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CC51LR REV.B

Product Datasheet



Version V1.03

Release Date 2025-10-31

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Verification	Review	Approval
唐宝锋 25.10.31	25.10.31	25.10.31

About this Document

This document mainly describes the specification parameters ofLoRa DIN-Rail Serial Protocol Converter CC51LR REV .B.

Product Selection

Model	Transmit power	Band	Areas
CC51LR REV.B(CN490LC22S-1B1T)	+22dBm	CN490	Chinese Mainland
CC51LR REV.B(EU433LS22S-1B1T)	+22dBm	EU433	Europe Region

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Revision History

Date	Version	Release notes
2024.06.12	V1.00	Initial release
2024.08.09	V1.01	Updated section "Hardware Interfaces"
2025.06.16	V1.02	Added section "List of Containers"
2025.10.20	V1.0 3	Updated section " Hardware Description"

1. Packing List

Sequence	Material	Number
1	LoRa DIN-Rail Serial Protocol Converter	1
2	suction cup antenna	1
3	copy of SN	2
4	certificate	1

2. Overview

LoRa Rail-mounted Serial Protocol Converterr CC51LR is a rail-mounted RS-485 and LoRa converter. This product allows users to quickly and easily connect rail-mounted RS-485 devices to a LoRa network, and is commonly used for RS-485 meters and other equipment. It uses a second-generation LoRa module, supports LoRaWAN and LoRaPMAC communication protocols, and provides optimization for wireless ModBus meter reading. It supports BLE functionality, using debugging tools, users can conveniently perform parameter configuration.

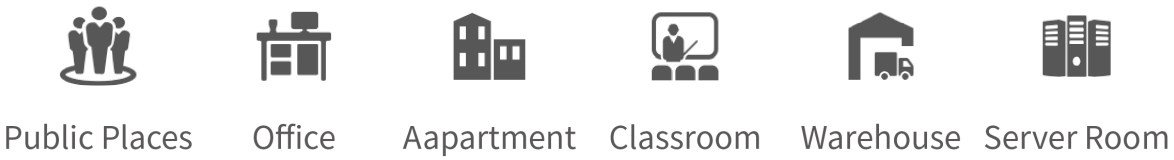
3. Model Description



4. Product Features

- AC power
- Din rail installation
- Parameters view: 1 OLED and 2×keys
- Wireless communication: 1 Sub-G
- Wired communication: 1 RS-485
- Wireless configuration: 1 BLE
- Firmware maintenance: BLE OTA upgrade

5. Application Scenarios



6. Electrical Specifications

Parameter	Min	Typ	Max	Remarks
Rated Voltage	-	220V AC	-	-
Operating Voltage Range	85V AC	-	456V AC	-
Frequency	45Hz	-	65Hz	-
Power Consumption	-	-	2W	When the maximum transmission power of LoRa is + 22 dBm

7. Environmental Characteristics

Parameter	Min	Typ	Max	Remarks
Rated Operating Temperature	-25℃	-	60℃	Normal Operating Conditions
Extended Operating Temperature	-40℃	-	85℃	Short-term Tolerance
Storage Temperature	-40℃	-	85℃	-
Humidity	5%	-	95%	Non-condensing
Altitude	-	-	2000m	-
Protection Rating	-	IP20	-	IP Rating (Dust and Water Resistance)

8. LoRa RF Characteristics

Parameter	Min	Typ	Max	Remarks
Frequency Range	410MHz	-	960MHz	Multi-band Support
Transmit Power	-	-	+22dBm	-
Receive Sensitivity	-	-134dBm	-	SF10@BW125KHz

9. BLE RF Characteristics

Parameter	Min	Typ	Max	Remarks
Frequency Range	2402MHz	-	2480MHz	-
Transmit Power	-	0 dBm	-	-
Receive Sensitivity	-94 dBm	-93 dBm	-92 dBm	30.8% PER
Communication Distance	-	10 meters	-	Open Environment

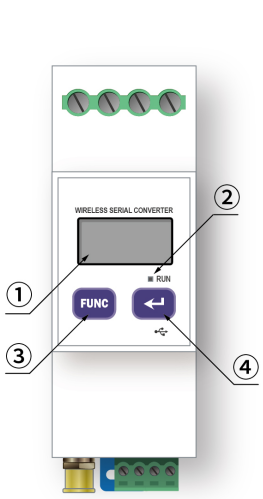
10.RS-485 Characteristics

Parameter	Min	Typ	Max	Remarks
Baudrate	1200 bps	9600 bps	460800 bps	–
Communication Distance	-	-	1000 meters	9600bps and connected with shielded twisted-pair

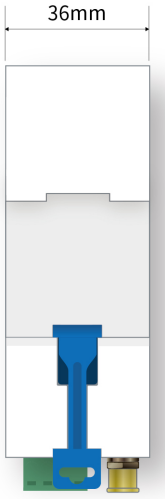
11.Hardware Description

Unit：All linear dimensions are specified in millimeters (mm).

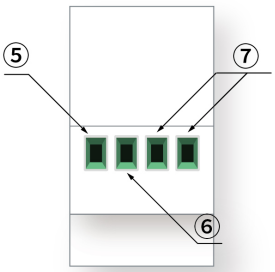
Tolerances: ±0.5 mm.



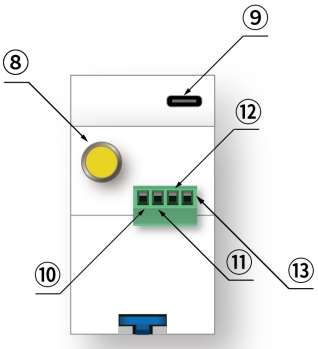
Front View



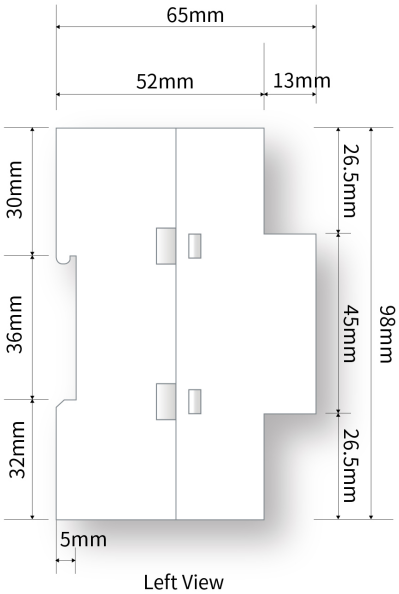
Rear View



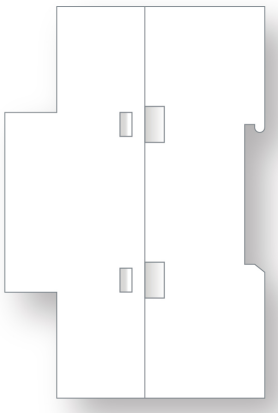
Top View



Bottom View



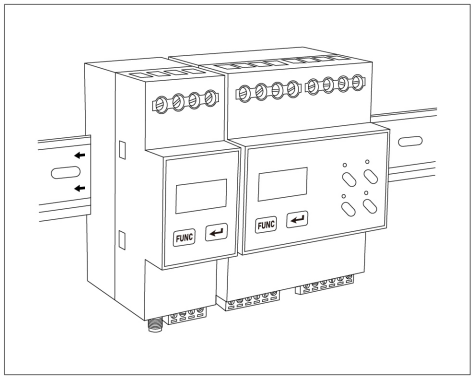
Left View



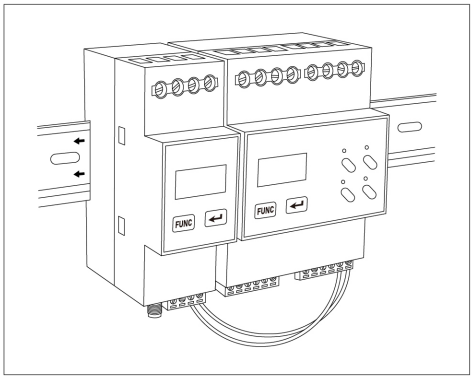
Right View

Detailed list	Functional Dxplaination	Remarks
1	OLED	-
2	Indicator light	It flashes once per second when there is no data It flashes once when data was sent or received
3	Function key	Function / Switch
4	Confirm key	Modify / Confirm
5	Live wire	AC power supply live wire
6	Neutral wire	AC power supply neutral wire
7	N.C.	Reserved
8	LoRa RF	Connect External SMA -J
9	Type-C Port	Reserved
10	N.C.	Reserved
11	Shield ground of RS-485	-
12	RS-485 A port	RS-485 Interface
13	RS-485 B port	

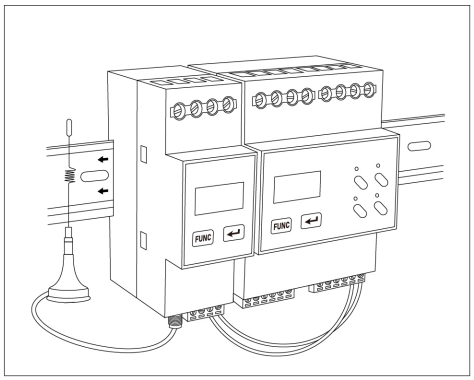
12. Installation Description



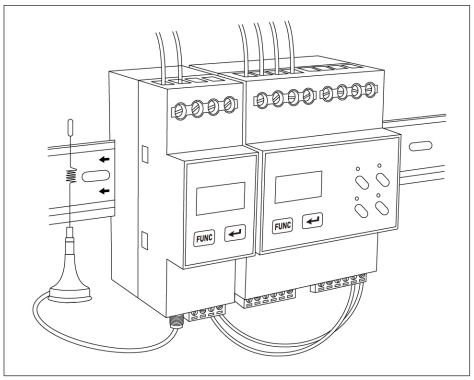
❶ DIN Rail Installation of LoRa Serial Converter and Three-Phase Electricity Meter



❷ Connecting the RS-485 Communication Cable



❸ Installing the Antenna on the LoRa Serial Converter



❹ Connecting the LoRa Serial Converter and Three-Phase Electricity Meter to Mains Power