Unipi Neuron L203

PRODUCT DESCRIPTION
Unipi Neuron L203 is a programmable logic controller designed for automation, control, regulation and monitoring. The L203 features a high number of digital and relay I/Os complemented by a single analog I/O and an RS485 serial interface. With a total number of 70 I/Os, the L203 offers the highest number of inputs/outputs of all Neuron controllers. The controller is also provided with 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
36 × digital input incl. counter
4 × digital output
28 × relay outputs
1 × analog inputs
1 × 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
- Opensource 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
1 × RS485
1 × 1-Wire bus
1 × 10/100Mbit Ethernet
4 × USB 2.0

Other features
- Builtin 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 L203

- **Communication**
  - Ethernet: 1 × 10/100 Mbit Ethernet
  - Serial/bus channels: 1 × RS485, 1 × 1-Wire
  - RS485 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 mm²
  - 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 × 9
  - Common connector: DIO/ND
  - 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 D->1/1->0: 20 μs / 60 μs

- **Digital outputs**
  - Nr. of outputs × groups: 4 × 1
  - Common connector: DO/NGND
  - 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 × 4, 2 × 12
  - 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
  - Common connector: AGND
  - Available functions:
    - 0-10 V
    - 0-20 mA
  - Galvanic isolation: No
  - Resolution: 12 bits
  - Conversion speed: 10 μs
  - Input resistance: 66 kΩ → U
    - 100 Ω → I
  - Resistance measurement method: –

- **Analog outputs**
  - Nr. of outputs × groups: 1 × 1
  - Common connector: AGND
  - Available functions:
    - AO 0-10 V / 0-20 mA
    - Resistance measurement: 0-2 kΩ Pt/Ni(1000)
  - Galvanic isolation: No
  - Max. voltage/current: 10 V / 20 mA
  - Resolution: 12 bits
  - Conversion speed: 1 ms
  - 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 mm²

- **Dimensions and weight**
  - Dimensions: 210 × 90 × 60 mm
  - Weight: 572 g

- **Standards compliance**
  - EN ISO 16484-2
  - EN 60730-1
  - EN 60555-1