

mbNET.rokey

Technical Data

V 6.3 - from HW03 - en | Nov 22nd, 2021

RKH 210, RKH 216, RKH 235, RKH 259EU, RKH 259 AT&T



PROG. CNTLR.
E482663

1 Technical Data

mbNET.rokey industrial router

RKH 210, RKH 216, RKH 235, RKH 259 EU, RKH 259 AT&T - from Hardware version: **HW 03**
 You can find the hardware version on the device rating plate.

Housing dimensions and views

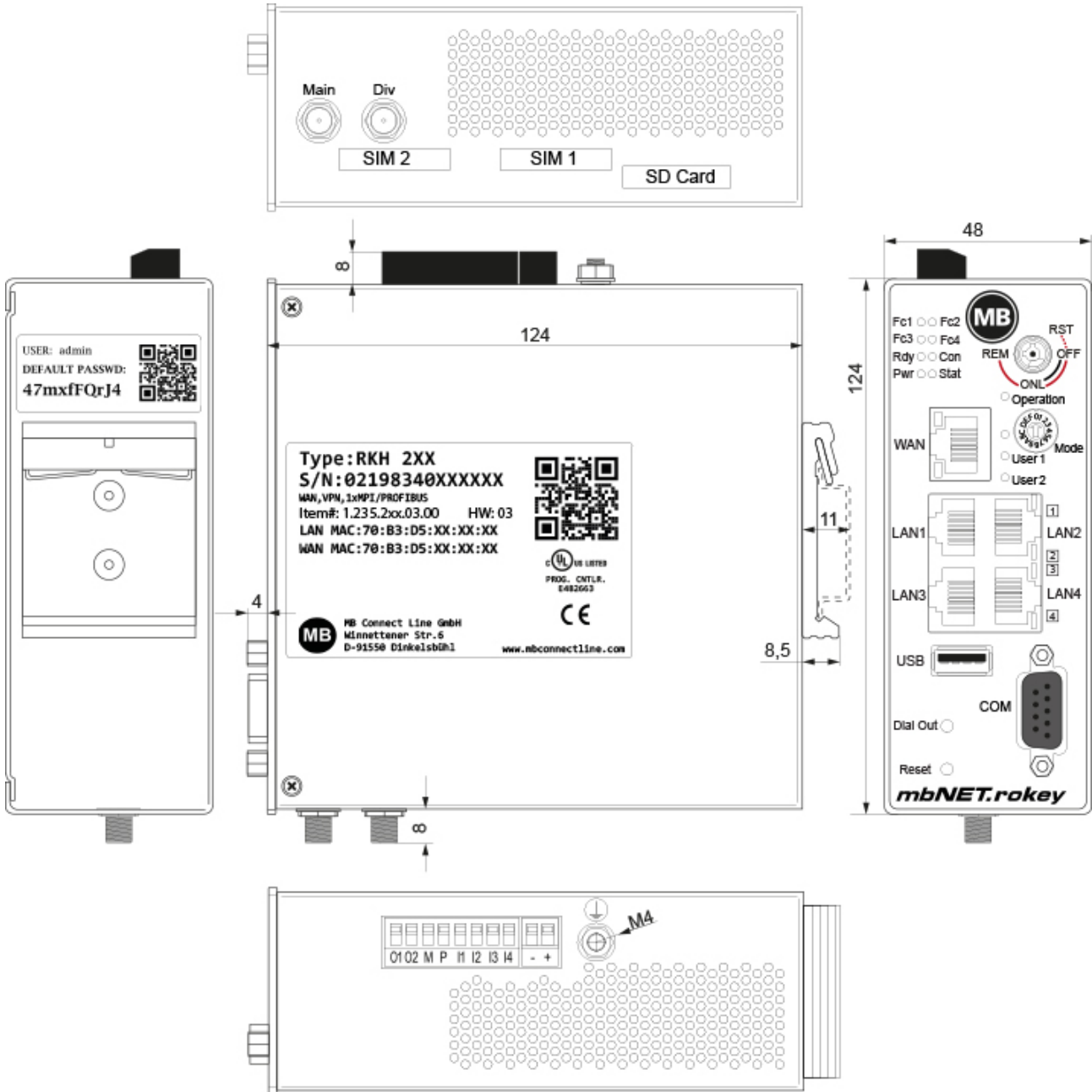


Image 1: Devices and interfaces vary depending on the device type.

Release note

Version	Date	Comment
V 6.2	Febr 26 th , 2020	Previous version: V 1.0 from Nov. 2 nd , 2018 Correction of the current consumption: old = 1300 mA => new = 500mA Add the performance data for new LTE module, for devices with hardware version HW04.
V 6.2 DR01	Apr 22 nd , 2020	Add processor performance data.
V 6.2 DR02	July 6 th , 2020	Adding the transmission power for radio modules.
V 6.2 DR03	Feb 10 th , 2021	Update / change of the encryption algorithms.
V 6.3	Nov 22 nd , 2021	Add the performance data for new LTE module, for devices with hardware version from HW05.

General Data

Performance data	
Voltage --- V (DC)	10 – 30 V DC (ext. power supply or SELV power supply, 10-30 V DC, max. 40 A)
Current consumption	max. 500 mA @ 24 V
Dissipated power	max. 6 W
Random Access Memory	512 MB
Processor	Devices with hardware version HW03 : ARM Cortex [®] -A8 up to 600MHz Devices from hardware version HW04 : ARM Cortex [®] -A8 up to 1GHz
IP Protection class	IP 30* * at full occupancy of all connections and interfaces. Alternatively, unused interfaces can be covered with dust protection plugs.
Area of use	Dry environment
Temperature (operating)	-40 – +75 °C
Temperature (storage)	-40 – +85 °C
Humidity	0 – 95% non-condensing
Real-time clock	In the event of a power failure, the date and time are maintained for up to 7 days (depending on the ambient temperature).
Dimensions (max.)	48 mm x 137 mm x 140 mm (W x D x H)
Weight (max.)	650 g
Housing/material	Metal
Installation	DIN-top hat rail mounting

I/Os and standard interfaces General Data

Digital inputs	4 pieces, 1030 V DC (electrically isolated), (low 0 – 3.2 V DC, high 8 – 30 V DC)
Digital outputs	2 pieces, 10-30 V DC (electrically isolated), to a maximum of 1.5 A per output
WAN interfaces	10/100MBit/s full and half duplex operation, automatic detection patch cable/cross-over cable (auto detection)
LAN interfaces	4 pieces, 10/100MBit/s full and half duplex operation, automatic detection patch cable/cross-over cable (auto detection)
USB interfaces	USB Host 2.0
SD card slot	Für SD cards (32 x 24 x 2.1 mm) SDHC max. 32 GB; FAT/FAT32 or for holding mbEDGE *.

* **mbEDGE** is a software kit that extends the mbNET and mbNET.rokey industrial routers to an IOT gateway.

VPN

VPN protocol	IPsec/PPTP/OpenVPN, 64 Tunnel
Encryption method	AES (256-, 192-, 128-Bit), Blowfish (128-Bit), 3DES (168-Bit), DES (56-Bit)
Hash algorithms	SHA-2 (SHA-256, SHA-512), SHA-1, MD5
Authentication	Pre-Shared-Key, X.509

Network/security

Firewall	1:1 NAT, IP-Filter, port forwarding, stateful inspection
IP router	NAT-IP, TCP/IP routing, IP forwarding
Services	DHCP server, DHCP client, DNS server, NTP client, PPP server, DynDNS
Time levelling	NTP server

Optional Interfaces

COM	MPI/PROFIBUS - 12 MBit/s (RKH 235) or RS-232/485 (software-switchable) (RKH 210)
SIM card slots	2 pieces SIM card reader with ejector (for mini-SIM)

Communication

Devices with LTE (4G) modem EU (RKH 259 EU)

Devices with hardware version from **HW 05**

Target region	EMEA
GSM/GPRS/EDGE	900 (B8), 1800 (B3) MHz; max. 236 kbps
HSxPA	900 (B8), 1800 (B3), 2100 (B1) MHz; Downlink max. 42 Mbps, Uplink max. 5,76 Mbps
LTE	800 (B20), 900 (B8), 1800 (B3), 2100 (B1), 2600 (B7), 700 (B28A) MHz; Downlink max. 150 Mbps, Uplink max. 50 Mbps

RF parameters

Output power - typical values for max output level


- 2G:
LB: 33 dBm; HB: 30 dBm
- 3G/TD-SCDMA: 24dBm
- 4G (FDD & TDD): 23dBm @1RB

Sensitivity - typical sensitivity levels


- -108 dBm @ 2G
- -113.5 dBm @ 3G
- -103 dBm @ 4G FDD (BW=5 MHz)

Antenna connector	2 pieces SMA socket 
TAC	35162610

Devices with hardware version **HW 04**

Countries where used	Europe
GSM/GPRS/EDGE	900 (B8), 1800 (B3) MHz; max. 236 kbps
HSxPA	900 (B8), 2100 (B1) MHz; Downlink max. 42 Mbps, Uplink max. 5,76 Mbps
LTE	800 (B20), 900 (B8), 1800 (B3), 2100 (B1), 2600 (B7) MHz; Downlink max. 150 Mbps, Uplink max. 50 Mbps
Transmit output power	CLass 3 (0.2 W, 23 dBm) @ LTE CLass 3 (0.25 W, 23 dBm) @ 3G Class 4 (2 W) @ GSM 900 Class 1 (1 W) @ DCS 1800
Antenna connections	2 pieces SMA socket 
TAC	35162207

Devices with hardware version HW 03

Countries where used	Europe, Australia
GSM/GPRS/EDGE	900, 1800 MHz; max. 236 kbps
HSxPA	850, 900, 2100 MHz; Downlink max. 42 Mbps, Uplink max. 5,76 Mbps
LTE	800 (B20), 1800 (B3), 2600 (B7) MHz; downlink max. 100 Mbps, uplink max. 50 Mbps
Transmission output power	Class 4 (2 W, 33 dBm) @ GSM 850 / 900 Class 1 (1 W, 30 dBm) @ GSM 1800 / 1900 Class E2 (0.5 W, 27 dBm) @ EDGE 850 / 900 Class E2 (0.4 W, 26 dBm) @ EDGE 1800 /1900 Class 3 (0.25 W, 24 dBm) @ UMTS Class 3 (0.2 W, 23 dBm) @ LTE
Antenna connections	2 pieces SMA socket 
TAC	35985205

Devices with LTE (4G) modems - **AT&T** (RKH 259 AT&T)

NOTICE

The device type RKH 259 AT&T bears no CE marking and may not be used or put into operation in the European economic area (EEA)!

Devices with hardware version from **HW 05**

Target region	North America (Public safety, AT&T, FirstNet, T-Mobile, Verizon + Canada)
HSxPA	1900 PCS (B2), AWS (B4), 850 (B5) MHz; Downlink max. 42 Mbps
LTE	700 Lower (B12), 700 PS (B14), AWS (B4), 1900 PCS (B2), 850 (B5), 700 Upper (B13), AWS-3 (B66), 600 (B71) MHz; Downlink max. 150 Mbps, Uplink max. 50 Mbps

RF parameters

Output power - typical values for max output level


- 2G:
LB: 33 dBm; HB: 30 dBm
- 3G/TD-SCDMA: 24dBm
- 4G (FDD & TDD): 23dBm @1RB

Sensitivity - typical sensitivity levels

- -108 dBm @ 2G
- -113.5 dBm @ 3G
- -103 dBm @ 4G FDD (BW=5 MHz)

Antenna connector	2 pieces SMA socket 
TAC	35034498; 35432809; 35604311
FCC	Contains FCC ID: R17LE910CxNF

Devices with hardware version up to **HW 04**

Countries where used	North America
GSM/GPRS/EDGE	850, 1900 MHz; max. 236 kbps
HSxPA	1900 (B2), 850 (B5) MHz; Downlink max. 21 Mbps, Uplink max. 5,76 Mbps
LTE	1900 (B2), AWS 1700 (B4), 850 (B5), 700 (B17) MHz; downlink max. 100 Mbps, uplink max. 50 Mbps
Transmission output power	Class 4 (2 W, 33 dBm) @ GSM 850 / 900 Class 1 (1 W, 30 dBm) @ GSM 1800 / 1900 Class E2 (0.5 W, 27 dBm) @ EDGE 850 / 900 Class E2 (0.4 W, 26 dBm) @ EDGE 1800 /1900 Class 3 (0.25 W, 24 dBm) @ UMTS Class 3 (0.2 W, 23 dBm) @ LTE
Antenna connections	2 pieces SMA socket 
FCC	Contains FCC ID: R17LE910NA

Markings / Listings / Certifications



PROG. CNTLR.
E482663

SIMPLIFIED EU DECLARATION OF CONFORMITY

MB connect line GmbH hereby declares that the radio system type RKH 259 EU corresponds to the 2014/53/ EU directive.

A copy of the EU declaration of conformity is available at the following Internet address:

www.mbconnectline.com

NOTICE

The device type RKH 259 AT&T is **not** CE marked and may not be used or put into service in the European Economic Area (EEA).



MB connect line GmbH offers universal solutions for worldwide remote maintenance of machines and equipment. The specialists at MB connect line can draw on years of experience and extensive know-how.

MB connect line GmbH

Fernwartungssysteme
Winnettener Str. 6
91550 Dinkelsbühl
GERMANY

Phone+49 (0) 700 MBCONNECT
+49 (0) 700 622 666 32

MB connect line Inc.

4320 Winfield Road, Suite 200
Warrenville, IL 60555
USA
Phone +1-630-797-0093
center.usa@mbconnectline.com

info@mbconnectline.com
www.mbconnectline.com

Despite a detailed description of the device and its functions, we cannot be held liable for the correctness of the content. The latest information can be obtained on our homepage. We welcome any comments or suggestions for improvement.