



ZigBee®

Certified product



EMU-2™ Energy Monitoring Unit

The **EMU-2™** is a highly reliable, secure, in-home display, designed with the consumer in mind. Based on our successful **EMU™** product, the **EMU-2™** brings together years of user feedback and interoperability experience to create a robust in-home display suitable for large-scale deployments.

EMU-2™ presents real-time energy use, price and billing data, text messages, and other utility-mandated information, as communicated from a ZigBee® linked smart meter. This type of instant feedback has been shown to be critical to providing a positive user experience, and increases participation and effectiveness in conservation programs.

The **EMU-2™** user interface is simple: an up or down button scrolls the display through easy-to-understand display modes. No configuration, setup, or user instruction is required. **EMU-2™** displays the utility's peak pricing status to the user via an intuitive traffic-light green/amber/red LED light configuration.

The large backlit display allows users to view the screen in any environment. The battery backup allows electrical loads to be checked out on-the-spot. Batteries also allow the unit to communicate with the smart meter and get messages, even if the power is off. This is helpful for users on pre-paid metering plans that forgot to top-up their accounts.

With its 2-way ZigBee wireless link to the smart meter, **EMU-2™** can support custom features such as pre-payment, opt-out, and data for water and gas usage.

- **Low Cost**
- **Graphical backlit screen**
- **Two-way wireless**
- **Colored LED stoplight for TOU/Tier Pricing**
- **Secured with Elliptic Curve Cryptography**

Specifications	
Power	AC adapter, 2xAAA for backup and portability
Language Support	English, French, Spanish
Wireless Link	ZigBee® Smart Energy Public Profile IEEE 802.15.4 MAC, 2.4GHz ISM Band Receiver sensitivity: -99dBm, Transmit Power: +20dBm
Wireless Range	Up to 50m (150ft) (highly dependant on usage environment)
Display	128x64 Graphical LCD with white backlight
Upgrade Path	Field upgradable firmware over-the-air, or via USB
Standards	ZigBee Certified Product, ZigBee Smart Energy Profile 1.1
Security	Preconfigured Link Key, Certicom Implicit Certificate Authentication
Provisioning	Factory/warehouse pre-pairing based on Installation Code or user pairing through phone/web based automated activation.
Mounting Options	Free-standing on a flat surface, or magnet mountable on a fridge, or wall mount with built-in keyholes.
Operating Temperature	0°C to 50°C (indoor use only)
Storage Temperature	-10°C to 60°C
Dimensions	10.1cm x 7.0cm x 2.3cm

Ordering Info	
RFA-Z105-2	Standard EMU-2™ Product



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EMU-2™ Energy Monitoring Unit



“Stoplight” Indicator LEDs

- Programmable for rate/tier thresholds, and peaking events
- Easily interpreted by color blind users

Custom Branding Available

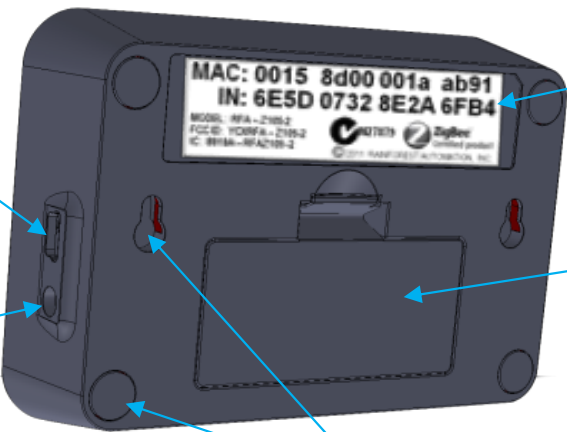
Simple 2-Button Interface

- Enables single-handed operation

Flexible Dot Matrix Display

- Supports multiple languages, full text messages
- Backlit for easy viewing
- Custom screen development available

The front view of the EMU-2 shows a dark grey rectangular device with a monochrome dot matrix display. The display shows the Rainforest Automation logo at the top, followed by 'Current Usage', '\$1.28 /hr', and '10.123 kW'. There are two buttons on the right side and three indicator LEDs on the left side. The device has a custom branding for 'rainforest automation'.



MiniUSB Port

- Simple field upgrades
- Download data to PC

Power Plug

- Always on Operation

Install Code & MAC ID

- Facilitates field commissioning

Standard AAA Batteries

- Continues to talk to meter after remote disconnect
- Allows portable use
- User replaceable

Mounting Options

- Magnetic Pads - attaches to fridge
- Keyhole Slots - hang on wall
- Beveled Edge - freestanding

The back view of the EMU-2 shows a MiniUSB port, a power plug, and a battery compartment. A label on the back provides technical information: 'MAC: 0015 8d00 001a ab91', 'IN: 6E5D 0732 8E2A 6FB4', 'MODEL: MFA-2162', 'FCC ID: Y0RFA-2162', 'IC: 8918A-MFA2162-2', and logos for Rainforest Automation and Digiplex. The device has four mounting points (magnetic pads or keyhole slots) and a beveled edge.



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