mbNET.rokey | RA70K

Technical Data

V 7.0 - from HW05 - en | May 5th, 2023

RKH 210; RKH 216; RKH 235; RKH 259 EU; RKH 259 AT&T; RA70K

1   Technical Data

mbNET.rokey industrial router

RKH 210, RKH 216, RKH 235, RKH 259 EU, RKH 259 AT&T - from Hardware version: **HW 05**
You can find the hardware version on the device rating plate.
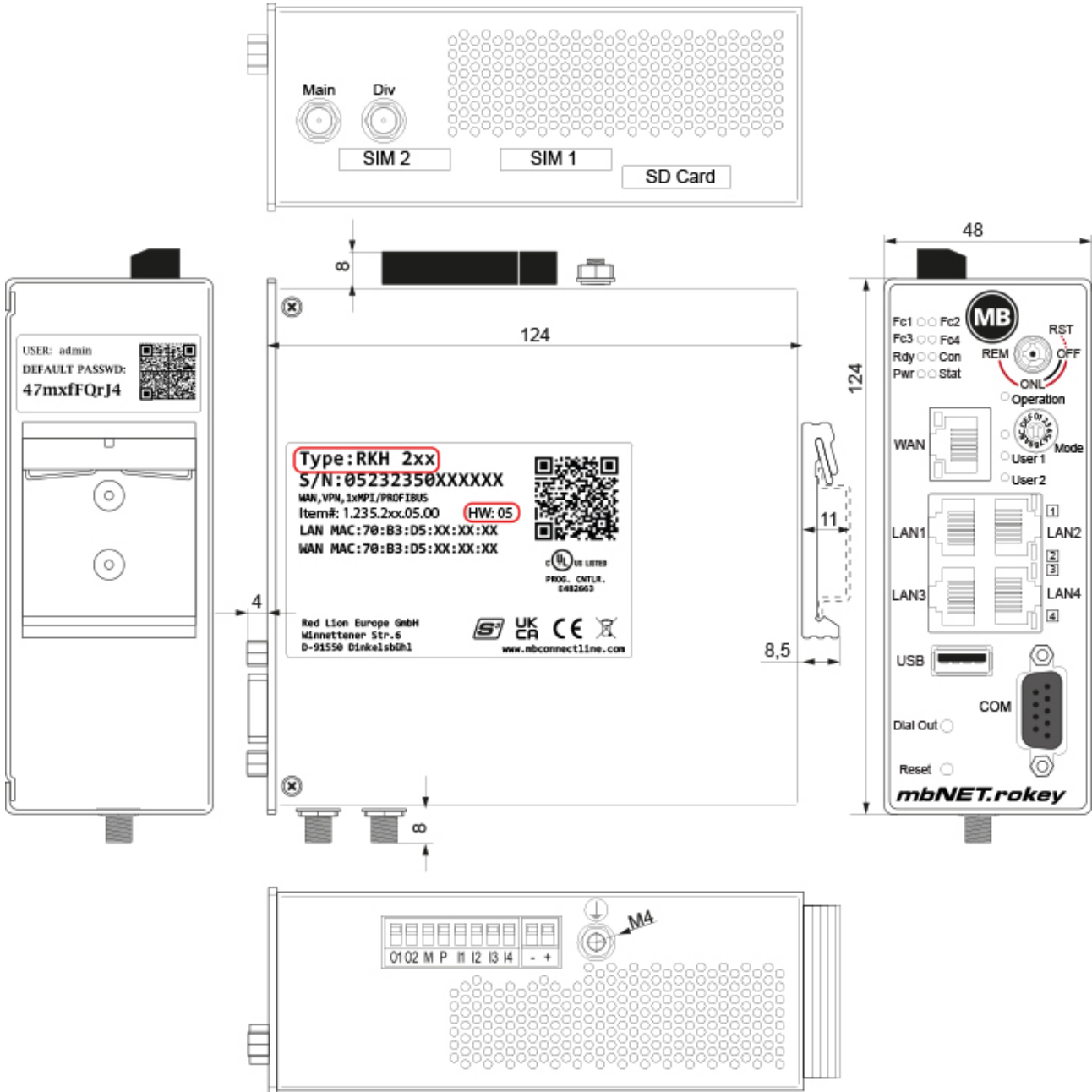
Housing dimensions and views

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

Release note

Version	Date	Comment
V 7.0	May 5th, 2023	Previous version: V 6.3 DR01 from Mar 15th, 2022.

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Great care was taken in compiling the texts and illustrations. Despite all efforts, mistakes can never be completely avoided. We are always grateful for suggestions for improvement and / or references to errors.
The latest information can be obtained on our homepage.

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 interfacesGeneral 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	For 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 server, NTP client, PPP server, DynDNS
Time levelling	via 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) from hardware version: 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	Sensitivity - typical sensitivity levels
2G: LB: 33 dBm; HB: 30 dBm 3G/TD-SCDMA: 24dBm 4G (FDD & TDD): 23dBm @1RB	-108 dBm @ 2G -113.5 dBm @ 3G -103 dBm @ 4G FDD (BW=5 MHz)

Antenna connector	2 pieces SMA socket
TAC	35162610

Devices with LTE (4G) modems - AT&T (RKH 259 AT&T) from harware version: HW 05

> **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)!

Target region	North America (Public safety, AT&T, FirstNet, T-Mobile, 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	Sensitivity - typical sensitivity levels
2G: LB: 33 dBm; HB: 30 dBm 3G/TD-SCDMA: 24dBm 4G (FDD & TDD): 23dBm @1RB	-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: RI7LE910CxNF

Installation position/minimum clearances

The router is designed to be mounted on DIN top hat rails (in accordance with DIN EN 50 022) and for installation in a control cabinet.

The installation and assembly must be carried out according to VDE 0100/IEC 364.

The router may be only mounted vertically as described.

NOTICE

Non-compliance with the minimum distances can destroy the device at high
ambient temperatures!
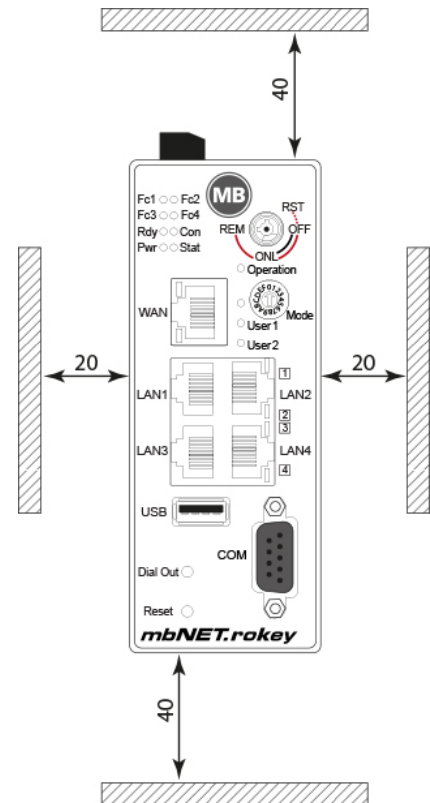
Markings / Listings / Certifications

UKCA   CE   c(UL)us LISTED   PROG. CNTLR.
E482663

SIMPLIFIED EU DECLARATION OF CONFORMITY

Red Lion EUrope 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:
https://mbconnectline.com/conformity/

SIMPLIFIED UKCA DECLARATION OF CONFORMITY

Red Lion EUrope GmbH hereby declares that the equipment type RKH 259 EU is in compliance with the relevant statutory requirements.
The full text of the declaration of conformity is available at the following internet address:
https://mbconnectline.com/conformity/