# RAK-STAR: CAT-5 star distribution unit

Rako Wired system can be connected by Loop in/Loop out wiring scheme or by Home Run scheme.

In Home Wiring scheme all Wall Plates and other devices can be wired back to a central position. This is normally where RAK-4 dimmers, RAK-Links and other Rako system components are installed.

The RAK-STAR distribution unit allows the Home Run wiring to be achieved.

Figure 1

WITHOUT RAK-STAR

"Loop in / Loop out "wiring system.

CAT5 Cable is connected from one device to the next in perfect order to allow correct transmission of signals along a single CAT5 cable.

Device at each end of cable must be terminated (Term) All other devices are Unterminated (Unterm).
Each device is supplied with jumper links to allow correct setting of termination.

WITH RAK-STAR

"Home Run" or "Star" wiring

With RAKO Wiring Distribution Unit. There is freedom to route cables to suit the installation.
Wiring can be "Home Run" or a mixture of Home Run and Loop in / Loop Out.
In addition, parts of the network can be isolated during commissioning to allow easy testing and fault finding.

Each wiring spur must be terminated. (Jumper settings are different to those for Loop in / Loop out wiring scheme).

Figure 2

See Figures 5 & 6 for detail of how to make correct cable terminations

RULES FOR WIRING CAT5 CABLES TO DISTRIBUTION BOX

1. Follow the Colour Code marked next to the Punch down Connectors
2. Only put ONE CAT5 cable in each Punch Down Connector
3. Only put a switch in UP position when it's Punch Down connector has been populated with CAT5 cable. This will connect that section of cable to the network.
4. Put switches in DOWN position when their Punch down connectors are empty.
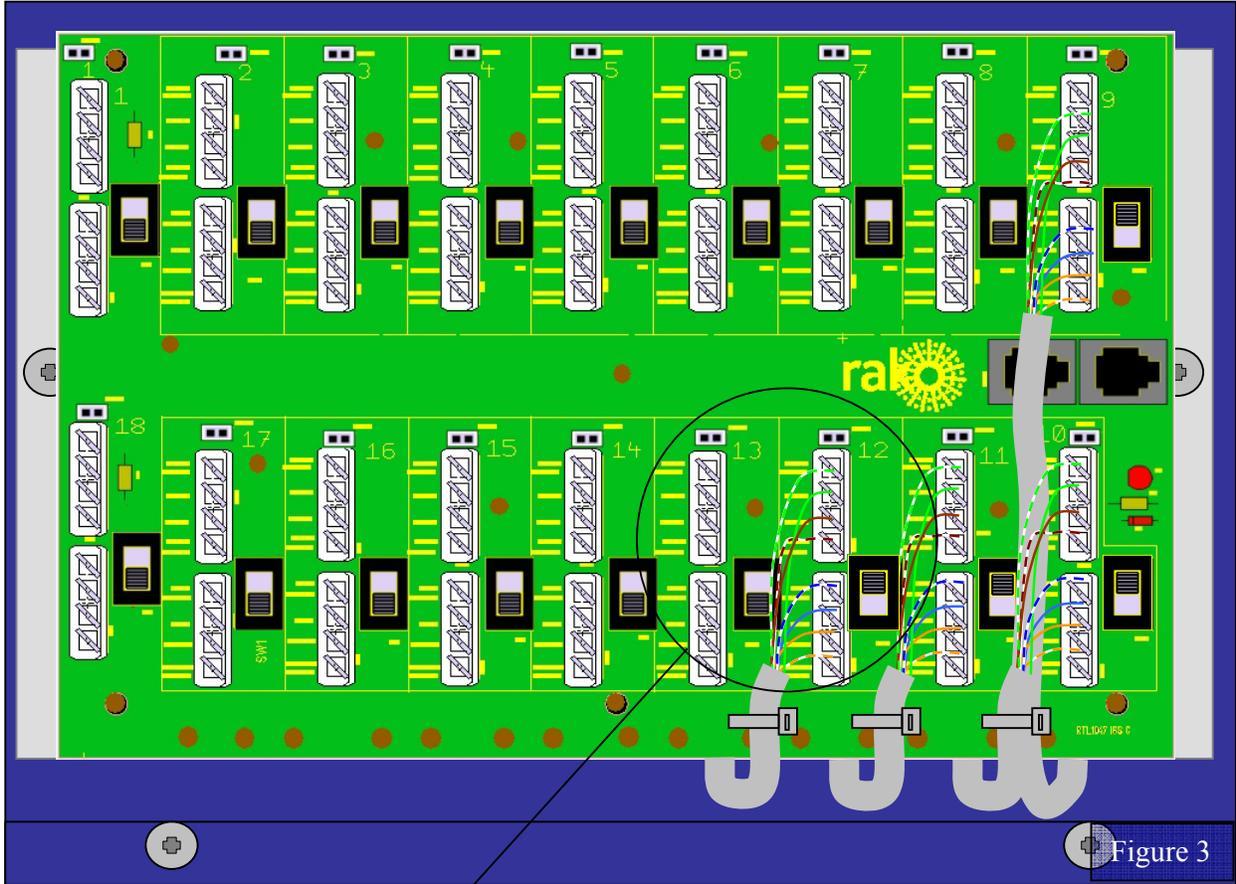
Figure 3
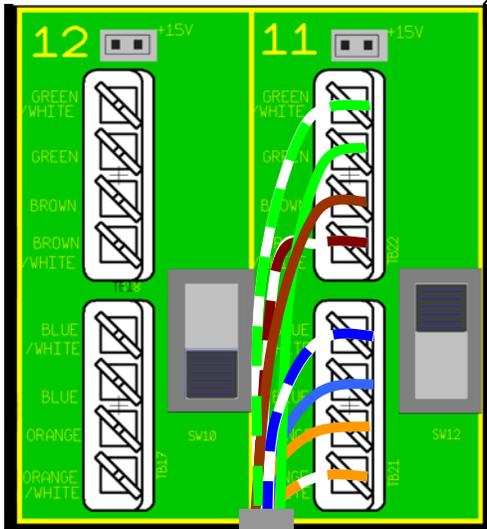
No cables in this position, so switch is **DOWN**

This position has cables, so switch is **UP**

LAY WIRE IN CONNECTOR THIS WAY AROUND

PUNCH DOWN HAS STEP ON THIS SIDE

TOOL IS PUSHED ON TO CONNECTOR THIS WAY AROUND

SCISSOR ACTION OF TOOL REMOVES EXCESS WIRE
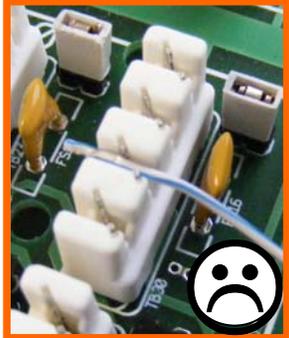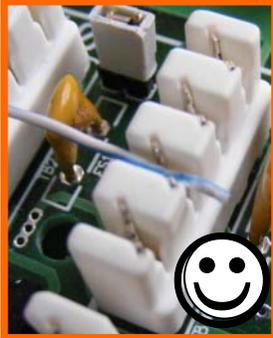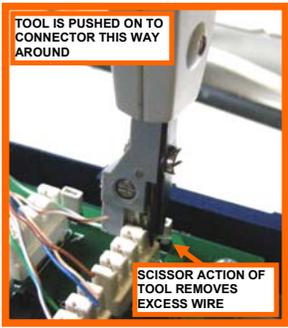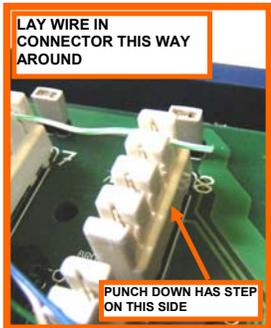
USING MORE THAN ONE RAK-STAR UNIT

If number of connections is too great then 2, 3 or more RAK-STAR units can be connected together to give bigger capacity.

WHEN CONNECTING RAK-STAR UNITS TOGETHER, ONLY USE FIRST AND LAST CONNECTOR NUMBERS.

Picture here shows 3 RAK-STAR units connected together:

RAK-STAR 1 connector 1
Goes to
RAK-STAR 2 connector 18

RAK-STAR 2 connector 1
Goes to
RAK-STAR 3 connector 18

RAK-STAR 1

RAK-STAR 2

RAK-STAR 3
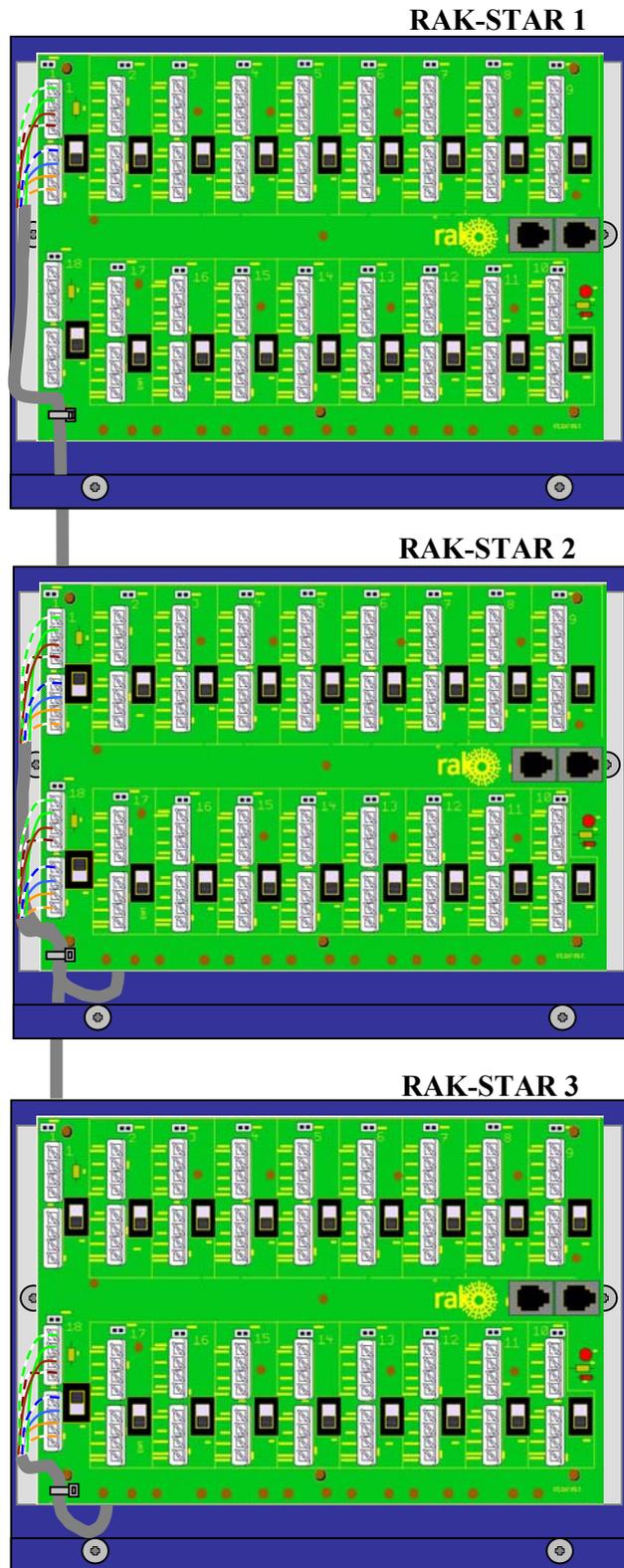
Figure 4

Termination Jumpers

Wall Plates and RAKLink boxes require Termination jumpers
(see also figures 1 & 2).
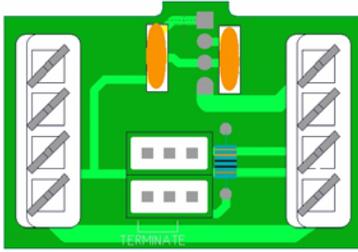
UNTERM
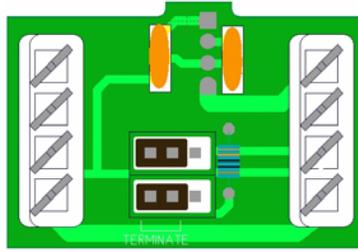
TERM
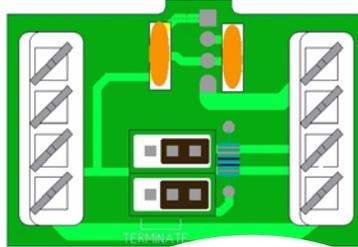
STAR TERM
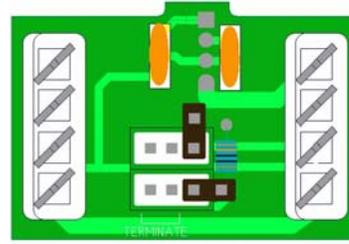
NOTE: Devices are supplied unterminated with jumpers supplied in shipping positions as above

TERMINATION JUMPERS ON WALL PLATE

Figure 5
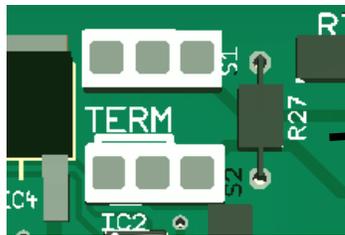
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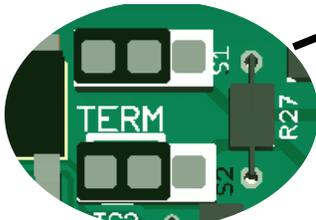
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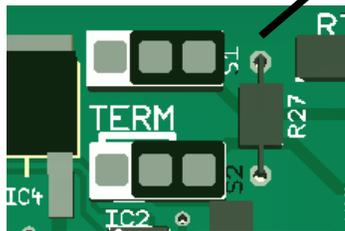
STAR TERM
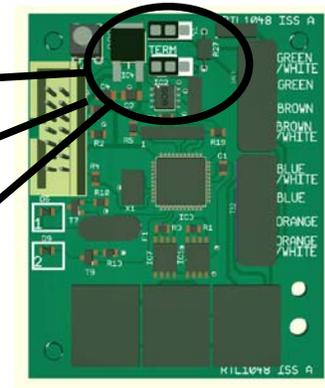
TERMINATION JUMPERS ON RAKLINK

Figure 6