



Remote Control Unit -- M-Bus integrated Data Application Server System

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RmCU / MiDASS V4.0

Firmware 6.10.x, June 2025

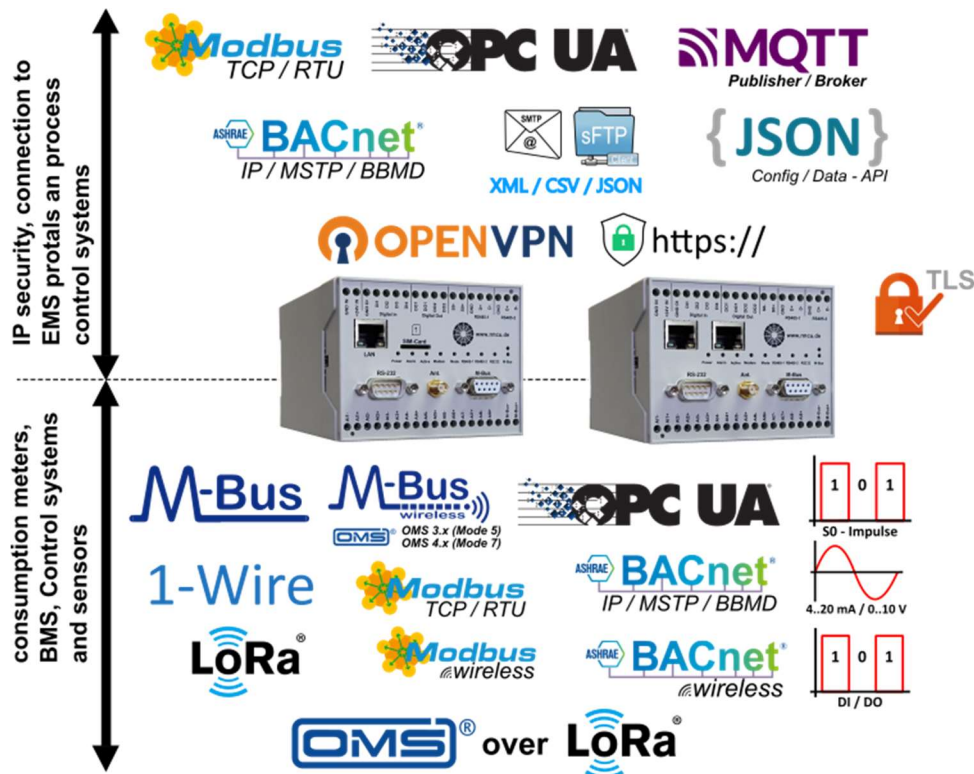
RmCU V4.0 DIN Rail



RmCU V4.0 DIN Rail
IT / IOT - 2x RJ45



MiDASS V4.0 Allround
Indoor/Outdoor



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

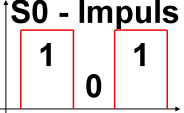
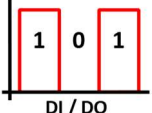
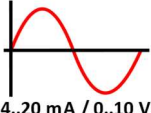
Standard features:

- 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 
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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 1 0 1	 DI / DO 1 0 1	 4..20 mA / 0..10 V

Firmware-Erweiterungen

 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

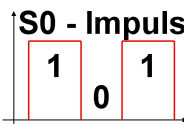
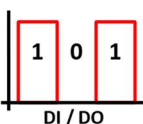
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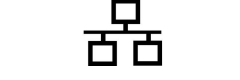
Modules & additional Options:

max. 16 GB Storage 	LTE/UMTS/GRPS mobile modem 
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4 possible slots

 Gateway	 20 – internal Level converter	 External Modul	
 (RS-485)	 (RS-485)	 (RS-485)	 (RS-485)
			

Firmware-Extensions



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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 and US-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 to 115200 Baud - Parity: even, uneven or none - Stopbit: 0, 1 or 2 - Cable 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 - Stopbit: 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 - Cable 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 $I_{max} = 3 \text{ A}$ $U_{max} = 277 \text{ VAC}$ $P_{max} = 750 \text{ VA}$	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 Analogue Inputs 0(4)...20 mA 2x Analogue Input 0...10 V	PT 1000 (2-Wire), Analogue Inputs 0(4)...20 mA, Analogue 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: $\pm 2 \text{ °C}$ - Cable length per Channel: max. 10 m	PT 1000 (2-Wire) Plug-in module / Connection via Screw terminals: on request
	4x Analogue Inputs 0(4)...20 mA - Internal Load: 100 Ohm - Resolution: ~0,0055 mA - Measurement accuracy: $< \pm 0,5 \text{ %}$ - Cable length per Channel: max. 100 m	Analogue Inputs 0(4)...20 mA Plug-in module / Connection via Screw terminals: on request
	4x Analogue Input 0...10 V - Internal Load: 100 kOhm - Resolution: ~2,6 mV - Measurement accuracy: $< \pm 0,25 \text{ %}$ - Cable length per Channel: max. 10 m	Analogue 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