



I-210, I-210+, & I-210+c Product Comparison Chart

#	Product Characteristic	I-210 Energy-only	I-210+ Basic Energy	I-210+c and I-210+ce Advanced																																																									
1	Meter Functionality	<ul style="list-style-type: none"> Energy Measurement AMR Communications; Add 0 soft-switch when activating any plug-in device 	<ul style="list-style-type: none"> Energy Measurement AMR Communications; Add 0 soft-switch for any device 	<ul style="list-style-type: none"> Energy measurement Demand calculation and Display Demand & Load Profile Recording; R₂ soft-switch TOU with or without Demand; T₂ soft-switch TOU with or without Demand & Load Profile Recording; T₂ & R₂ soft-switch AMR Communication with any of above; Add A₂ soft-switch 																																																									
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3	Soft-Switches to up-grade meter function	<ul style="list-style-type: none"> ○ — Required for AMR plug-in communications module. 	<ul style="list-style-type: none"> Soft-switches can be added to turn on functions initially or by user action after the meter has been purchased. Following functions are soft-switch upgradeable: <ul style="list-style-type: none"> V₂ — Simple Voltage Event monitor in addition to a display of RMS momentary voltage on the 3 lower LCD digits ○ — Required for AMR communications 	<ul style="list-style-type: none"> Soft-switches can be added to turn on functions initially or by user action after the meter has been purchased. Following functions are soft-switch upgradeable: <ul style="list-style-type: none"> T₂ — Time-of-Use R₂ — Basic two-channel load profile recording 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 																																																									

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4	AMR Interface	<ul style="list-style-type: none"> • O – Switch must be enabled to use a quadrature pulse AMR device. Can be factory enabled or installed by customer using MeterMate. Not required for the integrated board like Itron or Hunt high power. 	<ul style="list-style-type: none"> • O – Switch must be enabled to use with any AMR device. If installed by the customer using MeterMate, selection of the communication type is part of the process. Customer must select one of the following: <ul style="list-style-type: none"> – Quadrature Pulse – SPI Format-1 data – SPI Format-2 data – PSEM Communications 	<ul style="list-style-type: none"> • A₂ Switch must be enabled when using any AMR device. If installed by the customer using MeterMate, communication type need not be specifically selected given that AMR communication is via PSEM only. Customer must select one of the following: <ul style="list-style-type: none"> – PSEM Communications
5	Energy Accumulation	<ul style="list-style-type: none"> • Must specify at time of order either: <ul style="list-style-type: none"> – Delivered only – Delivered + Received – Delivered – Received – Received only • Customer cannot change selection later using MeterMate. 	<ul style="list-style-type: none"> • Must specify at time of order either: <ul style="list-style-type: none"> – Delivered only – Delivered + Received – Delivered – Received – Received only • Customer can change selection later using MeterMate. 	<ul style="list-style-type: none"> • Specified at time of order for factory programmed meters or configured by the customer using MeterMate. Any two of the following energy measurements can be selected: <ul style="list-style-type: none"> – Delivered only kWh – Received only kWh – Delivered + received kWh – Delivered – received kWh – Lagging only kvarh; requires K₂ switch – Leading only kvarh; requires K₂ switch – Lagging + leading kvarh; requires K₂ switch – Lagging – leading kvarh; requires K₂ switch – Phasor apparent VAh; requires K₂ switch – V_A requires Q₂ switch)
6	Cycle Insensitive Demand	<ul style="list-style-type: none"> • Demand functions not available in this version. 	<ul style="list-style-type: none"> • Demand functions not available in this version. 	<ul style="list-style-type: none"> • With enabled T₂ soft-switch and when TOU is active. • Provides an alternative method for calculating the maximum demand in meters equipped with one-way AMR systems. • The meter maintains the daily maximum demands and the two peaks for the period. • Demand is calculated using the programmed method (Block, rolling or thermal). • The daily maximum demands are stored in a circular queue. • Each entry in the circular queue contains a date.

I-210, I-210+, & I-210+c Product Comparison Chart

#	Product Characteristic	I-210 Energy-only	I-210+ Basic Energy	I-210+c and I-210+ce Advanced
7	IEEE Reliability Data	<ul style="list-style-type: none"> Not available in this version. 	<ul style="list-style-type: none"> With enabled V_2 soft-switch. Provides a count of the number of “Sags” below normal voltage and “Swells” above normal voltage that occur. A threshold value is set that applies to the sag and a separate value is set that applies to the swell. These values are expressed as a percentage of the nominal or reference voltage. To be included in the count, the sag or swell threshold must be exceeded for a defined period of time. There is one programmable time duration threshold used to monitor both sags and swells, expressed in seconds. These event counters will rollover from 255 back to zero. Voltage event monitoring will be applicable to the “A” phase of the multi-element network meter. 	<ul style="list-style-type: none"> With enabled E_2 soft-switch when Load profile (R_2) and TOU (T_2) are activated (TOU must be activated for IEEE Reliability counters). The programmed outage duration time is used to determine the minimum duration of a sustained interruption. Recommend this be set to 5 minutes to match the IEEE definition. The count of momentary interruptions is incremented if outage time is less than the programmed minimum outage duration. The count of sustained interruptions is incremented if the outage time is equal to or greater than the programmed minimum outage duration. The total outage duration time will be the sum of both momentary and sustained interruptions rounded to the nearest whole minute.
8	MeterMate Reading and Programming access	<ul style="list-style-type: none"> Read out meter detent setting and accumulated energy value from meter display register. Read out display multiplier and number of energy display digits. Read out status of errors and cautions. Reset accumulated energy value to zero. Set energy value to a specific number. Upgrade or downgrade the “O” Soft-switch. 	<p>Note: Includes all of the appropriate I-210 functions listed, as well as:</p> <ul style="list-style-type: none"> Read out energy values from all four accumulation buckets with selected detent value highlighted. Provides a summary report accessed through MeterMate. Perform a Master Reset to set energy values as well as Sag, Swell and Power Fail counters to zero. Upgrade or downgrade “V_2” soft-switch. Set AMR communication type to 1. PSEM, 2. SPI Format 1 data, 3. SPI Format 2 Data or 4. Quad Pulse Data Output. Set the voltage Sag Threshold %. Set the voltage Swell Threshold %. Set the Sag & Swell Duration time in seconds. Set to add or remove a segment check from the data scroll. 	<p>Note: Includes all of the appropriate I-210 and the I-210+ version functions listed, as well as:</p> <ul style="list-style-type: none"> Allow selection of Demand, Demand/LP or TOU modes of operation and the use of the Program Manager to create and edit programs for the selected modes of the meter. This includes use of the following editors: <ul style="list-style-type: none"> Basic Meter Configuration Editor Site Editor Meter Diagnostics Editor Display Tables Editor Rate Selection Editor Recorder Option Editor Utility Configuration Editor Programs created in MeterMate can then be transferred to the I-210+c meter using MeterMate Communicator. Applicable only when using MeterMate version 5.4 or higher.

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9	Remote Disconnect	<ul style="list-style-type: none"> Not available in this version. 	<ul style="list-style-type: none"> A switching device intended to provide remote controllable disconnection and reconnection of electrical service for residential applications. Factory installed option, specify at time of order. Full functionality requires installation of a two-way AMR device in the meter to provide appropriate communication. Function fits neatly under the standard cover of the I-210+ meter. Typical applications include: <ul style="list-style-type: none"> Remote disconnect and re-connect Energy conservation demand limiting Demand limiting as an alternative to service termination Pre-Payment Metering Outage Management & restoration 	<ul style="list-style-type: none"> A switching device intended to provide remote controllable disconnection and reconnection of electrical service for residential applications. Factory installed option, specify at time of order. Full functionality requires installation of a two-way AMR device in the meter to provide appropriate communication. Function fits neatly under the standard cover of the I-210+ meter. Typical applications include: <ul style="list-style-type: none"> Remote disconnect and re-connect Energy conservation demand limiting Demand limiting as an alternative to service termination Pre-Payment Metering Outage Management and restoration

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