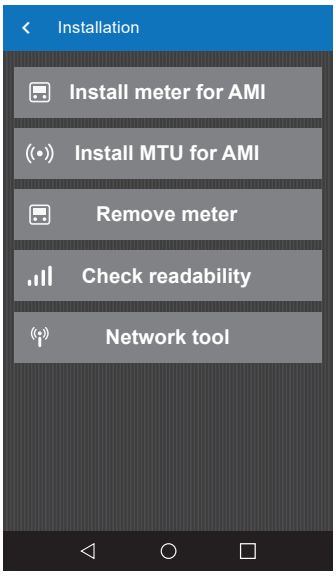
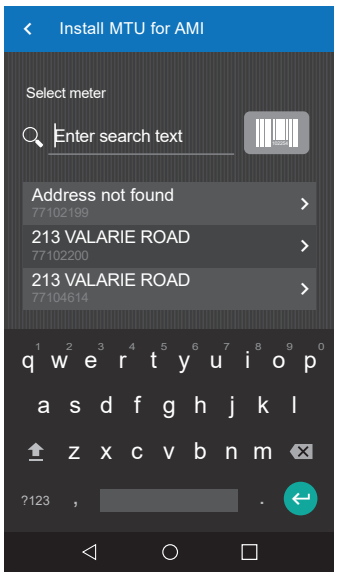
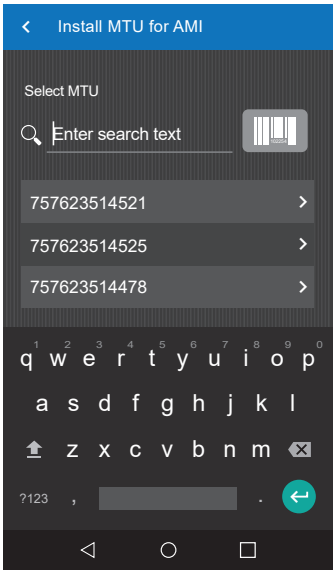
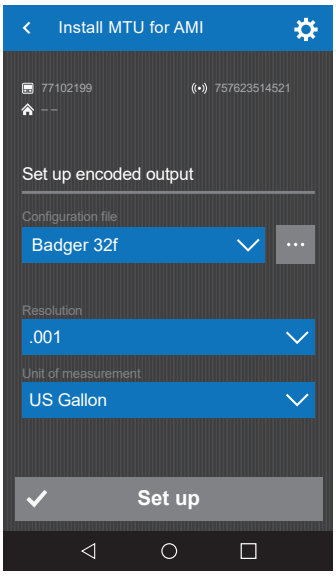
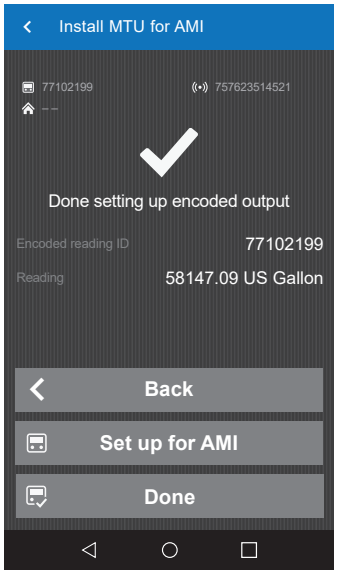
8. Choose the menu item **Install MTU for AMI**.	
9. Select the meter on which you want to install READy MTU. You can search by serial number or address.	
10. Select the MTU that you want to install on the meter. You can search by serial number.	

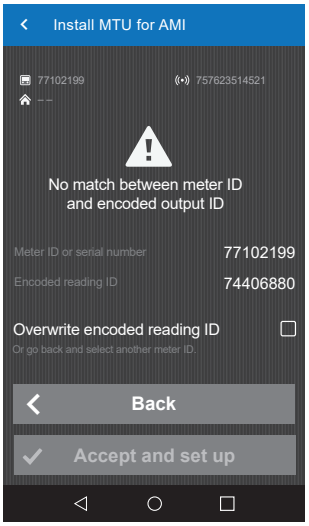
11. Set up the encoded output parameters.
    If a configuration exists, it is shown in the drop-down menu. If no configuration exists, create one and press **Next**.
    The latest used configuration will always be chosen by default.

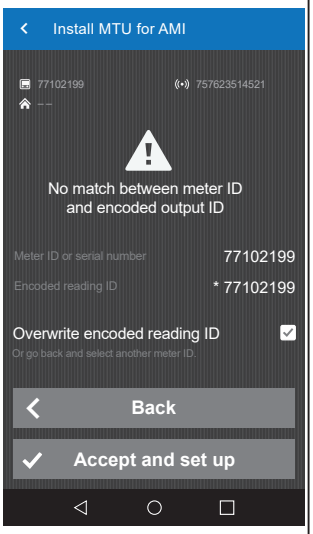


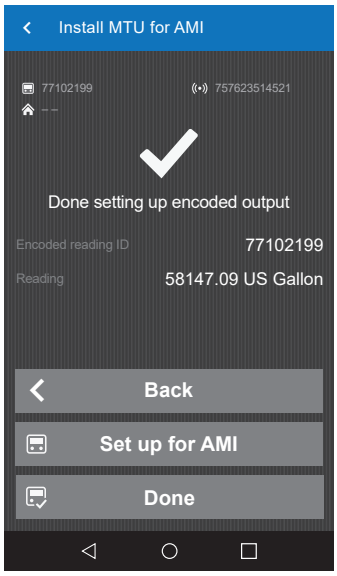
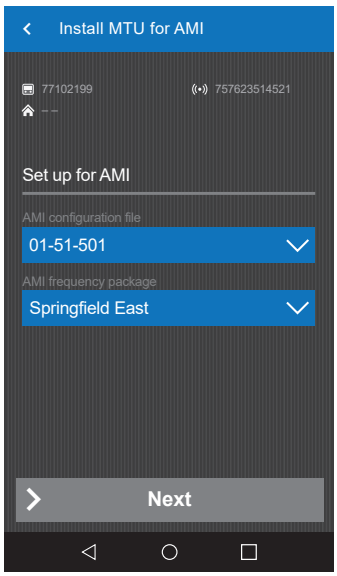
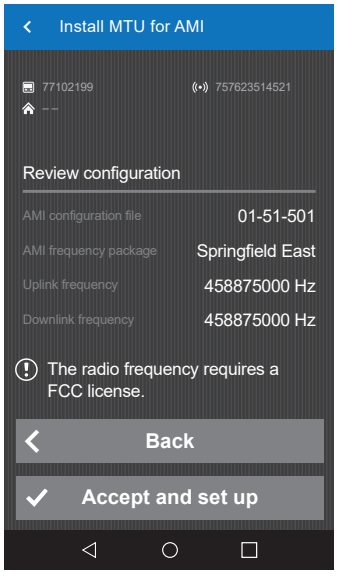
12. A.
    Ensure that the **Reading** is correct before proceeding. If not, go back and change the encoded output parameters.

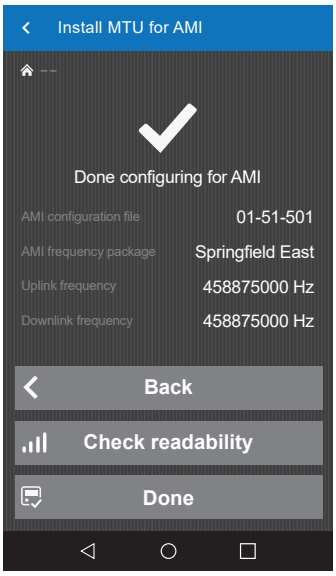
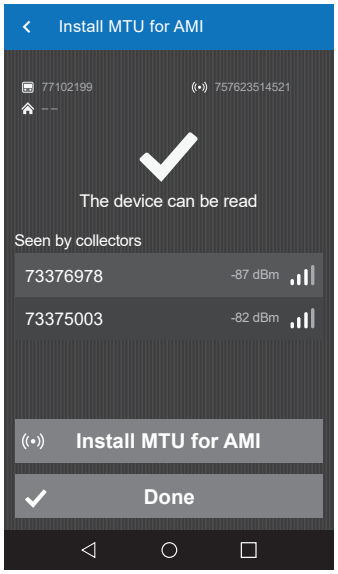


12 B.
    If there is no match between the encoded output reading and the chosen meter ID/serial number, choose **Overwrite** or **back.**
    By overwriting the encoded reading ID, READy MTU will forward the chosen meter ID/serial number and data will flow to the correct meter.
    Press **Back** to choose another meter.
    Press **Accept and set up** to continue.





13. Choose the menu item **Set up for AMI**.	
14. Choose the correct configuration for your AMI network. Press **Next**.	
15. Review the configuration. Press **Accept and set up**.	

16. The AMI configuration has been completed, check the readability of the MTU by the AMI network before leaving the installation.	
17. If the readability is successful, the configuration is complete.	

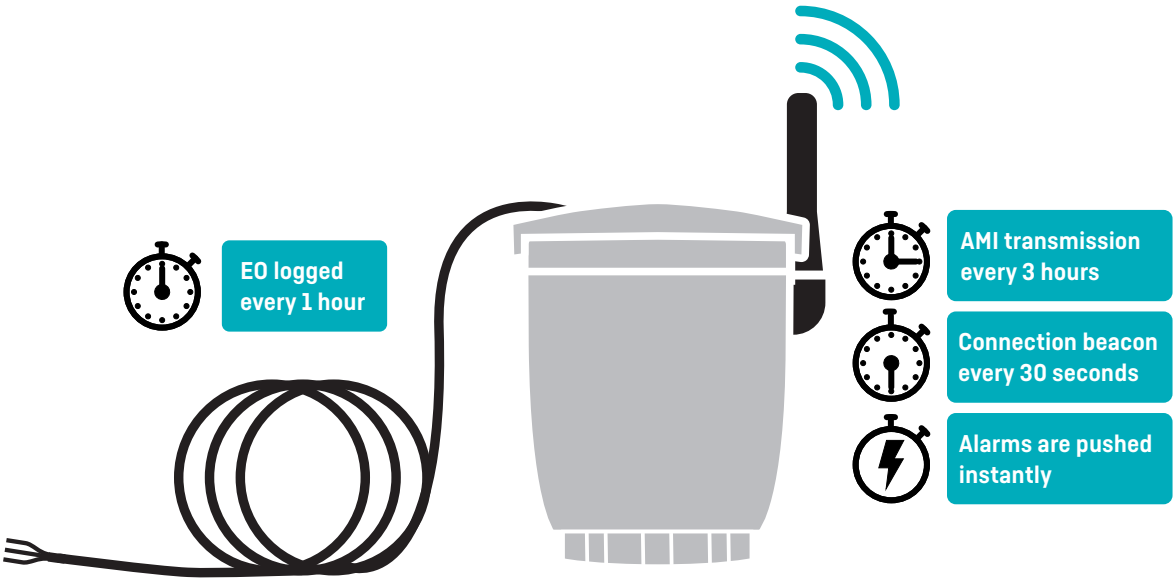
9 Operation

9.1 Normal operation

After configuration, READy MTU starts forwarding data to READy Collector and READy Manager. The transmission interval is determined by your READy Manager license:

- Hourly readings sent every 3 hours
- Daily readings sent daily

Hourly data is collected and logged via the 3-wire encoded input at the top of the hour and stored for transmission every 3 hours.



As long as READy MTU is in operation, it continues to forward data from the connected meter/register. If the MTU is moved from the installation, it is important to decommission the device into transport mode by deactivating the radio. Please see section **9.6 Decommissioning**.

READy MTU can at all times be accessed via READy App and READy Converter. Make sure to synchronize READy Manager and READy App before attempting to connect to READy MTU.

The MTU sends a connection beacon every 30 seconds during normal operation. The connection beacon interval can be speed up to every 4 seconds (installation mode) by pointing the magnet at the magnetic sensor. After 5 minutes, READy MTU disables installation mode and goes into operation mode.

If you need to reconfigure READy MTU, please see section **9.5 Reconfiguration**.

9.2 Alarms/info codes

Notice Remember to enable transport mode when exchanging or decommissioning READy MTU. If this is not done, the MTU will keep sending alarms with **Reading error** to the previously connected meter in READy Manager.

9.2.1 Battery low

Meaning: READy MTU will forward a **Battery low** alarm when the expected battery capacity left allows for approximately 6 months of normal operation.

MTU behavior: READy MTU will keep forwarding data as long as possible until the battery is depleted and AMI transmission is not possible anymore.

9.2.2 Reading error

Meaning: Data cannot be collected on the encoded communication interface.

Possible reasons:

- The encoded output cable may be malfunctioning or broken
- READy MTU has been disconnected from the meter without enabling transport mode

MTU behavior: READy MTU will forward a reading error. The alarm/info code will disappear when a successful reading is obtained again. If the MTU has been removed from the installation and transport mode is not enabled, READy MTU will keep forwarding the reading error until transport mode is enabled or the MTU is installed and reconfigured.

9.3 Device exchanges

Notice Remember to enable transport mode when exchanging or decommissioning READy MTU. If this is not done, the MTU will keep sending alarms with no reading/communication error to the previously connected meter in READy Manager.

9.3.1 Exchange of preconfigured MTU

If exchanging a preconfigured with a new preconfigured MTU, please see section **9.6 Decommissioning** for decommissioning of the old MTU and section **8.3.1 Configuration of preconfigured MTU** for deployment of the new MTU.

9.3.2 Exchange default configured MTU

If exchanging a default configured with a new default configured MTU, please see section **9.6 Decommissioning** for decommissioning of the old MTU and section **8.3.2 Configuration of default configured MTU** for deployment of the new MTU.

9.3.3 Meter/register exchange

Before exchanging a meter or register, please determine which device scenarios you are using in your system and which device is tracked/CIS imported in READy Manager.

9.3.3.1 Device scenarios

A) Meter holds volume

Meter (holds volume)	Register	MTU

B) Register holds volume

Meter	Register (holds volume)	MTU

C) Meter holds volume

Meter (holds volume)	MTU

9.3.3.2 Device scenario A: Meter ID is tracked/CIS imported in READy Manager

Meter exchange:

- Perform a meter exchange in READy App
- Perform an MTU installation in READy App

Register exchange:

- Perform a MTU installation in READy App

9.3.3.3 Device scenario A: Register ID is tracked/CIS imported in READy Manager

Meter exchange

If one of the following steps are not taken, the consumption graphs in READy Manager will fail:

- Track register serial number in CIS instead
- Change meter in CIS manually
- Swap both meter and register

Register exchange

- Perform a meter exchange in READy App

9.3.3.4 Device scenario B: Meter ID is tracked/CIS imported in READy Manager

Meter exchange:

- Perform a meter exchange in READy App
- Perform an MTU installation in READy App

Register exchange:

If one of the following steps are not taken, the consumption graphs in READy Manager will fail:

- Track meter serial number in CIS instead
- Change register in CIS manually
- Swap both meter and register

9.3.3.5 Device scenario B: Register ID is tracked/CIS imported in READy Manager

Meter exchange:

- No action required

Register exchange:

- Perform a meter exchange in READy App
- Perform an MTU installation in READy App

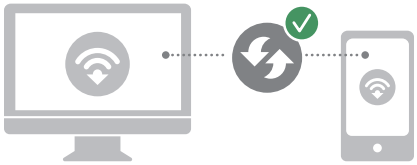
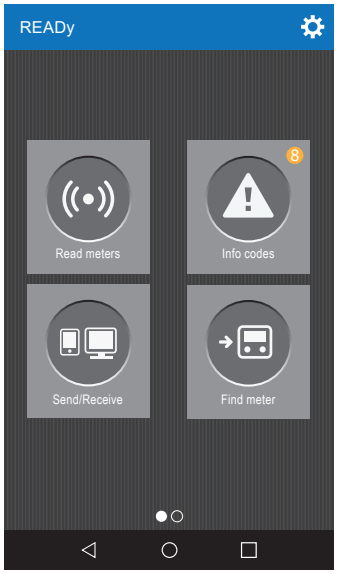
9.3.3.6 Device scenario C: Meter ID is tracked/CIS imported in READy Manager Meter exchange

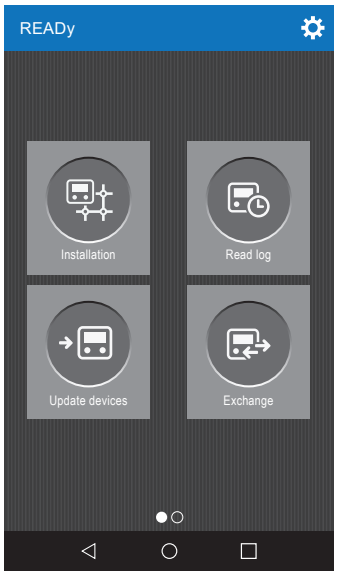
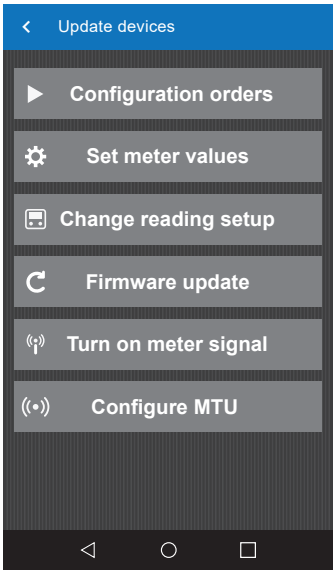
- Perform a meter exchange in READy App
- Perform an MTU installation in READy App

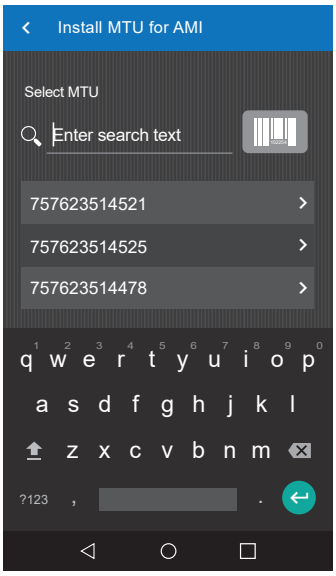
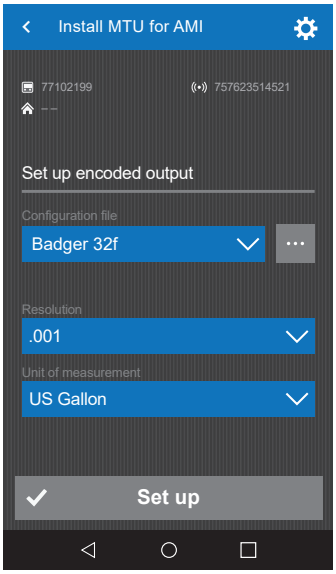
9.4 Fallback and log readings

Please follow the instructions in the READy Manager guide under **Fallback reading for two-way radio network (AMI) meters** and **Collecting logged data from meters with two-way communication**.

9.5 Reconfiguration

1. Sync READy Manager and READy App before proceeding to step 2.	
2. Turn on READy Converter. 3. Open READy App.	

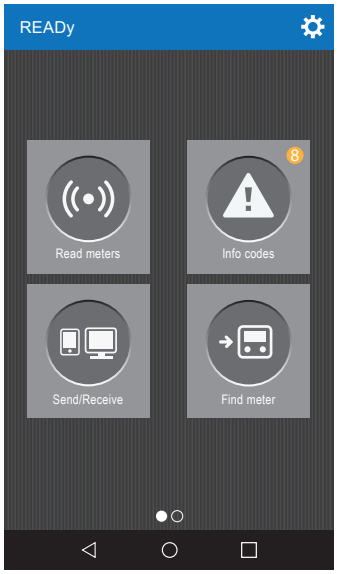
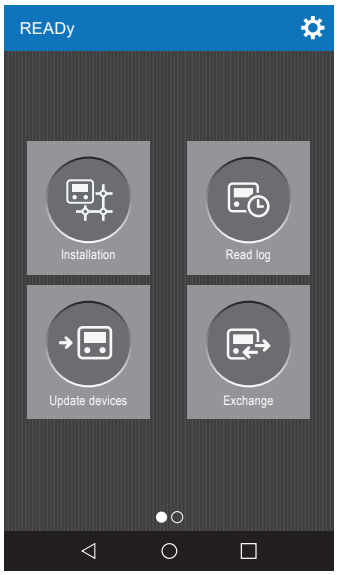
4. Swipe left and go to the menu item **Update devices**.	
5. Choose the menu item **Configure MTU.**	
6. Pair with READy Converter.	

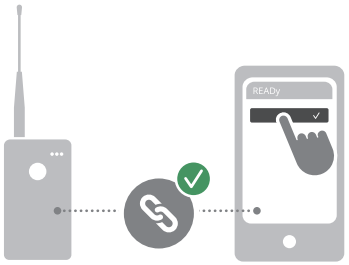
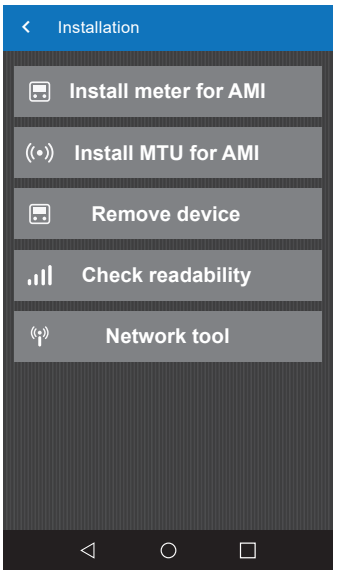
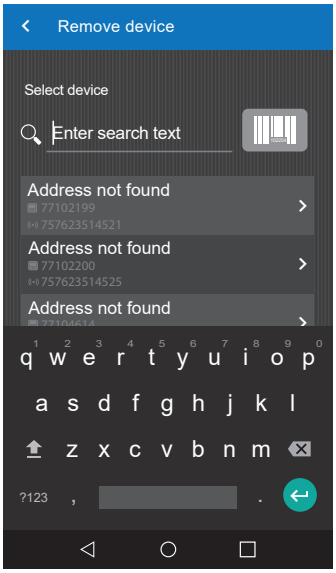
7. Select the MTU you want to update. You can search by serial number.	
8. The configuration shown is the current configuration of the MTU. You can rename the configuration by tapping the three dots next to the **Configuration file** combo box.	
9. The configuration continues as normal. See section **8.4.2 Configuration of default configured MTU** for further details.	

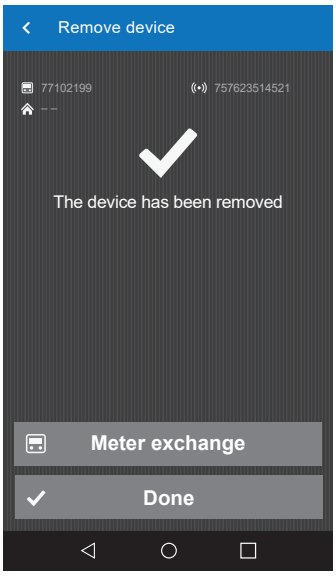
9.6 Decommissioning

Warning Ensure that READy MTU is in transport mode when transported by air freight or during decommissioning.

Notice Remember to enable transport mode when exchanging or decommissioning READy MTU. If this is not done, the MTU will keep sending alarms with **Reading error** to the previously connected meter in READy Manager.

1. Sync READy Manager and READy App before proceeding to step 2.	
2. Turn on READy Converter. Open READy App.	
3. Swipe left and go to the menu item **Installation**	

4. Pair with READy Converter.	
5. Choose the menu item **Remove device**	
6. Select the device you wish to decommission/deactivate. You can search by serial number or address.	

7. Confirm that you want to remove/ decommission the device.	
8. The radio has been deactivated and the device removed from the installation point.	

If the product is decommissioned for disposal, please follow the disposal instructions in section **11 Disposal**.

9.7 Kamstrup support

Hotline: 404-835-6716
Email: supportus@kamstrup.com

10 Storage

READy MTU is recommended to be stored according to the following conditions:
IP class 68
Relative humidity: 95 %, non-condensing
Storage temperature: +20 °C to +35 °C (+68 °F to + 95 °F)

11 Disposal

Ensure proper disposal of the product.

Kamstrup A/S holds an environmental certification according to ISO 14001 and as part of our environmental policy, we use materials that can be disposed of in an environmentally sustainable manner to the greatest extent possible. Please ensure correct disposal of all parts of the device. The enclosure must be disassembled to dispose of the batteries, electronics, and enclosure correctly.

11.1 Disposal by Kamstrup A/S

Kamstrup A/S accepts READy MTUs by the end of operation for environmentally correct disposal according to previous agreement. The disposal is free of charge to the customer, except for the cost of transportation to Kamstrup A/S.

11.2 The customer sends for disposal

READy MTU must not be disassembled prior to dispatch. The complete meter is handed in for approved national/local disposal. Enclose a copy of this page in order to inform the recipient of the contents.

11.3 Disposal by the customer

READy MTU should be disassembled as described below and the separate parts handed in for approved destruction. The batteries must not be exposed to mechanical impact and the lead-in wires must not be short-circuited during transport. Please see the disposal table below.

Please send any questions you may have regarding environmental matters to:

Kamstrup A/S
Att.: Quality and environmental dept.
Fax.: +45 89 93 10 01
info@kamstrup.dk

11.4 Instructions for disposal

Item	Material	Recommended disposal
Unit housing	PPS +GF	Plastic recovery
Lithium cell	Lithiumthionylcloride >UN 3090< D-cell	Approved deposit of lithium cells
Hybrid Layer Capacitor	Lithium Intercalated Compounds HLC	Approved deposit of lithium cells
Printed circuits	Coppered epoxy laminate, components soldered on	PCB scrap for metal recovery
Sight glass	Soda lime glass	Glass recovery
Moisture absorbers	98 % Bentonite 2 % Quarz	Ordinary disposal
Other plastic parts	PC + GF	Plastic recovery
Packing	Environmental cardboard	Cardboard recycling

12 Ordering details

12.1 Type number

Type number is static at the moment. There might be changes in the future.

US AMI MTU types are described in below table:

READyMTU	6696	□□	□□	□	□□	□	□□
Input							
3-wire encoded input		22					
Communication							
AMI, dual-band, capable, (2-way)			01				
Power supply							
D-cell				D			
No choice					00		
Meter type							
MTU						8	
Country code							
North America/Canada, FCC approved/ISED approved							20

12.2 US AMI MTU configuration is described below:

	JJ □□	MMMM □□□□	RR □□	T □	YYZZZ □□□□□
GMT offset					
Time zone					
GMT -4.00 (Atlantic)	32				
GMT -5.00 (Eastern)	28				
GMT -6.00 (Central)	24				
GMT -7.00 (Mountain)	20				
GMT -8.00 (Pacific)	16				
Customer label					
Default		0000			
Data logger profile					
Default			01		
Encryption level					
Encryption with seperately forwarded key				3	
Data package and transmission					
AMI					
Standard, 3 hour - Vol (default)					51502

12.3 Other MTU ordering data

Resolution/Multiplier	ID
Blank (configurable with READy APP/READy Manager)	1
.001	2
.01	3
.1	4
1	5
10	6
100	7
1000	8
10,000	9
Unit of measure	
Blank (configurable with READy APP/READy Manager)	1
Gallon US (USgal)	2
Imperial gallon (IMPgal)	3
Liter	4
Cubic feet	5
Cubic meters	6
Timing parameters	
Automatic (default)	
AMI frequency	
Customer specific	

12.4 Accessories

A choice of bracket for installation, antenna and cable is required:

Cable connector:

- Flying wire
- Nicor connector
- Itron connector

Antenna

- External stub antenna
- 3" Pit antenna for installation in pit lids
- Wall antenna

Installation

- Wall/pit bracket
- Protection cover for wall installation in sun exposed areas
  Dimensions: 7.8" x 6.5" x 4.5" (198 mm x 166 mm x 114 mm)

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Roswell, GA 30076, USA
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info-us@kamstrup.com
kamstrup.com