

Custom

Battery Packs
Displays
Keypads
Membranes
Joysticks
Antennas
Enclosures
Cable Assemblies
Transformers
& Magnetics
Heatsinks

Customised parts
Built to exact requirements

anglia
 **inception**

CUSTOM & BESPOKE COMPONENT DESIGN

www.anglia-live.com/customparts

Reliable bespoke custom design.

When off-the-shelf standard products simply cannot meet the application requirements.

During more than 4 decades of business, Anglia has built up an extensive global network of reliable and quality focused manufacturers who are able to offer cost effective customised parts built to exact requirements.

These manufacturers have all been fully audited using Anglia's rigorous selection processes, resulting in a quality approved network with the expertise to offer custom parts ranging from simple cable assemblies to fully customised displays and more.

This brochure gives a brief overview of Anglia's custom part capability. Many more options are also available.

Visit our website

www.anglia-live.com/customparts

or phone on

+44 (0)1945 47 47 47

or email

info@anglia.com

About Anglia

Anglia is the UK's leading independent authorised distributor of semiconductors, optoelectronics, interconnect, and passive and electromechanical components. A signatory of the ADS SC21 programme, the company holds AS9120, ISO9001 & ISO14001 accreditations.

Renowned for our great customer service and comprehensive technical support, Anglia has gained a wealth of experience and a thorough understanding of the market having served the electronics industry for over 40 years. Technically adept, we support OEM and EMS companies in every sector of electronics manufacturing. Our suppliers include some of the world's leading electronic component brands, complemented by many smaller companies with leadership in their chosen technologies.

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Our solid quality management systems are certified
to the following world-class standards:

ISO 9001

AS9120

ISO 14001

ADS SC21

Battery Packs

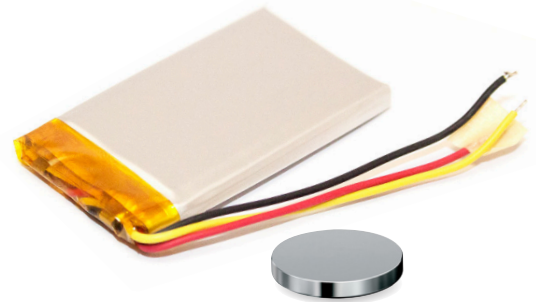
The battery is the heart of a portable device and needs to meet power, space and safety requirements which is not always possible with a standard battery. For more demanding applications or where the product is not designed to be user serviceable a customised battery pack can be the ideal option. Anglia offer a total custom battery pack service with a wide range of options in both primary or rechargeable packs, choice of output voltage and capacities with built in protection and/or charging circuits.

Lithium-Ion & Lithium Polymer Battery Packs or cells

Now one of the most popular battery pack options due to Lithium's volumetric efficiency. Anglia offer a customisation service where an "off the shelf" Li-ion battery pack is not suitable.

Key features

- Excellent charge and discharge characteristics
- Low self-discharge
- In-built protection control module for protection
- Option of integrated thermistor
- No memory effect
- Operation over a wide temperature range
- Coin cell style cells available for wearable products



Lithium Iron Phosphate Battery Packs

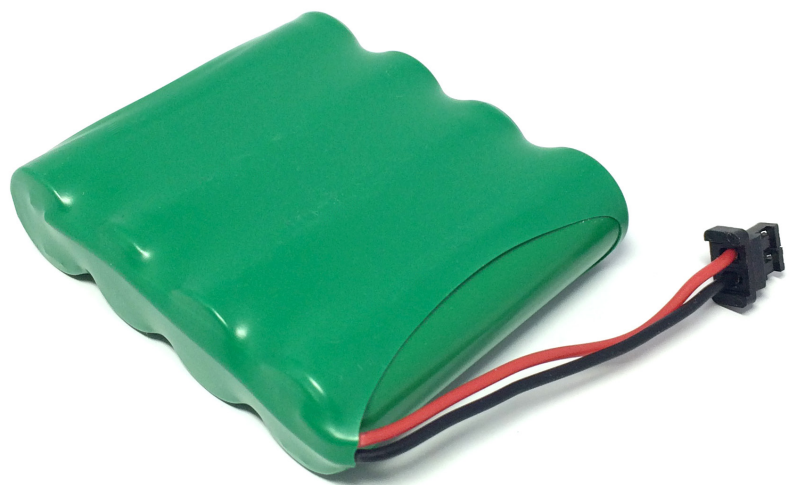
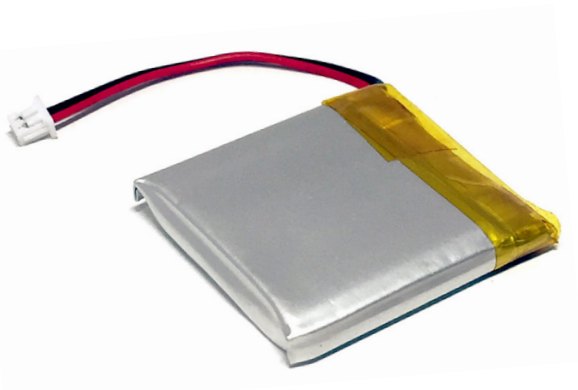
The high-power density means LiFePO₄ can be used in medium-power as well as heavy-duty traction applications. The long service life of the LFP and deep cycling capabilities make it possible to use LFP in energy storage applications (stand-alone applications, Off-Grid systems) with battery or stationary storage in general.

Key features

- No thermal runaway offering a very safe and secure technology
- Superior chemical stability
- Excellent cycle life from 2000 to several thousand cycles
- Very low toxicity towards the environment which makes it easy to recycle

Applications

- Communication devices
- Wireless devices
- Portable instruments
- Remote sensors
- Internet of Things (IoT)
- Consumer electronics
- Measuring devices
- Medical equipment
- Industrial clocks
- Alarm equipment





NiMH Battery Packs

NiMH battery packs are ideal for cost conscious applications. Anglia can offer NiMH packs with a choice of output voltage, capacity, wire lead with connectors, shrink sleeved or plastic housed and customers own part number, name and logo on printed on the pack.

Key features

- Built-in pressure vent guarantees safety in case of mistreatment
- Low self-discharge characteristic, packs are ready to use after storage
- Extended product life time of more than 1000 cycles (IEC) can be specified
- Cost effective charging system with no need for special components
- Deep discharge capability, allowing longer lasting shelf-life with high capacity retention after deep discharge
- Models for direct mounting on PCB available
- Options include cell configuration for various voltage requirements, PCB and tag termination, shrink sleeving and cable assemblies

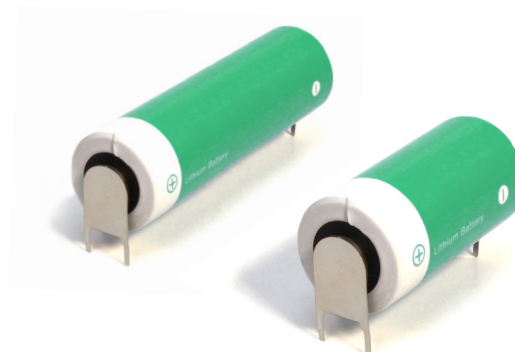
Lithium Thionyl Chloride

Perfect battery choice for powering wireless alarm, security systems, industrial meters, memory backup for computers, night vision equipment and other low energy devices that need long-lasting batteries.

- Lithium Thionyl Chloride battery technology provides the highest energy density
- Widest operating temperature range, ideal for industrial and field applications
- Ultra-low self-discharge at less than 1% per year enabling an effective shelf life of 10 years

Other Non-Rechargeable Battery Packs

Anglia can also supply non-rechargeable packs in chemistries such as Lithium Manganese and Alkaline. These are ideal for powering products which are remotely located with no access to a power connection required for recharging. Intrinsically safe battery packs for applications where recharging is not practical such as environments with explosive atmospheres, are also available.



Displays

The use of displays in electronic devices is increasing dramatically in both consumer and industrial electronics. There are many different models available and the technology is constantly advancing creating a big challenge to select the most suitable display for your product or application.

Customising the display enables designers the flexibility to differentiate or distinguish their end products. Anglia are able to offer many options from custom symbols to special text fonts and many other features. Custom displays can also be tailored to individual domains or applications allowing them to meet the demands of specific industries such as high-performance control panels that can be embedded into equipment and machines.

Typical Custom Options

- Fully customised display
- Addition of custom icons, characters or fonts
- Wide temperature range options
- Addition of Capacitive or Resistive touch panels
- EL backlight options
- LED backlights in white or other colour options
- Mono or Colour Graphics LCD/TFT
- Negative mode operation
- Special viewing angles
- Reflective, transfective and transmissive
- Built in Driver IC selection
- Connector options for data, touch screen and backlight

Typical Display Types

- TFT
- Graphic
- Character
- VATN
- OLED & AMOLED
- Electronic Paper / E Ink



Creating your Custom Display

Custom Displays

Whether you are designing wearables, medical, industrial, instrumentation or consumer devices, we can offer a solution for your application.

Anglia have extensive experience along with the highest quality technical assistance which you would expect to receive from an Independent Distributor such as Anglia.

In order for us to assist you further, please answer a few questions to enable us to understand your requirements. By providing us with this information, we will be able to guide you to the best product to meet your goals and support you through all of the design stages.

Typical Applications

- AV streaming devices
- Control panels
- HMI equipment
- HVAC
- Imaging machines
- Industrial machines & controls
- Information systems
- Instrumentation
- Interactive digital signage
- Kiosks and Consoles
- Marine and Avionics
- Medical equipment
- Mobile devices
- Navigation equipment
- Office automation
- Point of Sale terminals
- Portable devices and handheld Equipment
- Process control
- Recreational
- Security
- Telecom
- Ticketing
- Touch screen monitors
- Vending machines



Keypads

The keypad is the primary user interface to the equipment, which means that it needs to be aesthetically pleasing, functional, reliable and robust. Whilst “off the shelf” keypads are available they often involve making a compromise. A far better option is to specify a custom keypad.

Anglia are able to offer fully custom keypads which can incorporate logos, character legends and corporate colours. They are available in a variety of materials to suit most applications and budgets and can also be specified with IP ratings for use in harsh environments.

Silicone Rubber Keypads

Silicone rubber keypads are manufactured from elastic, nontoxic silicone rubber compounds and are processed from compression or injection moulding. The result is a very economical and reliable keypad for small, medium and large production runs. Silicone keypads can also be integrated with printed circuit boards or flexible circuits and have excellent resistance to temperature and ageing.

Typical options available

- Metal or poly-dome contacts
- Tactile or non-tactile feel
- Integral SMD LEDs in a choice of colour
- LCD windows
- ESD/RFI shielding
- Insertable legend options
- Plastic key tops available

Applications

- Access control
- Security panels
- Factory floor environments
- Public terminals/Kiosk
- Industrial controls
- Agricultural/Horticulture machines
- Harsh environment

Metal Keypads

Metal keypads offer much higher durability and robustness for harsh environments. Designed to your requirements, these high quality products include laser etched symbols along with a tactile feel. They are reliable and flexible, inherently water and dust protected and can be LED illuminated as well as ESD/RFI shielded.

Typical options available

- Rugged stainless steel construction
- Dust, water and vandal resistant
- Customised keypad legends
- Laser engraved legends for high wear resistance
- LED illumination in a choice of colour
- Bespoke interfaces can be incorporated into the keypad itself



Membranes

Membrane keypads offer a unique combination of features to enable a fast and simple supply of customer specific keypads. Designed to exact requirements, these high quality products have a flush finish making them easy to clean. The membrane keypads can be specified with poly-domed or metal domed switch types giving a variety of tactile feedback levels and long life expectancy.

Membrane Circuit Options

The most common and cost effective circuit for a custom membrane switch & keypad is screen printed silver or carbon conductive ink on a heat stabilised polyester substrate. It is also the most popular membrane switch construction due to its affordability, especially when compared to costly electromechanical switch assemblies. Silver flex membranes switches feature very thin flexible layers of material, of which some layers utilise screen printed silver and carbon conductive inks, and are separated by and adhesive layer.

Typical options available

- Graphic overlay only or full switching membrane
- Capacitive touch keypads
- Instrument dials and gauges
- Force sensing resistors
- Metal or Poly-dome contacts
- Tactile or non-tactile feel
- Integral SMD LEDs in a choice of colour
- LCD windows
- ESD/RFI shielding
- Insertable legend options



Joysticks

Joysticks are able to provide rugged simple ergonomic operation for some of the most demanding applications including industrial machines, specialist vehicles, robotics, agricultural machines and marine equipment. Anglia can offer an extensive range of joysticks each with customisation options allowing you to specify a product to meet the applications exact needs.

Joysticks are available in the following styles with customisation options :-

Thumb operated Joystick with Potentiometers

- Separated spring force for x-axis and y-axis
- Smooth feeling with no wobble of the lever
- Ideal for precision control

Hand operated Joysticks with Rotary Position Sensors

- Excellent smooth operation
- Robot joint angle control
- Perfect for portable control equipment

Hand operated Joystick with Hall Effect Sensors

- Excellent smooth operation
- Robot joint angle control
- Long service life

Typical Customisation options available

- Additional integrated switches for extra functionality
- Custom switch layout
- Illumination
- Long life sensors for increased durability
- Single, Dual and Multi axis operation
- Specified x & y axis lever force
- IP rated sealing
- Analogue or Digital outputs
- Choice of handle size and shapes
- Excellent smooth operation hand feeling

Applications

- Industrial machinery
- Material handling equipment
- Drones
- Security
- Remote controlled devices
- Specialist vehicles



Antennas

As wireless products increase in complexity the need to integrate multi-radio environments into one component is becoming more important. In addition, the exponential growth of the Internet of Things (IoT) is driving demand for miniaturisation, placing further demands on the system antenna. Anglia recognise the antenna is one of the most important elements of any wireless system and through our collaboration with antenna manufacturers we are able to offer a wide range of standard and customised antenna to accommodate the mechanical constraints of the application and to comply with the most stringent operating requirements.

Typical configuration options available

- External and Embedded styles
- Frequency bandwidth
- Gain
- VSWR
- Radiation pattern
- Connector options
- Cable assemblies with RF connectors fitted
- Customised bulkhead fittings
- IP rated sealing
- Antenna for harsh environment and intrinsically safe applications including ATEX

Frequency bands available

- Wi-Fi
- Bluetooth®
- Zigbee®
- LoRa®
- SigFox
- GSM 2G, 3G, 4G, 5G (LTE) etc.
- GPRS
- Pentaband
- GPS / GLONASS / Galileo / BeiDou
- TETRA
- DAB DBV-T
- ISM
- FM
- VHF / UHF
- RFID
- NFC



Enclosures

Anglia stock a wide selection of standard enclosures suitable for many industries and applications, ranging from handheld and heavy duty cases for general purpose use to cases which are waterproof/ weatherproof and ingress protected. Standard cases typically need modifying by the end user to add holes for connectors, cable and switches or to add legends and markings before they can be used in the application. Anglia are able to offer customised enclosures to the exact requirement of the application saving time and cost for the end user and making it much more convenient as the enclosure can be installed immediately at the customers manufacturing facility or by the field engineer. All customisations are carried out in a repeatable controlled manufacturing environment meaning quality and performance is not compromised.

Typical options available

- Tapping
- Milling
- Drilling
- Holes
- Cut-outs
- Slots
- Louvers
- Studs
- Stand-offs
- Assembly
- Testing
- Windows
- Handles

Typical finishes available

- Painting
- Powder coat
- Nylon coat
- Engraving
- Silk screening
- Chromate
- Anodise
- Labels
- Custom colours
- Chemical treatments
- UV protection



Custom Cable Assemblies

Typical options available

- ## Benefits of

- High quality finished products
- Consistency - No product variation
- Lower production costs on your design
- No investment for your own tooling
- Fast turnaround on samples

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Custom Transformers & Magnetics

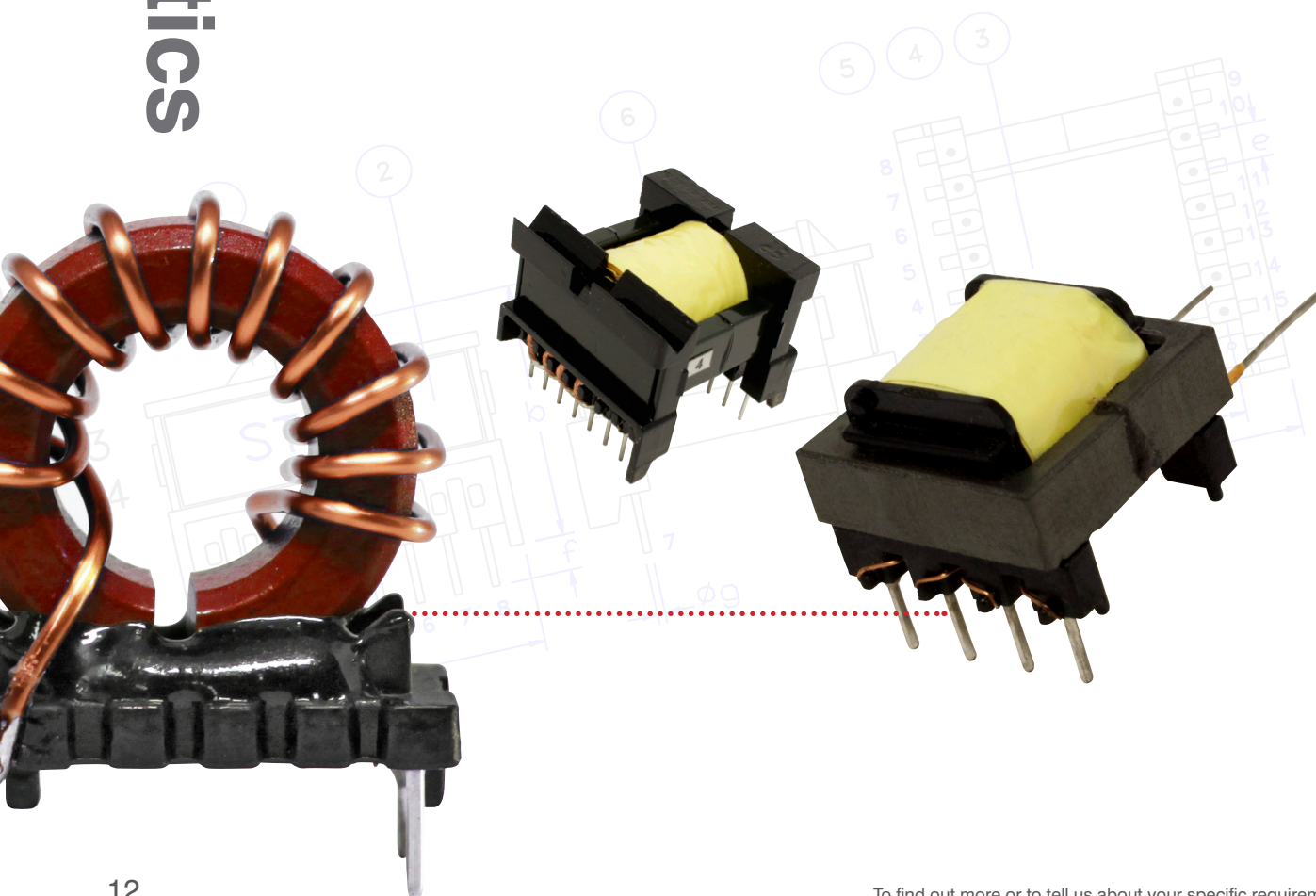
Transformers and Magnetics

The transformer is one of the most complex parts of a switch mode power supply and has a significant influence on the overall performance and efficiency of the equipment, it also provides the main safety isolation barrier protecting the end user. Since many power supply applications require a balance of performance, safety and cost, often this is only achievable by specifying a custom transformer. Anglia are able to help customers design and specify a custom transformer for the applications exact needs.

Typical options available

- Input voltage
- Output voltages and currents
- Operating frequency range
- Core material
- Transformer topology
- Size requirement
- Ambient temperature range
- Leads – length and insulation
- Finish – air drying varnish, vacuum pressure impregnation or clean
- Special packaging requirement for automatic placement
- Insulation Class B or Class F
- Isolation voltage
- Flash & Hi-Pot testing
- Safety requirements
- UL approval

Anglia are also able to offer customised magnetics (chokes and inductors) to complement the transformers, again these can be specified to exact application requirements.



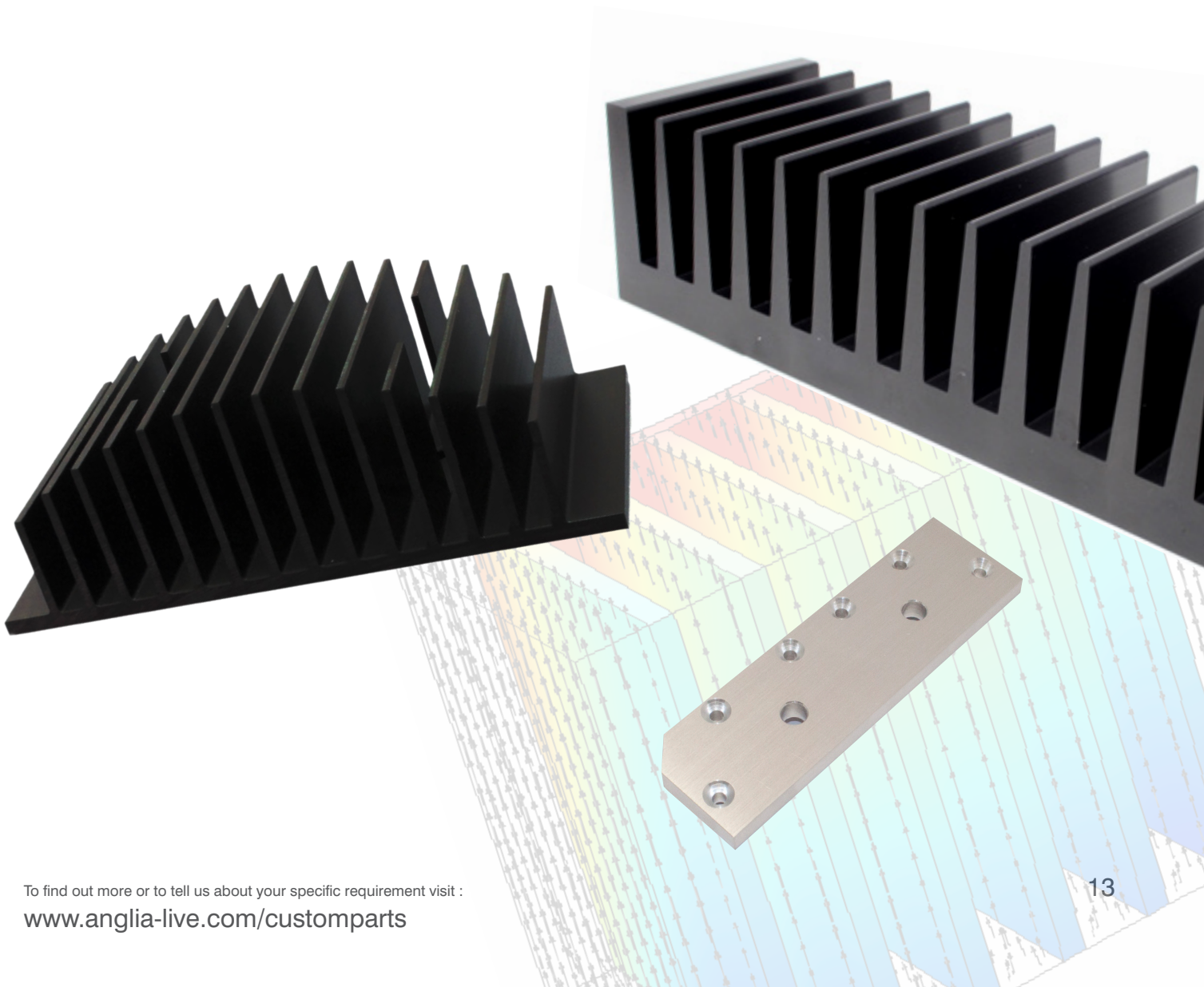
Heatsinks

Meeting the thermal demands of an application is critical to ensure long term reliability of the product. Anglia have a wide range of standard thermal management solutions available to help meet these demands. We can also offer customised heatsinks for instances where standard products are not suitable such as when a specific thermal performance is required or there is simply not enough space to accommodate a standard product.

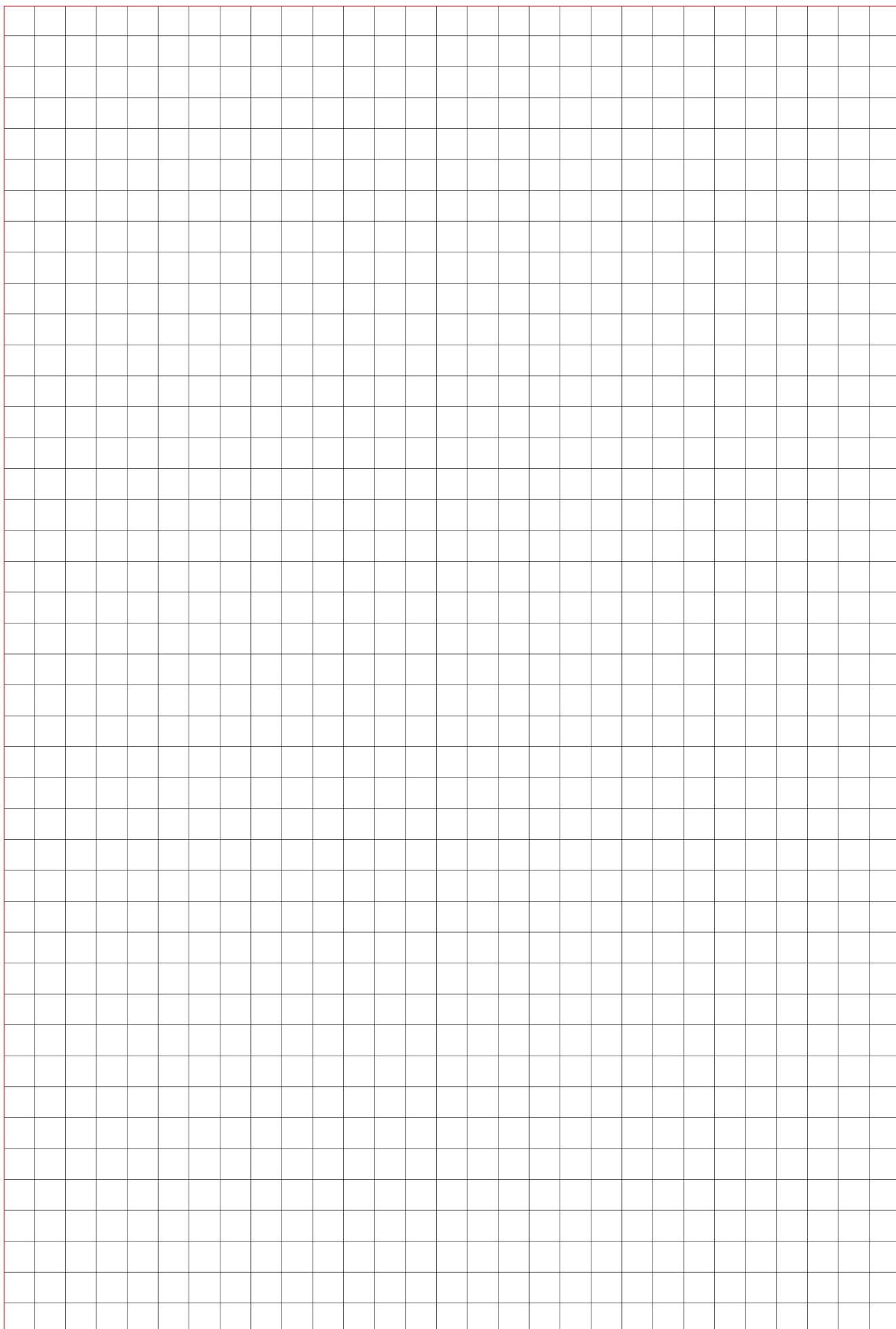
Typical options available

- Anodised colours or bare finish
- Precision Machining & Cutting
- Custom drilling patterns
- Tapping
- Milling
- Custom length & shapes
- Surface finishing
- Pre-applied thermal interface materials

Custom Heatsinks



WORKSHEET





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Website
www.anglia.com

Email
info@anglia.com



Sandall Road
Wisbech
Cambridgeshire
PE13 2PS UK

Tel: +44 (0)1945 47 47 47

angliaLive

Online Ordering
www.anglia-live.com

Email
info@anglia-live.com



LoRa Alliance™ Bluetooth®

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ISO 14001:2015

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