



# R450 METER INTERFACE UNIT (MIU)

Daily N\_SIGHT into Your Water Distribution System



R450 Meter Interface Unit (MIU)

The R450 Meter Interface Unit (MIU) is a high-power, two-way radio frequency (RF) meter data collection device designed specifically for use with Neptune's ARB® FixedBase System for water utilities. Designed for both wall and pit applications, the high-power radio frequency (RF) transmission optimizes the number of collectors, thereby lowering the utility's overall deployment cost.

The R450 MIU is compatible with Neptune ARB® III, IV, V, ProRead®, and E-Coder®, and Sensus ECR II and ICE (ECR III).

The R450 MIU is designed to collect meter usage data and remotely transmit the information to tower-based collectors at predetermined intervals. The R450 MIU is a powerful MIU that operates within the 450 – 470 MHz FCC licensed band to ensure maximum read success rates as well as

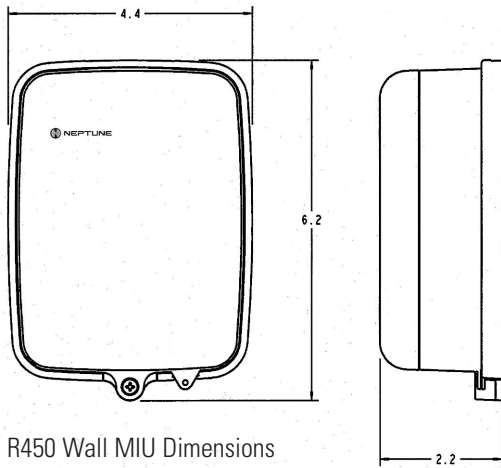
reliable RF performance. The standard R450 MIU is programmed to deliver meter usage data daily and can also be programmed to deliver 24-hour usage/consumption profile data.

The R450 MIU coupled with Neptune's E-Coder solid-state absolute encoder can monitor, identify and notify utilities of alarm states, such as continuous leaks and reverse flow occurrences. The R450 MIU can be configured to send priority alarms via email to utility personnel when key system events are identified. This allows for proactive customer service by the utility. The R450 MIU can be programmed for hourly consumption profiling to address such issues as consumption disputes and conservation compliance as well as monitor large commercial and industrial usage.

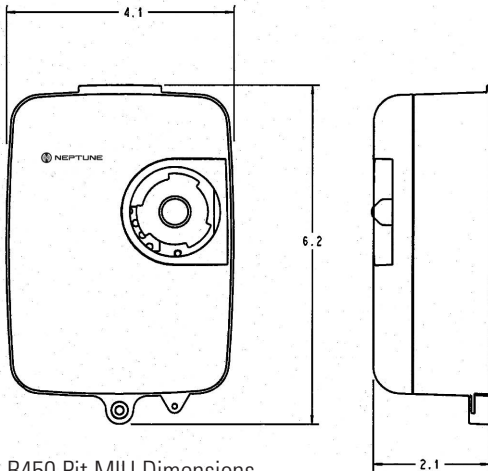
KEY BENEFITS

- Non-revenue water monitoring and analysis
  - Total daily production vs. total daily consumption
    - Time synchronized midnight meter reading from all MIUs
  - Daily household leak monitoring system
    - Improves customer service
  - Daily distribution system leak monitoring
    - Compatibility with acoustic leak sensors allows utility to identify infrastructure issues
- Improves operational efficiencies
  - Configurable proactive alarm notification
    - Residential: Leak, tamper, and reverse flow detection
  - Distribution: Leaks in the distribution mains
  - Optimum read success rates and security with licensed frequencies
  - R450 MIUs configurable over the air
    - Endpoints are configurable (2-way)
    - No need for truck rolls
    - 24 hour usage/consumption profile data
  - Provides tools for Time-of-Use billing
    - Water conservation
    - Allows alternate billing methods
  - Real-time installation tools
    - Eliminates return service calls
- Supports Conservation Initiatives
  - Reduce non-revenue water
  - Track water usage restrictions (odd/even-day usage)
  - E-mail consumption to the end user
- System software hosted or onsite
  - At-a-glance system health screen
  - Predefined management reports
  - Supports mapping for quick analysis of system issues

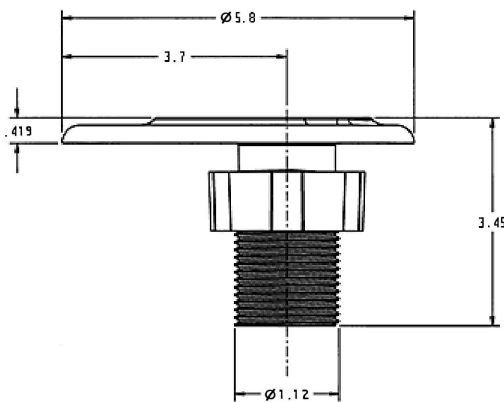
Dimensions: See Below  
 Weight (Pit and Wall MIU): 1.0 lbs (454 grams)



R450 Wall MIU Dimensions



R450 Pit MIU Dimensions



R450 Pit Antenna Dimensions

- Electrical Specifications:
  - Lithium battery w/capacitor
- Transmitter specifications:
  - Transmit period: Standard configuration is a daily midnight meter reading.
  - Optional: can be programmed to deliver a daily meter reading and 24 hour usage/consumption data.
  - Operational Frequency: Licensed 450 – 470 MHz band
  - Output Power: Meets FCC Part 90
- Encoder Compatibility:
  - Compatible w/NTG encoders, Sensus ECR II & ICE encoders
- Environmental Conditions:
  - Operating Temperature: -22°F to +149°F (-30°C to +65°C)
  - Storage Temperature: -40°F to +158°F (-40°C to +70°C)
  - Operating humidity: 0 to 95% non-condensing

Neptune engages in ongoing research and development to improve and enhance its products. Therefore, Neptune reserves the right to change product or system specifications without notice.

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