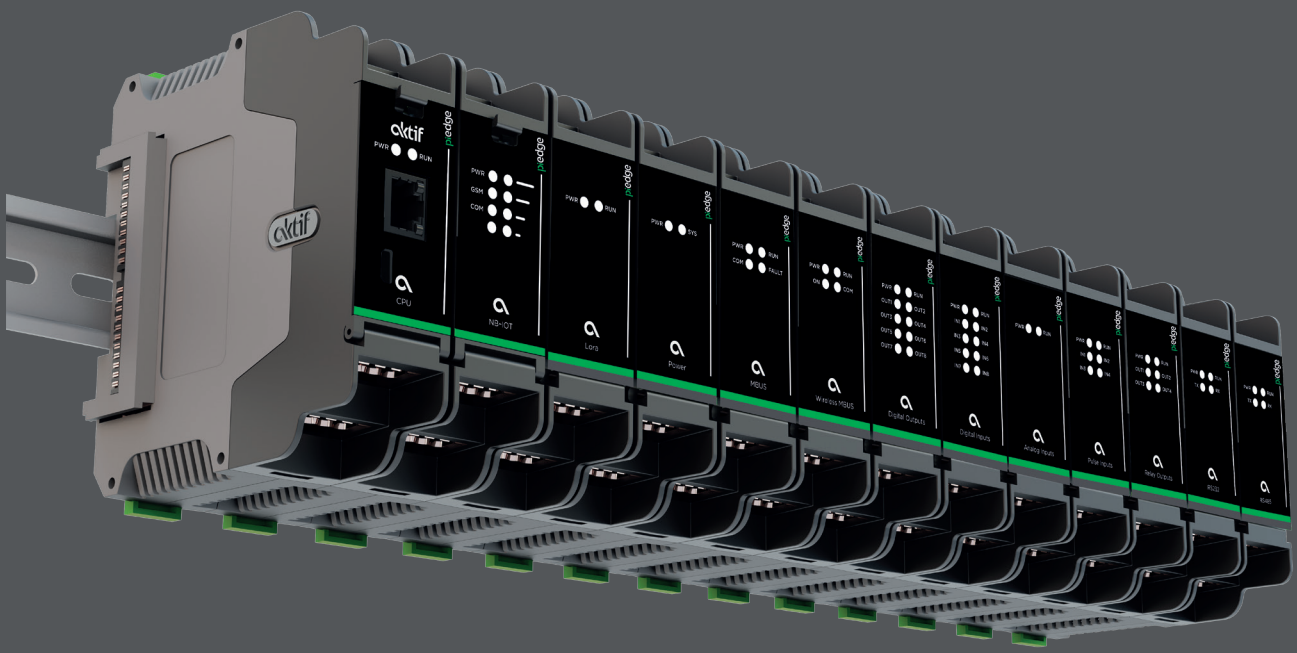
Smart Data Controller



Piedge Series

NB-IoT | LoRa | DI/DO | AI | RS485
RS232 | M-Bus | Wireless M-Bus | Pulse Input | Relay Output

Switching Life to Infinity

aktif ELEKTROTEKNİK

Smart Data Controller
Piedge Series

Piedge is a modular smart data controller series used for recording and controlling data for any automation process from building to machinery.

The main controller of the Piedge series, CPU100 is an ARM Cortex A72 processor-based compact product. Besides the main controller, it offers a wide area of use with its more than 10 modules.

While the Piedge series provides a high level of automation service, it provides an advantage with its long-term operation without maintenance and low failure probability. In addition, if the technical requirements of the system change, it will adapt to the new situation with less or no change thanks to its modular structure.

Application Areas

- Energy & Utilities
- Industrial facilities
- Water, wastewater, and water tank monitoring
- Smart cities

- Transportation
- Agriculture and livestock sector
- Hospital

Advantages

- Modular Structure
- Wireless Communication Solutions
- Wired Communication Solutions
- Digital / Analog Input and Output Modules
- Wide Communication Protocols
- Customizable Software

Functions and Technical Details

CPU

- Operating System : Custom Linux
- Processor : Quad Core ARM Cortex A72 64-bit 1.5GHz
- RAM : 1 GB LPDDR4
- Memory : 16 GB
- Interface : 1 x Gigabit Ethernet, 1 x USB 2.0
- Others : RTC, micro SD card
- LED Indicators : PWR, RUN

LoRa Interface

- Frequency : 433 MHz / 868 MHz
- TX Power : Up to +14 dBm
- Coverage : Up to 15 km at suburban area
  : Up to 5 km at urban area
- Data rate : Up to 300 kbps with FSK modulation
  Up to 10.9 kbps with LoRa Technology Modulation
- Connector : SMA-K

Cellular Interface

- Bands

  LTE Cat NB2 : B1 / B2 / B3 / B4 / B5 / B8 / B12 / B13 / B18 / B19 / B20 / B25 / B28 / B66 / B71 / B88

  LTE Cat M1 : B1 / B2 / B3 / B4 / B5 / B8 / B12 / B13 / B18 / B19 / B20 / B25 / B26 / B27 / B28 / B66 / B85

  GSM : 850 / 900 / 1800 / 1900 MHz

- Protocols : UDP / TCP / SNTP / PPP / SSL / TLS / MQTT / CoAP/ LwM2M / HTTP / HTTPS / FTP / FTPS

- Sim : Micro SIM

- Connector : SMA-K

Analog Inputs

- Channel : 4 channels
- Input Range : 0 – 10 Vdc
- Signal Resolution : 12 bit

M-Bus

- Number of Slave : Up to 20 devices
- Baud Rate : 300 – 9600 bps

Digital Inputs

- Channel : 8 ch.
- Isolation : 3750 Vac
- Maximum Voltage : 30 Vdc
- LED Indicators : PWR, RUN, 8 x IN

Digital Outputs

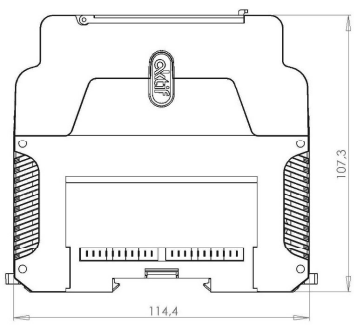
- Channel : 8 channels
- Isolation : 3750 Vac
- Configurable Output: Internal - 24 Vdc
  External - Max. 30 Vdc
- Output Current : 350 mA per channel
- Over Current Protection : 500 mA

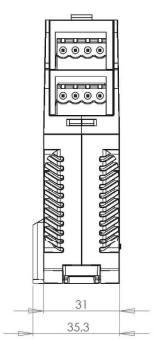
Relay Outputs

- Channel : 4 channels
- Contact Form : SPDT (1C)
- Max. Switching Voltage : 250 Vac / 30 Vdc
- Max. Switching Current : 5A (NO) / 3A (NC)
- Durability : 50,000 operations @ 5A
- Terminals : NO, COM, NC

Wireless M-Bus

- Protocols : T, S, C modes
- Frequency : 433, 470, 868, 915, 920 MHz
- TX Power : Up to +16 dBm





RS485/RS232

- Baud Rate : 300 – 115200 bps
- Data Bit : 7, 8 bits
- Parity : None, Even, Odd
- Stop Bit : 1, 2 bits

Pulse Inputs

- Channel : 4 channels
- Isolation : 3750 Vac
- Contact Type : Dry contact with GND

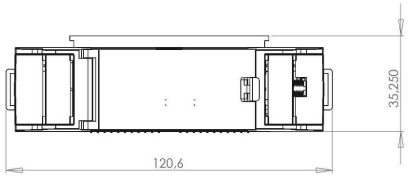
Environmental Factors

- IP Rating : IP30
- Dimensions : 35.3 x 120.6 x 107.3 mm (for each module)
- Installations : DIN rail
- Operating Temp. : -10 ... 80 °C
- Storage Temp. : -40 ... 85 °C
- Relative Humidity : 5 ... 90% RHE

Modules

- CPU100 : Main Controller
- s1-PWR : Power Module
- s1-TRMN-L : Left Side Termination
- s1-TRMN-R : Right Side Termination
- s1-DI8 : Digital Input (8 ch.)
- s1-DO8 : Digital Output (8 ch.)
- s1-RO4 : Relay Output (4 ch.)
- s1-AI4 : Analog Input (4 ch.)
- s1-PI4 : Pulse Input (4 ch.)
- s1-RS485 : RS485 Com. Module
- s1-RS232 : RS232 Com. Module
- s1-MBUS20 : M-Bus Com. Module (up to 20 devices)
- s1-NBIOT** : NB-IoT Com. Module
- s1-LORA** : LoRa Com. Module
- Power Module
  Supply Voltage : 24Vdc
  Power Consumption : 0,5 W
  Visual Warning : Led

* Coming soon
** Coming soon



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