

Com'X 210, Com'X 510

Technical Datasheet

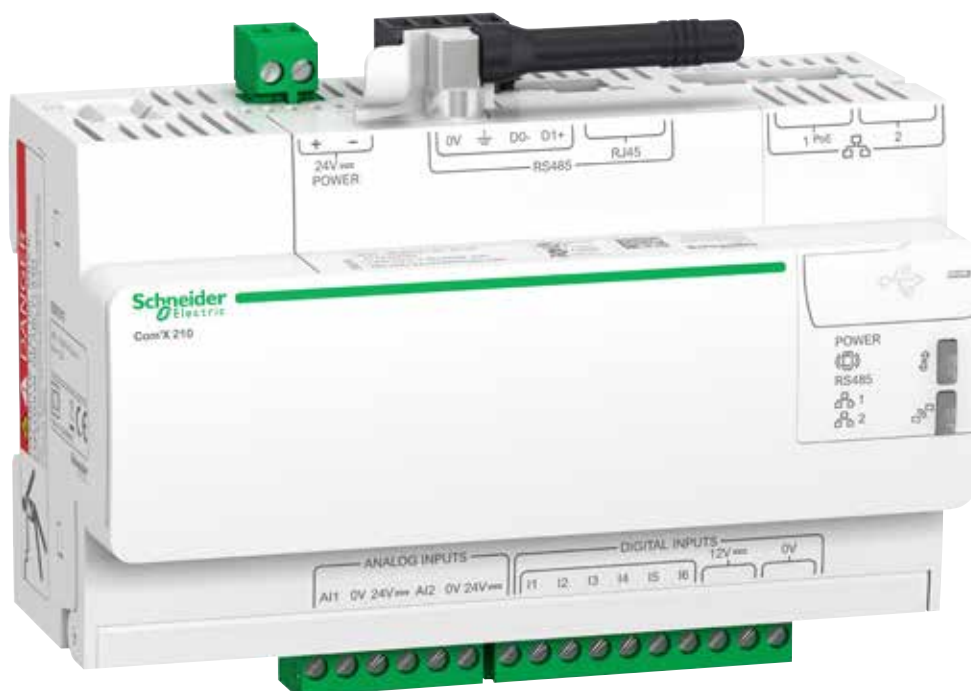
A highly flexible plug-and-play Energy Server Com'X 210 collects and stores WAGES consumptions and environmental parameters such as temperatures, humidity and CO₂ levels in a building. Data is periodically transmitted as a report to an internet database server for further processing. The Energy Server Com'X 210 not only reduces your technical complexity, but helps to manage your energy.

Applications

The quickest path to multi-site energy management and on-line services

- Delivers batches of data ready to process by EcoStruxure™ Power Management solutions and services
- Publishes logged data to the Schneider Electric cloud or another hosted platform

PB112041

[EBX210](#)

The solution for

All markets that can benefit from a solution that includes data logger Com'X 210:

- Buildings
- Industry

Benefits

- Data collection from up to 64 field devices
- Data publishing leveraging existing infrastructures, Ethernet or Wi-Fi, GPRS-ready
- Quick fitting into electrical switchboards thanks to DIN rail clipping and profile
- Quick setup and configuration thanks to intuitive HMI

Energy management solutions

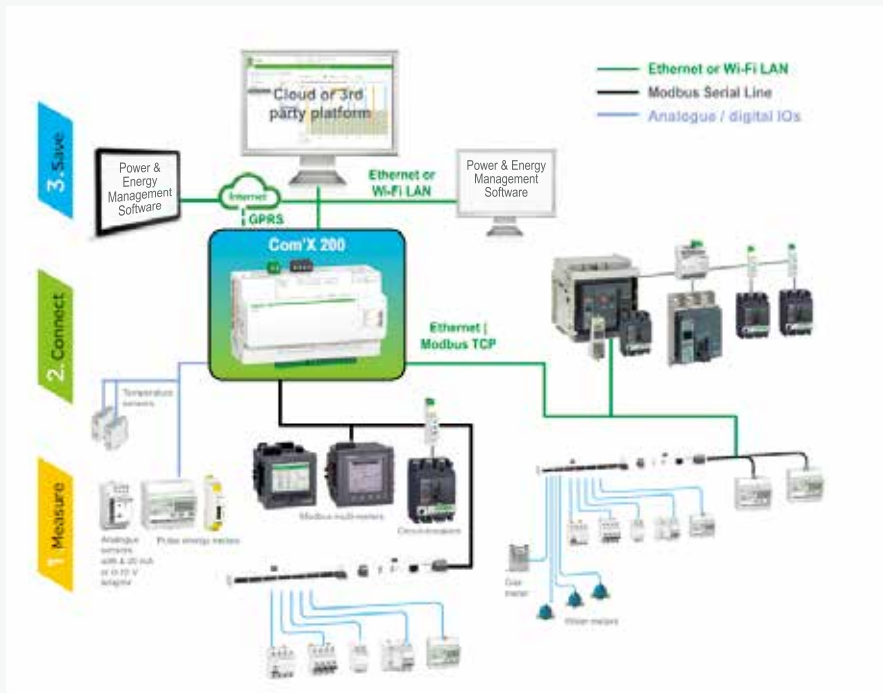
The data collected and stored by Com'X 210 can be processed and displayed as webpages through web services provided by Schneider Electric, such as EcoStruxure™ Power Management software products, or by any private energy platform.

The Com'X 210 also provides a transparent interface between Ethernet-based networks and field devices. This gateway function supports the use of monitoring software, such as EcoStruxure™ Power Monitoring Expert (PME) for data collection, trending, event management, analysis and further processing.

Conformity of standards

- EN 60950

Architecture



PB114856-200

Data collector

Collects and stores energy data from up to 64 field devices, connected to either:

- Ethernet TCP/IP field network.
- Modbus Serial line network (up to 32 devices).
- Embedded digital and analogue inputs.

“Field devices” consist of :

- PowerLogic devices for power and energy monitoring.
- Masterpact or Compact circuit-breakers for protection and monitoring.
- Acti 9 protection devices, meters, remote controlled switches, etc.
- Water, Air, Gas, Electricity, and Steam (WAGES) consumption meters, from specialised manufacturers, delivering pulses as per standard (see table next page).
- Environmental sensors such as temperatures, humidity, and CO₂ levels in a building, providing analogue information.

Data logging and storage capabilities include:

- Configurable logging interval, from every minute to once a week.
- Data storage duration of several weeks, depending on quantity of collected data.

Data publisher

Batches of collected data periodically transmitted to an Internet server, as:

- XML files, for processing by EcoStruxure™ Power Management software products.
- CSV files for viewing in Excel or transformed for upload into programs such as EcoStruxure™ Power Monitoring Expert or any compatible software.

Data publishing function supports 4 transfer protocols over Ethernet or Wi-Fi:

- HTTP • FTP
- HTTPS • SMTP

Additional functions

Gateway

If selected by the user, the Com'X 210 can also make all data from connected devices available in real-time:

- In Modbus TCP/IP format over Ethernet or Wi-Fi.
- For requests by an energy management software.

Modbus packets can be sent from managing software to field devices through Modbus serial line or Modbus TCP/IP over Ethernet.

Commercial ref. no.	Product description
EBX210	Com'X 210 data logger 24 V DC or 230 V AC power supplied
EBXA-ANT-5M	Com'X External GPRS antenna

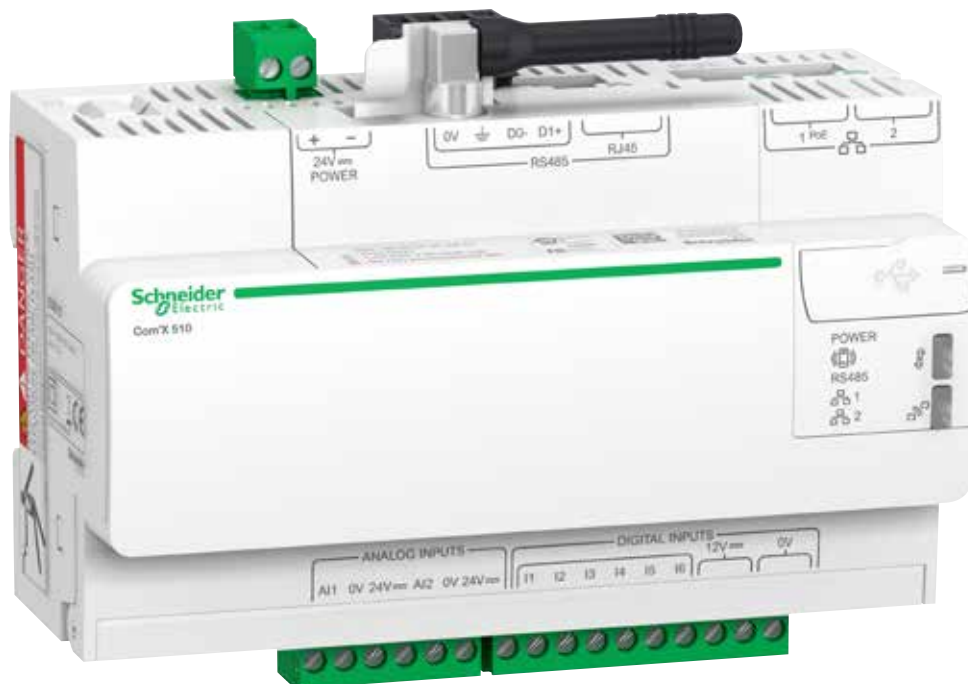
Com'X 510

A highly flexible plug-and-play Energy Server Com'X 510 collects and stores WAGES consumptions and environmental parameters such as temperatures, humidity and CO₂ levels in a building. The Com'X 510 has up to 2 year data storage and embedded webpages which means all your energy data can be viewed and managed on-site.

Applications

- All-in-one-box energy management solution especially suitable for buildings up to 10,000 sq. metres

PB114582

[EBX510](#)

The solution for

All markets that can benefit from a solution that includes data logger Com`X 510:

- Buildings
- Industry

Benefits

- Data collection from up to 64 field devices
- Data publishing leveraging existing infrastructures : Ethernet or Wi-Fi, GPRS-ready
- Quick fitting into electrical switchboards thanks to DIN rail clipping and profile.
- Quick setup and configuration thanks to intuitive HMI

Competitive advantages

- Fit any PDU or RPP design for both new and retrofit projects
- Class 1.0 system accuracy
- Ethernet communication

Energy management solution

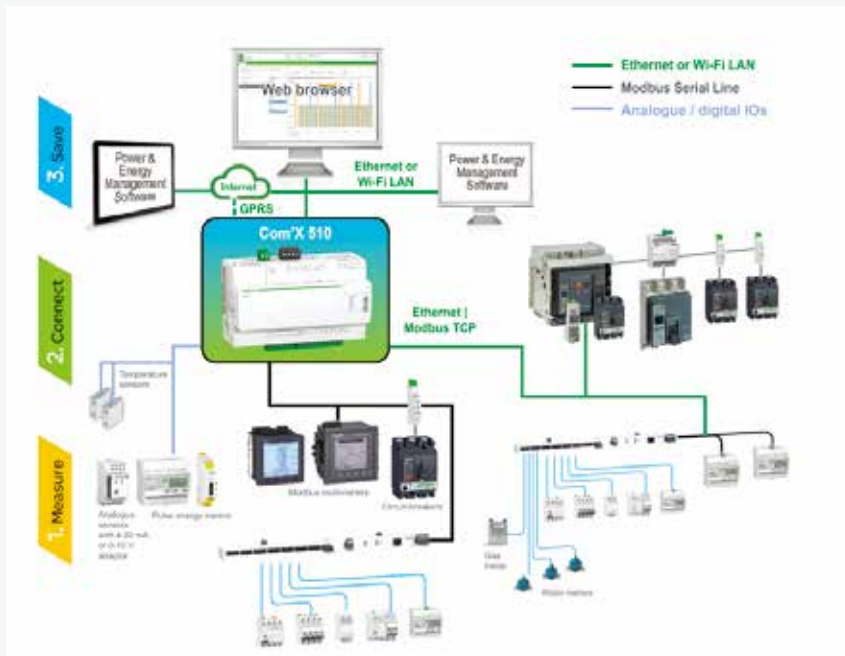
The data collected and stored by Com`X 510 can be processed and displayed through its own onboard webpage.

The Com`X 510 also provides a transparent interface between Ethernet-based networks and field devices. This gateway function supports the use of monitoring software, such as EcoStruxure™ Power Monitoring Expert for data collection, trending, event management, analysis and further processing.

Conformity of standards

- EN 60950

Architecture



PB114856

Com'X 510 Energy server



Energy dashboard comparing accumulated over time energy values (partial screen)

Data collector

As soon as the data logger is connected to the LAN, it can be detected and assigned an IP address by DHCP. Your operating system's DPWS feature allows your computer to automatically recognise the device as Com'X. Embedded web pages are then immediately accessible by clicking each Com'X device icon or by typing the assigned IP address into your web browser.

Collects and stores energy data from up to 64 field devices, connected to either:

- Ethernet TCP/IP field network.
- Modbus Serial line network (up to 32 devices).
- Embedded digital and analogue inputs.

“Field devices” consist of:

- PowerLogic meters for power and energy monitoring.
- Masterpact, Powerpact, or Compact circuit-breakers for protection and monitoring.
- Acti 9 protection devices, meters, remote controlled switches, etc.
- Water, Air, Gas, Electricity, and Steam (WAGES) consumption meters, from specialised manufacturers, delivering pulses as per standard (see table at end of this document).
- Environmental sensors such as temperatures, humidity, and CO₂ levels in a building, providing analogue information.

Data logging and storage capabilities include:

- Data logging period: configurable from every minute to once a week.
- Data storage duration: up to 2 years, depending on quantity of collected data.
- Able to set time and send reset instructions to field devices.

Embedded energy management software

The Com'X provides the end-user with immediate visibility into energy consumption throughout the site. As soon as the Com'X is connected to the Local Area Network (LAN), several web pages are accessible via any standard web browser, (without plug-in or additional components).

These web pages display real-time data as it is collected, in easy to understand tabular and summary formats. In addition, users can get simple analysis of historical data in bar graph or trending formats.

Com'X 510 Energy server



Energy Server Com'X 510 data logger

Additional functions

Data publisher

Batches of collected data can also be periodically transmitted to an Internet server, as:

- XML files, for processing by EcoStruxure™ Power Management software products
- CSV files for viewing in Excel or transformed for uploading to programs such as EcoStruxure™ Power Monitoring Expert or any compatible software

Data publishing function supports 4 transfer protocols over Ethernet or Wi-Fi:

- HTTP
- HTTPS
- FTP
- SMTP

Gateway

- If selected by the user, the Com'X 510 can make data from connected devices available in real time
- In Modbus TCP/IP format over Ethernet or Wi-Fi
- For requests by energy management software

Modbus packets can be sent from managing software to field devices through Modbus serial line or Modbus TCP/IP over Ethernet.



Raw data and measurements from one field device (partial screen)



Historical trending comparing multiple devices or multiple topics (partial screen)

Commercial reference numbers	Description
EBX510	Com'X 510 energy server 24 V DC power supplied UL rated
EBXA-ANT-5M	Com'X External GPRS antenna
EBXA-USB-Zigbee	Com'X Zigbee USB interface

Com'X 210/510 Data Logger



Connection points

- | | |
|------------------|--------------------|
| 1 Terminal block | 3 Ethernet port #1 |
| 2 RJ45 cable | 4 Ethernet port #2 |



Power supply to analogue and digital inputs



GPRS modem



GPRS antenna

Connectivity

- Modbus SL / RS-485 connections to field devices
 - By cable with RJ45 connector.
- 2 Ethernet ports
 - Used to either separate upstream connection from field devices network or to daisy chain Ethernet devices.
 - RJ45 10/100BASE connectors.
 - Static IP address.
- Ethernet port #1
 - Connection to Local Area Network (LAN).
 - PoE Class 3 (802.3af) can act as main/backup power supply for the Com'X.
 - DHCP client.
- Ethernet port # 2
 - Connection to field devices.
 - DHCP client or server.
- Power supply to analogue and digital outputs
 - Outputs to supply sensors and inputs when Com'X is supplied through 24 V DC input on top:
 - 12 V DC 60 mA for digital inputs.
 - 24 V DC for analogue inputs.
 - Compliant with electrical switchboard environment (temperature, electromagnetic compatibility).
- 2 inputs for analogue sensors
 - PT100 or PT1000 temperature probes.
 - Various sensors (humidity, CO₂, etc.) with 0-10 V output.
 - Various sensors with 4-20 mA output
- 6 inputs for dry contact sensors or pulse counters
 - Max 25 pulses per second (min duration 20 ms)
 - IEC 62053-31 Class A
- GPRS modem
 - For connection to the data processing server through cellular or user's APN network.
 - Also connect to Schneider Electric's Digital Service Platform.
 - Especially suitable for sites with no internet access.
 - Simply plugs into dedicated port under the front cover.
- GPRS antenna
 - Improves GPRS signal strength in case of poor transmission conditions.
 - Recommended for Com'X located inside metallic electrical panels.

Com'X 210/510 setup and configuration

Setup and configuration

Connection to LAN

As soon as they are connected to the LAN, Com'X devices can be detected and assigned an IP address by DHCP. Your operating system's DPWS feature allows your computer to automatically recognise the device as Com'X. Embedded web pages are then immediately accessible by clicking each Com'X device icon or by typing the assigned IP address into your web browser.

Field device auto-discovery

The user-activated device discovery function automatically identifies all field devices connected to Modbus SL, Ethernet port.

- Schneider Electric devices display with the product image.
- Other devices appear as "unknown," allowing the user to manually assign a device type.
- User can assign their own device types.
- Users can complete additional device identification fields, such as circuit ID or building zone.

Data selection for logging and publication

Web page configuration tabs allow you to configure, in just a few clicks, which connected field devices collect and publish data.

- Advanced diagnostics and troubleshooting features
- Modbus serial and TCP/IP device statistics.
- Ethernet network statistics.
- Communications check wizard.
- Direct reading of register values from local and remote devices.

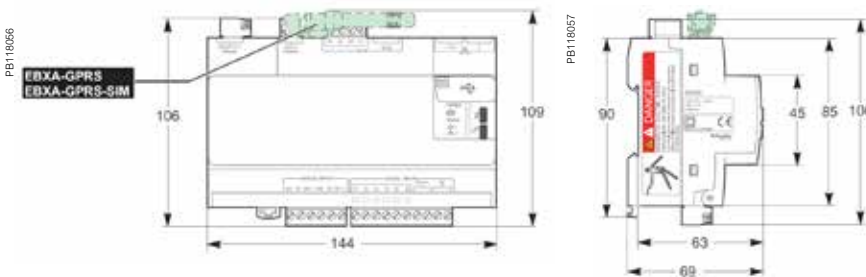
Additional features and benefits

- Cybersecurity - works well with your cyber security architecture.
- 2 Ethernet ports to separate upstream cloud connection, or to daisy chain with other Ethernet devices, from field device network.
- Data storage in case of communications failure.
- Local backup of configuration parameters - back up your system to a USB storage device and have it available for system restore or to duplicate the configuration on another box.



Device settings page (partial), as displayed after auto-discovery, enabling user to assign circuit identifications and select data for logging and publication.

Com'X 210/510 installation



DIN rail fitting (Front face IP40, terminals IP20).

Com'X 210/510 Data Logger

Technical specifications			
Com'X 210/510 Environment			
Operating temperature	-25° to 60°C Com'X 210 -25° to 70°C Com'X 510		
Storage temperature	-40° to 85°C		
GPRS dongle Operating temperature	-20° to 60°C		
GPRS dongle Storage temperature	-40° to 85°C		
Wif-Fi dongle Operating temperature	0° to 50°C		
Wi-Fi dongle Storage temperature	-20° to 80°C		
Humidity	5 to 95 % relative humidity (without condensation) at 55°C		
Pollution	Class III		
Safety standards / regulation			
International (CB scheme)	IEC 60950		
USA	UL 508		
USA	UL 60950 (Com'X 510 only)		
Canada	cUL 60950 (Com'X 510 only)		
Canada	cULus 508		
Europe	EN 60950		
Quality Brands			
	CE, UL		
Power Supply		Com'X 210	Com'X 510
AC	100-230 V (+/- 15%)(50-60 Hz)	■	
DC	24 V (+/- 10%)	■	■
Power over Ethernet	15.4 W DC	■	■
Max power	26 W max	■	■
Mechanical		Com'X 210	Com'X 510
IP	Front face IP40, terminals IP20	■	■
Dimensions (HxWxD)	91 x 144 x 65.8 mm	■	■
Weight	450 g	■	■

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Com'X 210 Com'X 510
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As standards, specifications and designs develop from time to time, please ask for confirmation of the information given in this document.

Design: Schneider Electric
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