Charcroft Manufacturing (CEL)

- BS and CECC approved UK production facility. Manufacturing custom passive assemblies, audio and precision foil resistors in addition to silver-mica and legacy ceramic capacitors.
- VPG approved Precision Centre for VPG Bulk Metal® Foil resistors offering tape and reel service, in addition to Precision-Express® manufacturing for prototype and pre-production quantities.
- Offering bespoke, custom assemblies to customers’ requirements, flying leads options, custom labelling and printing.
- No minimum order quantities, short leadtimes, and in-house testing capabilities, we can provide a differentiated service package to our customers.

Charcroft Manufacturing can offer assistance with special projects, including the below requirements:

- Light manual assembly (nut and bolt)
- Hand soldering to J-STD-001
- Epoxy resin encapsulation
- Electrical harness manufacture
- Wire cutting and stripping
- Crimping and light riveting
- Heat shrink fitting
- Taping and reeling
- Component screening/binning, burn-in
- Third-harmonic, component linearity testing
- Component sub-assembly
- Heatsink attachments
- Busbars
- Box building and system-builds

Our technical team will investigate any other potential projects – Challenge Accepted!

Roger Tall
Passive, Hi-rel Semi & Opto Specialist
roger.tall@charcroft.com

Chris Leek
Power Specialist
chris.leek@charcroft.com

Debbie Rowland
Director
debbie.rowland@charcroft.com

Gerald Tyler
Engineering Team Leader
sales@charcroft.com
**Power Conversion**

A material-handling customer had a requirement for a power supply to charge electronic equipment on forklift trucks for the local market. They provided us with designs for two types of power supply: a 5v output device with micro USB connectivity and a 12v output version, based on the MTM PMDS0 power supply. A third design covered an installation-pack to allow post-build fitment of the power supplies onto forklifts of various electrical architectures. The designs were converted into CAD drawings by Charcroft and, following approval, samples of each design were built and submitted to the customer for testing and final approval. This allowed the customer to develop a bespoke solution suitable for local markets or specific customers.

**Component Obsolescence**

A capacitor/resistor assembly used in a dimmer/timer control for lighting systems was made obsolete, and the customer was searching for an alternative option. Due to the assembly being discontinued by the original manufacturer, the customer approached Charcroft to ask if we could make a replacement. Charcroft developed a design involving a KEMET capacitor and resistors made by TT Electronics (Welwyn), soldered together and encapsulated into a plastic case. Charcroft worked alongside the customer to develop a product that met their precise requirements, allowing production of the lighting control-unit to continue; without this bespoke solution, the customer would have been forced to review their product and design-in and source a new capacitor/resistor assembly.

**Component Modification**

A customer needed to fit insulated sleeves onto ‘snubber’ capacitors. Snubbers are used in switching circuits to reduce the voltage spikes created in switching circuits, which could result in over-voltage conditions, including arcing on the switch contacts – reducing life expectancy. In application, the capacitor leads were exposed and technicians carrying out routine maintenance ran the risk of receiving electric shocks if the leads were accidentally touched. Whilst other manufacturers declined to look into the issue due to the quantities involved, Charcroft took up the challenge and developed a solution to this problem. This involved fitting heat-shrink sleeving along 80% of the length of the capacitor leads, and led to Charcroft developing an automated process to handle large quantities of the part.

**Mobile Test AC/DC Supply**

A customer enquired about the potential to supply a mobile power unit that could convert mains voltage at 240v AC to 110v DC, which was intended for equipment testing during train builds. The design brief stated that it needed to be portable, able to take mains voltage, utilising a specified plug, and with an output of 110v DC. Our Product Specialist was able to identify and modify a PULS power unit to generate the voltage required, and using the physical specifications of this unit, went on to source an appropriate case in which to house it. CAD modelling was then used to design the final product, and after review by the customer, it was signed off. A bill of materials was then drawn up and ordered, and the procedure for build finalised. Finally, prototype builds were manufactured and tested and supplied to the customer, where it proceeded to meet all their requirements.