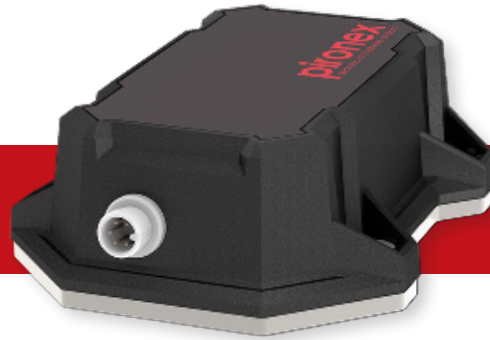


piSmart-Gateway Low Cost

Item number: 911130428



IoT gateway and CAN bus logger in one - for new and existing machines

Overview

The piSmart-Gateway Low Cost meets the requirements of modern IoT solutions. It is used as a data interface, as a data logger or as a retrofit module in devices, machines, vehicles and systems. The high-performance computing kernel enables the operating, sensor and position data to be processed and analyzed directly in the gateway. This data can then be transferred wirelessly to the pironex IoT cloud.

Thanks to the Bluetooth interface, there is direct communication with the pironex IoT app.

- › **CAN-Interface** for checking and analyzing, e.g. the vehicle bus data
- › **microSD-Card** for secure data recording even without a permanent internet connection
- › **LTE NB-IoT** for optimal energy efficiency, thanks to functions such as sleep mode, long-periodic tracking area updates and extended discontinuous reception
- › **MQTT** for reliable and encrypted data transmission from environments with low bandwidth and high latency
- › **Cloud-Plattform** pironex-iot.com for the visualization and analysis of the data
- › **Different sensors as well as radio modules** for compatibility with numerous SPS / PLCs, HMIs and embedded controllers

Possible uses

As a module for the Industrial Internet of Things (IIoT), the piSmart gateway collects low-cost data in the direct vicinity of machines and systems. This makes it an easy-to-use solution for the implementation of Industry 4.0 concepts:

- › Remote diagnosis and device control

- › Over-the-Air-Updates
- › Sensor data acquisition
- › CAN-Bus-Logger for vehicles
- › Retrofit-Module for existing systems

As a CAN bus data logger with an integrated microSD card, the gateway can either process the recorded data in real time or store it temporarily for later evaluation. The CANopen messages are received and filtered according to the configuration.

As a retrofit module, the gateway meets the industrial requirements for upgrading existing systems to Industry 4.0. It offers the possibility of translating and transferring data between systems with different communication protocols and data formats.

The gateway was specially developed for extreme environments with limited space and withstands shocks, vibrations and extreme temperature conditions.

Application-specific modifications are possible - the form factor, the interfaces and the performance can be customized.



The system is flexible and can be adapted or expanded as required (including format format, interface expansion, battery life, software modules).

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Technical data

Basics

Supply voltage	12V DC \pm 10% max. 45V
Processor	ESP32-D0WD-V3 embedded, Xtensa®dual-core32-bit LX6 Mikroprozessor
Clock	up to 240 MHz
Battery (optional)	prismatic 1Ah
Dimensions	93 x 72,5 x 30 mm
Temperature	with external power supply: -40 - 60 °C in battery mode: -10 - 40°C

Other features

Sensors	<ul style="list-style-type: none"> Acceleration Temperature
Memory	<ul style="list-style-type: none"> SRAM: 520 KB SRAM, 16KB SRAM in RTC Flash: 16MB EEPROM: 448 KB ROM
Casing	<ul style="list-style-type: none"> PA6, Aluminium for screw connection
Miscellaneous	<ul style="list-style-type: none"> Buzzer 5 Status-LEDs RTC Hardware Watchdog

Interfaces

USB	for GSM updates
Inputs	<ul style="list-style-type: none"> 2x 0-10V analogue/digital
Outputs	<ul style="list-style-type: none"> 1x Opto-relay 2x H-bridge
CAN-Bus	up to 1MBit/s
SIM	SIM-Chip
Mobile radio	<ul style="list-style-type: none"> 2G(EGPRS): 850/900/1800/1900 MHz, chip antenna LTE-Cat M1 (LTE-FDD): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85, chip antenna LTE-NB-IoT(LTE-FDD): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85, chip antenna
WiFi	802.11 b/g/n, 2,4 GHz
Bluetooth	Bluetooth V4.2 BR/EDR and Bluetooth LE
GNSS	GPS, GLONASS, BeiDou, Galileo, QZSS, chip antenna

Software

Update	<ul style="list-style-type: none"> FOTA CAN-Bootloader
Supported protocols	<ul style="list-style-type: none"> Modbus CAN-Open SSH JSON MQTT AWS https CoAP
Functions	<ul style="list-style-type: none"> A-GPS
Cloud	<p>pironex-iot.com with the following modules:</p> <ul style="list-style-type: none"> Data Logging Monitoring Sharing Remote Control Geofencing Asset Tracking Predictive Maintenance Anomaly Detection
App	Native pironex-IoT-apps for android and iOS