

SIMPLEKEY **2G UPGRADE GUIDE**

Document ref SK2GUP - Revision: Issue1

INSTALLATION GUIDE

CAME  **KMS**

[CAME.COM/KMS](https://came.com/kms)

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1 VERSION HISTORY

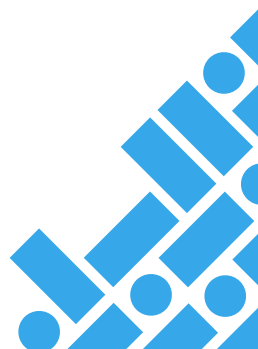
1.1 ISSUE 001

08/07/2026 - Initial Release

2 DISCLAIMER

It is the responsibility of the installation contractor to ensure that all access control equipment is correctly installed, connected and signed off.

CAME KMS cannot accept responsibility for misuse, incorrect installation, poor installation practices, or erratic/poor system performance due to incorrect or substandard installation practices or using any component outside of its designated parameters as set out in official CAME KMS documentation.



3 INTRODUCTION

This document is intended as an installation guide when upgrading a previous generation 2G communication-based systems to a modern 4G based variant. It covers some of the available options for each upgrade path with images added to assist with wiring terminations. This will cover most typical scenarios, please contact technical support if your system falls outside of these installation options. It does not cover every possible scenario but most typical installations.

The images provided should be used for reference and will exclude some ancillary equipment I.e. readers, locks etc.

3.1 ASSUMPTIONS

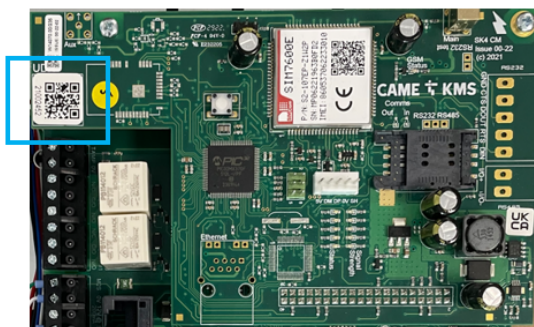
It is assumed the installation contractor is generally aware of the range of SimpleKey door controllers and is familiar with the connections and wiring. If in doubt, please contact CAME KMS Technical support.

3.2 TECHNICAL SUPPORT

For any queries, general of site specific please contact CAME KMS Technical Support.

- **Telephone** - 01494 531099
- **Email** - ckuk.technical@came.com

To speed up your support enquiry, note the UDN number on the Comms device or System controller:



Tip: Scan the QR code for relevant product documentation, including this one in a digital format .

3.3 UPGRADE TYPES

The following upgrade types are covered:

3.3.1 SimpleKey 3 Modem

The upgrade of Modem from 2G to 4G

3.3.2 SimpleKey 3 to SimpleKey 4 Mk3

The upgrade of a SK3 door controller to SK4 Mk3

3.3.3 SimpleKey 4 Mk1 or Mk2 to SimpleKey 4 Mk3

The upgrade of an existing Mk1 or Mk2 SK4 System Controller to Mk3 System Controller

4 SYSTEM SIGN OFF

Any previous sign off (previously called Commissioning) status will have been reverted to 'Not signed off' for the purposes of client visibility and audit trail.

The upgraded system will need to be signed off with CAME KMS once completed to verify:

- System connectivity status
- Controller(s) communications
- Signal level
- Other node communications
- Other system correction or alteration

5 APEX / APX INTEGRATION

'Where the access control is part of an APEX/APX system, a copy of the system configuration must be read in and sent to CAME KMS for integrationn.

This brings a host of new features to SimpleKey Web for both the end user and installer.

Full documentation can be found here

Alternatively, the URL to the CAME KMS technical documents can be found below:

- <https://www.came.com/kms/downloads>

or scan the following QR code:



6 SIMPLEKEY SOFTWARE CONFIGURATION

Full configuration changes are typically applied during the production process at KMS during production, this includes cloud system configuration for modems, door controllers and the 4G SIM card. Where software configuration changes cannot be made during production and must be applied during installation, then please contact KMS technical support for these to be processed.

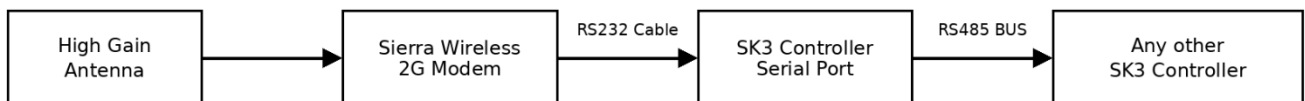
Note: There may be some SimpleKey 3 systems which will require installers to make minor changes to the Controller addressing, this is covered in the relevant section.

6.1 BLOCK DIAGRAMS

Below is a high-level block diagram for each configuration

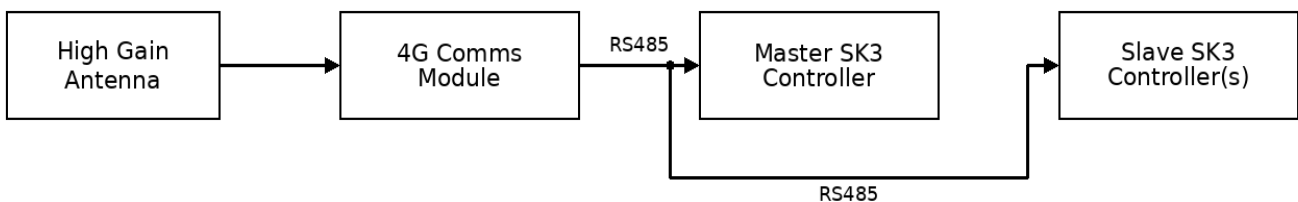
6.1.1 SimpleKey 3 with 2G Modem

Block diagram showing a pre upgrade SK3 controller to 2G Modem.



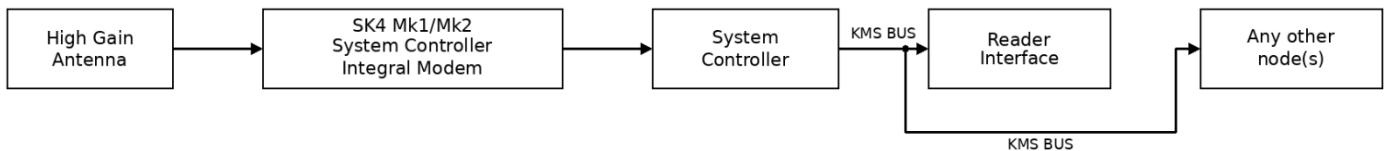
6.1.2 SimpleKey 3 to 4G Modem

Block diagram showing a post upgrade SK3 controller to 4G modem.



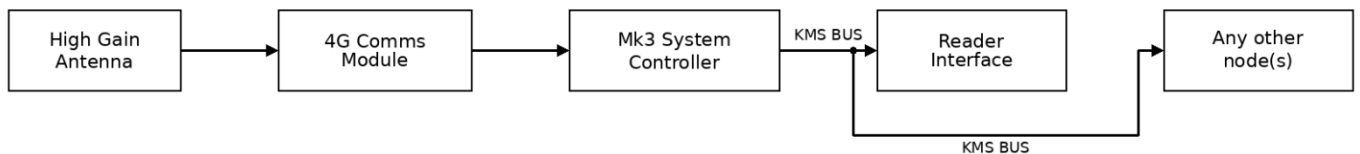
6.1.3 SimpleKey 4 Mk1 and Mk2 with 2G modem

Block diagram showing a pre upgrade SK4 Mk1 or Mk2 controller to 2G Modem.



6.1.4 Simplekey 4 mk1/mk2 to 4G

Block diagram showing a post upgrade SK4 Mk1 or Mk2 controller to SK4 Mk3.



7 SIMPLEKEY 3 2G TO 4G MODEM UPGRADE

7.1 IMAGES

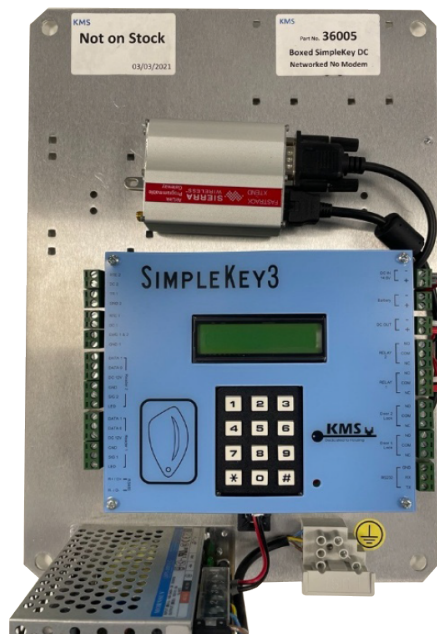


FIGURE 7.1A SK3 WITH 2G MODEM

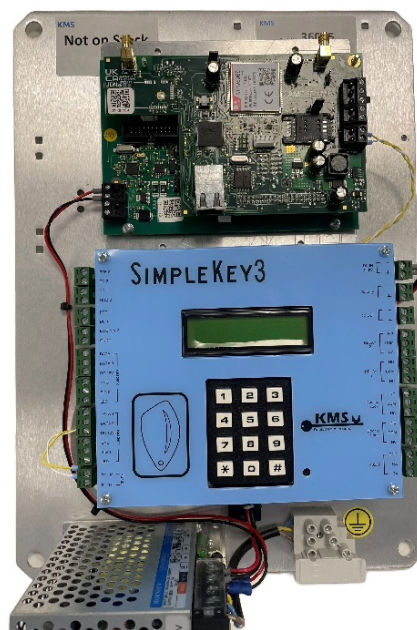


FIGURE 7.1B SK3 WITH 4G MODEM –
NOTE DC AND RS485 CABLES

7.2 UPGRADE PARTS

7.2.1 Parts supplied by CAME KMS

- 1x Multi Comms Module with baseboard supplied on aluminium chassis.
- 1x 4G SIM
- 1x 12v DC loom – pre-terminated
- 1x Rs485 loom – pre-terminated
- Spare UDN stickers



FIGURE 7.2 4G MULTI COMMS MODULE ON A BASEBOARD

7.2.2 Parts not supplied

- New SK3 CR2032 Back up battery. KMS recommend replacing every 2-3 years as part of the regular maintenance program.

7.3 PROCESS

7.3.1 Remove 2G Modem

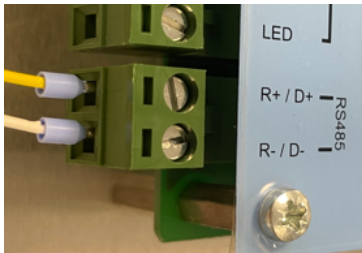
1. **Power down the main PSU by isolating the incoming 240v AC supply.**
2. Unwire the 3-way plug connecting the Rs232 cable to the modem.
3. Unwire the 2G Modem DC cabling from either the SK3 12v terminals or 12v DC PSU [dependant on configuration].
4. Carefully unscrew the antenna SMA connector from the modem, taking care not to damage the centre pin.
5. Remove the 2G Modem from its chassis fixings



Ensure any loose swarf from drilling is removed to prevent damage to electronics or PSU – any damage will be in-validate warranty.

7.3.2 Install the 4G Comms Module

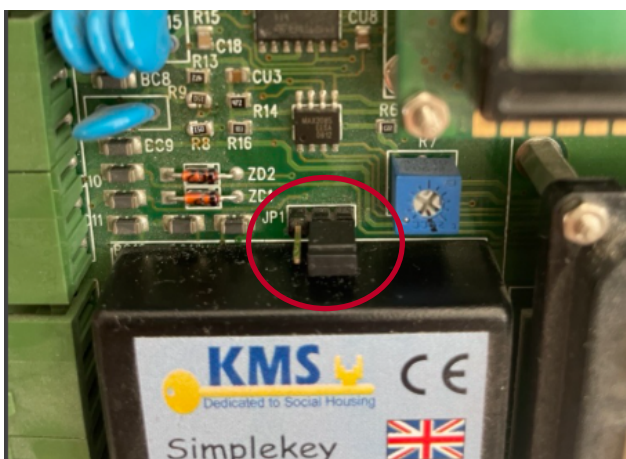
1. Using the 4x available fixing holes fit to the chassis appropriately for the installation.
NOTE if the chassis requires drilling ensure any loose swarf is removed to prevent damage to electronics or PSU
2. Wire the DC loom to the PSU – fork terminals have been provided for PSU termination.
3. Connect the pre-made Rs485 cabled into the SK3 Controller



4. Connect the antenna – do not over tighten!
5. Ensure Comms Module Jumper is set to Rs485
 - a. Note the 'In' LED may not always flicker



6. **Check PSU DC Connections!**
7. Power up the main PSU
8. Check all components power – note the comms module may take several seconds, there is no LED on the baseboard
9. Check Rs485 end line termination jumper **JP1** is set to the **right** two pins



7.3.3 Change SK3 Address

The 4G Comms module will become Address 1, the previous master SK3 will need to be re-addressed.

Single SK3

For sites with a single SK3 controller change the SK3 address as so using the keypad as below.

PREVIOUS SK3 ADDRESS	NEW SK3 ADDRESS
1	2

- # 1
- 1111#
- Option 4
- Option 1
- Enter new <address>
- #

To check the address

- #0



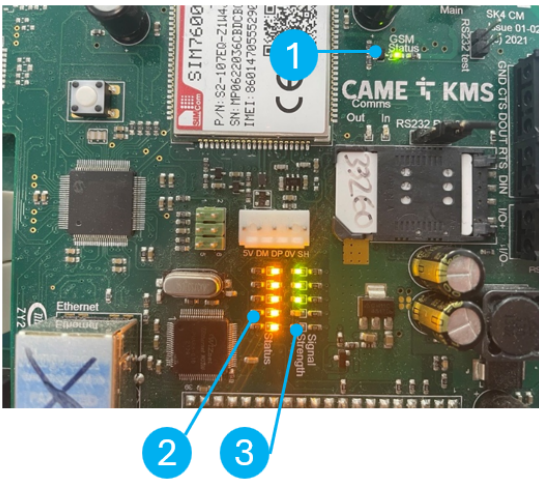
Multiple SK3

For sites with multiple SK3 controllers it is advised to change Controller ADR 1 to the next available i.e. if the last ADR was 6 then ADR 1 would be re-addressed to ADR 7.

7.3.4 Check operation

1. Modem power LED is lit and blinking
2. All 5x status LEDs are lit, allow up to 120s.
3. Signal level LEDs display a minimum of 3 green LEDs

REF	DESCRIPTION
1	Modem Status
2	Connection status - top is LED 1
3	Signal strength indicator



8 SIMPLEKEY 3 TO SIMPLEKEY 4

8.1 IMAGES

Image below of 37012U/P (Mk3 System Controller, 4G-485 Comms module and Reader Interface) fitted in place of an SK3.



FIGURE 8.1 SK4 AND 4G COMMS MODULE ON U-CHASSIS

8.2 UPGRADE PARTS

8.2.1 Parts supplied by CAME KMS

- 1x SK4 Mk3 with 4G-485 Comms module, supplied on U- chassis
- SIM card
- Spare UDN stickers

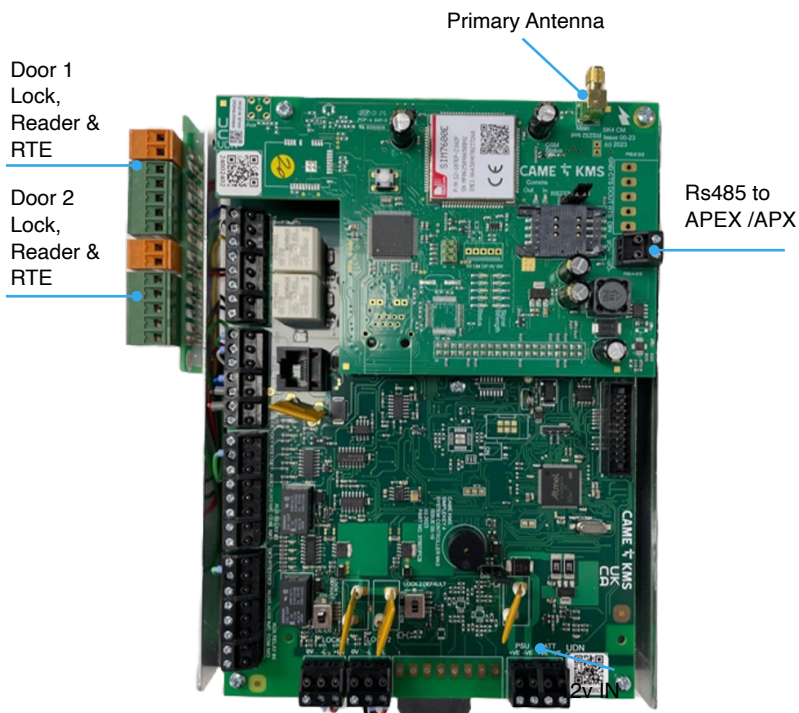


FIGURE 8.2 MK3 WITH 4G-485 COMMS MODULE

8.3 PROCESS

8.3.1 Remove SK3 and 2G Modem

1. Power down the main PSU by isolating the incoming 240v AC supply.
2. Note all wire terminations i.e. doors, readers, RTE, locks and DC power and label accordingly.
3. Carefully unscrew the antenna SMA connector from the modem, taking care not to damage the centre pin
4. Remove SK3 and 2G modem and place to one side.



Ensure any loose swarf from drilling is removed to prevent damage to electronics or PSU – any damage will be in-validate warranty.

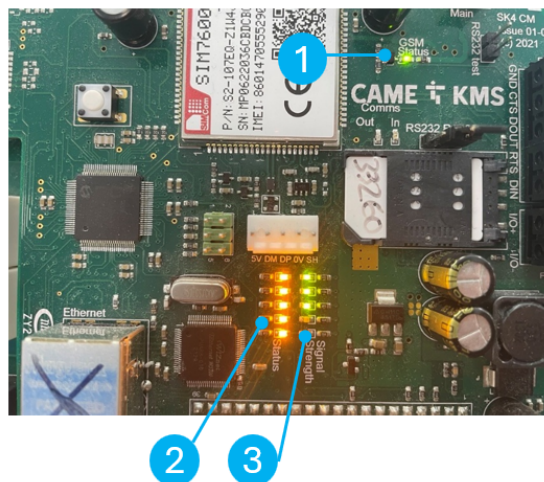
8.3.2 Install SK4

1. Fit the SK4 U-chassis into the enclosure. **NOTE** if the chassis requires drilling ensure any loose swarf is removed to prevent damage to electronics or PSU
2. Secure to the chassis.
3. Wire from **PSU +** to **PSU +VE**
4. Wire from **PSU -** to **PSU -VE**
5. Wire the readers
6. Wire the RTE and other inputs
7. Wire the locks
8. Connect the antenna – do not over tighten!
9. **Check PSU DC Connections!**
10. Power up the main PSU
11. Check all components power

8.3.3 Check Comms Module operation

1. Modem power LED is lit and blinking
2. All 5x status LEDs are lit allow up to 120s.
3. Signal level LEDs display a minimum of 3 green LEDs

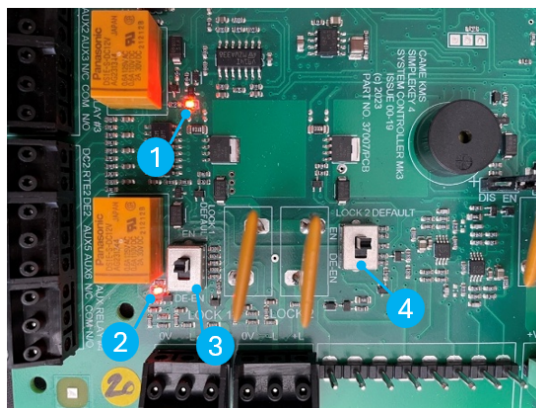
REF	DESCRIPTION
1	Modem Status
2	Connection status - top is LED 1
3	Signal strength indicator



8.3.4 Check Lock operation

1. Check the lock output operation – note the micro switch on the system controller can be set to either EN for fail safe locks or DE-EN for fail secure locks.

REF	DESCRIPTION
1	Lock 1 LED ON = energised
2	Lock 2 LED ON = energised
3	Lock 1 DE-EN/ EN switch
4	Lock 2 DE-EN/ EN switch



9 SK4 MK1 OR MK2 TO SK4 MK3

9.1 IMAGES

Image comparing a Mk1 / Mk2 and Mk3 SimpleKey 4 System Controller. Note the Mk1 and Mk2 variants are the identical as far as the 2G upgrade to Mk3 in concerned.



FIGURE 9.1A MK1 / MK2 SYSTEM CONTROLLER



FIGURE 9.1B MK3 SYSTEM CONTROLLER

9.2 UPGRADE PARTS

9.2.1 Parts supplied by CAME KMS

- 1x SK4 Mk3 with 4G-485 Comms module – supplied as bare PCB to fit in place of Mk1 or Mk2 SK4.
- 4G SIM card
- Spare UDN stickers
- Extra required fittings
- 2x M3 x17mm stand-off fittings

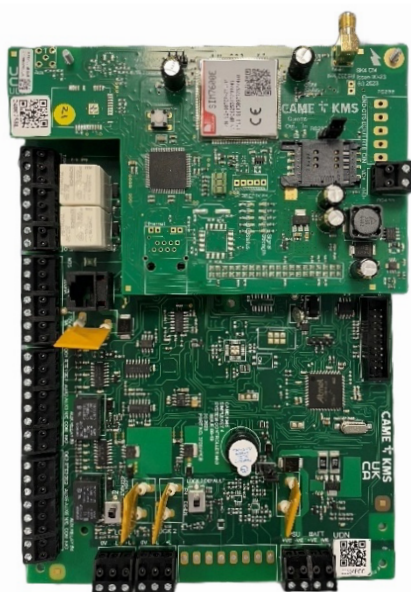


FIGURE 9.2 MK3 SYSTEM CONTROLLER WITH 4G-485 COMMS MODULE

9.3 PROCESS

9.3.1 Remove Mk1 or Mk2 SK4

1. **Power down the main PSU by isolating the incoming 240v AC supply.**
2. Note all wire terminations i.e. doors, readers, RTE, locks and DC power and label accordingly.
3. Carefully unscrew the antenna SMA connector from the modem, taking care not to damage the centre pin.
4. Remove the 5x fixings screws numbered 1-5 below and keep to one side – **these will be reused.**

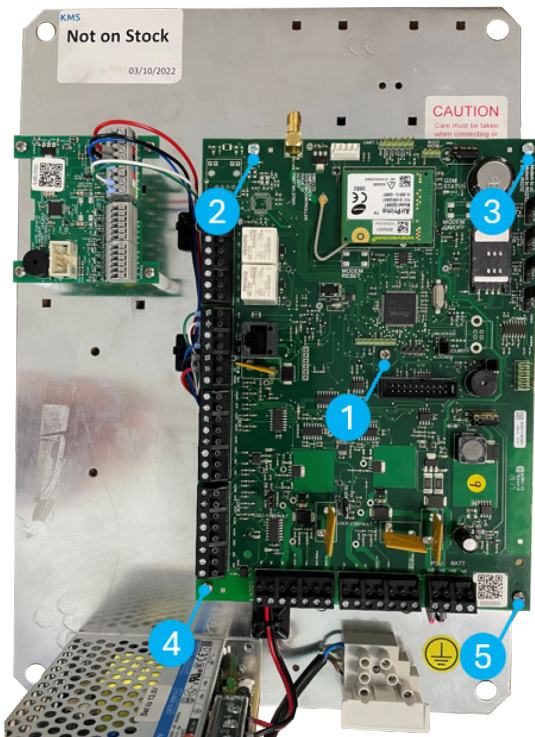


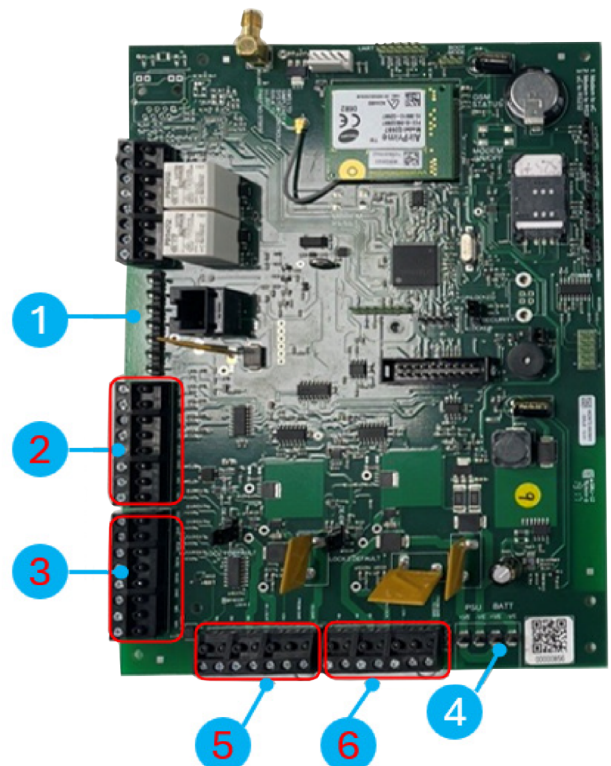
FIGURE 9.3A EXAMPLE MK2 SK4 AND READER INTERFACE



FIGURE 9.3B OLD SYSTEM CONTROLLER REMOVED

5. Unplug the connectors as below
Note the connectors in red are off a different combination and MUST be unwired and re-wired correctly. See step 3 below.

REF	DESCRIPTION
1	BUS Comms
2	Door 1 Inputs + Relay 3
3	Door 2 inputs + Relay 4
4	PSU Input
5	Door 1 Lock
6	Door 2 Lock



- Rewire Aux relay outputs.
Mk1 and Mk2 system controllers feature a solid-state relay output with connections labelled as **N/O** and **N/O**. This was NOT volt free and was typically used to trigger the Door Entry system. .

Below example of wiring alternations.

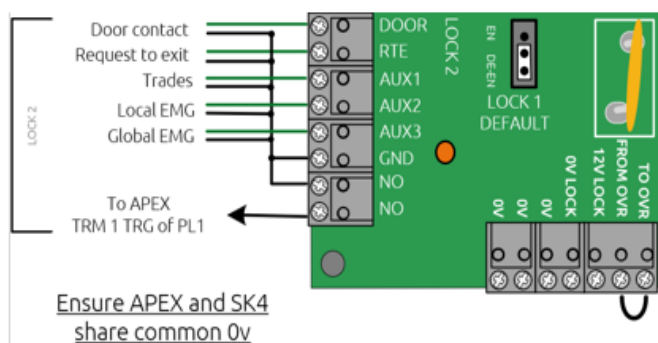


FIGURE 9.3C MK1 DOOR WIRING

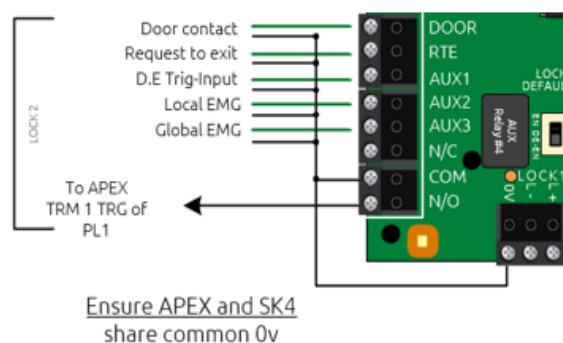


FIGURE 9.3D MK3 DOOR WIRING

9.3.2 Install MK3 System Controller

- Carefully separate the System Controller from the Comms module, the new fitting needs to be removed as below.



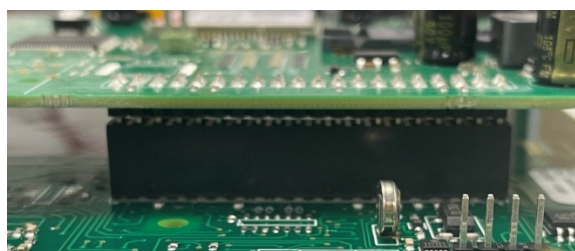
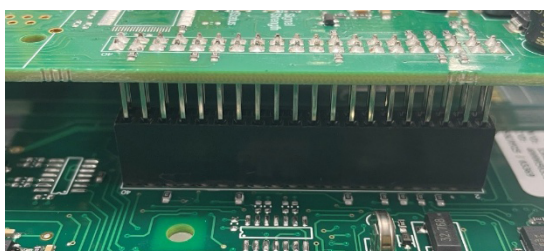
- Refit the MK3 SK4 over the Mk1/Mk2 stand offs.



3. Loosely fit the centre and bottom two M3x6 screws.
4. Using the 2x M5 x 15 stand offs screw into the top two fixings.



5. Place the comms module on the system controller – **Pay attention to the mating of the comms module PINS and system controller socket as below.**



6. Fix the comms module to the system controller using 2x M3x6 screws.

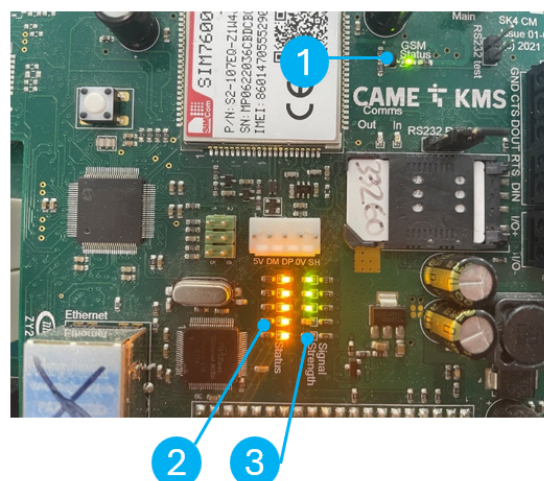


7. Reconnect DC power from the PSU
8. Wire the readers
9. Wire the RTE and other inputs
10. Wire the locks
11. Connect antenna – do not over tighten!
12. **Check PSU DC Connections!**
13. Power up the main PSU
14. Check all components power – note the comms module may take several seconds, there is no LED on the baseboard

9.3.3 Check Comms Module operation

1. Modem power LED is lit and blinking
2. All 5x status LEDs are lit, allow up to 120s
3. Signal level LEDs display a minimum of 3 green LEDs

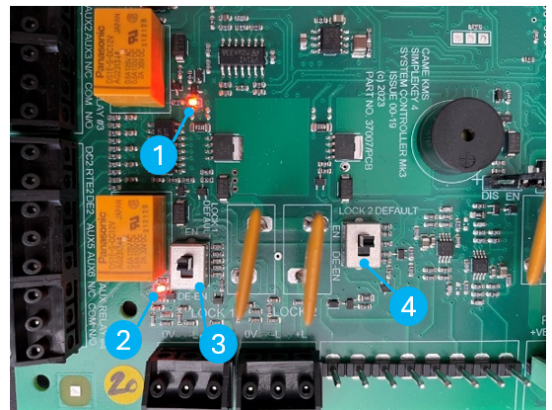
REF	DESCRIPTION
1	Modem Status
2	Conenction status - top is LED 1
3	Signal strength indicator



9.3.4 Check Lock operation

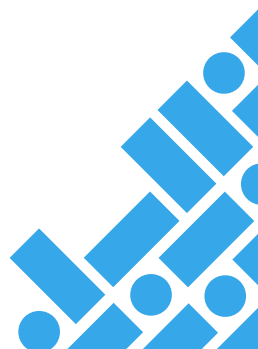
1. Check the lock output operation – note the micro switch on the system controller can be set to either EN for fail safe locks or DE-EN for fail secure locks.

REF	DESCRIPTION
1	Lock 1 LED ON = energised
2	Lock 2 LED ON = energised
3	Lock 1 DE-EN/ EN switch
4	Lock 2 DE-EN/ EN switch



10 NOTES

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