Ingenieurbüro H. Lertes GmbH & Co. KG
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*Re**m**ote **C**ontrol **U**nit -- **M**-Bus **i**ntegrated **D**ata **A**pplication **S**erver **S**ystem*

RmCU / MiDASS V4.0
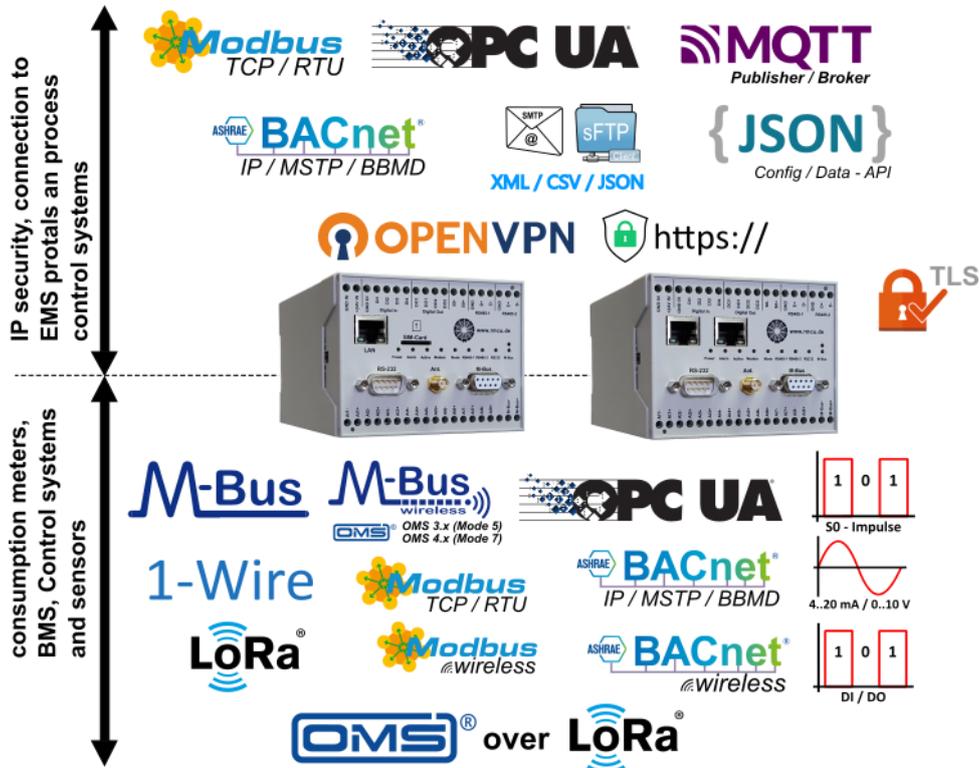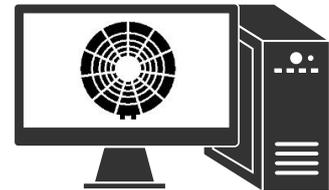
Firmware 6.14.x, january 2026

RmCU V4.0 DIN Rail IT / IOT - 2x RJ45	MiDASS V4.0 Allround Indoor/Outdoor	vRmCU virtual machine/physical Linux computer

DSGVO + ISO 27001 compliant ✔

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1   Device types

1.1   RmCU (DIN Rail)

1x Ethernet Interface

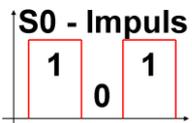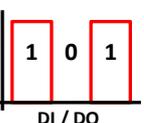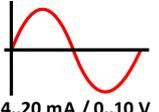**2x Ethernet-Interface
for IT/OT separation**

Standard features:

- 4 GB Data-Storage
- State LEDs
- CSV/XML/JSON-Interfaces
- FTP / SFTP, HTTP / HTTPS

- Ethernet 100 Mbit/s (RJ45)
- configurable Web-Interface
- Email dispatch (S/MIME)
- Display of measured values

Modules & additional Options:

max. 16 GB Storage	LTE/UMTS/GRPS mobile modem	second RJ45 – network-interface

4 possible slots

LoRa® Gateway	M-Bus 20/65 – internal Level converter	M-Bus 120/250 – external Level converter	M-Bus wireless External Modul
1-Wire	Modbus RTU (RS-485)	ASHRAE BACnet MSTP (RS-485)	Modbus wireless (RS-485)
ASHRAE BACnet wireless (RS-485)	S0 - Impuls	DI / DO	4..20 mA / 0..10 V

Firmware–Extensions

Modbus TCP	ASHRAE BACnet IP	OPC UA	MQTT Publisher / Broker / Subscriber
{ JSON } Config / Data - API	OPENVPN	Alarm-Management	IP-Routing

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1.2 MiDASS Indoor / Outdoor

Allround Indoor/Outdoor-housing

Outdoor (Alu-) housing
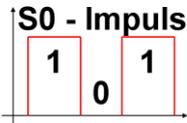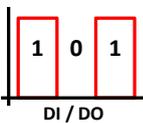
Standard features:

- 4 GB Daten-Storage
- State LEDs
- CSV/XML/JSON-Interface
- FTP / SFTP, HTTP / HTTPS

- Ethernet 100 Mbit/s (RJ45)
- configurable Web-Interface
- Email dispatch (S/MIME)
- Display of measured values

Modules & additional Options:

max. 16 GB Storage	LTE/UMTS/GRPS mobile modem

4 possible slots

| LoRa® Gateway	M-Bus 20 – internal Level converter	M-Bus wireless External Modul	1-Wire
Modbus RTU (RS-485)	ASHRAE BACnet® MSTP (RS-485)	Modbus wireless (RS-485)	ASHRAE BACnet® wireless (RS-485)
S0 - Impuls	DI / DO		

Firmware–Extensions

Modbus TCP	ASHRAE BACnet® IP	OPC UA	MQTT Publisher / Broker / Subscriber
{ JSON } Config / Data - API	OPENVPN	alarm-management	IP-Routing

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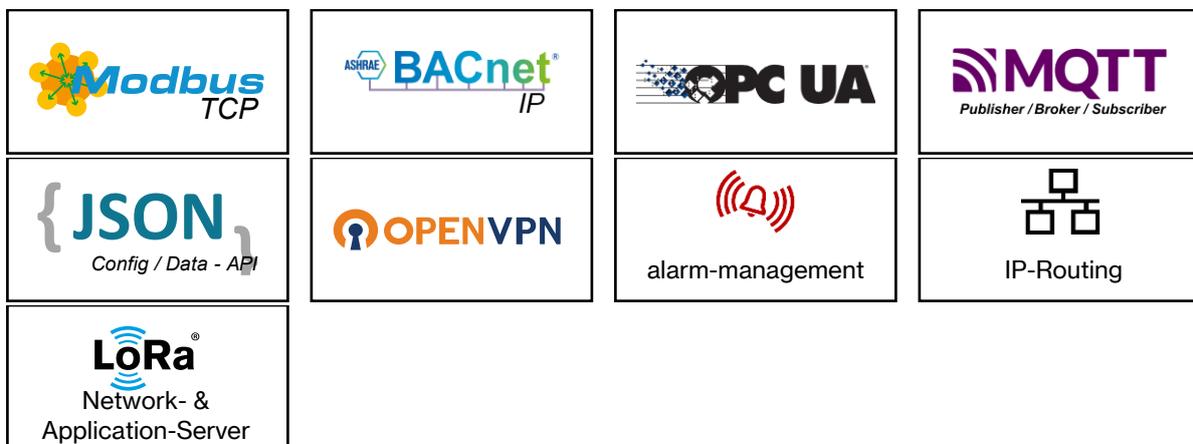
1.3 vRmCU (virtual machine/physical Linux computer)
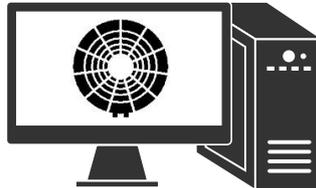
Standard features:

- CSV/XML/JSON-Interface
- FTP / SFTP, HTTP / HTTPS
- Vertical scalability
- Simple backup option

- configurable Web-Interface
- Email dispatch (S/MIME)
- Display of measured values

Firmware-Extensions

Modbus TCP	ASHRAE BACnet® IP	OPC UA	MQTT Publisher / Broker / Subscriber
{JSON} Config / Data - API	OPENVPN	alarm-management	IP-Routing
LoRa® Network- & Application-Server			

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2 Hardware

2.1 Housing

	RmCU V4.0 DIN Rail	MiDASS Allround Indoor/Outdoor	MiDASS Outdoor
General	• Prozessor Cortex A-5, 400 MHz • 128 MB Flash, 4 GB Data-Storage (optional up to 16 GB possible) • 128 MB RAM • Hardware-Watchdog • Real Time Clock – RTC (Gold-Cap buffered)		
Housing	DIN Rail Housing 100x75x110 mm	Wall-mounted housing 255x275x92 mm	Wall-mounted housing 300x220x50 mm
Protection class	IP20	IP66	IP65 bis IP67
Temperature-Range	0 bis +60 °C	-20 ... +60 °C	-30 ... +70 °C
Pole Mounting possible	No	Yes	Yes
Additional Casing available	Yes	No	No
Power supply	24 V DC	230V AC / 12 V DC	230V AC / 12 V DC
Power consumption	typ.: 5 Watt max.: 10 Watt	typ.: 5 Watt max.: 10 Watt	typ.: 5 Watt max.: 10 Watt

External Ports	• 1x Antenna cabel LoRa (SMA-socket)
	• 1x Antenna cabel LTE (SMA-socket)
	• 1x 9-pin D-SUB-connector
	• 1x 9-pin D-SUB-Socket
	• Choice of:
	  ➢ 2x RJ45
	  ➢ 1x RJ45 and LTE Modem
	• Additional Ports over screw terminals
		• 1x Antenna cabel-LoRa (N-connector)
		• 1x Antenna cabel-LTE (N-connector)
		• 1x Ethernet-Interface RJ45
		• 1x screw fitting M16
			• 1x Antenna cabel-LoRa (N-connector)
			• 1x Antenna cabel-LTE (N-connector)
			• 1x Ethernet-Interface RJ45
			• 1x screw fitting M16

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2.2 Hardware Interfaces

	RmCU V4.0 DIN Rail	MiDASS Allround Indoor/Outdoor	MiDASS Outdoor
Ethernet-Interface	• IEE 802.3	• IEE 802.3	

LED's	• Power
	• Alarm
	• Active – Data logging
	• LTE Modem
	• Mode – OpenVPN State
	• LED-Interfaces:
	  ➤ State RS485-1
	  ➤ State RS485-2
	  ➤ State RS232
	  ➤ State M-Bus
		• Power
		• Alarm
		• Active – Data logging
		• LTE Modem Power
		• LTE Modem State
		• Mode – OpenVPN State
		• Rx / Tx Interface Port 1
		• Rx / Tx Interface Port 2
		• Rx / Tx Interface Port 3
		• Rx / Tx Interface Port 4	

Taster	• Reset	• Reset	
S0 - Pulse Input	**1-Channel:** • according to DIN EN 62053-31 • galvanically isolated • measuring current: 10 mA • maximum voltage: 12,5 V	**Plug-in module (2-Channel):** • according to DIN EN62053-31 • galvanically isolated • measuring current: 10 mA • maximum voltage: 12,5 V	
LoRaWAN (868 / 915 MHz)	**Incl. Network- and Application-Server** • LoRaWAN OTAA/ABP Mode • 8 simultaneous Channel • Support of EU-868 andUS-915	**Incl. Network- and Application-Server** • LoRaWAN OTAA/ABP Mode • 8 simultaneous Channel • Support of EU-868 and US-915	
Wireless M-Bus (433 / 868 MHz)	**External DIN-Rail module:** • according to DIN EN 13757-4 • S1–, T1– & C1–Mode • BSI-compliant OMS3 and OMS4 Encryption (Mode 5/7)	**Plug-in module:** • according to DIN EN 13757-4 • S1-, T1 & C1– Mode • BSI-compliant OMS3 and OMS4 Encryption (Mode 5/7)	
Wired M-Bus (internal / external)	**Screw terminals:** • according to DIN EN 13757 • 20/65 M-Bus Loads (internal) • up to 250 M-Bus Loads (external)	**Plug-in module / Connection via Screw terminals:** • according to DIN EN 13757 • galvanically isolated • 20 M-Bus Loads (internal)	

RS-232 Interface	**2x Serial Interface:**
	• 1x 9-pin D-SUB-Connector
	• 1x 9-pin D-SUB-Socket
	  ➤ 2-Wire: RX, TX
	• Baud rate: up to 115200 Baud
		Plug-in module:
		• 9-pol D-Sub-Connector
		  ➤ 4-Wire: RXD, TXD, RTS, CTS
		• Baud rate: up to 115200 Baud	

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2x RS-485 Interface	**Screw terminals:** • Baud rate: up to115200 Baud • Parity: even, uneven or none • Stoppbit: 0, 1 or 2 • Cabel length: max. 500 m • 2-Wire line	**Plug-in module / Connection via Screw terminals:** • galvanically isolated to the MiDASS • Termination via jumper possible: ➢ Jumper closed: 220 Ohm ➢ Jumper open: none Abschlusswiderstand • Baud rate: up to 115200 Baud • Parity: even, uneven or none • Stoppbit: 0, 1 or 2 • 2-Wire line
Digital Inputs	**4x digital Input** • Voltage level: ➢ Signal Low-Level: 0...1 VDC ➢ Signal High-Level: 2...24 VDC • Input currents: ➢ at 2 V: ~0,2 mA ➢ at 12 V: ~2,3 mA ➢ at 25 V: ~4,9 mA • galvanically isolated to the RmCU • Cabel length per Channel: max. 10 m	**4x digital Input** **Plug-in module / Connection via Screw terminals:** • on request
DO / Relay	**2x Relay-Outputs**, designed for • Imax = 3 A • Umax = 277 VAC • Pmax = 750 VA	**2x Relay-Outputs** **Plug-in module / Connection via Screw terminals:** • on request
8x Analog Inputs (other divisions on request))	**4x PT 1000** (2-Wire) **2x Analoge Inputs 0(4)...20 mA** **2x Analoge Input 0...10 V**	**PT 1000** (2-Wire), **Analoge Inputs 0(4)...20 mA, Analoge Input 0...10 V** **Plug-in module / Connection via Screw terminals:** • on request
	8x PT 1000 (2-Wire) • 2-Wire connection • Measuring current: 0,4096 mA • Resolution: ~0,12 °C • Measurement accuracy: ± 2 °C • Cable length per Channel: max. 10 m	**PT 1000** (2-Wire) **Plug-in module / Connection via Screw terminals:** • on request
	4x Analoge Inputs 0(4)...20 mA • Internal Load: 100 Ohm • Resolution: ~0,0055 mA • Measurement accuracy: < ± 0,5 % • Cable length per Channel: max. 100 m	**Analoge Inputs 0(4)...20 mA** **Plug-in module / Connection via Screw terminals:** • on request
	4x Analoge Input 0...10 V • Internal Load: 100 kOhm • Resolution: ~2,6 mV • Measurement accuracy: < ± 0,25 % Cable length per Channel: max. 10 m	**Analoge Input 0...10 V** **Plug-in module / Connection via Screw terminals:** • on request

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Integrated mobile modem	• without mobile modem	• without mobile modem
	• LTE / UMTS / GSM / GPRS / EDGE	• LTE / UMTS / GSM / GPRS / EDGE
	• 5G / LTE / UMTS / GSM / GPRS / EDGE	• 5G / LTE / UMTS / GSM / GPRS / EDGE