Excellence in Compliance Testing

Certification Exhibit

FCC ID: QZC-UFTR1
IC: 4557A-UFTR1

FCC Rule Parts: 15.247, Part 90
ISED Canada's Radio Standards Specifications: RSS-247, RSS-119

ACS Project Number: 17-3005

Manufacturer: Elster Solutions
Model: UFTR1

Manual

Model UFT PCBA manual

General

The Model UFT printed circuit board assembly (PCBA) contains a frequency hopping spread spectrum radio operating in the 902.4-927.6 MHz ISM frequency band and a 451.35 MHz FCC Part 90 licensed radio. It also contains a pre-certified Bluetooth module used for communication with user's Bluetooth enabled portable device. When the UFT module is installed in its plastic housing it forms a pass-through device used to interrogate Elster Solutions metering devices that are currently installed. Installations of multiple metering devices comprise part of an Advanced Metering Infrastructure (AMI) system that utilizes a proprietary network architecture and protocol devised by Elster Solutions. The UFT is used by the user to allow communication with devices within this network architecture.

Device specifications

Table 1: 900 MHz Radio Specifications for 25-Channel 250 mW EA Operation

Classification	Frequency Hopping Spread Spectrum	
Maximum Output Power	250 mW	
Operating Frequency Band	902.4 – 927.6 MHz	
Number of Channels	25	
Channel Spacing	400 KHz	
Mode	EA LAN1	EA LAN2
Data Rate	35.56 kbps	142.22 kbps
Occupied Bandwidth – 20dB	250 KHz < BW < 400 KHz	250 KHz < BW < 400 KHz
Occupied Bandwidth – 99%	250 KHz < BW < 400 KHz	250 KHz < BW < 400 KHz
Channel Dwell Time	< 0.4 seconds within a 10 second period	

Table 2: 900 MHz Radio Specifications for 64-Channel 250 MW NGC Operation

Classification	Frequency Hopping Spread Spectrum
Maximum Output Power	250 mW
Operating Frequency Band	902.4 – 927.6 MHz
Number of Channels	64
Channel Spacing	400 KHz
Mode	NGC
Data Rate	50, 150, 200 kbps
FSK Occupied Bandwidth – 20dB	100 KHz < BW < 400 KHz for 50/150/200 kbps data rates
FSK Occupied Bandwidth – 99%	100 KHz < BW < 400 KHz for 50/150/200 kbps data rates
GFSK Occupied Bandwidth – 20dB	100 KHz < BW < 400 KHz for 50/150/200 kbps data rates
Channel Dwell Time	< 0.4 seconds within a 20 second period

Table 3: 451.35 MHz Radio Specifications

Classification	Single Channel GFSK
Maximum Output Power	500 mW
Operating Frequency Band	451.35 MHz
Number of Channels	1
Data Rate	3.125 kHz
Channel Bandwidth	12.5 kHz
Occupied Bandwidth – 99%	10.5 kHz

FCC and Industry Canada Compliance

The 900 and 451.35MHz radio module is manufactured directly onto the main circuit board, and the module is inserted into the plastic housing that attaches to the user's belt using the included beltclip. The Bluetooth module is a pre-certified module (FCC: PI4411B, IC: 1931B-BTM411). The UFT has no user-serviceable parts.

USER INFORMATION (PART 15.105)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If you experience trouble with this equipment, please use the Return Material Authorization (RMA) feature available at the Online Customer Services at www.elstersolutions.com. Do not attempt to repair this equipment yourself unless you are replacing the entire module.

COMPLIANCE STATEMENT (FCC PART 15.19 AND INDUSTRY CANADA)

This device complies with part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

ÉNONCÉ DE CONFORMITÉ

Cet appareil est conforme à la Partie 15 des règles de la FCC et aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'utilisation de cet appareil est soumise aux deux conditions suivantes : (1) Cet appareil ne doit pas provoquer d'interférences nocives et (2) cet appareil doit accepter toutes les interférences reçues notamment celles pouvant provoquer un fonctionnement intempestif de l'appareil.

ANTENNA COMPLIANCE

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

UFT: This radio transmitter has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

UFT: Le présent émetteur radio a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

- On Board 900MHz Chip Antenna: 2.56 dBi
- External 450 MHz Dipole Antenna: 4 dBi

WARNING (PART 15.21)

Changes or modifications not expressly approved by Elster could void the user's authority to operate the equipment.

RF RADIATION SAFETY GUIDELINES

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment is in direct contact with the body of the user under normal operating conditions. This device should only be operated in the manner outlined in the training documents provided.

DIRECTIVES DE SÉCURITÉ DE RADIOFRÉQUENCE

Cet équipement est conforme aux limites d'exposition aux rayonnements de la FCC établies pour un environnement non contrôlé. Cet équipement est en contact direct avec le corps de l'utilisateur dans des conditions normales d'utilisation. Cet appareil ne doit être utilisé que de la manière indiquée dans les documents de formation fournis.

COLLOCATION STATEMENT

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

DÉCLARATION DE CO-LOCALISATION

Cet émetteur ne doit pas être co-localisé ou opérant en conjonction avec aucune autre antenne ou transmetteur.

Honeywell

Unified Field Tool

Product guide
PG42-1064A

Preliminary

UNIFIED FIELD TOOL

The unified field tool (UFT) is a device used for communicating with electric meters and gas and water modules. It is typically used for installation, but also used for meter reading and troubleshooting.

The UFT can be used with both EA_Installer and EA_Inspector running on the Radix FW950 handheld.

This product guide contains the following information:

- FCC and Industry Canada Compliance
- Safety information
  - Wearing the UFT with the beltclip
- Before using the UFT with beltclip
  - Parts
  - Assembly
    - Beltclip to UFT device
  - Charging the UFT device
- Pairing the UFT with the handheld

FCC AND INDUSTRY CANADA COMPLIANCE

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Énoncé de conformité

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Directives de sécurité de radio fréquence

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Collocation Statement

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Déclaration de co-localisation

Cet émetteur ne doit pas être co-localisé ou opérant en conjonction avec aucune autre antenne ou transmetteur.

SAFETY INFORMATION

WEARING THE UFT WITH THE BELTCLIP

The device comes with a separate beltclip that attaches to the device and then to your belt making it easy to carry. You can choose, however, to attach the beltclip to your belt first and then attach the UFT. The device with beltclip can be worn anywhere on your belt.

NOTICE

When wearing the UFT with beltclip, be sure that the antenna points upward and the company name, Honeywell, faces outward.

Figure 1. Correct position for wearing UFT with beltclip

⚠ WARNING

Misuse of this product outside of the safety wearing guidelines listed above can result in an increased level of RF exposure.

BEFORE USING THE UFT WITH BELTCLIP

PARTS

The parts included in the box are:

- UFT device with antenna attached
- Charging cable and charger
- Beltclip

Figure 2. UFT with parts

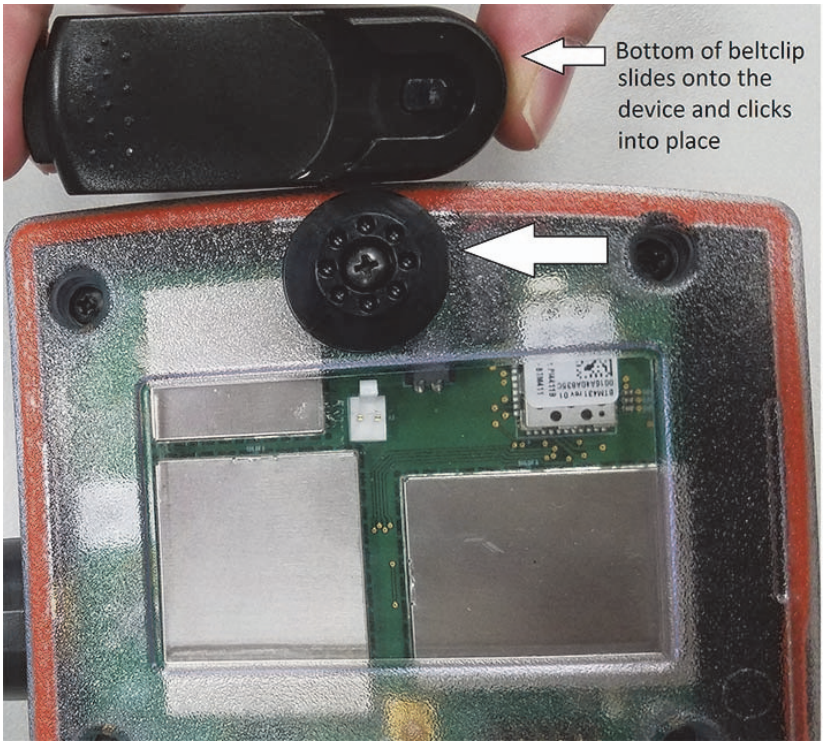
ASSEMBLY

Attaching the UFT to the beltclip

1 Place the underside of the beltclip onto the device's round knob and push upward on the beltclip to click and lock it into place.

2 Attach the clip with the device anywhere on your belt with the antenna up and the company name, Honeywell, facing out.

Figure 3. Attach beltclip to device



Note: Alternatively, you can attach only the beltclip to your belt and then attach the UFT to the clip, as shown in Figure 4.

Figure 4. Attach device to clip on belt

CHARGING THE DEVICE

Before using the UFT, it must be charged using the enclosed charging cable. Charge time can take up to 7 hours.

- Insert the USB end of the charging cable into the charger and the small end into the device's micro USB port.
- Plug the male end of the charger into an electrical outlet.

Charging should begin immediately, indicated by a solid green light.

Table 1. LED indicators

LED color	Description
Green solid	Comes on immediately when charging cable is plugged into the device's USB port and charger, and the charger is plugged into an electrical outlet. Does this light stay on with the amber solid light until charging is completed?
Amber solid	Indicates the device is charging; goes off when fully charged
Green blinking	Indicates a good charge
Yellow blinking	Indicates that charge is less than 50%
Red blinking	Indicates that charge is less than 10%

PAIRING THE UFT WITH THE FW950 BLUETOOTH HANDHELD

If the device is shipped with the handheld, the two devices have been paired at the factory.

If the UFT is a replacement device, it must be paired with the FW950 Bluetooth handheld before EA_Inspector or EA_Installer can use it to communicate with LAN devices. Each time the device is fully discharged, it must be paired again with the handheld.

Pairing is done using the `elsterRegKeyEdit` application. This application is located on the handheld by selecting the options **DiskOnChip**, **Windows**, and **ElsterRegKeyEdit**. Press **Enter** after selecting each option to move to the next window.

Complete these steps to pair the UFT with the handheld.

1. Make sure the FW950 handheld is not in the cradle.
2. Make sure the Bluetooth Beltclip is charged and on.
3. On the handheld main window, select **My Device**.
4. Select these options **DiskOnChip**, **Windows**, **ElsterRegKeyEdit**, pressing **Enter** after each one to move to the next window.
5. Select `RegKeyEdit` to run it.

   The Elster Registry Key Edit window is displayed.

Figure 5. Elster Registry Key Edit window

6 Select **BT** as the Radio option.

If **Set Reg Keys** is enabled, continue now with Step 7.

If **Pair BT** is enabled, continue now with Step 8.

7 Click **Set Reg Keys**.

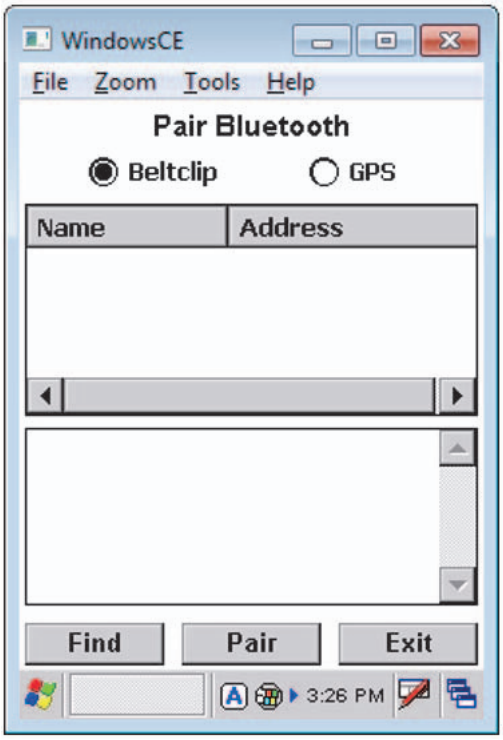
A message is displayed asking if you want to enable the handheld Bluetooth.

8 To enable the handheld Bluetooth, click **Yes**. The handheld reboots. Continue now with Step 9.

Note: If you click **No**, the Bluetooth Beltclip setup ends.

9 Click **Pair BT** to display the Pair Bluetooth screen.

Figure 6. Pair Bluetooth screen



10 Select **Beltclip** and click **Find**.

The handheld screen displays all Bluetooth Beltclip devices found around the handheld.

Figure 7. Bluetooth Beltclip devices found

11 Select the device to be paired and click **Pair**.

When the Bluetooth Beltclip is paired with the FW950 Bluetooth handheld, the following message is displayed:

```
Pair Bluetooth Beltclip Succeeded
```

12 Click **OK** and then click **Exit** to exit the Pair Bluetooth screen.

The Elster Registry Key Edit screen is displayed.

Figure 8. Elster Registry Key Edit window

13 To confirm the pairing, click **Get Reg Keys**.

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