Pietro Fiorentini

# SSM-ICON 250

Static smart meter


Review C - Edition 07/2023

# OPERATION, MAINTENANCE AND WARNING MANUAL

EN

# 1 - INTRODUCTION

## PREFACE



The Manufacturer is in no way responsible for the consequences of any operations performed in a manner different from what is stated in the manual.

## GENERAL CONSIDERATIONS

All operating instructions and recommendations described in this manual must be followed to:

- get the best possible performance from the equipment;
- keep the equipment in efficient condition.

Of particular importance is the training of personnel responsible for:

- the use and maintenance of the equipment in the correct way;
- the application of the indicated safety directions and procedures.

***NOTICE***

**The images in this document are indicative of the product type and may differ in the details.**

Revision: C

## 1.1 - REVISION HISTORY

| Revision index | Date | Review Contents |
|---|---|---|
| **A** | 05/2023 | First issue |
| **B** | 06/2023 | Chapter 2: updated Tab. 2.7, Tab. 2.9 and Fig. 2.1 |
| **C** | 07/2023 | Added references in French |

*Tab. 1.107/2.*

# INDICE

# 2 - GENERAL INFORMATION

## 2.1 - MANUFACTURER IDENTIFICATION

| | |
|---|---|
| **Manufacturer** | PIETRO FIORENTINI S.P.A. |
| **Address** | Via Enrico Fermi, 8/10<br>36057 Arcugnano (VI) - ITALY<br>**Tel. +39 0444 968511** **Fax +39 0444 960468**<br>**www.fiorentini.com** **sales@fiorentini.com** |

*Tab. 2.2.*

***NOTICE***

**For any problems found on the equipment, contact your gas network distributor.**

## 2.2 - PRODUCT IDENTIFICATION

| | |
|---|---|
| **Equipment** | STATIC SMART METER |
| **Series** | SSM-ICON 250 |
| **Available models** | SSM-ICON-250-U7 |

*Tab. 2.3.*

## 2.3 - REGULATORY FRAMEWORK

PIETRO FIORENTINI S.P.A. with registered office in Arcugnano (Italy) - Via E. Fermi, 8/10, declares that the equipment in the series SSM-ICON 250 that this manual refers to is designed, manufactured, tested and controlled in accordance with the requirements of the following standards:

- ANSI B109.1
- PS-G-06
- S-G-03 part 1 and part 7
- UL 60079-0, Edition 7, Revision Date 04/15/2020
- CSA C22.2 No. 60079-0, Edition 4, Issue Date 02/2019
- UL 913, Edition 8, Revision Date 05/10/2022
- UL 60079-11, Edition 6, Revision Date 09/14/2018
- CSA C22.2 No. 60079-11, Edition 2, Issue Date 02/2014
- IEC 60079-0, 7th Edition (2017-12) + Corr. 1 (2020-01) + I-SH 01 (2019-04) + I-SH 02 (2019-06),
- IEC 60079-11, 6th Edition (2011-06) + Corr. 1 (2012-01) + I-SH 01 (2014-10) + I-SH 02 (2016-07) + I-SH 03 (2016-07) + I-SH 04 (2019-04) + I-SH 05 (2019-08) + I-SH 06 (2019-12)
- EN IEC 60079-0:2018
- EN 60079-11:2012.
- UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations
- UL 61010-1:2010 - Safety Requirements for Electrical Equipment for Measurement, Control, and
- Laboratory Use - Part 1: General Requirements
- UL 50E - Enclosures for Electrical Equipment, Environmental Considerations
- CSA C22.2 No. 61010-1-12 - Safety Requirements for Electrical Equipment for Measurement,
- Control, and Laboratory Use - Part 1: General Requirements
- CSA C22.2 No. 94.1 - Enclosures for Electrical Equipment, Non-Environmental Considerations
- CSA C22.2 No. 94.2 - Enclosures for Electrical Equipment, Environmental Considerations
- EN 60079-32-1: 2016 – Electrostatic hazard, guidance
- 47 CRF Part 15B : Unintentional radiators (15.109)
- ICES 003 issue 7 : Product standard for Information Technology Equipment (ITE)
- ANSI C63.4-2014: American National Standard For Methods Of Measurement Of Radio-Noise Emissions From Low-Voltage Electrical And Electronic Equipment In The Range Of 9 KHz To 40 GHz
- 47 CRF Part 15.247: operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
- RSS 247 issue 2 : Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
- ANSI C63.10-2013: American National Standard Of Procedures For Compliance Testing Of Unlicensed Wireless Devices

***NOTICE***

**For specific approvals see appropriate section on the Manufacturer's website: https://www.fiorentini.com**

## 2.4 - WARRANTY

PIETRO FIORENTINI S.P.A. guarantees that the equipment has been made with the best materials, with fine workmanship and complies with the quality requirements, specifications and performance envisaged in the order.
The warranty will be considered null and void and PIETRO FIORENTINI S.P.A. will not be responsible for any damage and/or malfunctions:

- for any acts or omissions of the purchaser or end user, or any of their carriers, employees, agents or any third party or entity;
- in the event that the purchaser, or a third party, makes changes to the equipment supplied by PIETRO FIORENTINI S.P.A. without the prior written authorization of the latter;
- in case of non-compliance by the purchaser with the instructions contained in this manual, as supplied by PIETRO FIORENTINI S.P.A.

***NOTICE***

**The warranty conditions are specified in the commercial contract.**

### 2.4.1 - REFERENCE OPERATING CONDITIONS

The reference operating conditions for battery life calculation are described in Tab. 2.4:

| Operating condition | Reference indications |
|---|---|
| **User interface** | 15 minutes per month (local interface) |
| | 15 minutes per month (Display) |
| **Shut-off valve** | 1 handling cycle (opening/closing) each week |
| **Firmware code update** | 3 times in 20 years |
| **Communication** | Version LTE Cat. M1 - Cat. NB2:<br>• 4 communications per day |

*Tab. 2.4.*

In addition to what is defined in Tab. 2.4, the ambient temperature has an effect on battery life. The operating profile used to calculate the expected battery life is provided in Tab. 2.5:

| | Reference indications |
|---|---|
| **Ambient temperature** | 1% of the time at -31 °F |
| | 2% of the time at -13 °F |
| | 3% of the time at -5 °F |
| | 5% of the time at +23 °F |
| | 15% of the time at +41 °F |
| | 50% of the time at +59 °F |
| | 15% of the time at +77 °F |
| | 5% of the time at +95 °F |
| | 3% of the time at +113 °F |
| | 1% of the time at +131 °F |

*Tab. 2.5.*

## 2.5 - RECIPIENTS, SUPPLY AND CONSERVATION OF THE MANUAL

The manual is intended for the qualified operator responsible and enabled to use and manage the equipment in all its phases of technical life.
It contains the information necessary for correct use of the equipment, in order to keep its functional and qualitative characteristics unchanged over time. All the information and warnings for correct use in complete safety are also provided.
The manual, like the declaration of conformity and/or test certification, is an integral part of the equipment and must always accompany it in every transfer or change of ownership. It is the responsibility of licensed professionals (reference paragraph 2.10) to use and operate the equipment.

**⚠WARNING**

**It is forbidden to remove, rewrite or modify the pages of the manual and their contents.**
**PIETRO FIORENTINI S.p.A. declines all responsibility for any damage to people, animals and things caused by failure to observe the warnings and operating methods described in this manual.**

## 2.6 - LANGUAGE

The original manual was written in Italian.
Any translations must be made starting from the original manual.

**⚠DANGER**

**Language translations cannot be fully verified. If an inconsistency is found, the text of the original manual must be followed.**
**If inconsistencies are found or the text is not understandable:**

- **suspend all action;**
- **immediately contact PIETRO FIORENTINI S.p.A. at the addresses given in paragraph 2.1 ("Manufacturer's Identification").**

**⚠WARNING**

**PIETRO FIORENTINI S.p.A. is only responsible for the information contained in the original manual.**

## 2.7 - SYMBOLS USED IN THE MANUAL

| Symbol | Definition |
|---|---|
|  | Symbol used to identify important warnings for operator and/or equipment safety. |
|  | Symbol used to identify particularly important information in the manual.<br>The information may also concern the safety of personnel involved in using the equipment. |
|  | Obligation to consult the instruction manual/booklet.<br>Indicates a requirement for personnel to consult (and understand) the operating and warning instructions of the equipment before working with or on it. |

*Tab. 2.6.*

**⚠ DANGER**

**It signals a hazard with a high level of risk, an imminent hazardous situation that, if not avoided, will cause death or serious harm.**

**⚠ WARNING**

**It signals a hazard with a medium level of risk, a potentially hazardous situation that, if not avoided, could result in death or serious harm.**

**⚠ CAUTION**

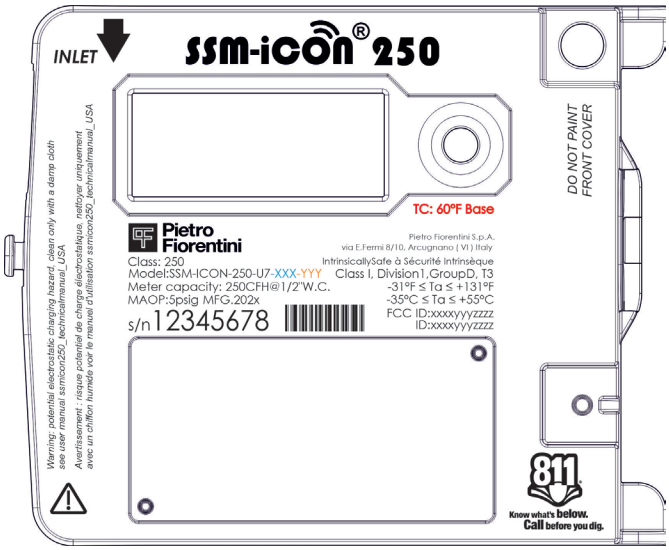
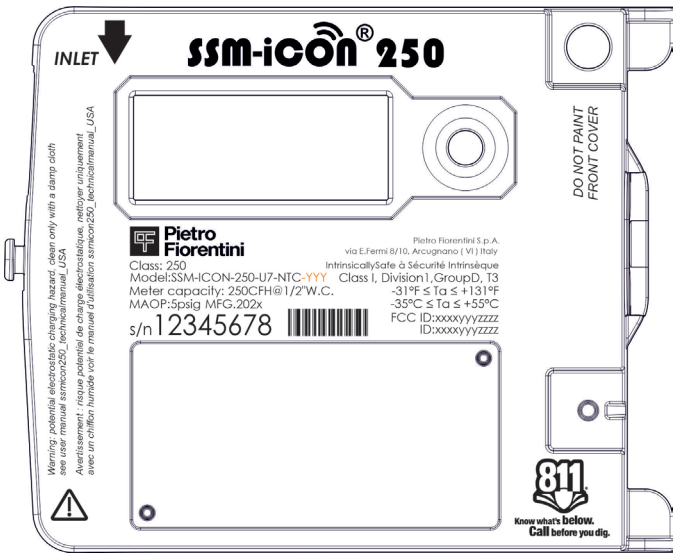
**It signals a hazard with a low level of risk, a potential hazard situation that, if not avoided, could cause minor or moderate harm.**

***NOTICE***

**It signals specific warnings, directions, or notes of special interest unrelated to physical injury and practices for which physical injury is not a credible possibility.**

## 2.8 - IDENTIFICATION PLATES APPLIED

The equipment and its accessories are equipped with identification plates (Id.1 and Id.2).
The plates bear the identification details of the equipment and its accessories to be quoted if necessary to PIETRO FIORENTINI S.p.A.
List of applied identification plates:

| Id. | Plate type | Image |
|---|---|---|
| 1 | Mod. SSM-ICON-250-U7 |   |
| 2 | Mod. SSM-ICON-250-U7-NTC |   |

*Tab. 2.7.*

**⚠WARNING**

**It is absolutely forbidden to remove the identification plates and/or replace them with others.**
**If, for accidental reasons, the plates are damaged or removed, the customer must inform PIETRO FIORENTINI S.p.A.**

### 2.8.1 - DEVICE IDENTIFIER

| Type | Description |
|---|---|
| **METER SERIAL NUMBER** | Sequential number indicating the identification code of a meter assigned by the manufacturer. |
| **PURCHASER'S BADGE** | Sequential number indicating the identification code of a meter assigned by the customer. |

*Tab. 2.8.*

### 2.8.2 - DESCRIPTION OF IDENTIFICATION PLATES

The identification plate bears the information described in Tab. 2.9:

| Pos. | Description |
|---|---|
| 1 | Manufacturer's Logo |
| 2 | Identification of the gas inlet connection |
| 3 | Static smart meter series. |
| 4 | Meter class as defined by ANSI B109.1 |
| 5 | WARNING: special condition for safe use |
| 6 | Class, Division, Group and temperature class as defined by NEC500 |
| 7 | Operating ambient temperature range |
| 8 | Year of manufacture of the meter |
| 9 | Reference temperature for volume conversion (optional) |
| 10 | Device serial number (barcode 39) |
| 11 | UL file number |
| 12 | FCC/ISED IDs |
| 13 | Device serial number |
| 14 | Flow rate of the meter at reference conditions as defined by standard ANSI B109.1 |
| 15 | Meter model: NTC without temperature compensation (optional) |
| 16 | Manufacturer address |
| 17 | Type of protection warning |
| 18 | Maximum operating pressure |

*Tab. 2.9.*

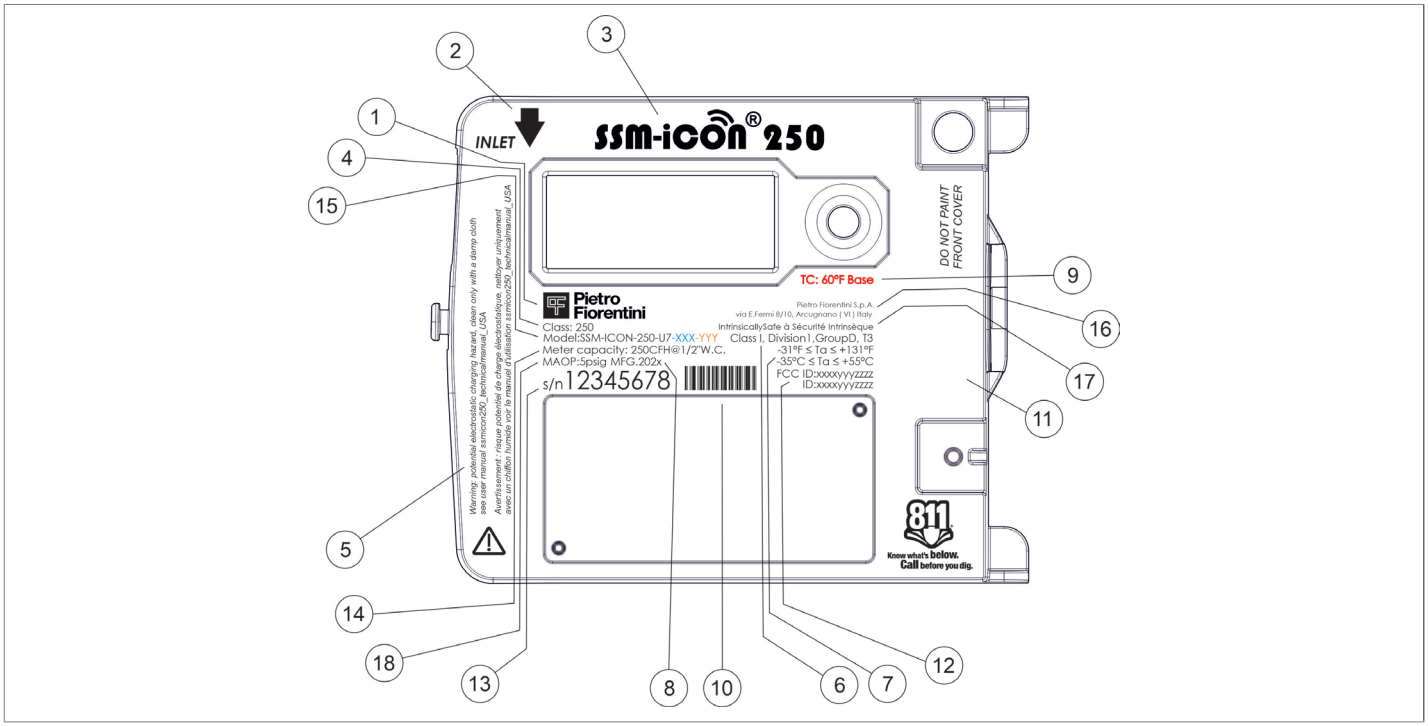



*Fig. 2.1. Description of identification plates*

### 2.8.3 - MARKING RECAPITULATION

Hazardous Location Marking: **Class I Division 1 Group D T3 -35 °C ≤ Ta ≤ +35 °C**

| Marking | Description |
|---|---|
| **Class I** | The equipment is intended to be used in presence of flammable gases or vapours |
| **Division 1** | As defined in Article 500 of the National Electrical Code, NFPA 70, and in the Canadian Electrical Code, Part I, C22.1, include locations defined in Article 505 of NFPA 70 and the International Electro-technical Commission (IEC) as Zone 0. Zone 0 locations are hazardous because of the presence of flammable or combustible materials within the flammable range all or a large percentage of the time. |
| **Group D** | Flammable gas, flammable liquid produced vapor, or combustible liquid produced vapor mixed with air that may burn or explode, having either a maximum experimental safe gap (MESG) value greater than 0.75 mm or a minimum igniting current (MIC) ratio greater than 0.80. A typical Class I, Group D material is propane. |
| **T3** | Maximum allowable surface temperature: 200°C. |
| **-35 °C to +55 °C** | Ambient temperature range |

*Tab. 2.10.*

## 2.9 - MEASUREMENT UNIT GLOSSARY

| Measurement type | Unit of measurement | Description |
|---|---|---|
| **Consumption and Volumetric flow** | Scfh | Standard cubic feet per hour |
| | Scf | Standard cubic feet |
| | Cfh/h | Cubic meters per hour |
| | Cf | Cubic feet |
| **Pressure** | bar | Bar |
| | ˝wc | Inch of water column |
| | Pa | Pascal |
| **Temperature** | °C | Celsius degree |
| | °F | Degree Fahrenheit |
| | K | Kelvin |
| **Tightening torque** | Nm | Newton meter |
| | ft-lb | Foot pound |
| **Other measurements** | V | Volt |
| | W | Watt |
| | Ω | Ohm |

*Tab. 2.11.*

## 2.10 - QUALIFIED PROFESSIONALS

Qualified operators in charge of operating and managing the equipment in all its technical life stages for the use for which it was supplied:

| Professional | Definition |
|---|---|
| **Installer** | Qualified operator able to:<br>• handle materials and equipment.<br>• carry out all the operations necessary for a correct and safe installation of the equipment;<br>• carry out all the operations necessary for the correct functioning of the equipment and the system in safety;<br>• be able to perform all necessary operations for the de-installation and subsequent disposal of the equipment in accordance with the regulations in the country of installation. |
| **Specialized technician/Maintenance technician** | Trained and licensed technician to operate and manage the equipment who must:<br>• be able to carry out all the operations necessary for the proper functioning of the equipment and system, guaranteeing their own safety and that of any third parties present;<br>• perform maintenance activities on all parts of the equipment subject to maintenance (board and batteries);<br>• have access to all parts of the device for visual analysis, equipment status checking, adjustments and calibrations;<br>• have proven experience in the correct use of equipment such as those described in this manual and be trained, informed and instructed accordingly. |

*Tab. 2.12.*

# 3 - SAFETY

## 3.1 - GENERAL SAFETY WARNINGS

**⚠WARNING**

**The equipment described in this manual is normally placed in systems that carry flammable gases (for example: natural gas).**

**⚠WARNING**

**The user and installer of this device are required to comply with all national, state, and local laws required to avoid the hazards of gas leaks resulting from improper installation, startup, or use of this product or not described in the following manual.**
**It is also necessary that all fire controls, building codes, or other safety regulations established by public laws governing the installation, operation, or use of this product be complied with.**

**⚠WARNING**

**If the gas used is a combustible gas, the area where the equipment is installed is called a "danger zone" because there are residual risks of the formation of potentially explosive atmospheres.**
**In and around "danger zones" it is absolutely:**

- **necessary there are no effective ignition sources present;**
- **prohibited to smoke.**

**⚠WARNING**

**It is forbidden to repair or make modifications to the equipment.**

**⚠CAUTION**

**Authorized operators shall not perform operations or interventions on their own initiative that are not within their competence.**
**Never work on the equipment:**

- **Under the influence of exciting substances such as, for example, alcohol;**
- **In the case of using drugs that can lengthen reaction time.**

***NOTICE***

**The employer must train and inform operators on how to behave during operations and what equipment to use.**

Before installation, commissioning or maintenance, operators must:

- Take note of the safety regulations applicable to the installation site where they are to operate;
- Obtain, when required, the necessary authorizations to operate;
- Equip themselves with the necessary personal protective equipment required in the procedures described in this manual:
- Ensure that the area in which they are to work is equipped with the required collective protections and necessary safety signs.

## SAFETY SPECIFICATION FOR CANADA (FRENCH)

**⚠WARNING**

**Il est interdit de réparer ou modifier l'équipement.**

## 3.2 - SAFETY INSTRUCTIONS

SSM-ICON 250 is an intrinsically safe apparatus suitable for use in hazardous areas Class I, Division 1, Group D, Temperature Class T3.
The relevant standard for compliance with safety requirements is UL 913 Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations, Edition 8, Revision Date 05/10/2022

### 3.2.1 - ELECTROSTATIC DISCHARGES

This apparatus is approved for installations in high explosion hazard areas, where an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapor or mist is present permanently or for long periods or often. In these areas, sparks produced by electrostatic discharge can produce explosions.

**⚠WARNING**

**Electrostatic discharge protection measures should be implemented when installing or using this apparatus.**

Further information can be found in IEC TS 60079-32-1: among possible actions, one example is the use of dissipative footwear and a damp cloth (%>65%) during installation/maintenance operations.

## SAFETY SPECIFICATION FOR CANADA (FRENCH)

Cet appareil est approuvé pour les installations situées dans des zones à risque élevé d'explosion, où une atmosphère explosive constituée d'un mélange d'air et de substances inflammables sous forme de gaz, de vapeur ou de brouillard est présente de façon permanente ou pendant de longues périodes ou souvent. Dans ces zones, les étincelles produites par décharge électrostatique peuvent produire des explosions.

**⚠WARNING**

**Des mesures de protection contre les décharges électrostatiques doivent être mises en œuvre lors de l'installation ou de l'utilisation de cet appareil.**

De plus amples informations sont disponibles dans le document IEC TS 60079-32-1 : parmi les actions possibles, on peut citer l'utilisation de chaussures dissipatives et d'un chiffon humide (%>65%) pendant les opérations d'installation/maintenance.

***NOTICE***

**PIETRO FIORENTINI S.p.A. disclaims all liability from the risks and consequences of non-compliance with these requirements.**

### 3.2.2 - CONNECTING TO OTHER DEVICES

An optical connection of the apparatus SSM-ICON 250 with the SSM-COM apparatus or other compatible modules is required.
SSM-ICON 250 can connect locally via the prover port to devices for measurement verification.
SSM-ICON 250 can also connect locally to a wireless communication terminal for configuration and maintenance of the apparatus.

### 3.2.3 - POWER DEVICES

SSM-ICON 250 Is powered by non-replaceable primary battery.

### 3.2.4 - SAFETY INSTRUCTIONS FOR INSTALLATION IN HAZARDOUS AREAS

This apparatus shall be installed and put into operation according to current regulations and standards.

***NOTICE***

**PIETRO FIORENTINI S.p.A. is not liable for damage caused by failure to follow instructions and inappropriate use.**

Safety directions
All work on the apparatus must be done by qualified personnel.

Transformation and spare parts
Any technical modification is forbidden.

Transport
As a rule SSM-ICON 250 should be transported upright and inside the original packing box provided by PIETRO FIORENTINI S.p.A.
When you receive the apparatus, examine the material provided.
Report any transportation damage immediately.
The Federal Aviation Administration prohibits the operation of transmitters and receivers on all commercial aircraft. When the device is powered and not in “Flight mode”, it is considered a transmitter and receiver in operation and cannot be sent by air.
All products not in “Flight mode” must be shipped by land transportation.
The "Flight Mode" configuration can be changed with the help of the field terminal.
The reference obis is: 0-128:0.1.255.5 “NB IoT mode”, with set of value “2” (communication disable).

Storage
As a rule SSM-ICON 250 should be stored upright in a dry place at room temperature (see paragraph 6.6.1).

**⚠WARNING**

- **The arrow and "INLET" lettering located on the left front of the apparatus indicate the direction of gas flow and the gas inlet connection.**
- **Install the apparatus in a compartment that meets current safety requirements, protected from possible mechanical damage, at least 3 ft away from heat sources or open flames, in a dry and ventilated place, and protected from external agents and corrosion.**
- **The metering enclosure is constructed from aluminium. Install the device in a way which prevents the enclosure from being subjected to impacts or friction which could cause sparks in the presence of a potentially explosive atmosphere; install the device away from sources of cooling (cooling system) or heating (heating system) that could alter the environmental condi¬tions in which the device can operate -35 °C à +55 °C (-31 F to +131F).**
- **Install the meter in an easily accessible location.**
- **Install the apparatus with the indicator device in a horizontal position, not in contact with walls and raised above the floor.**
- **Meter installation must comply with all national, state and local building and safety codes and federal regulations, including Section 192.353 of Title 49 of the Code of Federal Regulations.**
- **Avoid mechanical stress at the inlet and outlet connections during installation.**
- **It is not recommended to install the meter outside the temperature ranges that the meter was designed for (see par. “6.6 - Storage and environmental conditions”).**
- **The shutoff valve, located on the system upstream of the apparatus, should be opened gradually in order to make the gas flow smoothly, without violent blows that would damage the internal components.**
- **It is forbidden to repair or make modifications to the apparatus.**
- **Installation, removal and any work should be carried out by trained personnel in accordance with current safety requirements.**

## SAFETY SPECIFICATION FOR CANADA (FRENCH)

**⚠WARNING**

- **L’enceinte de mesure est construite en aluminium. Installer le dispositif de manière à éviter que l’enceinte ne soit soumise à des chocs ou à des frottements qui pourraient provoquer des étincelles en présence d’une atmosphère potentiellement explosive ; installer l’appareil loin des sources de refroidissement (système de refroidissement) ou de chauffage (système de chauffage) qui pourrait modifier les conditions environnementales dans lesquelles l’appareil peut fonctionner -35 °C à +55 °C (-31 F to +131F).**
- **Il est interdit de réparer ou modifier l’équipement.**

## 3.3 - COMPLIANCE FOR UNITED STATES OF AMERICA

The meter SSM-ICON 250 complies with Part 15 of the US Federal Communications Commission (FCC) standard. The limits are designed to provide reasonable protection against harmful interference in a residential installation.
During its normal operation, the device may not cause harmful interference and must accept any interference that may cause undesired operation.
The device must be installed to ensure a separation distance of at least 20 centimeters (7.9 inches) from all persons to comply with RF exposure regulations.

USA, FCC Class B-Part 15
The meter SSM-ICON 250 has been tested and found to comply with the limits for Class B digital devices pursuant to Part 15 of the FCC standard. The limits are set to provide reasonable protection against harmful interference in a residential installation. This device generates, uses, and can radiate radio frequency energy. If not installed and used according to instructions, it may cause harmful interference to radio communications.
It cannot be guaranteed 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:

- redirect or reposition the receiving antenna
- increase the distance between the equipment and the receiver
- connect the equipment to an outlet on a circuit other than the one the receiver is connected to
- consult your dealer or an experienced radio technician

Modifications and repairs
To ensure system performance, the device and antenna should not be changed or modified without the express approval of PIETRO FIORENTINI S.p.A.. According to the FCC standard, unapproved modifications or operation beyond or contrary to these operating instructions may invalidate the user's authorization to operate the equipment

## 3.4 - COMPLIANCE FOR CANADA

The meter SSM-ICON 250 complies with the license-exempt RSS standards of Innovation, Science and Economic Development Canada (ISED).
Operation is subject to the following two conditions:

- the device cannot cause interference,
- this device must accept any interference, including interference that may cause undesired operation of the device.

According to ISED regulations, this radio transmitter can only operate using an antenna of the maximum type and gain (or less) approved for the transmitter by Industry Canada.
To reduce potential radio interference to other users, the type of antenna and its gain should be chosen so that the equivalent isotropic radiated power (e.i.r.p.) does not exceed that required for effective communication.

## SAFETY SPECIFICATION FOR CANADA (FRENCH)

Le compteur SSM-ICON 250 est conforme aux normes RSS d'Innovation, Sciences et Développement économique Canada.
L'exploitation est soumise aux deux conditions suivantes :

- le dispositif ne peut pas causer d'interférences,
- cet appareil doit accepter toute interférence, y compris toute interférence pouvant causer un fonctionnement indésirable de l'appareil.

Selon les règlements d'ISDE, cet émetteur radio ne peut fonctionner qu'avec une antenne du type et du gain maximum (ou inférieur) approuvés pour l'émetteur par Industrie Canada.
Afin de réduire les interférences radio potentielles pour les autres utilisateurs, le type d'antenne et son gain devraient être choisis de manière à ce que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas celle requise pour une communication efficace.

## 3.5 - RADIO FREQUENCY EXPOSURE (ACCORDING TO FCC AND ISED)

The meter SSM-ICON 250:

- complies with the radiation exposure limits set for an uncontrolled environment.
- must be installed and used at a minimum distance of 7.9 inches between the radiator and the body
- should not be placed or used together with other antennas or transmitters.

## SAFETY SPECIFICATION FOR CANADA (FRENCH)

Le compteur SSM-ICON 250 :

- respecte les limites d'exposition au rayonnement établies pour un environnement non contrôlé.
- Doit être installé et utilisé à une distance minimale de 20 cm (7,8 pouces) entre le radiateur et le corps humain.

## 3.6 - PERSONAL PROTECTIVE EQUIPMENT

The following table shows the Personal Protective Equipment (PPE) and its description; an obligation is linked to each symbol. Personal protective equipment means any equipment intended to be worn by the worker for the purpose of protecting him against one or more hazards likely to threaten his safety or health while at work.
For the assigned workers, depending on the type of work required, the most appropriate P.P.E. from that listed at Tab. 3.13 will be reported and should be used:

| Symbol | Meaning |
|---|---|
|  | **Obligation to use protective or insulating gloves.**<br>Indicates a requirement for personnel to use protective or insulating gloves. |
|  | **Obligation to use safety glasses.**<br>Indicates a requirement for personnel to use protective goggles to protect their eyes. |
|  | **Obligation to use safety shoes.**<br>Indicates a requirement for personnel to use safety shoes to protect their feet. |
|  | **Obligation to use noise protection devices.**<br>Indicates a requirement for personnel to use earmuffs or earplugs for hearing protection. |
|  | **Wear appropriate protective clothes.**<br>Indicates a requirement for personnel to wear the specific protective clothing. |
|  | **Mandatory use of protective mask.**<br>Indicates a requirement for personnel to use masks for respiratory protection in the event of a chemical hazard. |
|  | **Mandatory use of protective helmet.**<br>Indicates a requirement for personnel to use the protective helmet. |
|  | **Obligation to wear high-visibility vest.**<br>Indicates a requirement for personnel to use high-visibility vests. |

*Tab. 3.13.*

**⚠WARNING**

**Each licensed operator is required to:**

- **take care of his own health and safety and that of other persons in the workplace, on whom the effects of his actions or omissions fall, in accordance with his training, instructions and means provided by the employer;**
- **use the PPE provided appropriately;**
- **Immediately report to the employer, manager or supervisor deficiencies in the means and devices as well as any hazardous conditions of which they become aware.**

## 3.7 - OBLIGATIONS AND PROHIBITIONS

The list of obligations and prohibitions to be observed for operator safety is given below.

It is mandatory to:

- carefully read and understand the operation, maintenance and warning manual;
- view the data on the identification plates and the manual before installing the equipment;
- avoid violent shocks and impacts that could damage the equipment.

It is forbidden to:

- operate in various capacities on the equipment without the PPE specified in the work procedures described in this manual;
- operate in the presence of open flames or approach open flames to the work area;
- smoke near the equipment or while you are working on it;
- use the equipment with parameters different from those indicated on the identification plate;
- Use the equipment with gas groups other than those indicated on the meter identification plate;
- use the equipment outside the operating temperature range stated on the identification plate and indicated in this manual;
- install or use the equipment in environments other than those specified in this manual.

## 3.8 - RESIDUAL RISKS

The device SSM-ICON 250 is certified Class I, Division 1, Group D and is approved for installations in high explosion hazard areas, i.e., areas where an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapor or mist is present permanently or for long periods.
Ensure that the area is free from hazards when installing, maintaining, cleaning, or touching the device.
Follow your company's safety procedures in connection with the installation and maintenance of the device.

**⚠WARNING**

**As per standard ASCE 25-16, seismic events are classified by tolerance bands according to the following limits:**

- **a lower limit, below which the seismic algorithm will not be activated**
- **an upper limit, above which the seismic algorithm will be activated.**

**Between the two limits there is a band, in which both activation and nonactivation of the seismic function is allowed.**

**⚠WARNING**

**In case of functional abnormalities, operation is prohibited.**
**Contact PIETRO FIORENTINI S.p.A. immediately for necessary guidance.**

### 3.8.1 - ELECTROSTATIC DISCHARGE RISK

In these areas, due to the presence of gases in the atmosphere, sparks produced by electrostatic discharges could still produce explosions in extreme cases.

Ensure that the area is not hazardous during installation, maintenance, cleaning or contact with the device.

**⚠WARNING**

**During installation, configuration and maintenance of the equipment, it is mandatory to implement electrostatic discharge protection measures.**

During the different operational steps, to avoid the risk, the licensed operator must:

| Operational steps | Obligations of the operator |
|---|---|
| **Installation** | • Wear professional safety footwear with ESD characteristics<br>• Wear work clothes that dissipate electrostatic charges<br>• Use a damp cloth for cleaning |
| **Configuration** | • Wear professional safety footwear with ESD characteristics<br>• Wear work clothes that dissipate electrostatic charges |
| **Maintenance** | • Wear professional safety footwear with ESD characteristics<br>• Wear work clothes that dissipate electrostatic charges<br>• Use a damp cloth for cleaning |

*Tab. 3.14.*

## 3.9 - SECURITY AND ANTI-FRAUD

Access to the internal parts of the device is protected. Any attempt at access causes obvious damage to mechanical parts, especially access:

- to the electronics, this is not possible without permanent damage to the front cover of the device;
- to the memory device, this is not possible without permanent and obvious damage to the equipment;
- to the metrology battery (non-replaceable), this is not possible without permanent damage to the front cover of the device.

Attempts:

- to tamper with the proper operation of the meter are intercepted and recorded in the Metrological Event Log;
- to access the meter through its communication channels by unauthorized personnel are intercepted and recorded in the Metrological Event Log;
- to access the meter through communication channels with incorrect passwords or encryption keys are intercepted, enumerated and notified to the control center.

***NOTICE***

- **Through the interface devices normally available to the user, only data consultation activities can be carried out, and no configuration is possible;**
- **Configurations that can be made through the communication channels that the apparatus is equipped with, and only by authorized personnel, leave evidence as they are stored in the appropriate memory log (Metrological Event Log).**

Also:

- commands sent by external apparatuses through communication channels are verified in terms of source authenticity;
- messages transmitted through communication channels carrying sensitive information are all effectively encrypted;
- the duration of the conditions is monitored and recorded by the firmware.

## 3.10 - SAFETY PICTOGRAMS

Equipment and/or packaging PIETRO FIORENTINI S.p.A. may display the safety pictograms described in Tab. 3.15:

| Symbol | Definition |
|---|---|
|  | Symbol used to identify a GENERIC HAZARD. |
|  | Symbol used to identify HAZARDS GENERATED BY STATIC ELECTRICITY. |
|  | Symbol applied to on packages to identify the type of hazard and risks related to the product being transported.<br>Class 9 Miscellaneous hazardous materials (lithium metal batteries). |
|  | The symbol indicates that the product should not be disposed of as unsorted waste but should be sent to separate collection facilities for recovery and recycling |

*Tab. 3.15.*

**⚠WARNING**

**It is absolutely forbidden to remove or alter the safety pictograms on the equipment or packaging.**

## 3.11 - NOISE LEVEL

SSM-ICON 250 is a static meter and has no moving parts.
For the generated noise value of the equipment and further information, please contact PIETRO FIORENTINI S.p.A.

**⚠CAUTION**

**The obligation to use ear muffs or earplugs for hearing protection for licensed professionals (reference to paragraph 2.10) remains in case the noise in the environment where the equipment is installed (depending on specific operating conditions) is higher than the threshold allowed by the relevant regulations.**

# 4 - DESCRIPTION AND OPERATION

## 4.1 - GENERAL DESCRIPTION

The equipment SSM-ICON 250 is a static gas flow meter, which is applied at redelivery end points of gas networks.
The meter integrates a static volume measurement sensor capable of:

- ensuring the consumption detection functions;
- transmitting data via the associated SSM-COM equipment or equivalent.

SSM-ICON 250 is a measuring apparatus measured with accuracy class 1 as defined in International Recommendation OIML R 137 1&2.

The main elements of the equipment are (see Fig. 4.2.):

| Pos. | Description | Pos. | Description |
|---|---|---|---|
| 1 | Plastic cover with rating plate data | 5 | SSM-COM communication device** |
| 2 | Plastic enclosure | 6 | LCD display |
| 3 | Prover probe connection port | - | Metrological battery * |
| 4 | Inlet pipe connection fitting | - | Shut-off valves * |
| 5 | Outlet pipe connection fitting | | |

*Tab. 4.16.*

** Part not visible in figure*

*** SSM-COM is not the subject of this manual*


*Fig. 4.2. General description SSM-ICON 250*

### 4.1.1 - POWER DEVICES

The equipment SSM-ICON 250 can only be powered by the approved battery pack.
The battery is not replaceable in the field.

**NOTICE**

**Please refer to paragraph “4.3 - Technical data” for technical details of the battery packs and reference operating conditions.**

#### 4.1.1.1 - CONNECTION OF POWER DEVICES

**NOTICE**

**The equipment SSM-ICON 250 comes with the battery pack already connected and ready for use in the field.**

#### 4.1.1.2 - POWER STATUS

A calculation of the actual consumption is made for each of the battery groups based on:

- elapsed time;
- the individual functions actually performed (e.g.: turning on the display, pressing buttons, local and remote data transmission, etc.);
- the weight in terms of consumption defined for each specific functionality in laboratory tests conducted by the Manufacturer;
- when a 10% charge is remaining, an alarm is recorded and shown on the display.

### 4.1.2 - SHUT-OFF VALVE

The gas flow shut-off valve is located inside the meter body in the outlet connection and is intended to shut off the gas flow to the user.

The valve is specially designed to guarantee its performance and operation for at least 20 years.

**⚠WARNING**

**It is mandatory that a technician be on site near the meter to reopen the valve and ensure safe conditions before gas flow is resumed after the valve is closed.**

**⚠WARNING**

**In no way or under any conditions should the valve be intended and used as a device to place the user's system in a safe mode against possible or established gas leaks.**

The valve can provide:

- the governing microprocessor with the actual status of the supply (valve closed/open);
- indications about proper operation.

The valve can be closed:

- through the remote communication channel (e.g.: command sent from Remote Management Center);
- by surpassing the threshold;
- if there is no remote communication exceeding a configurable time;
- if the remaining charge of the metrology battery pack is below the critical level (3%);
- if the gas metering system fails;
- if there are abnormal operating conditions (e.g., temperature, pressure, presence of air in the gas, overload, seismic event).

The valve is controlled by the meter through the control:

- of the physical state (values of "**Open**" and "**Closed**");
- of the logical state ("**Re-enabled to open**" with the physical state at the "**Closed**" valve value).

***NOTICE***

**Refer to chapter “5 - User interface” for the valve opening procedure.**

### 4.1.3 - MEASUREMENT ACQUISITION

Gas volume flow (flow rate) is measured continuously by a special sensor, which is connected to the calculation board through an electrical connection.

The governing microprocessor:

- detects the measurements of the flow and temperature sensors (for possible compensation);
- performs a continuous diagnostic activity to highlight possible faults and fraud attempts.

When configured, the measurement of the temperature required for volume calculation at reference thermodynamic conditions is made by a temperature sensor that provides a reading in Kelvin (with 0.0625 K resolution).

### 4.1.4 - DIFFERENTIAL PRESSURE ACQUISITION

The equipment implements a differential pressure measurement to monitor the operating pressure of the gas distribution system.

### 4.1.5 - ACQUISITION OF AMBIENT TEMPERATURE

The equipment may avail of an ambient temperature measurement to detect any abnormal situations.

**⚠WARNING**

**In no way or condition should the gas meter with room temperature reading function enabled be intended and used as a device for placing the user's system in safe mode.**

### 4.1.6 - ACQUISITION OF SEISMIC EVENTS

The equipment can feature the seismic event monitoring function.
Detectable seismic events are classified through tolerance bands as defined by standard ASCE 25-16.
Refer to Chapter "7 - Installation" for the activation procedure.

**⚠WARNING**

**In no way or condition should the gas meter with seismic event reading function enabled be intended and used as a device for placing the user's system in safe mode.**

**⚠WARNING**

**Activate the seismic event acquisition feature only with meter installed at ground height.**

**⚠WARNING**

**It is mandatory that a technician be on site at the meter to activate the seismic event detection function.**

### 4.1.7 - EVENTS AND DIAGNOSTICS

The equipment implements the following services:

- detection and reporting of anomalies
- functional requirements - event log
- functional requirements - diagnostics and alarms
- internal diagnostics function, which can be disabled via OBIS

#### 4.1.7.1 - DEVICE DIAGNOSTICS

The encoding of diagnostic information is carried out in bit-mapped format, as shown below in Tab. 4.17:

| Bit | Description |
|---|---|
| **15** | 1 = Detected seismic event |
| **14** | 1 = Pressure below/above threshold |
| **13** | 1 = Clock synchronization in progress |
| **12** | 1 = Valve actuation failure |
| **11** | 1 = Air detected in the system |
| **10** | 1 = Tampering detected (tamper) |
| **9** | 1 = Critical battery level (< 3%) |
| **8** | 1 = Battery level below 10% |
| **7** | 1 = Modified UNITS status |
| **6** | 1 = Non-volatile memory error |
| **5** | 1 = Flow above threshold (overload) |
| **4** | 1 = Generic apparatus error |
| **3** | 1 = Measurement algorithm error |
| **2** | 1 = Metrological Event Log ≥ 90% |
| **1** | 1 = Metrological Event Log complete |
| **0** | 1 = Clock synchronization failed |

*Tab. 4.17.*

The 16 bits shown above are represented on the meter display with hexadecimal encoding (0 - F) in groups of 4, as depicted in Tab. 4.18:

| | | | | | Meaning |
|---|---|---|---|---|---|
| **Group format:** | **4th** | **3rd** | **2nd** | **1st** | |
| **Hexadecimal coding:** | 0 | 8 | 0 | 2 | • Bit 1 = 1 Metrological Event Log complete.<br>• Bit 11 = Daylight saving time active |
| **Binary encoding:** | 0000 | 1000 | 0000 | 0010 | |
| **Active bit:** | - | 11 | - | 1 | |

*Tab. 4.18.*

### 4.1.8 - ACTIVATION AND CONFIGURATION

The equipment implements the following services:

- synchronization;
- software update;
- management and maintenance of the infrastructure;
- functional requirements - programming;
- functional requirements-field operations for startup and maintenance;
- functional requirements - clock

### 4.1.9 - COMMUNICATION INTERFACE

The equipment has two communication interfaces, one local and one remote:

| Interface | Type | Description |
|---|---|---|
| **Local** | **Wireless communication** | Requires an external device (Smartphone, Tablet) with the appropriate application |
| **Remote** | **Wireless communication** | Diversified, depending on the communication module combined with the gas meter |

*Tab. 4.19.*

### 4.1.10 - USER INTERFACE

***NOTICE***

**Refer to chapter “5 - User interface” for the valve opening procedure.**

## 4.2 - INTENDED USE

### 4.2.1 - INTENDED USE

The equipment in question is intended for:

| Operation | Allowed | Not Allowed | Processing environment |
|---|---|---|---|
| **Gas volume metering** | Gases of the 2nd family H, L and E (UNI EN 437). | Any type of gas other than permitted. | Application at redelivery end points of gas networks for:<br>• residential use;<br>• commercial use. |

*Tab. 4.20.*

The equipment in question has been designed to be used only within the limits indicated on the identification plate and according to the instructions and limits of use given in this manual.

The indications to work safely are:
- use within the limits stated on the identification plate and on this manual;
- compliance with the procedures of the user manual;
- execution of routine maintenance in the times and in the manner indicated;
- execution of extraordinary maintenance in case of need;
- do not tamper with and/or bypass the safety devices.

### 4.2.2 - REASONABLY FORESEEABLE MISUSE

Reasonably foreseeable misuse means the use of the equipment in a way not foreseen at the design stage but which may result from easily predictable human behavior:
- use of the equipment other than as envisaged in the paragraph "**Intended use**".
- instinctive reaction of an operator in the event of a malfunction, accident or failure during the use of the equipment;
- conduct resulting from carelessness;
- behavior resulting from the use of the equipment by persons not licensed or properly trained.

Any other use of the equipment than that envisaged must be authorized in advance in writing by PIETRO FIORENTINI S.p.A. In the absence of written permission, the use is considered “**improper**”.
In the presence of "improper use", PIETRO FIORENTINI S.p.A. declines all responsibility in relation to any damage caused to things or people and considers any type of warranty on the equipment lapsed.

## 4.3 - TECHNICAL DATA

| General features | |
|---|---|
| **Electronic enclosure** | Polycarbonate |
| **Enclosure protection rating** | IP68 (not UL tested) 3 ft/6 hr ; NEMA 4X |
| **Maximum working pressure** | 5 psig / 35 kPa |
| **Operating ambient temperature** | from -35 °C to +55 °C (-31 °F to +131 °F) |
| **Gas temperature range** | from -35 °C to +55 °C (-31 °F to +131 °F) |
| **Temperature sensor** | Integrated |
| **Differential temperature sensor** | Integrated |
| **Real time clock** | Accuracy according to IEC 62054-21 |
| **Measurement accuracy** | Class 1 |
| **Danger zone marking** | Class I, Division 1 , Group D, T3 |
| **Connections** | 1A/Sprague standard |
| | 10LT |
| | 20LT |
| | 30LT |
| **Altitude** | up to (16400 ft) |
| **Environmental conditions** | Extended outdoor environment |
| **Humidity** | 100% condensation |
| **Overvoltage category** | N/A |
| **Pollution rating** | 2 |
| **Means of protection** | Class III (SELV) |

*Tab. 4.21.*

| Remote communication features | |
|---|---|
| **Communication band** | Diversified, depending on the communication module combined with the gas meter |

*Tab. 4.22.*

| Battery characteristics | |
|---|---|
| **Metrological battery pack** | Type: Li-$SoCl_2$ 3.6V, Size D non-rechargeable battery<br>Autonomy: ≥ 20 years if the service SLA is met (low power operation) |

*Tab. 4.23.*

# 5 - USER INTERFACE

## 5.1 - GENERAL DESCRIPTION

The following paragraphs describe the methods of interaction between operator and user interface, and the meaning of the various fields on the display.
The user interface consists of the following main components, that the data provided by the apparatus can be consulted from (see Fig. 5.3):

| Pos. | Element | Description |
|---|---|---|
| 1 | LCD display<br>black and white segments | To consult the data provided by the equipment. |
| 2 | "On/Enter" button | Short press: to turn on the equipment and browse through parameters within the same menu.<br>Long press (2 sec.): to access the next menu<br>Long press (5 sec.): to activate wireless communication with devices equipped with TAM Mobile application |

*Tab. 5.24.*


*Fig. 5.3. User interface SSM-ICON 250*

## 5.2 - DESCRIPTION OF LCD DISPLAY

**NOTICE**

**To enable long battery life, the display is normally kept off.**
**With the display off, to turn it on, press the "Enter" key for at least 1 sec.**

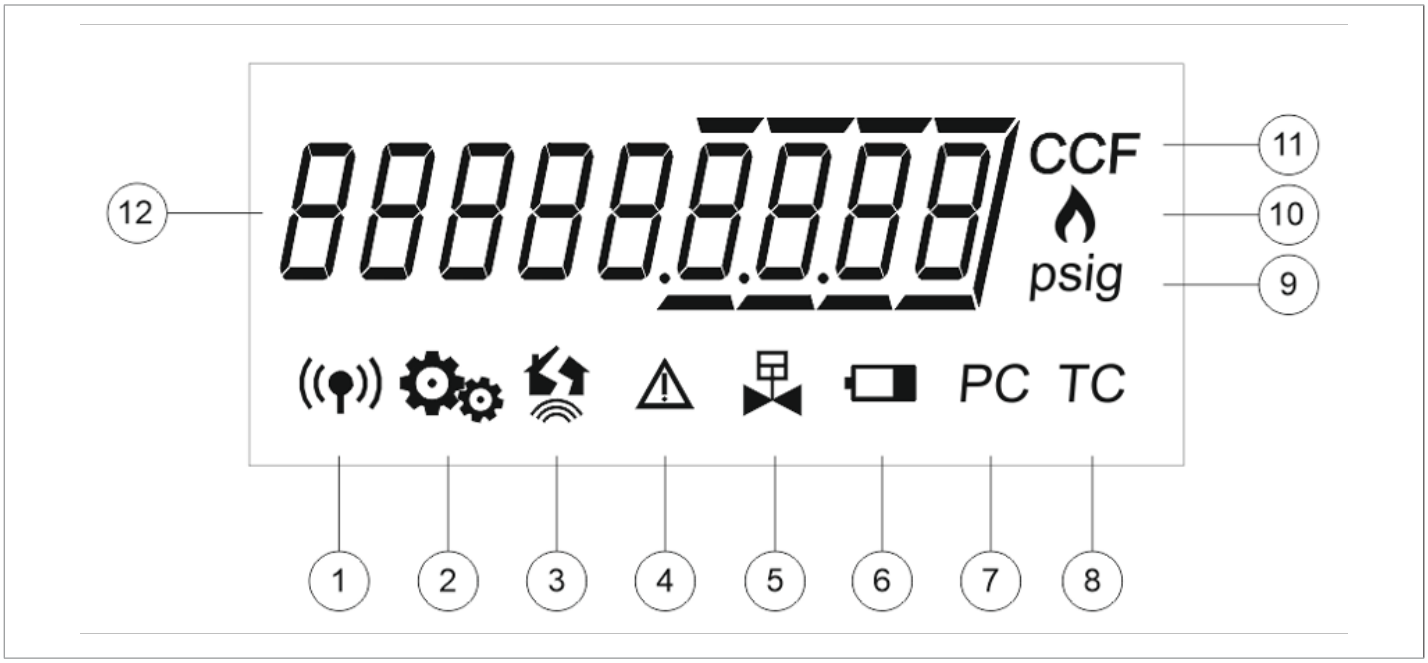



*Fig. 5.4. LCD display SSM-ICON 250*

Tab. 5.25 describes the main elements on the display:

| Pos. | Element | Description |
|---|---|---|
| **ICON FIELD** | | |
| **1** | Antenna | Active local/remote communication |
| **2** | Maintenance | Active maintenance/service status |
| **3** | Seismic | Seismic event detected |
| **4** | Warning | General alarm/event detected |
| **5** | Valve | Valve status |
| **6** | Battery | Battery status |
| **7** | Pressure compensated | Active pressure compensation |
| **8** | Temperature compensated | Active temperature compensation |
| **UNIT OF MEASUREMENT** | | |
| **9** | Unit of measurement (psig) | According to the selection, this indicates the unit of measurement that the value reported in the numeric field is expressed in (**Pos. 12**). |
| **11** | Unit of measurement (CCF) | |

| Pos. | Element | Description |
|---|---|---|
| **CONSUMPTION INDICATOR FIELD** | | |
| **10** | Flame | Indicates, if active, the presence of a current gas flow. |
| **NUMERIC FIELD** | | |
| **12** | Data | Indicates the value referring to the indicated parameter. |

*Tab. 5.25.*

## 5.3 - BROWSING PROCEDURE

**NOTICE**

- **With the display on, the "Enter" key can be pressed in "short" or "long" mode (> 2 sec.).**
- **The browse key is always activated in "short" mode.**
- **Failure to press the button for more than 2 minutes switches the display to the off status.**

Within the interface, information is organized into “pages” that can be browsed sequentially.
Fig. 5.5 shows how to browse within the interface:

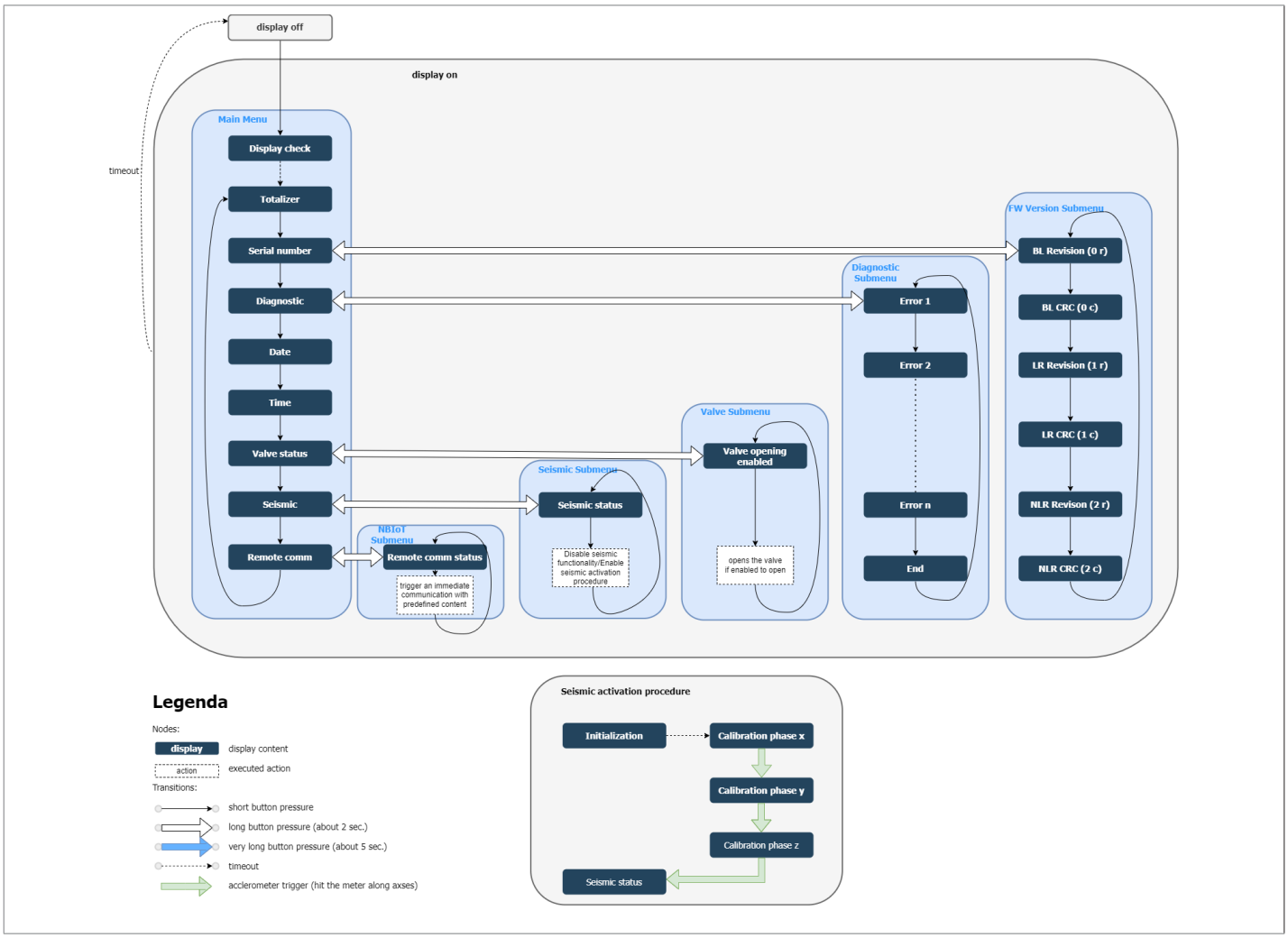



*Fig. 5.5. Browsing procedure*

**NOTICE**

**The browsing sequence involves, upon reaching the last page of a chapter, the option to start over from the first page of the same chapter.**

### 5.3.1 - MAIN MENU

While viewing the following chapter, the symbols shown in the “Active Chapter Field” will all be off.
The default chapter page display sequence is shown at Tab. 5.26:

| Sequence | Explanatory field | Description |
|---|---|---|
| **1** | Totalizer | T volume totalizer [CCF]. |
| **2** | Meter serial number | Serial number of the device. |
| **3** | N Error/no Error | Indication of presence and quantity (N) alarm/active events |
| **4** | d | Current date MM-DD-YY |
| **5** | t | Local Time HH-MM-SS |
| **6** | V OPEN / V CLOSE / V ready | Valve status |
| **7** | Seismic | Dedicated menu for seismic function |
| **8** | nb iot | Dedicated menu for remote communication function |

*Tab. 5.26.*

***NOTICE***

**On any default chapter page, pressing the "Enter" button in "long" mode opens the "Chapter Selection" menu as mentioned in paragraph 5.3.2.**
**On any page of the sub menu, pressing the "Enter" button in "long" mode (2 seconds), takes you back to the corresponding main menu.**

### 5.3.2 - SECONDARY MENU SELECTION

Use the browse key to scroll through the pages in the interface; then press the “Enter” key in long mode to access the specific page sequence of the desired sub menu.

Tab. 5.27 shows the display sequence of the sub menu pages.

| Main menu | Secondary Menu | Description |
|---|---|---|
| **Totalizer** | - | - |
| **Meter serial number** | BL version | BootLoader Version |
| | BL CRC | Checksum BootLoader |
| | LR version | Legally relevant FW version |
| | LR CRC | Legally relevant FW checksum |
| | NLR version | Not legally relevant FW version |
| | NLR CRC | Not legally relevant FW checksum |
| **N Error / no error** | 01 = event code | Active (most recent) event number and code |
| | 02 = event code | Active event number and code |
| | … | … |
| | N = event code | Active (least recent) event number and code |
| | -- End | End of active events/alarms |
| **d** | - | - |
| **t** | - | - |
| **V open / V close / V ready** | Open | Valve enabled to open |
| | --- | Valve open |
| **Seismic** | Seism Off | Seismic function disabled |
| | ---init-- | Seismic initialization function in progress |
| | Calib 0/3 | Calibration 0/3 completed |
| | ---- | Calibration in progress |
| | Calib 1/3 | Calibration 1/3 completed |
| | Calib 2/3 | Calibration 2/3 completed |
| | Seism On | Seismic function activated |
| nb iot | nb iot ON | Remote communication in progress |
| | nb iot OFF | Remote communication not in progress |

*Tab. 5.27.*

## 5.4 - ALARMS

When the alarm icon on the display lights up this means that one or more of the following error conditions may be in progress according to the instrument configuration:

- Volume measurement alarm
- Alarm flow rate exceeding the stated maximum
- Tamper events alarm
- Battery charge status alarm
- Gas temperature out of operating range alarm
- Temperature sensor failure alarm
- FW integrity alarm
- Gas pressure out of operating range alarm
- Seismic event presence alarm
- Air in the meter alarm
- Reverse flow alarm

## 5.5 - OPENING OF THE SHUT-OFF VALVE

The previously closed shut-off valve must always switch from the physical "**Closed**" status to the logical "**Re-enabled for opening**" status; this switch is made by sending the remote command for re-enabling upon opening to the Management Center - SAC.

To open the shut-off valve from the user interface, proceed as described in Tab. 5.28:

| Step | Operation |
|---|---|
| 1 | Verify that authorization has been obtained from the SAC Remote Management Center (or the Central Acquisition System).<br>***NOTICE***<br>**Authorization is constrained to a time limit to perform the operation in and a maximum number of available attempts.** |
| 2 | Verify that the display in the valve menu reads "Vready," which means that the valve has been enabled to open. |
| 3 | Press "Enter" to enter the sub-menu.<br>***NOTICE***<br>**According to the relative configuration, valve opening may be password-protected.** |
| 4 | Verify that "Open" appears on the display, then press "Enter" |
| 5 | Check the display for "----" and that there is no valve icon (Tab.5.4, field 5), which identifies valve opening. |

*Tab. 5.28.*

Following reopening of the valve, the apparatus checks the flow to determine if there are any leaks, and only if programmed to do so, by measuring the volume transiting in the 360 seconds after reopening.

The verification threshold is configurable with a resolution of 0.1 CF.

***NOTICE***

**If the set leakage threshold is exceeded, the valve switches to:**

- **"Closed" physical status;**
- **logical "Re-enabled for opening";**

**spontaneously to allow the leak to be verified and resolved and then perform a new attempt to reopen.**

# 6 - TRANSPORT AND HANDLING

## 6.1 - SPECIFIC WARNINGS FOR TRANSPORT AND HANDLING

**NOTICE**

**The transport and handling activities, in compliance with the regulations in force in the country of destination of the equipment, must be carried out by personnel:**

- **qualified (specially trained);**
- **aware of the rules of accident prevention and safety in the workplace;**
- **authorized to use the lifting equipment and vehicles.**

| Transport and handling | |
|---|---|
| **Operator qualification** | • Installer. |
| **PPE required** |  <br>**⚠WARNING**<br>**The PPE listed in this chart relates to the risk associated with the equipment. For the PPE required to protect against risks associated with the workplace, installation or operating conditions, refer to:**<br>• **the regulations in force in the country of installation;**<br>• **any indications provided by the Safety Manager at the installation facility.** |
| **Weights and dimensions of the equipment** | For dimensions and weights, refer to paragraph 6.2 "Physical characteristics of the equipment". |

*Tab. 6.29.*

### 6.1.1 - PACKAGING AND FASTENING SYSTEMS USED FOR TRANSPORT

The transport packaging has been designed and manufactured in order to avoid damage during normal transport, storage and handling. The equipment should be kept in the packaging until installation.

Upon receipt of the equipment, it is necessary to:

- check that the packaging is intact and that no part has been damaged during transport and/or handling;
- immediately report to PIETRO FIORENTINI S.p.A. any damage found.

**NOTICE**

**PIETRO FIORENTINI S.p.A. is not liable for damage to property or persons caused by accidents caused by failure to comply with the instructions given in this manual.**

In Tab. 6.30. the type of packaging used is described:

| Ref. | Type of packaging | Image |
|---|---|---|
| **A** | Single cardboard box |  |

*Tab. 6.30.*

## 6.2 - PACKAGE CONTENTS

The package contains:

| Content description |
|---|
| Gas meter SSM-ICON 250 including 2 connection fitting protection caps.<br>***NOTICE***<br>**The batteries are already electrically connected internally in their place of operation.** |

*Tab. 6.31.*

***NOTICE***

**The operation, maintenance and warning manual is downloadable from the Manufacturer's website: https://www.fiorentini.com**

## 6.3 - PHYSICAL CHARACTERISTICS OF THE EQUIPMENT

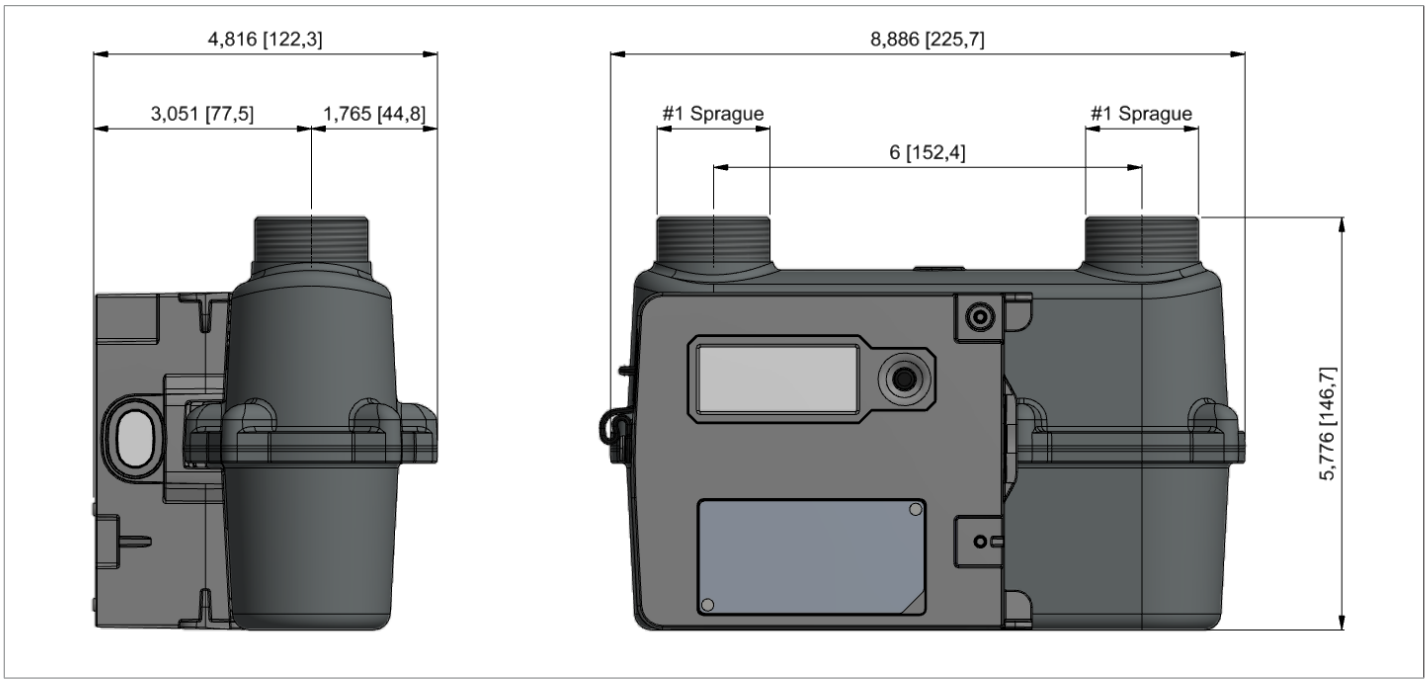



*Fig. 6.6. SSM-ICON 250 Standard Dimensions*

**NOTICE**

**The height of meter SSM-ICON 250-U7 varies depending on the type of threading of the required process connections.**
**See Tab. 6.32 for details on heights and weights for other available versions.**

| Weights | | | |
|---|---|---|---|
| **Model** | **Threading of fittings** | **Height in inches** | **Weight in lbs** |
| SSM-iCON-250-U7-xxx-001 | 10LT | 5.696 | 2.8 |
| SSM-iCON-250-U7-xxx-004 | 1/A Sprague | 5.776 | 3.3 |
| SSM-iCON-250-U7-xxx-002 | 20LT | 5.716 | 3.3 |
| SSM-iCON-250-U7-xxx-003 | 30LT | 5.874 | 3.4 |

*Tab. 6.32.*

## 6.4 - METHOD FOR ANCHORING AND LIFTING THE EQUIPMENT

**⚠ DANGER**

**The use of lifting equipment (if required) for unloading, transporting and handling of packages is reserved only for qualified operators who have received adequate training and instruction (holding the appropriate license when regulations in the country of installation require it) and knowledgeable:**

- **of accident prevention rules;**
- **of safety in the workplace;**
- **of the functionality and limitations of the lifting equipment.**

**⚠ DANGER**

**Before moving a load, make sure that its weight does not exceed the load capacity of the lifting means (and any other equipment) indicated on the specific plate.**

**⚠ CAUTION**

**Before moving the equipment:**

- **remove or firmly secure any moving or hanging component to the load;**
- **protect the most delicate equipment;**
- **check that the load is stable;**
- **make sure you have perfect visibility along the route.**

### 6.4.1 - FORKLIFT HANDLING METHOD

**DANGER**

**It is forbidden to:**

- **pass under suspended loads;**
- **move the load over the personnel working in the site/plant area.**

**WARNING**

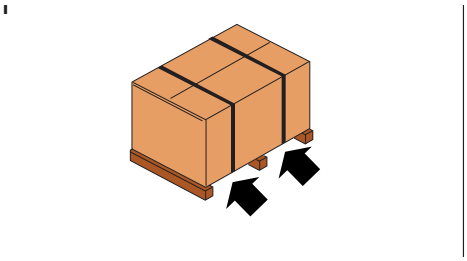
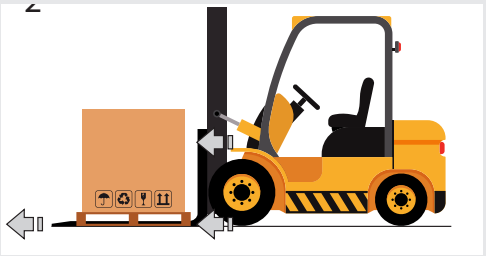
**On forklift trucks it is forbidden to:**

- **transport passengers;**
- **lift people.**

**WARNING**

**Use extreme care during all handling operations in order to avoid shock or vibration of equipment batteries.**

If the cardboard boxes (single or multiple) are supported by a pallet, proceed as shown in Tab. 6.33

| Step | Operation | Image |
|---|---|---|
| 1 | Place the forklift forks under the loading surface. |  |
| 2 | Make sure that the forks protrude from the front of the load (at least 5 cm), for a sufficient length to eliminate any risk of the transported load tipping over. |  |
| 3 | Raise the forks until contact with the load.<br>**NOTICE**<br>**If necessary, secure the load to the forks with clamps or similar devices.** |  |
| 4 | Slowly lift the load by a few tens of centimeters to check its stability making sure that the center of gravity of the load is positioned in the center of the lifting forks. |  |

| Step | Operation | Image |
|---|---|---|
| 5 | Tilt the mast backwards (toward the driver's seat) to take advantage of the tipping moment and ensure greater stability of the load during transport. | 5  |
| 6 | Adjust the transport speed according to the flooring and the type of load, avoiding sudden maneuvers.<br>**⚠WARNING**<br>**If:**<br>• **encumbrances along the route;**<br>• **particular operating situations;**<br>**do not allow the operator a perfect view, the assistance of an operator on the ground is required, placed outside the range of action of the lifting means,**<br>**with the task of signaling.** | - |
| 7 | Place the load in the chosen installation area. | - |

*Tab. 6.33.*

## 6.5 - UNPACKING

| Packing removal | |
|---|---|
| **Operator qualification** | • Installer. |
| **PPE required** |  <br>**⚠WARNING**<br>**The PPE listed in this chart relates to the risk associated with the equipment. For the PPE required to protect against risks associated with the workplace, installation or operating conditions, refer to:**<br>• **the regulations in force in the country of installation;**<br>• **any indications provided by the Safety Manager at the installation facility.** |

*Tab. 6.34.*

When unpacking cardboard boxes (single or multiple) supported by a pallet, proceed as described in Tab. 6.35

| Step | Operation |
|---|---|
| 1 | Remove the stretch film around the pallet. |
| 2 | Remove 4 support brackets. |
| 3 | Move the equipment boxes from the pallet to their intended place.<br>***NOTICE***<br>**To manually handle the packages, if their size/weight requires it, employ at least 2 operators.** |

*Tab. 6.35.*

***NOTICE***

**After removing all packing materials, check for any anomalies.**
**In the presence of anomalies:**
- **do not perform the installation operations;**
- **contact PIETRO FIORENTINI S.p.A. communicating the data shown on the identification plate of the equipment.**

**⚠WARNING**

**The individual equipment is contained in a specially designed cardboard box.**
**Avoid taking the equipment out of the box before installation.**

### 6.5.1 - PACKAGING DISPOSAL

***NOTICE***

**Separate the various materials making up the packaging and dispose of them in compliance with the regulations in force in the country of installation.**

## 6.6 - STORAGE AND ENVIRONMENTAL CONDITIONS

**⚠WARNING**

**Protect the equipment also from accidental blows and shocks until it is installed.**

***NOTICE***

**Meters should be stored in an upright position.**

The minimum environmental conditions expected if the equipment is to be stored for a long period are given in Tab. 6.36. Compliance with these conditions guarantees the stated performance:

| Terms and conditions | Data |
|---|---|
| **Maximum storage period** | A maximum storage period is not defined as it is limited only by the life of the product. |
| **Storage temperature** | -40 °F to +150 °F |
| **Relative humidity** | 95% |

*Tab. 6.36.*

# 7 - INSTALLATION

## 7.1 - GENERAL WARNINGS

**⚠WARNING**

**The equipment, due to its high accuracy and sensitivity, if left uncapped and uninstalled, could detect air flows in the surrounding environment.**
**The equipment is supplied with two caps to protect the measuring system.**
**It is recommended to keep the caps in place at all times until installation.**
**Report any supplies in which caps are missing or damaged to PIETRO FIORENTINI S.p.A..**

**⚠WARNING**

**Installation must be carried out by trained personnel in accordance with current safety requirements.**

**⚠WARNING**

**For the safe use of the equipment, observe the permissible environmental conditions and follow the data provided on the identification plate.**

**⚠WARNING**

**It is forbidden to make changes to the equipment.**

**⚠WARNING**

**PIETRO FIORENTINI S.p.A. shall not be liable for damage caused by improper installation of the equipment and/or otherwise different from what is stated in this manual.**

## 7.2 - INSTALLATION PRE-REQUISITES

### 7.2.1 - ENVIRONMENTAL CONDITIONS

***NOTICE***

**For details on permissible environmental conditions (temperature range and classification) refer to”4.3 - Technical data”.**

**⚠WARNING**

**PIETRO FIORENTINI S.p.A. shall not be liable for damage and/or malfunction caused by installation in other than permitted environments.**

## 7.3 - CHECKS BEFORE INSTALLATION

The place of installation must be suitable for safe use of the equipment.
The equipment installation area should have lighting that provides the operator with good visibility during the installation steps.

Before proceeding with installation you must make sure that:

- the installation space meets current safety requirements and is protected from possible mechanical damage, away from heat sources or open flames, in a dry place and protected from external agents;
- the customer's fixtures are closed;
- there are no impediments to the installation operations;
- upstream and downstream pipes are at the same level and capable of bearing the weight of the equipment;
- there is no stress on the connections;
- the input and output connections of the equipment are clean and have not been damaged;
- there are absolutely no mechanical stresses on the inlet and outlet connections;
- open the upstream and downstream valves very slowly to avoid pressure surges inside or outside the meter.
- tighten the input and output connections by the appropriate torque according to the fitting size (ref ANSI B109.1)
- it follows the procedures of the company or utility.

| **Installation** | |
|---|---|
| **Operator qualification** | • Installer. |
| **PPE required** |  <br>**⚠WARNING**<br>**The PPE listed in this chart relates to the risk associated with the equipment. For the PPE required to protect against risks associated with the workplace, installation or operating conditions, refer to:**<br>• **the regulations in force in the country of installation;**<br>• **any indications provided by the Safety Manager at the installation facility.** |
| **Equipment required** | Wrenches for securing equipment inlet and outlet fittings/connections. |

*Tab. 7.37.*

## 7.4 - INSTALLATION-SPECIFIC SAFETY WARNINGS

**NOTICE**

**The equipment comes with its battery packs already inserted and connected, so once installed, it is ready for use.**

**⚠WARNING**

**Before proceeding with the installation phase, make sure that the upstream and downstream valves installed on the line are closed.**

**⚠WARNING**

**The installation could also take place in environments at risk of explosion and this implies the adoption of all the necessary prevention and protection measures.**
**For these measures, please refer to the regulations in force at the place of installation.**

**⚠WARNING**

**Near the equipment it is forbidden to:**
- **use open flames (for example, for welding operations);**
- **smoke.**

**⚠WARNING**

**Before setting up the connection make sure that:**
- **at least the section of the system upstream of the equipment has been capped and therefore there is no gas supply during the installation phase;**
- **the maximum pressure of the system is lower than the maximum allowable pressure of the equipment, which is fixed and set at 5 psi relative.**

**⚠WARNING**

**Install the equipment with the indicator device horizontally facing outward, not in direct contact with walls and raised above floor level.**

**⚠WARNING**

**During equipment installation:**
- **avoid mechanical stresses on its inlet/outlet connections;**
- **implement electrostatic discharge protection measures.**

## 7.5 - METER INSTALLATION PROCEDURE

To **install the meter (A)**, proceed as described in Tab. 7.38:

| Step | Operation |
|---|---|
| 1 | Remove the protective caps of the connection fittings (B). |
| 2 | Place the meter in the duly prepared compartment in the section of the line designated for it.<br>**NOTICE**<br>**The arrow (C) located on the top of the meter and on the front cover indicates the direction of gas flow and thus the orientation of the meter inside its compartment.** |
| 3 | Place gaskets between the line fitting and the meter fitting. |
| 4 | Connect upstream and downstream pipes to the meter.<br>**NOTICE**<br>• **If necessary, use suitable fittings for the connection.**<br>• **Tighten the fittings to a torque that conforms to the type of meter connections (see references ANSI B109.1).** |
| 5 | Fill the meter SSM-ICON 250 slowly with distribution network pressure and check the connection fittings for tightness.<br>**NOTICE**<br>**The shut-off valve, located on the system upstream of the meter, should be opened gradually. Opening the valve too quickly could damage the internal components of the meter.** |
| 6 | The meter is now ready for use. |
| 7 | If installed, slowly open the valve immediately downstream of the meter. |

*Tab. 7.38.*

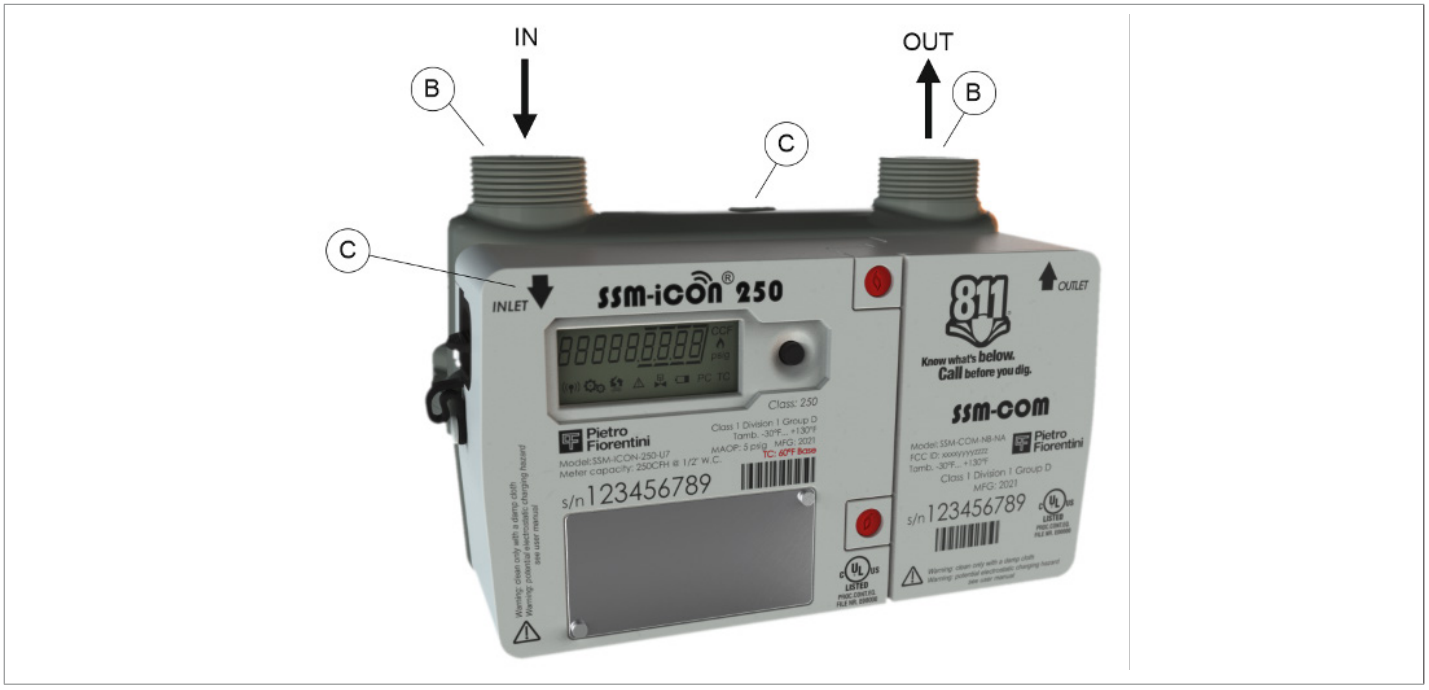



*Fig. 7.7. Installation procedures*

## 7.6 - ACTIVATION PROCEDURE FOR THE ACQUISITION OF SEISMIC EVENTS

When installing meters with an active seismic event acquisition function, proceed as described in Tab. 7.39:

**NOTICE**

**The activation procedure for acquiring seismic events must be completed within 5 minutes after starting. During acquisition, it is critical that the user does not browse to other submenus so as not to invalidate the procedure.**

| Step | Operation |
|---|---|
| 1 | Check that the meter is properly installed (see procedure in par. “7.5 - Meter installation procedure”). |
| 2 | Verify that the gas meter is in the "not configured" state.<br>**NOTICE**<br>**If necessary, use the field terminal for the mode change.** |
| 3 | Use the browse key to scroll through the pages of the main menu to the "Seismic" page. |
| 4 | Press the "Enter" key in long mode to access the sequence of pages in the sub menu.<br>**NOTICE**<br>**When the display is active, the status of the seismic event acquisition feature will appear:**<br>• **"Off" with disabled function**<br>• **"On" with enabled function** |
| 5 | Verify that the status of the seismic event acquisition function is "Off". |
| 6 | Press the "Enter" key in "short" mode to activate the activation procedure.<br>**NOTICE**<br>**If the meter is subject to vibrations and disturbances, the procedure continues until quiet conditions occur.** |
| 7 | Verify that "Init" is displayed to start the activation procedure. |
| 8 | Apply a gentle blow to the meter in the three main directions: frontally, laterally and vertically.<br>**NOTICE**<br>• **The gentle blow can be done by a light blow with a rubber-tipped hammer and a minimum energy equivalent to the free fall of the head of a hammer with a mass of 100 g from a height of 4 cm**<br>• **This gentle blow should be applied to the piping in the vicinity of the meter and never to the meter itself** |
| 9 | When the following words are displayed:<br>• "Calib 0-3", apply the gentle blow in the first direction<br>• "Calib 1-3", apply the gentle blow in the second direction<br>• "Calib 2-3", apply the gentle blow in the third direction |
| 10 | The following outcomes are possible:<br>• positive in the activation procedure, the words "SEISMIC ON" are displayed<br>• negative in the activation procedure, the words "SEISMIC OFF" are displayed |
| 11 | **NOTICE**<br>**Failure of the activation procedure is due to the application of noncompliant stresses or the system where the meter is installed SSM-ICON 250 does not comply with the minimum requirements (ASCE 25-16).** |

*Tab. 7.39.*

## 7.7 - EQUIPMENT ADJUSTMENTS

***NOTICE***

**The equipment is adjusted as requested by the Customer directly at the factory PIETRO FIORENTINI S.p.A. No further adjustments need to be made.**

# 8 - CONFIGURATION

## 8.1 - SECURITY REQUIREMENTS FOR CONFIGURATION

| Configuration | |
|---|---|
| **Operator qualification** | • Specialized technician.<br>• Installer. |
| **PPE required** |  <br>**⚠WARNING**<br>**The PPE listed in this chart relates to the risk associated with the equipment. For the PPE required to protect against risks associated with the workplace, installation or operating conditions, refer to:**<br>• **the regulations in force in the country of installation;**<br>• **any indications provided by the Safety Manager at the installation facility.** |

*Tab. 8.40.*

## 8.2 - EQUIPMENT CONFIGURATION

***NOTICE***

**Configuration of the equipment must be performed by authorized and licensed personnel.**

***NOTICE***

**Field configuration of the apparatus can be done from the local port or remotely from the SAC, again through the application protocol.**

### 8.2.1 - USING THE WIRELESS LOCAL PORT

The wireless local port (optional) can be activated from the first page of the main menu by pressing the "Enter" button for at least 5 seconds.
Once the local wireless port is activated connect via the dedicated local terminal application after pairing the two devices.

## 8.3 - VERIFICATION OF CORRECT CONFIGURATION

Equipment verifications are carried out automatically by SAC.

## 8.4 - CONNECTING WITH OTHER DEVICES

The connection of SSM-ICON 250 with the SSM-COM remote communication device or equivalent devices is intended.

# 9 - MAINTENANCE AND FUNCTIONAL TESTING

## 9.1 - GENERAL WARNINGS

**⚠ DANGER**

- **Maintenance operations must be performed by personnel trained in workplace safety, qualified and authorized for the activities inherent in the equipment.**
- **Repair or maintenance work not provided for in this manual may be carried out only with prior approval from PIETRO FIORENTINI S.p.A.. No liability related to damage to persons or property can be attributed to PIETRO FIORENTINI S.p.A. for interventions other than those described or performed in a manner other than those indicated.**

**⚠ DANGER**

**Extraordinary maintenance:**

- **requires a thorough and specialized knowledge of the equipment, the operations required, the risks involved, and the proper procedures for operating it safely;**
- **is reserved for qualified, trained and licensed technicians.**

**⚠ WARNING**

**When in doubt, it is forbidden to operate.**
**Contact PIETRO FIORENTINI S.p.A. for necessary explanations.**

***NOTICE***

**Before starting maintenance operations on the equipment, it should be ensured that the licensed operator has:**

- **the necessary equipment;**
- **the appropriate spare parts.**

In case of any ascertained abnormalities of the equipment, requiring its removal and replacement from the field, the following should be done Tab. 9.41:

| Step | Operation |
|---|---|
| 1 | Ensure there is no explosive atmosphere |
| 2 | Close the downstream shut-off valve of the equipment. |
| 3 | Close the upstream shut-off valve of the equipment. |
| 4 | Proceed to replace the equipment. |

*Tab. 9.41.*

Equipment maintenance operations are operationally divided into three main categories:

| Commissioning maintenance operations | |
|---|---|
| **Routine maintenance** | All those operations that the operator needs to carry out in a preventive manner to ensure proper operation of the equipment over time.<br>***NOTICE***<br>**The equipment requires no routine maintenance operations.** |
| **Extraordinary maintenance** | All those operations that the operator has to perform when the equipment needs it. |

*Tab. 9.42.*

## 9.2 - EXTRAORDINARY MAINTENANCE

### 9.2.1 - REPLACING THE COMMUNICATION MODULE

| Communication battery replacement | |
|---|---|
| **Operator qualification** | • Specialized technician.<br>• Maintenance technician. |
| **PPE required** |  <br>**⚠WARNING**<br>**The PPE listed in this chart relates to the risk associated with the equipment. For the PPE required to protect against risks associated with the workplace, installation or operating conditions, refer to:**<br>• **the regulations in force in the country of installation;**<br>• **any indications provided by the Safety Manager at the installation facility.** |
| **Equipment required** | • Useful tool for removing the screw cover seal;<br>• Torx T20 screwdriver;<br>• 2 screw cover seals provided by Pietro Fiorentini (see par. );<br>• 2 self-tapping screws M4x12 (see par. ). |

*Tab. 9.43.*

The equipment is designed to ensure field replacement of the remote communication apparatus in the event of any depletion of battery power.

**⚠DANGER**

**Batteries, especially end-of-life (discharged) batteries, are dangerous and sensitive to shock, vibration and exposure to open flames. Failure to comply with this document can lead to the risk of explosion, fire and harmful emissions that can have serious health consequences.**

**⚠CAUTION**

**All operations should be carried out away from heat sources.**

**⚠CAUTION**

**Fire extinguishers to be used in the event of a fire shall be Class D since they are effective in extinguishing the start of fires in the presence of Lithium.**

To **replace the SSM-COM communication module**, proceed as described in Tab. 9.44:

| Step | Operation |
|---|---|
| 1 | Using the suitable tool, remove 2 screw cover seals (A).<br>**NOTICE**<br>**Use the tool defined in Tab. 9.43.** |
| 2 | Unscrew and remove the fixing screws (B) from their seats.<br>**NOTICE**<br>**Use the Torx T20 screwdriver.** |
| 3 | Pull out the communication module (C). |
| 4 | Enter a new communication module. |
| 5 | Check that the transparent optical communication windows are completely clean. If necessary, wipe with a damp cloth and check that there is no residue.<br>**NOTICE**<br>**Take care that the O-ring (D) on the communication module is properly installed.**<br>**PIETRO FIORENTINI S.p.A. cannot be held responsible in case of malfunction to the optical communication between the meter SSM-ICON 250 and the SSM-COM communication device if the seal between the two modules is not fitted.** |
| 6 | Insert the communication module (C) into its seat, making sure it is fully inserted. |
| 7 | Insert and fasten the fixing screws (B).<br>**NOTICE**<br>• **Tightening torque: 1.1 lbs-ft**<br>• **Use the Torx T20 screwdriver.** |
| 8 | Insert the new screw cover seals (A) into the matching hole. |
| 9 | Enable wireless local port communication (see par. 8.2.1) and ensure successful connection between meter and field terminal |
| 10 | Start the pairing procedure for the new remote communication module. |

*Tab. 9.44.*

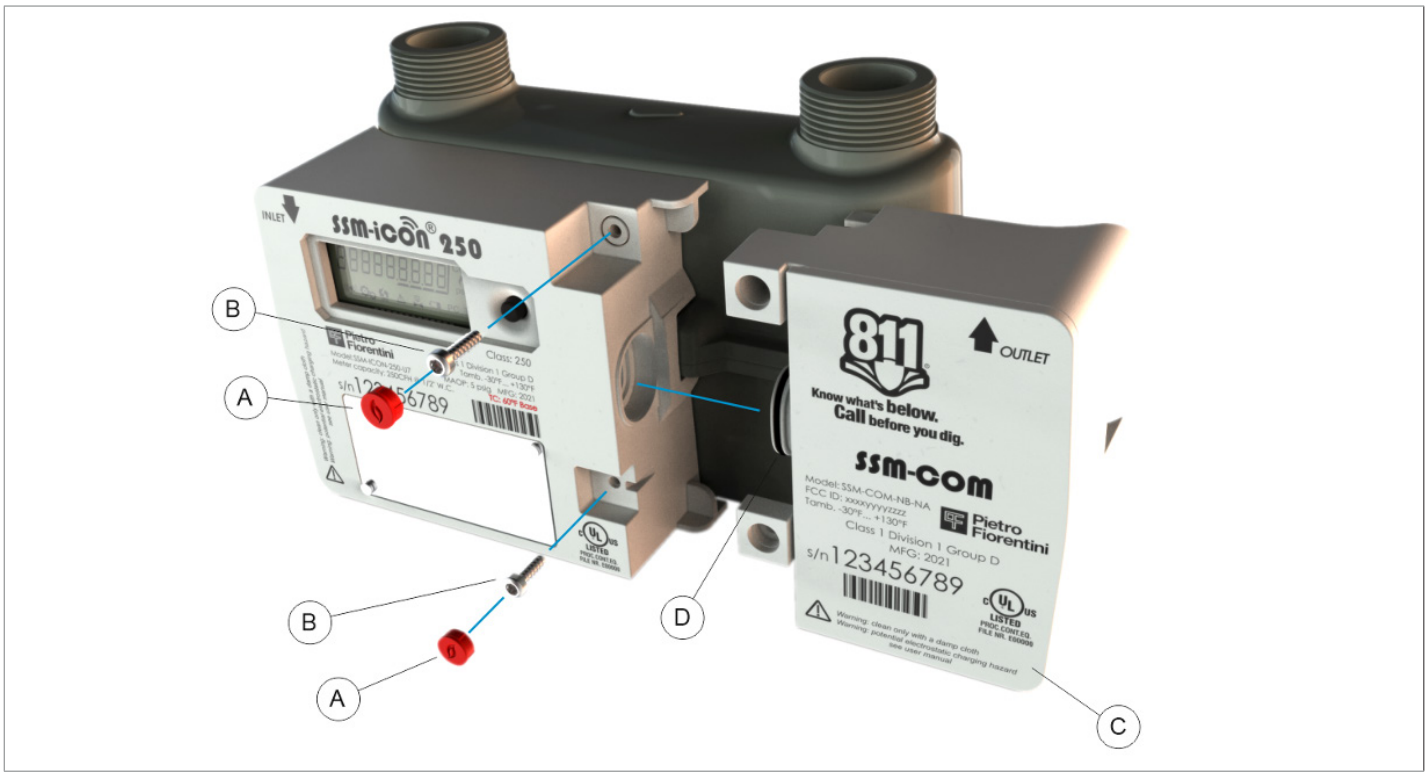



*Fig. 9.8. Replacement of the SSM-COM communication module*

# 10 - UNINSTALLATION AND DISPOSAL

## 10.1 - GENERAL SAFETY WARNINGS

**DANGER**

**Ensure that there are no effective ignition sources in the work area set up for equipment de-installation and/or disposal.**

## 10.2 - QUALIFICATION OF THE OPERATORS IN CHARGE

| Uninstalling | |
|---|---|
| **Operator qualification** | • Installer. |
| **PPE required** |  <br>**WARNING**<br>**The PPE listed in this chart relates to the risk associated with the equipment. For the PPE required to protect against risks associated with the workplace, installation or operating conditions, refer to:**<br>• **the regulations in force in the country of installation;**<br>• **any indications provided by the Safety Manager at the installation facility.** |
| **Equipment required** | Wrenches for securing equipment inlet and outlet fittings/connections. |

*Tab. 10.45.*

## 10.3 - UNINSTALLING

For proper uninstallation of the equipment, proceed as shown in Tab. 10.46:

| Step | Operation |
|---|---|
| 1 | Ensure there is no explosive atmosphere. |
| 2 | Close the valve located upstream and the valve located downstream of the equipment. |
| 3 | Disconnect the upstream and downstream piping to the equipment by unscrewing the fittings with suitable hand tools. |
| 4 | Remove the equipment.<br>***NOTICE***<br>**Seal the valves upstream and downstream of the equipment in the following cases:**<br>• **when the facility closes;**<br>• **when the equipment is not immediately replaced.** |

*Tab. 10.46.*

## 10.4 - INFORMATION NEEDED IN CASE OF NEW INSTALLATION

**NOTICE**

**In case the equipment after uninstallation is to be reused, refer to chapters: "Installation" and "Configuration".**

## 10.5 - INFORMATION NEEDED IN CASE OF RE-INSTALLATION

**NOTICE**

**If the equipment needs to be reused after uninstallation, refer to chapter 7 “Installation”.**

## 10.6 - DISPOSAL INFORMATION

**NOTICE**

- **Proper disposal avoids harm to humans and the environment and promotes the reuse of valuable raw materials.**
- **Please remember to comply with the regulations in force in the country where the equipment is installed.**
- **Illegal or improper disposal will result in the application of the penalties provided for in the regulations in force in the country of installation.**

When removing the apparatus from the field, follow current state regulations regarding waste disposal.

The equipment is made of materials that can be recycled by specialized companies.
For proper disposal of the equipment, proceed as shown in Tab. 10.47:

| Step | Operation |
|---|---|
| 1 | Prepare a large, clutter-free work area so that equipment dismantling operations can be carried out safely. |
| 2 | Separate the various components by material type in a way that facilitates recycling through separate collection. |
| 3 | Entrust the materials obtained in **Step 2** to a specialized company. |

*Tab. 10.47.*

The equipment in all possible configurations consists of the materials described in Tab. 10.48:

| Material | Disposal/recycling directions |
|---|---|
| **Plastic** | It must be disassembled and disposed of separately. |
| **Steel** | Dismantle and collect separately.<br>It must be recycled through the appropriate collection centers. |
| **Stainless steel** | Dismantle and collect separately.<br>It must be recycled through the appropriate collection centers. |
| **Aluminum** | Dismantle and collect separately.<br>It must be recycled through the appropriate collection centers. |
| **Electronic components** | Dismantle and collect separately.<br>It must be recycled through the appropriate collection centers. |
| **Lithium batteries** | See paragraph “10.6.1 - Battery disposal” |

*Tab. 10.48.*

**NOTICE**

**The materials indicated above refer to the standard models. Different materials may be provided for specific needs.**

### 10.6.1 - BATTERY DISPOSAL

Proceed with disposal in accordance with the rules:

- of transport and packaging provided in the chapter;
- of the regulations in force in the country where the equipment is installed.

**NOTICE**

**Take measures to prevent any leakage of contents from batteries under normal transport conditions.**

**⚠WARNING**

- **The lithium battery may cause a fire or chemical burn if it is not disposed of properly.**
- **Do not recharge, disassemble, heat above 212°Fahrenheit (100°C Celsius), crush, expose to water, or incinerate the lithium battery. Fire, explosion, and severe burn hazard.**
- **The battery used in this device may present a risk of fire or chemical burn if mistreated.**
- **Keep the lithium battery away from children.**

## SAFETY SPECIFICATION FOR CANADA (FRENCH)

**⚠WARNING**

- **La pile au lithium peut provoquer un incendie ou une brûlure chimique si elle n'est pas éliminée correctement.**
- **Ne pas recharger, ne pas démonter, ne pas chauffer à plus de 212 °Fahrenheit (100 °C) écraser, exposer à l'eau ou incinérer la batterie au lithium. Incendie, explosion, et risque de brûlure grave.**
- **La batterie utilisée dans cet appareil peut présenter un risque d'incendie ou de brûlure chimique si maltraité.**
- **Garder la pile au lithium loin des enfants.**

# 11 - RECOMMENDED SPARE PARTS

## 11.1 - GENERAL WARNINGS

***NOTICE***

**By using non-recommended spare parts PIETRO FIORENTINI S.p.A. the stated performance cannot be guaranteed.**
**It is recommended to use the original PIETRO FIORENTINI S.p.A. spare parts**
**PIETRO FIORENTINI S.p.A. is not responsible for damage caused by the use of non-original spare parts or components.**

## 11.2 - HOW TO REQUEST SPARE PARTS

***NOTICE***

**For specific information, consult the PIETRO FIORENTINI S.p.A. sales network**

## 11.3 - SPARE PARTS LIST

**NOTICE**

**Spare parts are unambiguously identified by:**

- **the location shown on the equipment assembly drawing (Fig. 11.9);**
- **an identification code that associates the position with the component (Tab. 11.49).**

Reference the order codes for spare parts:

| Pos. | Code | Component |
|---|---|---|
| **A** | **SG120076614** | Screw cover seal |
| **B** | **SG320016605** | M4x12 self-tapping screw |
| **C** | **SG160006600** | SSM-COM communication module |
| **D** | **SG320106603** | O-ring |

*Tab. 11.49.*

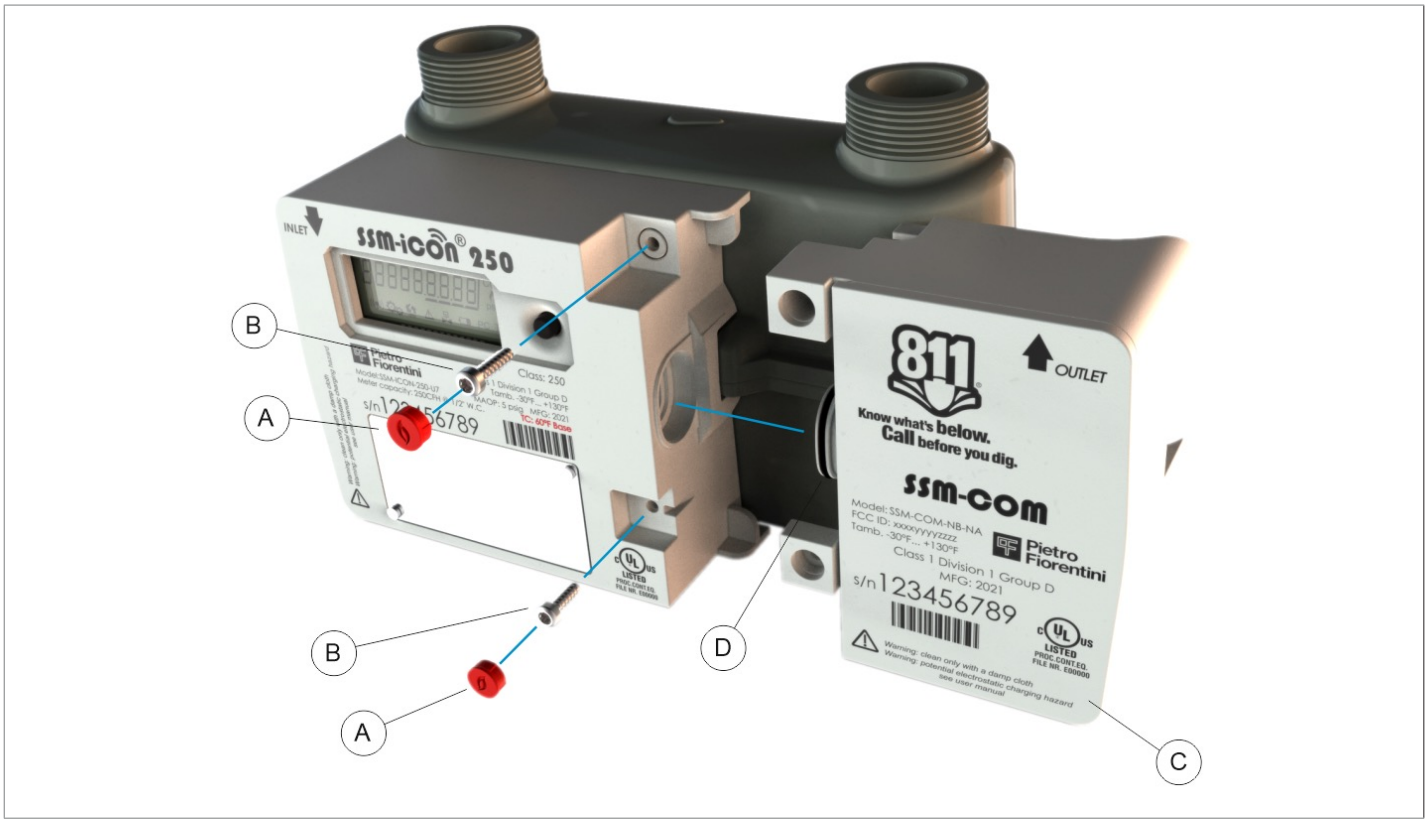



*Fig. 11.9. Spare parts*

TM0065USA

Pietro Fiorentini