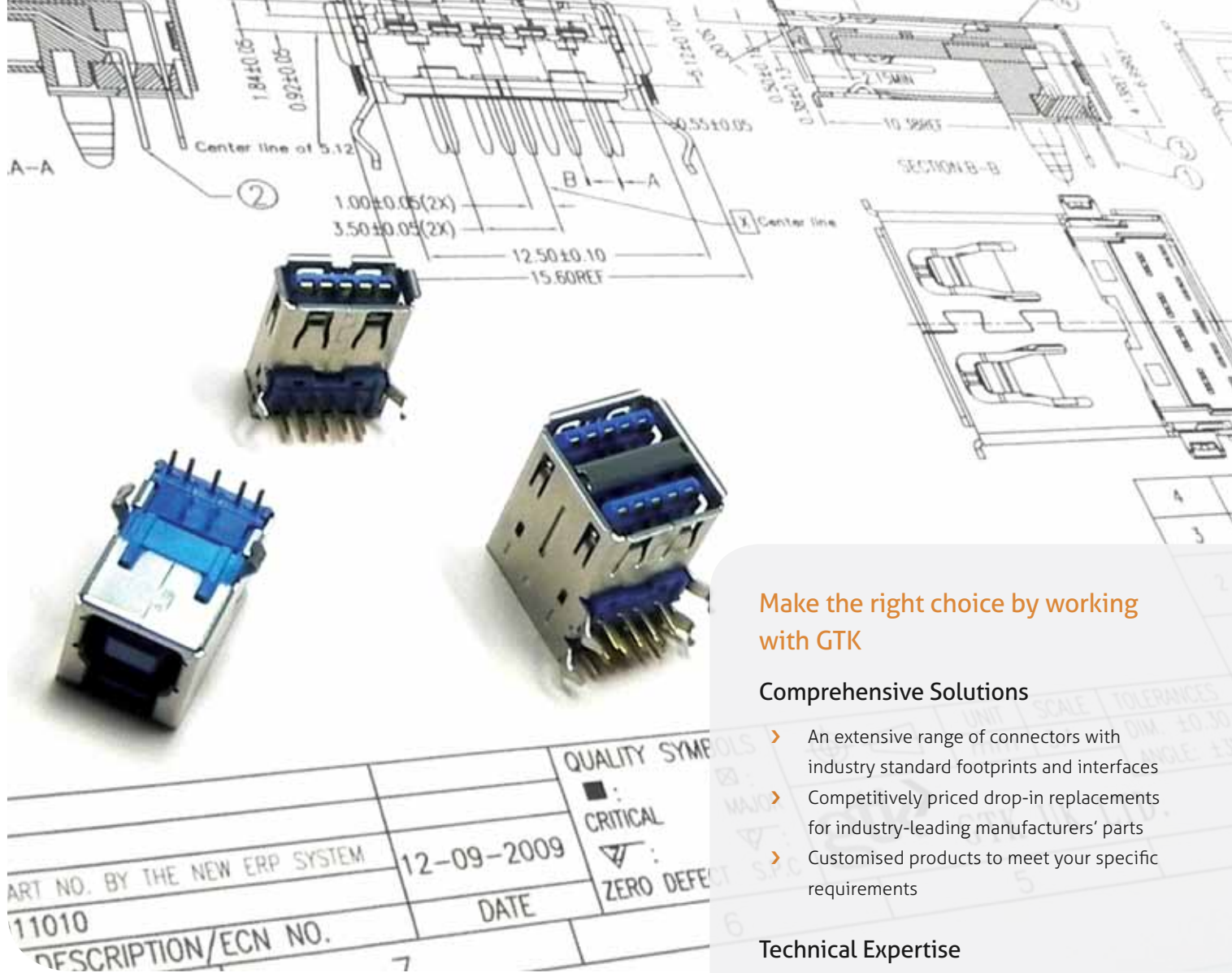


## Connectors



## About GTK

We provide electronic solutions including cable assemblies, connectors and optoelectronics, as well as custom turnkey manufacturing solutions. We have manufacturing facilities in the UK and work with manufacturing partners in Taiwan and China, making it easy for us to support customers on a regional or global basis. We are ISO9001:2008 and ISO14001:2004 certified, and our Corporate Social Responsibility policy is compliant to the ISO26000 standard.

## Make the right choice by working with GTK

### Comprehensive Solutions

- An extensive range of connectors with industry standard footprints and interfaces
- Competitively priced drop-in replacements for industry-leading manufacturers' parts
- Customised products to meet your specific requirements

### Technical Expertise

- UK-based, dedicated product specialists with in-depth connector expertise
- Technical support for connector selection and design
- Fast and accurate cross-referencing service
- Mating cable assemblies for all connector types

### Service

- Rapid turnaround of drawings, prototypes and samples for evaluation
- Logistics tailored to meet your needs
- Custom packaging to suit your production requirements
- Dedicated internal and external sales contacts to provide you with ongoing support

## Customisation

There are some applications where a standard connector doesn't meet your requirements and you need a modified solution. This is something that we are adept at handling and our business is structured to support it. Our product specialists work closely with customers to understand their requirements and manage customisation projects from start to finish, liaising with engineers and our manufacturing partners to ensure that the finished connectors exceed expectations.



### Bespoke Connector Designs

We have the expertise to assist with the design and manufacture of proprietary connectors and manage all aspects of these projects including:

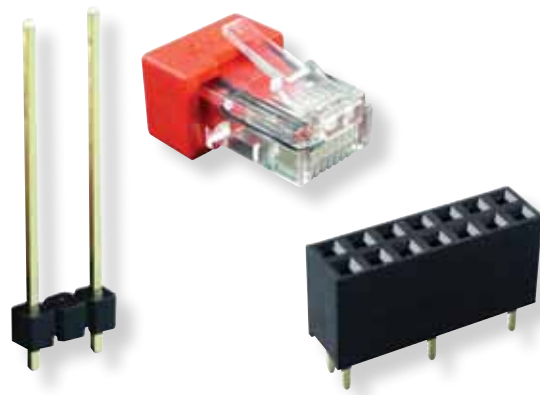
- > Product concept and design
- > CAD drawings
- > Prototypes
- > Design and development of appropriate tooling
- > Pre-production samples
- > Packaging

Our long-established partnerships with Far Eastern manufacturers mean that we can offer very competitive tooling and product unit prices.

### Minor Modifications

We have extensive experience in providing minor modifications to connectors, with examples including:

- > Custom height headers
- > Selective contact loading
- > Alternative mounting hardware
- > Housing colours
- > Alternative packaging options, including tray, tube or tape & reel



As technology advances and new product designs become more complex, it can be hard to find a standard connector that meets your performance and space requirements. We have wide-ranging experience in supplying custom solutions to overcome potential design challenges.

## Bespoke connector for the automotive industry

**Market: Automotive**

Our customer needed a part to interface with an existing OEM connector. This was a highly specific configuration with contact types for both power and signal, angled for restricted space within an automotive steering column.

- › Custom stamped and formed contacts produced on progression dies
- › Injection moulded in PBT
- › Manufactured to ISO/TS16949 and inspected to PPAP standards



## Custom card edge connector

**Market: Utility metering**

This custom-designed, bottom entry card edge connector allows for flexible spacing dimensions between parallel PCBs.

- › 1.0 mm pitch card edge set replaced traditional three-connector board spacer and receptacle solution, connected with a simple PCB to provide required board spacing
- › Originally tooled with 10 and 16 dual positions but later adapted for additional sizes
- › Modification to pre-existing tooling for both housing and contacts, keeping re-tooling costs and MOQs to a minimum

## Dust- and tamper-resistant RJ12

**Market: Data logging**

Our customer required a PCB-mounting RJ12 jack, but with modifications to offer some tamper-resistance and to minimise dust ingress when unmated.

- › Custom rear cover designed for existing RJ12 connector
- › Covers all significant apertures in rear of existing jack
- › Factory-fitted at minimal additional cost



## Bespoke circular connector for cable assembly

**Market: Utility metering**

This unique connector was required for a cable assembly to mate with a customer-designed interface. Their existing solution was literally a square peg in a round hole, using contacts from a standard rectangular connector enclosed within a circular aperture. Our engineers remodelled the connector to minimise float and improve contact retention within the housing.

- Fully custom moulding with integral, snap-fit strain relief
- Existing contacts used to minimise tooling costs

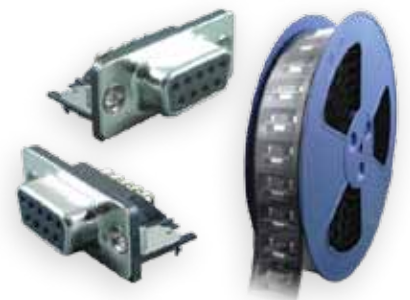


## D-subminiature connector adapted for high-temperature processing

**Market: Industrial drives**

This standard, through-hole D-sub connector was one of the few components on the customer's PCB that required manual placement. GTK modifications enabled the part to be incorporated into the main reflow solder process.

- Moulded insert manufactured from high-temperature LCP material
- Special tape & reel packaging developed to allow the connector to be handled in the pick & place process

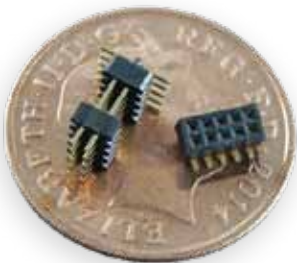


## Fine-pitch board stacking

**Market: Security**

A cost-sensitive requirement for parallel board stacking with very limited space was fulfilled with a surprisingly simple modification to an existing product.

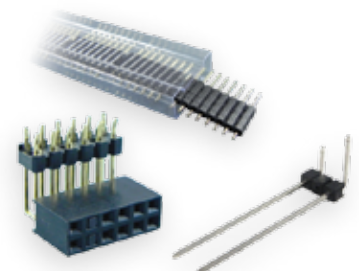
- Our 1.0 mm pitch header and receptacle were over 25% narrower than a 0.8 mm pitch part with the same pin count
- We designed a board spacer style header with spaced insulators to give a precise PCB stack height (unachievable with standard mezzanine connectors)
- Locating pegs added to aid with PCB placement
- No tooling costs or prohibitive MOQs, and highly competitive piece-part pricing



## Minor modifications to board-to-board connectors

We are often required to make minor modifications to standard PCB receptacles and headers, with changes including:

- Variable pin heights (within the same header if required)
- Additional insulators and/or spacing for custom, parallel board stacking applications
- Selective contact loading (pin headers and receptacles)
- Addition of keying plugs to prevent mismatching
- Kinked PCB pins to assist with retention on the PCB during processing
- Locating posts
- Pick & place caps and film for auto-placement





As well as being able to customise connectors to suit your specific needs, we can also supply an extensive range of industry standard PCB and cable mount connectors.

## Microwave/RF



- > Range of miniature, subminiature, microminiature and ultraminiature RF connectors for PCB mounting
- > Connectors include BNC, SMA (& K-series), SMB (& FAKRA), MCX, MMCX and SMP
- > A range of connectors that support maximum frequencies of 4GHz to 110GHz
- > Adaptors for in-series or inter-series connections
- > Mounting styles include vertical, right angle and end-launch types for through-hole and SMT applications

## I/O Connectors



- > USB Connectors (Type A & B, Mini, Micro and USB 3.0)
- > D-sub connectors, hoods and hardware
- > Audio visual connectors (HDMI, mini HDMI, DisplayPort, DVI)
- > Mini DIN
- > Audio and stereo jacks
- > Multi-port connectors available in many ranges

## Modular Telephone Connectors



- > Shielded and unshielded jacks (RJ45, RJ11, RJ12)
- > Side, top and 45 degree entry options
- > Multi-port stacked and harmonica jacks
- > Optional integrated magnetics (10/100Base-T, Gigabit and PoE)
- > LED jacks
- > RJ45/USB combo connectors

## FFC/FPC



- > 0.3 mm, 0.5 mm and 1.0 mm pitch connectors
- > Slide-lock or flip-lock styles
- > ZIF (Zero Insertion Force) and LIF (Low Insertion Force) connectors available
- > Choice of contact orientation
- > FFC cable jumpers made to order

### Wire-to-Board

- › Disconnectable two-piece and board-in connectors
- › Discrete wire connections from 0.8 mm to 3.96 mm pitch
- › IDC ribbon cable connectors and headers on 1.27 mm, 2.0 mm and 2.54 mm pitch
- › Fully intermateable with leading manufacturers' connectors
- › Wide range of pin counts and PCB mounting options



### Board-to-Board

- › PCB headers and receptacles on 0.8 mm, 1.0 mm, 1.27 mm, 2.0 mm or 2.54 mm pitch
- › Flexible solutions for parallel, right-angled and co-planar PCB connections
- › Easily customised with selective contact loading, special lengths and angles
- › 0.8 mm pitch microstak connectors for flexible, parallel board stacking solutions
- › Card edge connectors



### Memory Card Connectors

- › SD and microSD card connectors
- › CompactFlash\*
- › SIM card connectors
- › IC sockets including stamped or turned pin DIL sockets, PLCC and DIMM connectors
- › Various mounting styles and footprints



### High Current and Power Connectors

- › DC power jacks with a variety of centre pin diameters and mounting styles
- › PCB 'Euro-style' and pluggable terminal blocks
- › Discrete wire, high current rectangular connectors from 3.0 mm to 6.35 mm pitch
- › Fully intermateable with leading manufacturers' connectors



We also supply mating cable assemblies for all connector types. These can be customised to meet your specific requirements with options including custom lengths, colours and company logos incorporated into the design.

Details of all of these connectors, and many more, can be found on our website, along with performance specifications and detailed drawings. We can source and supply almost any connector you might need, including legacy ranges such as DIN41612 and Centronics. If you can't find what you are looking for or are not sure which is the best connector for your new project, why not call one of our product specialists to talk through your requirements?



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