iPCR-M:
Industrial IoT Edge Controller

Compact, web-based, Industrial-PC for monitoring, automation, Edge Computing

Function:

Compact automation device with the following features:

- suitable for a wide range of monitoring and automation projects that are not real-time critical
- simple or complex algorithms can be implemented by the user or after precise coordination by deZem
- visual programming with Node-Red
- attractive visualisation dashboards directly on the iPCR-M
- many industrial input/output protocols can be used in parallel
- analog/digital inputs and outputs for 0–10 V, 4–20 mA, PT100/1000, counting pulse, status
- the (further) development of the application can be carried out during the running project to enable special agility (develop/test/improve)

Data transmisson

Secure and redundant real-time transmisson of measured values to freely configurable target addresses via Ethernet or integrated LTE through

- HTTP(S)
- MQTT
- E-mail

Supported protocols e.g.:

- Modbus/RTU & Modbus/TCP
- BACnet/IP
- M-Bus (soon, level converter external)
- 1-Wire

Further protocols such as S7, Ethernet/IP, OPC UA, COAP, any REST APIs, SNMP and much more are available on request.

Basic software

- Automation via Node-Red and versatile dashboarding for monitoring and controlling automation processes
- Over-The-Air (OTA) update (soon)

Examples of applications

Burner control

"Fleets" of heating stations (or compressed air systems)

Load management

Tailor-made switching off and on loads to avoid undesirable peak loads

State-of-the-art greenhouse control

- fully automated control
- consideration of local and intra- or internet-based data
- Dashboard for local monitoring and manual intervention

Do you have ideas for implementing automation? Please contact us!

Technical data

LTE: Cat1 4G (Band 1,3,5,7,8,20), 3G and 2G
WLAN: (optional) Dual-band 802.11/b/g/n 2.4
Ethernet: 1x 10/100 RJ45

USB: 1x 2.0 Type A
RS485:
1x with galvanic isolation,
1x without galvanic isolation
RS232: 1x DB9 (RX,TX,RTS,CTS)
SIM: 1x Mini SIM
SD card: Micro SD, up to 64 GB (internal)
CAN: 1x CAN 2.0B
1-Wire: 1x
Digital inputs:
10x galvanically insulated, 0–30 V, threshold 6 V
Digital outputs:
4x galvanically isolated solid state relays, 300 mA max.
Analog inputs:
2x 4–20 mA, loop supply; 2x 0–10 V, 4x PT100/1000
Analog outputs: 2x 4–20 mA
Antenna: 2x SMA

Dimensions (WxHxD): 120x75x35 mm
Power supply: 8–30 VDC
DIN-rail-mounting

Operating conditions:
Temperature: -20–60 °C
Humidity: 30–60%

Subject to technical changes
Version 1.0 Nov 2021

sense | check | act

deZem GmbH
Wilmersdorfer Str. 60 · 10627 Berlin
Telefon: +49 30 31 800 730
Fax: +49 30 31 800 731
contact@dezem.de · www.dezem.de