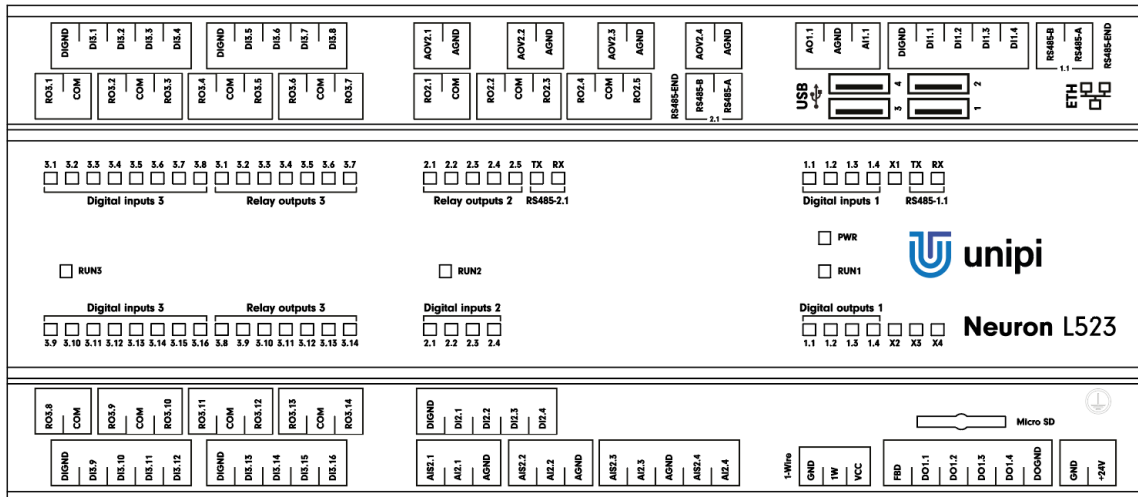


Unipi Neuron L523

PRODUCT DESCRIPTION

Unipi Neuron L523 is a programmable logic controller (PLC) designed for automation, control, regulation, and monitoring. The L523 is an intermediate model of the Neuron 500 line focused on a higher number of analog I/O, but also features a high number of all inputs/outputs available on Unipi products (digital, relay). That makes it suitable for complex projects including measurements and control of analog components. The controller is equipped with two RS485 serial interfaces a 1-Wire interface for connection of digital temperature or humidity sensors.



COMPUTING MODULE

Raspberry Pi 3 Model B
(quad-core 1.2 GHz CPU, 1 GB RAM)

FEATURES

Inputs/outputs

- 24 × digital input incl. counter
- 4 × digital output
- 19 × relay outputs
- 5 × analog inputs
- 5 × analog outputs

Software

- Powered by OS Linux
- Mervis – IDE (IEC 61131-3), HMI editor, proxy server, cloud database, SCADA, a wide range of supported protocols
- Commercial solutions– CODESYS, REXYGEN
- Open-source solutions – Node-RED, openHAB, Homebridge, FHEM, PiDome, DomotiGa, Domoticz, Pimatic and many others
- Custom SW implementation – EVOK open API, Modbus TCP interface, SysFS

FUNCTIONALITY

Smart home control (lighting, doors, smart locks, irrigation etc.), automation, remote online supervision, monitoring and regulation, HVAC control, SCADA, sensors, IoT/IIoT

Communication interfaces

- 2 × RS485
- 1 × 1-Wire bus
- 1 × 10/100Mbit Ethernet
- 4 × USB 2.0

Other features

- Built-in webserver
- Special functions – Direct Switch, MasterWatchdog, user LEDs
- Durable aluminium chassis (IP20)
- Available in an OEM variant
- Custom development available (IQRf, LoRa, wM-Bus, ZigBee, EnOcean and more)

Unipi Neuron L523

• Communication

| | |
|-----------------------------------|------------------------------------|
| Ethernet | 1 × 10/100 Mbit Ethernet |
| Serial/bus channels | 2 × RS485, 1 × 1-Wire |
| RS485 1.1, 2.1 transmission speed | 134 baud .. 115 200 baud |
| RS485 galvanic isolation | Yes |
| RS485 biasing resistors | Yes, 560 Ω |
| RS485 terminating resistor | Built-in attachable, 120 Ω |
| 1-Wire galvanic isolation | Yes |
| 1-Wire output voltage Vcc | 5 V |
| 1-Wire max. current Vcc | 50 mA |
| 1-Wire connector | 3 × pole, max. 1.5 mm ² |
| WiFi | IEEE 802.11b/g/n |
| Bluetooth | 4.2, Low Energy (BLE) |
| WiFi/Bluetooth antenna | Internal |
| USB | 4 × USB 2.0 |

• Digital inputs

| | |
|--|--|
| Nr. of inputs × groups | 4 × 6 |
| Common connector | DIGND |
| Galvanic isolation | Yes |
| Functions of inputs | Counter (w/o memory), signalization, Direct Switch |
| Max. frequency of counter input signal | 10 kHz |
| Input voltage of log. 0 | Max. 3 V DC |
| Input voltage of log. 1 | Min. 7 V DC |
| Max. input voltage | 35 V DC |
| Input resistance | 6 200 Ω |
| Delay 0→1/1→0 | 20 μs / 60 μs |

• Digital outputs

| | |
|------------------------------------|---------------------------------|
| Nr. of outputs × groups | 4 × 1 |
| Common connector | DOGND |
| Galvanic isolation | No |
| Type of output | NPN transistor (open collector) |
| Optional functions | PWM |
| Switchable voltage | 5–50 V DC |
| Switchable current continual/pulse | 750 mA / 1 A |
| Max. total current DO 1.1–1.4 | 1 A |
| PWM max. frequency | 200 kHz |
| PWM max. resolution | 16 bits |

• Relay outputs

| | |
|-----------------------------|----------------------|
| Nr. of outputs × groups | 1 × 3, 2 × 8 |
| Galvanic isolation | Yes |
| Type of contact | Normally open (SPST) |
| Switchable voltage | 250 V AC / 30 V DC |
| Switchable current | 5 A |
| Short time overvoltage | 5 A |
| Current via common conn. | 10 A |
| Time to switch on/off | 10 ms |
| Mechanical lifetime | 5 000 000 cycles |
| Electrical lifetime | 100 000 cycles |
| Protection against shortage | No |
| Inductive load protection | Not included |
| Isolation voltage | 4 000 V AC |

• Analog inputs

| | | |
|-------------------------------|------------------------|---|
| Nr. of inputs × groups | 1 × 1 | 4 × 1 |
| Common connector | AGND | AGND |
| Available functions | 0–10 V 0–20 mA | 0–10 V / 0–2.5 V 0–20 mA 0–1960 Ω 0–100 kΩ |
| Galvanic isolation | No | Yes |
| Resolution | 12 bits | 16 bits – U, I 24 bits – R |
| Conversion speed | 10 μs | 60 μs – U, I 400 ms – R |
| Input resistance | 66 kΩ – U 100 Ω – I | 44 kΩ – U 100 Ω – I |
| Resistance measurement method | – | 2/3wire |

• Analog outputs

| | | |
|-------------------------------|---|---------|
| Nr. of outputs × groups | 1 × 1 | 4 × 1 |
| Common connector | AGND | AGND |
| Available functions | AO 0–10 V / 0–20 mA Resistance measurement: 0–2 kΩ Pt/Ni1000) | 0–10 V |
| Galvanic isolation | No | Yes |
| Max. voltage/current | 10 V / 20 mA | 12 bits |
| Resolution | 12 bits | 12 bits |
| Conversion speed | 1 ms | 300 μs |
| Resistance measurement method | 2wire | – |

• Power supply

| | |
|-----------------------------|-----------------------|
| Rated voltage - SELV | 24 V DC |
| Power consumption | Typ. 8 W Max. 17 W |
| Reverse polarity protection | Yes |

• Installation and operating conditions

| | |
|-----------------------------------|--|
| Operating conditions | 0 °C .. + 55 °C, relative humidity 10 % .. 95 %, without aggressive substances, condensing vapour and fog |
| Storing conditions | - 25 °C .. + 70 °C, relative humidity 10 % .. 95 %, without aggressive substances, condensing vapour and fog |
| Degree of protection IP (IEC 529) | IP 20 |
| Operation position | Horizontal |
| Installation | On 35mm DIN rail into distribution box (holder included) |
| Connection | Pluggable terminal blocks |
| Wire gauge | Max. 2.5 mm ² |

• Dimensions and weight

| | |
|------------|------------------|
| Dimensions | 210 × 90 × 60 mm |
| Weight | 540 g |

• Standards compliance

| |
|--------------------------|
| IEC 60950-1: 2005(ed.2) |
| EN 62311: 2008 |
| EN 60730-1 ed.3:2012 |
| EN 301 489-1 |
| EN 301 487-17 Ver. 3.1.1 |
| EN 300 328 Ver 2.1.1 |
| EN 301 893 V2.1.1 |
| RoHS |
| WEEE |