



Excellence in Compliance Testing

Certification Exhibit

**FCC ID: R7PEG0R3S2
IC: 5294A-EG0R3S2**

**FCC Rule Part: 15.247
IC Radio Standards Specification: RSS-210**

ACS Report Number: 07-0243-15C

**Manufacturer: Cellnet Technology, Inc.
Model(s): 25-1075, 25-1080, 25-1081**

Manual
(Part 4 of 4)

APPENDIX B VISUAL INSPECTION OF INDEXES

The American Index on far right shows signs of fading from glossy black to a grey black color, in this case the Index **MUST BE EXCHANGED**.

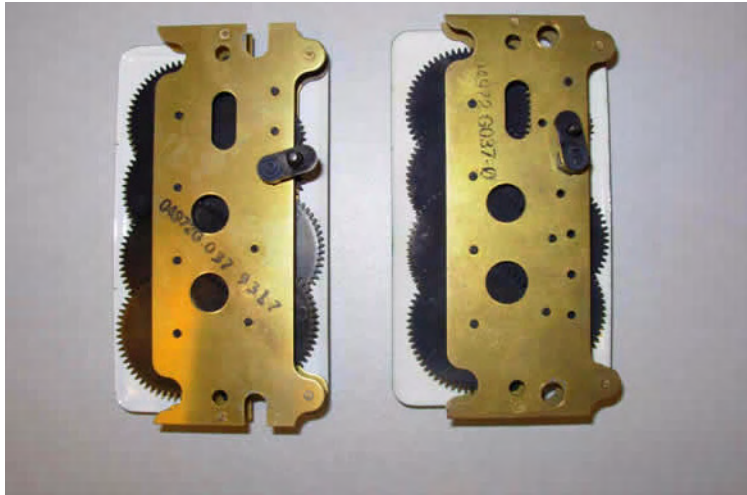


Figure B.1 Fading American Index

On a Sprague meter if metal rivets are found on the index plate as shown on the far left the Index **MUST BE EXCHANGED**.



Figure B.2 Metal rivets on a Sprague cover

Notes:

APPENDIX C USING THE RF BUSTER

This Appendix provides detailed instructions on the proper use of the RF Buster. It covers the proper placement of the RF Buster to ensure activation and troubleshooting for Cellnet gas modules.

REQUIRED TOOLS

RF Buster - part number 26-1050

Before using the RF Buster, test it. Press the button on the RF Buster. The RF Buster's LED lights red, and the internal speaker sounds for approximately ½ second. If nothing happens, or if the LED lights and the speaker sounds continuously, the 9V battery may be low. Replace it.

RESIDENTIAL METER MODULES

American Modules

- 1 Press the button with the light facing you on the lower end of the RF Buster.
- 2 Place the corner of the RF Buster containing the magnet by the location of the Reed Switch on the Meter Module.
- 3 Continue to press the button. Hold the RF Buster within about six inches of the meter. The magnet triggers ten RF transmissions from the gas module, separated by one second each transmission. The RF Buster LED lights red and the internal speaker sounds approximately ½ second for each transmission detected.

If the RF Buster does not detect a transmission from the module, remove the four cover screws and place the RF Buster in the proper location. While pressing the Push Button, pull the cover off the module.

- If the module is functional, it transmits.

If the RF Buster does not respond, consider the module defective and follow the appropriate procedure.



Figure C.1 American proper placement of RF Buster

Rockwell/Equimeter/Sensus Modules

- 1 Press the button with the light facing you on the lower end of the RF Buster.
- 2 Place the corner of the RF Buster containing the magnet by the location of the Reed Switch on the gas meter module.
- 3 Continue to press the button. Hold the RF Buster within about six inches of the meter. The magnet triggers ten RF transmissions from the gas meter module, separated by one second each transmission. The RF Buster LED lights red and the internal speaker sounds approximately ½ second for each transmission detected.

If the RF Buster does not detect a transmission from the module, remove the four cover screws and place the RF Buster in the proper location. While holding the Push Button, pull the cover off of the module.

- If the module is functional, it transmits.
- If the RF Buster does not respond, consider the module defective and follow the appropriate procedure.

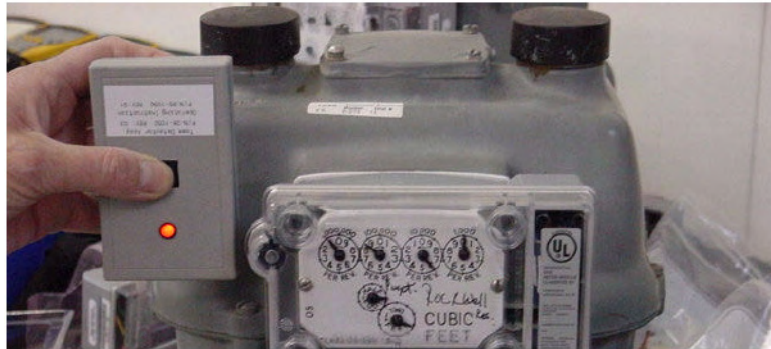


Figure C.2 Rockwell/Equimeter/Sensus RF Buster placement

Sprague/Schlumberger/Actaris Modules

- 1 Press the button with the light facing you on the lower end of the RF Buster.
- 2 Place the corner of the RF Buster containing the magnet at an angle by the location of the Reed Switch on the gas meter module (top left corner).
- 3 Continue to press the button. Hold the RF Buster within about six inches of the meter. The magnet triggers ten RF transmissions from the gas meter module, separated by one second each transmission. The RF Buster LED lights red and the internal speaker sounds approximately ½ second for each transmission detected.



Because of the proximity of the different switches on the Sprague Module board, ensure that you approach the module from the top left corner as seen in the picture below.

If the RF Buster does not detect a transmission from the module, remove the two cover screws and place the RF Buster in the proper location. While holding the Push Button, pull the cover off of the module.

- If the module is functional, it transmits.

- If the RF Buster does not respond, consider the module defective and follow the appropriate procedure.



Figure C.3 Sprague/Schlumberger/Actaris RF placement

COMMERCIAL GAS 3 METER MODULES

- 1 Press the button with the light facing you on the lower end of the RF Buster.
- 2 Place the corner of the RF Buster containing the magnet by the location of the Reed Switch on the Meter Module.
- 3 Continue to press the button. Hold the RF Buster within about six inches of the meter. The magnet triggers ten RF transmissions from the RF Buster, separated by one second each transmission. The RF Buster LED lights red and the internal speaker sounds approximately ½ second for each transmission detected.



Figure C.4 Commercial Gas RF placement

If the RF Buster does not detect a transmission from the module, remove the four cover screws and the cover and place the RF Buster in the proper location while pressing the Push Button.

If the RF Buster does not respond, consider the module defective and follow the appropriate procedure.

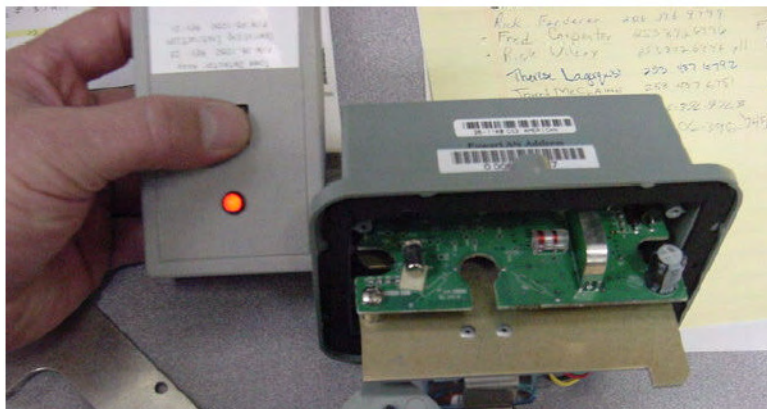


Figure C.5 Commercial Gas Module uncovered

ROOTS/ROMETS ROTARY CPR MODULE

- 1 Press the button with the light facing you on the lower end of the RF Buster.
- 2 Place the corner of the RF Buster containing the magnet by the location of the Reed Switch on the CPR.
- 3 Continue to press the button. Hold the RF Buster within about six inches of the CPR. The magnet triggers ten RF transmissions from the CPR, separated by one second per transmission. The RF Buster LED lights red and the internal speaker sounds approximately ½ second for each transmission detected.

If there is no response, remove the cover of the CPR for proper orientation.

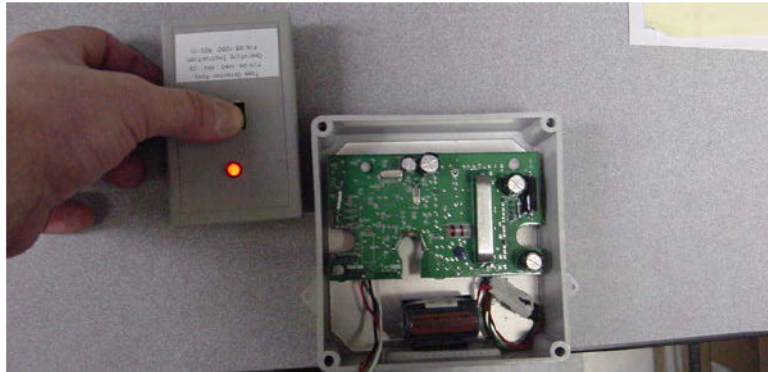


Figure C.6 ROOTS/Romets RG3 RF placement

APPENDIX D END OF DAY HANDHELD INSTRUCTIONS

This Appendix provides detailed instructions on docking the Handheld, power requirements, and how to change the Handheld ID. This information should only be used by experienced users.

DOCKING THE HANDHELD

At the end of the day (and at other times for various reasons), dock the Handheld to upload meter installation data and plug it in to recharge the battery.

- 1 Select DOCK from the functions screen.

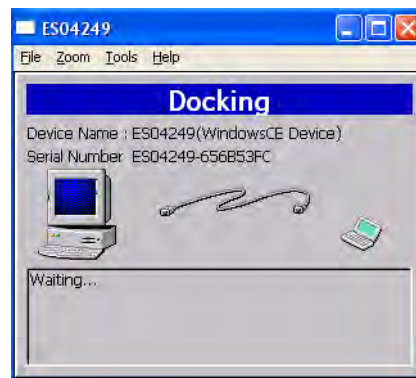


Figure D.1 Handheld after Dock has been selected

- 2 Follow instructions on the screen.

- 3 After data has been uploaded, plug Handheld into charging cable.



Figure D.2 Handheld DAP charging

POWER REQUIREMENTS

Never allow the battery to die completely. Although the route data saves to the flash memory card, there is no EPROM memory in the Handheld. You will have to reload the code and re-calibrate the battery.



Do not remove the battery. The batteries are not made to be replaced as with the other Handheld's.

Rebooting

There are three ways to reboot the Handheld:

- 1 Press the F1, 9, and 0 simultaneously for approximately five seconds.
- 2 Press the following keys blue, CTL, ALT, blue, DEL.
- 3 Exit the application (From the Functions screen select Dock, do not place in cradle or plug in as requested. Press the shift key followed by F5). Type "C:" then press ENTER. Type "reset" then press ENTER.

HOW TO CHANGE THE HANDHELD ID

Occasionally the Handheld ID may be entered incorrectly or the wrong Handheld ID may be in a Handheld because of a memory card exchange. This section tells how to change the Handheld ID to the correct number.

- 1 Place the Handheld in the cradle and dock it.
- 2 Open up the most recent version of Handheld Edit.
- 3 Select "Communication" then "Transfer Files" from the menu on Handheld Edit.
- 4 On the right side of the pop up window, double click on the [CELLNET] folder.
- 5 Select Unitinfo.dat and delete it. Select "Yes" to verify that you want to delete the file.
- 6 Select "OK" on the pop up window and close Handheld Edit.
- 7 The Handheld will then prompt you to enter the last 4 digits of the serial number on the back of the Handheld.
- 8 Before using the Handheld, make sure the proper route information is loaded into the Handheld.

KNOWN COMMON PROBLEMS

- If the Handheld gets jarred, the memory card may become dislodged slightly. This makes it look like all of the data has been lost- but it is still there. Unscrew the two screws at the top of the Handheld below the Infra-red scanner. Re-seat the card and re-tighten the cover. You may need to re-boot the Handheld.
- If the blue key and then one of the arrow keys is pushed, part of the screen seems to disappear. The screen was designed to hold more data. Blue key + arrow is how you shift the screen to view that data. Push the blue button and the arrow key in the opposite direction of the screen shift.

Notes:

APPENDIX E DIFFICULT/NON-COMPATIBLE COMMERCIAL RETROFITS

This Appendix provides detailed instructions on installing commercial gas modules in difficult settings, as well as non-compatible module installations.

INDEX BASE PLATES WITH INTEGRAL SEAL CAPS

- 1 Meters encountered with the index base plate ([Figure E.1](#)) require the base plate replaced with one that does not have integral “towers”. The American Meter part number for a Base Plate with no towers for Diaphragm meters is 48828P038. Refer to www.americanmeter.com for more information.

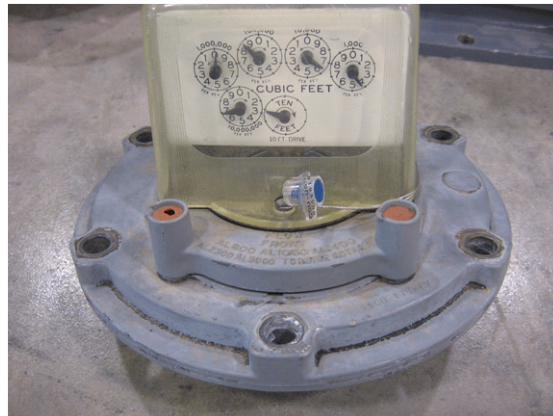


Figure E.1 Index Base Plate

Pressure Tabs

Meters with Pressure tabs on the surface near the Index must be retrofitted in such a way that access to the pressure tap is not comprised.

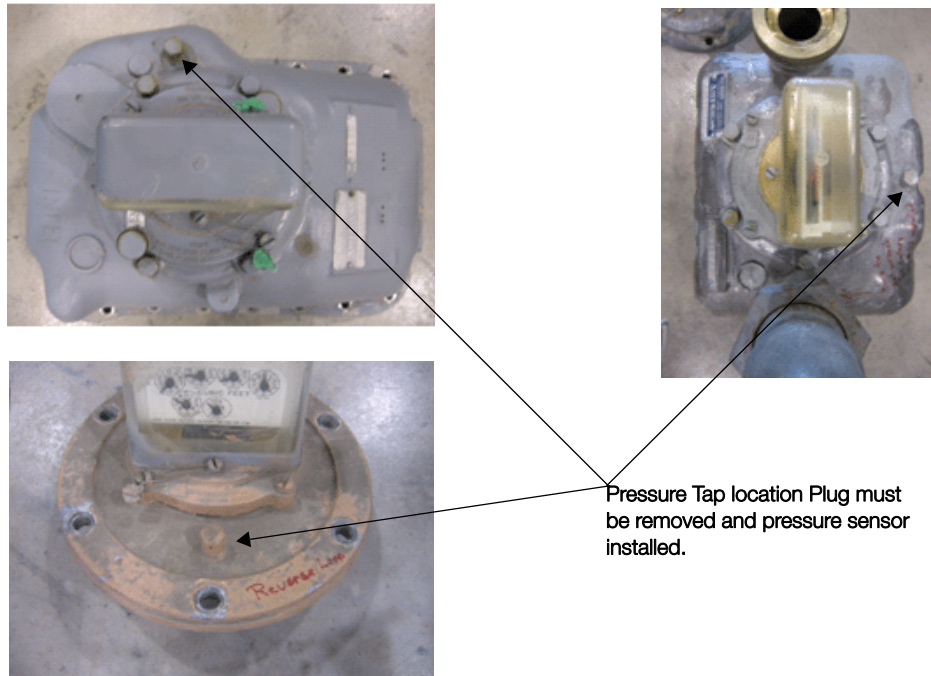


Figure E.2 Meters with Pressure Tabs

[Figure E.2](#) indicates the locations of the pressure tap plugs that will be found on large meters. [Figure E.3](#) shows a meter with an installed pressure fitting, a “Pete’s Plug”. The module installation must not interfere with the meter installation.

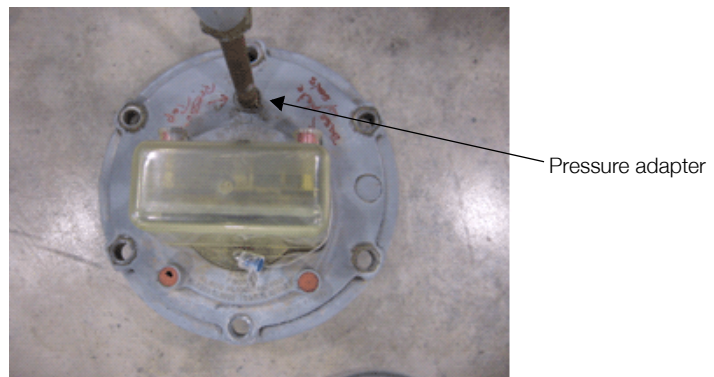


Figure E.3 Pressure Adapter

For all of these meters the transmitter portion of the module needs to be mounted so that access is still available to the pressure tap, as shown in [Figure E.4](#).

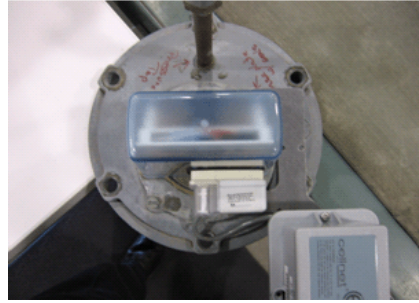


Figure E.4 Mounting Module's Transmitter

Reverse Loop Installations

Some meters will be installed with the piping reversed from the preferred orientation. In these cases the index is reversed to face the back of the meter. It is extremely important in these cases that the Base Plate be mounted such that the index drive from the meter be centered in the hole in the Base plate. See [Figure E.5](#) for an example of the insert base plate mounted backwards.

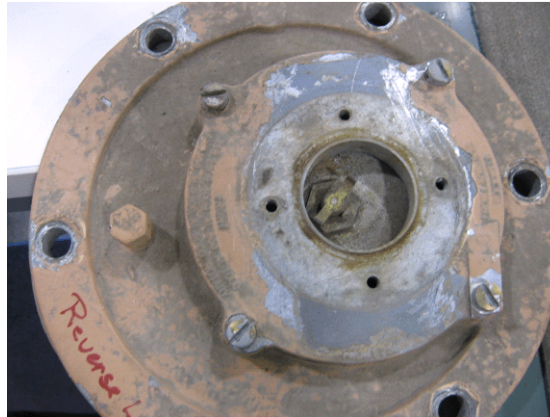


Figure E.5 Plate Mounted Backwards

If this is encountered it can be corrected by rotating the Index Base Plate 180 degrees.

Large Pipe Fittings

[Figure E.6](#) shows a meter that does not have adequate clearance between the Pipe fitting nuts and the module transmitter. In installations such as this, the module bracket must be removed before the meter can be removed from service.



Figure E.6 Pipe Clearance

Protective Index Enclosures

Cellnet Commercial Gas Modules are not compatible with meters that use protective enclosures over the indexes ([Figure E.7](#)).

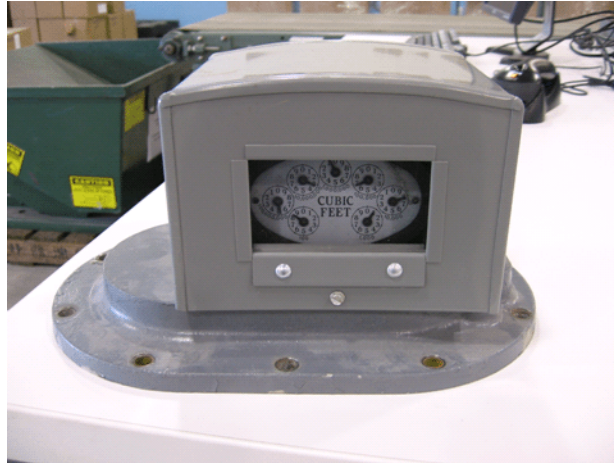


Figure E.7 Protective Index Enclosures

Notes:

APPENDIX F CPR INFORMATION

Use this process to crimp wires for the Cellnet Pulse Recorder.

CRIMPING WIRES

- 1 Push the wires to be connected as far as possible into the Scotchlok connector.



Figure F.1 Wires Pushed into Scotchlok Connector

- 2 Place the Scotchlok connector (with wires) into the jaws of the crimping tool.



Figure F.2 ScotchLok Connector in Crimping Tool Jaws



Always use 3M Parallel Jaw Crimping Tool 3M Model E-9Y or equivalent.

- 3 Crimp the Scotchlok connector by squeezing the handles until it discharges gel. Continue to apply pressure for three seconds.

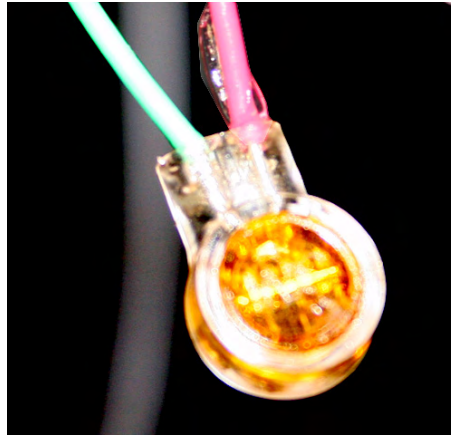


Figure F.3 Crimped Scotchloks Discharge Gel

- 4 Place two plastic cable ties on wires and tighten securely for strain relief. Remove excess cable tie with wire cutters.

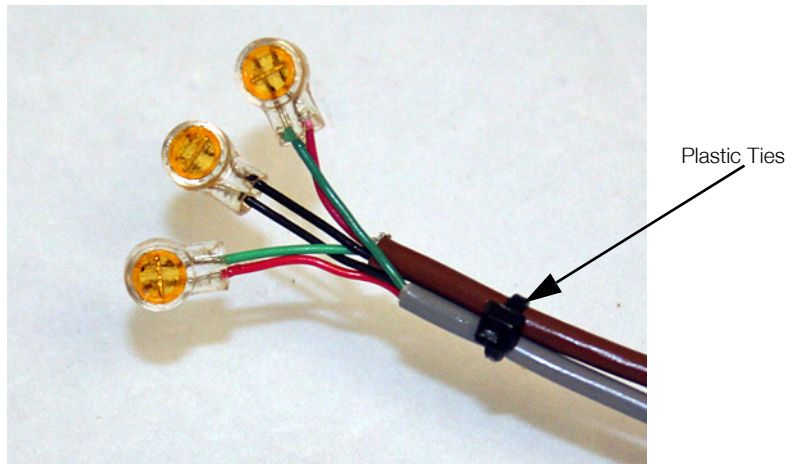


Figure F.4 Placing Plastic Ties on Cables

- 5 For splice connections outside the CPR enclosure, insert the entire splice assembly into the silicone-filled splice enclosure. Close the cover with leads exiting alternate sides.

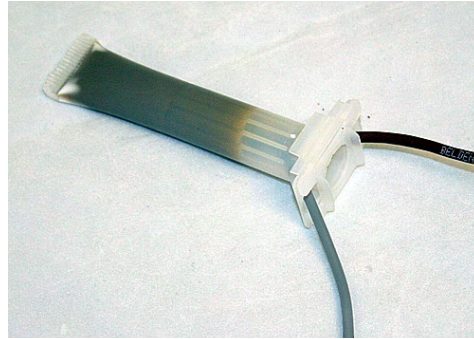


Figure F.5 Inserting Splice Assembly into Silicone-filled Splice Enclosure



The 3M Gel splice connector is **NOT** reusable. Replace the splice if necessary.



Cellnet strongly recommends a splice enclosure for all CPR applications.

APPENDIX G FCC AND IC COMPLIANCE

FCC CLASS B

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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the Instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult Cellnet or an experienced radio technician for help.



Changes or modifications to this device not expressly approved by Cellnet Technology, Inc. could void the user's authority to operate the equipment.

FCC ID and Industry Canada ID Compliance Labeling

These modules includes the following labeling to comply to FCC and Industry Canada requirements:

- Cellnet Model: printed on the Printed Circuit Board internal to the unit
- FCC ID: R7PEG0R3S2 (visible on the label on the front of the unit and printed on the Printed Circuit Board internal to the unit)
- IC: 5294A-EG0R3S2 (visible on the label on the front of the unit and printed on the Printed Circuit Board internal to the unit)

RF EXPOSURE

In accordance with FCC requirements of human exposure to radio frequency fields, the radiating element shall be installed such that a minimum separation distance of 20 centimeters will be maintained. Changes or modifications to this device not expressly approved by Cellnet Technology, Inc. could void the user's authority to operate the equipment.

INDUSTRY CANADA

This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. 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.

Cet appareillage numérique de la classe B répond à toutes les exigences de l'interférence canadienne causant des règlements d'équipement. L'opération est sujette aux deux conditions suivantes: (1) ce dispositif peut ne pas causer l'interférence nocive, et (2) ce dispositif doit accepter n'importe quelle interférence reçue, y compris l'interférence qui peut causer l'opération peu désirée.

AMR	Automated meter reading. Gathering of energy use data from utility meters by any means other than walking up to the meter, looking at the dials, and recording the meter read for billing.
C.F.H.	Cubic feet per hour
CG	Commercial gas
C&I	Commercial & Industrial. Non-residential applications of the Cellnet system.
CPR	Cellnet Pulse Recorder
DES Server	Data Exchange Server
GPrep	"Gas Prep" A software program that enables the user to program, reprogram, inspect, read, and disposition to scrap a Cellnet gas or CPR water module.
Handheld	A small portable computer held in the hand, used to manage data for field installation of meters and modules. It is the primary means of dispatching meter-install work orders during the endpoint deployment phase.
IDs	Utility issued Identification to denote an individual as an official Installer for the utility.
LAN	Local Area Network: the most basic level of the network. The LAN is the constellation of endpoints and concentrators that feed data up through the top layer of the network.
LP	Load Profile: method of obtaining complete usage pattern, over time, of an emergency customer, typically based on intervals of 15, 30, or 60 minutes.
MRB	"Material Repair Board " Process of removing modules from the field.
OCDB	Operations Center DataBase. Endpoint Management system that reports to network, exchanges information with the utility and RIMS.
Personal Protective Equipment	Personal Protective Equipment, all necessary equipment used for the safety of the installer while performing work on metering equipment as defined in this manual.
PSR	Packet success rate: Number of good data packets received per total number of packets sent, expressed as a percentage.
RIMS	Retrofit Information Management System, an Oracle program managing the shop floor assembly and programming of modules, also stands for myriad of data tables. Exchanges information with OCDB.

Reader's Comment Form

Cellnet Gas Meter and Module Installation Guide (CO-0089-GB-07.07)

Please use this form only to identify publication errors or to request changes in publications. Your comments assist us in improving our publications. Direct any requests for additional publications, technical questions about systems, changes in support, and so on, to your Cellnet sales representative. You must use this form to communicate your comments about this publication, its organization, or subject matter, with the understanding that we may use or distribute whatever information you supply in any way we believe appropriate without incurring any obligation to you.

You can send comments via email, conventional mail, or fax.

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Email	customersupport@cellnet.com
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- If your comment does not need a reply (for example, pointing out a typing error), check this box and do not include your name and address below. If your comment is applicable, we will include it in the next revision of the manual.
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