

DATASHEET

piSmart-Gateway Linux
SKU: 911130621

SMALL-SCALE EDGE COMPUTING, IOT GATEWAY FOR REAL-TIME ANALYSIS

OVERVIEW

The piSmart Gateway Linux brings edge computing to industrial plants. The integration of a high-performance processor enables local, real-time data processing. This allows functions such as real-time data filtering, machine control and protocol translation to be implemented with low latency.

- › **Yocto Linux** system for integrating your own software
- › **Multiple interfaces** – LTE CAT 1 (alternatively LTE CAT M1/NB-IoT), Wi-Fi, short-range wireless, GPS, CAN, RS-485, USB
- › **microSD card slot** for expanding the internal storage
- › **mikroBUS-interface** for a wide range of extensions
- › **Waterproof housing** for harsh industrial environments
- › **Customisation of external interfaces** for bespoke integration into existing systems
- › **Cloud Platform** pironex-iot.com for the visualization and analysis of the data



The gateway is flexible and can be adapted or expanded if necessary (including form factor, interface expansion, battery life, software modules).



POSSIBLE USES

Thanks to the intelligent processing of sensor data, the piSmart gateway running Linux can generate forecasts locally – without the need to transmit sensitive data – which form the basis for maintenance tailored to actual needs. This results in a reduction in downtime. Knowing exactly which devices require maintenance and when allows resources for maintenance work, such as spare parts or personnel, to be planned optimally. In the event of an incident, users are immediately notified via the pironex IoT Cloud.

- › Predictive Maintenance
- › Condition Monitoring
- › Anomaly Detection (pointanomaly, collective anomaly, contextual anomaly)
- › Investments- und process optimization
- › Over-the-Air-Updates
- › Protocol translation
- › Real-time data filtering

With the mikroBUS Clock Boards, the piSmart-Gateway-Linux can be expanded to meet your requirements.

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.

TECHNICAL SPECIFICATIONS

BASICS

Supply voltage	nom. 12 V (5 – 45 V)
Processor	High-performance processor
Clock speed	up to 1 GHz
Battery	LiPo battery, 3.7V, up to 1900mAh
Dimensions	88.2 mm × 122.3 mm × 32 mm
Temperature	with external power supply: -40 – 60°C when running on battery power: -10 – 40°C

INTERFACES

USB	USB-C; host or client; max. 1A
CAN-Bus	up to 1MBit/s
SIM	Nano-SIM holder
Mobile comm.: option 1	- external SMA antenna 2G (EGPRS): 1800/1900 MHz - LTE-Cat1 (LTE-FDD): B1/B3/B5/B7/ B8/B20
Mobile comm.: option 2	- external SMA antenna 2G (EGPRS): 850/900/1800/1900 MHz - LTE-CAT-M1 (LTE-FDD): B1/B2/B3/ B4/B5/B8/ B12/B13/B14/B18/B19/ B20/B25/B26/B27/B28/ B66/B71/ B85 - LTE-NB-IoT(LTE-FDD): B1/B2/B3/ B4/B5/B8/ B12/B13/B18/ B19/B20/ B25/B26/B28/B66/ B71/B85
WiFi	802.11 b/g/n, 2.4 GHz, up to 72 Mbps
Short-range radio	Chip antenna
GNSS	GPS, Galileo, GLONASS, BeiDou, chip antenna

OTHER FEATURES

mikroBUS	Possible clickboards: • Humidity sensor • Air quality sensor • Accelerometer • Mikrophone • More boards possible
Storage	• SRAM: 512 MB DDR3L • Flash: 4 GB eMMC • µSD-card-holder: up to 32GB • EEPROM: 4 kB
Housing / Mounting plate	PA6 / POM plastic
Miscellaneous	• 6 status LEDs • RTC • MEMS motion sensor • 6-axis accelerometer • Internal microSD card slot • Internal nanoSIM card slot • Internal battery option

SOFTWARE

Update	• FOTA • CAN bootloader
Supported protocols	• CAN-Open • SSH • JSON • MQTT • AWS • https • CoAP
Features	A-GPS
Cloud	pironex-IoT.de with the following modules: • Data Logging • Monitoring • Sharing • Remote Control • Geofencing • Asset Tracking • Predictive Maintenance • Anomaly Detection
App	native pironex IoT apps for Android and iOS