



Powering utility applications with
Open Standards
Including IP and 802.15.4/Zigbee

WebGate® HFC–Cable Modem iRIS IP Interface Integrated with the Sensus™ iCON™ Residential Meter

WebGate Cable Modem



For utilities and others deploying DOCSIS-based Hybrid-Fiber-Coax (HFC) networks as part of Advanced Metering Infrastructure (AMI) projects, the WebGate HFC-Cable Modem is a 'Plug and Play' solution.

muNet WebGate technology enables the electric meter to connect to HFC networks and enables not only traditional electric metering applications, such as automated retrieval of kWh consumption, billing and interval data, and tamper detection, but also offers a wide range of options targeted at other utility applications.

All functionality is seamlessly handled via the HFC network by muNet's WebBot™ Central Control Web-based software.

WebGate HFC–Cable Modem iRIS IP Interface

- Integrated under the glass of the Sensus iCON meter
- Acquires time stamped interval metering data
- Stores data in non-volatile memory
- Transfers data via TCP/IP (HTTP) and XML protocols over DS2 Networks
- Full two-way communication capability
- Instant on-demand reading capability
- Demand information
- Optional features (consult factory for additional details)
 - Records data from water and gas meters via wireless links
 - Controls a 200 Amp power disconnect switch (consult factory)
 - Collects voltage measurements
 - Distribute high-speed Internet access via powerline using HomePlug
 - Enables demand-side management via ZigBee based Thermostat and relay control

Metrology

Family of Sensus iCON residential meters

- Accuracy exceeds ANSI C12.20 (Class 0.2)
- kWh energy measurement, net metering, voltage monitoring
- Inversion proof
- ANSI compliance in performance and design



WebGate HFC-Cable Modem iRIS IP Interface

WebGate iRIS IP Interface

- Data Storage: > 24 hours * 15 minute reads
- Web interface: Standard Web queries, XML replies
- IP addressing: Static, DHCP
- Clock: Real-time, no backup, time server synchronized
- Encryption: AES 128-Bit, optional
- Operating temperature: -40C / +85C

DOCSIS Cable Modem

- Standard: DOCSIS 2.0
 - Physical speed: Supports maximum DOCSIS transfer rates
 - LEDs: Power, Cable, Upstream/Downstream/Online
- Receiver**
- Demodulation technique: 64QAM, 158QAM, 256QAM
 - Bandwidth: 6MHz
 - Frequency range: 112-858MHz agile, 62.5KHz steps
 - Symbol Rate: 5.056941 (64QAM)/ 5.360537 (256QAM) Msym/sec
 - Input Signal Level: -15dBmV to +15dBmV
- Transmitter**
- Modulation technique: QPSK, 16, 32, 64, 128 QAM
 - Bandwidth: 200, 400, 800, 1600, 3200, 6400 KHz
 - Frequency range: 5MHz to 42MHz agile, in 1Hz steps
 - Output signal level: +8 to +58dBmV (QPSK), +8 to +55dBmV (16QAM)

Optional Features

200 Amp Disconnect Switch Control

- Current: 200A rating
- Relay type: Latching
- Options: Power reset button, LED

Wireless Water and Gas Meter Link

- RF Option: Datamatic® FIREFLY®

Wired Water and Gas Meter Link

- Encoder types: TouchRead, ProRead, or compatible

Voltage Sensor - Metrology Based

- Type: Recent, Maximum, Minimum, Average
- Range:
 - 2S Meter : 192 -- 288 volts *
 - 12S Meter: 96 -- 144 volts
- Accuracy: +/- 2%

LAN HomePlug

- Standards: IEEE 802.3, IEEE 802.3u, HomePlug 1.0
- Data rate: Up to 14 Mbps
- LEDs: Power; Powerline: Link, Activity; Ethernet: Link, Activity

Metrology Specifications

Power Requirements

- Voltage Rating: 2S 240V, 12S 120V
- Frequency: 60 Hz

Accuracy

- Exceeds Accuracy Class 0.2

Burden

- Power Supply < 0.8 watts/7.9VA @ 240VAC
- Voltage Circuit per phase: 0.03 watts @ 240VAC
- Current circuit per phase 0.1 milliohms Typical @ 25°C

LCD Display

- Six-digit liquid crystal display
- Data digit height: 0.4
- Simulated mechanical disk emulation
- Power flow indicator
- kWh display with segment check option

Operating Environment

- Temperature: -40° to +85°C
- Humidity: 0% to 95% non-condensing
- Transient / Surge Suppression:
 - EN61000-4-4:1995 & EN61000-4-5:1995,
 - exceed voltage and current surge requirements per Category 4

Complies with Industry Standards

- ANSI C12.1 – 2001, ANSI C12.10 – 1997,
- ANSI C37.90.1 – 1989
- FCC Part 15

Characteristic Data

- Starting Watts: 5
- Temperature Rise Specifications:
 - Meets ANSI C12.1 Section 4.7.2.9

Tamper Detection Options

- If meter is reversed in socket, energy is added
- Tamper message can alternate with kWh reading

Models

Service	Class	Form
3-wire	200, 320	2S
3-wire	200	12S

Call about other Forms



Shown with 200 Amp Shutoff

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