

LK4 LTE - universal IoT controller with LTE modem



The Symbol : **LANKON-302**

Price NET : **85,53 €**

Price Gross : **105,20 €**

Version with a built-in LTE modem. The LK4 integrates our previous IoT experiences into one universal device. It represents a seamless continuation of the previous LAN Controller series, now in a more convenient form. Dual communication interface: you can use a wired Ethernet connection, wireless Wi-Fi, or both at the same time. LK4 can be fully configured from the website, available on the built-in web server. It is also possible to send any commands to the device via the HTTP protocol (omitting the website) or MQTT (after configuring the connection).

Shipping within **24 hours from the moment of positive payment authorization**

Additional information

Availability **Few**

Description

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Note:

- Firmware and documents for the device are available at tinycontrol.pl/en/lk4/downloads/.

Technical specifications

Supply voltage	8 ÷ 58 V DC
Power consumption	0.5 W (without relays turned on)
PoE power supply	YES (802.3af) mode A passive with jumper
Interfaces	Ethernet 10/100 Mbit/s Wi-Fi 802.11n
Measurement interfaces	<ul style="list-style-type: none">• Modbus RTU• 4 digital inputs (L = 0 ÷ 0.3 V, H = 0.8 ÷ 30 V for INPD1, counting maximum 40 pulse/sec L = 0 ÷ 1.0 V, H = 1.3 ÷ 30 V for INPD2 ÷ INPD4, counting maximum 1 pulse/sec)• 3 analog inputs (0.1 ÷ 3.3 V or 0 ÷ 58 V for INPA1 ÷ INPA2, 0.1 ÷ 5 V or 0 ÷ 58 V for INPA3)• 1-Wire (shared RJ12 connector)• I2C (shared RJ12 connector)
Outputs	<ul style="list-style-type: none">• 1 relay output (NO, C, NC) 255 VAC 10 A• 4 outputs in OC standard (open collector)• 1 transistor output (V = VCC)• 3 PWM outputs (3.3 V @ 1 ÷ 1000000 Hz)
Operating temperature range	-20 to +85 °C
Dimensions	106 x 79 x 38 mm
Weight	130 g
DIN rail mounting	Yes (35 mm)

Basic features

Communication

- Wi-Fi in the 802.11n standard (integrated antenna) in station and AP mode
- Ethernet 10/100Mb with PoE 802.3af power support
- **LTE modem**

Hardware

- 4 logic inputs - as a status sensor for opening monitoring, infrared motion sensors, for a button for manual switching with the option of bistable mode, as a pulse counter from the energy meter, as a time counter between subsequent input resets.
- 2 analog inputs with switchable range (measurement up to 3.3V or 58V) - for measuring voltages, DC current, AC current (additional sensors), operating pressure sensors, thermocouples, distance sensors, photoresistors for lighting measurement and many others.
- 1 analog input with switchable range (measurement up to 5V or 58V) - for measuring voltages, DC current, AC current (additional sensors), operating pressure sensors, thermocouples, distance sensors, photoresistors for lighting measurement and many others.
- Measurement of supply voltage up to 58V
- Digital input in 1-Wire standard - measurement of up to 8 DS18B20 temperature probes.
- Digital input in the I²C standard (together with 1-Wire on the RJ12 connector) - for connecting various devices, e.g. temperature and humidity sensors, air quality (PM) sensors, CO₂ measurement sensors, OLED display with the ability to configure the displayed text and others. See the list of supported sensors below.
- ~~Serial bus (UART) - for connecting the devices and sensors listed below.~~
- RS485 bus to support devices and sensors with the Modbus RTU protocol.
- 1 relay (NO, C, NC) 10A/250V.
- 1 transistor output - supply voltage at the output, to control loads with a current consumption of up to 0.6A.
- 4 outputs for switching relays, transistors in OC standard.

- 3 PWM outputs 1Hz to 1MHz.
- Measurement of temperature and humidity on board.

Software

- Modern and responsive web interface.
- Possibility of own configuration of the Status panel - uploading your own background, selection and placement of necessary readings and buttons.
- Two levels of access (login) - as an administrator for configuration and as a user to view the Status.
- Advanced events table with the possibility of entering 3 conditions, including time events from the Scheduler.
- Scheduler (Scheduler) for setting 50 programmed time events.
- Ability to configure reading from your own Modbus RTU devices - up to 5 non-standard devices.
- Watchdog to monitor and reset devices with an IP address.
- Modern communication protocols: SNMP, HTTP and MQTT.
- Support for TLS encrypted connections for HTTP, SMTP, MQTT or SNMP v3.
- HTTP client that make it possible to configure and control other devices. For example, controlling Wi-Fi relays (Smart Relay) or displaying sensor readings on the camera image. It supports authentication methods like Basic Authentication and Digest Access Authentication.
- Possibility of collecting data from all connected devices and sensors, remote switching of outputs as well as remote configuration via the MQTT protocol in our service mqtt.ats.pl and mobile application.
- Many functions available through the above service, such as setting reactions and tasks (performing actions under certain conditions and at a certain time) covering multiple devices.
- Sending email, MQTT or SMS notifications (LTE option) as a result of an Event.
- Possibility to send data from sensors via Modbus TCP.
- Remote control from one to many devices via UDP - useful as an implementation of the *button over the Internet*.
- Time synchronization with the Internet (NTP).
- Maintaining the status of outputs and energy counters until power is restored.
- Convenient software update and backup functions from the device's website.
- Mobile application.

List of currently supported sensors and devices

- **Analog inputs** (the whole spectrum of sensors with voltage or 4 ÷ 20 mA output, supported in firmware)
 - AC voltage sensor: AC-meter
 - AC current sensors: SCT-013-000, SCT-013-030
 - DC current sensors: ACS711EX_15, ACS711EX_30, ACS709_75, ACS711LC_12.5, ACS711LC_25, ACS711LC20, WCS1800, WCS6800, LA100P, R=0.1Ω
 - temperature sensor: PT1000 (with additional resistor)
- **Logical inputs** (digital)
 - magnetic sensor of door opening, etc.
 - infrared motion sensor
 - button for manual switching with bistable mode option
 - pulse counter from an energy or water meter
 - time counter between successive resets of inputs for measurements, e.g. length of operations in industrial processes
- **1-Wire bus**
 - temperature sensor DS18B20
- **I²C bus**
 - BME280 (humidity, temperature, atmospheric pressure)
 - AM2301B, AHT20, AHT25, AM2320, HTS221 (humidity, temperature)
 - SPS30, APM10 (particulate matter sensor: PM1, PM2.5, PM4, PM10)
 - SCD40, ACD10 (CO2 level sensor)
 - 0.96 inch OLED display
- **Serial port** (not available with LTE option)
 - particulate matter sensor SPS30 and SDS011
 - CO₂ sensors MH-Z16, MH-Z19
 - Duraluxe PV inverters
 - ultrasonic distance sensor
 - 2D and barcode scanner
- **Modbus RTU port**
 - 2-way energy meters Eastron SDM120M, SDM72D-M, SDM630M, CHINT DTSU666 (readings of power, energy, voltage, current and other parameters depending on the meter)
 - Epever Tracer solar chargers
 - photovoltaic inverters Sofarsolar

- the ability to add the reading of many other devices and sensors through your own custom configuration

- **Modbus TCP**

- Modbus controller can read sensors connected to the LK4 (tested with Siemens LOGO)

- **HTTP Client**

- [smart Wi-Fi plugs with Tasmota firmware](#)
- displaying reading from sensors on camera image
- control of relays by Smart Relay

Differences between devices

	LK4	LAN Controller V3.5 HW 3.8
on board measurement	VCC, temperature, humidity	VCC, temperature
Modbus	on board	option
Wi-Fi	YES – on board	n/a
GSM / LTE modem	LTE (<i>option</i>)	GSM 2G (<i>option</i>)
PoE	active 802.3af	active 802.3af
digital inputs	4	4
analog inputs	3	6
I2C bus	1 (<i>more sensors in dev</i>)	1
1wire / DS18B20 sensors	8	8
OC out's (for relay)	4	4
relay on board	10A more durable relay	10A
transistor output current	0.75A	1.0A
PWM outputs number	3	4
analog inputs max range	58V	55V
Dimensions (without connectors)	106 x 79 x 38 mm	70 x 70 x 44 mm