

# 7700 ION

## RM Key Retrofit Installation Instructions





## Danger

During normal operation of this device, hazardous voltages are present which can cause severe injury or death. These voltages are present on the terminal strips of the device and throughout the connected potential transformer (PT), current transformer (CT), status input, relay, and control power circuits. Installation and servicing should be performed only by qualified, properly trained personnel. See the device's *Installation and Basic Setup Instructions* document for additional warnings.

## Warning

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference in which case the operator will be required to take whatever measures may be required to correct the interference.

## Limitation of Liability

Power Measurement Limited reserves the right to make changes in the devices or the device specifications identified in this *Retrofit Installation Instructions* without notice. Power Measurement Limited advises customers to obtain the latest version of device specifications before placing orders to verify that the information being relied upon by the customer is current.

In the absence of written agreement to the contrary Power Measurement Limited assumes no liability for Power Measurement Limited applications assistance, customer's system design, or infringement of patents or copyrights of third parties by or arising from the use of devices described herein. Nor does Power Measurement Limited warrant or represent that any license, either expressed or implied, is granted under any patent right, copyright, or other intellectual property right of Power Measurement Limited covering or relating to any combination, machine, or process in which such device might be used.

EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, UNDER NO CIRCUMSTANCES SHALL POWER MEASUREMENT LIMITED BE LIABLE FOR CONSEQUENTIAL DAMAGES SUSTAINED IN CONNECTION WITH SAID PRODUCT AND POWER MEASUREMENT LIMITED NEITHER ASSUMES NOR AUTHORIZES ANY REPRESENTATIVE OR OTHER PERSON TO ASSUME FOR IT ANY OBLIGATION OR LIABILITY OTHER THAN SUCH AS IS EXPRESSLY SET FORTH HEREIN.

*For further information or technical assistance, please contact your local Power Measurement representative, or Customer Service at one of the following locations:*

**World Wide Web** [www.pml.com](http://www.pml.com)

**E-Mail** [support@pml.com](mailto:support@pml.com)

**Worldwide Headquarters**  
POWER MEASUREMENT LTD.  
2195 Keating Cross Rd.,  
Saanichton, B.C.,  
Canada V8M 2A5  
Tel: 1-250-652-7101  
Fax: 1-250-652-0411

**Europe & Middle East**  
POWER MEASUREMENT EUROPE  
Bayreuther Str. 6  
D-91301 Forchheim  
Germany  
Tel: 49-9191-7005-25  
Fax: 49-9191-7005-20

**Asia & Pacific**  
POWER MEASUREMENT AUSTRALIA  
Unit 7/16 Ledger Road,  
Balcatta, Perth,  
Western Australia 6021  
Tel: 61-89-345-3866  
Fax: 61-89-345-3899



**ISO 9002-94**  
Registration  
Cert # 002188

Revision Date: June 20, 2000  
© 2000 Power Measurement Ltd.  
All rights reserved  
Printed in Canada  
70050-0041-01



# Introduction

The Revenue Meter Programming Key (RMKey) is a device which, when inserted into a 7700 ION-RM revenue meter, disables the meter's security systems to facilitate programming. This key is typically used by utility meter shop personnel who want to program a revenue meter in-house. The RMKey can be used in any 7700 ION-RM Revenue Meter (-RM, -RMANSI and -RMICAN).

The RMKey consists of a 3" x 5" circuit board with a polarized connector. The connector protrudes from the component side.

Refer to Appendix A in the *7700 ION User's Guide* for a list of protected ION modules, links and registers in the 7700 ION-RM revenue meter.



It is important that all instructions provided in this document are performed exactly as described to avoid injury and ensure that the 7700 ION is protected from any damage.

## Installation Procedure

You will require the following tools to prepare your 7700 ION-RM for revenue meter programming:

1. One Philips screwdriver.
2. Anti-static wrist strap or equivalent protection.

## Preparing the 7700 ION-RM



During normal operation of the 7700 ION, hazardous voltages are present which can cause severe injury or death. These voltages are present on the terminal strips of the device and throughout the connected potential transformer (PT), current transformer (CT), status input, relay, and control power circuits. Installation and servicing should only be performed by qualified, properly trained personnel.

1. Open all PT fuses (or direct voltage input fuses) and close all CT shorting blocks.
2. Turn off all power to the 7700 ION-RM and disconnect the Line and Neutral (or DC power) wires from the Supply Power inputs to the unit.
3. Disconnect all other wiring (or power off all other circuits) which may present potentially hazardous voltage levels to the unit, such as connections to the relay outputs, status inputs, etc.
4. Ensure that all cables still connected to the 7700 ION-RM are **NOT** live.

## Removing the Base Unit Cover



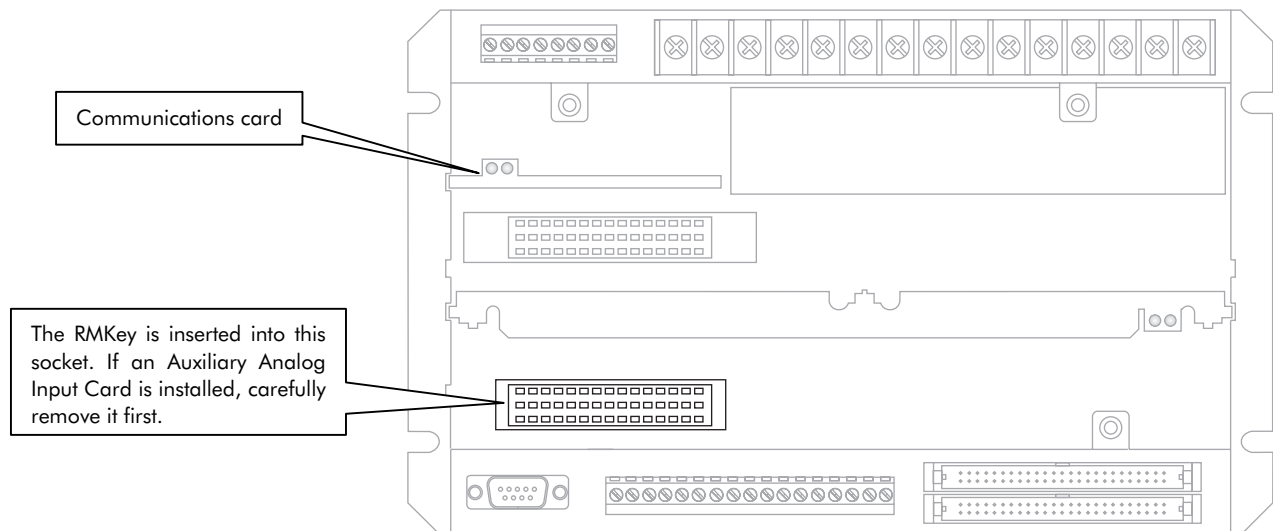
The components inside the 7700 ION are extremely sensitive to static-electric discharge. To prevent damage to the unit, wear an anti-static wrist strap at all times when working inside the unit. Failure to use proper equipment during servicing will void the 7700 ION warranty.

The cover of the 7700 ION-RM can be removed while the unit is still mounted in its switchgear panel (or other mounting location).

1. Remove the four chassis screws on the top panel of the 7700 ION-RM with the screwdriver.
2. Remove the cover from the 7700 ION-RM and put it aside.

## Locating the RMKey Socket

Once the cover is removed, you will be able to see inside the base unit. Find the side of the 7700 ION-RM that has the I/O Expansion Board connectors, the Auxiliary and Status inputs, and the MGT connector. There is a socket directly inside the base unit, parallel to the Communications Card. (This socket is used for the optional Analog Input Card – if this card is installed, remove it to use the RMKey.) Refer to the following diagram.



# Inserting the RMKey



Hold the RMKey by the sides of the card to prevent damage to its components.



## CAUTION

Failure to replace the XPRESS CARD before powering up the 7700 ION will result in loss of configuration data.

### To insert the RMKey:

1. Remove or disable any power source connected to the 7700 ION-RM.
2. Make sure you are free of static electric charge. (You should be wearing an anti-static wrist strap or using equivalent protection.)
3. If an Analog Input Card (AUX card) is presently installed, carefully remove it and set aside on a static-protected surface.
4. Hold the RMKey by the sides and lower it into the VAUX slot, with the component side facing away from the communications card.
5. Slide the edge of the card down the slot along the edge of the chassis.
5. Line up the connector with the socket and press the RMKey firmly into place. The socket and the connector are polarized, so the pins in the card will not fit into the socket if the card is not oriented correctly.
6. Ensure that the RMKey is securely inserted into the socket.
  - a) If your 7700 ION is equipped with an XPRESS CARD, you must re-insert the card (i.e. place the lid back on). See the caution note at left.
7. After the RMKey is inserted (and XPRESS CARD inserted, if applicable), power up the 7700 ION-RM and proceed with programming/configuration. Note that you cannot delete the "locked" modules in the 7700 ION-RM, even when the RMKey is inserted.

Refer to the *7700 ION User's Guide* for instructions on ION meter programming.

## Final Steps

1. Remove or disable any power source connected to the 7700 ION-RM.
2. Remove the RMKey from the meter. The action of removing the RMKey causes enables all meter security systems.
3. If applicable, re-insert the Analog Input Card (AUX card).
4. Place the cover back on the 7700 ION-RM base unit. Use the Philips screwdriver to replace the four chassis screws with their lockwashers.
5. Install the lead/wire seals through the sealing tabs.

The 7700 ION-RM can now be placed into service.



Revision date: June 20, 2000