



MEASUREMENT & CONTROL

Bridge LR

LoRa™ to RS-485 converter

Distance is no longer a problem



In today's industry, where connectivity and communication are essential to the success of any installation, it is crucial to have efficient solutions that allow establishing strong and reliable connections between devices and sensors. Against this backdrop, the integration of the LoRa™ communication technology has emerged as an effective response.

One of the most notable advantages of LoRa's™ long-range modulation technology is its ability to reduce the wiring needed, since it does not require a physical medium to transmit data. This simplifies communications between data storage devices and sensors, which can be located far away without incurring significant costs or requiring extensive installation hours, and offering reduced energy consumption.

Our **Bridge LR** device is the ideal option for establishing stable and reliable communications in challenging environments. With the Bridge LR, you will reduce wiring costs, guaranteeing robust and secure connections, even in adverse conditions.







Bridge LR

LoRa™ to RS-485 converter

The **Bridge LR** is a device for connecting between the RS-485 physical environment and the LoRa™ long-range wireless network. It is fully programmable through its free configuration software. Moreover, up to 32 slave devices can be connected to each communications bus.

The main device and slave devices communicate wirelessly, which makes for a cable-free, and consequently, more economical installation.



-  Wireless communications via the LoRa™ protocol
-  Modbus RTU/RS-485 protocol communications with the master
-  Allows remote configuration
-  Detachable external antenna
-  Up to 32 Modbus RTU devices per slave
-  Only takes up 1 DIN Module.

Advantages of LoRa™ technology

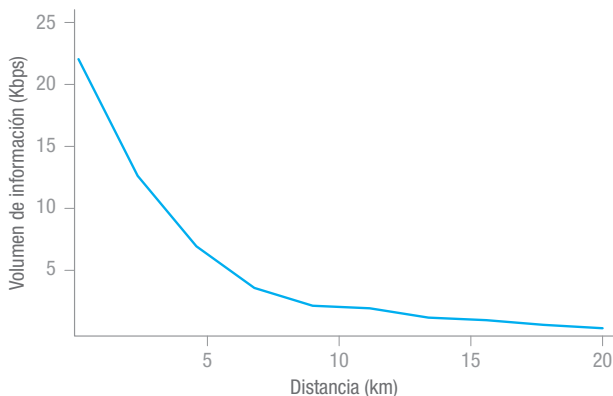


Characterized by its low energy consumption, it transmits at reduced speeds depending on the distance and the amount of information to be sent.

For installations that span long distances, where wiring is complicated and costly, the LoRa™ communication protocol is the best solution, as it allows transmitting information wirelessly up to 15 km.

Characterized by:

- › Secure two-way connections
- › Low energy consumption
- › Long-range communications
- › Great flexibility for the end user.



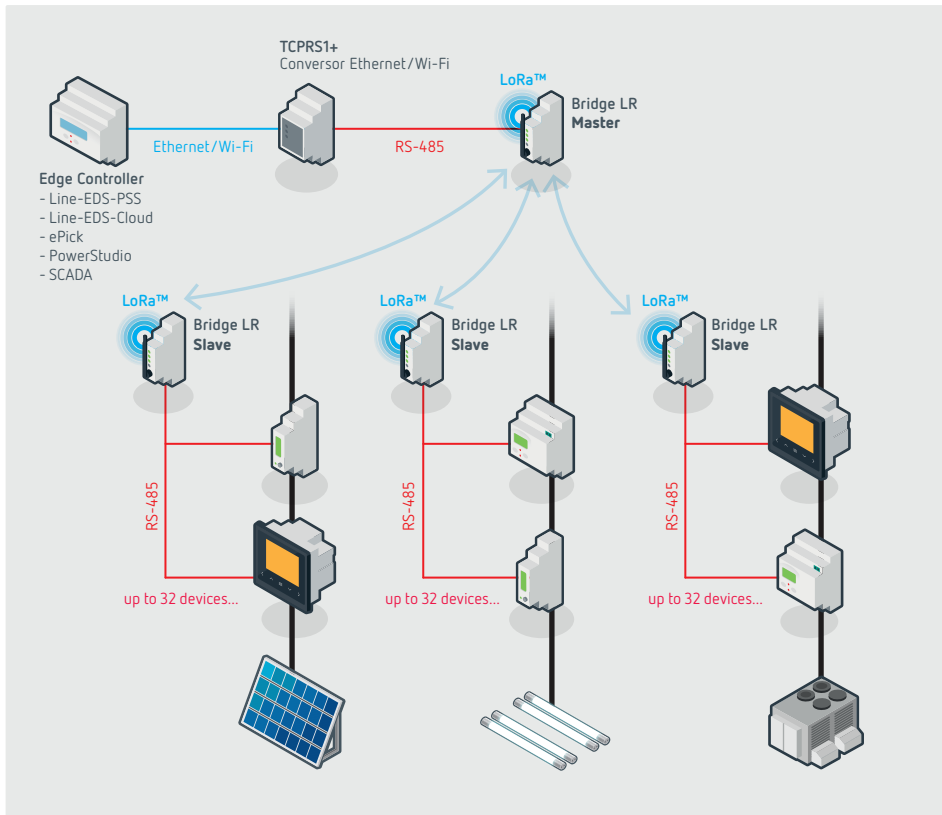
When considering communications between the LoRa™ and Modbus protocols, it is essential to keep in mind that the former can run at a lower speed, especially over long distances. To ensure reliable communications, the wait time (*Timeout*) of the Modbus master device should be set to 3 seconds, taking into account that our devices have a maximum range of 15 km in open environments.

☎ Create your own wireless network

The remote monitoring of installations refers to the management and control of sensors that provide real-time information on various parameters, whether electrical or control, such as temperatures, flow rates, liquid levels or other variables of interest. These data are sent to a central location for analysis and monitoring.

In most cases, this involves deploying a local surveillance system that collects data from the sensors, as well as software or a controller (*Edge controller*) where these data are sent and analysed.

The **Bridge LR** devices act as a wireless gateway between the measuring equipment and the control centre. The master device receives Modbus requests from the control system and sends them, wirelessly and seamlessly, to the measuring equipment via the slave **Bridge LR**. It also sends the replies from each device to the control centre for processing and registration. Each slave device can connect up to 32 devices with the Modbus RTU protocol via RS-485 communication, to create an extensive wireless communication network.



Remote communications, with no wiring.



Trust our wireless monitoring solution to keep your installations under control without worrying about cables. Get the data you need remotely, efficiently and without compromising the quality and reliability of the monitoring.

Ideal for monitoring photovoltaic strings, remote pumping stations, industrial warehouses with no option for wired connectivity, or farms with no mobile/cell coverage or internet connection.

 Reduces installation costs and time.

Applications

For any installation that requires remote monitoring and a low data update rate. Monitoring installations without the need for a cable, saving on the final cost of the installation.





Technical specifications

	Model	Bridge LR PSAC	Bridge LR PSDC
Power circuit	Nominal voltage	110-264 VAC	9-36 VDC
	Frequency	47-63 Hz	-
	Maximum consumption	2.5-4.5 VA	1 W
	Installation category	Cat III 300V	
Serial interface	Type	RS-485 3 wires	
	Transmission speed	9600 - 19200 - 38400 - 57600 - 115200 bps	
	Data bits	8	
	Parity	No parity	
	Stop bit	1 - 2	
Wireless interface	Technology	LoRa™ ⁽¹⁾	
	Frequency (Europe)	868-MHz ISM Band (9 channels)	
	Standard range	1 km indoors 15 km outdoors with direct line of sight	
User interface	LED	Led Power, Tx and Rx	
	Push button	1	
Environmental characteristics	Operating temperature	-10 to +60 °C	
	Relative humidity	5 to 95% without condensation	
	Maximum altitude	2000 m	
	Protection rating	IP 20	
Electrical safety	Double class II insulation		
Standards	EN 61010-1, EN 61000-6-2, EN 61000-6-4		

⁽¹⁾ The device features LoRa™ technology for private networks and cannot be connected to LoRaWAN networks.

References

Type	Code	Power Supply	Description
Bridge LR PSAC	M6215A.	110-264 VAC	LoRa to RS-485 converter (Modbus/RTU)
Bridge LR PSDC	M6215E.	9- 36 VDC	LoRa to RS-485 converter (Modbus/RTU)

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