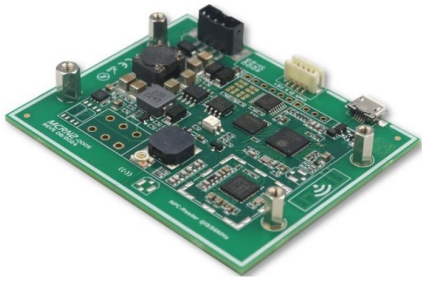


minova MCRN2 RFID Reader Writer Module Owner’s Manual

minova
RFID technology

DATASHEET
MCRN2 RFID Reader/Writer Module

MCRN2 R 2.0
Aug. 01, 2024

Contents

Key Features

Frequency	13.56 MHz
Interfaces	RS232/RS485, USB
Standards	ISO14443A/B, ISO15693
Supported Cards & Transponders	MIFARE® DESFire/Plus MIFARE® Classic/Ultralight NTAG I-Code
Antennas	Internal or external
Power supply	+7V to +60V DC or USB Bus

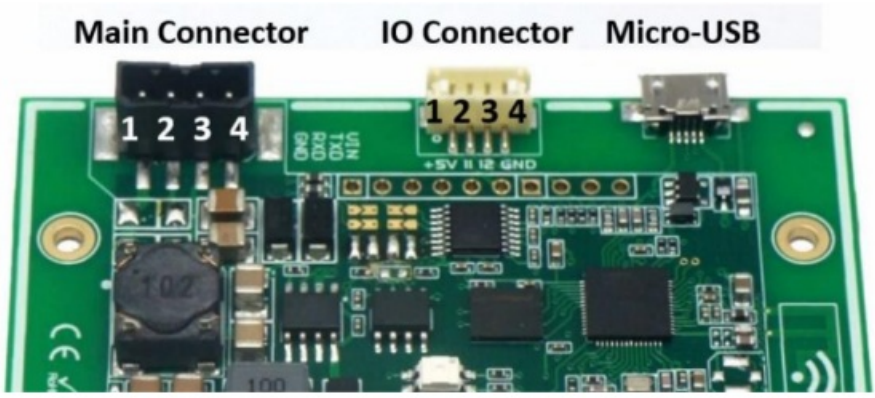
DESCRIPTION

The MCRN2 RFID reader is a versatile and reliable device, designed for applications requiring serial and USB interfaces. It supports baud rates of up to 230k, ensuring fast and efficient communication. The reader operates within a wide voltage range and can be integrated into +12V or +24V systems, making it suitable for various industrial environments. Its robust design and flexible connectivity options make the MCRN2 an ideal choice for both simple and complex RFID systems. The powerful internal antenna can read cards/tags up to 80mm away, and the USB interface can optionally run in Keyboard Emulation mode.

ELECTRICAL

SYMBOL	PARAMETER	MIN	TYP	MAX	UNIT
VIN	Input Voltage	+7	+12	+60	V
IIN	Input Current (VIN=+12V)	–	100	200	mA
VR	Maximum Reverse Voltage	–	+58	–	V
TA	Ambient Temperature Range	-30	–	+85	°C
VTVS	TVS Clamping Voltage	–	+64	–	V
RS485-VOD	Differential Output (RL=54Ω)	+1.5	+2	+3.3	V
RS485-A/B	Input Voltages	-8V	–	+13	V
RS485-A/B	Output Voltages	–	+3.3	–	V
RS232 Receiver	Input Voltages	-30		+30	V
RS232 Transmitter	Output Voltages	±5	±5.2	–	V
ESD Performance					
RS485-A/B	IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)				
RS232	IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)				
USB	ESD Protection for 2 high-speed I/O channels and VDD IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact) IEC 61000-4-4 (EFT) 40A (5/50ns), IEC 61000-4-5 (Lightning) 12A (8/20μs)				
MTBF	500.000h				

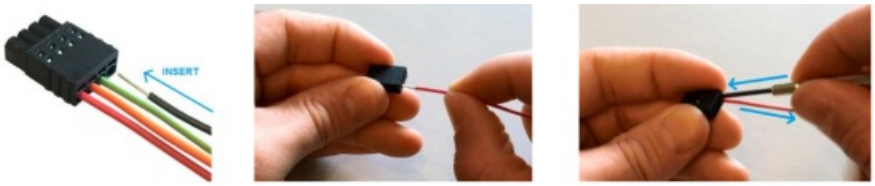
CONNECTOR PINOUT



Main Connector	RS232 Mode	RS485 Mode
1	GND – Ground	GND – Ground
2	RX Input	B
3	TX Output	A
4	+VIN (+7 to +60 VDC)	+VIN (+7 to +60 VDC)

IO Connector	LED Mode	Output Mode	IIC Mode
1	+5VDC	+5VDC	+5VDC
2	LED1 cathode input	Output1	SCL – Clock
3	LED2 cathode input	Output2	SDA – Data
4	GND – Ground	GND	GND

Fast and easy connection



FEATURES

- RS232/485 up to 230K Baud
- USB 2.0 in HID or Keyboard Emulation mode

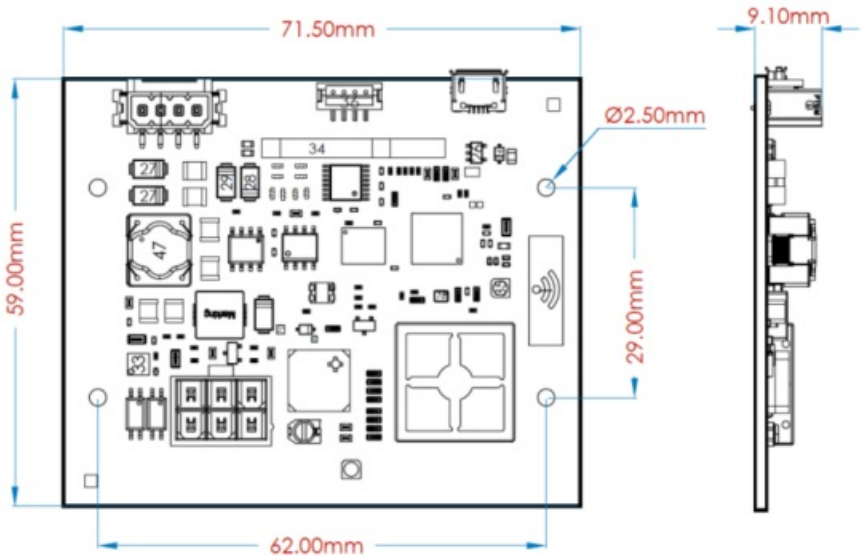
- Optional MDB-Interface
- Tricolor RGB LED indicator
- Full NFC support
- Integrated or external antenna
- 2 x GPIOs and Buzzer
- Bootloader for firmware update
- Power over USB
- +7V to +60V DC power supply (optional +5V version)
- 100mA @ +12V current consumption
- -30 to +85 ºC ambient Temperature

RELAY-BOARD

A relay board with 2x solid-state relays is available. The relays are 1.2A (3A peak) and 30V.

DIMENSIONS

59 x 71.5 x 9.10 mm



ORDERING CODES

ARTICLE NR:	RS485	RS232	USB	Wi-Fi/BLE	Int. ANT	MDB	Relay-Board
MCRN2-1110	X		X	* opt.	X		* opt.
MCRN2-1100		X	X	* opt.	X		* opt.
MCRN2-W100		X	X	X	X		* opt.
MCRN2-MDB		X	X	* opt.	X	X	

FCC Regulatory Conformance

Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated at a minimum distance of 20cm between the radiator and your body.
NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Part 15.19 Warning Statement- (Required for all Part 15 devices)
THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.
FCC Part 15.21 Warning Statement-
NOTE: THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

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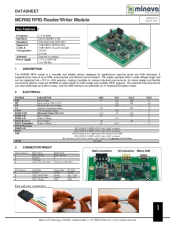
Documents / Resources

	**minova MCRN2 RFID Reader Writer Module** [pdf] Owner's Manual MCRN2, MCRN2 RFID Reader Writer Module, RFID Reader Writer Module, Reader Writer Module, Writer Module, Module

References

- **RFID Readers & Terminals | minova**
- **User Manual**