

GE
Energy

I-210+ and I-210+c Meters

February 2007



imagination at work

The I-210⁺ is GE's latest singlephase basic energy meter with several key features

Optional remote connect/disconnect capability with a fully integrated, factory installed switch under the cover.

Compatible with a suite of third party AMR solutions.

Available in 12S and 25S forms for network applications.

Option for obtaining IEEE[®] reliability data to help the utility measure and monitor quality of service.

Incorporates a patented firmware algorithm to detect tamper-by-meter inversion.



The I-210⁺* has functionality and flexibility provided by softswitches

O: AMR communications (AMR interface formats include quadrature pulse, PSEM, SPI Format-1 data, SPI Format-2 data)

V2: Simple Voltage Event monitor in addition to a display of RMS momentary voltage on the three lower LCD digits, IEEE[®] reliability data

I-210⁺ technology has created new choices

I-210⁺ has the option of housing a factory installed, 200A remote disconnect device with a choice of two-way AMR transponder under its cover

This functionality fits within the existing footprint of the meter



Remote Connect / Disconnect technology can be used in both traditional and new applications

Nonpayments

Move-ins and move-outs

Demand side management

Remote prepayment systems

Controlled outage restoration

Customer premises protection from system problems



The I-210⁺* is supported by a robust version of MeterMate™ with several advanced features

Utilities have the ability to:

- Change factory program defaults, including measurement detents
- Set or change sag and swell thresholds
- Perform a master reset to clear energy values, voltage event and power fail counters
- Obtain a meter program and data summary report
- Upgrade and downgrade AMR and voltage event monitoring capability
- Set AMR communication type to (1) PSEM, (2) SPI Format 1 data, (3) SPI Format 2 Data or (4) Quad Pulse Data Output

I-210⁺ specifications and related information

Performance meets or exceeds ANSI[®] C12.1, C12.10, C12.20, C37.90.1

Available forms include: 1S, 2S, 3S, 4S, 12S*, 25S* (* indicates network forms)

Operating Range:

Voltage: $\pm 20\%$

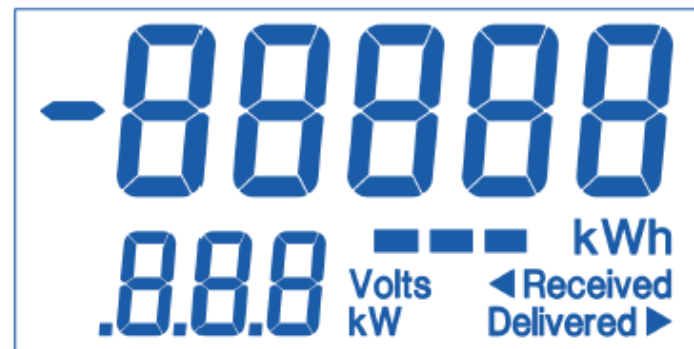
Temperature: -40°C through $+85^{\circ}\text{C}$

Typical Starting Watts: ≤ 5.0 Watts

Typical Watts Loss: 0.7 Watts

Typical Accuracy: Within $\pm 0.2\%$

One standard polycarbonate cover needed for units with or without AMR communications.



I-210⁺ display

The I-210+c* is GE's most robust and flexible meter, with the ability to customize advanced metering options to suit every need

- The meter's hardware and software platforms are designed to be highly versatile, offering plug-n-play capabilities for many features.
- The meter is equipped with technology to more fully address a utility's safety concerns while ensuring the most efficient use of resources and protecting its revenues.
- The meter has enhanced features to help utilities improve the level of service they provide their customers.



The I-210+c* is highly versatile, offering plug-n-play capabilities for many features

Softswitches

With the addition of a softswitch, the I-210+c can become compatible with a suite of third-party AMR/AMI solutions and become enabled with advanced functionality such as: time-of use, cycle insensitive demand, load profile recording, and event logging can be added via softswitches.

Available softswitches include:

T2: Time-of-Use

R2: Demand and load profile recording
(2-channel)

K2: Second measure

A2: Alternate communications (AMR modules or other communication devices)

E2: Event logging of up to 200 events

Q2: Power quality activates low potential monitoring



I-210+c* plug-n-play capabilities continued

AMR/AMI Plug-n-Play

The I-210+c has been designed to allow for the interchangeability of AMR/AMI modules.

Modules can be added at the GE factory, after the fact, or replaced with another compatible module if the meter is redeployed.

MeterMate™ Meter Reading and Programming

This software is compatible with the I-210+c and provides unparalleled flexibility for customers to read and customize their meter.

Cycle Insensitive Demand

A GE-proprietary algorithm gives the I-210+c the ability to provide an alternative method for calculating max demand where 1-way AMR systems are employed.

This eliminates the need for manual demand reset with 1-way AMR systems.

The I-210+c* can help utilities address safety concerns and maximize profits

Remote Connect/Disconnect

The I-210+c has the option of a factory installed, 200A remote disconnect device with a choice of two-way AMR. This functionality fits within the existing footprint of the meter.

This feature can be used to address issues such as: nonpayments, move-ins/move-outs, demand side management, remote prepayment systems, controlled outage restoration, and customer premise protection from system problems.

State-of-the-Art Tamper Detection

The I-210+c has an optional Event Log feature which captures information about recent events, including reverse energy flow (caused by meter inversion), which can be used to detect electricity theft.



The I-210+c* has enhanced features to help utilities improve the level of service they provide their customers

IEEE® Reliability Indices

The I210+c has an optional power quality feature that provides support for calculating IEEE reliability indices (such as MAIFI, SAIFI, etc.).

Interval Recording

The interval recording option, in addition to being used as a billing tool for the utility, can be used as a customer service tool which can provide the customer with useful data regarding energy consumption.



I-210+c* specifications and related information

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Operating Range:

Voltage: $\pm 20\%$

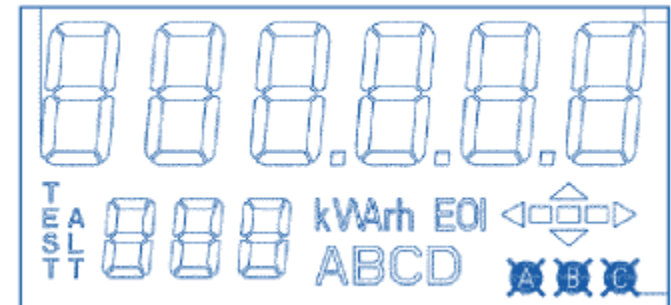
Temperature: -40°C through $+85^{\circ}\text{C}$

Typical Starting Watts: ≤ 5.0 Watts

Typical Watts Loss: 0.7 Watts

Typical Accuracy: Within $\pm 0.2\%$

One standard polycarbonate cover with 2 variants: with or without reset latch and optocom "D" ring



I-210+c display

An eye on the future

GE Energy has a comprehensive portfolio of products and services that enable intelligent grid processes, which help decision makers drive greater productivity and profitability.

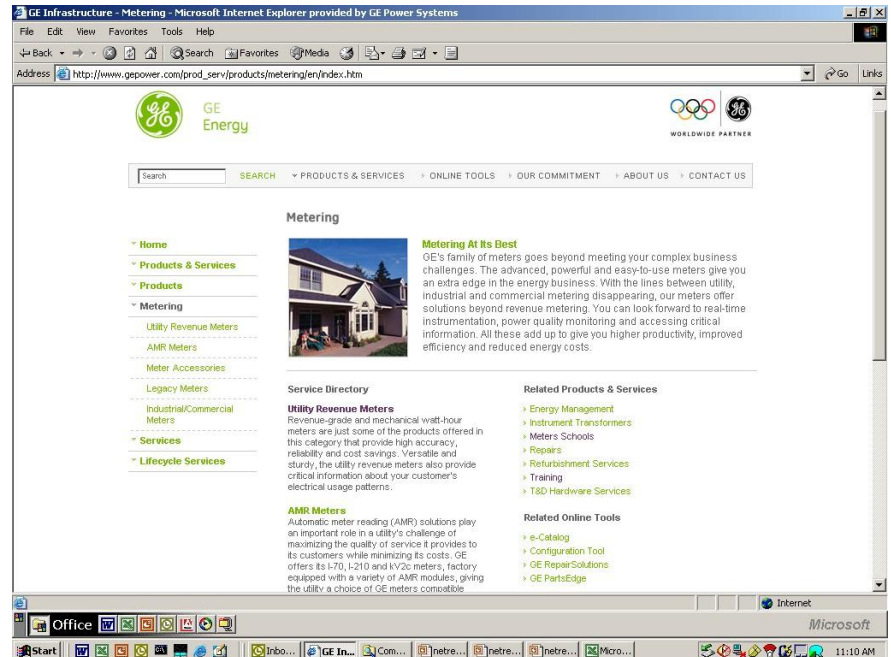
As metering technology becomes more advanced, the meter becomes a powerful diagnostic tool that can help provide better grid performance and support other utility business processes especially service delivery and customer service.




A comprehensive source of metering information

There are several documents focused on our I-210+* and I-210+c* meters. Please consult our website for more information.

www.ge-energy.com/meters



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