



Payment Express® SCR200E-VM

Hardware Guide

DOCUMENT REVISION INFORMATION

Version	Revision Information
0.1	Initial version

RELATED DOCUMENTS

Version	Document Title
1.6.60	Payment Express SCR200 Serial Communications – SCR Serial Message Specification

COPYRIGHT

© Copyright 2016, Payment Express Limited
33 Wilkinson Road, Ellerslie
PO Box 8400
Auckland, 1150
New Zealand
www.paymentexpress.com

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the express written permission of Payment Express Limited.

PROPRIETY NOTICE

The information described in this document is proprietary and confidential to Payment Express Limited. Any unauthorised use of this material is expressly prohibited except as authorised by Payment Express Limited in writing.

SCR200E-VM HARDWARE GUIDE



SCR200E-VM Front View



SCR200E-VM Rear View

HARDWARE OVERVIEW

- 3G Connectivity Supported - Requires model SCR200E-VM-3G (AB0051)
- Rear Mount Design
- Secure crypto MCU designed for POS applications
- Hardware accelerated encryption (Triple DES, RSA and AES) and a CRC engine
- Dedicated tamper grid and removal switch monitor
- Combined magnetic stripe card and ICC card reader interface
- SAM interfaces
- RJ-45 RS-232 serial ports x4
- Coin Shutter

PHYSICAL LINK INTERFACE

Please refer to the above photo (SCR200E-VM Rear) for reference.

- Connection with the customer equipment is via the RJ45 port labelled "HOST".
- Connection with the SKP unit is via the RJ45 port labelled "SKP".
- Connection with the BRF unit is via the RJ45 port labelled "BRF".
- Port labelled "AUX" reserved for future use.

POWER REQUIREMENTS

The device accepts DC regulated from +5V to +45V. SELV (Safety Extra Low Voltage)
When idle (no card inserted), power of 100mW is drawn and when active 600mW is drawn (1000mW max).

STANDARDS COMPLIANCE

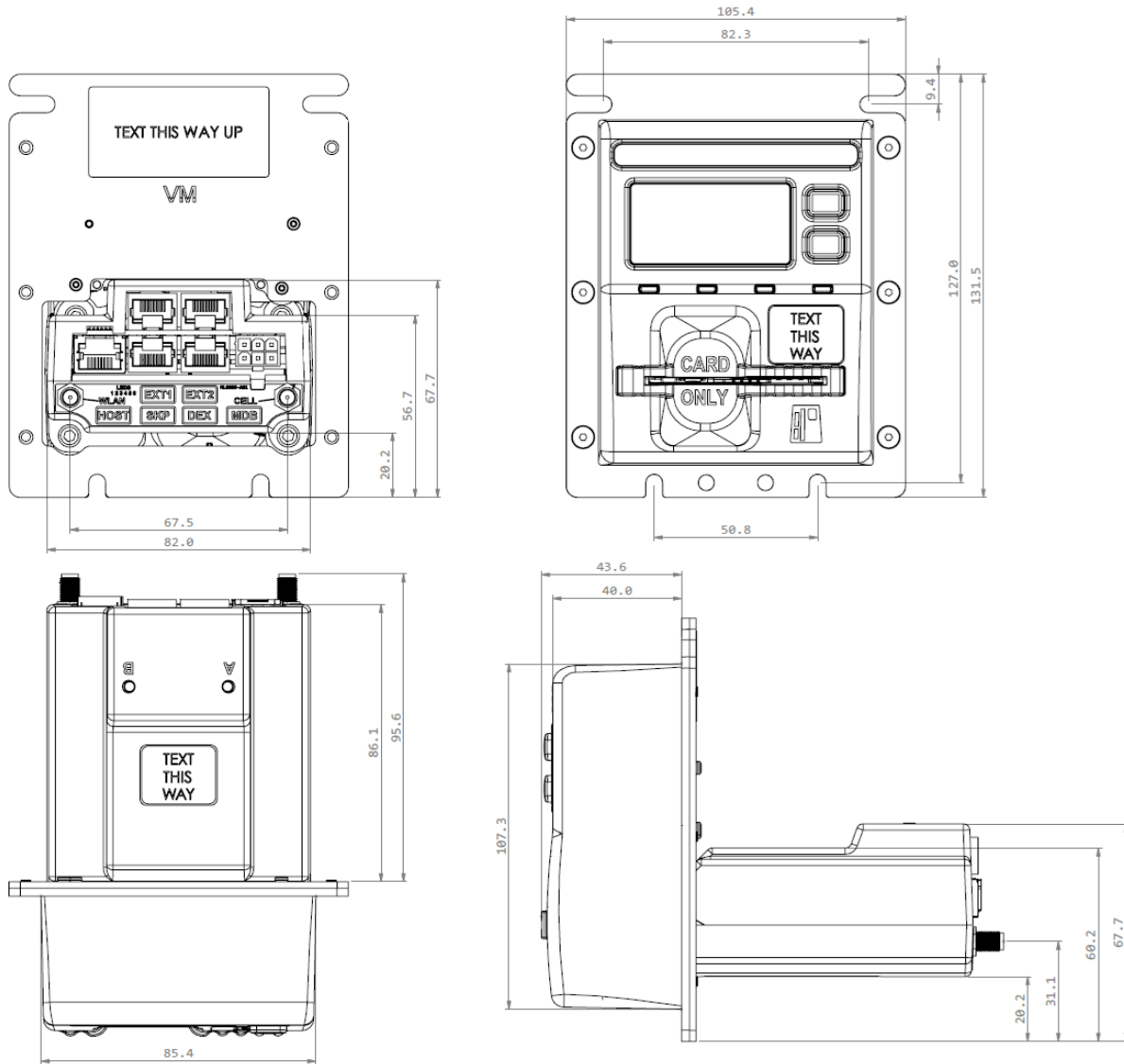
- EMV Level 1 & 2
- EMV (online and offline)
- PCI PTS v3
 - SRED (Secure Reading and Exchange of Data)
 - ICCR (Integrated Circuit Card Reader)
 - MSR (Magnetic Stripe Reader)
- PCI PA-DSS
- APCA / CECS
- Payments NZ Certified
- IP34

ADDITIONAL COMMENTS

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
 2. This device must accept any interference received, including interference that may cause undesired operation.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

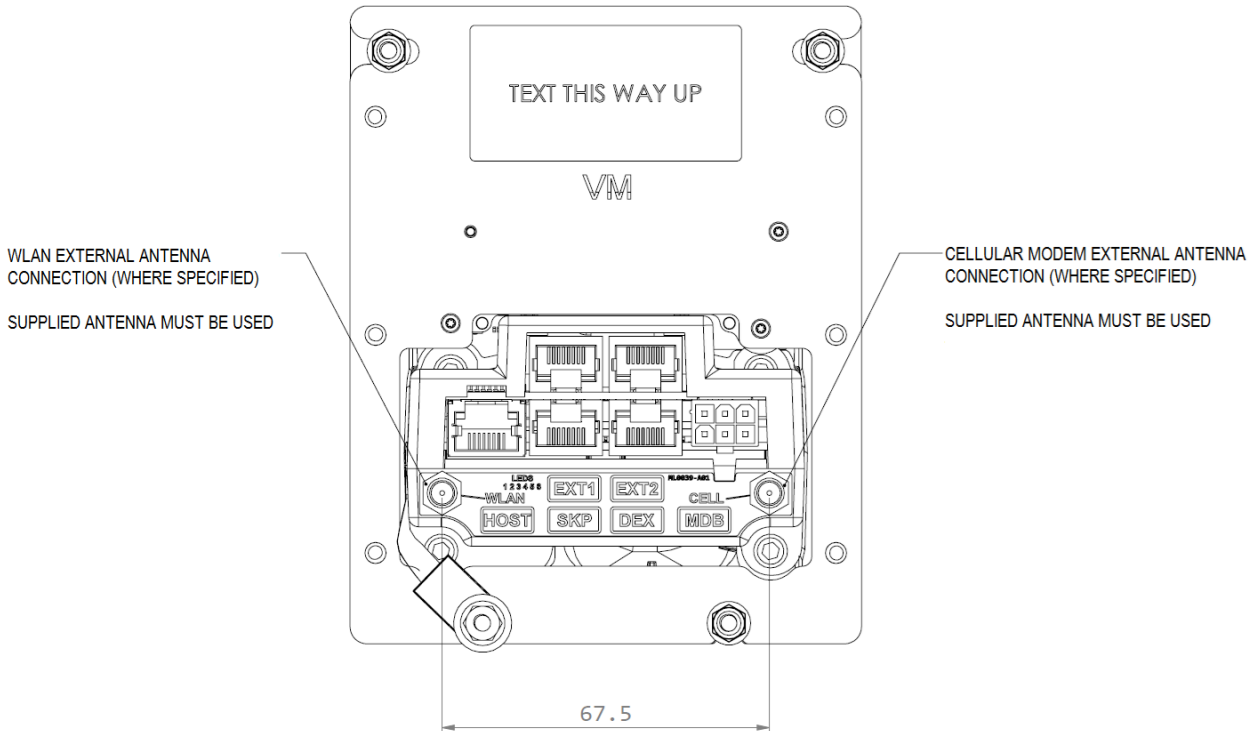
SCR200E-VM DIMENSIONS



SCR200E-VM WLAN/3G CELLULAR CONNECTION

3G cellular connectivity is supported on the model SCR200E-VM. The supplied antenna must be used.

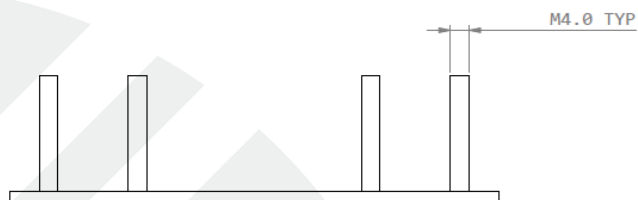
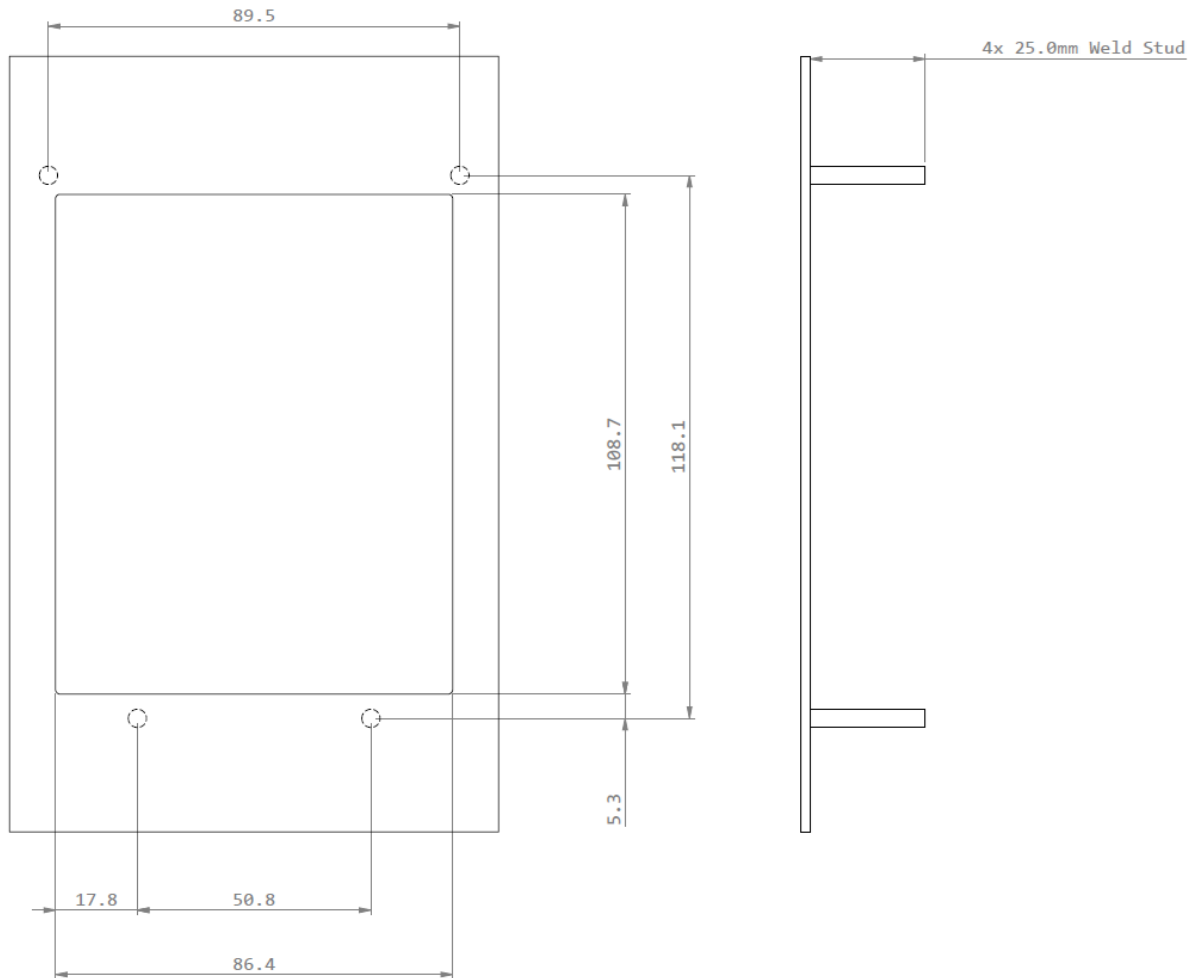
Please note that WLAN connectivity is not yet implemented. Please consult with your Payment Express Sales Representative to discuss if WLAN connectivity is required.



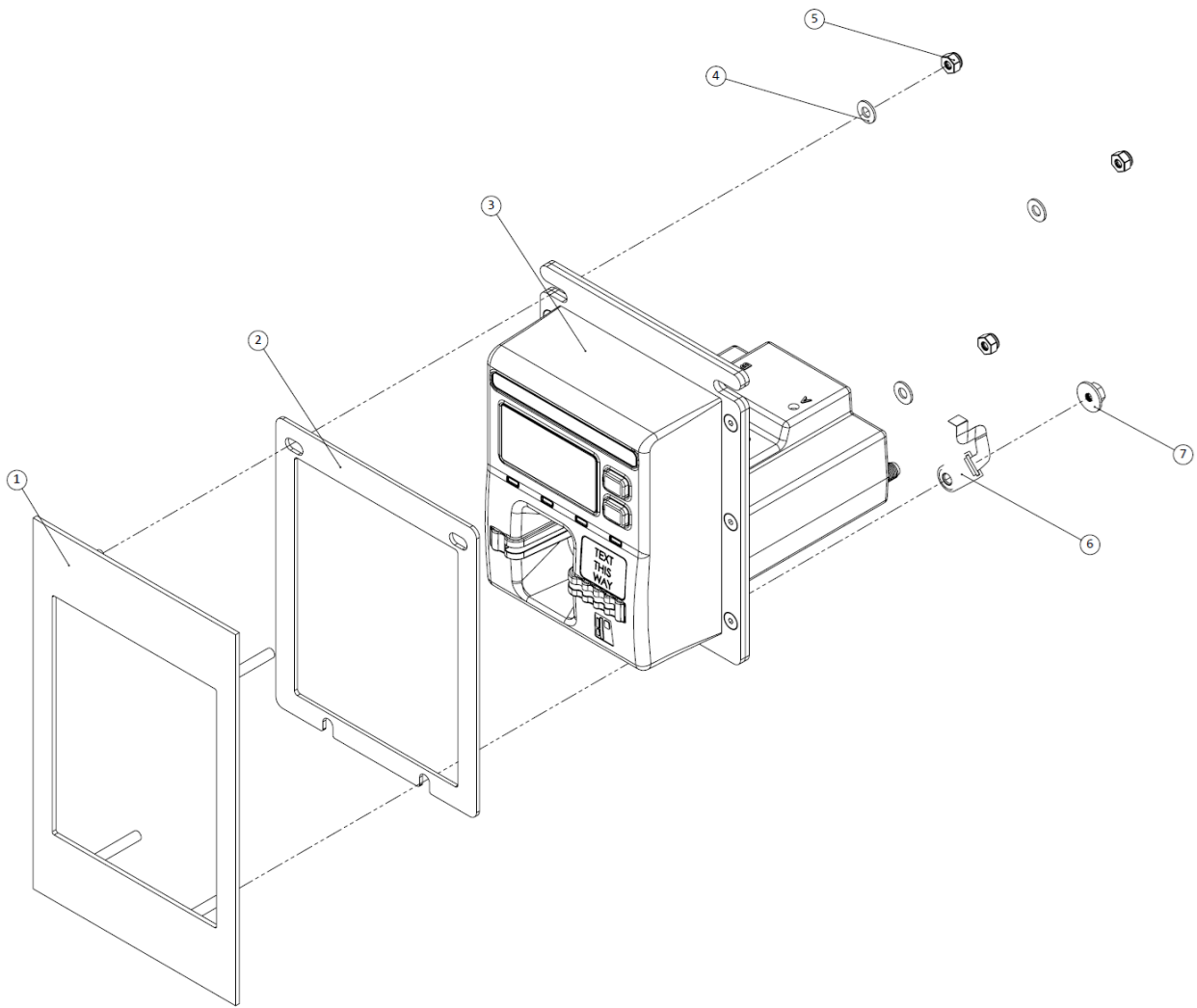
SCR200E-VM MACHINE FACE & CUT-OUT DIMENSIONS

Recommended cut out dimensions for customer equipment.

Please note that this plate is not supplied by Payment Express Hardware and is the responsibility of the customer to arrange their selected mounting method. All non-dimensioned lengths are subject to individual customer machine fronts.



SCR200E-VM INSTALLATION



#	PX Product Code	Description	Default Quantity
1	-	Machine Mounting Plate (Customer Equipment)	1
2	MG0028	SCR Front Mount Zinc Bezel Mounting Gasket	1
3	AB0071	SCR200E-VM-W3G	1
4	MF0025	M4 Washer x 0.8mm Flat OD 9.0mm	3
5	MF0077	M4 Nut Nyloc	3
6	AB0015	M4 SEC with FPC Connector	1
7	MF0099	M4 Nut Flange OD 12mm	1

INSTALLATION STEPS

1. Mount SCR200E-VM (3) to Machine Mounting Plate (1). Tighten screws until Mounting Gasket (2) is fully compressed.
 - Ensure M4 SEC (6) is mounted with silicone facing the M4 Flange Nut (7).



2. Connect cabling as appropriate.
 - MDB Port → MDB
 - HOST Port → Host Application (customer application specific).
 - SKP Port → SKP200E Device
3. The device now needs to be activated before it can be used. Activation is done via a dual control process. Refer to Activation section of this document for more information.

SECURE ACCEPTANCE

The SCR200E-VM is a secure device therefore before any units are installed the customer must check the following.

SERIAL NUMBERS

Each unit has its own unique serial number. Upon receiving the unit, the customer must check to ensure that the serial number on the box matches the serial number on the unit.

Any discrepancies need to be reported to Payment Express (see contact details at the end of this document).

SIGN OF TAMPERING

Customers need to check each unit for signs of tampering.

This should include:

1. Checking for foreign looking objects on the units.
2. Checking for tooling marks on the units.

3. Check SCR LED.

The SCR uses its status LED to indicate working status. Under normal conditions, the status LED is turned on when SCR is powered on and is turned off shortly (less than a second) when the hardware initialization and self-check is done. When the status LED flashes continuously, an error condition has occurred. Different error conditions are indicated by the colour and flashing frequency of the status LED. The following are the meaning of status LED:

Colour	Frequency	Category	Description
Red	1	Unrecoverable	Internal non-volatile memory corrupted
Red	2	Unrecoverable	Self integrity check failed
Red	3	Unrecoverable	Grid tampered. KEK lost
Red	4	Unrecoverable	End of life (DUKPT keys exhausted)
Red+Green	1-5	Recoverable	Fatal runtime error

Any signs of tamper or concerns need to be reported to Payment Express (see appendix 10.1 for contact numbers).

ACTIVATION

The SCR200E-VM solution requires activation before the devices can begin processing. Activation is required for initial installations and re-installations. Activation is done via a dual control process.

AUTHORISED CUSTOMER AGENTS

Prior to the installation process beginning two or more customer agents are authorised by Payment Express for the activation of devices. The customer agents are trusted individuals nominated by the customer.

Once the customer agents are established, Payment Express will issue a unique login (username/password) to each customer agent. These logins are used to access the Payment Express website required for the dual control Activation process.

ACTIVATION PROCESS

Two authorised customer agents **must** be available for the Activation process to begin.

1. Log on to Payment Express

Two of the authorised customer agents start separate sessions to log on to the Payment Express website using their individual logins.

2. Identify Terminal(s)

Once logged in, the terminals available for installation are displayed.

3. Authorise Terminal(s)

Both of the customer agents will authorise the terminal(s) for installation via the Payment Express website. This authorisation will require a password.

When both agents approve a terminal for installation the host terminal information will enter into the "Ready for Installation" state pending communications from the terminal. This "Ready for Installation" state will revert to a "Removed" state if physical installation and communication with the terminal do not occur within 24 hours. The agents will need to start the Activation process again if this occurs.

For audit purposes, a record will be created in the Payment Express host database for all state changes (including the login used and a timestamp).

Utilizing the 24 hour window, authorised customer agents can choose to begin the Activation process at the time of physical installation or initiate the Activation process prior to the physical installation if they know the physical installation will be done within the next 24 hours.

4. Physical Installation

Within the 24 hour window, the installation technician will physically install the SCR200E/SKP200E/BRF210 into their mountings. The devices must be connected to communications and the secure channel established to the SCR200E.

5. Terminal Logon

The installation technician will trigger a transaction via the vendor's point of sale which will fail with a removal detection error code (W0). The terminal firmware will automatically force a logon, upon which the terminal state is then updated.

6. Ready State (Activation Process Complete)

The terminal and key pad are now authorised for processing transactions. The installation technician should run another test transaction (using a valid payment card) to confirm correct operation. This transaction should successfully process.

MAINTENANCE

TRADEOUTS & DEACTIVATION PROCESS

In the event that the SCR/SKP/BRF units need to be swapped out or deactivated, please follow instructions below.

1. Call Payment Express Support to log a ticket (see appendix 10.1 for contact numbers). Please provide the following information.
 - Serial Number of SCR200E or SKP200E or BRF210.
 - Brief description of fault / reason for deactivation.
 - Contact Name.
 - Contact Phone Number.
 - Shipping Address (for replacement if needed).
2. Physically remove the device(s). At next communication with the host the device will be marked as removed.
3. Ship the device(s) back to Payment Express.

MAINTENANCE CARDS

The card reader slot should be checked on a regular basis. This is to ensure that nothing is lodged inside the card reader slot that may prevent successful card reads or pose a security threat.

The card reader slot can be checked by using a standard maintenance card or standard credit card to ensure smooth insert & remove operation.

CONTACT PAYMENT EXPRESS

PHONE

International	+64 9 309 4693
Australia	1 800 006 254 or +61 2 8268 7700
Hong Kong	+852 3 678 6766
New Zealand	0800 PAYMENT (729 6368) or 09 309 4693
Singapore	+65 3 158 1353
South Africa	+27 10 500 8784
United Kingdom	+44 (0) 20 3176 5551
USA	+1 310 670 7299

E-MAIL

Sales	sales@paymentexpress.com
Support	support@paymentexpress.com
Dev Support	devsupport@paymentexpress.com