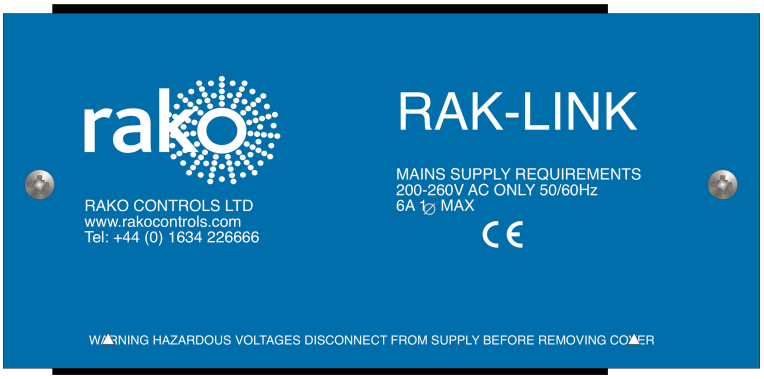
Instruction Manual

RAK-LINK

Wired RAK Connection Unit



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Version 3.2.6

Contents

1.0 What is the RAK-LINK?

The RAK-LINK enables communication between Rako Wired Network (RWN) devices and the connected RAK8-MB units.

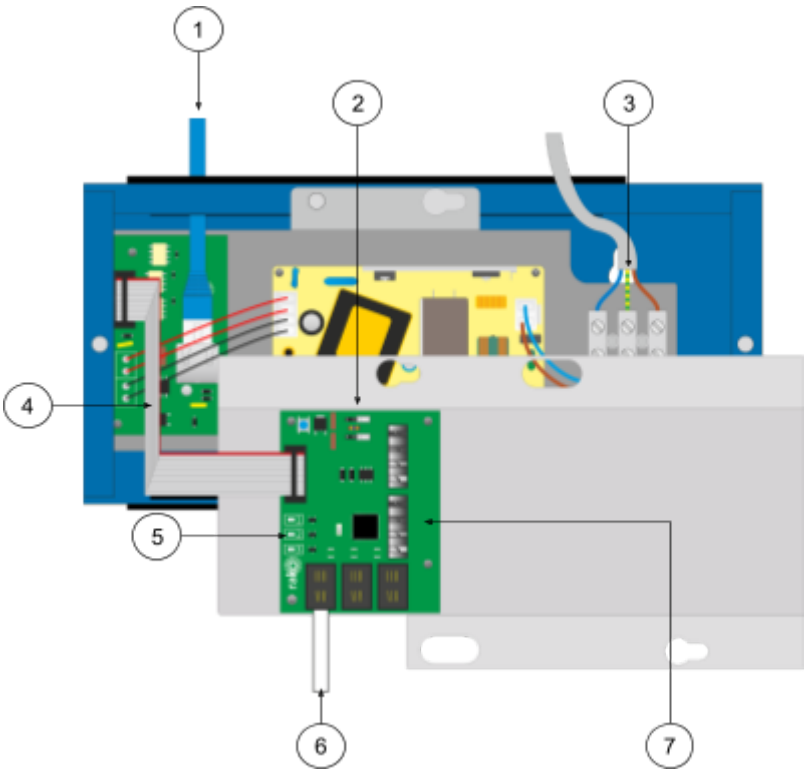
Up to 32 circuits can be mapped to a single RAK-LINK (4 RAK8-MB units); multiple RAK-LINKs can be used should more circuits be required.

The RAK-LINK supports up to two CAT5 or CAT6 cables via the punch-down connector and has three RJ11 ports that can connect Rako Wired accessories.

The power supply on the RAK-LINK is capable of powering up to 40 Rako Wired devices via the punch-down connector.

NB
The RAK-LINK RJ11 ports are for single RWN accessories and must not be used to join RAK-LINKs together.

2.0 RAK-LINK Overview

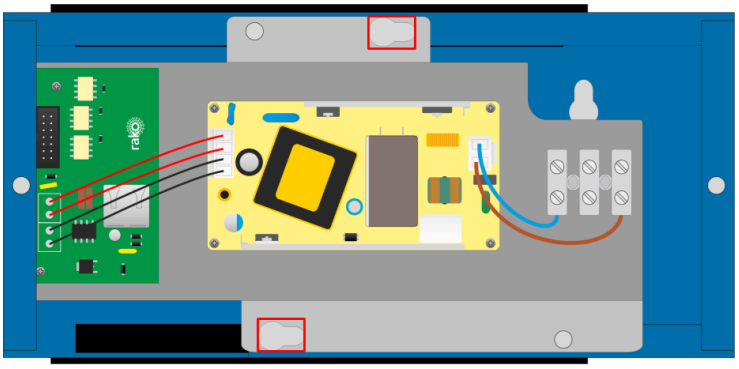
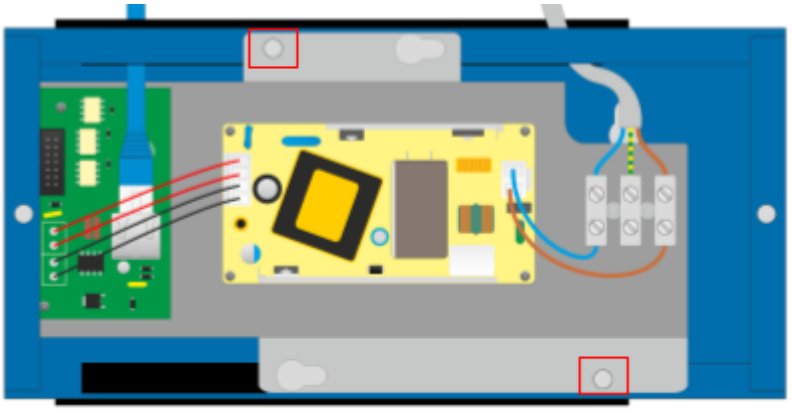


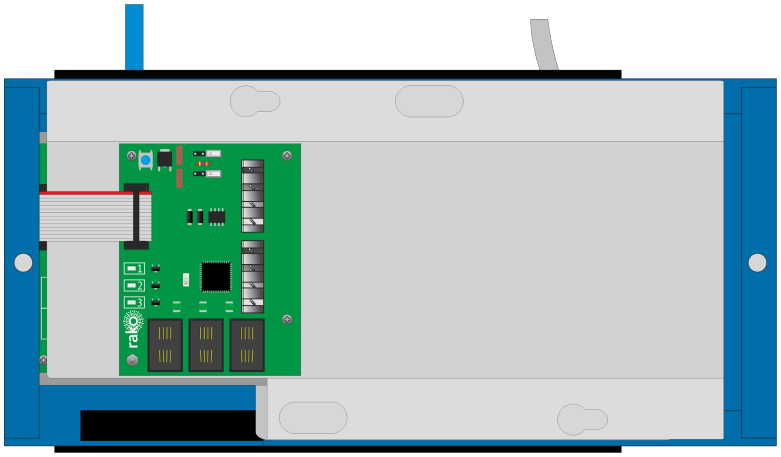
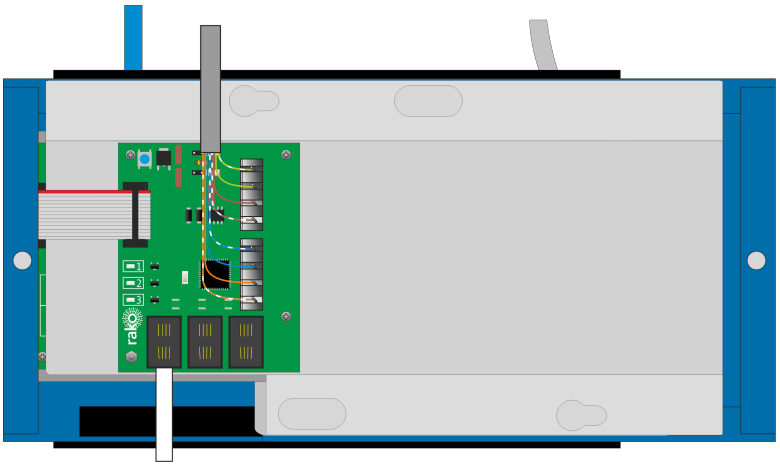
No.	Description
1	RJ45 connection to RAK8-MB
2	RWN termination jumpers
3	Mains input terminal
4	Ribbon cable between the bottom board and the top board
5	Diagnostic LEDs
6	3 x RJ11 ports for single RWN accessories

3.0 Installing the RAK-LINK

⚠WARNING

- The overall safety of any system incorporating this equipment is the responsibility of the assembler of the end system.
- A qualified electrician must install the Rako module. Ensure all wiring follows local electrical standards. Use only appropriately rated cables, and secure all connections before powering on.
- The Rako module must be connected to a mains supply that includes appropriate protective devices. Failure to comply with these requirements may result in damage to the equipment, risk of fire, or electrical hazards.

1		Remove the front cover and plastic knockouts to allow cables to pass in and out of RAK-LINK.
2		If RAK units are being used, slot the RAK-LINK housing into the RAK metalwork using the plastic rails. Screw RAK-LINK to the wall and prepare the mains supply cable.
3		Remove the top tray by disconnecting the ribbon cable and screws. Fix the lower tray into the wall-mounted metal housing using the screws indicated in the diagram.
4		Wire the mains supply into the terminal block. Insert the RJ45 cable that links the RAK-LINK to a stack of RAKs. Prepare two remaining screws to be slotted into the top tray.

5		Reattach the ribbon cable between the top and bottom board. Slot the top tray into the bottom tray and screw down.
6		Punch down the CAT5 to the RWN to complete the installation. If required, connect up to three Wired accessories (for example, the WK-HUB) to the RJ11 ports.

4.0 Terminating the RAK-LINK

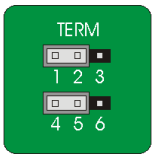
The termination required depends on the position of the RAK-LINK within the System.

No Term - Both Jumpers removed

Used when the RAK-LINK is not at the end of line. This is usually identifiable by two cables being punched down to the RAK-LINK.

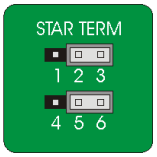
Term - Jumper fitted across 1+2 & 4+5

Used when the RAK-LINK is end of line in a radial configuration.



Star Term - Jumper fitted across 2+3 & 5+6

Used when the RAK-LINK is end of line in a STAR wire configuration.



5.0 Programming the RAK-LINK

The RAK-LINK is programmed using the Rasoft Pro programming software. A WK-HUB or WA/WTC-Bridge is required for any programming of a Wired System.

For more information on how to program a RAK-LINK please refer to the Wired System Setup Guide

Thank you for choosing Rako Controls; we hope that you are pleased with your system. Should you require further assistance, please contact us via our website, www.rakocontrols.com call our customer support helpline on 01634 226666. The office address is Rako Controls Ltd, Knight Road Rochester, ME2 2AH.

Appendix 1: RAK-LINK diagnostics

Red LED diagnostics require an ISSUE B circuit board and firmware version 0.4.6 or above.

RAK-LINK LED Status			
Number	Colour	Indicates	Uses/example
1 	Blue	Device status	• Flashing - Device in setup • Flashing - Network looping poll • Solid - In bootloader
2 	Blue	Power/ CAN bus activity	• Solid - Normal operation - DC power present • Flashing - CAN bus transmitting or receiving
3 	Red	CAN Diagnostics	• CAN warning • CAN error

Red LED Status	Troubleshooting (Potential causes)
Warning: RED LED fast flash	• One or more data line(s) have been shorted to a power line. • RAK-LINK is in setup mode with no network attached. • The network is busy (LED 2 will also be flashing fast).
Warning: RED LED slow flash	• Power supply under voltage. • Power is supplied from another source.
Error: RED LED solid	• RAK-LINK put into polling mode with no network attached or CAN bus short circuit.

Once a fault has been cleared, power cycle the RAK-LINK to clear the LED diagnostics.

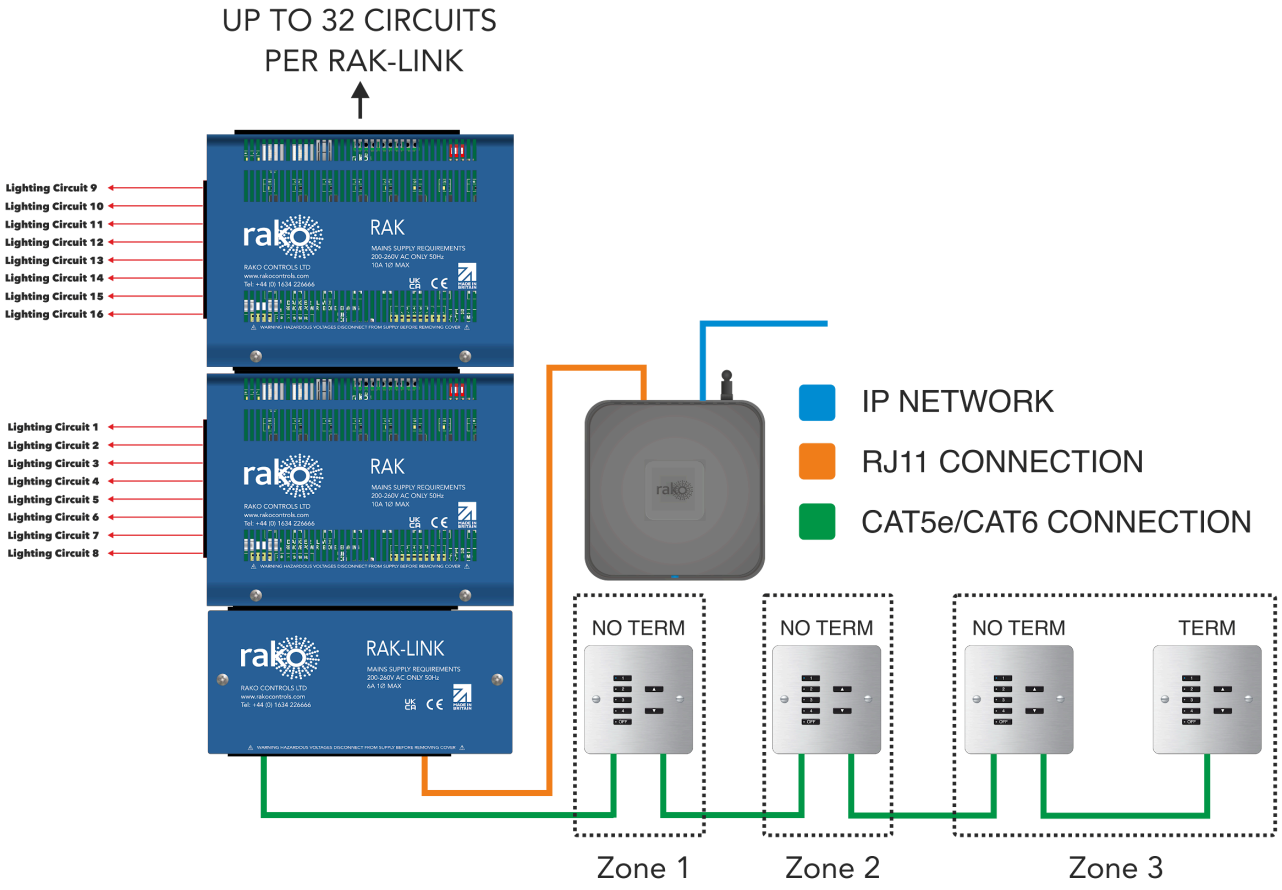
NB

Caution should be exercised while using this table for diagnostic purposes. The suggested possible cause is the most likely of many possible outcomes but is not a guaranteed solution.

Appendix 2: Example Systems Diagrams

Radial Wired System

The diagram below shows a RAK-LINK in a Wired radial System.



STAR Wired System

The diagram below shows a RAK-LINK in a Wired STAR System.