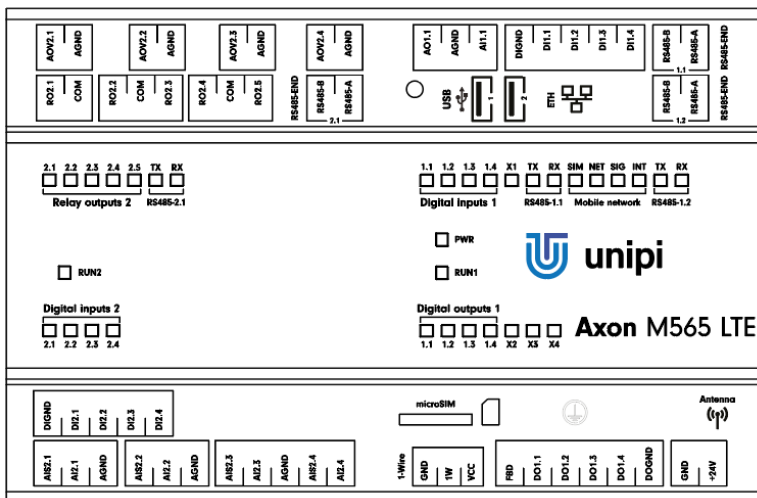


Unipi Axon M565 LTE

PRODUCT DESCRIPTION

Unipi Axon M565 is a programmable logic controller (PLC) designed for automation, control, regulation and monitoring. The M565 is an intermediate model of the Axon 500 line focused on a higher number of analog I/O, but also features a sufficient 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. A special feature of the controller is an LTE functionality for a high-speed wireless connection to the internet including sending/receiving SMS messages. The M565 also features three RS485 serial interfaces for connection of extension modules or gateways and a 1-Wire interface for connection of digital temperature or humidity sensors.



COMPUTING MODULE

Allwinner H5 1.2 GHz quad-core CPU, 1GB RAM, 8GB eMMC onboard memory

FEATURES

Inputs/outputs

- 8 × digital input incl. counter
- 4 × digital output
- 5 × relay output
- 5 × analog input
- 5 × analog output

Software

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

FUNCTIONALITY

Automation, IoT and IIoT, remote online monitoring and regulation, HVAC control, SCADA, sensorics, smart home control (lighting, doors, locks, irrigation etc.)

Communication interfaces

- 3 × RS485
- 1 × 1-Wire bus
- 1 × 1Gbit Ethernet
- 2 × USB 2.0
- 1 × LTE interface

Other features

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

Unipi Axon M565 LTE

• Communication

| | |
|--|------------------------------------|
| Ethernet | 1× 1Gbit Ethernet |
| Serial/bus channels | 3 × RS485, 1 × 1-Wire |
| RS485 1.1, 2.1 transmission speed | 134 baud .. 115 200 baud |
| RS485 1.2 transmission speed | 50 baud .. 3 Mbaud |
| 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 802.11 b/g/n |
| Bluetooth | 4.0, Low Energy (BLE) |
| WiFi/Bluetooth antenna | Internal |
| USB | 2 × USB 2.0 |
| LTE category | 4 (150 Mbit / 50 Mbit) |
| Frequency bands | 1, 2, 3, 5, 7, 8, 20 |
| UMTS category HSDPA/HSUPA | 24/6 |
| GPRS/EDGE class | 12 |
| SIM card type | microSIM |
| LTE antenna connector | SMA |

• Digital inputs

| | |
|---|--|
| Nr.of inputs × groups | 4 × 2 |
| Common connector | DIGND |
| Galvanic isolation | Yes |
| Functions of inputs | Counter (incl. 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 × 1, 2 × 2 |
| 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 / 0–20mA Resistance measurement: 0–2 kΩ (Pt/Ni1000) | 0–10 V |
| Galvanic isolation | No | Yes |
| Max. voltage/current | 10 V / 20 mA | 10 V / 25 mA |
| 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. 11 W Max. 20 W |
| Reverse polarity protection | Yes |

• Installation and operating conditions

| | |
|--|---|
| Operating conditions | 0 °C .. + 70 °C, relative humidity 10 % .. 95 %, without aggressive substances, condensing vapor and fog |
| Storing conditions | - 25 °C .. + 70 °C, relative humidity 10 % .. 95 %, without aggressive substances, condensing vapor 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 | 140 × 90 × 60 mm |
| Weight | 373 g |

• Standards compliance

| |
|---|
| IEC 60950-1-1:2005 (ed.2) |
| EN60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + AC:2011 + A2:2013 |
| EN62311: 2008 |
| IEC 62368-1:2014 (ed.2) |
| EN 62368-1:2014 |
| CSN EN 60730-1 ed.3:2012 |
| EN 301 489-1 V2.1.1 |
| EN 301 489-52 V1.1.0 |
| EN 301 511 Ver 12.5.1 |
| EN 301 908-1 V11.1.1, EN 301 908-2 V11.1.2, EN 301 908-13 V11.1.2 |