



Remote Monitoring System

Product Code: RMS022A

Introduction

EMUS Remote Monitoring System unit broadcast the information received from the G1 Control Unit through Wi-fi or Sim card (future revisions). EMUS provide free access to EMUS RMS Portal for online monitoring. The RMS unit can communicate by CAN, RS232, or both at the same time with the G1CU. It is included a SD card functionality to record even when it is not possible to broadcast (HW ready for SIM, SD and CAN or RS232 data options, software to be released)



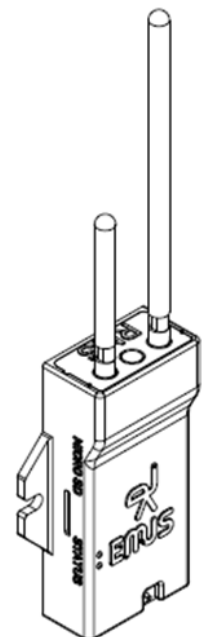
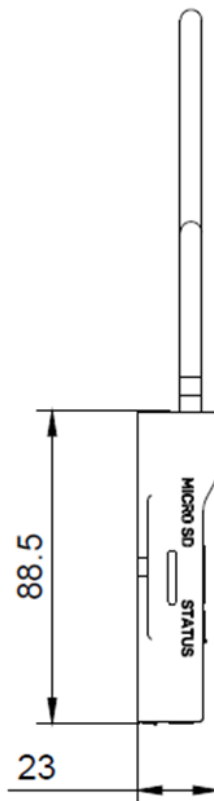
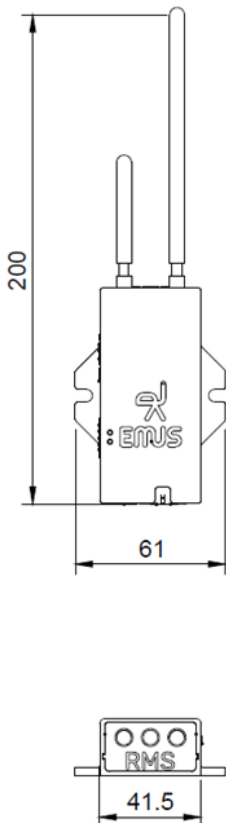
Applications

- Remote access anytime to battery information
- Allows to configure the BMS remotely

Features

- Supports Wi-fi and SIM card (2G, 3G and 4G) (future revisions)
- Offline recording through SD card (future revisions)
- Selectable CAN, RS232 or RS485 (future revisions)
- Green LED indicates correct communication and red LED indicates Cellular connection
- Data flow over MQTT protected by TLS1.2 security protocol

Mechanical Information



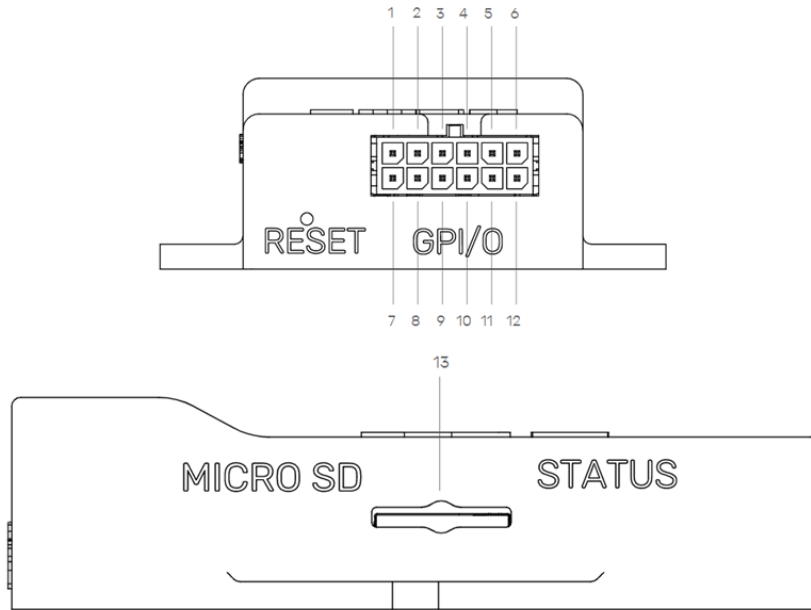


Table 1. RMS022A pin assignment

Pin No.	Assignment	Socket	Plug
1	CAN_H	Microfit 43045-1200	43025-1200 (recommended crimp tool Molex Hand Crimp Tool P/N: 638190000)
2	RS485_A		
3	RS232_TX		
4	INPUT2		
5	N/A		
6	12-24V		
7	CAN_L		
8	RS485_B		
9	RS232_RX		
10	INPUT1		
11	N/A		
12	GND		
13	SD Card	-	-

Electrical Characteristics

Table 2. RMS022A electrical characteristics

Item	Conditions	Value
Supply voltage		9 to 64 (72.8) VDC
Current consumption normal mode (without Wifi & cellular)	At typical supply voltage, with nothing else connected	45.2mA@12V 23.8mA@24V
Maximum power consumption		6W
RS232 interface voltage	TVS protection (Pd -200W)	-15V to 15V



Remote Monitoring System

Product Code: RMS022A

Item	Conditions	Value
CAN interface voltage	TVS protection (Pd - 350W)	-24V to 24V
Internal CAN_H - CAN_L resistance		120 Ω
RS485 interface voltage	TVS protection (Pd - 600W)	-7V to 12V
Interfaces galvanic isolation		None
General purpose input ON voltage		5 to 32 VDC

Table 3. RMS022A electrical characteristics

Item	Conditions	Value
Operating temperature	-	-40°C to +85°C
IP Rating	-	IP40
Weight	-	73g
Dimensions	-	200x61x23 mm
Wi-Fi	WLAN	802.11b/g/n
	Bit rate	802.11n up to 150 Mbps
	Frequency	2.4 GHz
Cellular frequency bands	2G Band	3, 8
	3G Band	1, 3, 8
	4G Band	1, 3, 7, 8, 20, 28A
Mobile data consumption	Default broadcast parameters configuration with the TLS functionality enabled	Upload: 322 KB/min Download: 76 KB/min Overall: 398 KB/min
	Default broadcast parameters configuration with the TLS functionality disabled	Upload: 218 KB/min Download: 46 KB/min Overall: 265 KB/min
	Lower Frequency broadcast parameters configuration (30 seconds) with the TLS functionality enabled	Upload: 71 KB/min Download: 73 KB/min Overall: 144 KB/min
	Lower Frequency broadcast parameters configuration (30 seconds) with the TLS functionality disabled	Upload: 20 KB/min Download: 1 KB/min Overall: 21 KB/min
	No parameters configured with the TLS functionality enabled	Upload: 26 KB/min Download: 20 KB/min Overall: 47 KB/min
	No parameters configured with the TLS functionality disabled	Upload: 1 KB/min Download: 0 KB/min Overall: 2 KB/min
CAN Speed		25 kbit/s, 50 kbit/s, 100 kbit/s, 125 kbit/s, 250 kbit/s, 500 kbit/s, 800 kbit/s, 1Mbps
SD Card	Factory installed	8Gb