



Innovative Electrical Automation Solutions

IPW-RS485F – Wireless Bridge Datasheet

The RS485 Bridge allows an otherwise hard-wired RS485 link to be transmitted wirelessly, acting as a seamless, transparent link between two points. This can prove useful in systems where a wired connection may be either unfeasible or impracticable. An up-to-date inverter compatibility chart and troubleshooting guide can be found on the Integrelec website.

Module Layout:



Component	
A	SMA antenna connector. The units are compatible with 915MHz antennas. Antenna cables can be extended via 50 Ohm Low Loss SMA Extension Cables.
B	9~24V DC input power. If this is used, the DC power input on the bottom terminals (E) should not be used.
C	Status lights. The PWR light should be on so long as the device is powered. TXD and RXD flash when the unit is communicating. Please see Quick Guide for a detailed explanation.
D	RS-232 port. Please note that this is not used on the IPW-RS485F model.
E	RS-485 terminals. A/B from the inverter or smart meter should be wired to the corresponding terminal. The 24V power supply provided in the kit can be connected here to power the device.
↻	The device serial number is printed on the back side. Please quote this number in any support request.

Pin Assignment:

6-Pin Terminal Block					
1	2	3	4	5	6
RS485 A (+)	RS485 B (-)	Not connected	Not connected	DC+ (9~24V)	DC- (0V)

Effective Range:

Antenna Selection	
915S Antenna	Default in kit. Effective range of 100 metres under ideal conditions.
915M Antenna	Upgraded kit. Effective range of 350 metres under ideal conditions.
Note:	Ideal conditions are line-of-sight, no obstructions, with a mounting height of more than 2 meters from the ground. Actual range in field conditions may vary considerably. A maximum of 10m of antenna extension cable can be used. Attenuation caused by extension cable may reduce effective range.

Specifications:

Technical Characteristics	
Modulation Mode	Gaussian frequency-shift keying (GFSK)
Working Frequency	915MHz
Channels	8
Transmission Power	<100mW
Receiving Sensitivity	-121dBm
Transmitting Current	<75mA
Receiving Current	<30mA
Baud Rate (Wireless)	Adjustable: 1200 / 2400 / 4800 / 9600 / 19200 / 38400 bps Default: 38400
Baud Rate (RS485)	Adjustable: 1200 / 2400 / 4800 / 9600 / 19200 / 38400 bps Default: 9600
Switching Speed (Tx->Rx, Rx->Tx)	<10ms
Data Format	8E1 / 8N1 / 8O1 Default: 8 Data Bits, No Parity Check, 1 Stop Bit
Power Supply (Top)	9~24V @ 200mA
Power Supply (Terminals)	9~24V @ 200mA
Physical Characteristics	
Installation	Screw-On
Housing	Iron (1mm)
Weight	300g
Dimensions	100 x 86 x 26mm
Environmental Limits	
Operating Temperature	-20 ~ 70°C
Storage Temperature	-40 ~ 85°C
Ambient Relative Humidity	5% to 95% (non-condensing)
IP Rating	N/A – Must be mounted in IP Rated enclosure
Standards and Certifications	
Confirmed	RoHS, CE, FCC