



Ultrasonic Flow Meter Series 6 Q.Sonic®

**Manual
Upgrade optional
communication module in SPU**

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1 Preface

1.1 About these instructions

This document describes how to upgrade boards at the rear compartment of the SPU of an Ultrasonic Flowmeter Series 6. The Ultrasonic Flow Meter Series 6 is also referred to as USM Series 6, UFM Series 6 or Q.Sonic Series 6.

The rear compartment contains the following PCB's (⇒ Fig. 1):

1. Field terminal board
2. Optional communication module (behind the field terminal board)

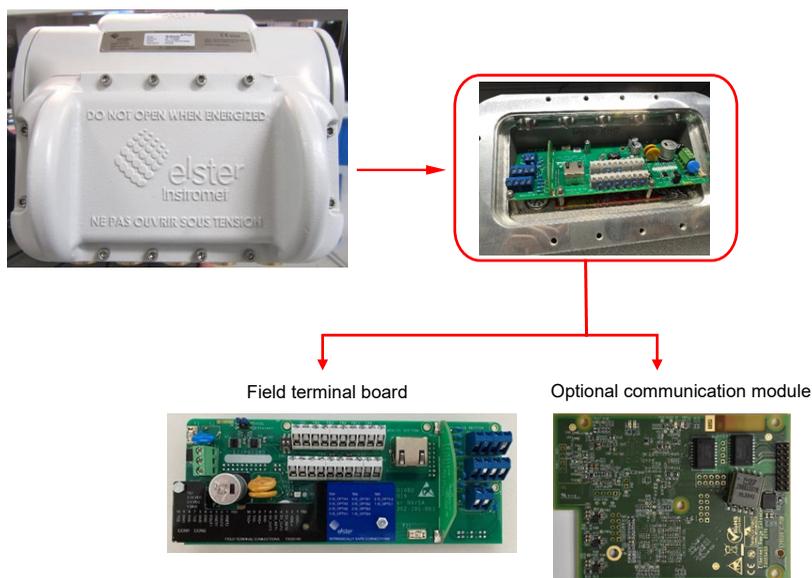


Fig. 1: Rear compartment and PCB boards

This document also describes how to mount the optional communication module, e.g., Ethernet Range Extender, if the meter has not been equipped with one before. Please be aware that extra mounting items are required for

installing an optional communication module. These mounting items are delivered together with the optional communication module:

Pos	Item	Qty
1	M3 × 5 standoff (M-F) SW5.5	3
2	plain washer ISO7089	3
3	High collar lock washer DIN 7980	3

Replacing the boards involves handling a significant number of small pieces, ensure these are not lost and spares are at reach. These can be obtained via Elster.



WARNING!

All activities described may only take place when no explosive gas atmosphere is present.

Maintenance and replacement may only be carried out by qualified personnel under safe conditions and in compliance with all applicable regulations.

Do not use any tools to handle the PCB boards. Only handle them with your hands using suitable gloves, ensuring that no build-up of static electricity can be released on the boards.

⇒ [1.2 Relevant user documentation](#) (p. 5)

Please read through the procedure carefully. Do not hesitate to contact Elster or its local representative if problems and/or questions arise

1.2 Relevant user documentation

Elster Gas Metering business provides the user documentations such as manuals, certificates, technical information for your UFM Series 6 meter in a ZIP file. The download information for this ZIP file is supplied with your device. Manuals referenced by this manual are included in this ZIP, such as UFM Series 6 “Safety Instructions”.

Single documents are published in the Docuthek. The documents are updated regularly.

www.docuthek.com/

Use the device series or the device type as search term:

UFM Series 6 or **Q.Sonic-max**

1.3 Limitation of liability

This manual is based on the latest information. It is provided subject to alterations. We reserve the right to change the construction and/or configuration of our products at any time without obligation to update previously shipped equipment.

The warranty conditions specified in the manufacturer's terms of delivery apply to the product. Warranty claims are excluded in the following cases:

- The repair or replacement of the equipment or parts thereof has been required by natural wear and tear, in whole or in part due to a catastrophe, or because of a defect or fault on the part of the purchaser.
- Maintenance or repair of the device or device parts has not been carried out by an authorized representative of the manufacturer, or modifications have been made to the device or device parts without prior express written consent of the manufacturer.
- No original parts are used.
- The device has been used incorrectly, carelessly, improperly, or not in accordance with its nature and/or intended use.
- The product has been used with unauthorized components or peripherals such as cables, test equipment, computers, or with unauthorized voltages.

The manufacturer is not liable for incidental or consequential damages arising from breach of express or implied warranties, including property damage, and to the extent permitted by law, personal injury.

We reserve the right to make technical changes within the scope of optimizing the performance characteristics and continuous further development of the device.

The current warranty conditions in the General Terms and Conditions are available on our website:

process.honeywell.com/us/en/site/elster-instromet/about-us

2 Preparation

1. Shut down the power supply of the flowmeter.
2. Enable the gas detector and ensure it remains enabled and present during the entire procedure. Do not continue when gas is detected.
3. After the power has been shut down wait at least 10 minutes before opening the rear compartment of the SPU (⇒ Fig. 1).
4. Note down or take a picture of:
 - a. The location of all the customer's wires on the field terminal connections.
 - b. The position of the switches on the field terminal board (⇒ Fig. 2).
 - c. If applicable the position of the switches on the optional communication module (⇒ Fig. 2).

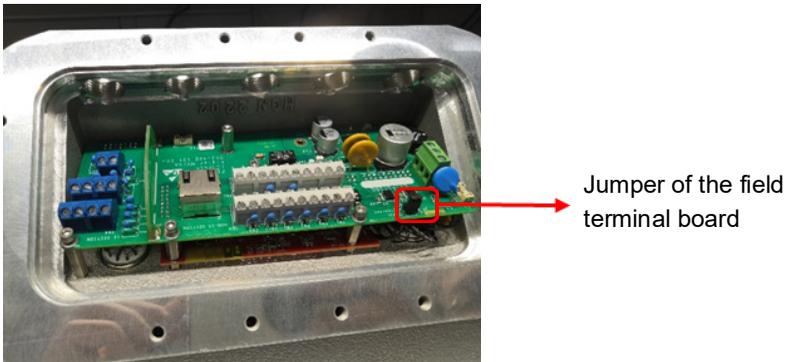


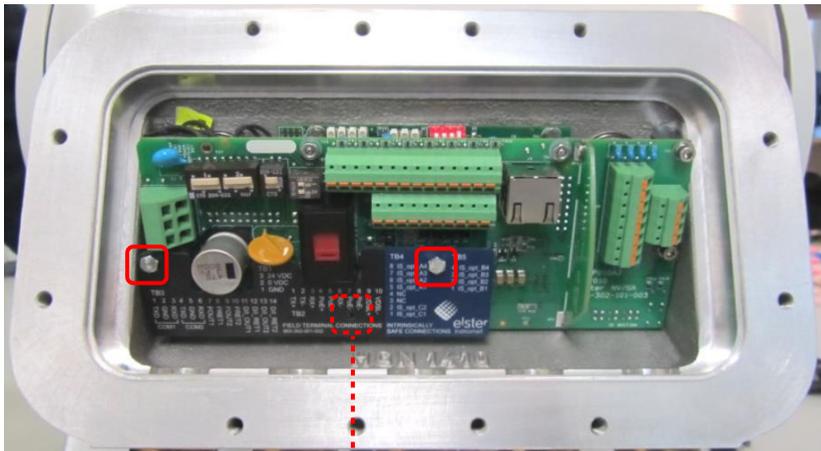
Fig. 2: Position of the jumper

5. Disconnect all cables from the field terminal board.

3 Removing old boards

3.1 Field terminal board

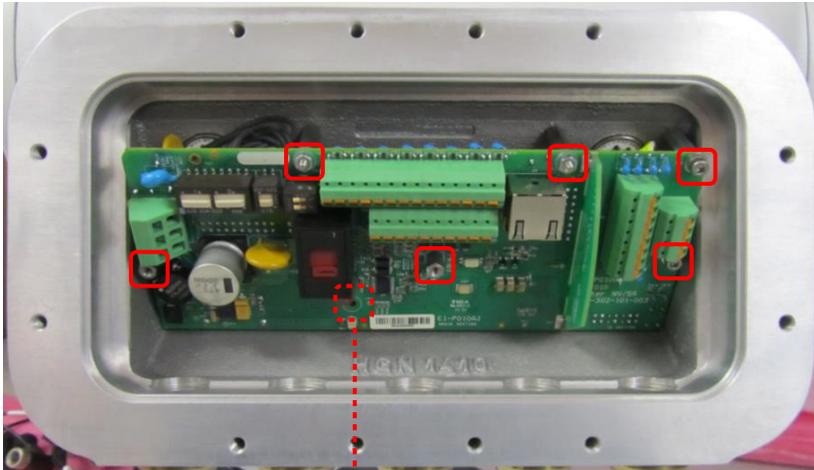
1. Remove the plate with the wiring connections.



► If a screw is located here,
remove it as well

Fig. 3: Plate with wiring instructions assembly

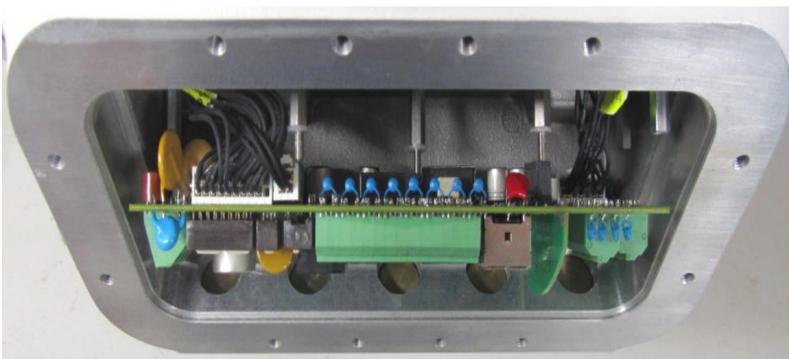
2. Remove all mounting hardware holding the field terminal board.



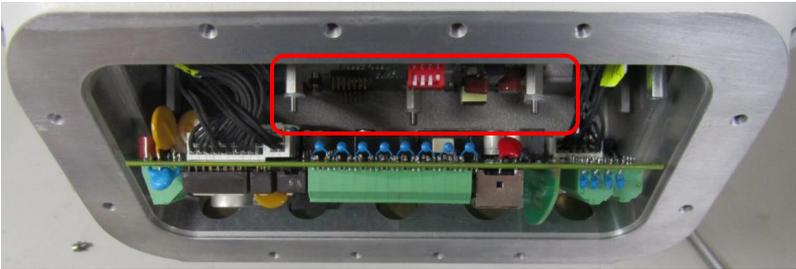
→ If a screw is located here, do not remove it

Fig. 4: Field terminal board assembly

3. Pull the board away from the SPU, just enough to be able to disconnect the cables on the backside. Take extra care when the meter is equipped with an optional communication module carefully disconnect the field terminal board from the optional communication module. Now disconnect the three cable assemblies at the back side (⇒ Fig. 5) so the field terminal board can be removed from the rear compartment.



Meter without an optional communication module



Meter equipped with an optional communication module. First carefully disconnect the field terminal board from the optional communication module

Fig. 5: Cable assemblies at the back side of the SPU.

3.2 Optional communication module

1. Follow the steps of ⇒ section 3.1 first.
2. Remove the 3 × M3 standoffs.



Fig. 6: Removing the 3 × M3 standoffs

3. The optional communication module can now be removed.

4 Placing new boards

Depending on which board needs to be placed, choose the correct procedure below.

4.1 Field terminal board

The three middle stand-offs need to be equipped with a plastic washer to prevent a short circuit of the electronics. Verify that these plastic washers are present. If not, please change as shown in the next figure. These spare parts should be delivered with the field terminal board. Make sure to use 1 washer of 1 mm thickness, or 2 washers of 0.5 mm.

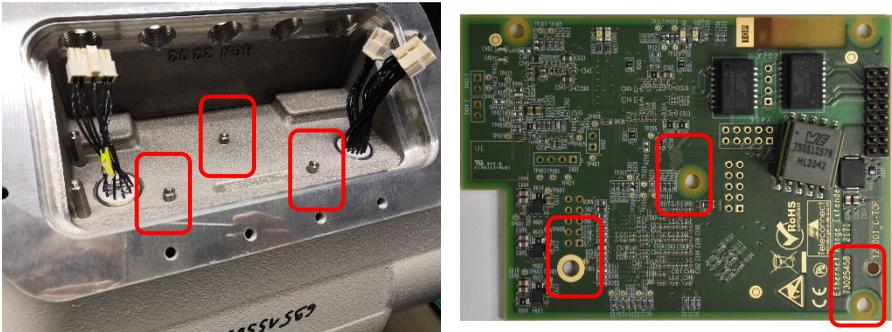


Fig. 7: Cable assemblies at the back side of the SPU.

1. Place the thermal gap filler on the back side of the new field terminal board. It can be found either on the back side of the old field terminal board or in the SPU itself.

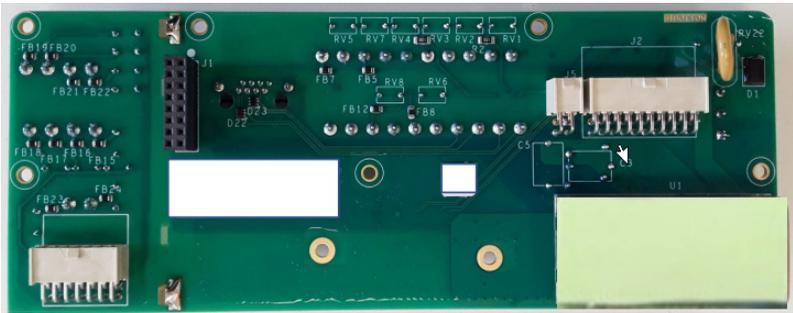


Fig. 8: Thermal gap filler on the field terminal board

First connect the three cable assemblies at the back side of the field terminal board (⇒ Fig. 5).

2. Place the field terminal correctly in the SPU so it can be fixed (⇒ Fig. 4). Be careful when the SPU contains an optional communication module, first carefully connect the field terminal board to the optional communication module (⇒ Fig. 5).

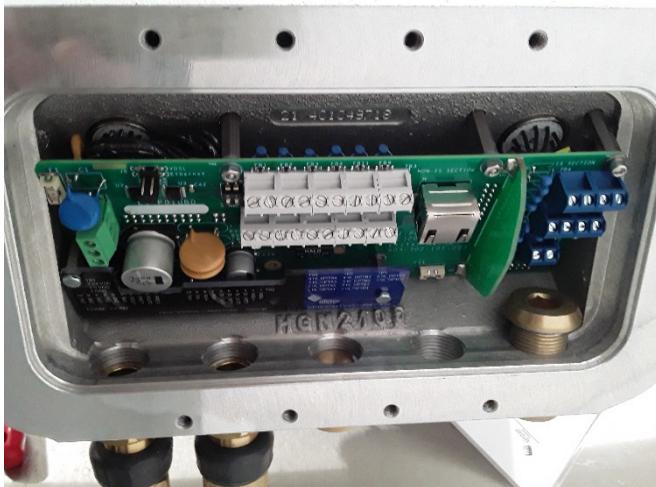


Fig. 9: Standoffs with plastic washers

3. Replace the plate with the wiring connections (⇒ Fig. 4).

4.2 Optional communication module

1. If the meter has not been equipped with an optional communication module before, the 3 × middle M3 standoffs should be replaced by 3 × 'M3 × 5 standoffs (M-F) SW5.5'.

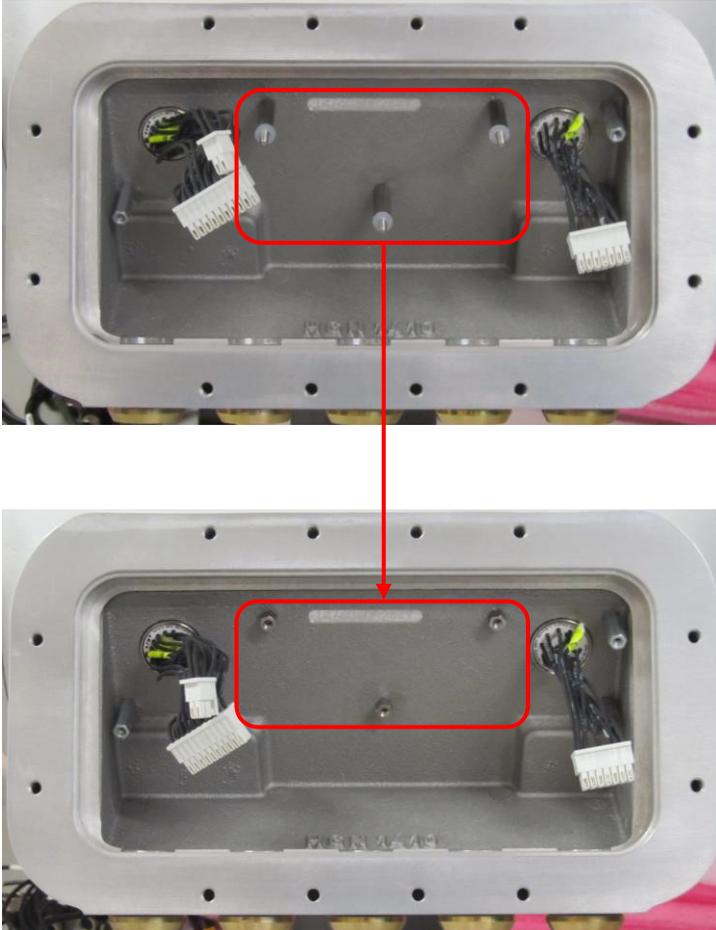
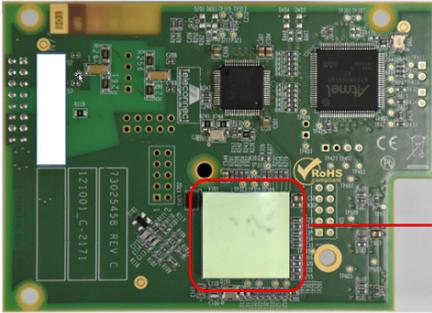


Fig. 10: Exchange standoffs for the optional communication module

2. Place the thermal gap filler on the back side of the new optional communication module (⇒ Fig. 11). It can be found either on the back side of the old optional communication module or in the SPU itself.



Thermal gap filler placed correctly on the backside of the optional communication module. Be aware that it is double folded.

Fig. 11: Thermal gap filler on the optional communication module

3. Place the new optional communication module correctly in the SPU so it can be fixed (⇒ Fig. 6).
4. Proceed with steps from ⇒ section 4.1.

5 Finalizing

1. Reconnect all cables in the dedicated wire terminals, as noted down during the preparation.
2. Ensure all switches of the field terminal board and optional communication module are Positioned as noted down during the preparation.
3. Close the rear compartment.
4. Power up the meter and verify that it is performing as desired. Feel free to contact Elster or its local representative for verification.
5. Fill in 'returned material Authorization' (RMA) of Elster for the replaced PCB boards.
The form can be obtained at Elster.