ELECTREX

the energy saving technology

CATALOG 2026

made in italy

INDEX

Power Quality Energy Analyzer & Web Data Manager

- Kilo Net 96 and D6 ..... Pag. 06
- Exa Net 96 and D6 ..... Pag. 10
- Femto Net D6 PQ and H ..... Pag. 14
- Femto Net 4Hall ..... Pag. 16
- Lyra ..... Pag. 17

Gateway & Web Data Manager

- Yocto Net D6 ..... Pag. 20
- NET Upgrade PUK ..... Pag. 22
- Hardware options for Net devices ..... Pag. 24
- Milli Sensor for Net SI devices ..... Pag. 25

Energy Analyzer & Energy Brain Software Kit

- Kit Energy Brain & PQ Energy Analyzer ..... Pag. 28
- Giga Box ..... Pag. 32

Plug & Play Integrated solutions

- Libra Energy Automation Panel ..... Pag. 34

Power Quality & Harmonics Energy Analyzer RS485

- Exa Pro 96 and D6 RS485 ..... Pag. 36
- Femto Pro 96 and D4 RS485 ..... Pag. 38
- Atto Pro D4 RS485 ..... Pag. 44
- Pro Upgrade PUK ..... Pag. 46
- Hardware Options for Pro Instruments ..... Pag. 47

Energy Analyzers & Transducers (RS485 & MID)

- Zepto 96 and Zepto D6 RS485 ..... Pag. 50
- Etto D2 and Atto RCM ..... Pag. 51
- MID-Certified RS485 Energy Analyzers ..... Pag. 54

Smart Input/Output & Sensor Devices

- Pico Pro Node ..... Pag. 58
- Pico Pro D4 ..... Pag. 59
- Pico Pro SIO ..... Pag. 60

Environmental & Multifunction Sensors

- Wireless E-Wi 868 Devices ..... Pag. 64
- Milli Pro I/O ..... Pag. 66
- Milli Sensors ..... Pag. 67
- AirQ Pro and AirQ Sani ..... Pag. 70

Accessories

- Split-Core & Solid-Core Current Transformers ..... Pag. 72
- RS485 Cables ..... Pag. 79
- Accessories ..... Pag. 80

Energy Monitoring Software

- Energy Brain ..... Pag. 82
- Energy Brain Cloud ..... Pag. 85

ELECTREX

the energy saving technology

KILO / EXA NET / FEMTO NET / LYRA

Power Quality Energy Analyzer & Data Manager









made in italy

akse

KILO NET 96 - KILO RJ45 96

Power Quality and Web Data Manager Analyzer with double insulation, for connection via CT .../5A or .../1A



Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. With battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 digital inputs and 2 digital outputs. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFNK9-1Q7D9-0MM	**KILO RJ45 96 PQ 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & DATA MANAGER** Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNK9-1Q5D9-121	**KILO NET 96 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNK9-1Q5D9-A21	**KILO NET 96 PQ WEB LOG 16 CHARTS 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNK9-1QAD9-121	**KILO NET WI-FI EDA 96 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna PFC3530 (included). Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 and/or Wi-Fi interface and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNK9-1Q5D9-F21	**KILO NET 96 PQ WEB LOG 16 FULL 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.

KILO F NET 96 - KILO F RJ45 96

Power Quality & Web Data Manager Analyzer for connection via FCTS (Rogowski) type CTs



Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. With battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 digital inputs and 2 digital outputs. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description	Euro
PFNK9-FQ7D9-0MM	**KILO F RJ45 96 PQ 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & DATA MANAGER** Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	1.020,00
PFNK9-FQ5D9-121	**KILO F NET 96 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	1.330,00
PFNK9-FQ5D9-A21	**KILO F NET 96 PQ WEB LOG 16 CHARTS 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	1.630,00
PFNK9-FQAD9-121	**KILO F NET WI-FI EDA 96 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna PFC3530 (included). Power quality analysis (EN 50160 and EN 61000-4-30). Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 and/or Wi-Fi interface and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	1.430,00
PFNK9-FQ5D9-F21	**KILO F NET 96 PQ WEB LOG 16 FULL 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	2.230,00

KILO NET D6 - KILO RJ45 D6

Power Quality and Web Data Manager Analyzer with double insulation, for connection via CT .../5A or .../1A



Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. With battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 digital inputs and 2 digital outputs. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFNK6-1Q7D9-0MM	**KILO RJ45 D6 PQ 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & DATA MANAGER** Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNK6-1Q5D9-121	**KILO NET D6 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNK6-1Q5D9-A21	**KILO NET D6 PQ WEB LOG 16 CHARTS 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNK6-1QAD9-121	**KILO NET WI-FI EDA D6 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna PFC3530 (included). Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 and/or Wi-Fi interface and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNK6-1Q5D9-F21	**KILO NET D6 PQ WEB LOG 16 FULL 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.

KILO F NET D6 - KILO F RJ45 D6

Power Quality & Web Data Manager Analyzer for connection via FCTS (Rogowski) type CTs



Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. With battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 digital inputs and 2 digital outputs. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description	Euro
PFNK6-FQ7D9-0MM	**KILO F RJ45 D6 PQ 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & DATA MANAGER** Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	**990,00**
PFNK6-FQ5D9-121	**KILO F NET D6 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	**1.300,00**
PFNK6-FQ5D9-A21	**KILO F NET D6 PQ WEB LOG 16 CHARTS 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	**1.600,00**
PFNK6-FQAD9-121	**KILO F NET WI-FI EDA D6 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna PFC3530 (included). Power quality analysis (EN 50160 and EN 61000-4-30). Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 and/or Wi-Fi interface and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	**1.400,00**
PFNK6-FQ5D9-F21	**KILO F NET D6 PQ WEB LOG 16 FULL 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	**2.200,00**

EXA NET 96 - EXA RJ45 96

Energy Analyzer & Web Data Manager with double insulation for connection via CTs .../5A or .../1A



Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFNE9-1H709-0M0	**EXA RJ45 96 H 85÷265V ENERGY ANALYZER & DATA MANAGER** Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Load profile and energy consumption/production recording. Battery-backed perpetual clock and non-volatile memory. RJ45 port and RS485 slave port. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Remote firmware update. Power supply 85÷265 Vac. Size 96x96. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE9-1H509-110	**EXA NET 96 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE9-1H509-A10	**EXA NET 96 H WEB LOG 8 CHARTS 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. The data storage service (one Log 8 Upgrade) and the display of measurements (Web Upgrade) and energy charts (Charts Upgrade) via web page are enabled. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE9-1HA09-110	**EXA NET WI-FI EDA 96 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna PFC3530 (included). Accuracy class 0.5S and individual harmonics up to the 51st order. Network bridge between the RJ45 and/or Wi-Fi interface and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork. Includes the following upgrades: No. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE9-1H509-F10	**EXA NET 96 H WEB LOG 8 FULL 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 1 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.

EXA F NET 96 - EXA F RJ45 96

Energy Analyzer & Web Data Manager with double insulation for connection via FCTS (Rogowski) type CTs



Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 96x96. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description	Euro
PFNE9-FH709-0M0	**EXA F RJ45 96 H 85÷265V ENERGY ANALYZER & DATA MANAGER** Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Load profile and energy consumption/production recording. Battery-backed perpetual clock and non-volatile memory. RJ45 port and RS485 slave port. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Remote firmware update. Power supply 85÷265 Vac. Size 96x96. Compliant with EN 50470-1 and EN 50470-3 standards.	710,00
PFNE9-FH509-110	**EXA F NET 96 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	910,00
PFNE9-FH509-A10	**EXA F NET 96 H WEB LOG 8 CHARTS 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. The data storage service (one Log 8 Upgrade) and the display of measurements (Web Upgrade) and energy charts (Charts Upgrade) via web page are enabled. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	1180,00
PFNE9-FHA09-110	**EXA F NET WI-FI EDA 96 H WEB LOG 8 85÷265 ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna PFC3530 (included). Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 and/or Wi-Fi interface and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork. Includes the following upgrades: No. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	1.020,00
PFNE9-FH509-F10	**EXA F NET 96 H WEB LOG 8 FULL 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 1 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 96x96. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.	1.830,00

EXA NET D6 - EXA RJ45 D6

Energy Analyzer & Web Data Manager with double insulation for connection via CTs .../5A or .../1A



Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. With battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFNE6-1H709-0M0	**EXA RJ45 D6 H 85÷265V ENERGY ANALYZER & DATA MANAGER** Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE6-1H509-110	**EXA NET D6 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE6-1H509-A10	**EXA NET D6 H WEB LOG 8 CHARTS 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. The data storage service (one Log 8 Upgrade) and the display of measurements (Web Upgrade) and energy charts (Charts Upgrade) via web page are enabled. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE6-1HA09-110	**EXA NET WI-FI EDA D6 H WEB LOG 8 85÷265 ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna PFC3530 (included). Accuracy class 0.5S and individual harmonics up to the 51st order. Network bridge between the RJ45 and/or Wi-Fi interface and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork. Includes the following upgrades: No. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE6-1H509-F10	**EXA NET D6 H WEB LOG 8 FULL 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 1 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.

EXA F NET D6 - EXA F RJ45 D6

Energy Analyzer & Web Data Manager with double insulation for connection via FCTS (Rogowski) type CTs



Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. With battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFNE6-FH709-0M0	**EXA F RJ45 D6 H 85÷265V ENERGY ANALYZER & DATA MANAGER** Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Battery-backed perpetual clock and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE6-FH509-110	**EXA F NET D6 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE6-FH509-A10	**EXA F NET D6 H WEB LOG 8 CHARTS 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. The data storage service (one Log 8 Upgrade) and the display of measurements (Web Upgrade) and energy charts (Charts Upgrade) via web page are enabled. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE6-FHA09-110	**EXA F NET WI-FI EDA D6 H WEB LOG 8 85÷265 ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna PFC3530 (included). Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 and/or Wi-Fi interface and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork. Includes the following upgrades: No. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFNE6-FH509-F10	**EXA F NET D6 H WEB LOG 8 FULL 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with FCTS series flexible split-core current transformers (not included). Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 1 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.

FEMTO NET D6 PQ - FEMTO RJ45 D6 PQ

Power Quality & Web Data Manager Analyzer with Double Insulation for Connection via ECT-Type CTs



Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. With battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 digital inputs and 2 digital outputs. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFN66-EQ7D9-0MM	**FEMTO ECT RJ45 D6 PQ 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & DATA MANAGER** Power Quality Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with ECT external current transformers (not included), e.g. PFAE000-01 or PFAE000-02. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFN66-EQ5D9-121	**FEMTO ECT NET D6 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with ECT external current transformers (not included), e.g. PFAE000-01 or PFAE000-02. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log and No. 1 PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFN66-EQ5D9-A21	**FEMTO ECT NET D6 PQ WEB LOG 16 CHARTS 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with ECT external current transformers (not included), e.g. PFAE000-01 or PFAE000-02. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, No. 1 PFSU940-05 Web and No. 1 PFSU940-30 Charts. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFN66-EQAD9-121	**FEMTO ECT NET WI-FI EDA D6 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Wi-Fi Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with ECT external current transformers (not included), e.g. PFAE000-01 or PFAE000-02. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log and No. 1 PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFN66-EQ5D9-F21	**FEMTO ECT NET D6 PQ WEB LOG 16 FULL 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA MANAGER** Power Quality Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with ECT external current transformers (not included), e.g. PFAE000-01 or PFAE000-02. Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.

FEMTO NET D6 H - FEMTO RJ45 D6 H

Energy Analyzer & Web Data Manager with Double Insulation for Connection via ECT-Type CTs



Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. With battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFN66-EH709-0M0	**FEMTO ECT RJ45 D6 H 85÷265V ENERGY ANALYZER & DATA MANAGER** Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with ECT external current transformers (not included), e.g. PFAE000-01 or PFAE000-02. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFN66-EH509-110	**FEMTO ECT NET D6 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with ECT external current transformers (not included), e.g. PFAE000-01 or PFAE000-02. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFN66-EH509-A10	**FEMTO ECT NET D6 WEB LOG 8 CHARTS 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with ECT external current transformers (not included), e.g. PFAE000-01 or PFAE000-02. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 2 PFSU940-01 Log 8, No. 1 PFSU940-25 Open Log, No. 1 PFSU940-05 Web and No. 1 PFSU940-30 Charts. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate commons. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFN66-EHA09-110	**FEMTO ECT NET WI-FI EDA D6 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Wi-Fi Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with ECT external current transformers (not included), e.g. PFAE000-01 or PFAE000-02. Network bridge between the RJ45 and/or Wi-Fi interface and the RS485 port for Modbus communication with other Electrex instruments on the subnetwork and related data storage. Includes the following upgrades: No. 1 PFSU940-01 Log 8 and No. 1 PFSU940-05 Web. Battery-backed perpetual clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.
PFN66-EH509-F10	**FEMTO ECT NET D6 H WEB LOG 8 FULL 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Energy Analyzer & Web Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. Can be used exclusively with ECT external current transformers (not included), e.g. PFAE000-01 or PFAE000-02. Network bridge between the RJ45 port and the RS485 port for Modbus communication with Electrex instruments on the subnetwork. Includes the following upgrades: No. 1 PFSU940-01 Log 8, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. Size 6 DIN modules. Power supply 85÷265 Vac. Compliant with EN 50470-1 and EN 50470-3 standards.

FEMTO 4HALL D6

DC Energy Analyzer & Web Data Manager for Connection via Hall-Effect Type CTs



DC Energy Analyzer & Data Manager. Accuracy class 0.5S. Battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFN66-H0709-0M0	**FEMTO 4HALL RJ45 D6 DC 85-265V ENERGY ANALYZER & DATA MANAGER** DC Energy Analyzer & Data Manager with RJ45 Ethernet port. DC current monitoring (four inputs for CTS DC Hall series split-core current transducers [not included]). FSTN dot-matrix display. Measurement of voltage, current, power and energy, maximum and minimum voltage, and maximum current. Reading of internal registers via the RJ45 port using the Modbus/TCP protocol. Battery-backed perpetual astronomical clock/calendar and industrial-grade non-volatile memory for recording load profiles and energy consumption/production profiles. Web and FTP servers. Additional functions can be enabled using a PUK code. Remote firmware update. Equipped with NFC (Near Field Communication) technology. Size 6 DIN modules. Separate wide-range power supply 85÷265 Vac / 100÷374 Vdc.
PFN66-H0509-110	**FEMTO 4HALL NET D6 DC WEB LOG 8 85-265V ENERGY ANALYZER & WEB DATA MANAGER** DC Energy Analyzer & Web Data Manager with RJ45 Ethernet port. DC current monitoring (four inputs for CTS DC Hall series split-core current transducers [not included]). FSTN dot-matrix display. Measurement of voltage, current, power and energy, maximum and minimum voltage, and maximum current. Reading of internal registers using the Modbus/TCP protocol. Network bridge between the RJ45 port and the RS485 port for Modbus communication and data acquisition from Electrex instruments on the subnetwork. Battery-backed perpetual astronomical clock/calendar and industrial-grade non-volatile memory. Log 8 Upgrade for recording energy consumption/production profiles. Web Server and Web Upgrade for displaying instantaneous measurements via web page. FTP Server. Remote firmware update. NFC (Near Field Communication) technology. Size 6 DIN modules. Separate wide-range power supply 85÷265 Vac / 100÷374 Vdc.
PFN66-H0509-A10	**FEMTO 4HALL NET D6 DC WEB LOG 8 CHARTS 85-265V ENERGY ANALYZER & WEB DATA MANAGER** DC Energy Analyzer & Web Data Manager with RJ45 Ethernet port. DC current monitoring (four inputs for CTS DC Hall series split-core current transducers [not included]). FSTN dot-matrix display. Measurement of voltage, current, power and energy, maximum and minimum voltage, and maximum current. Reading of internal registers using the Modbus/TCP protocol. Network bridge between the RJ45 port and the RS485 port for Modbus communication and data acquisition from Electrex instruments on the subnetwork. Battery-backed perpetual astronomical clock/calendar and industrial-grade non-volatile memory. Log 8 Upgrade for recording energy consumption/production profiles. Web Server and Web and Charts Upgrades for displaying instantaneous measurements and charts via web page. FTP Server. Remote firmware update. NFC (Near Field Communication) technology. Size 6 DIN modules. Separate wide-range power supply 85÷265 Vac / 100÷374 Vdc.
PFN66-H0A09-110	**FEMTO 4HALL NET WI-FI EDA D6 DC WEB LOG 8 85-265V ENERGY ANALYZER & WEB DATA MANAGER** DC Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna PFC3530 (included). DC current monitoring (four inputs for CTS DC Hall series split-core current transducers [not included]). FSTN dot-matrix display. Measurement of voltage, current, power and energy, maximum and minimum voltage, and maximum current. Reading of internal registers using the Modbus/TCP protocol. Network bridge between the RJ45 and/or Wi-Fi interface and the RS485 port for Modbus communication and data acquisition from Electrex instruments on the subnetwork. Battery-backed perpetual astronomical clock/calendar and industrial-grade non-volatile memory. Log 8 Upgrade for recording energy consumption/production profiles. Web Server and Web Upgrade for displaying instantaneous measurements via web page. FTP Server. Remote firmware update. NFC (Near Field Communication) technology. Size 6 DIN modules. Separate wide-range power supply 85÷265 Vac / 100÷374 Vdc.

LYRA NET ECT

Energy Analyzer & Web Data Manager with Double Insulation for Connection via ECT-Type CTs



Energy Analyzer & Data Manager. Accuracy class 0.5S and individual harmonics up to the 51st order. With battery-backed perpetual astronomical clock/calendar and non-volatile memory. Remote firmware update. RJ45 port and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC-ready. Size 6 DIN modules. Power supply 85÷265 Vac.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFALT-EH5090-110	**LYRA ECT NET H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Lyra ECT Net H is an Energy Analyzer & Web Data Manager housed in an enclosure suitable for wall mounting or installation in electrical panels where no DIN rail space is available. Measures low-voltage electrical parameters, records energy vectors, and measures individual harmonics up to the 51st order. Operates exclusively with Electrex ECT current transformers. Equipped with removable terminal blocks to facilitate installation. RJ45 Ethernet connector and RS485 Master port for connecting other RS485 Modbus RTU devices on the subnetwork.
PFALT-EHA090-110	**LYRA ECT NET WI-FI EDA H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER** Lyra ECT Net Wi-Fi Eda H is an Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna PFC3530 (included). Housed in an enclosure suitable for wall mounting or installation in electrical panels where no DIN rail space is available. Measures low-voltage electrical parameters, records energy vectors, and measures individual harmonics up to the 51st order. Operates exclusively with Electrex ECT current transformers. Equipped with removable terminal blocks to facilitate installation. RJ45 Ethernet connector and RS485 Master port for connecting other RS485 Modbus RTU devices on the subnetwork.

ELECTREX

the energy saving technology

YOCTO NET

Gateway & Web Data Manager



made in italy

akse

YOCTO NET D6

Gateway and Datalogger for Energy Analyzers and RS485 Instruments



Gateway for the remote management of Electrex instruments and networks. Digital and/or analog INPUT / OUTPUT. Ethernet, RS485, WIRELESS, GSM, SMS communication. Automatic alarm generation. Data logging and remote data acquisition. Online measurement display from connected instruments.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFNY6-00509-100	**YOCTO NET D6 WEB 85÷265V WEB DATA MANAGER** Network bridge between the Ethernet port and the RS485 port for Modbus communication and data acquisition from Electrex instruments on the subnetwork. Graphic FSTN display. Battery-backed perpetual astronomical clock/calendar and industrial-grade non-volatile memory. Remote firmware update. Web Server with the Web Upgrade enabled for displaying instantaneous measurements via web page. Additional functions can be enabled through upgrades (PUK). FTP Server. ExpBus for external devices (inputs and outputs and environmental sensors). Equipped with NFC (Near Field Communication) technology. Size 6 DIN modules. Power supply 85÷265 Vac / 100÷374 Vdc.
PFNY6-005D9-110	**YOCTO NET D6 WEB LOG 8 85÷265V 2DI 2DO 4COMMON WEB DATA MANAGER** Network bridge between the Ethernet port and the RS485 port for Modbus communication and data acquisition from Electrex instruments on the subnetwork. Graphic FSTN display. Battery-backed perpetual astronomical clock/calendar and industrial-grade non-volatile memory. Remote firmware update. Log 8 data logging service enabled (logging of its digital inputs and up to 7 instruments on the subnetwork with power, energy and input data). Web Server with the Web Upgrade enabled for displaying the main instantaneous measurements via web page. FTP Server. 2 digital inputs and 2 digital outputs with separate commons. ExpBus for external devices (inputs and outputs and environmental sensors). Equipped with NFC (Near Field Communication) technology. Size 6 DIN modules. Power supply 85÷265 Vac / 100÷374 Vdc.
PFNY6-00AD9-110	**YOCTO NET WI-FI EDA D6 WEB LOG 8 85-265V 2DI 2DO 4COMMON WEB DATA MANAGER** Network bridge between the Ethernet and/or Wi-Fi interface and the RS485 port for Modbus communication and data acquisition from Electrex instruments on the subnetwork. Wi-Fi via external antenna PFC3530 (included); compatible with IEEE 802.11b/g/n. Graphic FSTN display. Battery-backed perpetual astronomical clock/calendar and industrial-grade non-volatile memory. Remote firmware update. Log 8 data logging service enabled (logging of its digital inputs and up to 7 instruments on the subnetwork with power, energy and input data). Web Server with the Web Upgrade enabled for displaying the main instantaneous measurements via web page. FTP Server. 2 digital inputs and 2 digital outputs with separate commons. ExpBus for external devices (inputs and outputs and environmental sensors). Equipped with NFC (Near Field Communication) technology. Size 6 DIN modules. Power supply 85÷265 Vac / 100÷374 Vdc.
PFNY6-005D9-A10	**YOCTO NET D6 WEB LOG 8 CHARTS 85-265V 2DI 2DO 4COMMON WEB DATA MANAGER** Network bridge between the Ethernet port and the RS485 port for Modbus communication and data acquisition from Electrex instruments on the subnetwork. Graphic FSTN display. Battery-backed perpetual astronomical clock/calendar and industrial-grade non-volatile memory. Remote firmware update. Log 8 data logging service enabled (logging of its digital inputs and up to 7 instruments on the subnetwork with power, energy and input data). Web Server with the Web and Charts Upgrades enabled for displaying instantaneous measurements and charts via web page. FTP Server. 2 digital inputs and 2 digital outputs with separate commons. ExpBus for external devices (inputs and outputs and environmental sensors). Equipped with NFC (Near Field Communication) technology. Size 6 DIN modules. Power supply 85÷265 Vac / 100÷374 Vdc.
PFNY6-005D9-F10	**YOCTO NET D6 WEB LOG 8 FULL 85÷265V 2DI 2DO 4COMMON WEB DATA MANAGER** **Network bridge between the Ethernet port and the RS485 port for Modbus communication and data acquisition from Electrex instruments on the subnetwork. Graphic FSTN display. Battery-backed perpetual astronomical clock/calendar and industrial-grade non-volatile memory. Web and FTP Servers. Remote firmware update. Log 8 data logging service enabled (logging of its digital inputs and up to 7 instruments on the subnetwork with power, energy and input data), together with the Web and Charts Upgrades for displaying instantaneous measurements and charts via web page, and the Energy Automation, Calendars and Email upgrades. 2 digital inputs and 2 digital outputs with separate commons. ExpBus for external devices (inputs and outputs and environmental sensors). Equipped with NFC (Near Field Communication) technology. Size 6 DIN modules. Power supply 85÷265 Vac / 100÷374 Vdc.**

YOCTO NET D6 E-WI

Gateway and Datalogger for E-Wi Wireless Instruments



Gateway/Datalogger with E-Wi 868 communication, operating as the Master coordinator of the wireless network. Transmits and receives on the 868 MHz wireless frequency, managing end devices such as Deca Sensor E-Wi and Pico Pro E-Wi multifunction sensors, which transmit environmental measurements and/or pulse counts via radio. Ethernet and RS485 Master communication. Automatic alarm generation. Data logging and remote data acquisition.All instruments of the NET family can be equipped with the E-Wi 868 option. Tutti gli strumenti della famiglia NET possono essere dotati di opzione E-Wi 868.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFNY6-005L9-110	**YOCTO NET COORDINATOR E-WI EDA 868 D6 WEB LOG 8 85÷265V WEB DATA MANAGER** Network bridge between the Ethernet port and the RS485 port for Modbus communication and data acquisition from Electrex instruments on the subnetwork. E-Wi wireless network coordinator with connector for external antenna (antenna included), which transmits and receives on the 868 MHz wireless frequency using the E-Wi protocol, managing end devices such as Deca Sensor E-Wi 868 and Deca Sensor E-Wi 868 THL multifunction sensors, which transmit pulse counts and/or environmental measurements via 868 MHz radio. Graphic FSTN display. Battery-backed perpetual astronomical clock/calendar and industrial-grade non-volatile memory. Remote firmware update. Log 8 data logging service enabled (logging of its digital inputs and up to 7 instruments on the RS485 and/or E-Wi 868 subnetwork with power, energy and input data). Web Server with the Web Upgrade enabled for displaying the main instantaneous measurements via web page. FTP Server. ExpBus for external devices (inputs and outputs and environmental sensors). Equipped with NFC (Near Field Communication) technology. Size 6 DIN modules. Power supply 85÷265 Vac / 100÷374 Vdc.



DECA SENSOR E-WI 868 TH

Wireless Battery-Powered Temperature and Humidity Sensor

Code	Product Description
PFATDHI-0BW	**DECA SENSOR E-WI 868 T H BATTERY** Sensor for measuring ambient temperature and humidity. Transmits data via 868 MHz radio to Electrex NET Coordinator E-Wi 868 family instruments. Typical accuracy: 0.2 °C for temperature and 1.8 %RH for humidity. Sampling interval configurable from 1 to 60 minutes. Wall-mounted installation. Dimensions: 80 × 80 × 25 mm. Power supply 12 Vdc or battery (not included), with a battery life of up to 7 years with a 15-minute sampling interval and adequate radio coverage.



PICO PRO E-WI 868 BATTERY

Wireless Battery-Powered Device with On-Board Digital Inputs

Code	Product Description
PFAPUHL-F0GG	**PICO PRO E-WI 868 BATTERY 2DI 2COMMON LOW POWER** Battery-powered E-Wi 868 wireless device equipped with 2 opto-isolated digital inputs for status indication and/or pulse counting, with separate commons. The digital inputs are opto-isolated and provided with an anti-bounce filter. They are normally used for counting externally generated pulses or as remote status indicators. The input circuits are self-powered and do not require an external power supply. Transmits data via 868 MHz radio to Electrex NET Coordinator E-Wi 868 gateways. Powered by two AA lithium batteries (not included), with battery life depending on the sampling interval and radio coverage. Remote firmware update. Suitable for indoor or outdoor installation in a watertight ABS enclosure with IP67 protection rating. Grey enclosure. Dimensions: 130 × 45 × 175 mm.

NET PUK Upgrades for Kilo, Exa Net, Femto Net, Lyra and Yocto

Upgrades that can be remotely enabled, even after commissioning, to extend the functionality of NET family instruments (Kilo, Exa Net, Femto Net, Lyra and Yocto).

Code	Product Description
PFSU940-84	**UPGRADE RJ45 VERSION TO NET WEB VERSION (PUK)** Software upgrade via a PUK code. Upgrades Exa, Exa F, Femto ECT and Femto 25A D instruments from the RJ45 version to the Net Web version. The Net Web version allows the visualization via web pages and the data logging of Electrex devices connected on the RS485 subnetwork.
PFSU940-81	**UPGRADE H TO PQ VERSION (PUK)** Software upgrade via a PUK code. Upgrades the instrument from Exa RJ45 D6 H, Exa Net D6 H, Femto ECT D6 H and Femto 25A D D6 H to Exa RJ45 D6 PQ, Exa Net D6 PQ, Femto ECT D6 PQ and Femto 25A D D6 PQ. The PQ version allows configuration and logging of events, event classification, and activation of measurement campaigns. The instrument must have the PFSU940-85 Upgrade to H Version previously installed.
PFSU940-82	**UPGRADE RJ45 PQ TO NET PQ WEB VERSION (PUK)** Software upgrade via a PUK code. Upgrades the instrument from Kilo RJ45 D6 PQ to Kilo Net D6 PQ and from Kilo F RJ45 D6 PQ to Kilo F Net D6 PQ. The Net Web version allows the visualization via web pages and the data logging of Electrex devices connected on the RS485 subnetwork. Also available on request for Exa D6 RJ45, Exa D6 Net, Femto ECT D6 and Femto 25A D D6 in PQ versions.
PFSU940-86	**NET UPGRADE NET TO MASTER VERSION (PUK)** Software upgrade via a PUK code. Upgrades Kilo Net, Exa Net, Femto ECT Net, Femto 25A D Net and Yocto Net D6 instruments to the Master version. The Master version allows communication with all Electrex gateways and devices connected to the same Ethernet network.
PFSU940-01	**NET UPGRADE LOG 8 (PUK)** Software upgrade via a PUK code. Adds 1 Log 8 data logging service to the Kilo Net, Exa Net, Femto ECT Net and Yocto Net D6 families. Up to 8 logging services can be managed on each Kilo Net, Exa Net, Femto ECT Net and Yocto Net D6 instrument.
PFSU940-02	**NET UPGRADE LOG 16 (PUK)** Software upgrade via a PUK code. Doubles the size of the data logging service from Log 8 to Log 16 on Kilo Net Log and Yocto Net D6 Log only.
PFSU940-10	**NET UPGRADE OPEN WEB (PUK)** Software upgrade via a PUK code. Adds the capability to create custom web pages to the Kilo Net, Exa Net, Femto ECT Net, Yocto Net, Libra Net and Lyra Net families. NOTE: On request, the web pages can be customized by our technicians according to the customer's specifications (quotation on request; not included in the cost of the software upgrade).
PFSU940-30	**NET UPGRADE CHARTS (PUK)** Software upgrade via a PUK code. Allows the display, through a web page, of charts for a configurable period of electrical energy, temperature, humidity, luminosity, etc., generated from the files stored in Kilo Net, Exa Net, Femto ECT Net, Femto 25A D Net and Yocto Net D6, with the possibility of exporting them in CSV format.
PFSU940-25	**NET UPGRADE OPEN LOG (PUK)** Software upgrade via a PUK code. Allows modification of 1 existing Log 8 data logging service in Kilo Net, Exa Net, Femto ECT Net, Femto 25A D Net and Yocto Net D6. For example, to perform measurement campaigns and/or increase or decrease the sampling interval and the logging period.
PFSU940-15	**NET UPGRADE EMAIL (PUK)** Software upgrade via a PUK code. Adds the capability to send notification/alarm emails related to parameters measured by the instrument (registers and/or status inputs) to the Kilo Net, Exa Net, Femto ECT Net, Femto 25A D Net and Yocto Net D6 families. In the Net version, with the Energy Automation upgrade installed, notifications can also be sent for parameters measured by instruments on the subnetwork.
PFSU940-17	**NET UPGRADE SMS (PUK)** Software upgrade via a PUK code. Adds the capability to send notification/alarm SMS messages related to parameters measured by the instrument (registers and/or status inputs) to the Kilo Net, Exa Net, Femto ECT Net, Femto 25A D Net and Yocto Net D6 families. A UMTS Wi-Fi router with a data SIM card is required. In the Net version, with the Energy Automation upgrade installed, notifications can also be sent for parameters measured by instruments on the subnetwork.

NET PUK Upgrades for Kilo, Exa Net, Femto Net, Lyra and Yocto

Upgrades that can be remotely enabled, even after commissioning, to extend the functionality of NET family instruments (Kilo, Exa Net, Femto Net, Lyra and Yocto).

Code	Product Description
PFSU940-16	**NET UPGRADE ENERGY AUTOMATION (PUK)** Software upgrade via a PUK code. Enables programming, through the web interface of Kilo Net (and on request also Exa Net, Femto ECT Net, Femto 25A D Net and Yocto Net D6), of Energy Automation logic to perform even complex operations such as switching ON/OFF, alarms/signals, and event-driven automations, aimed at improving the energy efficiency of systems. With the Calendars upgrade it is possible to associate programming with customizable calendars. With the Email upgrade it is possible to associate notification email sending.
PFSU940-20	**NET UPGRADE CALENDARS (PUK)** Software upgrade via a PUK code. Adds to the Kilo D6, Exa RJ45 and Net, Femto ECT RJ45 and Net, Femto 25A D RJ45 and Net, and Yocto Net D6 families the possibility to create customizable calendars. It can be combined with the Energy Automation upgrade to perform even complex operations.
PFSU940-22	**NET UPGRADE BUNDLE ENERGY AUTOMATION, CALENDARS, EMAIL (PUK)** Bundle including software upgrades (PUK) PFSU940-16 Net Energy Automation, PFSU940-20 Net Calendars, and PFSU940-15 Net Email. It enables programming, via the web interface of Kilo Net, Exa Net, Femto ECT Net, Yocto Net D6, Giga Box, Libra Net, and Lyra ECT Net, of Energy Automation logic for complex operations such as switching ON/OFF, alarms/signals, and event-based automations, aimed at improving system energy efficiency. With the Calendars upgrade, programming can also be linked to customizable calendars. With the Email upgrade, notification/alarm emails can be sent.
PFSU940-23	**NET UPGRADE BUNDLE ENERGY AUTOMATION, CALENDARS, EMAIL, SMS (PUK)** Bundle including software upgrades (PUK) PFSU940-16 Net Energy Automation, PFSU940-20 Net Calendars, PFSU940-15 Net Email, and PFSU940-17 Net SMS. It enables programming, via the web interface of Kilo Net, Exa Net, Femto ECT Net, Yocto Net D6, Giga Box, Libra Net, and Lyra ECT Net, of Energy Automation logic for complex operations such as switching ON/OFF, alarms/signals, and event-based automations, aimed at improving system energy efficiency. With the Calendars upgrade, programming can be linked to customizable calendars. With the Email upgrade, notification/alarm emails can be sent. With the SMS upgrade, SMS notifications can be sent using a UMTS Wi-Fi router with data SIM card.
PFSU940-50	**NET UPGRADE SENDING FILES (PUK)** Software upgrade via a PUK code. Adds to the Kilo Net, Exa Net, Femto ECT Net, Femto 25A D Net, Yocto Net D6, Libra Net, and Lyra Net families the capability to automatically and scheduledly export data to external systems. Two functions are available: “FTP report” and “HTTP report”. 1 - FTP report allows exporting logged data in standard XML format (customizable on request) to an FTP server. 2-HTTP report allows sending a JSON string via HTTP or HTTPS POST, dynamically generated from a template stored in a file. The JSON string can include values from variables defined in the Automation script. Both functions require the Energy Automation PUK implementation, which also allows data export to be linked to complex events/scenarios.
PFSU940-58	**NET UPGRADE MQTT (PUK)** Software upgrade via a PUK code. Adds to the Kilo Net, Exa Net, Femto ECT Net, Femto 25A D Net, Yocto Net D6, Libra Net, and Lyra Net families the capability to send data via the MQTT protocol. Messages sent to the MQTT broker are encoded in JSON and contain measurements and identifiers that allow tracing each individual instrument and measured variable. The set of transmitted measurements is configurable. A secure (TLS) connection can be used.
PFSU940-60	**NET UPGRADE WEB API (PUK)** Software upgrade via a PUK code. Adds to the Kilo Net, Exa Net, Femto Net, Yocto Net D6, Libra Net, and Lyra Net families the ability to access real-time measurements quickly and efficiently via HTTP/HTTPS commands in universal JSON format.
PFSU940-40	**NET UPGRADE NEW FEATURES** Firmware upgrade to new versions for Kilo Net, Exa Net, Femto ECT Net, Femto 25A D Net, and Yocto Net D6, adding new functionalities to the instrument.

Hardware Options for Kilo, Exa Net, Femto Net, Lyra and Yocto

Hardware options to be installed on NET instruments for the management of inputs and outputs, including through instrument alarms.To build the code with the different input/output versions, refer to the “Code Creation Table” or to the product datasheet.

Code	Product Description

NET WI-FI EDA VERSION

Additional cost for ordering a Kilo Net, Exa Net, Femto Net, Lyra, Yocto Net product with Wi-Fi communication via external antenna PFC3533 (included). To build the code with Wi-Fi communication, refer to the “Code Creation Table”.

I/O BOARDS 2DI 2DO 4COMMON, 4DI 4COMMON, 4DO 4COMMON

Additional cost for ordering a product in the following versions: 2DI 2DO with separate commons, 4DI with separate commons, or 4DO with separate commons.

I/O BOARD 4AI VERSION

Additional cost for ordering a product in versions with 4 analog inputs.

2AO4-20mA VERSIONS

Additional cost for ordering a product in versions with 4–20 mA analog outputs.

I/O BOARDS 4PT100, 4PT1000, 4NTC (su richiesta)

Additional cost for ordering a product in versions with analog inputs for PT100, PT1000, or NTC sensors (on request).

SI VERSIONS

Additional cost for ordering a NET family product equipped with SI Bus.

NET E-WI 868 VERSION

Additional cost for ordering a NET family product with E-Wi communication, receiving data via 868 MHz radio waves.

18÷60VDC, 9÷36VDC VERSIONS

Additional cost for ordering a NET family instrument with switching power supply options: 15÷36Vac / 18÷60Vdc or 9÷24Vac / 9÷36Vdc

MILLI SENSOR

Environmental Parameter Sensors for Electrex Net Instruments with SI and SIO Bus



Milli Sensor is a family of expansion devices for Electrex instruments equipped with SI Bus and/or SIO Bus (Sensor Input Output), featuring onboard environmental and air quality sensors. They are designed to meet the most advanced requirements of remote monitoring, alarm management, and environmental measurement for building automation applications in residential, commercial, and industrial sectors, in the least invasive way possible. The system is fully versatile and can be expanded even after installation. A range of sensors is available, such as temperature, humidity, lux, and air quality parameters. They can be used exclusively with Electrex instruments equipped with SI Bus or SIO Bus communication. Powered directly by the SI Bus.

Code	Product Description

PFATBAQ-00B **SENSOR BUS BLACK BOX T 0,25**

Optional external BUS device usable with Electrex instruments/devices equipped with SIO Bus and SI Bus. Measures ambient temperature from -40°C to +125°C (typical accuracy ±0.25°C). Wired with 1 m Cat. 5E cable. Addressable from 1 to 4. Black box dimensions: 38 × 73 × 20 mm.

PFAT4TQ-01 **MILLI SENSOR BUS NAKED T 1**

Contact temperature sensor usable with Electrex instruments/devices equipped with SIO Bus and SI Bus. Measures contact temperature (typical accuracy ±1.0°C). Wired with 1 m Cat. 5E cable. Addressable from 1 to 4. Black box dimensions: 38 × 73 × 20 mm.

PFAT4AQ-00 **MILLI SENSOR BUS NAKED T 0,25**

Contact temperature sensor usable with Electrex instruments/devices equipped with SIO Bus and SI Bus. Measures contact temperature (typical accuracy ±0.25°C). Wired with 1 m Cat. 5E cable. Addressable from 1 to 4. Black box dimensions: 38 × 73 × 20 mm.

PFATREQ-00B **MILLI SENSOR BUS RJ BLACK BOX T H 0,1**

Ambient temperature and relative humidity sensor usable with Electrex instruments/devices equipped with SIO Bus and SI Bus. Measurement range: -40°C to +125°C; typical accuracy ±0.1°C for temperature and ±1.5% for relative humidity. Addressable (1, 2). Equipped with 2 RJ45 female ports for BUS connection. Black box dimensions: 38 × 73 × 20 mm.

PFAMRDZ-00EB **MILLI SENSOR BUS RJ BLACK BOX DP**

Differential air pressure sensor usable with Electrex instruments/devices equipped with SIO Bus and SI Bus. Measures differential pressure from -500 Pa to +500 Pa (zero-point flow error 0.1 Pa, typical accuracy ±3%). Equipped with 2 RJ45 female ports for BUS connection. Black box dimensions: 38 × 73 × 20 mm.

PFAMVPZ-00EB **MILLI SENSOR BUS RJ BLACK BOX PM**

Sensor for measurement of fine dust particles (PM – Particulate Matter). Usable with Electrex instruments/devices equipped with SIO Bus and SI Bus. Particle sizes: PM1.0, PM2.5, PM4, PM10 (typical accuracy ±10%). Equipped with 2 RJ45 ports for BUS connection. Black box dimensions: 51 × 89 × 26 mm.

PFAMVWZ-00EB **MILLI SENSOR BUS RJ BLACK BOX OZONE**

Sensor for measurement of ozone (O3) concentration level. Usable with Electrex instruments/devices equipped with SIO Bus and SI Bus. Measurement range: 0 to 5 ppm (standard conditions: 25°C, 50% RH, 1 atm) (typical accuracy ±15%). Equipped with 2 RJ45 ports for BUS connection. Power supply: +3.3 Vdc from SIO bus. Black box dimensions: 39 × 88 × 23 mm.

PFAMVYZ-00EB **MILLI SENSOR BUS RJ BLACK BOX CO**

Sensor for measurement of carbon monoxide (CO). Usable with Electrex instruments/devices equipped with SIO Bus and SI Bus. Measurement range: 0–500 ppm (typical accuracy ±15%). Equipped with 2 RJ45 ports for BUS connection. Power supply: 2.6–3.6 V. Black box dimensions: 51 × 89 × 26 mm.

CODE CREATION TABLE FOR NET INSTRUMENTS

SERIES	KILO	EXA	FEMTO	LYRA	YOCTO
	PFNK	PFNE	PFN6	PFAL	PFNY
Size					
6 DIN rail modules	6	6	6		6
96 × 96 front panel	9	9			
150 × 45 × 100 mm enclosure				T	
Current Inputs					
None					0
../5A and ../1A	1	1			
Flexible split-core CT	F	F			
ECT CT			E	E	
25A Direct			D		
4 HALL (DC)			H		
Power Quality and Harmonics					
None			0 (DC)		0
Harmonics		H	H (AC)	H	
Power Quality and Harmonic survey campaign	Q	Q	Q (AC)	Q	
Communication					
RJ45	7	7	7	7	
Net	5	5	5	5	5
Wi-Fi EDA	A	A	A	A	A
Internal board					
None		0	0	0	0
Board 2DI 1 RO Self Powered	2	2	2	2	2
Board 2RO24VDC	5	5	5	5	5
Board 2AO4-20mA	6	6	6	6	6
Board 1DI 2DO Self Powered	E	E	E	E	E
Board 4DI 4COMMON	B	B	B	B	B
Board 4DO 4COMMON	C	C	C	C	C
Board 2DI 2DO 4COMMON	D	D	D	D	D
Board E-WI 868	L	L	L	L	L
Board 4AI	R	R	R	R	R
Board SI (Sensor Bus I2C)	T	T	T	T	T
Board 4PT100	U	U	U	U	U
Board 4PT1000	X	X	X	X	X
Board 4NTC	Y	Y	Y	Y	Y
Power Supply					
85÷265Vac/100÷374Vdc	9	9	9	9	9
15÷40Vac/18÷60Vdc	8	8	8	8	8
9÷24Vac/9÷36Vdc	7	7	7	7	7
Version					
Non-Master and non-Sending Files version	-	-	-	-	-
Master	M	M	M	M	M
Sending Files	F	F	F	F	F
Master e Sending Files	N	N	N	N	N
Additional Functions					
None	0	0	0		
Web functions	1	1	1	1	1
Web Charts functions	A	A	A	A	A
Web Energy Automation functions	5	5	5	5	5
Web eMail	7	7	7	7	7
Web Calendars	8	8	8	8	8
Web Energy Automation, eMail, Calendars	9				
Web Full (Charts, Automation, eMail, Calendars)	F	F	F	F	F
Open Web	2	2	2	2	2
Open Web Charts	C	C	C	C	C
Open Web, Automation, eMail, Calendars	B	B	B	B	B
Open Web Full	D	D	D	D	D
Data Logging Services					
Internal analyzer logging	M	M	M		
Number of Log 8 services enabled	1 ... 8	1 ... 8	1 ... 8	1 ... 8	1 ... 8
Doubled to Log 16	9				9
Log configuration via web page					
Open Log for internal analyzer	M	M	M		
Number of Open Log services enabled	1 ... 8	1 ... 8	1 ... 8	1 ... 8	1 ... 8

ELECTREX

the energy saving technology

PQ ENERGY ANALYZER & ENERGY BRAIN SOFTWARE KIT



made in italy

akse

PQ ENERGY ANALYZER & ENERGY BRAIN SOFTWARE KIT



Kits consisting of No. 1 Power Quality Energy Analyzer & Web Data Manager and an Energy Brain supervision and monitoring software license.

Code	Product Description
PFAK914-117	**EB 8 7.X KIT KILO NET 96 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON** Includes 1 Code PFNK9-1Q5D9-A21 Kilo Net 96 PQ Web Charts 85÷265Vac 2DI 2DO 4COMMON Power Quality Energy Analyzer & Web Data Manager with Power Quality analysis (including the following upgrades: 2 × PFSU940-01 Log 8, 1 × PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts) and 1 Code PFSW310-PH7 Energy Brain 8 7.X HK PostgreSQL software.
PFAKP914-117	**EB PRO 8 7.X KIT KILO NET 96 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON** Includes 1 Code PFNK9-1Q5D9-A21 Kilo Net 96 PQ Web Charts 85÷265Vac 2DI 2DO 4COMMON Power Quality Energy Analyzer & Web Data Manager with Power Quality analysis (including the following upgrades: 2 × PFSU940-01 Log 8, 1 × PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts) and 1 Code PFSWP310-PH7 Energy Brain PRO 8 7.X HK PostgreSQL software.
PFAK91F-117	**EB 8 7.X KIT KILO F NET 96 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON** Includes 1 Code PFNK9-FQ5D9-A21 Kilo F Net 96 PQ Web Charts 85÷265Vac 2DI 2DO 4COMMON Power Quality Energy Analyzer & Web Data Manager with Power Quality analysis (including the following upgrades: 2 × PFSU940-01 Log 8, 1 × PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts) and 1 Code PFSW310-PH7 Energy Brain 8 7.X HK PostgreSQL software.
PFAKP91F-117	**EB PRO 8 7.X KIT KILO F NET 96 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON** Includes 1 Code PFNK9-FQ5D9-A21 Kilo F Net 96 PQ Web Charts 85÷265Vac 2DI 2DO 4COMMON Power Quality Energy Analyzer & Web Data Manager with Power Quality analysis (including the following upgrades: 2 × PFSU940-01 Log 8, 1 × PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts) and 1 Code PFSWP310-PH7 Energy Brain PRO 8 7.X HK PostgreSQL software.
PFAK614-117	**EB 8 7.X KIT KILO NET D6 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON** Includes 1 Code PFNK6-1Q5D9-A21 Kilo Net D6 PQ Web Charts 85÷265Vac 2DI 2DO 4COMMON Power Quality Energy Analyzer & Web Data Manager with Power Quality analysis (including the following upgrades: 2 × PFSU940-01 Log 8, 1 × PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts) and 1 Code PFSW310-PH7 Energy Brain 8 7.X HK PostgreSQL software.

PQ ENERGY ANALYZER & ENERGY BRAIN SOFTWARE KIT



Kits consisting of No. 1 Power Quality Energy Analyzer & Web Data Manager and an Energy Brain supervision and monitoring software license.

Code	Product Description
PFAKP614-117	**EB PRO 8 7.X KIT KILO NET D6 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON** Includes 1 Code PFNK6-1Q5D9-A21 Kilo Net D6 PQ Web Charts 85÷265Vac 2DI 2DO 4COMMON Power Quality Energy Analyzer & Web Data Manager with Power Quality analysis (including the following upgrades: 2 × PFSU940-01 Log 8, 1 × PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts) and 1 Code PFSWP310-PH7 Energy Brain PRO 8 7.X HK PostgreSQL software.
PFAK61F-117	**EB 8 7.X KIT KILO F NET D6 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON** Includes 1 Code PFNK6-FQ5D9-A21 Kilo F Net D6 PQ Web Charts 85÷265Vac 2DI 2DO 4COMMON Power Quality Energy Analyzer & Web Data Manager with Power Quality analysis (including the following upgrades: 2 × PFSU940-01 Log 8, 1 × PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts) and 1 Code PFSW310-PH7 Energy Brain 8 7.X HK PostgreSQL software.
PFAKP61F-117	**EB PRO 8 7.X KIT KILO F NET D6 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON** Includes 1 Code PFNK6-FQ5D9-A21 Kilo F Net D6 PQ Web Charts 85÷265Vac 2DI 2DO 4COMMON Power Quality Energy Analyzer & Web Data Manager with Power Quality analysis (including the following upgrades: 2 × PFSU940-01 Log 8, 1 × PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts) and 1 Code PFSWP310-PH7 Energy Brain PRO 8 7.X HK PostgreSQL software.
PFAK61E-117	**EB 8 7.X KIT FEMTO ECT NET D6 PQ WEB CHARTS 2DI 2DO 4COMMON** Includes 1 Code PFN66-EQ5D9-A21 Femto ECT Net D6 PQ Web Charts 85÷265Vac 2DI 2DO 4COMMON Power Quality Energy Analyzer & Web Data Manager with Power Quality analysis (including the following upgrades: 2 × PFSU940-01 Log 8, 1 × PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts) and 1 Code PFSW310-PH7 Energy Brain 8 7.X HK PostgreSQL software.
PFAKP61E-117	**EB PRO 8 7.X KIT FEMTO ECT NET D6 PQ WEB CHARTS 2DI 2DO 4COMMON** Includes 1 Code PFN66-EQ5D9-A21 Femto ECT Net D6 PQ Web Charts 85÷265Vac 2DI 2DO 4COMMON Power Quality Energy Analyzer & Web Data Manager with Power Quality analysis (including the following upgrades: 2 × PFSU940-01 Log 8, 1 × PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts) and 1 Code PFSWP310-PH7 Energy Brain PRO 8 7.X HK PostgreSQL software.

ELECTREX

the energy saving technology

GIGA BOX

Portable Instruments in Carrying Case



made in italy

akse

GIGA BOX

Portable Instruments in Carrying Case for Temporary Measurement Campaigns



Power Quality Energy Analyzer & Web Data Manager portable unit for the temporary monitoring of Electrical Energy quantity and quality.

Code	Product Description

PKAR100-00 **GIGA PQ BOX 85÷265V NET WEB CHARTS**

Portable Power Quality Energy Analyzer & Web Data Manager for the temporary monitoring of Electrical Energy (quantity and quality). Version for use with CTs, split-core CTs and current clamps with ../1A or ../5A secondary (not included).
In addition to the Giga PQ Box Net Web instrument, the Energy Brain 4 7.X HK PostgreSQL software is also included. Together with the internal web server functions (Log 8 + Log 8 + Log 8, Web, Charts and two Open Log services), it simplifies configuration, data download, and the analysis of instantaneous measurements and historical trends (charts and tables).
Connection to the PC can be made directly, via the wired Ethernet network, or remotely via the Internet (Giga Box UPS Router option).
Compliant with EN 50470-1 + EN 50470-3.

PKAR101-00 **GIGA F PQ BOX 85÷265V NET WEB CHARTS**

Portable Power Quality Energy Analyzer & Web Data Manager for the temporary monitoring of Electrical Energy (quantity and quality). Version for use exclusively with FCTS series flexible split-core CTs (not included).
In addition to the Giga PQ Box Net Web instrument, the Energy Brain 4 7.X HK PostgreSQL software is also included. Together with the internal web server functions (Log 8 + Log 8 + Log 8, Web, Charts and two Open Log services), it simplifies configuration, data download, and the analysis of instantaneous measurements and historical trends (charts and tables).
Connection to the PC can be made directly, via the wired Ethernet network, or remotely via the Internet (Giga Box UPS Router option).
Compliant with EN 50470-1 + EN 50470-3.

PKAR103-00 **GIGA ECT PQ BOX 85÷265V NET WEB CHARTS**

Portable Power Quality Energy Analyzer & Web Data Manager for the temporary monitoring of Electrical Energy (quantity and quality). Version for use exclusively with ECT series CTs (not included), which provide higher accuracy at low currents.
In addition to the Giga ECT PQ Box Net Web instrument, the Energy Brain 4 7.X HK PostgreSQL software is also included. Together with the internal web server functions (Log 8 + Log 8 + Log 8, Web, Charts and two Open Log services), it simplifies configuration, data download, and the analysis of instantaneous measurements and historical trends (charts and tables).
Connection to the PC can be made directly, via the wired Ethernet network, or remotely via the Internet (Giga Box UPS Router option).
Compliant with EN 50470-1 + EN 50470-3.

ELECTREX

the energy saving technology

LIBRA ENERGY AUTOMATION PANEL

Integrated Plug & Play Solution



made in italy

akse

LIBRA ENERGY AUTOMATION PANEL



Libra represents the advanced Plug & Play solution for the monitoring and management of electrical loads in Low Voltage and Medium Voltage systems, Power Quality analysis, DC measurement of energy production from renewable sources, and the measurement of environmental, process and/or air quality parameters.
Libra is configured according to the application requirements and tailored to the installation. It can consist of multiple measurement points (up to 7 three-phase measurement points or up to 21 single-phase measurement points) and allows quick and simple non-invasive installation on existing systems
The Libra measurement system can be integrated into an existing Electrex monitoring network, used as the head-end of the system, or as the starting point for more complex supervision systems thanks to the possibility of connecting additional Electrex devices via an RS485 subnetwork and/or an Ethernet network.
Libra has an Active Energy accuracy class of 0.5S. It manages the measurement of individual harmonics up to the 51st order and Power Quality functions according to EN 50160 (swells, dips, interruptions and harmonics) and EN 61000-4-30 Class S, with graphical event details, event tables and timelines, and measurement campaigns with selectable parameters and programmable sampling frequency.
The Libra UPS is battery-backed to ensure continuous power supply to the measurement system. It is particularly recommended when automated operations and/or alarms are enabled and to ensure continuous monitoring of Power Quality events.
Libra is equipped with a battery-backed perpetual astronomical clock/calendar and non-volatile memory for the synchronous recording of energy and environmental data.
The integrated Web Server allows supervision of the installation and the display of instantaneous measurements and charts.
Libra can also be equipped with inputs for Electrex environmental sensors (for example temperature, humidity, luminosity, pressure, CO□, particulate matter, VOC, etc.) and/or digital inputs/outputs (status/counting) and/or analog inputs/outputs.

Code	Product Description

LIBRA CCI UPS PQ
LIBRA CCI UPS PQ is the special version designed for monitoring power generation plants in compliance with CEI 0-16, Annexes O-T, following ARERA Resolution 540/2021/R/EEL and the subsequent 385/2025/R/EEL, which require that all new and existing photovoltaic and wind power plants with a rated power of ≥ 100 kW, connected to the MV grid, be equipped with a Central Plant Controller (CCI) providing the “Active power limitation upon external DSO command” (PF2) functionality for inverter control.

LIBRA ENERGY AUTOMATION PANEL
The Libra is an advanced Plug & Play solution for monitoring and managing Low Voltage electrical loads, Power Quality analysis, DC measurement of energy production from renewable sources, and measurement of environmental, process and/or indoor air quality parameters.
Libra is configured according to the application requirements and customized for the specific installation. It can include multiple measurement points (up to 7) and enables fast, simple and non-invasive installation on existing electrical systems.
The Libra measurement system can be integrated into an existing Electrex monitoring network or used as the system master or the starting point for more advanced supervisory systems, thanks to the possibility of connecting additional Electrex devices via the RS485 subnet and/or the Ethernet network.
Supplied complete with a 2 m power supply cable.
Dimensions (W × H × D): 236 × 316 × 190 mm.

ELECTREX

the energy saving technology

EXA / FEMTO / ATTO PRO RS485

Power Quality & Harmonics Energy Analyzer



made in italy

akse

EXA PRO 96 5A RS485

With double insulation, for connection via ../5 A or ../1 A CTs.



Exa Pro 96 is a family of highly versatile and accurate single-phase and three-phase (up to 3 single-phase lines) Harmonic & Power Quality Energy Analyzers for panel mounting (96 × 96 mm), featuring double internal insulation, making them suitable for harsh environments and for monitoring high-current loads. True-RMS measurements with Class 0.5S accuracy for active energy. Depending on the version, the instrument measures voltage and current THD and TDD, individual harmonics up to the 31st order, and Power Quality events with functions compliant with EN 50160 (voltage swells, dips and interruptions) and EN 61000-4-30 Class S. Equipped with an RS485 communication port. Additional functions can be enabled via PUK codes, and the firmware can be updated remotely.Available with digital and/or analog inputs/outputs or with an SIO (Sensor Input Output) expansion bus.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFAE9-10102-E00	**EXA PRO 96 5A RS485 230-240V** Energy Analyzer suitable for harsh environments. For connection via ../5 A or ../1 A CTs (not included). Class 0.5S accuracy. Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Automatic phase sequence detection and configuration. Four operating timers and 8 configurable alarms, including complex logic. Graphic LCD display. One calibration LED. RS485 Modbus RTU communication. Firmware can be updated remotely, with future functional expansions available via PUK codes. Panel-mount dimensions: 96 × 96 mm. Power supply: 230–240 Vac. Compliant with EN 50470-1 and EN 50470-3.
PFAE9-1H102-E00	**EXA PRO 96 5A RS485 H 230-240V** Harmonic & Energy Analyzer suitable for harsh environments. Class 0.5S accuracy. For connection via ../5 A or ../1 A CTs (not included). Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Automatic phase sequence detection and configuration. Four operating timers and 8 configurable alarms, including complex logic. Graphic LCD display. One calibration LED. RS485 Modbus RTU communication. Firmware can be updated remotely, with future functional expansions available via PUK codes. Panel-mount dimensions: 96 × 96 mm. Power supply: 230–240 Vac. Compliant with EN 50470-1 and EN 50470-3.
PFAE9-1B102-EM0	**EXA PRO 96 5A RS485 H PQ LOG ENERGY 230-240V** Harmonic & Power Quality Energy Analyzer suitable for harsh environments. Class 0.5S accuracy. For connection via ../5 A or ../1 A CTs (not included). Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated data logger for recording total and per-phase energy counters and Power Quality voltage events (interruptions, voltage dips and voltage swells). Automatic phase sequence detection and configuration. Four operating timers and 8 configurable alarms, including complex logic. Graphic LCD display. One calibration LED. RS485 Modbus RTU communication. Firmware can be updated remotely, with future functional expansions available via PUK codes. Panel-mount dimensions: 96 × 96 mm. Power supply: 230–240 Vac. Compliant with EN 50470-1 and EN 50470-3.
PFAE9-1B1Z2-EMF	**EXA PRO 96 5A RS485 FULL 230-240V SIO** Harmonic & Power Quality Energy Analyzer suitable for harsh environments. Class 0.5S accuracy. For connection via ../5 A or ../1 A CTs (not included). Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated data logger for recording 4 harmonic components, total and per-phase energy counters, and average, minimum and maximum values of voltage, current, power and frequency. Detection and recording of Power Quality voltage events (interruptions, voltage dips and voltage swells). Automatic phase sequence detection and configuration. Four operating timers and 8 configurable alarms, including complex logic. Graphic LCD display. One calibration LED. RS485 Modbus RTU communication. SIO Bus port for integration with Milli Pro I/O and Milli Pro Sensor expansion modules providing I/O and/or environmental sensors. Firmware can be updated remotely. Panel-mount dimensions: 96 × 96 mm. Power supply: 230–240 Vac. Compliant with EN 50470-1 and EN 50470-3.

EXA PRO D6 5A CLAMP RS485

With double insulation, for connection via ../5 A or ../1 A CTs.



Exa Pro 96 is a family of highly versatile and accurate single-phase and three-phase (up to 3 single-phase lines) Harmonic & Power Quality Energy Analyzers, featuring double internal insulation, making them suitable for harsh environments and for monitoring high-current loads.
True-RMS measurements with Class 0.5S accuracy for active energy. Depending on the version, the instrument measures voltage and current THD and TDD, individual harmonics up to the 31st order, and Power Quality events with functions compliant with EN 50160 (voltage swells, dips and interruptions) and EN 61000-4-30 Class S. Equipped with an RS485 communication port. Additional functions can be enabled via PUK codes, and the firmware can be updated remotely.Available with digital and/or analog inputs/outputs or with an SIO (Sensor Input Output) expansion bus.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFAE6-10102-E00	**EXA PRO D6 5A CLAMP RS485 230-240V** Three-phase Energy Analyzer suitable for harsh environments. For connection via ../5A or ../1A CTs (not included). Accuracy class 0.5S. Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. Remote firmware update and future feature upgrades via PUK codes. 6-module DIN rail mounting. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.
PFAE6-1H102-E00	**EXA PRO D6 5A CLAMP RS485 H 230-240V** Harmonic & Energy Analyzer suitable for harsh environments. Accuracy class 0.5S. For connection via ../5A or ../1A CTs (not included). Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. Remote firmware update and future feature upgrades via PUK codes. 6-module DIN rail mounting. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.
PFAE6-1B102-EM0	**EXA PRO D6 5A CLAMP RS485 H PQ LOG ENERGY 230-240V** Harmonic & Power Quality Energy Analyzer suitable for harsh environments. Accuracy class 0.5S. For connection via ../5A or ../1A CTs (not included). Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording total and per-phase energy counters and voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. Remote firmware update and future feature upgrades via PUK codes. 6-module DIN rail mounting. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.
PFAE6-1B1Z2-EMF	**EXA PRO D6 5A CLAMP RS485 FULL 230-240V SIO** Harmonic & Power Quality Energy Analyzer suitable for harsh environments. Accuracy class 0.5S. For connection via ../5A or ../1A CTs (not included). Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording four harmonic components, total and per-phase energy counters, average, minimum and maximum values of voltage, current, power and frequency. Detection and recording of voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. SIO Bus port for integration with Milli Pro I/O expansion modules and Milli Pro Sensor modules with I/O and/or environmental sensors. Remote firmware update. 6-module DIN rail mounting. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.

FEMTO PRO 96 ECT RS485

For connection via ECT series CTs



Femto Pro 96 ECT is a family of highly versatile and accurate panel-mounted (96×96) Harmonic & Power Quality Energy Analyzers designed for monitoring loads up to 400 A and/or for non-invasive measurement by connecting ECT CTs to the secondary of existing ../1A or ../5A CTs. True-RMS measurements with accuracy class 0.5S, including ECT CTs, even at low current levels. Depending on the version, the instruments monitor voltage and current THD and TDD, individual harmonics up to the 31st order, and Power Quality events with functions compliant with EN 50160 (voltage swells, dips and interruptions) and EN 61000-4-30 Class S. Equipped with an RS485 communication port. New features can be added via PUK codes, and firmware can be updated remotely. Available with digital and/or analog I/O or with an SIO (Sensor Input Output) expansion bus.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFA69-E0102-E00	**FEMTO PRO 96 ECT RS485 230-240V** Three-phase Energy Analyzer (up to 3 single-phase lines) with accuracy class 0.5S, including external ECT CTs (not included), for example 100 A, code PFAE000-09. Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. Remote firmware update and future feature upgrades via PUK codes. Panel mounting, 96×96 mm. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.
PFA69-EH102-E00	**FEMTO PRO 96 ECT RS485 H 230-240V** Three-phase Harmonic & Energy Analyzer (up to 3 single-phase lines) with accuracy class 0.5S, including external ECT CTs (not included), for example 100 A, code PFAE000-09. Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. Remote firmware update and future feature upgrades via PUK codes. Panel mounting, 96×96 mm. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.
PFA69-EB102-EM0	**FEMTO PRO 96 ECT RS485 H PQ LOG ENERGY 230-240V** Three-phase Harmonic & Power Quality Energy Analyzer (up to 3 single-phase lines) with accuracy class 0.5S, including external ECT CTs (not included), for example 100 A, code PFAE000-09. Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording total and per-phase energy counters and voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. Remote firmware update and future feature upgrades via PUK codes. Panel mounting, 96×96 mm. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.
PFA69-EB1Z2-EMF	**FEMTO PRO 96 ECT RS485 FULL 230-240V SIO** Three-phase Harmonic & Power Quality Energy Analyzer (up to 3 single-phase lines) with accuracy class 0.5S, including external ECT CTs (not included), for example 100 A, code PFAE000-09. Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording four harmonic components, total and per-phase energy counters, average, minimum and maximum values of voltage, current, power and frequency. Detection and recording of voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. SIO Bus port for integration with Milli Pro I/O expansion modules and Milli Pro Sensor modules with I/O and/or environmental sensors. Remote firmware update. Panel mounting, 96×96 mm. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.

FEMTO PRO D4 ECT PLUG RS485

For connection via ECT series CTs, with RJ45 connectors



Femto Pro D4 ECT is a family of highly versatile and accurate Harmonic & Power Quality Energy Analyzers designed for monitoring loads up to 400 A and/or for non-invasive measurement by connecting ECT CTs to the secondary of existing ../1A or ../5A CTs. True-RMS measurements with accuracy class 0.5S, including ECT CTs, even at low current levels. Depending on the version, the instruments monitor voltage and current THD and TDD, individual harmonics up to the 31st order, and Power Quality events with functions compliant with EN 50160 (voltage swells, dips and interruptions) and EN 61000-4-30 Class S. New features can be added via PUK codes, and firmware can be updated remotely. Available with digital and/or analog I/O or with an SIO (Sensor Input Output) expansion bus. Equipped with an RS485 communication port and Plug & Play (RJ45) connectors for fast, non-invasive and error-proof installation.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description

PRA64-E0102-E00 **FEMTO PRO D4 ECT PLUG RS485 230-240V**

Three-phase Energy Analyzer (up to 3 single-phase lines) with accuracy class 0.5S when used with external ECT CTs (not included), for example 100 A, code PFAE000-09. Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. Remote firmware update and future feature upgrades via PUK codes. 4-module DIN rail mounting. Installation via RJ45 connectors and removable terminal blocks. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.

PRA64-EH102-E00 **FEMTO PRO D4 ECT PLUG RS485 H 230-240V**

Three-phase Harmonic & Energy Analyzer (up to 3 single-phase lines) with accuracy class 0.5S when used with external ECT CTs (not included), for example 100 A, code PFAE000-09. Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. Remote firmware update and future feature upgrades via PUK codes. 4-module DIN rail mounting. Installation via RJ45 connectors and removable terminal blocks. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.

PRA64-EB102-EM0 **FEMTO PRO D4 ECT PLUG RS485 H PQ LOG ENERGY 230-240V**

Three-phase Harmonic & Power Quality Energy Analyzer (up to 3 single-phase lines) with accuracy class 0.5S when used with external ECT CTs (not included), for example 100 A, code PFAE000-09. Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording total and per-phase energy counters and voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. Remote firmware update and future feature upgrades via PUK codes. 4-module DIN rail mounting. Installation via RJ45 connectors and removable terminal blocks. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.

PRA64-EB1Z2-EMF **FEMTO PRO D4 ECT PLUG RS485 FULL 230-240V SIO**

Three-phase Harmonic & Power Quality Energy Analyzer (up to 3 single-phase lines) with accuracy class 0.5S when used with external ECT CTs (not included), for example 100 A, code PFAE000-09. Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording four harmonic components, total and per-phase energy counters, average, minimum and maximum values of voltage, current, power and frequency. Detection and recording of voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic detection and configuration of phase sequence. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus RTU communication via RS485. SIO Bus port for integration with Milli Pro I/O expansion modules and Milli Pro Sensor modules with I/O and/or environmental sensors. Remote firmware update. 4-module DIN rail mounting. Installation via RJ45 connectors and removable terminal blocks. Power supply 230–240Vac. Compliant with EN 50470-1 and EN 50470-3.

FEMTO PRO D4 ECT CLAMP RS485

For connection via ECT series CTs



Femto Pro 96 ECT is a family of highly versatile and accurate panel-mounted (96×96) Harmonic & Power Quality Energy Analyzers designed for monitoring loads up to 400 A and/or for non-invasive measurement by connecting ECT CTs to the secondary of existing ../1A or ../5A CTs. True-RMS measurements with accuracy class 0.5S, including ECT CTs, even at low current levels. Depending on the version, the instruments monitor voltage and current THD and TDD, individual harmonics up to the 31st order, and Power Quality events with functions compliant with EN 50160 (voltage swells, dips and interruptions) and EN 61000-4-30 Class S. Equipped with an RS485 communication port. New features can be added via PUK codes, and firmware can be updated remotely. Available with digital and/or analog I/O or with an SIO (Sensor Input Output) expansion bus.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFA64-E0102-E00	**FEMTO PRO D4 ECT CLAMP RS485 230-240V** Single- and three-phase (up to 3 single-phase lines) Energy Analyzer with Class 0.5S accuracy, including external ECT current transformers (not included; for example, 100 A, code PFAE000-09). Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. DIN rail mounting, 4 DIN modules. Clamp terminal installation. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.
PFA64-EH102-E00	**FEMTO PRO D4 ECT CLAMP RS485 H 230-240V** Single- and three-phase (up to 3 single-phase lines) Harmonic & Energy Analyzer with Class 0.5S accuracy, including external ECT current transformers (not included; for example, 100 A, code PFAE000-09). Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. DIN rail mounting, 4 DIN modules. Clamp terminal installation. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.
PFA64-EB102-EM0	**FEMTO PRO D4 ECT CLAMP RS485 H PQ LOG ENERGY 230-240V** Single- and three-phase (up to 3 single-phase lines) Harmonic & Power Quality Energy Analyzer with Class 0.5S accuracy, including external ECT current transformers (not included; for example, 100 A, code PFAE000-09). Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording total and per-phase energy counters and voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. DIN rail mounting, 4 DIN modules. Clamp terminal installation. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.
PFA64-EB1Z2-EMF	**FEMTO PRO D4 ECT CLAMP RS485 FULL 230-240V SIO** Single- and three-phase (up to 3 single-phase lines) Harmonic & Power Quality Energy Analyzer with Class 0.5S accuracy, including external ECT current transformers (not included; for example, 100 A, code PFAE000-09). Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording 4 harmonic components, total and per-phase energy counters, average, minimum and maximum values of voltage, current, power and frequency. Detection and recording of voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. SIO Bus port for integrating Milli Pro I/O expansion modules and Milli Pro Sensor modules with digital/analog I/O and/or environmental sensors. Firmware upgradable remotely. DIN rail mounting, 4 DIN modules. Clamp terminal installation. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.

FEMTO PRO 96 F RS485

For connection via FCTS flexible split-core CTs (Rogowski)



Femto Pro 96 F is a family of highly versatile and accurate panel-mounted (96×96 mm) Harmonic & Power Quality Energy Analyzers that use FCTS series flexible split-core CTs (Rogowski), designed for monitoring loads with currents from 500 A up to 4000 A and for simplifying installation where fitting conventional CTs into existing electrical panels is difficult. True-RMS measurements with overall accuracy class 1 (Femto Pro F + flexible CTs). Depending on the version, the instruments monitor voltage and current THD and TDD, individual harmonics up to the 31st order, and Power Quality events with functions compliant with EN 50160 (voltage swells, dips and interruptions) and EN 61000-4-30 Class S. Equipped with an RS485 communication port. New features can be added via PUK codes, and firmware can be updated remotely. Available with digital and/or analog I/O or with an SIO (Sensor Input Output) expansion bus.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFA69-F0102-E00	**FEMTO PRO 96 F RS485 230-240V** Single- and three-phase (up to 3 single-phase lines) Energy Analyzer with overall Class 1 accuracy (Femto Pro F + flexible current transformers). Designed for use with FCTS series flexible split-core current transformers (not included), with configurable full-scale current up to 4000 A. Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. 96×96 mm panel mounting. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.
PFA69-FH102-E00	**FEMTO PRO 96 F RS485 H 230-240V** Single- and three-phase (up to 3 single-phase lines) Harmonic & Energy Analyzer with overall Class 1 accuracy (Femto Pro F + flexible current transformers). Designed for use with FCTS series flexible split-core current transformers (not included), with configurable full-scale current up to 4000 A. Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. 96×96 mm panel mounting. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.
PFA69-FB102-EM0	**FEMTO PRO 96 F RS485 H PQ LOG ENERGY 230-240V** Single- and three-phase (up to 3 single-phase lines) Harmonic & Power Quality Energy Analyzer with overall Class 1 accuracy (Femto Pro F + flexible current transformers). Designed for use with FCTS series flexible split-core current transformers (not included), with configurable full-scale current up to 4000 A. Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording total and per-phase energy counters and voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. 96×96 mm panel mounting. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.
PFA69-FB1Z2-EMF	**FEMTO PRO 96 F RS485 FULL 230-240V SIO** Single- and three-phase (up to 3 single-phase lines) Harmonic & Power Quality Energy Analyzer with overall Class 1 accuracy (Femto Pro F + flexible current transformers). Designed for use with FCTS series flexible split-core current transformers (not included), with configurable full-scale current up to 4000 A. Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording 4 harmonic components, total and per-phase energy counters, average, minimum and maximum values of voltage, current, power and frequency. Detection and recording of voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. SIO Bus port for integrating Milli Pro I/O expansion modules and Milli Pro Sensor modules with digital/analog I/O and/or environmental sensors. Firmware upgradable remotely. 96×96 mm panel mounting. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.

FEMTO PRO D4 F PLUG RS485

For connection via FCTS flexible split-core CTs (Rogowski) with RJ45 connectors



Femto Pro D4 F is a family of highly versatile and accurate Harmonic & Power Quality Energy Analyzers that use FCTS series flexible split-core current transformers (Rogowski). They are designed for monitoring loads with currents from 500 A up to 4000 A and to simplify installation where fitting conventional current transformers in existing switchboards is difficult. True-RMS measurements with overall Class 1 accuracy (Femto Pro F + flexible current transformers). Depending on the version, they monitor voltage and current THD and TDD, individual harmonics up to the 31st order, and Power Quality events with functions compliant with EN 50160 (voltage swells, dips and interruptions) and EN 61000-4-30 Class S. New features can be added via PUK codes, and firmware can be upgraded remotely. Available with digital and/or analog inputs/outputs or an SIO (Sensor Input Output) expansion bus. Equipped with an RS485 communication port and Plug & Play (RJ45) connectors for fast, non-invasive and error-proof installation.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description

PRA64-F0102-E00 **FEMTO PRO D4 F PLUG RS485 230-240V**

Single- and three-phase (up to 3 single-phase lines) Energy Analyzer with overall Class 1 accuracy (Femto Pro F + flexible current transformers). Designed for use with FCTS series flexible split-core current transformers (not included), with configurable full-scale current up to 4000 A. Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. DIN rail mounting, 4 DIN modules. Installation via RJ45 connectors and removable terminal blocks. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.

PRA64-FH102-E00 **FEMTO PRO D4 F PLUG RS485 H 230-240V**

Single- and three-phase (up to 3 single-phase lines) Harmonic & Energy Analyzer with overall Class 1 accuracy (Femto Pro F + flexible current transformers). Designed for use with FCTS series flexible split-core current transformers (not included), with configurable full-scale current up to 4000 A. Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. DIN rail mounting, 4 DIN modules. Installation via RJ45 connectors and removable terminal blocks. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.

PRA64-FB102-EM0 **FEMTO PRO D4 F PLUG RS485 H PQ LOG ENERGY 230-240V**

Single- and three-phase (up to 3 single-phase lines) Harmonic & Power Quality Energy Analyzer with overall Class 1 accuracy (Femto Pro F + flexible current transformers). Designed for use with FCTS series flexible split-core current transformers (not included), with configurable full-scale current up to 4000 A. Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording total and per-phase energy counters and voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. DIN rail mounting, 4 DIN modules. Installation via RJ45 connectors and removable terminal blocks. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.

PRA64-FB1Z2-EMF **FEMTO PRO D4 F PLUG RS485 FULL 230-240V SIO**

Single- and three-phase (up to 3 single-phase lines) Harmonic & Power Quality Energy Analyzer with overall Class 1 accuracy (Femto Pro F + flexible current transformers). Designed for use with FCTS series flexible split-core current transformers (not included), with configurable full-scale current up to 4000 A. Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording 4 harmonic components, total and per-phase energy counters, average, minimum and maximum values of voltage, current, power and frequency. Detection and recording of voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. SIO Bus port for integrating Milli Pro I/O expansion modules and Milli Pro Sensor modules with digital/analog I/O and/or environmental sensors. Firmware upgradable remotely. DIN rail mounting, 4 DIN modules. Installation via RJ45 connectors and removable terminal blocks. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.

FEMTO PRO D4 5A CLAMP RS485

For connection via ../5 A or ../1 A CTs.



Femto Pro D4 is a family of highly versatile and accurate single- and three-phase Harmonic & Power Quality Energy Analyzers (up to 3 single-phase lines) designed to meet the most demanding applications for monitoring and managing electrical parameters and Power Quality in industrial, commercial, public and residential installations. True-RMS measurements with Class 0.5S accuracy for active energy. Depending on the version, they monitor voltage and current THD and TDD, individual harmonics up to the 31st order, and Power Quality events with functions compliant with EN 50160 (voltage swells, dips and interruptions) and EN 61000-4-30 Class S. Equipped with an RS485 communication port. New features can be added via PUK codes, and firmware can be upgraded remotely. Available with digital and/or analog inputs/outputs or an SIO (Sensor Input Output) expansion bus.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFA64-10102-E00	**FEMTO PRO D4 5A CLAMP RS485 230-240V** Single- and three-phase (up to 3 single-phase lines) Energy Analyzer with Class 0.5S accuracy. Designed for use with ../5 A or ../1 A current transformers (not included). Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. DIN rail mounting, 4 DIN modules. Clamp terminal installation. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.
PFA64-1H102-E00	**FEMTO PRO D4 5A CLAMP RS485 H 230-240V** Single- and three-phase (up to 3 single-phase lines) Harmonic & Energy Analyzer with Class 0.5S accuracy. Designed for use with ../5 A or ../1 A current transformers (not included). Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. DIN rail mounting, 4 DIN modules. Clamp terminal installation. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.
PFA64-1B102-EM0	**FEMTO PRO D4 5A CLAMP RS485 H PQ LOG ENERGY 230-240V** Single- and three-phase (up to 3 single-phase lines) Harmonic & Power Quality Energy Analyzer with Class 0.5S accuracy. Designed for use with ../5 A or ../1 A current transformers (not included). Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording total and per-phase energy counters and voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. Firmware upgradable remotely and future feature upgrades available via PUK codes. DIN rail mounting, 4 DIN modules. Clamp terminal installation. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.
PFA64-1B1Z2-EMF	**FEMTO PRO D4 5A CLAMP RS485 FULL 230-240V SIO** Single- and three-phase (up to 3 single-phase lines) Harmonic & Power Quality Energy Analyzer with Class 0.5S accuracy. Designed for use with ../5 A or ../1 A current transformers (not included). Measures voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Integrated datalogger for recording 4 harmonic components, total and per-phase energy counters, average, minimum and maximum values of voltage, current, power and frequency. Detection and recording of voltage events (interruptions, dips and swells) for Power Quality analysis. Automatic phase sequence detection and configuration. Four operating timers and 8 alarms configurable with complex logic. Graphic LCD display. One calibration LED. Modbus-RTU RS485 communication. SIO Bus port for integrating Milli Pro I/O expansion modules and Milli Pro Sensor modules with digital/analog I/O and/or environmental sensors. Firmware upgradable remotely. DIN rail mounting, 4 DIN modules. Clamp terminal installation. 230-240 Vac power supply. Complies with EN 50470-1 + EN 50470-3.

ATTO PRO D4 5A CLAMP RS485

For connection via ../5 A or ../1 A CTs.



Atto Pro D4 is a family of displayless single-/three-phase (up to 3 single-phase lines) Harmonic & Power Quality Energy Analyzers, extremely versatile and accurate, designed to meet the most sophisticated applications for monitoring and managing electrical parameters and power quality in industrial, commercial, public and residential environments. True-RMS measurements with 0.5S accuracy class for active energy. Depending on the version, they monitor voltage and current THD and TDD, individual harmonics up to the 31st order, and power quality events with functions compliant with EN 50160 (voltage swells, voltage dips and interruptions) and EN 61000-4-30 Class S. Equipped with an RS485 port. New functionalities can be implemented by means of PUK codes, and firmware can be updated remotely. Available with digital and/or analog inputs/outputs or SIO (Sensor Input Output) expansion Bus.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFA74-10102-E00	**ATTO PRO D4 5A CLAMP RS485 230-240V** Single-/three-phase (up to 3 single-phase lines) Energy Analyzer with 0.5S accuracy class. Connection via .../5 A or .../1 A current transformers (not included). Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Detection and configuration of phase sequence. Four operating timers and 8 alarms configurable also with complex logic. One Energy calibration LED, one status LED and one RS485 communication LED. Modbus-RTU RS485 communication. Firmware remotely updatable and future feature expansions by means of PUK codes. DIN rail mounting, 4 DIN modules. 230–240 Vac power supply. Compliant with EN 50470-1 + EN 50470-3.
PFA74-1H102-E00	**ATTO PRO D4 5A CLAMP RS485 H 230-240V** Single-/three-phase (up to 3 single-phase lines) Harmonic & Energy Analyzer with 0.5S accuracy class. Connection via .../5 A or .../1 A current transformers (not included). Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Detection and configuration of phase sequence. Four operating timers and 8 alarms configurable also with complex logic. One Energy calibration LED, one status LED and one RS485 communication LED. Modbus-RTU RS485 communication. Firmware remotely updatable and future feature expansions by means of PUK codes. DIN rail mounting, 4 DIN modules. 230–240 Vac power supply. Compliant with EN 50470-1 + EN 50470-3.

ATTO PRO D4 ECT PLUG RS485

For connection via ECT series CTs, with RJ45 connectors



Atto Pro D4 ECT is a family of displayless Harmonic & Power Quality Energy Analyzers, extremely versatile and accurate, designed for monitoring loads up to 400 A and/or for non-invasive measurements by connecting ECT current transformers to the secondary of existing .../1 A or .../5 A current transformers. True-RMS measurements with 0.5S overall accuracy class, including ECT current transformers, even at low current readings. Depending on the version, they monitor voltage and current THD and TDD, individual harmonics up to the 31st order, and power quality events with functions compliant with EN 50160 (voltage swells, voltage dips and interruptions) and EN 61000-4-30 Class S. New functionalities can be implemented by means of PUK codes, and firmware can be updated remotely. Available with digital and/or analog inputs/outputs or SIO (Sensor Input Output) expansion Bus. Equipped with an RS485 port and Plug & Play (RJ45) connectors for fast, non-invasive and error-proof installation.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PRA74-E0102-E00	**ATTO PRO D4 ECT PLUG RS485 230-240V** Single-/three-phase (up to 3 single-phase lines) Energy Analyzer with 0.5S overall accuracy class, including external ECT current transformers (not included, e.g. 100 A, code PFAE000-09). Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Detection and configuration of phase sequence. Four operating timers and 8 alarms configurable also with complex logic. One Energy calibration LED, one status LED and one RS485 communication LED. Modbus-RTU RS485 communication. Firmware remotely updatable and future feature expansions by means of PUK codes. DIN rail mounting, 4 DIN modules. Installation via RJ45 connectors and removable terminal blocks. 230–240 Vac power supply. Compliant with EN 50470-1 + EN 50470-3.
PRA74-EH102-E00	**ATTO PRO D4 ECT PLUG RS485 H 230-240V** Single-/three-phase (up to 3 single-phase lines) Harmonic & Energy Analyzer with 0.5S overall accuracy class, including external ECT current transformers (not included, e.g. 100 A, code PFAE000-09). Measurement of voltage and current THD and TDD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Real-time analysis of individual harmonics up to the 31st order for the three phase voltages and three line currents. Detection and configuration of phase sequence. Four operating timers and 8 alarms configurable also with complex logic. One Energy calibration LED, one status LED and one RS485 communication LED. Modbus-RTU RS485 communication. Firmware remotely updatable and future feature expansions by means of PUK codes. DIN rail mounting, 4 DIN modules. Installation via RJ45 connectors and removable terminal blocks. 230–240 Vac power supply. Compliant with EN 50470-1 + EN 50470-3.

PRO Upgrade PUK for Exa / Femto / Atto Pro RS485

Upgrades that can be unlocked remotely, even after commissioning, allowing the implementation of additional functionalities for Exa Pro, Femto Pro and Atto Pro instruments.

Code	Product Description
PFSU000-01	**PRO UPGRADE H (PUK)** Firmware implementation by means of a PUK code. Enables real-time analysis and visualization of individual harmonics up to the 31st order on Exa Pro, Femto Pro and Atto Pro instruments.
PFSU000-02	**PRO UPGRADE LOG PQ (PUK)** Firmware implementation by means of a PUK code. Enables the detection and logging of voltage events (interruptions, voltage dips and voltage swells) on Exa Pro, Femto Pro and Atto Pro instruments for power quality monitoring.
PFSU000-03	**PRO UPGRADE BUNDLE H & LOG PQ (PUK)** Firmware implementation by means of a PUK code to expand the memory of Exa Pro, Femto Pro and Atto Pro instruments. Bundle including the following firmware implementations (PUK): code PFSU000-01 Pro Upgrade H, PFSU000-02 Pro Upgrade Log PQ.
PFSU000-10	**PRO UPGRADE LOG ENERGY (PUK)** Firmware implementation by means of a PUK code to expand the memory of Exa Pro, Femto Pro and Atto Pro instruments. Enables the logging (datalogger) of total and per-phase energy counters (load profiles) with a standard interval of 15 minutes (configurable from 1 to 240 minutes).
PFSU000-11	**PRO UPGRADE BUNDLE H & PQ LOG ENERGY (PUK)** Firmware implementation by means of a PUK code to expand the memory of Exa Pro, Femto Pro and Atto Pro instruments. Bundle including the following firmware implementations (PUK): code PFSU000-01 Pro Upgrade H, PFSU000-02 Pro Upgrade Log PQ, PFSU000-10 Pro Upgrade Log Energy.
PFSU000-20	**PRO UPGRADE LOG H (PUK)** Firmware implementation by means of a PUK code to expand the memory of Exa Pro, Femto Pro and Atto Pro instruments. Enables the logging (datalogger) of average and maximum amplitudes of 4 user-selectable voltage and current harmonic components, with a standard interval of 10 minutes (configurable from 1 to 240 minutes).
PFSU000-21	**PRO UPGRADE LOG VOLTAGES & CURRENTS (PUK)** Firmware implementation by means of a PUK code to expand the memory of Exa Pro, Femto Pro and Atto Pro instruments. Enables the logging (datalogger) of average, minimum and maximum voltage and current values. Standard logging interval of 10 minutes for voltages and 8 minutes for currents (configurable from 1 to 240 minutes).
PFSU000-22	**PRO UPGRADE LOG POWERS (PUK)** Firmware implementation by means of a PUK code to expand the memory of Exa Pro, Femto Pro and Atto Pro instruments. Enables the logging (datalogger) of average, minimum and maximum values of total and per-phase powers (active, reactive, inductive, capacitive, etc.), with a standard interval of 15 minutes (configurable from 1 to 240 minutes).
PFSU000-24	**PRO UPGRADE BUNDLE LOG VOLTAGES & CURRENT, POWERS, H (PUK)** Firmware implementation by means of a PUK code to expand the memory of Exa Pro, Femto Pro and Atto Pro instruments. Bundle including the following firmware implementations (PUK): PFSU000-20 Pro Upgrade Log H, PFSU000-21 Pro Upgrade Log Voltages & Currents, PFSU000-22 Pro Upgrade Log Powers.
PFSU000-23	**PRO UPGRADE LOG OPTIONS AI/DI & SENSORS (PUK)** Firmware implementation by means of a PUK code to expand the memory of Exa Pro, Femto Pro and Atto Pro instruments. Enables the logging (datalogger) of internal options (digital inputs/outputs, analog inputs/outputs, etc.) and/or Milli devices connected to the instrument SIO Bus (environmental sensors and/or inputs and outputs). Standard interval of 15 minutes (configurable from 1 to 240 minutes).
PFSU000-15	**PRO UPGRADE ADVANCED ALARMS (PUK)** Firmware implementation by means of a PUK code. Enables Exa Pro, Femto Pro and Atto Pro instruments to generate up to 8 alarms, including complex alarms based on internal logic. The alarms can be used to drive digital outputs and/or generate status indications on Modbus registers.
PFSU000-25	**PRO UPGRADE BUNDLE FULL (PUK)** Firmware implementation by means of a PUK code for Exa Pro, Femto Pro and Atto Pro instruments that enables all advanced functions of the Pro family. Bundle including the following firmware implementations (PUK): PFSU000-01 Pro Upgrade H, PFSU000-02 Pro Upgrade Log PQ, PFSU000-10 Pro Upgrade Log Energy, PFSU000-20 Pro Upgrade Log H, PFSU000-21 Pro Upgrade Log Voltages & Currents, PFSU000-22 Pro Upgrade Log Powers, PFSU000-23 Pro Upgrade Log Options AI/DI & Sensors, PFSU000-15 Pro Upgrade Advanced Alarms.

Hardware options for Exa / Femto / Atto Pro RS485

Optional internal modules available for Exa Pro / Femto Pro / Atto Pro RS485 family instruments (to be specified when ordering). To build the product code with the required input/output versions, refer to the “Product Code Creation Table” or to the product datasheet.

Code	Product Description

I/O BOARDS 2DI 2DO 4COMMON, 4DI 4COMMON, 4DO 4COMMON

Additional cost for ordering a product in one of the following versions: 2DI 2DO with separate commons, 4DI with separate commons, or 4DO with separate commons.

I/O BOARD 4AI VERSION

Additional cost for ordering a product in the version with 4 analog inputs.

2AO4-20mA VERSIONS

Additional cost for ordering a product in the version with 4–20 mA analog outputs.

I/O BOARDS 4PT100, 4PT1000, 4NTC (su richiesta)

Additional cost for ordering a product in the version with analog inputs for PT100 or PT1000 sensors. NTC version available on request.

SIO VERSIONS

Additional cost for ordering an Exa Pro, Femto Pro or Atto Pro family product equipped with the SIO (Sensor Input Output) Bus.

PRO E-WI 868 VERSION (Su richiesta)

Additional cost for ordering an Exa Pro or Femto Pro family product equipped with E-Wi communication, transmitting data via 868 MHz radio.

18÷60VDC, 9÷36VDC, 120Vac, 400Vac, 85÷265Vac VERSIONS

Additional cost for ordering an Exa Pro or Femto Pro instrument with a power supply different from the standard 230–240 Vac.

CODE CREATION TABLE FOR EXA / FEMTO / ATTO PRO RS485

SERIES	EXA PRO	FEMTO PRO	ATTO PRO
Product	P	P	P
Wiring			
CLAMP – Traditional screw terminals	F	F	F
PLUG – RJ45 connectors and removable terminals for voltage inputs	/	R (only for D4)	R
Brand			
Akse	A	A	A
Model			
Exa Pro	E	/	/
Femto Pro	/	6	/
Atto Pro	/	/	7
Enclosure			
DIN rail mounting, 4 DIN modules (D4)	/	4	4
DIN rail mounting, 6 DIN modules (D6)	6	/	/
Panel mounting, 96 × 96 mm front (96)	9	9	/
Accuracy Class			
0,5s	-	-	-
Current Input			
../5 A and ../1 A current transformers	1	1	1
Flexible split-core current transformers	/	F	/
ECT current transformers	/	E	E
Power Quality & Harmonics			
None	0	0	0
Real-time harmonics	H	H	H
Power Quality event detection	Q	Q	Q
Power Quality and real-time harmonics	B	B	B
Communication			
RS485 Slave	1	1	1
Internal board			
None	0	0	0
Board 2AO4-20mA	A	A	A
Board 4DI 4COMMON	N	N	N
Board 4DO 4COMMON	C	C	C
Board 2DI 2DO 4COMMON	Q	Q	Q
Board 4AI	R	R	R
Board SIO (Sensor Input Output)	Z	Z	Z
E-Wi EDA 868 (on request)	L	L	L
Board 4PT100 / PT1000	U	U	U
Board NTC (on request)	Y	Y	Y
Power Supply			
85÷265Vac/100÷374Vdc	9 (only for 96)	9 (only for 96)	9 (only for 96)
230-240VAC	2	2	2
120Vac +/- 10%	1	1	1
400Vac +/- 10%	3	3	3
15÷36Vac/18÷60Vdc	8	8	8
9÷24Vac/9÷36Vdc	7	7	7
Additional Functions			
	-	-	-
Alarms			
None	0	0	0
Logic alarms	L	L	L
Comparator alarms	K	K	K
Comparator and logic alarms	E	E	E
Standard Data Logging Services			
None	0	0	0
Energy logging (total and per phase)	M	M	M
Advanced Data Logging Services			
None	0	0	0
Harmonic logging	H	H	H
Voltage and current logging	U	U	U
Power logging	P	P	P
Harmonic, voltage, current and power logging	S	S	S
AI/DI Options and Sensors logging	R	R	R
Full (all functionalities included)	F	F	F

ELECTREX

the energy saving technology

ZEPTO, ETTO & ATTO RCM Transducers and Energy Meters / Multimeters



made in italy

akse

ZEPTO 96 RS485

Versions for connection via .../5 A or .../1 A CTs



Highly versatile and accurate microprocessor-based multimeters, energy meters, and power analyzers designed for the most demanding applications involving electrical parameter monitoring and energy consumption management in commercial, industrial, and residential environments. These instruments combine the functions of a multimeter, energy meter, and power analyzer in a single device. Equipped with an RS485 serial communication interface. 96 × 96 mm panel-mounted format.

Code	Product Description
PFA8C11-02	**ZEPTO 96 RS485 230-240V MULTIMETER / ANALYZER** Single- and three-phase (up to 3 single-phase lines) Multimeter / Power Analyzer / Energy Meter with LED display. Measures voltage and current THD, neutral current, and total energy consumption. RS485 Modbus-RTU communication. 96 × 96 mm panel-mounted format. 230–240 Vac power supply.
PFA8C11-12	**ZEPTO 96 RS485 230-240V 1DI 2DO MULTIMETER / ANALYZER** Single- and three-phase (up to 3 single-phase lines) Multimeter / Power Analyzer / Energy Meter with LED display. Measures voltage and current THD, neutral current, and total energy consumption. RS485 Modbus-RTU communication. 1 digital input and 2 digital outputs. 96 × 96 mm panel-mounted format. 230–240 Vac power supply.

ZEPTO D6 RS485

Versions for connection via .../5 A or .../1 A CTs



Highly versatile and accurate microprocessor-based multimeters, energy meters, and power analyzers designed for the most demanding applications involving electrical parameter monitoring and energy consumption management in commercial, industrial, and residential environments. These instruments combine the functions of a multimeter, energy meter, and power analyzer in a single device. Equipped with an RS485 serial communication interface. DIN rail mounting, 6 DIN modules.

Code	Product Description
PFA8611-02	**ZEPTO D6 RS485 230-240V MULTIMETER / ANALYZER** Multimeter / Power Analyzer / Energy Meter for single- and three-phase systems (up to 3 single-phase lines) with LED display. Measures voltage and current THD, neutral current, and total energy consumption. RS485 Modbus-RTU communication. DIN rail mounting, 6 DIN modules. 230–240 Vac power supply. Compliant with EN 50470-1 and EN 50470-3.
PFA8611-12	**ZEPTO D6 RS485 230-240V 1DI 2DO MULTIMETER / ANALYZER** Multimeter / Power Analyzer / Energy Meter for single- and three-phase systems (up to 3 single-phase lines) with LED display. Measures voltage and current THD, neutral current, and total energy consumption. RS485 Modbus-RTU communication. 1 digital input and 2 digital outputs. DIN rail mounting, 6 DIN modules. 230–240 Vac power supply. Compliant with EN 50470-1 and EN 50470-3.



ETTO D2

Single-phase Energy Meter

Code	Product Description
PFAA280-C2	**ETTO D2 230-240V ENERGY COUNTER** Electrical energy counter with pulse output. Etto can be sealed with a tamper proof kit provided with the instrument. Performs the measure of the active energy on a single phase network with direct connection up to 32A.



ATTO RCM D4 RS485

Residual Current (Leakage Current) Monitoring

Highly versatile and accurate microprocessor-based transducers / power analyzers without an LCD display (Class 0.5S). Residual Current Monitor (RCM) designed to monitor earth leakage (residual) currents in low-voltage electrical installations, improving preventive maintenance. These instruments combine the functions of a transducer and power analyzer, and feature an RS485 serial communication interface.

Code	Product Description
PFA74D1-D2-B	**ATTO RCM D4 ECT RS485 230÷240V 2DI 2DO 4COMMON** Residual Current Monitor (RCM) designed to monitor earth leakage (residual) currents in low-voltage electrical installations, improving preventive maintenance. Equipped with three measurement channels and two integrated alarms that indicate when the configured threshold values are exceeded and can be used for signalling and/or trip purposes. Requires external ECT current transformers (not included), e.g. PFAE000-09, PFAE000-10, or equivalent models. Programmable trip threshold from 0.03 A to 5 A. Additional measurements include voltage THD, maximum voltage, and minimum voltage. RS485 Modbus-RTU communication. One status LED and one RS485 communication LED. 2 digital outputs with separate commons for pre-alarm and alarm activation when the corresponding leakage current thresholds are exceeded, and 2 digital inputs with separate commons, one for output test and the other for alarm reset. Remote firmware upgradeable. Not intended for protection or residual current device (RCD) safety functions. DIN rail mounting, 4 DIN modules. 230–240 Vac power supply.
PFA74D1-D8-B	**ATTO RCM D4 ECT RS485 18÷60VDC 2DI 2DO 4COMMON** Residual Current Monitor (RCM) designed to monitor earth leakage (residual) currents in low-voltage electrical installations, improving preventive maintenance. Equipped with three measurement channels and two integrated alarms that indicate when the configured threshold values are exceeded and can be used for signalling and/or trip purposes. Requires external ECT current transformers (not included), e.g. PFAE000-09, PFAE000-10, or equivalent models. Programmable trip threshold from 0.03 A to 5 A. Additional measurements include voltage THD, maximum voltage, and minimum voltage. RS485 Modbus-RTU communication. One status LED and one RS485 communication LED. 2 digital outputs with separate commons for pre-alarm and alarm activation when the corresponding leakage current thresholds are exceeded, and 2 digital inputs with separate commons, one for output test and the other for alarm reset. Remote firmware upgradeable. Not intended for protection or residual current device (RCD) safety functions. DIN rail mounting, 4 DIN modules. 18–60 Vdc power supply.

ELECTREX

the energy saving technology

EXA D6 & FEMTO D4 MID RS485

MID Energy Analyzer





made in italy

akse

EXA MID D6 RS485

Versions with double insulation for connection via .../5 A CTs



Digital Energy Analyzers designed for harsh environments. Highly versatile and accurate instruments for advanced electrical parameter monitoring and energy consumption management in commercial, industrial, and residential applications. DIN rail mounting, 6 DIN modules. Also available in MID-certified versions compliant with MID Directive Annex MI-003.

Code	Product Description
PFAE6M1-0A	**EXA MID D6 RS485 85-440V ENERGY ANALYZER** Energy Analyzer for three-phase low-voltage measurements on 3-wire and 4-wire networks, compliant with MID Directive Annex MI-003 and EN 50470-1 + EN 50470-3. Accuracy: Class 1 according to EN 62053-21 and Class B according to EN 50470-3. Suitable for harsh environments. Connection via .../5 A CTs. Equipped with a backlit graphic LCD display. Measures voltage and current THD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. One-minute sliding-window average active and reactive power. Operating time counter for the monitored load, which can be activated by an internal alarm through Energy Brain software configuration. Two calibration LEDs. RS485 Modbus-RTU communication. Wall-mount terminal covers and fiscal certification documents can be ordered separately. DIN rail mounting, 6 DIN modules. 85–440 Vac phase-to-phase power supply.
PFAE6M1-QA	**EXA MID D6 RS485 85-440V 2DI 2DO ENERGY ANALYZER** Energy Analyzer for three-phase low-voltage measurements on 3-wire and 4-wire networks, compliant with MID Directive Annex MI-003 and EN 50470-1 + EN 50470-3. Accuracy: Class 1 according to EN 62053-21 and Class B according to EN 50470-3. Suitable for harsh environments. Connection via .../5 A CTs. Equipped with a backlit graphic LCD display. Measures voltage and current THD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. One-minute sliding-window average active and reactive power. Operating time counter for the monitored load, which can be activated by an internal alarm through Energy Brain software configuration. Two calibration LEDs. RS485 Modbus-RTU communication. 2 digital inputs and 2 digital outputs. Wall-mount terminal covers and fiscal certification documents can be ordered separately. DIN rail mounting, 6 DIN modules. 85–440 Vac phase-to-phase power supply.

FEMTO MID D4 RS485

Versions for connection via ECT 100 A CTs (included)



Highly versatile and accurate microprocessor-based Energy Meters / Energy Analyzers designed for electrical parameter monitoring and energy consumption management in commercial, industrial, and residential applications. These instruments combine the functions of an energy analyzer, multimeter, and energy meter in a single device. Equipped with an RS485 serial communication interface. Also available in MID-certified versions compliant with MID Directive Annex MI-003. Factory calibrated with three external 100 A ECT current transformers (PFAE000-01) supplied with the instrument.

Code	Product Description
PFA64M1-0A-B	**FEMTO MID D4 ECT RS485 85-440V ENERGY ANALYZER** Energy Meter / Energy Analyzer for three-phase low-voltage measurements on 3-wire and 4-wire networks, compliant with MID Directive Annex MI-003 and EN 50470-1 + EN 50470-3. Accuracy: Class 1 according to EN 62053-21 and Class B according to EN 50470-3. Factory calibrated with three external 100 A ECT current transformers (PFAE000-01) connected to the instrument (included). Measures voltage and current THD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Phase sequence detection. Four operating timers. One calibration LED. RS485 Modbus-RTU communication. Fiscal certification documents can be ordered separately. DIN rail mounting, 4 DIN modules. 85–440 Vac phase-to-phase power supply.
PFA64M1-DA-B	**FEMTO MID D4 ECT RS485 85-440V 2DI 2DO SG ENERGY ANALYZER** Energy Meter / Energy Analyzer for three-phase low-voltage measurements on 3-wire and 4-wire networks, compliant with MID Directive Annex MI-003 and EN 50470-1 + EN 50470-3. Accuracy: Class 1 according to EN 62053-21 and Class B according to EN 50470-3. Factory calibrated with three external 100 A ECT current transformers (PFAE000-01) connected to the instrument (included). Measures voltage and current THD, neutral current, maximum and minimum voltage, maximum current and power, and active energy for each phase. Phase sequence detection. Four operating timers. One calibration LED. RS485 Modbus-RTU communication. 2 digital inputs and 2 digital outputs with separate commons. Fiscal certification documents can be ordered separately. DIN rail mounting, 4 DIN modules. 85–440 Vac phase-to-phase power supply.

ELECTREX

the energy saving technology

PICO PRO RS485

Intelligent Input / Output & Sensors Device



made in italy

akse

PICO PRO NODE RS485 SIO

RS485 Expansion Node with SIO Bus for I/O and Environmental Parameters



Pico Pro Node is an RS485 expansion device featuring an integrated SIO (Sensor Input Output) Bus. Fully versatile and expandable even after installation, thanks to the SIO expansion bus, which allows digital/analog I/O modules and environmental parameter sensors to be added at any time using Milli Pro devices. 12 Vdc power supply. Black enclosure, dimensions: 38 × 73 × 20 mm.

Code	Product Description
PFAPR01-Z04B	**PICO PRO NODE RS485 12VDC SIO** RS485 node with SIO Bus for connecting digital and/or analog I/O modules and/or environmental parameter sensors via Milli Pro I/O and Milli Sensor devices. Equipped with an RS485 port with removable terminals and an SIO Bus port with RJ45 connector. Internal terminals for RS485 network wiring. RS485 Modbus-RTU communication. Black enclosure, dimensions: 38 × 73 × 20 mm. 12 Vdc power supply, which can be provided either by the switching power supply (code PFTP100-P2) or via the RS485 cable when connected to a Libra device.

PICO PRO D4

RS485 Devices with Integrated I/O and SIO Bus for Future Expansion



Pico Pro D4 is a family of DIN rail-mounted Input/Output devices featuring an RS485 communication port, with integrated digital and analog I/O and/or an onboard SIO (Sensor Input Output) Bus. Designed for advanced remote monitoring, alarm management, pulse counting, and environmental measurement applications in commercial, industrial, and residential building automation, while ensuring the least invasive installation possible. The system is fully modular and expandable even after commissioning, thanks to the SIO expansion bus, which allows additional digital/analog I/O modules and environmental sensors to be integrated at any time using Milli Pro devices. Pico Pro features 8 configurable alarms, which can be used to drive digital outputs and/or modify Modbus register states. Remote firmware upgradeable. 230 Vac power supply (other supply voltages available on request). DIN rail mounting, 4 DIN modules.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFAP401-NC2C	**PICO PRO D4 RS485 230-240V 4DI 4DO 4COMMON** Intelligent Input/Output & Sensors Device equipped with 4 digital inputs and 4 digital outputs with separate commons. The opto-isolated digital inputs, complete with debounce filtering, are typically used for pulse counting or remote status indication. The opto-isolated transistor digital outputs are rated at 27 Vdc, 27 mA according to DIN 43864 and can be configured either as outputs for internal alarms or as remotely controlled outputs via Modbus commands. 8 configurable alarms for driving digital outputs and/or updating Modbus register states. One power LED, one status LED, and one RS485 communication LED. RS485 Modbus-RTU communication. Remote firmware upgradeable. DIN rail mounting, 4 DIN modules. 230–240 Vac power supply.
PFAP401-QA2C	**PICO PRO D4 RS485 230-240V 2DI 2DO 4COMMON 2AO4-20mA** Intelligent Input/Output & Sensors Device equipped with 2 digital inputs, 2 digital outputs, and 2 analog outputs with separate commons. The opto-isolated digital inputs, complete with debounce filtering, are used for pulse counting or remote status indication. The opto-isolated transistor digital outputs, rated at 27 Vdc, 27 mA according to DIN 43864, can be configured as outputs for internal alarms or as remotely controlled outputs. The galvanically isolated analog outputs support 4–20 mA or 0–20 mA signals, providing high accuracy and stability. 8 configurable alarms for driving digital outputs and/or updating Modbus register states. One power LED, one status LED, and one RS485 communication LED. RS485 Modbus-RTU communication. Remote firmware upgradeable. DIN rail mounting, 4 DIN modules. 230–240 Vac power supply.
PFAP401-RQ2C	**PICO PRO D4 RS485 230-240V 4AI 2DI 2DO 4COMMON** Intelligent Input/Output & Sensors Device equipped with 4 analog inputs, 2 digital inputs, and 2 digital outputs with separate commons. The analog inputs are configurable for external sensors with ±10 V input range (compatible with 0–10 V, 0–5 V, ±5 V, and 4–20 mA using a 200 Ω resistor). The opto-isolated digital inputs, complete with debounce filtering, are used for pulse counting or remote status indication. The opto-isolated transistor digital outputs, rated at 27 Vdc, 27 mA according to DIN 43864, can be configured as outputs for internal alarms or as remotely controlled outputs. 8 configurable alarms for driving digital outputs and/or updating Modbus register states. One power LED, one status LED, and one RS485 communication LED. RS485 Modbus-RTU communication. Remote firmware upgradeable. DIN rail mounting, 4 DIN modules. 230–240 Vac power supply.
PFAP401-QZ2C	**PICO PRO D4 RS485 230-240V 2DI 2DO 4COMMON SIO** Intelligent Input/Output & Sensors Device equipped with 2 digital inputs, 2 digital outputs with separate commons, and an SIO Bus. The opto-isolated digital inputs, complete with debounce filtering, are used for pulse counting or remote status indication. The opto-isolated transistor digital outputs, rated at 27 Vdc, 27 mA according to DIN 43864, can be configured as outputs for internal alarms or as remotely controlled outputs. The SIO Bus allows additional digital/analog I/O modules and environmental sensors to be integrated at any time, even after commissioning, using Milli Pro devices. 8 configurable alarms for driving digital outputs and/or updating Modbus register states. One power LED, one status LED, and one RS485 communication LED. RS485 Modbus-RTU communication. Remote firmware upgradeable. DIN rail mounting, 4 DIN modules. 230–240 Vac power supply.
PFAP401-RZ2C	**PICO PRO D4 RS485 230-240V 4AI SIO** Intelligent Input/Output & Sensors Device equipped with 4 analog inputs and an SIO Bus. The analog inputs are configurable for external sensors with ±10 V input range (compatible with 0–10 V, 0–5 V, ±5 V, and 4–20 mA using a 200 Ω resistor). The SIO Bus allows additional digital/analog I/O modules and environmental sensors to be integrated at any time, even after commissioning, using Milli Pro devices. 8 configurable alarms for driving digital outputs and/or updating Modbus register states. One power LED, one status LED, and one RS485 communication LED. RS485 Modbus-RTU communication. Remote firmware upgradeable. DIN rail mounting, 4 DIN modules. 230–240 Vac power supply.

PICO PRO SIO RS485 12V

RS485 Devices with Integrated I/O and SIO Bus for Future Expansion



Pico Pro SIO is a family of Input/Output devices featuring an RS485 communication port, integrated digital and analog I/O, and an onboard SIO (Sensor Input Output) Bus for future expansion. Designed for advanced remote monitoring, alarm management, pulse counting, and environmental measurement applications in commercial, industrial, and residential building automation, while ensuring the least invasive installation possible. The system is fully modular and expandable even after installation, thanks to the SIO expansion bus, which allows additional digital/analog I/O modules and environmental sensors to be integrated at any time, even after commissioning, using Milli Pro devices. The devices feature 8 configurable alarm channels, which can be used to drive digital outputs and/or modify Modbus register states. Remote firmware upgradeable. 12 Vdc power supply. Grey enclosure, dimensions: 125 × 40 × 85 mm.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFAPM0C-NP4G	**PICO PRO SIO RS485 12VDC 4DI4DO** Intelligent Input / Output & Sensors Device equipped with 4 digital inputs, 4 digital outputs with separate commons, and an SIO Bus. The digital inputs are opto-isolated and feature an integrated debounce filter. They are typically used for counting externally generated pulses or as remote status indicators. The digital outputs are opto-isolated transistor outputs rated at 27 Vdc, 27 mA according to DIN 43864, and can be programmed either as outputs for internal alarms or as remotely controlled outputs via the serial interface using Modbus commands. The SIO Bus allows additional digital/analog I/O modules and/or environmental sensors to be integrated at any time using Milli Pro devices. 8 configurable alarms can be used to drive digital outputs and/or update Modbus register states. Equipped with one power LED, one status LED, and one RS485 communication LED. Modbus-RTU RS485 communication. Remote firmware update. 12 Vdc power supply. Grey enclosure, dimensions: 125 × 40 × 85 mm.
PFAPM0C-QA4G	**PICO PRO SIO RS485 12VDC 2DI2DO 2AO** Intelligent Input / Output & Sensors Device equipped with 2 digital inputs, 2 digital outputs, 2 analog outputs, and an SIO Bus. The opto-isolated digital inputs feature an integrated debounce filter and are used for pulse counting or remote status indication. The opto-isolated transistor digital outputs are rated at 27 Vdc, 27 mA according to DIN 43864, and can be programmed as outputs for internal alarms or as remotely controlled outputs. The 4–20 mA or 0–20 mA analog outputs are highly accurate, stable, and galvanically isolated. The SIO Bus enables the integration of additional digital/analog I/O modules and/or environmental sensors using Milli Pro devices. 8 configurable alarms can be used to drive digital outputs and/or update Modbus register states. Equipped with one power LED, one status LED, and one RS485 communication LED. Modbus-RTU RS485 communication. Remote firmware update. 12 Vdc power supply. Grey enclosure, dimensions: 125 × 40 × 85 mm.
PFAPM0C-QR4G	**PICO PRO SIO RS485 12VDC 2DI2DO 4AI** Intelligent Input / Output & Sensors Device equipped with 2 digital inputs, 2 digital outputs, 4 analog inputs, and an SIO Bus. The opto-isolated digital inputs feature an integrated debounce filter and are used for pulse counting or remote status indication. The opto-isolated transistor digital outputs are rated at 27 Vdc, 27 mA according to DIN 43864, and can be programmed as outputs for internal alarms or as remotely controlled outputs. The analog inputs are configurable for acquiring external sensors with ±10 V input range (compatible with 0–10 V, 0–5 V, ±5 V, and 4–20 mA using a 200 Ω resistor). The SIO Bus enables the integration of additional digital/analog I/O modules and/or environmental sensors using Milli Pro devices. 8 configurable alarms can be used to drive digital outputs and/or update Modbus register states. Equipped with one power LED, one status LED, and one RS485 communication LED. Modbus-RTU RS485 communication. Remote firmware update. 12 Vdc power supply. Grey enclosure, dimensions: 125 × 40 × 85 mm.
PFAPM0C-NN4G	**PICO PRO SIO RS485 12VDC 8DI** Intelligent Input / Output & Sensors Device equipped with 8 digital inputs with separate commons and an SIO Bus. The opto-isolated digital inputs feature an integrated debounce filter and are used for pulse counting or remote status indication. The SIO Bus enables the integration of additional digital/analog I/O modules and/or environmental sensors using Milli Pro devices. 8 configurable alarms can be used to drive digital outputs and/or update Modbus register states. Equipped with one power LED, one status LED, and one RS485 communication LED. Modbus-RTU RS485 communication. Remote firmware update. 12 Vdc power supply. Grey enclosure, dimensions: 125 × 40 × 85 mm.
PFAPM0C-PP4G	**PICO PRO SIO RS485 12VDC 8DO** Intelligent Input / Output & Sensors Device equipped with 8 digital outputs with separate commons and an SIO Bus. The digital outputs are opto-isolated transistor outputs rated at 27 Vdc, 27 mA according to DIN 43864, and can be programmed either as outputs for internal alarms or as remotely controlled outputs via the serial interface using Modbus commands. The SIO Bus enables the integration of additional digital/analog I/O modules and/or environmental sensors using Milli Pro devices. 8 configurable alarms can be used to drive digital outputs and/or update Modbus register states. Equipped with one power LED, one status LED, and one RS485 communication LED. Modbus-RTU RS485 communication. Remote firmware update. 12 Vdc power supply. Grey enclosure, dimensions: 125 × 40 × 85 mm.

PICO PRO SIO RS485 230V

RS485 Devices with Integrated I/O and SIO Bus for Future Expansion



Pico Pro SIO is a family of Input/Output devices featuring an RS485 communication port, integrated digital and analog I/O, and an onboard SIO (Sensor Input Output) Bus for future expansion. Designed for advanced remote monitoring, alarm management, pulse counting, and environmental measurement applications in commercial, industrial, and residential building automation, while ensuring the least invasive installation possible. The system is fully modular and expandable even after installation, thanks to the SIO expansion bus, which allows additional digital/analog I/O modules and environmental sensors to be integrated at any time, even after commissioning, using Milli Pro devices. The device features 8 configurable alarm channels, which can be used to drive digital outputs and/or modify Modbus register states. Remote firmware upgradeable. 85–265 Vac / 100–374 Vdc power supply, with the option of 12 Vdc backup power from an external UPS. Provides a 12 Vdc auxiliary output (Vout). Grey enclosure, dimensions: 150 × 45 × 100 mm.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFAPT0C-QCHG	**PICO PRO SIO 230V 2DI6DO 2RO** Intelligent Input / Output & Sensors Device equipped with 2 digital inputs, 6 digital outputs with separate commons, an SIO Bus, and 2 relay outputs with SPDT contacts, capable of switching loads up to 250 Vac, 2 A resistive. The digital inputs are opto-isolated and feature an integrated debounce filter. They are typically used for counting externally generated pulses or as remote status indicators. The digital outputs are opto-isolated transistor outputs rated at 27 Vdc, 27 mA according to DIN 43864, and can be programmed either as outputs for internal alarms or as remotely controlled outputs via the serial interface using Modbus commands. The input and output circuits are self-powered and do not require an external power supply. The SIO Bus enables the integration of additional digital/analog I/O modules and/or environmental sensors using Milli Pro devices. 8 configurable alarms can be used to drive digital outputs and/or update Modbus register states. Equipped with one power LED, one status LED, and one RS485 communication LED. Modbus-RTU RS485 communication. Remote firmware update. 85–265 Vac / 100–374 Vdc power supply, with the option of 12 Vdc backup power from an external UPS. 12 Vdc output voltage (Vout) available. Grey enclosure, dimensions: 150 × 45 × 100 mm.

CODE CREATION TABLE FOR PICO PRO RS485

SERIES	PICO PRO D4	PICO PRO SIO 12V	PICO PRO SIO 230V
Model Pico Pro	**PFAP401-**	**PFAPM0C-**	**PFAPT0C-**
Internal board slot 1			
None	**0**	**0**	**0**
Board 2AO4-20mA	**A**	**A**	**A**
Board 4DI 4COMMON	**N**	**N**	**N**
Board 4DO 4COMMON	**C**	**C**	**C**
Board 2DI 2DO 4COMMON	**Q**	**Q**	**Q**
Board 4AI	**R**	**R**	**R**
E-Wi EDA 868 (On request)	/	**L**	**L**
Board 4PT100 / 4PT1000	**U**	**U**	**U**
Board 4NTC (On request)	**Y**	**Y**	**Y**
Internal board slot 2			
None	**0**	**0**	**0**
Board 2AO4-20mA	**A**	**A**	**A**
Board 4DI 4COMMON	**N**	**N**	**N**
Board 4DO 4COMMON	**C**	**C**	**C**
Board 2DI 2DO 4COMMON	**Q**	**Q**	**Q**
Board 4AI	**R**	**R**	**R**
Board SIO (Sensor Input Output)	**Z**	**Z (Already included)**	**Z (Already included)**
E-Wi EDA 868 (On request)	/	**L**	**L**
Board 4PT100 / 4PT1000	**U**	**U**	**U**
Board 4NTC (On request)	**Y**	**Y**	**Y**
Power Supply			
230-240VAC	**2**	/	/
120Vac +/- 10%	**1**	/	/
400Vac +/- 10%	**3**	/	/
15÷36Vac/18÷60Vdc	**8**	/	/
9÷24Vac/9÷36Vdc	**7**	/	/
12Vdc +/- 10%	/	**4**	/
Double power supply 230/240Vac and 12Vdc	/	/	**H**
Enclosure			
White DIN rail enclosure	**C**	/	/
Anthracite grey enclosure	/	**G**	**G**

ELECTREX

the energy saving technology

DECA E-WI & PICO PRO E-WI

Battery-Powered Wireless Solutions

E-Wi™





made in italy

akse

YOCTO NET D6 E-WI

Gateways and Dataloggers for E-Wi Wireless Devices



Gateway/datalogger with E-Wi 868 communication, acting as the Master coordinator of the wireless network. It transmits and receives data over the 868 MHz wireless frequency, managing end devices such as Deca Sensor E-Wi multifunction sensors and Pico Pro E-Wi devices, which transmit environmental measurements and/or pulse counts wirelessly. Features Ethernet and RS485 Master communication, automatic alarm generation, and local data logging with remote data acquisition. All devices in the NET family can be equipped with the E-Wi 868 option.

Below are some example versions; for other versions, please refer to the code creation table at the end of the chapter.

Code	Product Description
PFNY6-005L9-110	**YOCTO NET COORDINATOR E-WI EDA 868 D6 WEB LOG 8 85÷265V WEB DATA MANAGER** Network gateway between the Ethernet and RS485 ports for Modbus communication and data acquisition from Electrex devices on the RS485 subnetwork. Acts as the E-Wi wireless network coordinator, with an external antenna connector (antenna included). Using the E-Wi protocol, it transmits and receives data over the 868 MHz wireless frequency, managing end devices such as Deca Sensor E-Wi 868 and Deca Sensor E-Wi 868 THL multifunction sensors, which transmit pulse counts and/or environmental measurements via 868 MHz radio communication. Features a graphical FSTN display, battery-backed perpetual astronomical real-time clock/calendar, and industrial-grade non-volatile memory. Supports remote firmware updates. Includes the Log 8 data logging service, storing data from its digital inputs and up to 7 devices connected via the RS485 and/or E-Wi 868 network, including power, energy, and input measurements. Integrated web server with the Web Upgrade enabled for viewing key real-time measurements through a web interface. Includes an FTP server, ExpBus for external I/O modules and environmental sensors, and NFC technology. DIN rail mounting, 6 DIN modules. Power supply: 85–265 Vac / 100–374 Vdc.



DECA SENSOR E-WI 868 TH

Wireless Battery-Powered Temperature and Humidity Sensor

Code	Product Description
PFATDHI-0BW	**DECA SENSOR E-WI 868 T H BATTERY** Sensor for measuring ambient temperature and relative humidity. Transmits data via 868 MHz radio communication to Electrex NET Coordinator E-Wi 868 devices. Typical accuracy: ±0.2 °C for temperature and ±1.8 %RH for humidity. Configurable sampling interval from 1 to 60 minutes. Wall-mounted installation. Dimensions: 80 × 80 × 25 mm. Powered by 12 Vdc or by a battery (not included), with a battery life of up to 7 years when using a 15-minute sampling interval and with adequate radio signal coverage.



PICO PRO E-WI 868 BATTERY

Wireless Battery-Powered Device with Integrated Digital Inputs

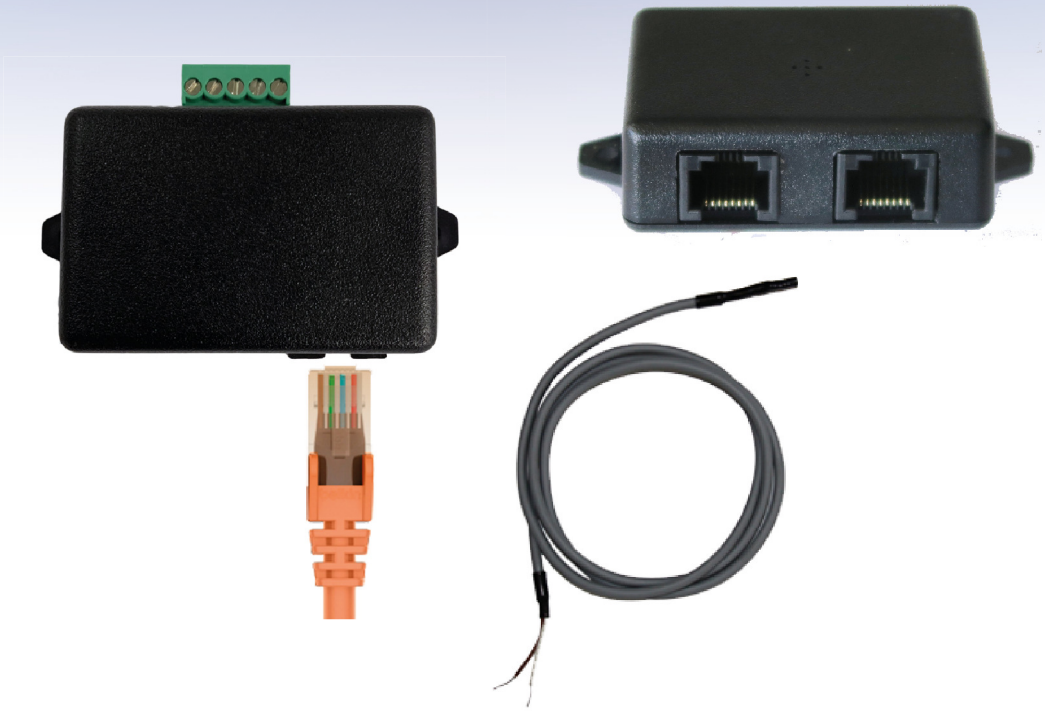
Code	Product Description
PFAPUHL-F0GG	**PICO PRO E-WI 868 BATTERY 2DI 2COMMON LOW POWER** Battery-powered E-Wi 868 wireless device equipped with 2 opto-isolated digital inputs for status monitoring and/or pulse counting, with separate commons. The digital inputs are opto-isolated and feature an integrated debounce filter. They are typically used for counting externally generated pulses or as remote status indicators. The input circuits are self-powered and do not require an external power supply. Transmits data via 868 MHz radio communication to Electrex NET Coordinator E-Wi 868 gateways. Powered by two lithium AA batteries (not included), with battery life depending on the sampling interval and radio signal coverage. Supports remote firmware updates. Suitable for indoor or outdoor installation, with a watertight ABS enclosure rated IP67. Grey enclosure, dimensions: 130 × 45 × 175 mm.

ELECTREX

the energy saving technology

MILLI I/O & MILLI SENSOR

I/O and Environmental Sensor for SIO BUS



made in italy

akse

MILLI PRO I/O

SIO Bus Expansion Device with Digital and Analog Inputs/Outputs



Milli Pro I/O is a family of expansion devices for Electrex instruments equipped with the SIO (Sensor Input Output) expansion bus, featuring digital and analog inputs/outputs. Designed to meet the most demanding applications in remote monitoring, alarm management, and pulse counting for building automation in commercial, industrial, and residential environments, while ensuring the least invasive installation possible. The system is fully modular and expandable, even after commissioning. Compatible exclusively with Electrex Pro family instruments equipped with the SIO Bus. Features RJ45 connectors for fast and reliable connection. Powered directly by the SIO Bus. Black enclosure, dimensions: 38 × 73 × 20 mm.

Code	Product Description
PFAMR0Z-N0EB	**MILLI PRO I/O RJ BOX 4DI 4COMMON** Device equipped with 4 opto-isolated digital inputs for status monitoring and/or pulse counting, with separate commons. Features 2 female RJ45 ports for quick connection to the SIO Bus. Compatible exclusively with Electrex Pro family instruments equipped with the SIO Bus. The input circuits require an external power supply (e.g. 12 Vdc or 24 Vdc). Address configurable from 1 to 4. Powered at 3.3 Vdc directly from the SIO Bus. Black enclosure, dimensions: 38 × 73 × 20 mm.
PFAMR0Z-P0EB	**MILLI PRO I/O RJ BOX 4DO 4COMMON** Device equipped with 4 opto-isolated transistor digital outputs, rated 27 Vdc, 27 mA according to DIN 43864, with separate commons. Features 2 female RJ45 ports for quick connection to the SIO Bus. Compatible exclusively with Electrex Pro family instruments equipped with the SIO Bus. The outputs can operate as remotely controlled output channels. The output circuits require an external power supply (e.g. 12 Vdc or 24 Vdc). Address configurable from 1 to 4. Powered at 3.3 Vdc directly from the SIO Bus. Black enclosure, dimensions: 38 × 73 × 20 mm.
PFAMR0Z-Q0EB	**MILLI PRO I/O RJ BOX 2DI 2DO 4COMMON** Device equipped with 2 digital inputs and 2 digital outputs, with separate commons. The digital inputs are opto-isolated and feature an integrated debounce filter, making them suitable for pulse counting or remote status monitoring. The digital outputs are opto-isolated transistor outputs, rated 27 Vdc, 27 mA according to DIN 43864, configurable as outputs for internal alarms or as remotely controlled outputs. Supports 8 configurable alarms for driving digital outputs and/or updating Modbus register status. Supports remote firmware updates. Address configurable from 1 to 4. Powered at 3.3 Vdc directly from the SIO Bus. Black enclosure, dimensions: 38 × 73 × 20 mm.
PFAMR0Z-70EB	**MILLI PRO I/O RJ BOX 2DO RELE' BISTABILE (DO SET/ DO RESET)** Device equipped with 2 bistable relay outputs with SPDT (changeover) contacts, capable of switching loads up to 240 Vac, 0.25 A resistive. Features 2 female RJ45 ports for quick connection to the SIO Bus. Compatible exclusively with Electrex Pro family instruments equipped with the SIO Bus. Address configurable from 1 to 4. Powered at 3.3 Vdc directly from the SIO Bus. Black enclosure, dimensions: 38 × 73 × 20 mm.
PFAMR0Z-R0EB	**MILLI PRO I/O RJ BOX 4AI** Device equipped with 4 analog inputs, configurable for external sensors with −10…+10 V signals (compatible with 0–10 V, 0–5 V, −5…+5 V, and 4–20 mA using a 200 Ω resistor). Supports remote firmware updates and features 2 female RJ45 ports for quick connection to the SIO Bus. Address configurable from 1 to 4. Powered at 3.3 Vdc directly from the SIO Bus. Black enclosure, dimensions: 38 × 73 × 20 mm.

MILLI PRO SENSOR

Environmental Sensors for Electrex Pro Devices with SIO Bus



Milli Pro Sensor is a family of expansion devices for Electrex instruments equipped with the SIO (Sensor Input Output) Bus, featuring sensors for environmental parameters and indoor air quality. Designed for advanced remote monitoring, alarm management, and environmental measurement applications in commercial, industrial, and residential building automation, with minimal installation impact.
The system is fully modular and expandable, even after commissioning. Up to 4 sensors with different combinations can be connected to the same SIO Bus. Available sensor types include temperature, humidity, illuminance (lux), and indoor air quality parameters.
Compatible exclusively with Electrex Pro family instruments equipped with the SIO Bus. Features RJ45 connectors for quick installation and is powered directly by the SIO Bus.

Code	Product Description
PFAMRHZ-00EB	**MILLI PRO SENSOR BUS RJ BLACK BOX T H** Ambient Temperature and Relative Humidity Sensor, compatible exclusively with Electrex Pro family instruments equipped with the SIO Bus. Measurement range: −40 °C to +125 °C, with typical temperature accuracy of ±0.1 °C. Relative humidity measurement range: 0–100 %RH, with ±1.5 %RH accuracy. Equipped with 2 female RJ45 ports for connection to the SIO Bus. Address configurable from 1 to 4. Powered at 3.3 Vdc directly from the SIO Bus. Black enclosure, dimensions: 38 × 73 × 20 mm.
PFAMRSZ-00EB	**MILLI PRO SENSOR BUS RJ BLACK BOX T H L P** Ambient Temperature, Relative Humidity, Illuminance, and Barometric Pressure Sensor, compatible exclusively with Electrex Pro family instruments equipped with the SIO Bus. Measures: Temperature: −40 °C to +125 °C (±0.1 °C) Relative humidity: 0–100 %RH (±1.5 %RH) Illuminance: configurable for indoor (0–4,000 lux) or outdoor (0–64,000 lux) applications (±10%) Barometric pressure: 800 to 1,100 mbar (±1 Pa under ideal laboratory conditions, corresponding to an altitude error of approximately ±0.3 m) Equipped with 2 female RJ45 ports for connection to the SIO Bus. Address configurable from 1 to 4. Powered at 3.3 Vdc directly from the SIO Bus. Black enclosure, dimensions: 40 × 60 × 20 mm.
PFATMRVZ-00EB	**MILLI PRO SENSOR BUS RJ BLACK BOX VOC** Volatile Organic Compounds (VOC) Sensor, compatible exclusively with Electrex Pro family instruments equipped with the SIO Bus. Measurement range: 0 to 1,000 ppm, with ±15% accuracy of the ethanol-equivalent signal over the 0.30–30 ppm range. Equipped with 2 female RJ45 ports for connection to the SIO Bus. Address configurable from 1 to 4. Powered at 3.3 Vdc directly from the SIO Bus. Black enclosure, dimensions: 40 × 60 × 20 mm.



MILLI PRO SENSOR (WHITE BOX)

Code	Product Description
PFAMDZZ-00EB	**MILLI PRO SENSOR BUS RJ WHITE BOX T H CO2 P TRAFFIC LIGHT** Ambient Temperature, Relative Humidity, Illuminance, CO2, and Barometric Pressure Sensor, compatible exclusively with Electrex Pro family instruments equipped with the SIO Bus. Measures ambient temperature, relative humidity, illuminance, carbon dioxide (CO2) concentration, and barometric pressure. Typical accuracy: ±0.1 °C for temperature and ±1.0 %RH for relative humidity. Measures CO2 concentration from 400 to 2,000 ppm, with an accuracy of ±50 ppm + 5% of the reading. Measures barometric pressure from 20 kPa to 110 kPa, with an accuracy of ±1 Pa under ideal laboratory conditions (equivalent to an altitude error of approximately ±0.3 m). Equipped with 2 RJ45 ports for connection to the SIO Bus. Not addressable. Powered at 3.3 Vdc directly from the SIO Bus. White ventilated enclosure, dimensions: 80 × 80 × 25 mm.

MILLI SENSOR

Environmental Sensors for Electrex Instruments with SI and SIO Bus



Milli Sensor is a family of expansion devices for Electrex instruments equipped with the SI Bus and SIO (Sensor Input Output) Bus, featuring integrated environmental and indoor air quality sensors. Designed to meet the most demanding applications in remote monitoring, alarm management, and environmental measurement for building automation in commercial, industrial, and residential environments, while ensuring the least invasive installation possible.
The system is fully modular and expandable, even after installation. A wide range of sensors is available, including temperature, humidity, illuminance (lux), and indoor air quality sensors. Compatible exclusively with Electrex instruments equipped with the SI Bus or SIO Bus. Powered directly by the SI Bus.

Code	Product Description
PFATBAQ-00B	**SENSOR BUS BLACK BOX T 0,25** Optional external BUS temperature sensor compatible with Electrex instruments and devices equipped with the SI Bus or SIO Bus. Measures ambient temperature with a typical accuracy of ±0.2 °C. Supplied with a 1 m Category 5e cable. Address configurable from 1 to 4. Black enclosure, dimensions: 38 × 73 × 20 mm.
PFAT4TQ-01	**MILLI SENSOR BUS NAKED T 1** Contact temperature sensor compatible with Electrex instruments and devices equipped with the SI Bus or SIO Bus. Measures contact temperature with a typical accuracy of ±1.0 °C. Supplied with a 1 m Category 5e cable. Address configurable from 1 to 4. Black enclosure, dimensions: 38 × 73 × 20 mm.
PFAT4AQ-00	**MILLI SENSOR BUS NAKED T 0,25** Contact temperature sensor compatible with Electrex instruments and devices equipped with the SI Bus or SIO Bus. Measures contact temperature with a typical accuracy of ±0.25 °C. Supplied with a 1 m Category 5e cable. Address configurable from 1 to 4. Black enclosure, dimensions: 38 × 73 × 20 mm.
PFATREQ-00B	**MILLI SENSOR BUS RJ BLACK BOX T 0,1 H 1,5** Ambient Temperature and Relative Humidity Sensor, compatible with Electrex instruments and devices equipped with the SI Bus or SIO Bus. Measurement range: −20 °C to +80 °C. Typical accuracy: ±0.1 °C for temperature and ±1.5 %RH for relative humidity. Address configurable to 1 or 2. Equipped with 2 female RJ45 ports for BUS connection. Black enclosure, dimensions: 38 × 73 × 20 mm.
PFAMRDZ-00EB	**MILLI SENSOR BUS RJ BLACK BOX DP** Differential Air Pressure Sensor, compatible with Electrex instruments and devices equipped with the SI Bus or SIO Bus. Measures differential pressure from −500 Pa to +500 Pa, with a typical accuracy of ±3%. Equipped with 2 female RJ45 ports for BUS connection. Black enclosure, dimensions: 38 × 73 × 20 mm.
PFAMVPZ-00EB	**MILLI SENSOR BUS RJ BLACK BOX PM** Particulate Matter (PM) Sensor, compatible with Electrex instruments and devices equipped with the SI Bus or SIO Bus. Measures airborne particulate concentrations for PM1.0, PM2.5, PM4, and PM10, with a typical accuracy of ±10% over a concentration range up to 1,000 µg/m³. Equipped with 2 RJ45 ports for BUS connection. Black enclosure, dimensions: 51 × 89 × 26 mm.
PFAMVWZ-00EB	**MILLI SENSOR BUS RJ BLACK BOX OZONE** Ozone (O□) Sensor, compatible with Electrex instruments and devices equipped with the SI Bus or SIO Bus. Measurement range: 0 to 5 ppm under standard conditions (25 °C, 50% RH, 1 atm), with a typical accuracy of ±15%. Equipped with 2 RJ45 ports for BUS connection. Powered at 3.3 Vdc directly from the SIO Bus. Black enclosure, dimensions: 39 × 88 × 23 mm.
PFAMVYZ-00EB	**MILLI SENSOR BUS RJ BLACK BOX CO** Carbon Monoxide (CO) Sensor, compatible with Electrex instruments and devices equipped with the SI Bus or SIO Bus. Measurement range: 0 to 500 ppm, with a typical accuracy of ±15%. Equipped with 2 RJ45 ports for BUS connection. Supply voltage: 2.6–3.6 V. Black enclosure, dimensions: 51 × 89 × 26 mm.

ELECTREX

the energy saving technology

AirQ PRO & AirQ SANI

Air Quality Monitoring & Sani Solutions



made in italy

akse

AIR Q SANI - AIR Q PRO

Environmental Parameters Monitoring



Electrex Sensing & Sani Solutions provide ozone-based sanitisation of indoor environments and surfaces, together with environmental parameter monitoring, enabling the creation of notifications and alarms (via e-mail and Telegram). The systems can be integrated with HVAC installations to optimise energy consumption through Modbus TCP/IP, Modbus RTU, Web API, or MQTT communication protocols.

Code	Product Description
PFATH2JS02W	**AirQ SANI O3** Integrated system for ozone-based sanitisation of indoor environments and surfaces, combined with environmental parameter monitoring, local data logging, and the publication of dashboards and charts for the rapid assessment of indoor environmental quality. Equipped with a high-performance 10,000 mg/h ozone generator. The system can be operated manually using onboard push-buttons or remotely through custom web pages accessible from smartphones, tablets, and PCs. Measured parameters include: Volatile Organic Compounds (VOC), Equivalent Carbon Dioxide (CO2e), Temperature (T), Relative Humidity (RH), Atmospheric Pressure (Pa). Additional sensors, such as Ozone (O2) and Particulate Matter (PM1, PM2.5, PM10), are available on request. AirQ SANI can be configured as either a Master or Slave, allowing networks consisting of multiple AirQ devices. Communication is available via Ethernet, RS485 serial, or Wi-Fi. Power supply: 230 Vac ±10%, 50 Hz. White enclosure, dimensions: 350 × 100 × 225 mm.
PFATJ3J-04W	**AirQ Pro 12VDC** Integrated system for Indoor Air Quality (IAQ) monitoring and management, featuring local data logging and the publication of dashboards and charts for the rapid assessment of indoor environmental quality. AirQ Pro can operate as either a Master or Slave, allowing the creation of networks with multiple AirQ devices. Communication is available via Ethernet, RS485 serial, or Wi-Fi. Measured parameters include: Volatile Organic Compounds (VOC), Equivalent Carbon Dioxide (CO2e), Particulate Matter (PM1, PM2.5, PM10), Temperature (T), Relative Humidity (RH), Atmospheric Pressure (Pa). Additional parameters are available on request, including PM4, Ozone (O2), and Ultraviolet Radiation (UV-A, UV-B, UV-C). Powered at 12 Vdc via a 220 cm cable (external power supply included). White enclosure, dimensions: 230 × 60 × 200 mm.
PFATM1I-04W	**AirQ Lite 868** Integrated system for Indoor Air Quality (IAQ) monitoring and management, featuring local data logging and the publication of dashboards and charts for rapid assessment of indoor environmental quality. AirQ Lite E-Wi 868 can operate within a network as a Slave device connected to an AirQ Pro, using 868 MHz wireless communication through an AirQ Coordinator RS485 E-Wi 868, which is connected to the AirQ Pro via RS485. Measured parameters: Volatile Organic Compounds (VOC), Equivalent Carbon Dioxide (CO2e). Powered at 12 Vdc via a DC jack connector (external power supply included). White enclosure, dimensions: 125 × 40 × 85 mm.
PFATM11-04W	**AirQ Lite RS485** Integrated system for Indoor Air Quality (IAQ) monitoring and management, featuring local data logging and the publication of dashboards and charts for rapid assessment of indoor environmental quality. AirQ Lite RS485 can operate within a network as a Slave device connected to an AirQ Pro using an RS485 serial communication link. Measured parameters: Volatile Organic Compounds (VOC), Equivalent Carbon Dioxide (CO2e). Powered at 12 Vdc via a DC jack connector (external power supply included). White enclosure, dimensions: 125 × 40 × 85 mm.

ELECTREX

the energy saving technology

ACCESSORIES



made in italy

akse

SPLIT-CORE CURRENT TRANSFORMERS

Range from 100 A to 2500 A, 5 A Secondary



Range of split-core current transformers from 100 A to 2500 A with 5 A secondary output. Manufactured using ultra-low-loss magnetic core material. Featuring a patented snap-lock mechanism with no screws required, busbar locking system, panel mounting capability, and compact dimensions.

Code	Product Description
PFC0201	**CTS 23-100** Split-core current transformer. Dimensions (mm): internal window 20 (W) × 30 (H); external dimensions 93 (W) × 106 (H). Accuracy Class 3.
PFC0205	**CTS 23-200** Split-core current transformer. Dimensions (mm): internal window 20 (W) × 30 (H); external dimensions 93 (W) × 106 (H). Accuracy Class 3.
PFC0206	**CTS 23-250** Split-core current transformer. Dimensions (mm): internal window 20 (W) × 30 (H); external dimensions 93 (W) × 106 (H). Accuracy Class 1.
PFC0208	**CTS 23-300** Split-core current transformer. Dimensions (mm): internal window 20 (W) × 30 (H); external dimensions 93 (W) × 106 (H). Accuracy Class 1.
PFC0210	**CTS 23-400** Split-core current transformer. Dimensions (mm): internal window 20 (W) × 30 (H); external dimensions 93 (W) × 106 (H). Accuracy Class 1.
PFC0214	**CTS 58-300** Split-core current transformer. Dimensions (mm): internal window 50 (W) × 80 (H); external dimensions 125 (W) × 158 (H). Accuracy Class 1.
PFC0216	**CTS 58-400** Split-core current transformer. Dimensions (mm): internal window 50 (W) × 80 (H); external dimensions 125 (W) × 158 (H). Accuracy Class 1.
PFC0220	**CTS 58-600** Split-core current transformer. Dimensions (mm): internal window 50 (W) × 80 (H); external dimensions 125 (W) × 158 (H). Accuracy Class 1.
PFC0224	**CTS 58-800** Split-core current transformer. Dimensions (mm): internal window 50 (W) × 80 (H); external dimensions 125 (W) × 158 (H). Accuracy Class 1.
PFC0226	**CTS 58-1000** Split-core current transformer. Dimensions (mm): internal window 50 (W) × 80 (H); external dimensions 125 (W) × 158 (H). Accuracy Class 1.

SPLIT-CORE CURRENT TRANSFORMERS

Range from 100 A to 2500 A, 5 A Secondary



Range of split-core current transformers from 100 A to 2500 A with 5 A secondary output. Manufactured using ultra-low-loss magnetic core material. Featuring a patented snap-lock mechanism with no screws required, busbar locking system, panel mounting capability, and compact dimensions.

Code	Product Description
PFC0238	**CTS 812-600** Split-core current transformer. Dimensions (mm): internal window 80 (W) × 120 (H); external dimensions 155 (W) × 198 (H). Accuracy Class 1.
PFC0242	**CTS 812-800** Split-core current transformer. Dimensions (mm): internal window 80 (W) × 120 (H); external dimensions 155 (W) × 198 (H). Accuracy Class 1.
PFC0244	**CTS 812-1000** Split-core current transformer. Dimensions (mm): internal window 80 (W) × 120 (H); external dimensions 155 (W) × 198 (H). Accuracy Class 1.
PFC0248	**CTS 812-1250** Split-core current transformer. Dimensions (mm): internal window 80 (W) × 120 (H); external dimensions 155 (W) × 198 (H). Accuracy Class 1.
PFC0250	**CTS 812-1500** Split-core current transformer. Dimensions (mm): internal window 80 (W) × 120 (H); external dimensions 155 (W) × 198 (H). Accuracy Class 1.
PFC0260	**CTS 816-2000** Split-core current transformer. Dimensions (mm): internal window 80 (W) × 160 (H); external dimensions 195 (W) × 243 (H). Accuracy Class 1.
PFC0264	**CTS 816-2500** Split-core current transformer. Dimensions (mm): internal window 80 (W) × 160 (H); external dimensions 195 (W) × 243 (H). Accuracy Class 1.

MINI SERIES SPLIT-CORE CTs

Range from 100 A to 500 A, 1 A Secondary



Compact split-core current transformers for AC current measurement, featuring a 1 A secondary output. Available with primary current ratings from 100 A to 500 A.

Code	Product Description
PFC0300	**CTS 24-100 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for AC current measurement. 100 A primary, 1 A secondary. Features a patented snap-lock mechanism with no screws required. Dimensions (mm): 24 mm internal aperture diameter; external dimensions 45 (W) × 76 (H) × 36 (D). Accuracy Class 1. Its high accuracy, even at low currents and power levels, makes it suitable for Power Quality monitoring.
PFC0310	**CTS 35-200 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for AC current measurement. 200 A primary, 1 A secondary. Features a patented snap-lock mechanism with no screws required. Dimensions (mm): 35 mm internal aperture diameter; external dimensions 63 (W) × 94 (H) × 40 (D). Accuracy Class 1. Its high accuracy, even at low currents and power levels, makes it suitable for Power Quality monitoring.
PFC0320	**CTS 35-400 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for AC current measurement. 400 A primary, 1 A secondary. Features a patented snap-lock mechanism with no screws required. Dimensions (mm): 35 mm internal aperture diameter; external dimensions 63 (W) × 94 (H) × 40 (D). Accuracy Class 1. Its high accuracy, even at low currents and power levels, makes it suitable for Power Quality monitoring.
PFC0411	**CTS 24-100 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for AC current measurement. 100 A primary, 1 A secondary. Features a patented snap-lock mechanism with no screws required. Dimensions (mm): 24 mm internal aperture diameter; external dimensions 45 (W) × 75 (H) × 34 (D). Accuracy Class 3. Its high accuracy, even at low currents and power levels, makes it suitable for Power Quality monitoring.
PFC0415	**CTS 24-200 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for AC current measurement. 200 A primary, 1 A secondary. Features a patented snap-lock mechanism with no screws required. Dimensions (mm): 24 mm internal aperture diameter; external dimensions 45 (W) × 75 (H) × 34 (D). Accuracy Class 1. Its high accuracy, even at low currents and power levels, makes it suitable for Power Quality monitoring.
PFC0420	**CTS 24-250 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for AC current measurement. 250 A primary, 1 A secondary. Features a patented snap-lock mechanism with no screws required. Dimensions (mm): 24 mm internal aperture diameter; external dimensions 45 (W) × 75 (H) × 34 (D). Accuracy Class 1. Its high accuracy, even at low currents and power levels, makes it suitable for Power Quality monitoring.
PFC0425	**CTS 36-300 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for AC current measurement. 300 A primary, 1 A secondary. Features a patented snap-lock mechanism with no screws required. Dimensions (mm): 36 mm internal aperture diameter; external dimensions 57 (W) × 92 (H) × 40 (D). Accuracy Class 1. Its high accuracy, even at low currents and power levels, makes it suitable for Power Quality monitoring.
PFC0430	**CTS 36-500 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for AC current measurement. 500 A primary, 1 A secondary. Features a patented snap-lock mechanism with no screws required. Dimensions (mm): 36 mm internal aperture diameter; external dimensions 57 (W) × 92 (H) × 40 (D). Accuracy Class 0.5. Its high accuracy, even at low currents and power levels, makes it particularly suitable for Power Quality monitoring.

SPLIT-CORE HALL EFFECT CTs

Range from 50 A to 500 A for DC current measurement



Compact split-core Hall effect current transformers for DC current measurement. Available in current ratings from 50 A to 500 A.

Code	Product Description
PFC0505	**DC HALL CURRENT SENSOR** Special split-core current transformer for DC current measurement, designed for use with Electrex 4Hall DC instruments. Offers easy installation and a cost-effective alternative to traditional Hall effect current transformers. Can be connected in a daisy-chain (bus) configuration via two RJ45 ports, with a maximum total cable length of 20 m, and addressed using DIP switches. Rated current: 100 A. Through-hole diameter: 9 mm. Black enclosure, dimensions: 38 × 73 × 20 mm.
PFC0360	**CTS DC HALL 16-50 SPLIT CORE CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for DC current measurement, designed for use with Electrex DC Hall instruments in combination with DC Channel Split Core Current Converters, or with the Femto 4Hall series. Features a patented snap-fit, screwless locking system. Rated current: 50 A. Aperture diameter: 16 mm. External dimensions: 30 × 54 × 31 mm (W × H × D). Accuracy Class 1.
PFC0370	**CTS DC HALL 16-100 SPLIT CORE CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for DC current measurement, designed for use with Electrex DC Hall instruments in combination with DC Channel Split Core Current Converters, or with the Femto 4Hall series. Features a patented snap-fit, screwless locking system. Rated current: 100 A. Aperture diameter: 16 mm. External dimensions: 30 × 54 × 31 mm (W × H × D). Accuracy Class 1.
PFC0380	**CTS DC HALL 24-200 SPLIT CORE CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for DC current measurement, designed for use with Electrex DC Hall instruments in combination with DC Channel Split Core Current Converters, or with the Femto 4Hall series. Features a patented snap-fit, screwless locking system. Rated current: 200 A. Aperture diameter: 24 mm. External dimensions: 45 × 76 × 36 mm (W × H × D). Accuracy Class 1.
PFC0390	**CTS DC HALL 35-500 SPLIT CORE CURRENT TRANSFORMER MINI SERIES** Split-core current transformer for DC current measurement, designed for use with Electrex DC Hall instruments in combination with DC Channel Split Core Current Converters, or with the Femto 4Hall series. Features a patented snap-fit, screwless locking system. Rated current: 500 A. Aperture diameter: 35 mm. External dimensions: 60 × 80 × 40 mm (W × H × D). Accuracy Class 1.
PFC0500	**CTS DC HALL 10-50 SPLIT CORE CURRENT TRANSDUCER MINI SERIES** Split-core current transducer for DC current measurement, designed for use with Electrex DC Hall instruments in combination with DC Channel Split Core Current Converters, or with the Femto 4Hall series. Features a patented snap-fit, screwless locking system. Rated current: 50 A. Aperture diameter: 10 mm. External dimensions: 24 × 41 × 27 mm (W × H × D). Accuracy Class 1.
PFC0501	**CTS DC HALL 16-100 SPLIT CORE CURRENT TRANSDUCER MINI SERIES** Split-core current transducer for DC current measurement, designed for use with Electrex DC Hall instruments in combination with DC Channel Split Core Current Converters, or with the Femto 4Hall series. Features a patented snap-fit, screwless locking system. Rated current: 100 A. Aperture diameter: 16 mm. External dimensions: 30 × 45 × 32 mm (W × H × D). Accuracy Class 1.
PFC0502	**CTS DC HALL 24-250 SPLIT CORE CURRENT TRANSDUCER MINI SERIES** Split-core current transducer for DC current measurement, designed for use with Electrex DC Hall instruments in combination with DC Channel Split Core Current Converters, or with the Femto 4Hall series. Features a patented snap-fit, screwless locking system. Rated current: 250 A. Aperture diameter: 24 mm. External dimensions: 45 × 65 × 34 mm (W × H × D). Accuracy Class 1.
PFC0503	**CTS DC HALL 36-500 SPLIT CORE CURRENT TRANSDUCER MINI SERIES** Split-core current transducer for DC current measurement, designed for use with Electrex DC Hall instruments in combination with DC Channel Split Core Current Converters, or with the Femto 4Hall series. Features a patented snap-fit, screwless locking system. Rated current: 500 A. Aperture diameter: 36 mm. External dimensions: 57 × 82 × 40 mm (W × H × D). Accuracy Class 1.

SOLID-CORE AND SPLIT-CORE ECT CTs

Current range from 100A to 400A. For use exclusively with ECT instruments



Compact current transformers for AC current measurement. Designed exclusively for use with Electrex ECT series instruments.

Code	Product Description
PFAE000-09	**ECT TA 100A 13MM POWER QUALITY CURRENT TRANSFORMER** Current transformer designed exclusively for use with Electrex ECT instruments, including Femto D4 ECT, Atto D4 ECT, Femto ECT Net, Libra ECT, and Lyra ECT Net (up to 100 A). Plastic housing. Aperture diameter: 13 mm. Accuracy Class 0.5. Supplied with a 500 mm cable. Its high accuracy, even at low currents and power levels, makes it suitable for Power Quality applications.
PFAE000-10	**ECT TA 200A 20MM POWER QUALITY CURRENT TRANSFORMER** Current transformer designed exclusively for use with Electrex ECT instruments, including Femto D4 ECT, Atto D4 ECT, Femto ECT Net, Libra ECT, and Lyra ECT Net (up to 200 A). Plastic housing. Aperture diameter: 20 mm. Accuracy Class 0.5. Supplied with a 500 mm cable. Its high accuracy, even at low currents and power levels, makes it suitable for Power Quality applications.
PFAE000-11	**ECT TA 400A 30,5MM POWER QUALITY CURRENT TRANSFORMER** Current transformer designed exclusively for use with Electrex ECT instruments, including Femto D4 ECT, Atto D4 ECT, Femto ECT Net, Libra ECT, and Lyra ECT Net (up to 400 A). Plastic housing. Aperture diameter: 30.5 mm. Accuracy Class 0.5. Supplied with a 500 mm cable. Its high accuracy, even at low currents and power levels, makes it suitable for Power Quality applications.
PFAE000-02	**ECT CTS 16-100 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER** Split-core current transformer designed exclusively for use with Electrex ECT instruments, including Femto D4 ECT, Atto D4 ECT, Femto ECT Net, Libra ECT, and Lyra ECT Net (up to 100 A). Plastic housing with a patented snap-fit, screwless locking system. Aperture diameter: 16 mm. Accuracy Class 0.5. Secondary circuit opening protection included. Its high accuracy, even at low currents and power levels, makes it suitable for Power Quality applications.
PFAE000-05	**ECT CTS 24-200 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER** Split-core current transformer designed exclusively for use with Electrex ECT instruments, including Femto D4 ECT, Atto D4 ECT, Femto ECT Net, Libra ECT, and Lyra ECT Net (up to 200 A). Plastic housing with a patented snap-fit, screwless locking system. Aperture diameter: 24 mm. Accuracy Class 0.5. Secondary circuit opening protection included. Its high accuracy makes it suitable for Power Quality applications.
PFAE000-04	**ECT CTS 36-400 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER** Split-core current transformer designed exclusively for use with Electrex ECT instruments, including Femto D4 ECT, Atto D4 ECT, Femto ECT Net, Libra ECT, and Lyra ECT Net (up to 400 A). Plastic housing with a patented snap-fit, screwless locking system. Aperture diameter: 35.9 mm. Accuracy Class 0.5. Secondary circuit opening protection included. Its high accuracy makes it suitable for Power Quality applications.

FCTS SPLIT-CORE FLEXIBLE CTs

Internal aperture diameters from 70 mm to 280 mm. For use exclusively with Electrex F-series instruments



Flexible split-core Rogowski current sensors (FCTS series) for AC current measurement, designed exclusively for use with Electrex F-series instruments.

Code	Product Description
PFCF021	**FCTS 070-500 FLEXIBLE SPLIT CORE CURRENT TRANSFORMER** Flexible split-core current transformer with mV output, designed exclusively for Electrex F-series instruments (e.g. Femto D4 F, Exa 96 F, Kilo F, Giga F PQ Box, Exa F D6, and Exa F 96). Internal aperture diameter: 70 mm. Supplied with approximately 2 m connection cable. Configurable full-scale ranges: 250 A, 500 A, 1,000 A, 2,000 A, or 4,000 A. Accuracy: ±1%.
PFCF022	**FCTS 120-1000 FLEXIBLE SPLIT CORE CURRENT TRANSFORMER** Flexible split-core current transformer with mV output, designed exclusively for Electrex F-series instruments (e.g. Femto D4 F, Exa 96 F, Kilo F, Giga F PQ Box, Exa F D6, and Exa F 96). Internal aperture diameter: 120 mm. Supplied with approximately 2 m connection cable. Configurable full-scale ranges: 250 A, 500 A, 1,000 A, 2,000 A, or 4,000 A. Accuracy: ±1%.
PFCF023	**FCTS 200-2000 FLEXIBLE SPLIT CORE CURRENT TRANSFORMER** Flexible split-core current transformer with mV output, designed exclusively for Electrex F-series instruments (e.g. Femto D4 F, Exa 96 F, Kilo F, Giga F PQ Box, Exa F D6, and Exa F 96). Internal aperture diameter: 200 mm. Supplied with approximately 2 m connection cable. Configurable full-scale ranges: 250 A, 500 A, 1,000 A, 2,000 A, or 4,000 A. Accuracy: ±1%.
PFCF024	**FCTS 280-4000 FLEXIBLE SPLIT CORE CURRENT TRANSFORMER** Flexible split-core current transformer with mV output, designed exclusively for Electrex F-series instruments (e.g. Femto D4 F, Exa 96 F, Kilo F, Giga F PQ Box, Exa F D6, and Exa F 96). Internal aperture diameter: 280 mm. Supplied with approximately 2 m connection cable. Configurable full-scale ranges: 250 A, 500 A, 1,000 A, 2,000 A, or 4,000 A. Accuracy: ±1%.
NOTE:	**FCTS (Rogowski) current transformers are individually calibrated together with Electrex F-series instruments during factory testing to maximize measurement accuracy. These current transformers are not sold separately and are available only when purchased together with the corresponding Electrex instrument.**

DC CURRENT SHUNTS

Current range from 5 A to 100 A for DC applications



DC current shunts with 0.5% accuracy class and 60 mV voltage drop. The 10 A and 25 A versions are supplied with an insulating plastic mounting base. All models comply with DIN 43703.

Code	Product Description
PFAR070005	**SHUNT 5A 60mV** Accuracy Class 0.5. 60 mV voltage drop. Rated current: 5 A. Supplied with an insulating plastic mounting base. Compliant with DIN 43703. Includes 4 screws and washers. Plastic base dimensions: 135 × 30 × 15 mm. Shunt dimensions: 90 × 20 × 8 mm.
PFARQ70010	**SHUNT 10A 60mV WITH SOCKET** Accuracy Class 0.5. 60 mV voltage drop. Rated current: 10 A. Supplied with an insulating plastic mounting base. Compliant with DIN 43703. Includes 4 screws and washers. Plastic base dimensions: 135 × 30 × 15 mm. Shunt dimensions: 90 × 20 × 8 mm.
PFARQ70025	**SHUNT 25A 60mV WITH SOCKET** Accuracy Class 0.5. 60 mV voltage drop. Rated current: 25 A. Supplied with an insulating plastic mounting base. Compliant with DIN 43703. Includes 4 screws and washers. Plastic base dimensions: 135 × 30 × 15 mm. Shunt dimensions: 90 × 20 × 8 mm.
PFAR070050	**SHUNT 50A 60mV** Accuracy Class 0.5. 60 mV voltage drop. Rated current: 50 A. Supplied without an insulating plastic mounting base. Compliant with DIN 43703. Includes 4 screws, washers, and nuts. Shunt dimensions: 100 × 20 × 8 mm.
PFAR070100	**SHUNT 100A 60mV** Accuracy Class 0.5. 60 mV voltage drop. Rated current: 100 A. Supplied without an insulating plastic mounting base. Compliant with DIN 43703. Includes 4 screws, washers, and nuts. Shunt dimensions: 100 × 20 × 8 mm.
NOTE:	**Current shunts are also available with a 100 mV voltage drop and in additional current ratings ranging from 1 A to 15,000 A.**

SPECIAL RS485 CABLES



Twisted, shielded two-pair RS485 cable for connecting Electrex instruments in an RS485 serial network.

Code	Product Description
CE00103	**RS485 LINE CABLE (100 M)** Twisted and shielded 2 × 2 × 0.22 mm² cable supplied in a 100 m coil. Designed for connecting Electrex instruments in an RS485 network.
CE00105	**RS485 LINE CABLE (500 M)** Twisted and shielded 2 × 2 × 0.22 mm² cable supplied in a 500 m coil. Designed for connecting Electrex instruments in an RS485 network.
CE00107	**RS485 LINE CABLE U (100 M)** Twisted and shielded 2 × 2 × 0.22 mm² underground-rated cable, supplied in a 100 m coil. Designed for connecting Electrex instruments in an RS485 network.
CE00109	**RS485 LINE CABLE U (500 M)** Twisted and shielded 2 × 2 × 0.22 mm² underground-rated cable, supplied in a 500 m coil. Designed for connecting Electrex instruments in an RS485 network.

ACCESSORIES

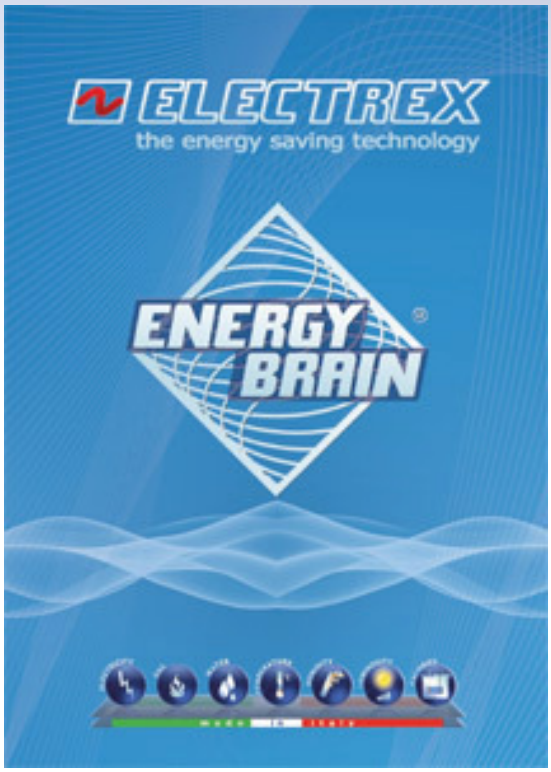
Code	Product Description
PFTP100-P2	**SWITCHING POWER SUPPLY D1 12VDC 800mA** DIN rail switching power supply with 230 Vac input and 12 Vdc output. 1 DIN module width.
PFTP100-Q2	**SWITCHING POWER SUPPLY D1 24VDC 400mA** DIN rail switching power supply with 230 Vac input and 24 Vdc output. 1 DIN module width.
PIT0000-92	**RELE' 2 OUT KIT** Includes 1 switching power supply (code PFTP100-Q2) and 2 SPDT relays (Finder, code 38.51.7.024.0050). Designed to convert two digital outputs (max. 27 V, 27 mA) of Electrex instruments and devices into relay outputs (max. 6 A).
PFAT000-0B	**DECA SENSOR LITHIUM BATTERY** Lithium battery for Deca Sensor multifunction sensors. Non-rechargeable. Operating voltage: 3.6 V. Operating temperature: -55°C to +85°C.
PCALM0-01	**SHORT-CIRCUITABLE TERMINAL BOX FOR CURRENT TRANSFORMER ECT AND ..1/A, ../5A TYPES** Terminal box with short-circuitable terminal block for ECT, ../1 A, and ../5 A current transformers. Box dimensions: 38 × 73 × 20 mm. Not included with Libra.
PCALM0-02	**ECT / FCTS TA CONNECTION BOX** Connection box with terminal block and RJ45 connector for the quick connection of ECT and FCTS current transformers to Libra. Box dimensions: 38 × 73 × 20 mm. Not included with Libra.
PFAT0T0-01	**DECA SENSOR EXTERNAL ENCLOSURE** ABS enclosure for installing Deca Sensor multifunction sensors outdoors in locations exposed to weather conditions. Snap-fit assembly without screws. Supplied with a galvanized steel pole-mount bracket.
PFE950-00	**EXA MID D6 TERMINAL COVER** Terminal cover for wall mounting EXA MID D6 RS485 instruments, codes PFAE6M1-0A and PFAE6M1-QA.
PFE940-00	**C4 DIN** Panel mounting frame for 4 DIN module instruments.
PFE930-00	**C9 DIN** Panel mounting frame for 9 DIN module instruments.
PFC3568	**CABLE EXTENSION 1,0M 2,4GHZ - 868MHZ** 1.0 m extension cable for 2.4 GHz and 868 MHz antennas. Compatible with external antennas PFC3530 and PFC3533. Ideal for relocating the antenna to reduce interference from nearby equipment and improve signal reception.
PFC3569	**CABLE EXTENSION 5,0M 2,4GHZ - 868MHZ** 5.0 m extension cable for 2.4 GHz and 868 MHz antennas. Compatible with external antennas PFC3530 and PFC3533. Ideal for relocating the antenna to reduce interference from nearby equipment and improve signal reception.
PFA180-00	**RPT2 2DI 2+2DO** Digital signal repeater equipped with 2 digital inputs, each duplicated to 2 digital outputs (total 2 inputs / 4 outputs).
PFA300-00	**DC SPLIT 1IN TO 4OUT** Distribution box for splitting a 12/24 Vdc DC input into four ±12 Vdc output supplies (usable as 12 Vdc or 24 Vdc outputs).
PFA350-00	**SWITCHING POWER SUPPLY SIO** Power supply box with RJ45 connector for powering the SIO Bus when cable distances are long or when multiple Milli devices are connected. 12 Vdc input supply.
PCALM0-03	**CLAMP 8 / 2 RJ45 CONNECTION BOX** Connection box designed to simplify wiring, featuring an 8-terminal terminal block on one side and two parallel RJ45 connectors on the other.
PCALM0-04	**RJ45 / 2 RJ45 CONNECTION BOX** Connection box designed to simplify wiring, featuring one RJ45 connector on one side and two parallel RJ45 connectors on the other.

ELECTREX

the energy saving technology

ENERGY BRAIN & ENERGY BRAIN CLOUD

Energy Monitoring Software



cloud

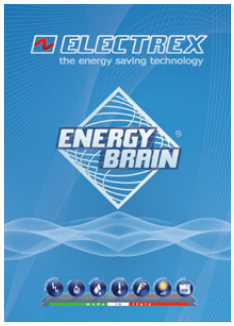
ENERGY BRAIN

made in italy

akse

ENERGY BRAIN

Energy Management and Monitoring Software



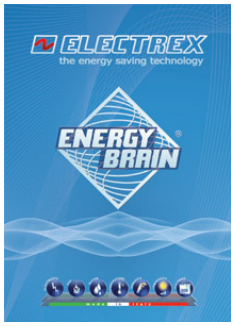
Software for managing field-installed power analyzers and energy monitoring systems, available in Basic and PRO versions for managing 4, 8, 16, 32, 300, or 300+ field devices (license expandable). The software can be upgraded with optional modules for alarm management (Log Report), custom reporting (Personal Report), and historical and real-time data transfer via Web API.
Energy Brain PRO enables the management of Electrex instruments, third-party devices, virtual channels, KPIs, and much more. It can acquire, display, and log not only environmental parameters (temperature, humidity, VOC, CO□, etc.) but also process variables (pressure, flow rate, production count, etc.) and other energy utilities (water, gas, compressed air, etc.). Energy Brain is a scalable and customizable solution for energy monitoring in industrial, commercial, and residential applications, designed to grow with the customer's requirements.

Code	Product Description
PFSW312-PH7	**ENERGY BRAIN 4 7.X HK POSTGRESQL** Energy Brain 7.X software with PostgreSQL database, supporting up to 4 channels for monitoring electricity consumption and other utilities (gas, water, steam, etc.), as well as environmental parameters (lighting level, temperature, thermal energy, compressed air, etc.). Supports historical data management (numerical and graphical reports), real-time measurements, Power Quality data from X3M, calendars, cost centers, data export, and more. Protected by a USB hardware license key. Version 7.X features a redesigned graphical interface, improved processing performance, and support for the latest Electrex devices, including the Kilo Net, Exa Net, Femto ECT Net, Yocto Net D6, Exa RS485, and RS485 Modules families. Virtual channels no longer count toward the licensed channel limit.
PFSW310-PH7	**ENERGY BRAIN 8 7.X HK POSTGRESQL** Energy Brain 7.X software with PostgreSQL database, supporting up to 8 channels for monitoring electricity consumption and other utilities (gas, water, steam, etc.), as well as environmental parameters (lighting level, temperature, thermal energy, compressed air, etc.). Supports historical data management (numerical and graphical reports), real-time measurements, Power Quality data from X3M, calendars, cost centers, data export, and more. Protected by a USB hardware license key. Version 7.X features a redesigned graphical interface, improved processing performance, and support for the latest Electrex devices, including the Kilo Net, Exa Net, Femto ECT Net, Yocto Net D6, Exa RS485, and RS485 Modules families. Virtual channels no longer count toward the licensed channel limit.
PFSW315-PH7	**ENERGY BRAIN 16 7.X HK POSTGRESQL** Energy Brain 7.X software with PostgreSQL database, supporting up to 16 channels for monitoring electricity consumption and other utilities (gas, water, steam, etc.), as well as environmental parameters (lighting level, temperature, thermal energy, compressed air, etc.). Supports historical data management (numerical and graphical reports), real-time measurements, Power Quality data from X3M, calendars, cost centers, data export, and more. Protected by a USB hardware license key. Version 7.X features a redesigned graphical interface, improved processing performance, and support for the latest Electrex devices, including the Kilo Net, Exa Net, Femto ECT Net, Yocto Net D6, Exa RS485, and RS485 Modules families. Virtual channels no longer count toward the licensed channel limit.
PFSW200-PH7	**ENERGY BRAIN 32 7.X HK POSTGRESQL** Energy Brain 7.X software with PostgreSQL database, supporting up to 32 channels for monitoring electricity consumption and other utilities (gas, water, steam, etc.), as well as environmental parameters (lighting level, temperature, thermal energy, compressed air, etc.). Supports historical data management (numerical and graphical reports), real-time measurements, Power Quality data from X3M, calendars, cost centers, data export, and more. Protected by a USB hardware license key. Version 7.X features a redesigned graphical interface, improved processing performance, and support for the latest Electrex devices, including the Kilo Net, Exa Net, Femto ECT Net, Yocto Net D6, Exa RS485, and RS485 Modules families. Virtual channels no longer count toward the licensed channel limit.
PFSW190-PH7	**ENERGY BRAIN 300 7.X HK POSTGRESQL** Energy Brain 7.X software with PostgreSQL database, supporting up to 300 channels for monitoring electricity consumption and other utilities (gas, water, steam, etc.), as well as environmental parameters (lighting level, temperature, thermal energy, compressed air, etc.). Supports historical data management (numerical and graphical reports), real-time measurements, Power Quality data from X3M, calendars, cost centers, data export, and more. Protected by a USB hardware license key. Version 7.X features a redesigned graphical interface, improved processing performance, and support for the latest Electrex devices, including the Kilo Net, Exa Net, Femto ECT Net, Yocto Net D6, Exa RS485, and RS485 Modules families. Virtual channels no longer count toward the licensed channel limit.

Note: The above Energy Brain software versions are also available with a software license (without USB hardware key). Please contact our Sales Department for further information.

ENERGY BRAIN PRO

Energy Management and Monitoring Software



Software for managing field-installed power analyzers and energy monitoring, available in various Standard and PRO versions for managing 4/8/16/32/300/300+ field devices (expandable license). The software can be upgraded with various options for alarm management (Log Report), customized reporting (Personal Report), and the transfer of historical and real-time data through Web API. With Energy Brain PRO, it is possible to manage Electrex devices, third-party devices, virtual channels, KPIs, and much more. In addition to electrical parameters, environmental parameters (temperature, humidity, VOC, CO□, etc.), process variables (pressure, flow rates, production counts, etc.), and other energy utilities (water, gas, compressed air, etc.) can also be displayed and logged. Energy Brain is the ideal solution for energy consumption monitoring in industrial, commercial, and residential environments, fully customizable and scalable to meet evolving customer requirements.

Code	Product Description
PFSWP310-PH7	**ENERGY BRAIN PRO 8 7.X HK POSTGRESQL** Energy Brain Pro 7.X software with PostgreSQL database, supporting up to 8 channels for monitoring electrical energy consumption and other utilities (gas, water, steam, etc.), as well as environmental parameters (lighting level, temperature, heat energy, compressed air, etc.). Provides historical data management (tabular and graphical reports), real-time measurements, power quality analysis, calendars, measurement campaigns, event logs, alarms, cost centers, data export, and more. The Pro version, in addition to the redesigned graphical interface, includes: Multi-tab visualization, Multi-period analysis, Import/Export energy monitoring, Operating time monitoring, Acquired data validation, Acquisition of external archive data (e.g. operating hours, production quantities, baseline/KPI values). Version protected by a USB hardware license key.
PFSWP200-PH7	**ENERGY BRAIN PRO 32 7.X HK POSTGRESQL** Energy Brain Pro 7.X software with PostgreSQL database, supporting up to 32 channels for monitoring electrical energy consumption and other utilities (gas, water, steam, etc.), as well as environmental parameters (lighting level, temperature, heat energy, compressed air, etc.). Provides historical data management (tabular and graphical reports), real-time measurements, power quality analysis, calendars, measurement campaigns, event logs, alarms, cost centers, data export, and more. The Pro version includes: Multi-tab visualization, Multi-period analysis, Import/Export energy monitoring, Operating time monitoring, Acquired data validation, Acquisition of external archive data (e.g. operating hours, production quantities, baseline/KPI values). Version protected by a USB hardware license key.
PFSWP190-PH7	**ENERGY BRAIN PRO 300 7.X HK POSTGRESQL** Energy Brain Pro 7.X software with PostgreSQL database, supporting up to 300 channels for monitoring electrical energy consumption and other utilities (gas, water, steam, etc.), as well as environmental parameters (lighting level, temperature, heat energy, compressed air, etc.). Provides historical data management (tabular and graphical reports), real-time measurements, power quality analysis, calendars, measurement campaigns, event logs, alarms, cost centers, data export, and more. The Pro version includes: Multi-tab visualization, Multi-period analysis, Import/Export energy monitoring, Operating time monitoring, Acquired data validation, Acquisition of external archive data (e.g. operating hours, production quantities, baseline/KPI values). Version protected by a USB hardware license key.
PFSW360-P00	**UPGRADE DA ENERGY BRAIN PRO 300 PER OGNI 100 CANALI AGGIUNTIVI** Expansion license for Energy Brain PRO 300, adding 100 additional channels.
PFAS000-05	**CAMBIO CHIAVE DI PROTEZIONE SK - HK** Replacement of the software license protection with a USB hardware license key, or vice versa.

Note: The Energy Brain software versions listed above are also available with a software license. Please contact our sales department for further information.

Advanced Functions for Energy Brain / Energy Brain Pro

Code	Product Description
PFSW430-00	**OPTION ENERGY BRAIN LOG REPORT** Energy Brain option that enables the automatic sending of emails containing three types of reports. The Download Error Report is particularly useful for users who, for various reasons, are unable to regularly monitor downloaded data. After each data download performed by Energy Brain, an email is automatically sent containing the list of selected devices together with the date of the last successful download. Any errors are highlighted in red, showing the date of the last valid data received and the number of missing records. For example, an error will be reported if an instrument is powered off or cannot be reached.
PFSW400-00	**OPTION ENERGY BRAIN PERSONAL REPORT** Energy Brain option designed for users who want to automate the distribution of energy reports, such as energy consultants. It automatically generates and sends periodic reports (daily, weekly, monthly, and yearly) based on the data stored in the Energy Brain database. Starting from Energy Brain version 5.12, the measurement table included in the report can be configured directly within the software. Reports are exported as Excel files (which can include multiple channels and data from different locations) and can then be formatted using custom templates to add company logos, charts, images, and other customized content.
PFSW470-00	**OPTION ENERGY BRAIN WEB API** Energy Brain Pro option that enables the use of Web APIs (Web Application Programming Interface) to provide fast and efficient access to the Energy Brain Pro database and/or Electrex NET family devices. Requests are performed using HTTP/HTTPS commands. Responses are returned in JSON format and may include: Historical data (e.g., daily imported energy grouped into 15-minute intervals, temperature, humidity, and lux values grouped hourly), Aggregated historical data (overall values for the requested period), Real-time values (e.g., instantaneous power, temperature, counters, etc.). This option greatly simplifies the integration of the Electrex system with third-party applications and devices, enabling seamless communication and interoperability between technologies deployed across industrial facilities and commercial buildings.
PFSW480-00	**OPTION ENERGY BRAIN MQTT** Energy Brain Pro option that enables data acquisition via the MQTT protocol. Messages published to the MQTT broker are encoded in JSON format and include both measurement values and the identifiers required to uniquely identify the Electrex device and the measured variable. To use this feature, Electrex NET family devices must have the NET UPGRADE MQTT (PUK) software option enabled.
PFSWEC0-020	**OPTION ENERGY BRAIN PERSONAL CLOUD** Energy Brain Personal Cloud is a software option that allows users to view and manage, through a standard web browser, the data, real-time measurements, and historical charts acquired from Electrex devices. It is accessible only from the PC on which the Energy Brain Pro license is installed. The platform enables the visualization of electrical energy, temperature, humidity, illuminance, gas, water, steam, CO2, compressed air, thermal energy, and other measured values, as well as values calculated from these measurements (e.g. energy costs in currency). Energy Brain Personal Cloud features a dashboard from which various functions can be managed. The dashboard is built around graphical components called widgets, which allow users to display, according to their preferences: Real-time values, Historical trends, Device status (ON/OFF), Alarms, Other process information. Widgets can be displayed using either standard graphical interfaces or customizable graphical layouts (user-configurable synoptic diagrams).

ENERGY BRAIN CLOUD

Energy Dashboarding platform for local, remote, and cloud-based deployment

Energy Brain Cloud 6.X is the Energy Dashboarding platform for continuous energy monitoring and visualization of energy consumption and production. It enables the implementation of energy efficiency strategies through the collection and processing of data from field sensors. Thanks to Energy Brain Cloud and intelligent sensors and actuators installed on systems and equipment, data from all energy utilities (electrical energy, thermal energy, water, gas, etc.), environmental parameters such as temperature, humidity, particulate matter (PM), CO2, VOCs, as well as technical and process parameters (pressure, fluid temperatures, levels, etc.) are collected and analyzed. The processed data is then automatically made available in real time for viewing and downloading on any device, including smartphones, tablets, and PCs. Cloud technology allows users to access and manage collected data through a standard web browser, eliminating the need to install software on the user's device. Energy Brain Cloud can be deployed on a local computer, installed on a third-party web server, or offered as a cloud service.

Code	Product Description
PFSWEC1-SK6	**ENERGY BRAIN CLOUD 6.X 32 - 100** Energy Brain Cloud 6.X is the Energy Dashboarding platform that allows users to view and manage, via a web browser on PCs, tablets, and smartphones, data, real-time measurements, and historical charts acquired from Electrex devices, including electrical energy, temperature, humidity, luminosity, gas, water, steam, CO2, compressed air, thermal energy (calories), and calculated values derived from these measurements (e.g., costs in Euros). Energy Brain Cloud features a dashboard that supports a wide range of functions. The core elements of the dashboard are graphical components called widgets. Through these widgets, users can display real-time values, historical data, alarms, and more, using standard graphical interfaces or customizable mimic diagrams. Version supporting up to 32 channels and up to 100 users.
PFSWEC2-SK6	**ENERGY BRAIN CLOUD 6.X 300 - 1000** Energy Brain Cloud 6.X is the Energy Dashboarding platform that allows users to view and manage, via a web browser on PCs, tablets, and smartphones, data, real-time measurements, and historical charts acquired from Electrex devices, including electrical energy, temperature, humidity, luminosity, gas, water, steam, CO2, compressed air, thermal energy (calories), and calculated values derived from these measurements (e.g., costs in Euros). Energy Brain Cloud features a dashboard that supports a wide range of functions. The core elements of the dashboard are graphical components called widgets. Through these widgets, users can display real-time values, historical data, alarms, and more, using standard graphical interfaces or customizable mimic diagrams. Version supporting up to 300 channels and up to 1,000 users. .
	ANNUAL ENERGY BRAIN CLOUD REMOTE MONITORING SERVICE Annual remote monitoring and data publishing service on the Energy Brain Cloud platform. Data from the field instrumentation is remotely collected (for example, once per day) and stored, also providing a continuously available backup copy of the acquired data.

GENERAL TERMS AND CONDITIONS OF SALE

1. The customer's order and its acceptance by Akse S.r.l. imply the customer's unconditional acceptance of the terms and conditions set out below.
2. For all payments made by bank collection (Ri.Ba.) or bill of exchange, collection charges and stamp duties will be charged on the invoice.
3. Goods are always shipped at the purchaser's risk, even when supplied carriage paid to destination, including cases where the customer requests Akse S.r.l. to arrange shipment and select the carrier.
4. No claims will be accepted later than 10 days after receipt of the goods. No goods may be returned without the prior consent of Akse S.r.l.. In the event of a justified claim, Akse S.r.l. shall be limited to replacing or repairing the parts acknowledged to be defective, excluding any liability for direct or indirect loss or damage suffered by either the customer or third parties.
5. Any increase or change in transportation costs, customs duties, export or import taxes, fiscal charges, currency exchange rate fluctuations, introduction of export licensing requirements, or partial or total restrictions on import or export activities, as well as any similar circumstances, shall be considered force majeure events and shall entitle Akse S.r.l. to revise prices even before the expiry of the quotation validity period. Please contact us to obtain confirmation of the current quotation for products marked "Price subject to exchange rate fluctuations", as these prices may be subject to change.
6. The stated delivery times reflect current estimates. However, Akse S.r.l. accepts no liability for delays caused by manufacturers, transportation providers, or customs clearance procedures. Under no circumstances shall delayed delivery entitle the purchaser to cancel the order or claim compensation for damages.
7. Payments must be made on the agreed due dates. Unauthorized discounts or rounding adjustments will not be accepted. In the event of late payment, default interest shall automatically accrue in accordance with Italian Legislative Decree No. 192/2012. Akse S.r.l. reserves the right to issue a bill of exchange to recover any overdue and unpaid amounts. All invoices are payable at the address indicated on the invoice. For payment due dates, the invoice date shall be deemed valid. Akse S.r.l. also reserves the right to modify payment terms at any time should it receive notice from credit insurance companies of changes to the customer's approved credit limit.
8. To continuously incorporate technological developments and improve its products, Akse S.r.l. reserves the right to modify the products presented in its price lists, websites, and printed or electronic documentation at any time and without prior notice. Product images are published for illustrative purposes only and do not constitute a contractual commitment.
9. Telephone technical support for software is provided only upon execution of a software maintenance and support agreement.
10. Administrative fees: If the customer requests the preparation of administrative documentation such as DURC certificates, F24 tax forms, certified copies of invoices, or similar documents, an administrative handling fee will be charged to cover processing costs.
11. CONAI environmental contribution has been paid where applicable. Registration numbers: WEEE Register: IT24120000016643 Battery Register: IT241200P00010076
12. In accordance with EU Regulation 2016/679 (GDPR) and applicable legislation, Akse S.r.l. processes collected personal data solely for purposes related to the commercial relationship and does not use such data for any other purpose, as further detailed in the Privacy Policy available on the Electrex website.
13. Any amendments or derogations from these General Terms and Conditions of Sale must be agreed with the customer and accepted in writing in advance by Akse S.r.l.
14. For any dispute or legal matter arising from these terms or from the commercial relationship, the Court of Reggio Emilia (Italy) shall have exclusive jurisdiction.

ELECTREX

the energy saving technology

electrex.it

Electrex è un marchio di AKSE srl / Electrex is a brand of AKSE srl
Via Aldo Moro, 39 - 42124 - Reggio Emilia - Italy
Tel: +39 0522 924244 - info@electrex.it

made in italy