CYCLOPS
PHOTO-BASED AMI

Overview

The CYCLOPS® Meter Interface Unit (MIU) is an innovative, two-way AMI solution that allows for quick and cost-effective automation of virtually any water meter – direct read or encoded output.

Figure 1 CYCLOPS Meter Interface Unit (MIU)

Figure 2 CYCLOPS MIU in Thru Lid Application

CYCLOPS® MIUs come in two connection types: a Camera End model for automating direct read meters and a Wire End model for attaching to encoded output meters.

CYCLOPS® MIUs transmit securely over existing cellular networks as opposed to proprietary network hardware.

CYCLOPS® allows utilities to automate without expensive systemwide meter replacement programs, and without having to build and maintain costly private networks.

- Meter Independent, No Meter Changeout Required
- Direct Read and Encoded Register Support
- Camera End and Wire End Models
- Cellular Data Backhaul
- Secure 2-way Communications
- No Field Programming, 100% Remote Configuration
- Only Photo Validation Solution – "Seeing is Believing"

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Functionality

Operation: The CYCLOPS® Camera End MIU allows utilities to automate direct read registers by photographing and intelligently "reading" the register dials every day. The CYCLOPS® Camera End unit is easy to install and is placed directly over the meter's odometer. Because of its innovative design, the Camera End unit does not interfere with the ability to visually read the meter. The CYCLOPS® also comes in a Wire end MIU that connects to any 3-wire output encoder.

All CYCLOPS® data is sent at midnight, over existing cellular infrastructure where it is posted to the CYCLOPS® Web Portal. Billing photos and data are sent to the SPMR™ Meter Reading System for billing.

Figure 3 CYCLOPS Camera End Module, 100% Sealed Register Mounting, with Clear Reading Window

Activation: All CYCLOPS® MIUs are shipped inactive, in a non-transmitting mode. Activation is achieved thru a magnet swipe; no onsite programming is required, saving valuable time and money. Confirmation of successful installation and activation is provided via an LED window on the side of the MIU. CYCLOPS® MIU installations can also be managed via SPMR™ SmartPhone software to automate the capture of GPS and installation photos.

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Power Management: CYCLOPS® MIUs are designed for 10 (default) and 20 year plus battery configurations to optimize the ROI goals of utilities.

Configuration: All CYCLOPS® MIUs communicate with the CYCLOPS® Web Portal to receive configuration commands. Units can be configured remotely for reading/photo intervals and for their transmit frequency. This design eliminates the need for onsite programming, saving time and money.

Output Message: Each CYCLOPS® MIU broadcasts its unique serial number, meter reading data, photos and applicable status indicators. Each message is transmitted over a secure point-to-point cellular network connection that includes a real-time acknowledgment from the CYCLOPS® Web Portal.

Figure 4 CYCLOPS Camera End Module (underside), Potted Components, High Bond Adhesive

Application

Configurations: The CYCLOPS® MIU is a multi-purpose, intelligent AMI device that can be deployed on virtually any direct read register and on all 3 wire encoded output registers. The Camera End module, the MIU body and the internal battery assembly are fully potted for environmental integrity.

Support: CYCLOPS® integrates seamlessly with the SPMR™ Meter Reading System – a smart-phone-based manual Meter Reading, AMI/Meter Installation, and Work Order Management system.

Figure 5 CYCLOPS Camera End Module and MIU with Thru Lid Implementation

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