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# End point Battery Operated Single Meter RF Module

## User Manual

Version 1

6/10/2011





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## **General Description:**

EndPoint is a miniature unit designed specifically to connect an individual meters to an AMI backbone over the Mobix patented n-Dimensional Network.

This low cost, battery powered unit utilizes non-licensed RF thus the most economical and efficient way to provide two-way communications with a smart meter.

At the core of the unit is a powerful Micro Controller driving the physical two-way RF interface, the meter pulse collection and the optional valve control.

The EndPoint's adaptable RF layer is capable to transmit in several different standards (e.g., compatible with W-Mbus, ZigBee 915). EndPoint is a node in the mesh network formed by the Mobix n-Dimensional network.

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## The EndPoint in the n-DNET system Complex:





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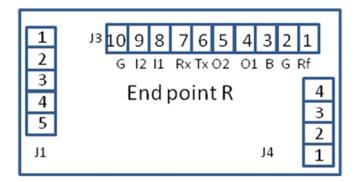
<u>RF</u>	Misc.
<ul> <li>✓ Complies with FCC regulations</li> <li>✓ Compatible with standard RF protocols</li> <li>✓ Frequency 240–930 MHz</li> <li>✓ Sensitivity = -118dBm</li> <li>✓ Modulation: FSK, GFSK, and OOK modulation</li> <li>✓ Max Output Power 20dBm</li> <li>✓ Low Power Consumption         <ul> <li>a. 18.5mA receive</li> <li>b. 27mA transmit</li> </ul> </li> <li>✓ Data Rate 1-128 kbps</li> </ul>	<ul> <li>✓ MCU: including 4KB flash</li> <li>✓ RTC (inside the MCU)</li> <li>✓ RF micro for 2-way communication</li> <li>✓ 1 LED</li> <li>✓ 2 I/Os: 1 pulse inputs, 1 alarm inputs (like pulse)</li> <li>✓ Low power consumption</li> </ul>
<u>Input / Output</u>	Power supply
✓ One dry contact/transistorial input (from a meter), and one alarm (dry contact) input. It protected from external pikes from the line to the meter.	<ul> <li>✓ A field replaceable battery supplies the power for 7 to 20 years</li> <li>✓ Power supply 3.0-3.6V</li> </ul>
<ul> <li>Dimensions</li> <li>✓ 15x32 mm</li> <li>✓ Designed to fit the internals of a water meter</li> </ul>	Serial interface  ✓ USART 3V TTL



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### **Installation**

- 1. Bolt the unit to the wall using the two mounting points
- 2. Connect the wires from the meter to the internal pins on J3 of the endpoint as follows:
  - Pulse output from meter to pin 8
  - Alarm output to pin 9
  - Valve to pin 4
  - Valve + to pin 5



#### FCC Warning

This device complies with Part 15 of the FCC Rules

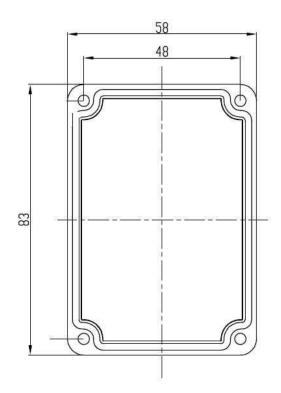
Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



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## 1. Appendix 1

## Endpoint external box







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## **Appendix 2**

## **Endpoint installation points**

