

# Catalogue 2023 - 01



# Catalogue

2023-01





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# **ENERGY ANALYZER & DATA MANAGER**

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**IOE BOX** 



Code Description

# (POWER QUALITY) ENERGY ANALYZER & DATA MANAGER SERIE KILO

HIGH PERFORMANCE (CLASS 0.5S) MICROPROCESSOR INSTRUMENTS (CORTEX-M4 DUAL CORE) WITH OPEN PLATFORM AND ETHERNET, WI-FI, RS485, EXPBUS, NFC CONNECTIVITY. IDEAL FOR CONTINUOUS MONITORING (EX. ISO 50001) AND FOR THE MANAGEMENT OF ENERGY EFFICIENCY PROCESSES (EX. DIRECTIVE 2012-27-EU AND ENERGY EFFICIENCY CERTIFICATES)



#### 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 single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. RJ45 and RS485 slave ports. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3

#### PFNK9-1Q5D9-121

#### KILO NET 96 PQ WEB LOG 16 85+265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB DATA

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

#### PFNK9-1Q5D9-A21

# KILO NET 96 PQ WEB LOG 16 CHARTS 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER &

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts. Accuracy class 0.5S and single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

# PFNK9-1QAD9-121

# KILO NET WI-FI EDA 96 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER &

Power Quality Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna cod. PFC3530 (included). Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 and / or Wi-Fi ports and RS485 port for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3

# PFNK9-1Q5D9-F21

# KILO NET 96 PQ WEB LOG 16 FULL 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 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 single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.





Code Description

# PFNK9-FQ7D9-0MM KILO F F

#### 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 single harmonics up to the 51st order. To be used exclusively with FCTS series flexible split-core CTs (not included). Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. RJ45 and RS485 slave ports. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.



#### PFNK9-FQ5D9-121

#### KILO F NET 96 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with FCTS series flexible split-core CTs (not included). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

#### PFNK9-FQ5D9-A21

#### KILO F NET 96 PQ WEB LOG 16 CHARTS 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER &

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with FCTS series flexible split-core CTs (not included). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

# PFNK9-FQAD9-121

# KILO F NET WI-FI EDA 96 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER

Power Quality Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna cod. PFC3530 (included). Power quality analysis (EN 50160 and EN 61000-4-30). Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with FCTS series flexible split-core CTs (not included). Network bridge between the RJ45 and / or Wi-Fi ports and RS485 port for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

#### PFNK9-FQ5D9-F21

# KILO F NET 96 PQ WEB LOG 16 FULL 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER &

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with FCTS series flexible split-core CTs (not included). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.





Code

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 single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. RJ45 and RS485 slave ports. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.



#### PFNK6-1Q5D9-121

#### KILO NET D6 PQ WEB LOG 16 85+265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

#### PFNK6-1Q5D9-A21

#### KILO NET D6 PQ WEB LOG 16 CHARTS 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER &

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts. Accuracy class 0.5S and single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

# PFNK6-1QAD9-121

# KILO NET WI-FI EDA D6 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER &

Power Quality Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna cod. PFC3530 (included). Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 and / or Wi-Fi ports and the RS485 port for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

#### PFNK6-1Q5D9-F21

# KILO NET D6 PQ WEB LOG 16 FULL 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 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 single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.





Code Description

#### 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 single harmonics up to the 51st order. To be used exclusively with FCTS series flexible split-core CTs (not included). Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. RJ45 and RS485 slave ports. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.



#### PFNK6-FQ5D9-121

#### KILO F NET D6 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER & WEB

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). To be used exclusively with FCTS series flexible split-core CTs (not included). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

#### PFNK6-FQ5D9-A21

#### KILO F NET D6 PQ WEB LOG 16 CHARTS 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER &

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). To be used exclusively with FCTS series flexible split-core CTs (not included). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts. Accuracy class 0.5S and single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

# PFNK6-FQAD9-121

#### KILO F NET WI-FI EDA D6 PQ WEB LOG 16 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER

Power Quality Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna cod. PFC3530 (included). Power quality analysis (EN 50160 and EN 61000-4-30). To be used exclusively with FCTS series flexible split-core CTs (not included). Network bridge between the RJ45 and / or Wi-Fi ports and RS485 port for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web. Accuracy class 0.5S and single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

#### PFNK6-FQ5D9-F21

# KILO F NET D6 PQ WEB LOG 16 FULL 85÷265V 2DI 2DO 4COMMON ENERGY ANALYZER &

Power Quality Energy Analyzer & Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). To be used exclusively with FCTS series flexible split-core CTs (not included). Network bridge between the RJ45 and RS485 ports for modbus communication with Electrex instruments in the subnet. Including the following upgrades: n. 2 PFSU940-01 Log 8, n. 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 single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

**NOTE:** Kilo series devices may also be required in other hardware configurations. To build the code with the different versions, refer to the "Code creation table" or to the product datasheet.

The current transformers of the Kilo and Kilo F series are available in the sections Split series current transformers, Mini series split current transformers and FCTS series flexible split current transformers.





Code Description

# EXA RJ45 & EXA NET EXA F RJ45 & EXA F NET



#### PFNE9-1H709-0M0

#### EXA RJ45 96 H 85÷265V ENERGY ANALYZER & DATA MANAGER

Energy Analyzer & Data Manager. Accuracy class 0.5S and single harmonics up to the 51st order. Data-logging of the load and consumption / production profiles. Battery-powered, perennial clock and non-volatile memory. RJ45 and RS485 slave port. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Remote firmware update. Power supply 85 ÷ 265Vac. Size 96x96. Complies with EN 50470-1 + EN 50470-3.

#### PENE9-1H509-110

#### EXA NET 96 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER

Energy Analyzer & Data Manager. Accuracy class 0.5S and single harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for modbus communication with other Electrex instruments in the subnet and relative data-logging. Including the following upgrades: n. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-powered, perennial clock and non-volatile memory. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Remote firmware update. Power supply 85 ÷ 265Vac. Size 96x96. Complies with EN 50470-1 + EN 50470-3.

#### 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 single harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for modbus communication with other Electrex instruments in the subnet and relative data-logging. Already activated: the storage service (Upgrade Log 8), the visualization from the web page of the measurements (Upgrade Web) and energy graphs (Upgrade Charts). Battery-powered, perennial clock and non-volatile memory. Remote firmware update. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.

# PFNE9-1HA09-110

# EXA 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 cod. PFC3530 (included). Accuracy class 0.5S and single harmonics up to the 51st order. Network bridge between the RJ45 and / or Wi-Fi port and the RS485 port for modbus communication with other Electrex instruments in the subnet. Including the following upgrades: n. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Perennial, battery-powered clock and non-volatile memory. Remote firmware update. LCD graphic display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Size 96x96. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.

# 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 single harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for modbus communication with other Electrex instruments in the subnet and relative storage. Including the following upgrades: n. 1 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Perennial, battery-powered clock and non-volatile memory. Remote firmware update. Graphic LCD display. 1 calibration led. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Guide size 96x96. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.





Code Description

# PFNE9-FH709-0M0 EXA F

# EXA F RJ45 96 H 85÷265V ENERGY ANALYZER & DATA MANAGER

Energy Analyzer & Data Manager. Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with FCTS series flexible split-core CTs (not included). Battery-powered, perennial clock and non-volatile memory. RJ45 and RS485 slave port. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Remote firmware update. Power supply 85 ÷ 265Vac. Size 96x96. Complies with EN 50470-1 + EN 50470-3.



#### PFNE9-FH509-110

#### EXA F NET 96 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER

Energy Analyzer & Data Manager. Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with FCTS series flexible split-core CTs (not included). Network bridge between the RJ45 port and the RS485 port for modbus communication with other Electrex instruments in the subnet and relative data-logging. Including the following upgrades: n. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-powered, perennial clock and non-volatile memory. Graphic LCD display. 1 calibration LED. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. Remote firmware update. Power supply 85 ÷ 265Vac. Size 96x96. Complies with EN 50470-1 + EN 50470-3.





Code Description

# PFNE6-1H709-0M0 EXA RJ

#### EXA RJ45 D6 H 85÷265V ENERGY ANALYZER & DATA MANAGER

Energy Analyzer & Data Manager. Accuracy class 0.5S and single harmonics up to the 51st order. Perennial, battery-powered astronomical clock / calendar and non-volatile memory. Remote firmware update. RJ45 and RS485 slave ports. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Complies with EN 50470-1 + EN 50470-3.



#### 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 single harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for modbus communication with other Electrex instruments in the subnet and relative data-logging. Including the following upgrades: n. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Perennial, battery-powered clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.

#### 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 single harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for modbus communication with other Electrex instruments in the subnet and relative data-logging. Already activated: the storage service (Upgrade Log 8), the visualization from the web page of the measurements (Upgrade Web) and energy graphs (Upgrade Charts). Perennial, battery-powered clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.

# 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 cod. PFC3530 (included). Accuracy class 0.5S and single harmonics up to the 51st order. Network bridge between the RJ45 and / or Wi-Fi port and the RS485 port for modbus communication with other Electrex instruments in the subnet. Including the following upgrades: n. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Perennial, battery-powered clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.

#### 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 single harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for modbus communication with other Electrex instruments in the subnet and relative storage. Including the following upgrades: n. 1 PFSU940-01 Log 8, n. 1 PFSU940-25 Open Log, PFSU940-05 Web, PFSU940-30 Charts, PFSU940-16 Energy Automation, PFSU940-15 Email, PFSU940-20 Calendars. Perennial, battery-powered clock and non-volatile memory. Perennial, battery-powered clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.





Code Description

# PFNE6-FH709-0M0 EXA F

# EXA F RJ45 D6 H 85÷265V ENERGY ANALYZER & DATA MANAGER

Energy Analyzer & Data Manager. Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with FCTS series flexible split-core CTs (not included). Perennial, battery-powered clock and non-volatile memory. Remote firmware update. RJ45 and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply  $85 \div 265$ Vac. Compliant with standard EN 50470-1 + EN 50470-3.



#### PFNE6-FH509-110

# EXA F NET D6 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER

Energy Analyzer & Data Manager. Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with FCTS series flexible split-core CTs (not included). Network bridge between the RJ45 port and the RS485 port for modbus communication with other Electrex instruments in the subnet and relative data-logging. Including the following upgrades: n. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Battery-powered, perennial clock and non-volatile memory. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC equipped. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.

**NOTE:** Exa RJ45, Exa Net, Exa F RJ45 and Exa F Net devices can also be requested in other hardware configurations. For the product codes refer to the "How to order" table or to the data sheet.

The current transformers of Exa RJ45, Exa Net, Exa F RJ45 and Exa F Net series are listed in the Split Series current transformers, Mini Series current transformers and FCTS series flexible split current transformers sections.



# the energy saving technology www.electrex.it - info@electrex.it

#### **Electrex Catalogue**

Code Description

# FEMTO ECT RJ45 FEMTO ECT NET FEMTO 25A D



#### PFN66-EQ7D9-0MM

#### FEMTO ECT RJ45 D6 PQ 85÷265V 2DI2DO 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 single harmonics up to the 51st order. To be used exclusively with ECT external CTs (not included in the package) example cod. PFAE000-01 or PFAE000-02 or PFAE000-03. Battery-powered, perennial clock and non-volatile memory. Remote firmware update. RJ45 and RS485 slave port. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.

#### PEN66-FQ5D9-121

#### FEMTO ECT NET D6 PQ WEB LOG 16 85÷265V 2DI2DO 4COMMON ENERGY ANALYZER &

Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with ECT external CTs (not included in the package) example cod. PFAE000-01 or PFAE000-02 or PFAE000-03. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments in the subnet and relative data-logging. Including the following upgrades: n. 2 PFSU940-01 Log 8, n.1 PFSU940-25 Open Log and n.1 PFSU940-05 Web. Perennial, battery-powered clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.

# PFN66-EQ5D9-A21

#### FEMTO ECT NET D6 PQ WEB LOG 16 CHARTS 85÷265V 2DI2DO 4COMMON ENERGY

Power Quality Energy Analyzer & Web Data Manager. Power quality analysis (EN 50160 and EN 61000-4-30). Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with ECT external CTs (not included in the package) example cod. PFAE000-01 or PFAE000-02 or PFAE000-03. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments in the subnet and relative data-logging. Including the following upgrades: n. 2 PFSU940-01 Log 8, n.1 PFSU940-25 Open Log, n.1 PFSU940-05 Web and n.1 PFSU940-30 Charts. Perennial, battery-powered clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN

#### PFN66-EQAD9-121

# FEMTO ECT NET WI-FI EDA D6 PQ WEB LOG 16 85÷265V 2DI2DO 4COMMON ENERGY

Power Quality Energy Analyzer & Wi-Fi Web Data Manager with Wi-Fi communication via external antenna cod. PFC3530 (included). Power quality analysis (EN 50160 and EN 61000-4-30). Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with ECT external CTs (not included in the package) example cod. PFAE000-01 or PFAE000-02 or PFAE000-03. Network bridge between the RJ45 and/or Wi-Fi ports and the RS485 port for Modbus communication with other Electrex instruments in the subnet and relative data-logging. Including the following upgrades: n. 2 PFSU940-01 Log 8, n.1 PFSU940-25 Open Log and n.1 PFSU940-05 Web. Perennial, battery-powered clock and non-volatile memory. Remote firmware update. Graphic LCD display. 2 digital inputs and 2 digital outputs with separate common. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. DIN rail size 6 modules.

# PFN66-EH709-0M0

# FEMTO ECT RJ45 D6 H 85÷265V ENERGY ANALYZER & DATA MANAGER

Energy Analyzer & Data Manager. Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with ECT external CTs (not included in the package) example cod. PFAE000-01 or PFAE000-02 or PFAE000-03. Battery-powered, perennial clock and non-volatile memory. Remote firmware update. RJ45 and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3

# PFN66-EH709-0M0

# FEMTO ECT RJ45 D6 H 85÷265V ENERGY ANALYZER & DATA MANAGER

Energy Analyzer & Data Manager. Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with ECT external CTs (not included in the package) example cod. PFAE000-01 or PFAE000-02 or PFAE000-03. Battery-powered, perennial clock and non-volatile memory. Remote firmware update. RJ45 and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.





Code

Description

#### 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 single harmonics up to the 51st order. To be used exclusively with ECT external CTs (not included in the package) example cod. PFAE000-01 or PFAE000-02 or PFAE000-03. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments in the subnet and relative data-logging. Including the following upgrades: n. 1 PFSU940-01 Log 8 and n.1 PFSU940-05 Web. Perennial, battery-powered 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. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.

#### PFN66-EHA09-110

#### FEMTO ECT NET WI-FI EDA D6 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA

Energy Analyzer & Web Data Manager with Wi-Fi communication via external antenna cod. PFC3530 (included). Accuracy class 0.5S and single harmonics up to the 51st order. To be used exclusively with ECT external CTs (not included in the package) example cod. PFAE000-01 or PFAE000-02 or PFAE000-03. Network bridge between the RJ45 port and the RS485 port for modbus communication with other Electrex instruments in the subnet and relative data-logging. Including the following upgrades: n. 1 PFSU940-01 Log 8 and PFSU940-05 Web. Perennial, battery-powered 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. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.



#### PFN66-DH709-0M0

#### FEMTO 25A D RJ45 D6 H 85÷265V ENERGY ANALYZER

Energy Analyzer & Data Manager with direct measurement of alternating current up to 25A. Accuracy class 0.5S and single harmonics up to the 51st order. Battery-powered, perennial clock and non-volatile memory. Remote firmware update. RJ45 and RS485 slave port. Graphic LCD display. Remote firmware update. RJ45 and RS485 slave port. Graphic LCD display. 2 calibration LEDs. ExpBus for external devices (inputs and outputs, environmental sensors). NFC connectivity. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.

# PFN66-DH509-110

# FEMTO 25A D NET D6 H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA MANAGER

Energy Analyzer & Data Manager with direct measurement of alternating current up to 25A. Accuracy class 0.5S and single harmonics up to the 51st order. Network bridge between the RJ45 port and the RS485 port for Modbus communication with other Electrex instruments in the subnet and relative data-logging. Including the following upgrades: n. 1 PFSU940-01 Log 8 and n.1 PFSU940-05 Web. Perennial, battery-powered 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. DIN rail size 6 modules. Power supply 85 ÷ 265Vac. Compliant with standard EN 50470-1 + EN 50470-3.





Code Description

# VERSIONS FOR MEASURING (DC) DIRECT CURRENT ENERGY - HALL EFFECT



#### 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 current transducers [not included in the package]). Dot matrix FSTN display. Measurement of voltage, current, power and energy, maximum and minimum voltage and maximum current. Reading of internal registers from RJ45 port with Modbus / TCP protocol. Battery-powered perennial astronomical clock / calendar and non-volatile industrial type memory for recording load and consumption / production curves. Web and FTP server. Other functions can be activated by PUK code. Remote firmware update. Equipped with NFC (Near Field Communication) technology. DIN rail size 6 modules. Separate, extended range power supply 85 ÷ 265Vac / 100 ÷ 374Vdc.

#### PEN66-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 openable current transducers [not included in the package]). Dot matrix FSTN display. Measurement of voltage, current, power and energy, maximum and minimum voltage and maximum current. Reading of internal registers with Modbus / TCP protocol. Network bridge between RJ45 port and RS485 port for communication and acquisition in Modbus from Electrex instruments in the subnet. Battery-powered, perennial astronomical clock / calendar and non-volatile industrial type memory. Includes Upgrade Log 8 for the logging of the load profile and energy consumed/produced, Upgrade WEB for displaying live measurements on the web interface. Web and FTP server. Remote firmware update. NFC (Near Field Communication) technology. DIN rail size 6 modules. Separate, extended range power supply 85 ÷ 265Vac / 100 ÷ 374Vdc.

# PFN66-H0509-A10

# FEMTO 4HALL NET D6 DC WEB LOG 8 CHARTS 85-265V ENERGY ANALYZER & WEB DATA

DC Energy Analyzer & Web Data Manager with RJ45 Ethernet port. DC current monitoring (four inputs for CTS DC Hall series openable current transducers [not included in the package]). Dot matrix FSTN display. Measurement of voltage, current, power and energy, maximum and minimum voltage and maximum current. Reading of internal registers with Modbus / TCP protocol. Network bridge between RJ45 port and RS485 port for communication and acquisition in Modbus from Electrex instruments in the subnet. Battery-powered, perennial astronomical clock / calendar and non-volatile industrial type memory. Includes Upgrade Log 8 for the logging of the load profile and energy consumed/produced, Upgrade Web and Charts for displaying live measurements and historical data (graphs) on the web interface. Web and FTP server. Remote firmware update. NFC (Near Field Communication) technology. DIN rail size 6 modules. Separate, extended range power

#### PFN66-H0A09-110

#### FEMTO 4HALL NET WI-FI EDA D6 DC WEB LOG 8 85-265V ENERGY ANALYZER & WEB DATA

DC Energy Analyzer & Wi-Fi Web Data Manager with with Wi-Fi communication via external antenna cod. PFC3530 (included). DC current monitoring (four inputs for CTS DC Hall series openable current transducers [not included in the package]). Dot matrix FSTN display. Measurement of voltage, current, power and energy, maximum and minimum voltage and maximum current. Reading of internal registers with Modbus / TCP protocol. Network bridge between RJ45 port and RS485 port for communication and acquisition in Modbus from Electrex instruments in the subnet. Battery-powered, perennial astronomical clock / calendar and non-volatile industrial type memory. Includes Upgrade Log 8 for the logging of the load profile and energy consumed/produced, Upgrade WEB for displaying live measurements on the web interface. Web and FTP server. Remote firmware update. NFC (Near Field Communication) technology. DIN rail size 6 modules. Separate, extended

NOTE: The FEMTO 4HALL series is also available with a 18÷60VDC power supply at no additional cost.





Code Description

#### LYRA SERIES



#### 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 with a format / case suitable for wall installations or panels where there is no space in the DIN rail. Measures electrical parameters in Low Voltage applications and serves as datalogger of various other energy carriers. The device also measures individual harmonics up to the 51st order. Uses exclusively Electrex ECT Current Transformers. It is equipped with connectors for connections to the Ethernet network, for the Electrex environmental sensors and in order to connect the Lyra ECT RS485 Two Energy Analyzer and / or the Lyra I-O and / or other RS485 Modbus RTU devices to the RS485 network. Available also in a battery powered version.

#### PFALT-EHA090-110

#### LYRA ECT NET WI-FI EDA H WEB LOG 8 85÷265V ENERGY ANALYZER & WEB DATA

Lyra ECT Net H is an Energy Analyzer & Wi-Fi Web Data Manager. Wi-Fi communication via external antenna cod. PFC3530 (included). Format / case suitable for wall installations or panels where there is no space in the DIN rail. Measures electrical parameters in Low Voltage applications and serves as datalogger of various other energy carriers. The device also measures individual harmonics up to the 51st order. Uses exclusively Electrex ECT Current Transformers. It is equipped with connectors for connections to the Ethernet network, for the Electrex environmental sensors and in order to connect the Lyra ECT RS485 Two Energy Analyzer and / or the Lyra I-O and / or other RS485 Modbus RTU devices to the RS485 network. Available also in a battery powered version.





Code Description

### GATEWAY FOR MONITORING NETWORKS, REMOTE MANAGEMENT, INPUTS / OUTPUTS

GATEWAY FOR THE REMOTE MANAGEMENT OF ELECTREX DEVICES AND SYSTEMS. DIGITAL AND ANALOG INPUTS / OUTPUTS, ETHERNET, RS485, WIRELESS, MOBILE COMMUNICATION. AUTOMATED EMAIL / SMS ALARMS AND NOTIFICATIONS. REMOTE READING AND DATALOGGING OF MEASUREMENTS MADE FROM SLAVE NODES. ONLINE WEB DISPLAY OF LIVE AND HISTORICAL DATA FROM SLAVE NODES.



#### PFNY6-00509-100

#### YOCTO NET D6 WEB 85÷265V WEB DATA MANAGER

Network bridge between the Ethernet network and the RS485 line for communication and data collection of Electrex devices. FSTN graphic display. Astronomical and perpetual clock/calendar, battery powered and non-volatile, industrial type memory. Remote firmware update. Built-in WEB Server including Upgrade Web option: standard web pages for real-time measures displaying. Other functions can be activated via firmware upgrade (PUK entry). FTP Server. ExpBus, high speed communication, port for external devices (inputs and outputs modules, and environmental sensors). Equipped with NFC technology. Size: 6 DIN modules. Power supply 85÷265V/100÷374VDC.

#### PFNY6-005D9-110

#### YOCTO NET D6 WEB LOG 8 85÷265V 2DI 2DO 4COMMON WEB DATA MANAGER

Network bridge between the Ethernet network and the RS485 line for communication and data-logging of Electrex devices. FSTN graphic display. Perennial, battery-powered astronomical clock / calendar and industrial-type non-volatile memory. Remote firmware update. Already activated one Log 8 logging service (log of self internal inputs and other 7 Electrex instruments connected in a sub-network, power / energy and relative digital inputs). Web server with Web Upgrade option: standard web pages for real-time measures displaying. FTP Server. 2 digital inputs and 2 digital outputs with separate common. ExpBus, high speed communication, port for external devices (inputs and outputs modules, and environmental sensors). NFC technology. Size: 6 DIN modules. Power supply 85÷265V/100÷374VDC.

# 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 ports and the RS485 port for communication and data-logging of Electrex devices. Wi-Fi via external antenna cod. PFC3530 (included); compatible with IEEE 802.11b / g / n. FSTN graphic display. Perennial, battery-powered astronomical clock / calendar and industrial-type non-volatile memory. Remote firmware update. Already activated one Log 8 logging service (log of self internal inputs and other 7 Electrex instruments connected in a sub-network, power / energy and relative digital inputs). Web server with Web Upgrade option: standard web pages for real-time measures displaying. FTP Server. 2 digital inputs and 2 digital outputs with separate common. ExpBus, high speed communication, port for external devices (inputs and outputs modules, and environmental sensors). NFC technology. Size: 6 DIN modules. Power supply 85÷265V/100÷374VDC.

#### PFNY6-005D9-A10

# YOCTO NET D6 WEB LOG 8 CHARTS 85-265V 2DI 2DO 4COMMON WEB DATA MANAGER

Network bridge between the Ethernet network and the RS485 line for communication and data-logging of Electrex devices. FSTN graphic display. Perennial, battery-powered astronomical clock / calendar and industrial-type non-volatile memory. Remote firmware update. Already activated one Log 8 logging service (log of self internal inputs and other 7 Electrex instruments connected in a sub-network, power / energy and relative digital inputs). Web server with Upgrade Web and Charts for displaying live measurements and historical data (graphs) on the web interface. FTP Server. 2 digital inputs and 2 digital outputs with separate common. ExpBus, high speed communication, port for external devices (inputs and outputs modules, and environmental sensors). NFC technology. Size: 6 DIN modules. Power supply 85÷265V/100÷374VDC.

# PFNY6-005D9-F10

# YOCTO NET D6 WEB LOG 8 FULL 85÷265V 2DI 2DO 4COMMON WEB DATA MANAGER

Network bridge between the Ethernet network and the RS485 line for communication and data-logging of Electrex devices. FSTN graphic display. Perennial, battery-powered astronomical clock / calendar and industrial-type non-volatile memory. Remote firmware update. Already activated one Log 8 logging service (log of self internal inputs and other 7 Electrex instruments connected in a sub-network, power / energy and relative digital inputs). Web server with Upgrade Web and Charts for displaying live measurements and historical data (graphs) on the web interface and options Energy Automation, Calendars ed Email. FTP Server. 2 digital inputs and 2 digital outputs with separate common. ExpBus, high speed communication, port for external devices (inputs and outputs modules, and environmental sensors). NFC technology. Size: 6 DIN modules. Power supply 85÷265V/100÷374VDC.

# PFNY6-005D9-150

# YOCTO NET D6 WEB LOG 40 85÷265V 2DI 2DO 4COMMON WEB DATA MANAGER

Network bridge between the Ethernet network and the RS485 line for communication and data-logging of Electrex devices. FSTN graphic display. Astronomical and perpetual clock/calendar, battery powered and non-volatile, industrial type memory. Remote firmware update. Built-in WEB Server including Upgrade Web option: standard web pages for real-time measures displaying. Already activated 5 x Log 8 logging service (log of self internal inputs and other 39 Electrex instruments connected in a sub-network, power / energy and relative digital inputs). FTP Server. 2 digital inputs and 2 digital outputs with separate common. ExpBus, high speed communication, port for external devices (inputs and outputs modules, and environmental sensors). Equipped with NFC technology. Size of 6 DIN modules. Power supply 85÷265V/100÷374VDC.





Code

Description

#### KIT PQ ENERGY ANALYZER

KITS INCLUDING A POWER QUALITY ENERGY ANALYZER & WEB DATA MANAGER AND THE ENERGY MANAGEMENT SOFTWARE ENERGY BRAIN



#### PFAK914-117

#### EB 8 6.X KIT KILO NET 96 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON

Kit containing: 1 Code PFNK9-1Q5D9-A21 Kilo net 96 PQ Web Charts 85 ÷ 265V 2DI 2DO 4COMMON 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-PH6 Software Energy Brain 8 6.X HK PostgreSQL.

#### PFAKP914-117

#### EB PRO 8 6.X KIT KILO NET 96 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON

Kit containing: 1 Code PFNK9-1Q5D9-A21 Kilo net 96 PQ Web Charts 85 ÷ 265V 2DI 2DO 4COMMON 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-PH6 Software Energy Brain PRO 8 6.X HK PostgreSQL.

# PFAK91F-117

# EB 8 6.X KIT KILO F NET 96 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON

Kit containing: 1 Code PFNK9-FQ5D9-A21 Kilo F net 96 PQ Web Charts  $85 \div 265$ V 2DI 2DO 4COMMON 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-PH6 Software Energy Brain 8 6.X HK PostgreSQL.

#### PFAKP91F-117

# EB PRO 8 6.X KIT KILO F NET 96 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON

Kit containing: 1 Code PFNK9-FQ5D9-A21 Kilo F net 96 PQ Web Charts 85 ÷ 265V 2DI 2DO 4COMMON 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-PH6 Software Energy Brain PRO 8 6.X HK PostgreSQL.

# PFAK614-117

# EB 8 6.X KIT KILO NET D6 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON

Kit containing: 1 Code PFNK6-1Q5D9-A21 Kilo net D6 PQ Web Charts  $85 \div 265V$  2DI 2DO 4COMMON 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-PH6 Software Energy Brain 86.X HK PostgreSQL.

# PFAKP614-117

# EB PRO 8 6.X KIT KILO NET D6 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON

Kit containing: 1 Code PFNK6-1Q5D9-A21 Kilo net D6 PQ Web Charts 85 ÷ 265V 2DI 2DO 4COMMON 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-PH6 Software Energy Brain PRO 8 6.X HK PostgreSQL.





Code Description

#### PFAK61F-117

#### EB 8 6.X KIT KILO F NET D6 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON

Kit containing: 1 Code PFNK6-FQ5D9-A21 Kilo F net D6 PQ Web Charts  $85 \div 265$ V 2DI 2DO 4COMMON 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-PH6 Software Energy Brain 8 6.X HK PostgreSQL.



#### PFAKP61F-117

#### EB PRO 8 6.X KIT KILO F NET D6 PQ WEB LOG 16 CHARTS 2DI 2DO 4COMMON

Kit containing: 1 Code PFNK6-FQ5D9-A21 Kilo F net D6 PQ Web Charts  $85 \div 265V$  2DI 2DO 4COMMON 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-PH6 Software Energy Brain PRO 8 6.X HK PostgreSQL.

#### PFAK61E-117

#### EB 8 6.X KIT FEMTO ECT NET D6 PQ WEB CHARTS 2DI 2DO 4COMMON

Kit containing: 1 Code PFN66-EQ5D9-A21 Femto ECT net D6 PQ Web Charts  $85 \div 265 \lor 2D1 2D0 4COMMON$  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-PH6 Software Energy Brain 8 6.X HK PostgreSQL.

# PFAKP61E-117

# EB PRO 8 6.X KIT FEMTO ECT NET D6 PQ WEB CHARTS 2DI 2DO 4COMMON

Kit containing: 1 Code PFN66-EQ5D9-A21 Femto ECT net D6 PQ Web Charts  $85 \div 265 \lor 2D1 2DO 4COMMON$  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-PH6 Software Energy Brain PRO 8 6.X HK PostgreSQL.





Code

Description

#### **PORTABLE DEVICES**

TRANSPORTABLE POWER QUALITY ENERGY ANALYZER & WEB DATA MANAGER FOR TEMPORARY MONITORING OF THE QUANTITY AND QUALITY OF ELECTRIC ENERGY.



#### PKAR100-00

#### GIGA PQ BOX 85÷265V NET WEB CHARTS

Power Quality Energy Analyzer & Web Data Manager transportable for temporary monitoring of electric energy (quantity and quality). Version for use with split / closed ring CT or clamps with secondary .. / 1A or .. / 5A (not included). In addition to the instrument Giga PQ Box Net Web includes also the software Energy Brain 4 PostgreSQL which, in addition to the pre-loaded options provided by the internal web server (Log 8 + Log 8, Web, Charts and two Open log services) allows to simplify the configuration, data download and analysis of instantaneous measurements and historical trends (graphs and tables). The connection to the PC can be done directly via the Ethernet cable and or remotely via the Internet (option UPS Router Giga Box). Complies with EN 50470-1 + EN 50470-3.

#### PKAR101-00

#### GIGA F PQ BOX 85÷265V NET WEB CHARTS

Power Quality Energy Analyzer & Web Data Manager transportable for temporary monitoring of electric energy (quantity and quality). Version exclusively for use with the Electrex split, flexible CT series FCTS (not included). In addition to the instrument Giga PQ Box Net Web includes also the software Energy Brain 4 PostgreSQL which, in addition to the pre-loaded options provided by the internal web server (Log 8 + Log 8 + Log 8, Web, Charts and two Open log services) allows to simplify the configuration, data download and analysis of instantaneous measurements and historical trends (graphs and tables). The connection to the PC can be done directly via the Ethernet cable and or remotely via the Internet (option UPS Router Giga Box). Complies with EN 50470-1 + EN 50470-3.

# PKAR103-00

# GIGA ECT PQ BOX 85÷265V NET WEB CHARTS

Power Quality Energy Analyzer & Web Data Manager transportable for temporary monitoring of electric energy (quantity and quality). Version exclusively for use with the Electrex ECT series CTs (not included) which have greater precision on small currents.. In addition to the instrument Giga PQ Box Net Web includes also the software Energy Brain 4 PostgreSQL which, in addition to the pre-loaded options provided by the internal web server (Log 8 + Log 8 + Log 8, Web, Charts and two Open log services) allows to simplify the configuration, data download and analysis of instantaneous measurements and historical trends (graphs and tables). The connection to the PC can be done directly via the Ethernet cable and or remotely via the Internet (option UPS Router Giga Box). Complies with EN 50470-1 + EN 50470-3.

#### PKAR102-00

#### **UPS ROUTER GIGA BOX**

Kit in watertight case with safety locks, double-step (very thick surface to ensure shock resistance) consisting of: single-phase UPS 500VA with two output sockets 230Vac for blackout protection, a battery 12 Vdc 4,5Ah. Autonomy of more than 5 hours, typical charging time of 4 hours. Wireless WI-FI Router with 3G UMTS and Ethernet port. HSPA+ Internal Modem up to 21Mbps download. Internal slot for the SIM card. 4 Ethernet ports 10 / 100Mbps. Features: reboot and status via SMS. OpenVPN, IPSec and Dynamic DNS integrated. Setup via Web browser. Built-in firewall. Including: External Antenna Wireless LAN, GSM antenna with 2m cable. Pre configured to connect to the Electrex instruments.





Code Description

#### **LIBRA AUTOMATION PANEL**

COMPACT AND INTEGRATED SYSTEM, EASY TO INSTALL, CUSTOMIZABLE AND DESIGNED TO HOUSE ONE OR MORE MEASUREMENT GROUPS OF ELECTRICAL AND ENVIRONMENTAL PARAMETERS AND / OR MODULES WITH DIGITAL, ANALOGUE INPUTS OR OUTPUTS, ETC ...



#### LIBRA ENERGY AUTOMATION PANEL

Libra container designed to house Electrex instruments, the first instrument that will act as system head, data logger and network bridge must be from the Net family

Eventual other additional instruments should be chosen from those listed in the Electrex catalog. Including cable for power and voltage connections (2 m).

Prices of the instruments for the composition of the Libra as per the price list in force.

Quotazione su richiesta

Quotazione

su

richiesta

#### LIBRA ENERGY AUTOMATION PANEL BATTERIZZATO

Libra container designed to house Electrex instruments, complete with built-in battery to ensure continuity in data acquisition even in the event of short period power outages.

The first instrument that will act as system head, data logger and network bridge must be from the

Eventual other additional instruments should be chosen from those listed in the Electrex catalog. Including cable for power and voltage connections (2 m).

Prices of the instruments for the composition of the Libra as per the price list in force.

# LIBRA SINGLE DEVICE WIRING

Unit cost for the wiring of each of the instruments included in the Libra.

Quotazione su richiesta

NOTE: we are available to provide the necessary support to create the Libra solution that best suits your needs.





#### Code Description

# UPGRADES FOR THE KILO NET, EXA NET, FEMTO NET, LYRA, YOCTO NET

UPGRADES ALLOWING TO EXPAND THE FUNCTIONS OF THE KILO NET, EXA NET, LYRA E YOCTO NET SERIES



#### PFSU940-84

#### **UPGRADE RJ45 VERSION TO NET WEB VERSION (PUK)**

Software implementation through PUK code. Transforms the devices Exa, Exa F, Femto ECT and Femto 25A D from the RJ45 version to the Net Web version. The Net Web version allows to display on

web pages and log the measurements of Electrex devices connected in the Rs485 subnetwork.

#### PFSU940-81

#### **UPGRADE H TO PQ VERSION (PUK)**

Software implementation through PUK code entry. Transforms the Exa RJ45 D6 H, Exa Net D6 H, Femto ECT D6 H and Femto 25A D D6 H in Exa RJ45 D6 PQ, Exa Net D6 PQ, Femto ECT D6 PQ and Femto 25A D D6 PQ. The PQ version allows you to configure and store events, classify them and

activate measurement campaigns.

It is necessary that on the instrument has been previously installed the implementation cod. PFSU940-85 Upgrade to H version.

# PFSU940-82

#### UPGRADE RJ45 PQ TO NET PQ WEB VERSION (PUK)

Software implementation through PUK code entry. Transforms the Kilo RJ45 D6 PQ in Kilo Net D6 PQ and the Kilo F RJ45 D6 PQ in Kilo F Net D6 PQ. The Net Web version allows to display on web pages and log the measurements of Electrex devices connected in the Rs485 subnetwork. On request it is available also for the Exa D6 RJ45, Exa D6 Net, Femto ECT D6 and Femto 25A D D6 in the PQ versions.

#### PFSU940-86

# **NET UPGRADE NET TO MASTER VERSION (PUK)**

Software implementation through PUK code entry. Transforms the Kilo net, Exa net, Femto ECT net, Femto 25A D net and Yocto net D6 in the Master version. The Master version allows to communicate with all the Electrex devices connected to the same Ethernet network.

# PFSU940-01

# **NET UPGRADE LOG 8 (PUK)**

Software implementation through PUK code entry. Adds 1 storage service, Log 8, to the Kilo net, Exa net, Femto ECT net and Yocto net D6 product series. It is possible to manage up to a maximum of 8 storage services for each Kilo net, Exa net, Femto ECT net and Yocto net D6.

# PFSU940-02

# **NET UPGRADE LOG 16 (PUK)**

Software implementation through PUK code entry. Doubbles the capacity of the storage services from Log 8 to Log 16. Available for the Kilo net and Yocto net D6 only.





#### Code Description

#### PFSU940-10

#### **NET UPGRADE OPEN WEB (PUK)**

Software implementation through PUK code entry. Adds to the product families Kilo net, Exa net, Femto ECT net, Femto 25A D net, Yocto net D6, Libra net e Lyra net the possibility to create custom web pages.

NOTE: on request the web pages can be programmed by our staff following the specifications of the customer (the cost of the programming and customization is not included in the cost of the software implementation).



#### PFSU940-30

#### **NET UPGRADE CHARTS (PUK)**

Software implementation through PUK code entry. Allows to display on a web page charts and graphs, with configurable intervals, of electricity, temperature, humidity, luminosity, etc. obtained from the files stored in the Kilo net, Exa net, Femto ECT net, Femto 25A D net and Yocto net D6 with the possibility to export to CSV files.

#### PFSU940-25

#### **NET UPGRADE OPEN LOG (PUK)**

Software implementation through PUK code entry. Allows to modify an existing logging service Log 8 in the Kilo net, Exa net, Femto ECT net, Femto 25A D net and Yocto net D6. For example for running measurement campaigns and / or increase / decrease the sampling frequency and the number of days logged.

# PFSU940-15

#### **NET UPGRADE EMAIL (PUK)**

Software implementation through PUK code entry. Adds to the product families Kilo net, Exa net, Femto ECT net, Femto 25A D net and Yocto net D6 the ability to send email notifications/alarms related to parameters measured from the device (Modbus registers or input status).

In the Net version of the devices, using the upgrade Energy Automation, it is possible to extend this functionality also for parameters retrieved from devices connected in a sub network via Rs485.

#### PFSU940-17

# **NET UPGRADE SMS (PUK)**

Software implementation through PUK code entry. Adds to the product families Kilo net, Exa net, Femto ECT net, Femto 25A D net and Yocto net D6 the ability to send SMS notifications/alarms related to parameters measured from the device (Modbus registers or input status). A router Wi-Fi UMTS cod. PFC3510 with data SIM card is needed.

In the Net version of the devices, using the upgrade Energy Automation, it is possible to extend this functionality also for parameters retrieved from devices connected in a sub network via Rs48

# PFSU940-16

# **NET UPGRADE ENERGY AUTOMATION (PUK)**

Software implementation through PUK code entry. Allows to program, via the web interface of the Kilo net, Exa net, Femto ECT net, Femto 25A D net and Yocto net D6 Energy Automation applications for simple or complex taks such as ON/OFF switching, alarms/notifications and automations conditioned from events in order to assure a higher energy efficiency of the systems. Adding the Calendars upgrade it is possible to schedule the automation tasks using customizable calendars. While adding the Email / SMS upgrade it is possible to integrate also the sending of e-mail and/or SMS.

# PFSU940-20

# NET UPGRADE CALENDARS (PUK)

Software implementation through PUK code entry. Adds to the product families Kilo D6, Exa Rj45 and net, Femto ECT Rj45 and net, Femto 25A D Rj45 and net, Yocto net D6 the possibility to edit customizable calendars. It is possible to integrate these calendars with the Energy Automation upgrade in order to manage also complex automation tasks.





#### Code Description

#### PFSU940-22

#### NET UPGRADE BUNDLE ENERGY AUTOMATION, CALENDARS, EMAIL (PUK)

Bundle including the software implementations (PUK): cod. PFSU940-16 Net Upgrade Energy Automation, PFSU940-20 Net Upgrade Calendars and PFSU940-15 Net Upgrade email. Allows to program, via the web interface of the Kilo net, Exa net, Femto ECT net, Femto 25A D net, Yocto net D6, Giga Box, Libra net and Lyra ECT net. Energy Automation applications for simple or complex taks such as ON/OFF switching, alarms/notifications and automations conditioned from events in order to assure a higher energy efficiency of the systems. With Calendars it is possible to use costumized calendars for the energy automation programing. With Email it is possible to send notification and alarms



#### PFSU940-23

#### NET UPGRADE BUNDLE ENERGY AUTOMATION, CALENDARS, EMAIL, SMS (PUK)

Bundle including the software implementations (PUK): cod. PFSU940-16 Net Upgrade Energy Automation, PFSU940-20 Net Upgrade Calendars and PFSU940-15 Net Upgrade email and PFSU940-17 Net Upgrade SMS. Allows to program, via the web interface of the Kilo net, Exa net, Femto ECT net, Femto 25A D net, Yocto net D6, Giga Box, Libra net and Lyra ECT net. Energy Automation applications for simple or complex taks such as ON/OFF switching, alarms/notifications and automations conditioned from events in order to assure a higher energy efficiency of the systems. With Calendars it is possible to use costumized calendars for the energy automation programing. With Email it is possible to send notifications and alarms. With SMS using a Router Wi-Fi UMTS and SIM card it is possible to send notifications / alarms.

#### PFSU940-50

#### **NET UPGRADE SENDING FILES (PUK)**

Software implementation through PUK code entry. Adds to the product families Kilo net, Exa net, Femto ECT net, Femto 25A D net, Yocto net D6 Libra net and Lyra net the possibility to send data automatically using a scheduler toward other sistem. Two different functions are available: "FTP report" and "HTTP report". "FTP report" allows to export data stored by the logging services in standard XML file (customizable on request) on a FTP server. "HTTP report" allows to send via http or https POST a json string dynamically generated starting from a (template) "model" stored in file. In the json string can be added values taken from Automation script variables. Both functions need the software implementation. Energy Automation that allows to relate the sending of the file with also complex events / scenarios.

# PFSU940-58

#### **NET UPGRADE MQTT (PUK)**

Software implementation by PUK code. Adds to Exa net, Femto ECT net, Femto 25A D net, Yocto net D6, Libra net and Lyra net the possibility to send data via MQTT protocol. The messages sent to the MQTT broker are json coded and contain the measures and the identifiers that allows to trace the single instrument that measured them as well as the measured variable. The group of the sent measures is configurable. It is possible to use an encrypted connection (TLS).

#### PFSU940-60

# **NET UPGRADE WEB API (PUK)**

Software implementation using PUK code. Adds to the families Kilo net, Exa net, Femto ECT net, Femto 25A D net, Yocto net D6, Libra net and Lyra net the ability to quickly and effectively access, via HTTP commands formatted JSON, to the instantaneous measurements acquired by the instruments.

# PFSU940-40

# **NET UPGRADE NEW FEATURES**

New firmware versions upgrade for the Kilo net, Exa net, Femto ECT net, Femto 25A D net and Yocto

net D6 adding new functions on the device.





# Code Description

#### **NET WI-FI EDA VERSION**

Additional cost to order an Exa RJ45 or an Exa Net or Exa F RJ45 or an Exa F Net with Wi-Fi communication via external antenna cod. PFC3530 (included).

For building the code with Wi-Fi communication refer to "Code creation table".

#### NET 4PT100, 4PT1000, 4NTC, 2AO4-20mA VERSIONS

Additional cost to order a Kilo Net, Exa Net, Femto Net, Lyra, Yocto Net in the versions with analog inputs for PT100, PT1000, NTC or 4-20mA analog outputs.

For building the code with the different version of inputs / outputs refer to "Code creation table".

#### **NET 4AI VERSION**

Additional cost to order a Kilo Net, Exa Net, Femto Net, Lyra, Yocto Net with 4Al analog inputs.

For building the code with the different version of inputs / outputs refer to "Code creation table".

# NET SI, 4DO 4COMMON, 2DI 2DO 4COMMON, 4DI 4COMMON, 2RO24VDC VERSIONS

Additional cost to order a Kilo Net, Exa Net, Femto Net, Lyra, Yocto Net in the SI versions, with 4DO with separate commons, with 2DI 2DO with separate commons, with 4DI with separate commons and with 2RO 24VDC relay outputs.

For building the code with the different version of inputs / outputs refer to "Code creation table".

#### **NET E-WI 868 VERSION**

Additional cost to order a Kilo Net, Exa Net, Femto Net, Lyra, Yocto Net with E-Wi communication that allows to transmts data via radio waves at 868 MHz.

For building the code with the different version of inputs / outputs refer to "Code creation table".

# 18÷60VDC, 9÷36VDC VERSIONS

Additional cost to order a Kilo Net, Exa Net, Femto Net, Lyra, Yocto Net with switching power supply 15 ÷ 36Vac - 18 ÷ 60Vdc or 9 ÷ 24Vac - 9 ÷ 36Vdc.

For building the code with the different version of inputs / outputs refer to "Code creation table".





# CODE CREATION TABLE FOR THE NET SERIES

	l				
SERIES	KILO	EXA	FEMTO	LYRA	YOCTO
0211120	PFNK	PFNE	PFN6	PFAL	PFNY
Size					
6 DIN Rail modules	6	6	6		6
96x96 flush mount	9	9			
50 x 45 x 100 mm case				Т	
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)			Н		
			п		
Power Quality and Harmonics			0 (00)		
None			0 (DC)		0
Harmonics	_	Н	H (AC)	Н	
Power Quality and Harmonics survey campaign	Q	Q	Q (AC)	Q	
Communication	1		·		
RJ45	7	7	7	7	
Net	5	5	5	5	5
Wi-Fi EDA	Α	Α	Α	Α	Α
Internal module					
None		0	0	0	0
Module 2DI 1 RO Self Powered	2	2	2	2	2
Module 2RO24VDC	5	5	5	5	5
Module 2AO4-20mA	6	6	6	6	6
Module 1DI 2DO Self Powered	E	E	E	E	E
Module 4DI 4COMMON	В	В	В	В	В
Module 4DO 4COMMON	С	С	С	С	С
			_		_
Module 2DI 2DO 4COMMON	D	D	D	D	D
Module E-WI 868	L	L	L	L	L
Module 4AI	R	R	R	R	R
Module SI (Sensor Bus I2C)	Т	Т	Т	Т	Т
Module 4PT100	U	U	U	U	U
Module 4PT1000	Х	Х	Х	Х	Х
Module 4NTC	Υ	Υ	Υ	Υ	Υ
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 NOT Master and NOT Sending Files	-	-	-	-	-
Master	м	М	м	М	М
Sending Files	F	F	F	F	F
Master and Sending Files	N	N	N	N	N
Additional functionality	14	14	IN .		
	0	0	0		
No additional functionality	0	0	0	4	4
Web	1	1	1	1	1
Web Charts	Α	Α	Α	Α	Α
Web Energy Automation	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	С	С	С	С	С
Open Web, Automation, eMail, Calendars	В	В	В	В	В
Open Web Full	D	D	D	D	D
Data-logging services					
Data-logging service for the internal analyzer	м	М	М		
Number of Log 8 services activated	1 8	1 8	1 8	1 8	1 8
Log 8 services doubled to Log 16	9	7 0	🗸	0	9
Custom (Open) Data-logging services (configu	-	oh interfere	0)		-
	M	M M	M		
Open Log for the internal analyzer				1 0	1 0
Number of Open Log services activated	1 8	1 8	1 8	1 8	1 8



Code Description

#### **ENERGY ANALYZERS EXA SERIES**

DIGITAL ENERGY ANALYZERS SUITABLE FOR HARSH ENVIRONMENTS. EXTREMELY VERSATILE AND ACCURATE (CLASS 0.5S) FOR THE MOST SOPHISTICATED APPLICATIONS OF ELECTRICAL PARAMETERS MONITORING AND THE MANAGEMENT OF ENERGY IN THE COMMERCIAL, INDUSTRIAL AND PUBLIC SECTORS. SIZE: 96X96 FLUSH MOUNT. AVAILABLE ALSO VERSIONS COMPLIANT WITH THE MID DIRECTIVE ANNEX MI-003.



#### PFAEC11-02-B

#### EXA 96 RS485 230-240V ENERGY ANALYZER

Single / three-phase energy analyzer suitable for harsh environments. Compliant with ../5A or ../1A type CTs. With white / blue backlit graphic LCD display. THD measurement on voltage and current, neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Four operating time counters of the monitored load. 1 calibration LED. RS485 interface. Size: 96x96. Power supply 230-240Vac. Compliant with EN 50470-1 + EN 50470-3.

#### PFAEC11-D2-B

#### EXA 96 RS485 230-240V 2DI 2DO 4COMMON ENERGY ANALYZER

Single / three-phase energy analyzer suitable for harsh environments. Compliant with ../5A or ../1A type CTs. With white / blue backlit graphic LCD display. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Four operating time counters of the monitored load. 1 calibration LED. RS485 interface. 2 digital inputs and 2 digital outputs with separate common terminals. Size: 96x96. Power supply 230-240Vac. Compliant with EN 50470-1 + EN 50470-3.

# PFAEC11-62-B

# EXA 96 RS485 230-240V 2AO4-20mA ENERGY ANALYZER

Single / three-phase energy analyzer suitable for harsh environments. Compliant with ../5A or ../1A type CTs. With white / blue backlit graphic LCD display. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Four operating time counters of the monitored load. 1 calibration LED. RS485 interface. RS485 interface. 2 analogue outputs 4-20mA or 0-20mA. Galvanically isolated, active, self-powered (for loads up to 250 Ohm; for higher and up to 750 Ohm external 12Vdc power is required). The refresh of the output signal is done at max. every 200 mS. Each of the two outputs can be combined with any of the measured parameters. Size: 96x96. Power supply 230-240Vac. Compliant with EN 50470-1 + EN 50470-3.





Code Description

# PFAE611-02-B E

# EXA D6 RS485 230-240V ENERGY ANALYZER

Single / three-phase energy analyzer suitable for harsh environments. Compliant with ../5A or ../1A type CTs. With white / blue backlit graphic LCD display. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Four operating time counters of the monitored load. 2 calibration LEDs. RS485 interface. Size 6 DIN rail modules. 230Vac power supply. Complies with EN 50470-1 + FN 50470-3



#### PFAE611-D2-B

#### EXA D6 RS485 230-240V 2DI 2DO 4COMMON ENERGY ANALYZER

Single / three-phase energy analyzer suitable for harsh environments. Compliant with ../5A or ../1A type CTs. With white / blue backlit graphic LCD display. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Four operating time counters of the monitored load. 2 calibration LEDs. RS485 interface. 2 digital inputs and 2 outputs with separate common terminals. Size 6 DIN rail modules. 230Vac power supply. Complies with EN 50470-1 + EN 50470-3.

#### PFAF611-62-B

#### EXA D6 RS485 230-240V 2AO4-20mA ENERGY ANALYZER

Single / three-phase energy analyzer suitable for harsh environments. With white / blue backlit graphic LCD display. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Four operating time counters of the monitored load. 2 calibration LEDs. RS485 interface. 2 calibration LEDs. RS485 interface. 2 analogue outputs 4-20mA or 0-20mA. Galvanically isolated, active, self-powered (for loads up to 250 Ohm; for higher and up to 750 Ohm external 12Vdc power is required). The refresh of the output signal is done at max. every 200 mS. Each of the two outputs can be combined with any of the measured parameters. Size 6 DIN rail modules. 230Vac power supply. Complies with EN 50470-1 + EN 50470-3.

**NOTE:** On request the EXA D6 RS485 can be supplied with 120Vac  $\pm$  10% or 400Vac  $\pm$  10% power supply without additional costs.





Code Description

#### **VERSIONS COMPLIANT WITH THE MID DIRECTIVE ANNEX MI-003**



#### PFAE6M1-0A

#### **EXA MID D6 RS485 85-440V ENERGY ANALYZER**

Energy analyzer for three-phase, low voltage measurements on 3-phase and 4-wire three-phase systems complying with the MID annex MI-003 directive and EN 50470-1 + EN 50470-3 standards. Accuracy: class 1 according to EN 62053-21, class B according to EN 50470-3. Suitable for harsh environments. Compliant with ../5A or ../1A type CTs. With backlit graphic LCD display. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Active and reactive power average with one-minute floating window. Operating time counter of the monitored load that can be activated by an internal alarm through configuration via the Energy Brain software. 2 calibration LEDs. RS485 interface. The terminal covers for wall mounting can be ordered separately. Size: 6 DIN rail modules. Power supply 85-440Vac phase-phase.

#### PFAF6M1-QA

#### EXA MID D6 RS485 85-440V 2DI 2DO ENERGY ANALYZER

Energy analyzer for three-phase, low voltage measurements on 3-phase and 4-wire three-phase systems complying with the MID annex MI-003 directive and EN 50470-1 + EN 50470-3 standards. Accuracy: class 1 according to EN 62053-21, class B according to EN 50470-3. Suitable for harsh environments. Compliant with ../5A or ../1A type CTs. With backlit graphic LCD display. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Active and reactive power average with one-minute floating window. Operating time counter of the monitored load that can be activated by an internal alarm through configuration via the Energy Brain software. 2 calibration LEDs. RS485 interface. 2 digital inputs and 2 digital outputs. The terminal covers for wall mounting can be ordered separately. Size: 6 DIN rail modules. Power supply 85-440Vac





Code Description

#### **EXA TR**

DIGITAL ENERGY ANALYZERS SUITABLE FOR HARSH ENVIRONMENTS. EXTREMELY VERSATILE AND ACCURATE (CLASS 0.5S) FOR THE MOST SOPHISTICATED APPLICATIONS OF ELECTRICAL PARAMETERS MONITORING AND THE MANAGEMENT OF ENERGY IN THE COMMERCIAL, INDUSTRIAL AND PUBLIC SECTORS. SIZE: DIN RAIL 6 MODULES.



#### PFAE6T1-02-B

#### EXA TR D6 RS485 230-240V ENERGY ANALYZER

Single / three-phase transducer / energy analyzer suitable for harsh environments. Compliant with ../5A or ../1A type CTs. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Four operating time counters of the monitored load. 2 calibration LEDs. RS485 interface. Size: 6 DIN rail modules. 230-240Vac power supply. Complies with EN 50470-1 + EN 50470-3.

#### PFAE6T1-D2-B

#### EXA TR D6 RS485 230-240V 2DI 2DO 4COMMON ENERGY ANALYZER

Single / three-phase transducer / energy analyzer suitable for harsh environments. Compliant with ../5A or ../1A type CTs. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Four operating time counters of the monitored load. 2 calibration LEDs. RS485 interface. 2 digital inputs and 2 outputs with separate common terminals. Size: 6 DIN rail modules. 230-240Vac power supply. Complies with EN 50470-1 + EN 50470-3.

# PFAE6T1-62-B

# EXA TR D6 RS485 230-240V 2AO4-20mA ENERGY ANALYZER

Single / three-phase transducer / energy analyzer suitable for harsh environments. Compliant with ../5A or ../1A type CTs. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Four operating time counters of the monitored load. 2 calibration LEDs. RS485 interface. 2 analogue outputs 4-20mA or 0-20mA. Galvanically isolated, active, self-powered (for loads up to 250 Ohm; for higher and up to 750 Ohm external 12Vdc power is required). The refresh of the output signal is done at max. every 200 mS. Each of the two outputs can be combined with any of the measured parameters. Size: 6 DIN rail modules. 230-240Vac power supply. Complies with EN 50470-1 + EN 50470-3.

**NOTE:** On request the EXA TR D6 RS485 can be supplied with 120Vac +/- 10% or 400Vac +/- 10% power supply at no additional cost.





Code Description

#### **ENERGY COUNTERS / ANALYZERS FEMTO SERIES**

ENERGY COUNTERS / ANALYSERS, MICROPROCESSOR BASED, EXTREMELY VERSATILE AND ACCURATE (CLASS 0.5S) FOR THE MOST SOPHISTICATED APPLICATIONS OF MONITORING OF ELECTRICAL PARAMETERS AND MANAGEMENT OF ENERGY IN THE COMMERCIAL, INDUSTRIAL AND CIVIL SECTORS. THE INSTRUMENTS PERFORM THE FUNCTIONS OF ANALYZER, MULTIMETER AND COUNTER. SERIAL OR WIRELESS INTERFACE.



#### **VERSION COMPLIANT WITH ../5A OR ../1A TYPE CTs**

#### PFA6411-02-B FEMTO D4 RS485 230-240V ENERGY ANALYZER

Single / three-phase energy counter / analyzer (up to 3 single-phase lines) with blue backlit graphic LCD display. Compliant with ../5A or ../1A type CTs (not included). Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence indication. Four operating time counters. 1calibration LED. RS485 interface. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

# PFA6411-12-B FEMTO D4 RS485 230-240V 1DI 2DO ENERGY ANALYZER

Single / three-phase energy counter / analyzer (up to 3 single-phase lines) with blue backlit graphic LCD display. Compliant with ../5A or ../1A type CTs (not included). Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence indication. Four operating time counters. 1calibration LED. RS485 interface. 1 digital input and 2 outputs. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

# PFA6411-D2-B FEMTO D4 RS485 230-240V 2DI 2DO 4COMMON ENERGY ANALYZER

Single / three-phase energy counter / analyzer (up to 3 single-phase lines) with blue backlit graphic LCD display. Compliant with ../5A or ../1A type CTs (not included). Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence indication. Four operating time counters. 1 calibration LED. RS485 interface. 2 digital inputs and 2 outputs with separate common terminals. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

# PFA6411-62-B FEMTO D4 RS485 230-240V 2AO4-20mA ENERGY ANALYZER

Single / three-phase energy counter / analyzer (up to 3 single-phase lines) with blue backlit graphic LCD display. Compliant with ../5A or ../1A type CTs (not included). Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence indication. Four operating time counters. 1 calibration LED. RS485 interface. 2 analogue outputs 4-20mA or 0-20mA. Galvanically isolated, active, self-powered (for loads up to 250 Ohm; for higher and up to 750 Ohm external 12Vdc power is required). The refresh of the output signal is done at max. every 200 mS. Each of the two outputs can be combined with any of the measured parameters. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.





Code Description

#### **VERSION COMPLIANT WITH ELECTREX ECT TYPE CTs**



#### PFA6451-02-B

#### FEMTO D4 ECT RS485 230-240V ENERGY ANALYZER

Single / three-phase energy counter / analyzer (up to 3 single-phase lines) with blue backlit graphic LCD display. Requires external Electrex ECT type CTs (not included in the package) for example cod. PFAE000-01 or PFAE000-02. Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence indication. Four operating time counters. 1 calibration LED. RS485 interface. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

#### PFA6451-12-B

#### FEMTO D4 ECT RS485 230-240V 1DI 2DO ENERGY ANALYZER

Single / three-phase energy counter / analyzer (up to 3 single-phase lines) with blue backlit graphic LCD display. Requires external Electrex ECT type CTs (not included in the package) for example cod. PFAE000-01 or PFAE000-02. Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence indication. Four operating time counters. 1 calibration LED. RS485 interface. 1 digital input and 2 outputs. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

#### PFA6451-D2-B

# FEMTO D4 ECT RS485 230-240V 2DI 2DO 4COMMON ENERGY ANALYZER

Single / three-phase energy counter / analyzer (up to 3 single-phase lines) with blue backlit graphic LCD display. Requires external Electrex ECT type CTs (not included in the package) for example cod. PFAE000-01 or PFAE000-02, with a 100A primary. Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence indication. Four operating time counters. 1 calibration LED. RS485 interface. 2 digital inputs and 2 outputs with separate common terminals. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

#### PFA6451-62-B

# FEMTO D4 ECT RS485 230-240V 2AO4-20mA ENERGY ANALYZER

Single / three-phase energy counter / analyzer (up to 3 single-phase lines) with blue backlit graphic LCD display. Requires external Electrex ECT type CTs (not included in the package) for example cod. PFAE000-01 or PFAE000-02, with a 100A primary. Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence indication. Four operating time counters. 1 calibration LED. RS485 interface. 2 analogue outputs 4-20mA or 0-20mA. Galvanically isolated, active, self-powered (for loads up to 250 Ohm; for higher and up to 750 Ohm external 12Vdc power is required). The refresh of the output signal is done at max. every 200 mS. Each of the two outputs can be combined with any of the measured parameters. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.



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#### **Electrex Catalogue**

Code Description

#### VERSION COMPLIANT WITH ELECTREX FLEXIBLE SPLIT CTs



#### PFA64F1-02-B

#### FEMTO D4 F RS485 230-240V ENERGY ANALYZER

Single / three-phase energy counter / analyzer (up to 3 single-phase lines) with blue backlit graphic LCD display. Can only be used with Electrex FCTS series flexible split CTs (not included). Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence indication. Four operating time counters. 1 calibration LED. RS485 interface. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

#### PFA64F1-D2-B

#### FEMTO D4 F RS485 230-240V 2DI 2DO 4COMMON ENERGY ANALYZER

Single / three-phase energy counter / analyzer (up to 3 single-phase lines) with blue backlit graphic LCD display. Can only be used with Electrex FCTS series flexible split CTs (not included). Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence indication. Four operating time counters. 1 calibration LED. RS485 interface. 2 digital inputs and 2 outputs with separate common terminals. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

#### PFA64F1-62-B

#### FEMTO D4 F RS485 230-240V 2AO4-20mA ENERGY ANALYZER

Single / three-phase energy counter / analyzer (up to 3 single-phase lines) with blue backlit graphic LCD display. Can only be used with Electrex FCTS series flexible split CTs (not included). Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence indication. Four operating time counters. 1 calibration LED. RS485 interface. 2 analogue outputs 4-20mA or 0-20mA. Galvanically isolated, active, self-powered (for loads up to 250 Ohm; for higher and up to 750 Ohm external 12Vdc power is required). The refresh of the output signal is done at max. every 200 mS. Each of the two outputs can be combined with any of the measured parameters. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

# **VERSION COMPLIANT WITH MID DIRECTIVE ANNEX MI-003**



# PFA64M1-0A-B

# FEMTO MID D4 ECT RS485 85-440V ENERGY ANALYZER

Energy counter / analyzer for three-phase, low voltage measurements on 3-phase and 4-wire three-phase systems complying with the MID annex MI-003 directive and EN 50470-1 + EN 50470-3 standards. Accuracy: class 1 according to EN 62053-21, class B according to EN 50470-3. Calibrated on the 3 external ECT CTs of 100A cod. PFAE000-01 connected to the instrument, included in the package. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Four operating time counters. 1 calibration LED. RS485 interface. Size: 4 DIN rail modules. Power supply 85-440Vac phase-phase.

# PFA64M1-DA-B

# FEMTO MID D4 ECT RS485 85-440V 2DI 2DO SG ENERGY ANALYZER

Energy counter / analyzer for three-phase, low voltage measurements on 3-phase and 4-wire three-phase systems complying with the MID annex MI-003 directive and EN 50470-1 + EN 50470-3 standards. Accuracy: class 1 according to EN 62053-21, class B according to EN 50470-3. Calibrated on the 3 external ECT CTs of 100A cod. PFAE000-01 connected to the instrument, included in the package. Measurement of the THD on voltage and current, of the neutral current, maximum and minimum voltage, maximum current and power and of the active energy of each phase. Four operating time counters. 1 calibration LED. RS485 interface. 2 digital inputs and 2 outputs with separate common terminals. Size: 4 DIN rail modules. Power supply 85-440Vac phase-phase.



Code

Description

#### TRANSDUCERS / ANALYZERS ATTO SERIES

ENERGY TRANSDUCERS / ANALYSERS, MICROPROCESSOR BASED, EXTREMELY VERSATILE AND ACCURATE (CLASS 0.5S) FOR THE MOST SOPHISTICATED APPLICATIONS OF MONITORING OF ELECTRICAL PARAMETERS AND MANAGEMENT OF ENERGY CONSUMPTION IN THE COMMERCIAL, INDUSTRIAL AND CIVIL SECTORS. THE INSTRUMENTS PERFORM THE FUNCTIONS OF TRANSDUCER AND ANALYZER. SERIAL OR WIRELESS INTERFACE.

#### **VERSION COMPLIANT WITH ../5A OR ../1A TYPE CTs**



#### PFA7411-02-R

#### ATTO D4 RS485 230-240V TRANSDUCER / ANALYZER

Single / three-phase (or up to 3 single-phase loads) transducer / energy analyzer. Compliant with ../5A or ../1A type CTs (not included). Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence on Modbus register. Four operating time counters of the monitored load. 1 calibration LED. RS485 interface. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

# PFA7411-D2-B

#### ATTO D4 RS485 230-240V 2DI 2DO 4COMMON TRANSDUCER / ANALYZER

Single / three-phase (or up to 3 single-phase loads) transducer / energy analyzer. Compliant with ../5A or ../1A type CTs (not included). Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence on Modbus register. Four operating time counters of the monitored load. 1 calibration LED. RS485 interface. 2 digital inputs and 2 digital outputs with separate common terminals. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

#### PFA7411-62-B

# ATTO D4 RS485 230-240V 2AO4-20mA TRANSDUCER / ANALYZER

Single / three-phase (or up to 3 single-phase loads) transducer / energy analyzer. Compliant with ../5A or ../1A type CTs (not included). Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence on Modbus register. Four operating time counters of the monitored load. 1 calibration LED. RS485 interface. 2 analogue outputs 4-20mA or 0-20mA. Galvanically isolated, active, self-powered (for loads up to 250 Ohm; for higher and up to 750 Ohm external 12Vdc power is required). The refresh of the output signal is done at max. every 200 mS. Each of the two outputs can be combined with any of the measured parameters. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.



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# **Electrex Catalogue**

Code Description

#### **VERSION COMPLIANT WITH ELECTREX ECT TYPE CTs**



#### PFA7451-02-B

#### ATTO D4 ECT RS485 230-240V TRANSDUCER / ANALYZER

Single / three-phase (or up to 3 single-phase loads) transducer / energy analyzer. Requires external Electrex ECT type CTs (not included in the package) for example cod. PFAE000-01 or PFAE000-02. Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence on Modbus register. Four operating time counters of the monitored load. 1 calibration LED. RS485 interface. Remotely upgradeable firmware.. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3

#### PFA7451-D2-B

#### ATTO D4 ECT RS485 230-240V 2DI 2DO 4COMMON

Single / three-phase (or up to 3 single-phase loads) transducer / energy analyzer. Requires external Electrex ECT type CTs (not included in the package) for example cod. PFAE000-01 or PFAE000-02. Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence on Modbus register. Four operating time counters of the monitored load. 1 calibration LED. RS485 interface. 4 digital outputs with separate common terminals. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

#### PFA7451-62-B

#### ATTO D4 ECT RS485 230-240V 2AO4-20mA TRANSDUCER / ANALYZER

Single / three-phase (or up to 3 single-phase loads) transducer / energy analyzer. Requires external Electrex ECT type CTs (not included in the package) for example cod. PFAE000-01 or PFAE000-02. Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence on Modbus register. Four operating time counters of the monitored load. 1 calibration LED. RS485 interface. 2 analogue outputs 4-20mA or 0-20mA. Galvanically isolated, active, self-powered (for loads up to 250 Ohn; for higher and up to 750 Ohm external 12Vdc power is required). The refresh of the output signal is done at max. every 200 mS. Each of the two outputs can be combined with any of the measured parameters. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.

# PFA74D1-D2-B

# ATTO RCM D4 ECT RS485 230÷240V 2DI 2DO 4COMMON

Single / three-phase energy transducer / analyzer with system for measuring and monitoring the current unbalance / residual current (for up to 3 single-phase loads). Requires external Electrex ECT type CTs (not included in the package) for example cod. PFAE000-01 or PFAE000-02. Programmable threshold from 0.03A to 5A. Measurement of the THD of voltage and current, neutral current, maximum and minimum voltage, maximum power and current, active energy of each phase. Phases sequence on Modbus register. Four operating time counters of the monitored load. 1 calibration LED. RS485 interface. 2 digital inputs and 2 digital outputs with separate common. Remotely upgradeable firmware. Size: 4 DIN rail modules. Power supply 230-240Vac. Complies with: EN 50470-1 + EN 50470-3.





Code Description

#### VERSIONS FOR THE MEASUREMENT OF DIRECT CURRENT ENERGY



#### PFA7471-02

#### ATTO D4 DC RS485 230-240V TRANSDUCER / ANALYZER

DC Transducer / Energy analyzer. Measurement of voltage, current, power and energy, minimum and maximum voltage and maximum current. Input 60mV or 100mV for shunt (not included - see Shunt section). RS485 interface. Size: 4 DIN rail modules. Power supply 230-240Vac.

#### PFA7481-02

#### ATTO D4 DC 3I RS485 230-240V TRANSDUCER / ANALYZER

DC Transducer / Energy analyzer for the simultaneous measurement of 3 loads. Measurement of voltage, current, power and energy, minimum and maximum voltage and maximum current. Three 60mV or 100mV inputs for shunts (not included - see Shunt section). RS485 interface. Size 4 DIN rail modules. Power supply 230-240Vac.

#### PFAQ280-00

# **VOLTAGE DIVIDER D2 DC 900V/300V**

Voltage divider up to 900Vdc to be used with Atto DC and Femto DC instruments. Ratio 3/1 (e.g. 900Vdc in input correspond to 300Vdc in output). Size: 2 DIN rail modules



**NOTE**: the Atto DC are supplied without a Shunt and without CTS DC split core current transformer mini series. More info on these accessories can be found in the related sections.





#### Code

#### Description

#### **MULTIMETERS / COUNTERS / ANALYZERS ZEPTO SERIES**

MULTIMETERS / POWER METERS / ENERGY ANALYZERS MICROPROCESSOR BASED DESIGNED TO MEET THE MOST DEMANDING APPLICATIONS OF ELECTRICAL PARAMETER ANALYSES IN THE CIVIL, COMMERCIAL AND INDUSTRIAL SECTORS. BUILT-IN RS485 SERIAL PORT (MODBUS PROTOCOL). THE INSTRUMENTS PERFORM THE FUNCTIONS OF MULTIMETER, COUNTER AND ANALYZER. SERIAL OR WIRELESS INTERFACE.

#### PFA8C11-02

#### ZEPTO 96 RS485 230-240V MULTIMETER / ANALYZER

Single - three phase multimeter, power meter, energy analyzer with a LED display. Measures include phase THD-I and THD-U, neutral current, partial and total energies. Interface RS485. Size 96x96 mm. 230-240 Vac power supply.



#### PFA8C11-12

#### ZEPTO 96 RS485 230-240V 1DI 2DO MULTIMETER / ANALYZER

Single - three phase multimeter, power meter, energy analyzer with a LED display. Measures include phase THD-I and THD-U, neutral current, partial and total energies. Interface RS485 serial port (Modbus protocol). 1 digital input 2 digital outputs. Size 96x96 mm. 230-240 Vac power supply.



# PFA8611-02

#### ZEPTO D6 RS485 230-240V MULTIMETER / ANALYZER

Single - three phase multimeter, power meter, energy analyzer with a LED display. Measures include phase THD-I and THD-U, neutral current, partial and total energies. Interface RS485 serial port (Modbus protocol). DIN rail mount type, size of 6 DIN modules. 230-240 Vac power supply. Complies with en 50470-1 + en 50470-3.



#### PFA8611-12

# ZEPTO D6 RS485 230-240V 1DI 2DO MULTIMETER / ANALYZER

Single - three phase multimeter, power meter, energy analyzer with a LED display. Measures include phase THD-I and THD-U, neutral current, partial and total energies. 1 digital input 2 digital outputs. Built-in RS485 serial port (Modbus protocol). Size of 6 DIN modules. 230-240 Vac power supply.



# **SINGLE PHASE COUNTER**

# SINGLE PHASE ENERGY COUNTER.

# 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. Size of 2 DIN modules.





#### Code

Description

#### **RS485 INPUT / OUTPUT MODULE**

MODULES THAT CAN BE INSERTED INTO AN ELECTREX NETWORK TO ADD DIGITAL AND / OR ANALOG INPUTS / OUTPUTS AND / OR ENVIRONMENTAL PARAMETER SENSORS. FOR DATA SYNCHRONIZATION AND DATALOGGING IT IS NECESSARY THAT THE NETWORK INCLUDES ALSO A DEVICE ACTING AS A GATEWAY / DATALOGGER (EG KILO NET, EXA NET, FEMTO ECT NET OR YOCTO NET).

#### PFAB401-N2P

#### RS485 MODULE D4 230-240V 4DI 4DO

4 digital inputs and 4 digital outputs module. Can be connected via the RS485 port to an Electrex network. Requires a Gateway / Datalogger (e.g. Kilo net, Exa net, Femto ECT net or Yocto net) for data synchronisation and profile recording. DIN rail mount 4 modules. Power supply 230-240Vac.



#### PFAB401-Q26

#### RS485 MODULE D4 230-240V 2DI 2DO 2AO4-20mA

2 digital inputs, 2 digital outputs and 2 analog outputs 4-20mA module. Can be connected via the RS485 port to an Electrex network. Requires a Gateway / Datalogger (e.g. Kilo net, Exa net, Femto ECT net or Yocto net) for data synchronisation and profile recording. DIN rail mount 4 modules. Power supply 230-240Vac.

#### PFAB401-R2Q

# RS485 MODULE D4 230-240V 4AI 2DI 2DO

4 analog inputs, 2 digital inputs and 2 digital outputs module. Can be connected via the RS485 port to an Electrex network. Requires a Gateway / Datalogger (e.g. Kilo net, Exa net, Femto ECT net or Yocto net) for data synchronisation and profile recording. DIN rail mount 4 modules. Power supply 230-240Vac.

#### PFAB401-Q2T

# RS485 MODULE D4 230-240V 2DI 2DO SI

Module equipped with 2 digital inputs and 2 digital outputs. Includes also a SI module for connecting environmental sensors Deca Sensor Bus Unit Box (T, TH, TL, THL, THL, E, B, up to 4 T) series. Can be connected via the RS485 port to an Electrex network. For the data synchronization, log and graph display and alarm notifications must be used in an electrex monitoring system including a gateway and datalogger (kilo net, exa net, femto ect net o yocto net). Din rail mount 4 modules. 230-240 vac power supply.





Code Description

#### PFAB201-N5P

#### RS485 MODULE D2 24VDC 4DI 4DO

4 digital inputs and 4 digital outputs module. Can be connected via the RS485 port to an Electrex network. Requires a Gateway / Datalogger (e.g. Kilo net, Exa net, Femto ECT net or Yocto net) for data synchronisation and profile recording. DIN rail mount 2 modules. External power supply 24 Vdc needed (we recommend to use the switching power supply cod. PFTP100-Q2).



#### PFAB201-Q56

#### RS485 MODULE D2 24VDC 2DI 2DO 2AO4-20mA

2 digital inputs, 2 digital outputs and 2 analog outputs 4-20mA module. Can be connected via the RS485 port to an Electrex network. Requires a Gateway / Datalogger (e.g. Kilo net, Exa net, Femto ECT net or Yocto net) for data synchronisation and profile recording. DIN rail mount 2 modules. External power supply 24 Vdc needed (we recommend to use the switching power supply cod. PFTP100-Q2).

#### PFAB201-R5Q

#### RS485 MODULE D2 24VDC 4AI 2DI 2DO

4 analog inputs, 2 digital inputs and 2 digital outputs module. Can be connected via the RS485 port to an Electrex network. Requires a Gateway / Datalogger (e.g. Kilo net, Exa net, Femto ECT net or Yocto net) for data synchronisation and profile recording. DIN rail mount 2 modules. External power supply 24 Vdc needed (we recommend to use the switching power supply cod. PFTP100-Q2).

#### PFAB201-Q5T

#### RS485 MODULE D2 24VDC 2DI 2DO SI

Module equipped with 2 digital inputs and 2 digital outputs. Includes also a SI module for connecting environmental sensors Deca Sensor Bus Unit Box (T, TH, TL, THL, THLB, L, B, fino a 4 T) series. Can be connected via the RS485 port to an Electrex network. For the data synchronization, log and graph display and alarm notifications must be used in an electrex monitoring system including a gateway and datalogger (kilo net, exa net, femto ect net o yocto net). Din rail mount 2 modules. External power supply 24vdc needed (we recommend to use the switching power supply cod. PFTP100-Q2).

# RS485 MODULE D2 / D4 WITHOUT INPUT / OUTPUT BOARDS

Empty modules that can be connected via the RS485 port to an Electrex network in which the Input / Output modules can be inserted.

RS485 MODULE D2: 2 DIN rail mount modules. External power supply 24 Vdc needed (we recommend to use the switching power supply cod. PFTP100-Q2).

RS485 MODULE D4:Size: 4 DIN rail mount modules. 230-240Vac power supply.

**NOTE:** the products of the RS485 Module series can also be requested in other hardware configurations. The RS485 Module D2 can contain up to 2 internal boards (of which only one of the two is self-powered). The D4 RS485 Modules can contain up to 2 internal boards, even self-powered. For more information, please consult the RS485 module data sheet on www.electrex.it/en or contact our sales offices.





#### Code Description

#### I/O BOARDS 4PT100, 4PT1000, 4NTC, 2AO4-20mA VERSIONS

Additional cost to order a product in the versions with analog inputs for PT100, PT1000, NTC or 4-20mA analog outputs.

For building the code including different versions of inputs/outputs refer to the "Code creation table".

#### I/O BOARD 4AI VERSION

Additional cost to order an RS485 device in the following versions of digital inputs / outputs: 4Al analog inputs.

For building the code with the different version of inputs / outputs refer to "Code creation table".

#### I/O BOARDS 4DO, 2DI 1RO24VDC SP, 1DI 2DO SP, SI VERSIONS

Additional cost to order an RS485 device in the versions: 4DO, 2DI 1RO24VDC Self Powered, 1DI 2DO Self Powered or SI

For building the code with the different version of inputs / outputs refer to "Code creation table".

#### I/O BOARDS 2DI 2DO 4COMMON, 4DI 4COMMON, 4DO 4COMMON VERSIONS 55,00

Additional cost to order an RS485 device in the versions: 2DI 2DO with separate common, 4DI with separate common or 4DO with separate common.

For building the code with the different version of inputs / outputs refer to "Code creation table".

# INPUT/OUTPUT BOARDS 4DI, 4DO 4COMMON, 2DI 2DO, 2RO24VDC VERSIONS

Additional cost to order an RS485 device in the versions: 4DI, 4DO with separate common, 2DI 2DO or 2RO24VDC.

For building the code with the different version of inputs / outputs refer to "Code creation table".

# 18÷60VDC, 9÷36VDC VERSIONS

Additional cost to order an RS485 product with switching power supply 15 ÷ 36Vac - 18 ÷ 60Vdc or 9 ÷ 24Vac - 9 ÷ 36Vdc.

For building the code with the different version of inputs / outputs refer to "Code creation table".





# **CODE CREATION TABLE FOR THE RS485 SERIES**

SERIES	EXA	FEMTO	ATTO	ZEPTO	RS485 MODULE
	PFAE	PFA6	PFA7	PFA8	PFAB
Size					
2 DIN Rail modules					2
4 DIN Rail modules		4	4		4
6 DIN Rail modules	6			6	
96x96 flush mount	С			С	
Current Inputs					
None					0
/5A and/1A	1	1	1	1	
TR (/5A and/1A)	Т				
Flexible Split Core CT		F			
ECT CT		5	5		
MID	М	М			
SHUNT (DC)			7		
Communication					
RS485	1	1	1	1	1
Internal module slot 1					
None	0 (Also MID)	0 (Also MID)	0	0	
Module 2DI 1 RO Self Powered	2	2	2		2
Module 2RO24VDC	5	5	5		5
Module 2AO4-20mA	6	6	6		
Module 1DI 2DO Self Powered	E	E	E		E
Module 1DI 2DO	1	1	1	1	1
Module 4DI 4COMMON	В	В	В		
Module 4DI					N
Module 4DO 4COMMON	С	С	С		
Module 4DO					Р
Module 2DI 2DO 4COMMON	D	D (Also MID)	D		
Module 2DI 2DO	Q (Only MID)				Q
Module 4AI					R
Module 4PT100					U
Module 4PT1000					Х
Module 4NTC					Υ
Power Supply					
230 Vac +/- 10%	2	2	2	2	2 (Only D4)
120 Vac +/- 10%	1	1	1	1	1 (Only D4)
400 Vac +/- 10%	3	3	3	3	3 (Only D4)
24 Vdc +/- 10%					5 (Only D2)
15÷36 Vac / 18÷60 Vdc	8	8	8	8	8 (Only D4)
9÷24 Vac / 9÷36 Vdc	7	7	7	7	7 (Only D4)
Ph-N 230 Vac +/- 10% and Ph-Ph 400 Vac +/- 10%	A (Only MID)	A (Only MID)			
Internal module slot 2 (Up to a maximum of 4 inputs and 4 outputs of the same type can be managed.)					
None					0
Module 2AO4-20mA					6
Module 4DI					N
Module 4DO					Р
Module 2DI 2DO					Q
Module SI (Sensor Bus I2C)					Т



Code Description

#### **MULTIFUNCTION SENSORS**

THE MULTIFUNCTION DECA SENSORS ARE THE BEST SOLUTION FOR ENVIRONMETAL PARAMETERS MEASURING AND MANAGEMENT, IN THE RESIDENTIAL, COMMERCIAL AND INDUSTRIAL SECTORS. THE DECA SENSORS CAN BE INTEGRATED INTO ELECTREX ENERGY MONITORING NETWORKS AS WELL AS CAN BE USED IN MANY APPLICATIONS LIKE: REMOTE CONTROL, ALARMS MANAGEMENT, BUILDING AUTOMATION. AVAILABLE IN WIRELESS AND RS485 VERSIONS.



#### PFATME1-004G

#### **DECA RS485 TH 12V SI GRAY**

Multifunction sensor for measuring ambient temperature and humidity. Equipped with BUS for the connection of Sensor Bus environmental sensors (various combinations of sensors and up to 8 measurements eg 8 Temperature sensors or 3 Temperature and Relative Humidity sensors plus 2 more Temperature sensors). It can be connected via the RS485 port to an Electrex network. 12Vdc power supply which can be supplied through the switching power supply cod. PFTP100-P2 (not included). Gray box size: 125x40x85 mm.

#### PFATMF1-BC4G

#### DECA RS485 TH 12V SI 4DI4DO GRAY

Multifunction sensor for measuring ambient temperature and humidity. Equipped with 4 optoisolated digital inputs and 4 outputs with separate common. The inputs can be used for status cheking and / or counting, the outputs are 27Vdc 27mA transistor type according to DIN 43864 and can function as a remotely controlled output unit. The input and output circuits require an external power supply (eg 12Vdc or 24Vdc). BUS port for the connection of Sensor Bus environmental sensors (various combinations of sensors up to 8 measurements). It can be connected via the RS485 port to an Electrex network. 12Vdc power supply which can be supplied through the switching power supply cod. PFTP100-P2 (not included). Gray box size: 125x40x85 mm.

# PFATME1-DC4G

#### DECA RS485 TH 12V SI 2DI6DO GRAY

Multifunction sensor for measuring ambient temperature and humidity. Equipped with 2optoisolated digital inputs and 6 outputs with separate common. The inputs can be used for status cheking and / or counting, the outputs are 27Vdc 27mA transistor type according to DIN 43864 and can function as a remotely controlled output unit. The input and output circuits require an external power supply (eg 12Vdc or 24Vdc). BUS port for the connection of Sensor Bus environmental sensors (various combinations of sensors up to 8 measurements). It can be connected via the RS485 port to an Electrex network. 12Vdc power supply which can be supplied through the switching power supply cod. PFTP100-P2 (not included). Gray box size: 125x40x85 mm.

#### PFATME1-DR4G

#### DECA RS485 TH 12V SI 2DI2DO 4AI GRAY

Multifunction sensor for measuring ambient temperature and humidity. Equipped with 4 analog inputs, 2 optoisolated digital inputs and 2 outputs with separate common. The inputs can be used for status cheking and / or counting, the outputs are 27Vdc 27mA transistor type according to DIN 43864 and can function as a remotely controlled output unit. The input and output circuits require an external power supply (eg 12Vdc or 24Vdc). BUS port for the connection of Sensor Bus environmental sensors (various combinations of sensors up to 8 measurements). It can be connected via the RS485 port to an Electrex network. 12Vdc power supply which can be supplied through the switching power supply cod. PFTP100-P2 (not included). Gray box size: 125x40x85 mm.

# PFATME1-BR4G

# DECA RS485 TH 12V SI 4DI 4AI GRAY

Multifunction sensor for measuring ambient temperature and humidity. Equipped with 4 analog inputs and 4 optoisolated digital inputs with separate common. The inputs can be used for status cheking and / or counting. The input and output circuits require an external power supply (eg 12Vdc or 24Vdc). BUS port for the connection of Sensor Bus environmental sensors (various combinations of sensors up to 8 measurements). It can be connected via the RS485 port to an Electrex network. 12Vdc power supply which can be supplied through the switching power supply cod. PFTP100-P2 (not included). Gray box size: 125x40x85 mm.





Code Description

#### 868MHZ WIRELESS VERSIONS (E-WI PROTOCOL)

#### PFATM0IL04B

Coordinator of the E-Wi radio network that, with the E-Wi protocol, transmits on the 868Mhz (wireless) frequency, managing end devices such as the Deca Sensor E-Wi 868 and 868 THL multifunction sensors that transmit by radio at 868MHz the counting of impulses, environmental measures eg. temperature and relative humidity, air quality and through the Deca Bridge E-Wi 868 the measurements of energy vectors. Each coordinator is able to manage up to 32 Deca Sensor E-Wi 868 TH. Radio antenna included. RS485 serial port with removable 5-pole connector. Configuration using Energy Brain software. To be connected via RS485 in a subnet to a Gateway datalogger of the Net series (Libra net, Kilo net, Exa net, Femto ECT net, Lyra net, etc.). Wall mounting or resting on a horizontal plane. 12Vdc power supply.



#### PFATM0IR04R

#### DECA BRIDGE RS485 E-WI 868 12VDC

E-Wi radio network bridge that transmits on the 868Mhz (wireless) frequency. With RS485 Master serial port, it allows to connect RS485 devices in a modbus subnet. Requires 868Mhz network created by DECA COORDINATOR RS485 to which it connects wirelessly. Radio antenna included. RS485 serial port with removable 5-pole connector. Configuration using the Energy Brain software. Absorption <1VA. Working temperature -10 / + 60 ° C and relative humidity 95% without condensation. Wall mounting or resting on a horizontal plane. Black container in self-extinguishing ABS UL 94 V0 dimensions (I x a x p): 125 x 40 x 85 mm. Degree of protection: IP40 on the front, IP20 on the terminals. 12Vdc power supply.



# 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. E-Wi radio network coordinator with external antenna (included) using E-Wi protocol for receiving - transmitting on the 868Mhz frequency (wireless) managing end-devices such as the multifunction sensors Deca Sensor E-Wi 868 and 868 THL which transmit via radio 868MHz pulse counting and/or environmental measurements. Graphical FSTN display. Clock/calendar perennial astronomical battery and non-volatile memory of industrial type. Firmware update from remote. Already activated a Log 8 logging service (logging of built-in digital inputs and 7 instruments in RS485 and/or E-Wi 868 subnet for powers/energies and inputs). Embedded web server for instantaneous measurements via web page. FTP servers. ExpBus for external devices (inputs / outputs and environmental sensors). Equipped with NFC technology. DIN rail size 6 modules



# PFATDHI-0BW

#### **DECA SENSOR E-WI 868 TH BATTERY**

Sensor for measuring ambient temperature and humidity. It transmits data via radio waves at 868MHz to the Deca Coordinator RS485 E-WI 868. Typical temperature accuracy 0.2 ° C, humidity 1.8% RH. Sampling frequency can be set from 1 to 60 minutes. Wall installation. Dimensions: 80x80x25 mm. 12Vdc power supply or via battery (not included) with duration up to 7 years in case of sampling frequency at 15 minutes and sufficient coverage of the radio field.



# PFATDHI-04W

# **DECA SENSOR E-WI 868 TH 12VDC**

Sensor for measuring temperature and relative humidity. It transmits data via radio waves at 868MHz to the Deca Coordinator RS485 E-WI 868. Typical temperature accuracy 0.2 ° C, humidity 1.8% RH. Sampling frequency can be set from 1 to 60 minutes. Wall installation. Dimensions: 80x80x25 mm. 12Vdc power supply that can be supplied through the switching power supply cod. PFTP100-P2 or via the RS485 cable if connected to a Libra.



# PFATD03-0BW

# **DECA SENSOR E-WI 868 BATTERY SIO**

Sensor equipped with SIO Bus for connection to the 3.3Vdc Bus Box. It transmits data via radio waves at 868MHz to the Deca Coordinator RS485 E-WI 868. Typical temperature accuracy 0.2 ° C, humidity 1.8% RH. Sampling frequency can be set from 1 to 60 minutes. Wall installation. Dimensions: 80x80x25 mm. 12Vdc power supply or via battery (not included) with duration up to 7 years in case of sampling frequency at 15 minutes and sufficient coverage of the radio field.





Code

Description

# **BUS UNITS, SENSORS AND OPTIONS**

THE SENSOR BUSES, DEPENDING ON THE VERSION, CAN BE CONNECTED TO THE DECA SENSORS IN THE TE BUS VERSIONS, TO THE DEVICES OF THE NET SERIES EQUIPPED WITH SI BUS MODULE, TO THE LIBRA, LYRA NET SI AND TO THE RS485 NODE SI SERIES.

#### PFATBAQ-00B

#### SENSOR BUS BLACK BOX T 0,2

External, optional BUS unit for the Libra and devices with built-in SI BUS module. Temperature sensor (typical accuracy of  $\pm 0.2^{\circ}$ C). Black external case, size: 38x73x20 mm. Wired, 1 m Cat. 5E cable



#### PFATBHQ-00B

#### SENSOR BUS BLACK/WHITE BOX T H

Ambient Temperature and Relative Humidity sensor for the Deca Sensor TE BUS, Net series with built-in SI BUS module, Libra and RS485 Node SI series. Temperature: measure range -20°C .. +80°C (wider range on request); typical accuracy of  $\pm 0.5$ °C. Relative Humidity: typical accuracy  $\pm 1.8$ %. Black external case, size: 38x73x20 mm. Wired, 1 m Cat. 5E cable.



# PFATREQ-00B

#### SENSOR BUS RJ BLACK BOX T H 0,2

Ambient Temperature and Relative Humidity sensor for Net series with built-in SI BUS module, Libra and RS485 Node SI. Temperature: measure range -20°C .. +80°C (wider range on request); typical accuracy of ±0,2°C. Relative Humidity: typical accuracy ±1,5%. Addressable from 1 to 2. Equipped with 2 RJ45 female ports for the connection to the BUS. Black external case, size: 38x73x20 mm.



# PFATBMQ-00B

# SENSOR BUS BLACK BOX L

Ambient Luminosity sensor for the Deca Sensor TE BUS, Net series with built-in SI BUS module, Libra and RS485 Node SI series. Configurable for indoor (0-4.000Lux) or outdoor (0-65.000Lux) use. Black external case, size: 38x73x20 mm. Wired, 1 m Cat. 5E cable.



# PFATBNQ-00B

# SENSOR BUS BLACK BOX B

Pressure sensor for the Deca Sensor TE BUS, Net series with built-in SI BUS module, Libra and RS485 Node SI series. Measure range: from 800 to 1.100 mbar. Black external case, size: 38x73x20 mm. Wired, 1 m Cat. 5E cable.



# PFATRCQ-00B

# SENSOR BUS RJ BLACK BOX CO2

Sensor for the measurement of CO2 Carbon dioxide. Can be used with SI BUS Deca Sensors, Net series with built-in SI BUS module, Libra and RS485 Node SI series. Measuring range: 0..40.000 ppm. Equipped with 2 RJ45 ports for connection to the BUS. Not addressable. + 3.3Vdc power supply from the SIO bus. Black box size: 39x88x23 mm.





Code Description

#### PFATR1Q-00B

#### SENSOR BUS RJ BLACK BOX VOC + CO2 EQ.

Sensor for measuring VOC (Volatile Organic Compounds) and Carbon Dioxide Equivalent [CO2e]. Can be used with SI BUS Deca Sensors, Net series with built-in SI BUS module, Libra and RS485 Node SI series. VOC measuring range: 0..60000 ppb. CO2e measuring range: 400 ... 60,000 ppb. Equipped with 2 RJ45 ports for connection to the BUS. Not addressable. + 3.3Vdc power supply from the SIO bus. Black box size: 39x88x23 mm.



#### PFATRWQ-00B

#### SENSOR BUS RJ BLACK BOX OZONE

Sensor for measuring the concentration level of Ozone (O3). Can be used with SI BUS Deca Sensors, Net series with built-in SI BUS module, Libra and RS485 Node SI series. Measurement range from 0 to 5 ppm (Standard Conditions 25 °C, 50% RH and 1 atm). Equipped with 2 RJ45 ports for connection to the BUS. Not addressable. + 3.3Vdc power supply from the SIO bus. Black box size: 39x88x23 mm

Quotazione su richiesta

#### PFATRDQ-00B

#### SENSOR BUS RJ BLACK BOX DP

Differential pressure sensor for Net series with built-in SI BUS module, Libra and RS485 Node SI series. Differential pressure: measure range: from -500 Pa to +500 Pa. Temperature: measure range -20°C .. +80°C (wider range on request); typical accuracy of ±0,1°C. Equipped with 2 RJ45 female ports for the connection to the BUS. Black external case, size: 38x73x20 mm.



# PFATBFQ-00B

# SENSOR BUS BLACK BOX T L

Ambient Temperature and Luminosity sensor for the Deca Sensor TE BUS, Net series with built-in SI BUS module, Libra and RS485 Node SI series. Temperature: measure range -20°C ... +80°C (wider range on request); typical accuracy of ±0,5°C. Luminosity: configurable for indoor (0-4.000Lux) or outdoor (0-65.000Lux) use. Black external case, size: 38x73x20 mm. Wired, 1 m Cat. 5E cable.



#### PFATBLQ-00B

#### SENSOR BUS BLACK BOX T H L

Ambient Temperature, Relative Humidity and Luminosity sensor for the Deca Sensor TE BUS, Net series with built-in SI BUS module, Libra and RS485 Node SI series. Temperature: measure range -20°C .. +80°C (wider range on request); typical accuracy of  $\pm 0.2$ °C. Relative Humidity: typical accuracy  $\pm 1.8$ %. Luminosity: configurable for indoor (0-4.000Lux) or outdoor (0-65.000Lux) use. Black external case, size: 38x73x20 mm. Wired, 1 m Cat. 5E cable.



# PFATRRQ-00B

# SENSOR BUS RJ BLACK BOX T H B

Ambient Temperature, Relative Humidity, Luminosity and Pressure sensor for the Deca Sensor TE BUS, Net series with built-in SI BUS module, Libra and RS485 Node SI series. Temperature: measure range -20°C ... +80°C (wider range on request); typical accuracy of ±0,2°C. Relative Humidity: typical accuracy ±1,8%. Luminosity: configurable for indoor (0-4.000Lux) or outdoor (0-65.000Lux) use. Pressure: measure range: from 800 to 1.100 mbar. Equipped with 2 RJ45 female ports for the connection to the BUS. Black external case, size: 38x73x20 mm.



# PFAT4AQ-00

# SENSOR BUS NAKED T 0,2

Temperature TE sensor for the Deca Sensor TE BUS, Net series with built-in SI BUS module, Libra and RS485 Node SI series. Temperature by contact (typical accuracy of 0,2°C): measure range -20°C .. +80°C. No external case. Wired, 1 m Cat. 5E cable. Addressable from 1 to 4.





#### Code Description

#### PFATR01-T4

#### **RS485 NODE 12VDC SI**

RS485 node with BUS for connecting Sensor Bus environmental sensors (various sensor combinations and up to 8 measurements, eg 8 Temperature or 3 Temperature and Relative Humidity plus 2 Temperature sensors). Internal terminals for RS485 network. Black box size: 38x73x20 mm. 12Vdc power supply that can be supplied through the switching power supply cod. PFTP100-P2 or via the RS485 cable if connected to a Libra.



#### PFATR0Q-BE

#### **BUS RJ BOX 3,3VDC 4DI 4COMMON**

Box equipped with 4 optoisolated digital status and / or counting inputs and separate common terminals. Black box size: 38x73x20 mm. 3.3VDC power supply from SIO bus equipped devices. The input circuits require external power supply (eg 12Vdc or 24Vdc).



#### PFATR0Q-CE

#### **BUS RJ BOX 3,3VDC 4DO 4COMMON**

Box equipped with 4 optoisolated transistor 27Vdc 27mA digital outputs according to DIN 43864 with separate common terminals. The outputs can function as remotely controlled output units. Black box size: 38x73x20 mm. 3.3VDC power supply from SIO bus equipped devices. The output circuits require external power supply (eg 12Vdc or 24Vdc).



# PFATR0Q-DE

#### **BUS RJ BOX 3,3VDC 2DI 2DO 4COMMON**

Box with 2 inputs and 2 optoisolated digital outputs with separate common terminals. The inputs are for status and / or counting purpose. The outputs are 27Vdc 27mA transistors type according to DIN 43864 and can function as remotely controlled output units. Black box size: 38x73x20 mm. 3.3VDC power supply from SIO bus equipped devices. The input and output circuits require external power supply (eg 12Vdc or 24Vdc).



#### PFAT0Q-7E

# **BUS RJ BOX 3,3VDC 2RO CL 250V 2A**

Box equipped with 2 relay outputs with exchange contact capable of controlling loads up to max 250Vac and 2A resistive. 3.3VDC power supply from devices equipped with SIO bus. Black box size: 38x73x20 mm.



# the energy saving technology www.electrex.it - info@electrex.it

#### **Electrex Catalogue**

Code Description

#### **AIRQ PRO AND AIRQ SANI**

THE ELECTREX SENSING & SANI SOLUTIONS ALLOW THE SANITIZATION USING OZONE OF ENVIRONMENTS AND SURFACES USING OZONE AND ALSO THE MONITORING OF ENVIRONMENTAL PARAMETERS. THE SAME DEVICES ARE ABLE TO CREATE ALERTS / ALARMS (E-MAIL, TELEGRAM) AND INTERCONNECT WITH SANITATION SYSTEMS AND HVAC SYSTEMS (API, MQTT) OPTIMIZING ENERGY CONSUMPTION.

#### PFATH2JS02W

#### AirQ SANI O3

Integrated system for the sanitization through the production of Ozone of environments and surfaces and the monitoring of environmental parameters, the local data-logging and the publication of Dashboards / Graphs for the rapid identification of the healthiness of the environments. Equipped with a powerful 10,000 mg / h OZONE generator. It can be used both manually via buttons and remotely via customized web pages visible from smartphones, tablets and PCs. Parameters measured: VOC (Volatile Organic Compounds), CO2 equivalent (CO2e), Temperature (T), Relative Humidity (RH), Atmospheric Pressure (Pa) and other parameters on request such as Ozone (O3) and Particulate (PM1, PM2.5, PM10). AirQ SANI can be configured as Master or Slave allowing to create networks composed of several AirQs. The connection can be both wired (Ethernet and RS485 serial) and wireless (Wi-Fi). Power supply 230Vac ± 10% 50Hz. White case size: 350x100x225 mm.



#### PFATJ3J-04W

#### AirQ Pro

Integrated system for monitoring and managing Indoor Air Quality, local data-logging and publication of Dashboards / Graphs for the rapid identification of the healthiness of the environments. AirQPro can be configured as a Master or Slave allowing you to create networks made up of several AirQs. The connection can be both wired (Ethernet and RS485 serial) and wireless (Wi-Fi). Parameters measured: VOC (Volatile Organic Compounds), CO2 equivalent (CO2e), Particulate matter (PM1, PM2.5, PM10), Temperature (T), Relative Humidity (RH), Atmospheric Pressure (Pa) and other parameters on request eg. PM4, Ozone (O3) or ultraviolet radiation (UV-A, UV-B, UV-C). 12Vdc power supply via 220 cm cable (external power supply included). White case size: 230x60x200 mm.



# PFATM1I-04W

#### AirQ Lite 868

Integrated system for monitoring and managing Indoor Air Quality, local data-logging and publication of Dashboards / Graphs for the rapid identification of the healthiness of the environments. AirQLite E-Wi 868 can be inserted inside a network as a Slave of an AirQPro using an 868MHz wireless connection via an AirQ Coordinator RS485 E-Wi 868 to be connected in RS485 to the AirQPro. Parameters measured: VOC (Volatile Organic Compounds), CO2 equivalent (CO2e). 12Vdc power supply via female jack (external power supply included). White case size: 125x40x85 mm.



#### PFATM11-04W

# AirQ Lite RS485

Integrated system for monitoring and managing Indoor Air Quality, local data-logging and publication of Dashboards / Graphs for the rapid identification of the healthiness of the environments. AirQLite Rs485 can be inserted inside a network as a Slave of an AirQPro using a serial RS485 connection. Parameters measured: VOC (Volatile Organic Compounds), CO2 equivalent (CO2e). 12Vdc power supply via female jack (external power supply included). White case size: 125x40x85 mm.



# PFATMCIL04W

# AirQ Coordinator RS485 E-Wi 868 12Vdc

Coordinator of the radio network on the 868MHz frequency (Wireless), it can be connected in the RS485 subnet to a Gateway datalogger such as the AirQPro and / or the AirQ SANI O3. It manages "end devices" such as the AirQLite EWi 868 which transmit TVOC and CO2 measurements via radio at 868MHz using the E-Wi protocol. Equipped with terminal block with 5 screw terminals, three of which are galvanically isolated for the RS485 port and two for the 12Vdc power supply (powered by switching power supply code PFTP100-P2). Case black or white size: 125x40x85 mm.







Code Description

# SPLIT CORE CURRENT TRANSFORMERS SPLIT SERIES

RANGE FROM 100A TO 2500A WITH 5A SECONDARY. MAGNETIC MATERIAL WITH VERY LOW LOSS. PATENTED QUICK SNAP-ON CLOSING SYSTEM (SCREW-FREE). SUITABLE FOR APPLICATION ON POWER BUS BARS AS WELL AS DIRECTLY ON ANY POWER CABLE. BRACKETS FOR PANEL MOUNTING. SMALL SIZE.



PFC0201 CTS 23-100

100/5 Split core CT. Internal size (hole) in mm: 20x30. External size in mm: 93x106. Class 3.

PFC0205 CTS 23-200

200/5 Split core CT. Internal size (hole) in mm: 20x30. External size in mm: 93x106. Class 3.

PFC0206 CTS 23-250

250/5 Split core CT. Internal size (hole) in mm: 20x30. External size in mm: 93x106. Class 1.

PFC0208 CTS 23-300

300/5 Split core CT. Internal size (hole) in mm: 20x30. External size in mm: 93x106. Class 1.

PFC0210 CTS 23-400

400/5 Split core CT. Internal size (hole) in mm: 20x30. External size in mm: 93x106. Class 1. PFC0210.

PFC0214 CTS 58-300

300/5 Split core CT. Internal size (hole) in mm: 50x80. External size in mm: 125x158. Class 1.





# **Electrex Catalogue** Code Description PFC0216 CTS 58-400 400/5 Split core CT. Internal size (hole) in mm: 50x80. External size in mm: 125x158. Class 1. CTS 58-600 PFC0220 600/5 Split core CT. Internal size (hole) in mm: 50x80. External size in mm: 125x158. Class 1 PFC0224 CTS 58-800 800/5 Split core CT. Internal size (hole) in mm: 50x80. External size in mm: 125x158. Class 1. PFC0226 CTS 58-1000 1000/5 Split core CT. Internal size (hole) in mm: 50x80. External size in mm: 125x158. Class 1. PFC0238 CTS 812-600 600/5 Split core CT. Internal size (hole) in mm: 80x120. External size in mm: 155x198. Class 1. PFC0242 CTS 812-800 800/5 Split core CT. Internal size (hole) in mm: 80x120. External size in mm: 155x198. Class 1.

PFC0244 CTS 812-1000

1000/5 Split core CT. Internal size (hole) in mm: 80x120. External size in mm: 155x198. Class 1.





Code Description

PFC0248 CTS 812-1250

1250/5 Split core CT. Internal size (hole) in mm: 80x120. External size in mm: 155x198. Class 1.



PFC0250 CTS 812-1500

1500/5 Split core CT. Internal size (hole) in mm: 80x120. External size in mm: 155x198. Class 1.

PFC0260 CTS 816-2000

2000/5 Split core CT. Internal size (hole) in mm: 80x160. External size in mm: 195x243. Class 1.

PFC0264 CTS 816-2500

2500/5 Split core CT. Internal size (hole) in mm: 80x160. External size in mm: 195x243. Class 1





Code

Description

#### **SPLIT CORE CURRENT TRANSFORMERS MINI SERIES**

SPLIT CORE CURRENT TRANSFORMERS, SMALL SIZE, FOR AC LOADS AND 1A SECONDARY.

RANGE FROM 100A TO 500A.

#### PFC0300

#### CTS 24-100 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of AC loads. Primary 100A. Secondary 1A. Equipped with a snap-on, screwless mounting system. Internal size (internal hole diameter) in mm: 24. External size in mm: 45x76x36. Class 1. The high accuracy, even at low currents / powers, makes possible to be used also for the management of the Power Quality.



#### PFC0310

#### CTS 35-200 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of AC loads. Primary 200A. Secondary 1A. Equipped with a snap-on, screwless mounting system. Internal size (internal hole diameter) in mm: 35. External size in mm: 63x94x40. Class 1. The high accuracy, even at low currents / powers, makes possible to be used also for the management of the Power Quality.

# PFC0320

#### CTS 35-400 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of AC loads. Primary 400A. Secondary 1A. Equipped with a snap-on, screwless mounting system. Internal size (internal hole diameter) in mm: 35. External size in mm: 63x94x40. Class 1. The high accuracy, even at low currents / powers, makes possible to be used also for the management of the Power Quality.

#### PFC0411

# CTS 24-100 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of AC loads. Primary 100A. Secondary 1A. Equipped with a snap-on, screwless mounting system. Internal size (internal hole diameter) in mm: 24. External size in mm: 45x75x34. Class 3. The high accuracy, even at low currents / powers, makes possible to be used also for the management of the Power Quality.

# PFC0415

# CTS 24-200 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of AC loads. Primary 200A. Secondary 1A. Equipped with a snap-on, screwless mounting system. Internal size (internal hole diameter) in mm: 24. External size in mm: 45x75x34. Class 1. The high accuracy, even at low currents / powers, makes possible to be used also for the management of the Power Quality

# PFC0420

# CTS 24-250 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of AC loads. Primary 250A. Secondary 1A. Equipped with a snap-on, screwless mounting system. Internal size (internal hole diameter) in mm: 24. External size in mm: 45x75x34. Class 1. The high accuracy, even at low currents / powers, makes possible to be used also for the management of the Power Quality.





Code Description

# PFC0425 CTS 36-

CTS 36-300 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of AC loads. Primary 300A. Secondary 1A. Equipped with a snap-on, screwless mounting system. Internal size (internal hole diameter) in mm:

36. External size in mm: 57x92x40. Class 1. The high accuracy, even at low currents / powers, makes possible to be used also for the management of the Power Quality.



#### PFC0430

#### CTS 36-500 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of AC loads. Primary 500A. Secondary 1A. Equipped with a snap-on, screwless mounting system. Internal size (internal hole diameter) in mm: 36. External size in mm: 57x92x40. Class 1. The high accuracy, even at low currents / powers, makes possible to be used also for the management of the Power Quality.

HALL EFFECT, SPLIT CORE CURRENT TRANSFORMERS, SMALL SIZE, FOR DC LOADS. RANGE FROM 50A TO 500A.

#### PFC0360

# CTS DC HALL 16-50 SPLIT CORE CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of DC loads. Must be used with the Electrex instruments of the DC Hall series, in combination with the DC Channel Split Core Current Converters, or with those of the Femto 4Hall series. Equipped with a snap-on, screwless mounting system. Nominal current: 50A. Internal size (internal hole diameter) in mm: 16. External size in mm: 30x54x31. Class 1.



# PFC0370

# CTS DC HALL 16-100 SPLIT CORE CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of DC loads. Must be used with the Electrex instruments of the DC Hall series, in combination with the DC Channel Split Core Current Converters, or with those of the Femto 4Hall series. Equipped with a snap-on, screwless mounting system. Nominal current: 100A. Internal size (internal hole diameter) in mm: 16. External size in mm: 30x54x31. Class 1.

# PFC0380

# CTS DC HALL 24-200 SPLIT CORE CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of DC loads. Must be used with the Electrex instruments of the DC Hall series, in combination with the DC Channel Split Core Current Converters, or with those of the Femto 4Hall series. Equipped with a snap-on, screwless mounting system. Nominal current: 200A. Internal size (internal hole diameter) in mm: 24. External size in mm: 45x76x36. Class 1.





Code

Description

#### PFC0390

#### CTS DC HALL 35-500 SPLIT CORE CURRENT TRANSFORMER MINI SERIES

Split current transformers suitable for the measurement of DC loads. Must be used with the Electrex instruments of the DC Hall series, in combination with the DC Channel Split Core Current Converters, or with those of the Femto 4Hall series. Equipped with a snap-on, screwless mounting system. Nominal current: 500A. Internal size (internal hole diameter) in mm: 35. External size in mm: 60x80x40. Class 1.



#### PFC0500

#### CTS DC HALL 10-50 SPLIT CORE CURRENT TRANSDUCER MINI SERIES

Split current transformers suitable for the measurement of DC loads. Must be used with the Electrex instruments of the DC Hall series, in combination with the DC Channel Split Core Current Converters, or with those of the Femto 4Hall series. Equipped with a snap-on, screwless mounting system. Nominal current: 50A. Internal size (internal hole diameter) in mm: 10. External size in mm: 24x41x27. Class 1.

#### PFC0501

#### CTS DC HALL 16-100 SPLIT CORE CURRENT TRANSDUCER MINI SERIES

Split current transformers suitable for the measurement of DC loads. Must be used with the Electrex instruments of the DC Hall series, in combination with the DC Channel Split Core Current Converters, or with those of the Femto 4Hall series. Equipped with a snap-on, screwless mounting system. Nominal current: 100A. Internal size (internal hole diameter) in mm: 16. External size in mm: 30x45x32. Class 1.

# PFC0502

#### CTS DC HALL 24-250 SPLIT CORE CURRENT TRANSDUCER MINI SERIES

Split current transformers suitable for the measurement of DC loads. Must be used with the Electrex instruments of the DC Hall series, in combination with the DC Channel Split Core Current Converters, or with those of the Femto 4Hall series. Equipped with a snap-on, screwless mounting system. Nominal current: 250A. Internal size (internal hole diameter) in mm: 24. External size in mm: 45x65x34. Class 1.

#### PFC0503

# CTS DC HALL 36-500 SPLIT CORE CURRENT TRANSDUCER MINI SERIES

Split current transformers suitable for the measurement of DC loads. Must be used with the Electrex instruments of the DC Hall series, in combination with the DC Channel Split Core Current Converters, or with those of the Femto 4Hall series. Equipped with a snap-on, screwless mounting system. Nominal current: 500A. Internal size (internal hole diameter) in mm: 36. External size in mm: 57x82x40. Class 1.





Code

Description

#### **CURRENT TRANSFORMERS ELECTREX ECT SERIES**

CLOSED AND SPLIT CURRENT TRANSFORMERS, SMALL SIZE, FOR THE MEASUREMENT OF AC LOADS TO BE USED ONLY WITH THE ELECTREX ECT TYPE INSTRUMENTS.

#### PFAE000-01

#### ECT TA 100A 13MM POWER QUALITY CURRENT TRANSFORMER

Current transformer to be used exclusively with the ECT Electrex series such as the Femto D4 ECT, the Atto D4 ECT, the Femto ECT net, the Libra ECT and the Lyra ECT net (up to 100A). Plastic shell. Internal window diameter 13 mm. Accuracy class 0.5. Wire length: 500mm. The great precision, even at low currents / powers, allows its use also for the management of Power Quality.



#### PFAF000-09

#### **ECT TA 100A 13MM POWER QUALITY CURRENT TRANSFORMER**

Current transformer to be used exclusively with the ECT Electrex series such as the Femto D4 ECT, the Atto D4 ECT, the Femto ECT net, the Libra ECT and the Lyra ECT net (up to 100A). Plastic shell. Internal window diameter 13 mm. Accuracy class 1. Wire length: 500mm. The great precision, even at low currents / powers, allows its use also for the management of Power Quality.

# PFAE000-08

# ECT TA 200A 19MM POWER QUALITY CURRENT TRANSFORMER

Current transformer to be used exclusively with the ECT Electrex series such as the Femto D4 ECT, the Atto D4 ECT, the Femto ECT net, the Libra ECT and the Lyra ECT net (up to 200A). Plastic shell. Internal window diameter 19 mm. Accuracy class 0.5. Wire length: 250mm. The great precision, even at low currents / powers, allows its use also for the management of Power Quality.



#### PFAE000-10

# ECT TA 200A 19MM POWER QUALITY CURRENT TRANSFORMER

External 70A CT suitable for FEMTO D4 70A meters. Voltage output secondary with superior metering accuracy also for low current/power signals. Plastic body with 9 mm. hole diameter.

# PFAE000-07

# ECT TA 400A 30MM POWER QUALITY CURRENT TRANSFORMER

Current transformer to be used exclusively with the ECT Electrex series such as the Femto D4 ECT, the Atto D4 ECT, the Femto ECT net, the Libra ECT and the Lyra ECT net (up to 400A). Plastic shell. Internal window diameter 30 mm. Accuracy class 0.5. Wire length: 500mm. The great precision, even at low currents / powers, allows its use also for the management of Power Quality.



# PFAE000-11

# ECT TA 400A 30MM POWER QUALITY CURRENT TRANSFORMER

Current transformer to be used exclusively with the ECT Electrex series such as the Femto D4 ECT, the Atto D4 ECT, the Femto ECT net, the Libra ECT and the Lyra ECT net (up to 100A). Plastic shell. Internal window diameter 30 mm. Accuracy class 1. Wire length: 500mm. The great precision, even at low currents / powers, allows its use also for the management of Power Quality.



# Code Description

#### PFAE000-02

#### ECT CTS 16-100 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER

Split current transformer to be used exclusively with the ECT Electrex series such as the Femto D4 ECT, the Atto D4 ECT, the Femto ECT net, the Libra ECT and the Lyra ECT net (up to 100A). Plastic shell. Equipped with a snap-on and screw-free closing system. Internal window diameter 16 mm. Accuracy class 0.5. Protection on secondary circuit opening. The high accuracy, even at low currents / powers, allows its use also for the management of Power Quality.



#### PFAE000-05

#### ECT CTS 24-200 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER

Split current transformer to be used exclusively with the ECT Electrex series such as the Femto D4 ECT, the Atto D4 ECT, the Femto ECT net, the Libra ECT and the Lyra ECT net (up to 200A). Plastic shell. Equipped with a snap-on and screw-free closing system. Internal window diameter 24 mm. Accuracy class 0.5. Protection on secondary circuit opening. The high accuracy, even at low currents / powers, allows its use also for the management of Power Quality.



#### PFAF000-04

#### ECT CTS 36-400 SPLIT CORE POWER QUALITY CURRENT TRANSFORMER

Split current transformer to be used exclusively with the ECT Electrex series such as the Femto D4 ECT, the Atto D4 ECT, the Femto ECT net, the Libra ECT and the Lyra ECT net (up to 400A). Plastic shell. Equipped with a snap-on and screw-free closing system. Internal window diameter 35.9 mm. Accuracy class 0.5. Protection on secondary circuit opening. The high accuracy, even at low currents / powers, allows its use also for the management of Power Quality.







Code Description

#### FLEXIBLE SPLIT CORE CURRENT TRANSFORMER SERIES FCTS

FLEXIBLE, SPLIT CORE CURRENT TRANSFORMER FOR AC LOADS TO BE USED EXCLUSIVELY WITH THE ELECTREX F SERIES DEVICES.



#### PFCF021

#### FCTS 070-500 FLEXIBLE SPLIT CORE CURRENT TRANSFORMER

Flexible split current transformer, mV output (for exclusive use with the Electrex F series devices: Femto D4 F, Exa 96 F, Kilo F, Giga F PQ Box, Exa F D6 and 96). Internal size: 70 mm. Configurable full scale: 250A or 500A or 1.000A or 2.000A or 4.000A. Connection cable of 2 meters. Accurancy +/-1%

#### PECF022

#### FCTS 120-1000 FLEXIBLE SPLIT CORE CURRENT TRANSFORMER

Flexible split current transformer, mV output (for exclusive use with the Electrex F series devices: Femto D4 F, Exa 96 F, Kilo F, Giga F PQ Box, Exa F D6 and 96). Internal size: 120 mm. Configurable full scale: 250A or 500A or 1.000A or 2.000A or 4.000A. Connection cable of 2 meters. Accurancy +/- 1%.

#### PFCF023

#### FCTS 200-2000 FLEXIBLE SPLIT CORE CURRENT TRANSFORMER

Flexible split current transformer, mV output (for exclusive use with the Electrex F series devices: Femto D4 F, Exa 96 F, Kilo F, Giga F PQ Box, Exa F D6 and 96). Internal size: 200 mm. Configurable full scale: 250A or 500A or 1.000A or 2.000A or 4.000A. Connection cable of 2 meters. Accurancy +/- 1%.

#### PFCF024

# FCTS 280-4000 FLEXIBLE SPLIT CORE CURRENT TRANSFORMER

Flexible split current transformer, mV output (for exclusive use with the Electrex F series devices: Femto D4 F, Exa 96 F, Kilo F, Giga F PQ Box, Exa F D6 and 96). Internal size: 280 mm. Configurable full scale: 250A or 500A or 1.000A or 2.000A or 4.000A. Connection cable of 2 meters. Accurancy +/- 1%.

**NOTE:** On request the FCTS series split current transformers can be supplied calibrated, for a further improvement of the precision, and/or used with a longer connection cable.





Code

Description

#### DC CURRENT SHUNTS

0,5 % CLASS. 60MV VOLTAGE DROP. 10A AND 25A VERSION ARE PROVIDED WITH A INSULATING PLASTIC SOCKET. ALL MODELS ARE CONFORM TO THE DIN 43703 STANDARD.

#### PFAR070005

#### SHUNT 5A 60mV

5A capacity, 60mV voltage drop, 0,5% accuracy class. Compliant with DIN43703. Including 4 screws and washers. With plastic socket, size 135x30x15 mm. Shunt size 90x20x8 mm. Provided with screws



#### **PFARQ70010**

#### SHUNT 10A 60mV WITH SOCKET

10A capacity, 60mV voltage drop, 0,5% accuracy class. Compliant with DIN43703. Including 4 screws and washers. With plastic socket, size 135x30x15 mm. Shunt size 90x20x8 mm. Provided with screws.

#### PFARQ70025

#### SHUNT 25A 60mV WITH SOCKET

25A capacity, 60mV voltage drop, 0,5% accuracy class. Compliant with DIN43703. Including 4 screws and washers. With plastic socket, size 135x30x15 mm. Shunt size 90x20x8 mm. Provided with screws.

# PFAR070050

# SHUNT 50A 60mV

50A capacity, 60mV voltage drop, 0,5% accuracy class. Compliant with DIN43703. Including 4 screws washers and nuts. Without plastic socket. Shunt size 100x20x8 mm. Provided with screws.



# PFAR070100

# SHUNT 100A 60mV

100A capacity, 60mV voltage drop, 0,5% accuracy class. Compliant with DIN43703. Including 4 screws washers and nuts. Without plastic socket. Shunt size 100x20x8 mm. Provided with screws.

NOTE: shunts are available also with 100mV voltage drop and with capacity from 1A to 15000A.





Code Description

#### **CABLES**

# TWO PAIR SHIELDED TWISTED CABLE FOR THE CONNECTION OF THE ELECTREX INSTRUMENTS IN RS485 NETWORKS.



CE00103 RS485 LINE CABLE (100 M)

Two pair shielded twisted cable ( $2x2x0,22\,$  mmq). LENGHT 100 m. For the connection of the ELECTREX instruments in RS485 networks.

CE00105 RS485 LINE CABLE (500 M)

Two pair shielded twisted cable (2x2x0,22 mmq) LENGHT 500 m. For the connection of the

ELECTREX instruments in RS485 networks.

CE00107 RS485 LINE CABLE U (100 M)

Two pair shielded twisted cable (2x2x0,22 mmq) suitable for underground installation. LENGHT 100

m. For the connection of the ELECTREX instruments in RS485 networks.

CE00109 RS485 LINE CABLE U (500 M)

Two pair shielded twisted cable (2x2x0,22 mmq) suitable for underground installation. LENGHT 500

m. For the connection of the ELECTREX instruments in RS485 networks.





Code

Description

#### **ACCESSORIES**

#### PFTP100-P2 SWITCHING POWER SUPPLY D1 12VDC 800mA

230 Vac switching power supply, 12 Vdc output. 1 DIN module size.



#### PFTP100-Q2 SWITCHING POWER SUPPLY D1 24VDC 400mA

230 Vac switching power supply, 24 Vdc output. 1 DIN module size.

#### PIT0000-92 RELE' 2 OUT KIT

Includes 1 switching power supplier cod. PFTP100-Q2 and 2 relays (brand Finder cod. 38.51.7.024.0050). Used in applications for converting the 2 digital outputs (max 27V, 27 mA) of Electrex devices in relay outputs (max 6A).

# PFAT000-0B DECA SENSOR LITHIUM BATTERY

AA Lithium Battety for the multifunction Deca Sensor series. Not rechargeable. Operating voltage 3,6  $\vee$ 

Operating temperature -55 + 85°C.



# PCALM0-01 SHORT-CIRCUITABLE TERMINAL BOX FOR CURRENT TRANSFORMER ECT AND ..1/A, ../5A

External Unit Box with short-circuitable terminal box for ../1A, ../5A type CT. Box size: 38x73x20 mm. Not included in the Libra series.



# PCALM0-02 ECT / FLEX TA CONNECTION BOX

External Unit Box with short-circuitable terminal box for and ECT and Flex type CT. Box size: 38x73x20 mm. Not included in the Libra product series.







Code Description

#### PFAT0T0-01

#### **DECA SENSOR EXTERNAL ENCLOSURE**

ABS container for installaing the multifunction Deca Sensor series in external environments and not protected from the weather effects. Snap-fit without the use of screws. Eqiupped with a galvanized metal bracket for installation on pole.



#### PFE950-00

#### **EXA MID D6 TERMINAL COVER**

Terminal covers for wall mounting EXA MID D6 RS485.

#### PFE940-00

#### C4 DIN

Plastic adapter for panel mounting of DIN rail instruments size 4 DIN

#### PFE930-00

#### 9 DIN

Plastic adapter for panel mounting of DIN rail instruments size 9 DIN

# PFC3533

# **EXTERNAL DIRECTIONAL ANTENNA 2.4GHZ**

External directional antenna. Suitable for the Yocto net Coordinator, Router and Bridge in the EDA versions. Can be installed distant from the devices using the extension cable PFC3568 or PFC3569. The small size gives the antenna versatility of use, simplicity of installation even in closed panels (unshielded) maintaining an optimal signal quality.



# PFC3568

# CABLE EXTENSION 1,0M 2,4GHZ - 868MHZ

1,0 meter antenna extension cable (2.4GHz e 868MHz). Suitable for the PFC3530 or PFC3533 external antennas. Should be used when the antenna must be installed distant from the device in order to avoid disturbs from other appliances and in the same time improve the signal reception.



# PFC3569

# CABLE EXTENSION 5,0M 2,4GHZ - 868MHZ

5,0 meters antenna extension cable (2.4GHz e 868MHz.). Suitable for the PFC3530 or PFC3533 external antennas. Should be used when the antenna must be installed distant from the device in order to avoid disturbs from other appliances and in the same time improve the signal reception.





Code

Description

#### **SOFTWARE**

ENERGY BRAIN SOFTWARE SUITE FOR THE MANAGEMENT OF ELECTRICITY CONSUMPTION AND OTHER ENERGY SOURCES (GAS, WATER, STEAM, ETC.) OR PROCESS PARAMETERS (LEVEL OF LIGHTING, TEMPERATURES, CALORIES, COMPRESSED AIR, ETC.)

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HERE BELOW ARE LISTED SOME OF VERSIONS OF THE SOFTWARE SUITE. FOR MORE INFORMATION ON THE OTHER VERSIONS, VISIT WWW.ELECTREX.IT/EN OR CONTACT OUR SALES TEAM.

#### PFSW300-006

#### **ENERGY BRAIN 6.0 CONFIGURATOR**

Software version 6.X for the configuration and real-time display only of the measures of single Electrex devices connected to the local network or remotely. All the features available in other versions of Energy Brain are inactive (e.g. graphs).



#### **ENERGY BRAIN 4 6.X HK POSTGRESQL**

Software Energy Brain 6.x with PostgreSQL database in the version up to 4 channels for the management of electrical energy consumption and other energy sources (gas, water, steam, etc.), environmental parameters (level lighting, temperature, calories, compressed air, etc.). Management of historical data (numerical and graphical reports), online measurement, power quality, calendars, measurement campaigns, event logs, alarms, cost centers, export of data, etc. Version with hardware protection on USB key. The version 6.x in addition to the new graphic interface and a higher calculation speed, can manage the new Electrex devices as the Kilo net, Exa net, Femto ECT net, Yocto net D6, Exa Rs485 and Rs485 Modules product series. The virtual channels are not counted for the calculation of the available channels.

# PFAS000-05

# **CAMBIO CHIAVE DI PROTEZIONE SK - HK**

Replacement of software license protection system with hardware type on USB key, or vice versa.

Quotazione su richiesta





#### Code Description

IOE - INTERNET OF ENERGY HARDWARE PLATFORM WITH SOFTWARE IOE - INTERNET OF ENERGY HARDWARE PLATFORM WITH EMBEDDED SOFTWARE SUITABLE FOR INTERCONNECTION WITH BUILDING'S IT SYSTEMS. INTELLIGENT MANAGEMENT SOLUTION, THE EFFICIENT USE AND MONITORING OF ENERGY VECTORS, ENVIRONMENTAL AND PROCESS PARAMETERS.



#### **IOE BOX 4.0**

IoE hardware platform - Internet of Energy with embedded software suitable for interconnection with building's IT systems. Intelligent solution for the management, efficient use and monitoring of energy vectors, environmental and process parameters. Equipped with an Ethernet port. 230V power supply (UPS suggested). White enclosure. Size: 230x60x200mm. Equipped with hardware dongle key protection.

Quotazione su richiesta

#### **IOE BOX NET 4.0**

loE hardware platform - Internet of Energy including NET Full Master device anad embedded software suitable for interconnection with building's IT systems. Intelligent solution for the management, efficient use and monitoring of energy vectors, environmental and process parameters. Equipped with an Ethernet port. 230V power supply (UPS suggested). White enclosure. Size: 230x60x200mm. Equipped with hardware dongle key protection.

Quotazione su richiesta





# electrex.it



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