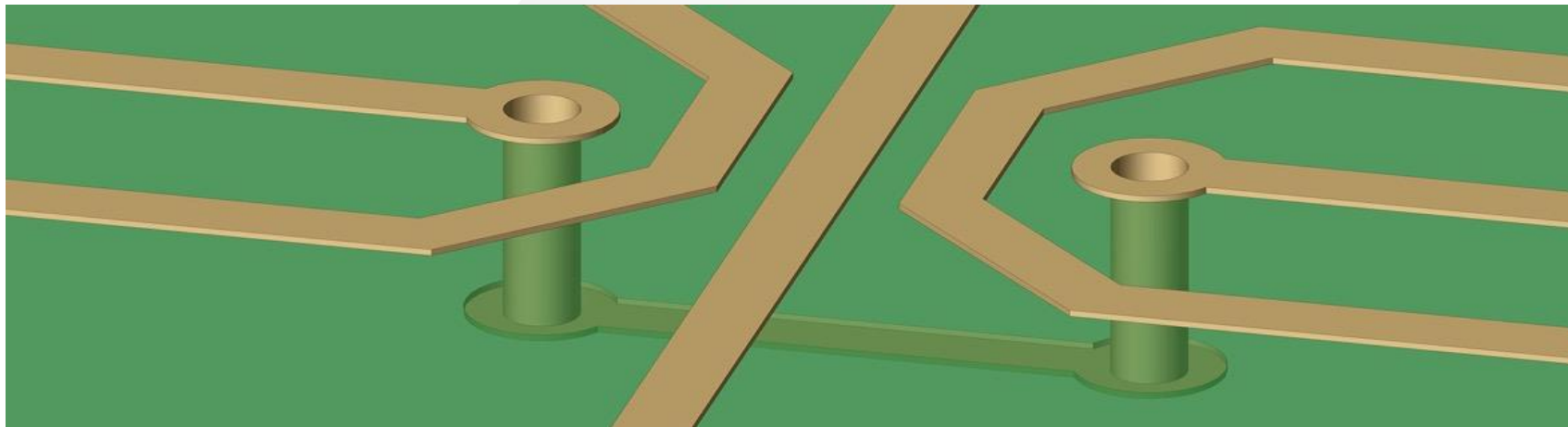


HARWIN

 **HARDWARE**

SMT Jumper Links

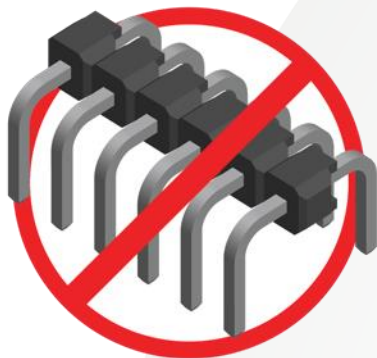
## TRADITIONAL SOLUTION - VIAS



When PCB designers are laying out the PCB tracking, they may come to a point in their design where it is not possible or practical to connect all the tracks to their required origins and destinations. The current method of solving this dilemma is to break through the PCB and continue the track on the underside of the PCB, creating a second copper layer. The two ends are joined with a plated-through hole, called a via.

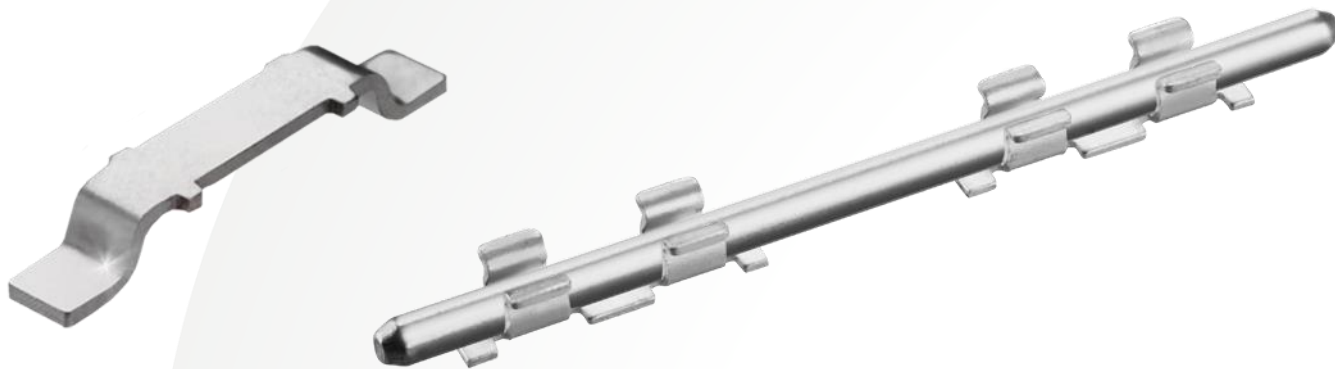
Adding a second copper layer complicates the PCB manufacture and often doubles the cost.

## OTHER SOLUTIONS – EXPENSIVE HAND ASSEMBLY



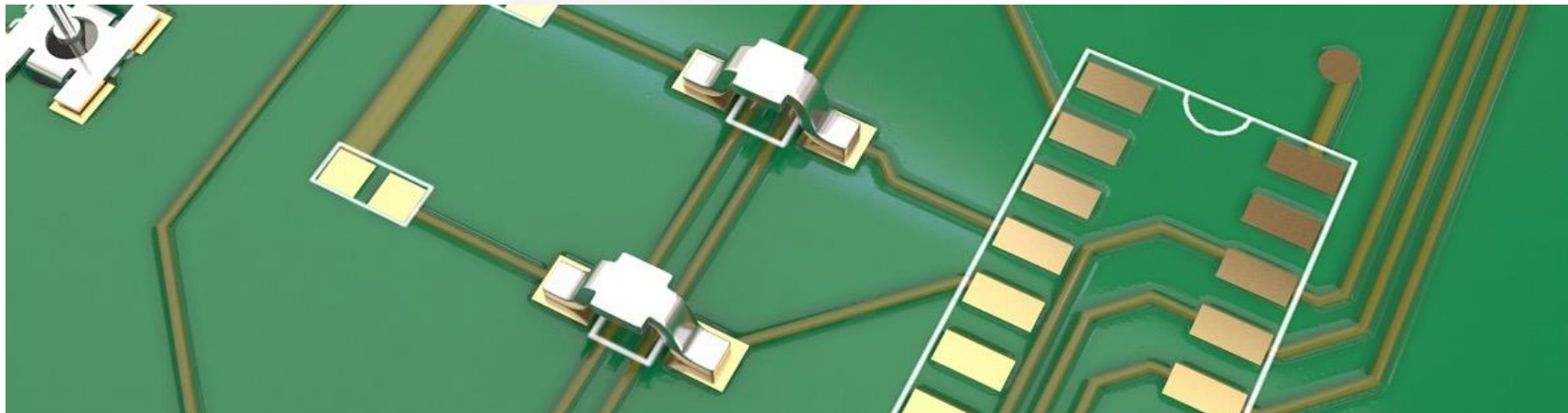
Alternative “simpler” solutions include special double-bend connectors, short lengths of wire soldered directly to the PCB, or wire jumper links in combination with sockets. These solutions all add to the component cost of the PCB, and often require a hand-soldering operation on an SMT PCB, with associated higher costs and resource requirements.

## SMT JUMPER LINKS - COST-EFFECTIVE, FLEXIBLE PCB BRIDGING



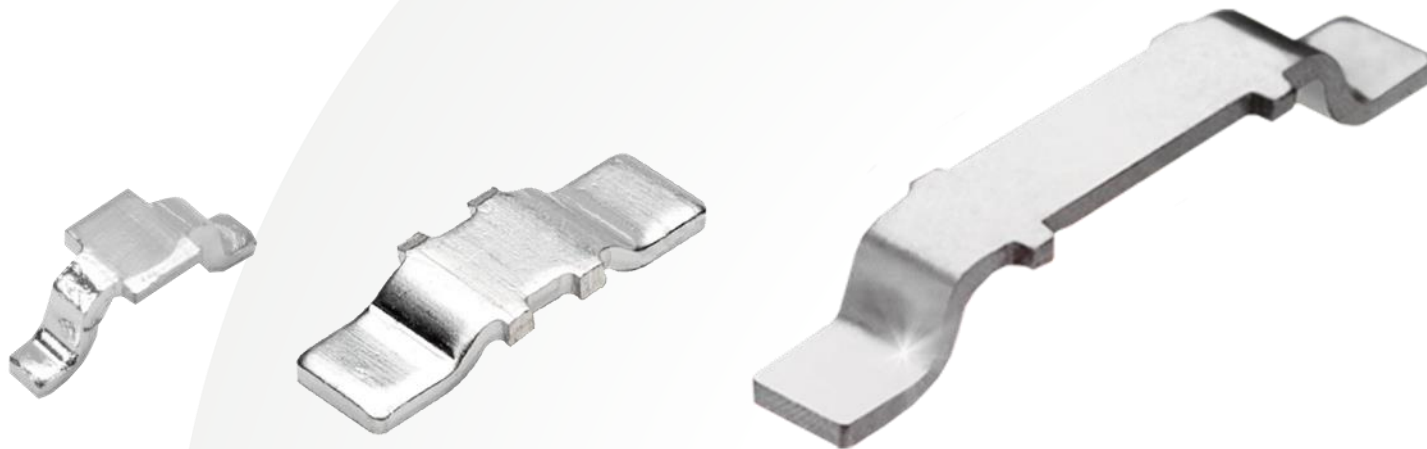
Harwin's range of SMT Jumper Links provide PCB Designers with a cost-effective range of Surface Mount links. Suitable for automated assembly placement, these products eliminate expensive hand assembly and soldering operations.

## FIXED JUMPER LINKS - ELIMINATE VIAS FOR SIMPLE PCB LAYOUTS



The single piece fixed SMT Jumper Links are a low-cost, easy-to-use solution for track layout problems. Acting as a physical bridge, the designer can simply jump the circuit off the PCB to reach the other side of the problematic track. Vias and double-sided PCBs can be eliminated.

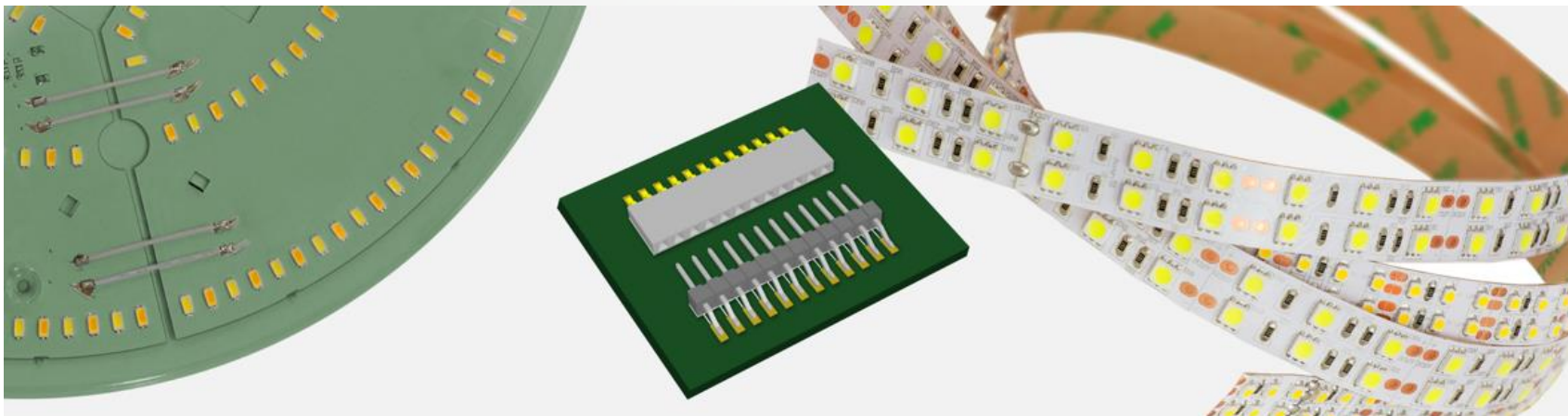
## FIXED JUMPER LINKS - VARIETY OF SIZES FOR DESIGN FLEXIBILITY



These solid Jumper Links are currently available in 3 different sizes, all suitable for carrying 10A:

- [S1621-46R](#) – 12.3mm long, for bridging multiple track;
- [S1911-46R](#) – very low profile at 1mm total height;
- [S1731-46R](#) – reduced size SMT feet, for restricted PCB space.

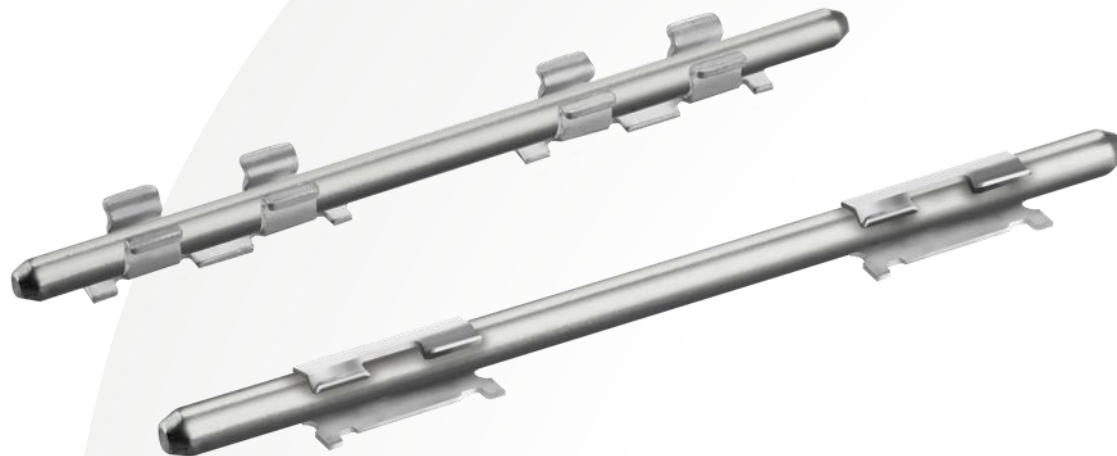
## TRADITIONAL – HORIZONTAL PCB CONNECTION FOR REMOVABLE MODULES



Many modern applications require horizontal connections between adjacent PCBs. Manufacturers resort to hand soldering solid links, or specifying dedicated connectors. In either event, both choices are an expensive compromise.

If replacement of an LED array is required, removing a panel from the middle of a large display is extremely problematic – desoldering on-site is required, or all panels up to the faulty one have to be un-mated.

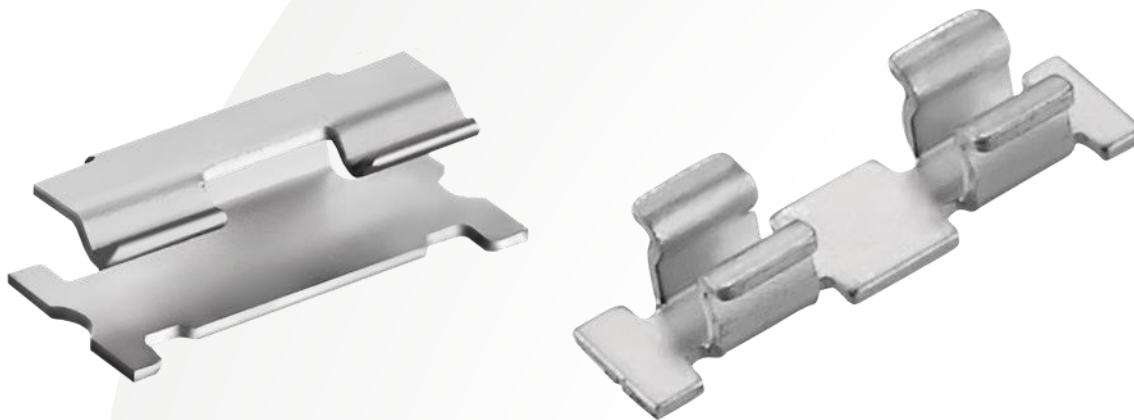
## REMOVABLE JUMPER LINKS - COST-EFFECTIVE METHOD OF CONNECTING ADJACENT PCBs



Harwin's novel two-piece combination system of Surface Mount Contacts and a Removable Jumper Link allows manufacturers to connect adjacent PCBs without these problems. The SMT contacts are reflowed to the PCB with all the other components. The Removable Links are then assembled quickly and easily, either in the factory, or even on-site if required.



## OPTIMUM VERSATILITY TO PCB DESIGNERS



The SMT Contacts are designed to accept a 0.7mm diameter bar, and are available in two orientations:

- [S8071-46R](#) – Vertical orientation;
- [S8081-46R](#) – Horizontal orientation.

The contact design will also accommodate a degree of lateral misalignment; ideal if PCB arrays are not perfectly aligned.

## MAXIMUM LAYOUT FLEXIBILITY



The Removable Links are also available in two options, giving the designers spacing options for the PCBs:

- [S07-46](#) – 23mm long;
- [S08-46](#) – 15mm long.

The Links are manufactured in tin-plated Phosphor Bronze for maximum rigidity and electrical performance.

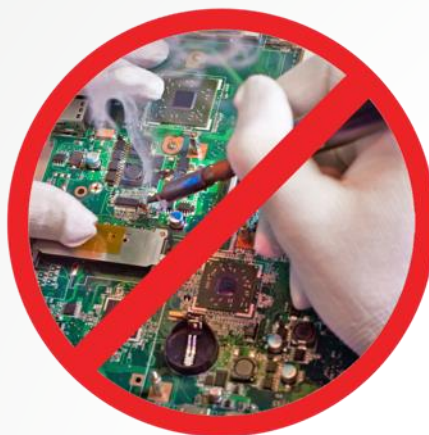
## SIMPLIFIED LED ARRAY REPLACEMENT



In applications such as LED lighting arrays, it is very difficult and costly to replace an individual array:

- If the panels are soldered together, complex and expensive de-soldering is required with the high possibility of further damage.
  - Panels connected by horizontal connectors cannot be removed from the centre of a panel – the whole display needs to be dis-assembled up to the faulty array.
- The Removable Jumper Link system allows for fast and easy module replacement, minimizing maintenance times and costs.

## TAPE AND REEL PACKAGING



All the Jumper Links and Clips are supplied on Tape-and-Reel packaging, making them ideal for automated assembly to the PCB. This reduces total manufacturing costs by eliminating manual assembly and soldering operations. The final assembly of the Removable links is extremely quick, and can also be done on-site of a final LED installation if required.

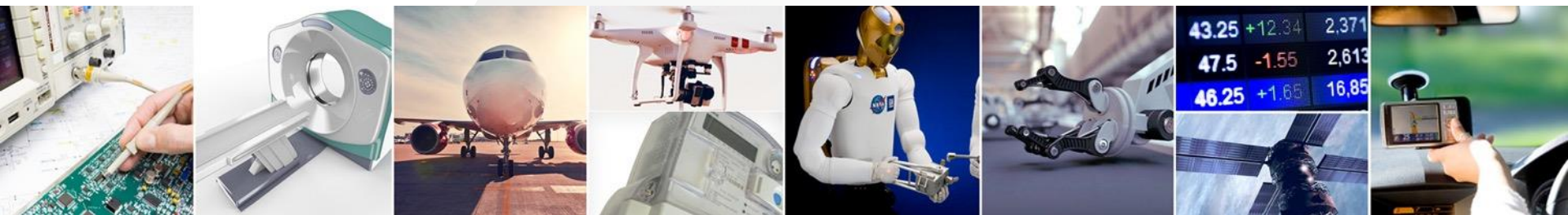
## PERFORMANCE RATINGS

Current Rating: Single Piece Jumpers	<b>10A</b>
Current Rating: SMT Contact with Removable Links	1.5A
Voltage	250V AC
Contact Resistance	20m $\Omega$

One-piece jumper links are suitable for Power applications; removable links are suitable for a variety of levels of signal current.

Both types of links can be used in isolation, or in a bank of parallel links.

## MARKETS



PCB Designers in all industries can face difficulties in achieving elegant PCB layouts without using expensive double- and multi-layer PCB solutions.

- LED Displays
- Compact devices
- Communications
- Advanced Robotics
- Aerospace

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