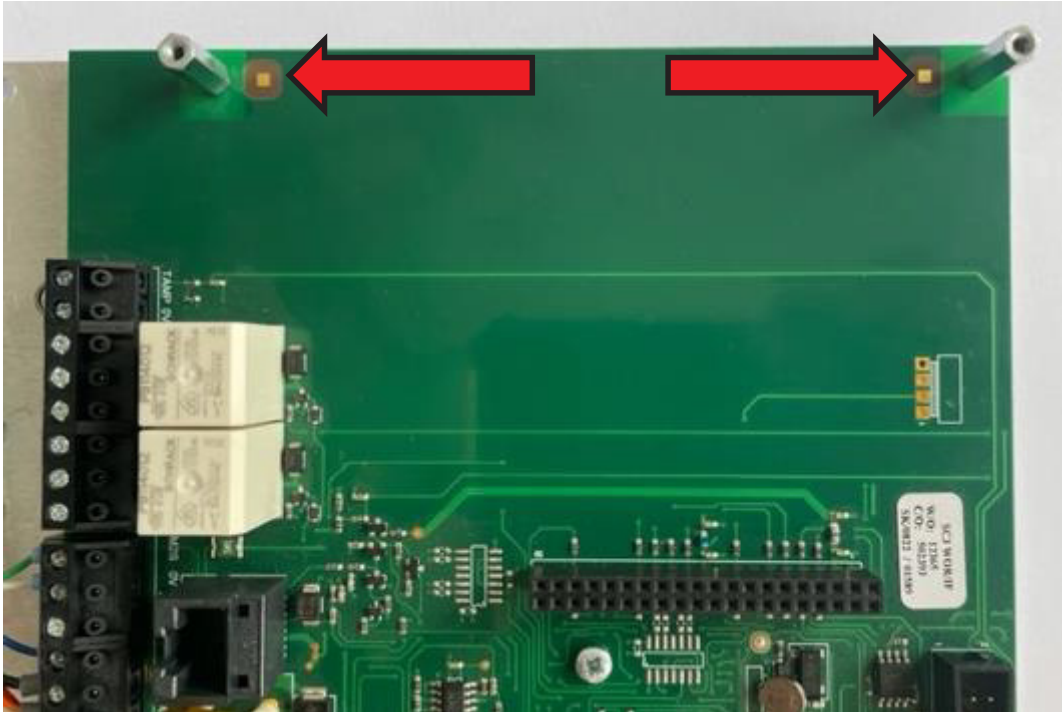
10. Fit Comms Module. **NOTE** Step 6 on previous section **4.1.1** ensuring correct fitment of pin to socket.

11. Secure Comms Module with 2x M3 screws supplied.

12. Reconnect inputs, outputs, power, and BUS connections.

13. **Double check all connections!**

14. Power system up.

15. Contact CAME KMS Technical Support to ensure all APEX hardware is visible and online.

10 APEX CONFIGURATION CHANGES POST INSTALLATION

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Any changes made on site to the APEX system after the initial system import will need to be made within SimpleKey Web for the correct operation in system communications and event retrieval.

In this scenario advice from CAME KMS Technical Support advice should be sought as to the time required for re-import and system mapping.

CAME KMS Technical Support
Opening hours 9am to 5pm Monday to Friday

Email: ckuk.technical@came.com
Telephone: 01494 531099

NOTES

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CAME ENTROTEC
5 Ashwood Court
Oakbank
Livingston
EH53 0TL

Tel: 01506 886230
Support: 01506 886235

CAME ╬ KMS

CAME KMS
1 Marlborough Trading
Estate
West Wycombe Road
High Wycombe
Buckinghamshire
HP11 2LB

Tel: 01494 531099

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