



Specialist components & intelligent support
for harsh & high-end applications

Charcroft: Challenge Accepted

charcroft

ELECTRONICS

www.charcroft.com

Passives, Power, Sensors, Emech and more

Charcroft

As an independent specialist distributor of components for harsh and high-end applications, Charcroft provides intelligence-led technical and commercial support to customers in the most demanding sectors.

Intelligence-led specialist distribution

- Franchised by leading global and specialist manufacturers
- Exceptional knowledge of demanding applications
- Responsive to customers and open to innovation
- Expert support from field-based Product Specialists
 - Design-in, production, upgrades, legacy
- Simplifying procurement with intelligent quoting
- Custom IT and traceability systems
 - Export management including ITAR controls
 - Archiving all CofC & delivery notes
 - Library of legacy datasheets
- Key supplier to Defence OEMs for over 40 years



UK-based ISO9001:2015 approved manufacturing facility

- Film capacitor manufacture
 - ClarityCap® polypropylene audio-capacitors manufactured in Wales
 - Industrial capacitors for DC-LINK, filtering & resonant circuits
 - Specialist matched capacitors for railway signalling applications
 - Range of customisation options
- VPG Approved Precision Centre
 - 'Any value' Bulk Metal® & Z-foil resistors
 - Precision Express® shipping in under 5 days
 - COTS, industrial or CECC release
 - Tolerance down to $\pm 0.005\%$
- In-house custom design & manufacturing
 - Custom solutions for harsh applications
 - Component customisation, labelling & printing
 - In-house component screening
 - Low-volume manual assembly
 - 'Can do' approach to customer requests
 - Liaison with third-party suppliers
- Legacy passives
 - Silver mica capacitors to 250°C: axial/radial to $\pm 0.5\text{pF}$ tolerance
 - Foil resistors down to $\pm 0.005\%$ tolerance
 - Ceramic capacitors: radial to BS, $\pm 1\%$ tolerance



Industrial / Oil & Gas

With components which operate at the highest temperature ratings, Charcroft's range also offers components which are capable of withstanding extreme shock, vibration and environmental contaminants.

Passives to 200°C+

- Capacitors
 - Electrolytic for wide temperature & long-life
 - Film for HV, DC-link, EMC, safety-rated X/Y
 - Ceramic for high frequency, voltage & pulse-energy
 - Tantalum: wet, polymer and MnO₂
 - Silver mica to 250°C
- Resistors
 - High energy, pulse rated or high voltage to 100kV
 - Precision: low-TCR foil, high-value film or glass
- Filters & magnetics
 - High-power magnetics
 - EMC/EMI filter assemblies

Power supplies

- Rugged, encapsulated AC/DC converters: 5 to 150W
- IP67 AC/DC converters up to 250W
- DIN-rail power supplies up to 1000W
- Programmable battery chargers

Electromechanical

- Thermal circuit breakers up to 200A
- Hydraulic magnetic circuit breakers
- Bi-metallic thermostats from -53 to 287°C
- Pressure switches for harsh environments
- Pressure sensors up to 5000psi
- Thermal and motor protectors including self-hold
- Electrolytic tilt sensors, inclinometers and tilt switches
- PCB hardware, test-points & spring-loaded contacts

Opto-electronics & sensors

- Discrete near-infrared emitters/detectors
- Slotted switches, reflective sensors
- HV opto-isolators to 50kV: high dV/dt, IEC-Ex
- Fibre-optic 850nm, multimode, ST-packaged
- LED/photodiode arrays: -40°C to 100°C
- Discrete Hall-effect components & sensors
- Thermocouples, PT100 thermometers to 1700°C
- Pressure sensors/transmitters to 1000/600 bar
- Rotary position sensors & panel potentiometers

Semiconductors

- Discrete semiconductors in high-reliability packaging
- ICs with high-temperature capability to 230°C
- IGBT/diode power modules: Aerospace qualified
- Microelectronic/hybrid assemblies in LTCC/HTCC
- High-reliability clocks and oscillators

CAMBION
AIE Company

charcroft
ELECTRONICS

EUROQUARTZ

EXXELIA

FREDERICKS
COMPANY

KEMET
a YAGEO company

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MTM POWER

PULS

Sensata
Technologies

Ty Electronics

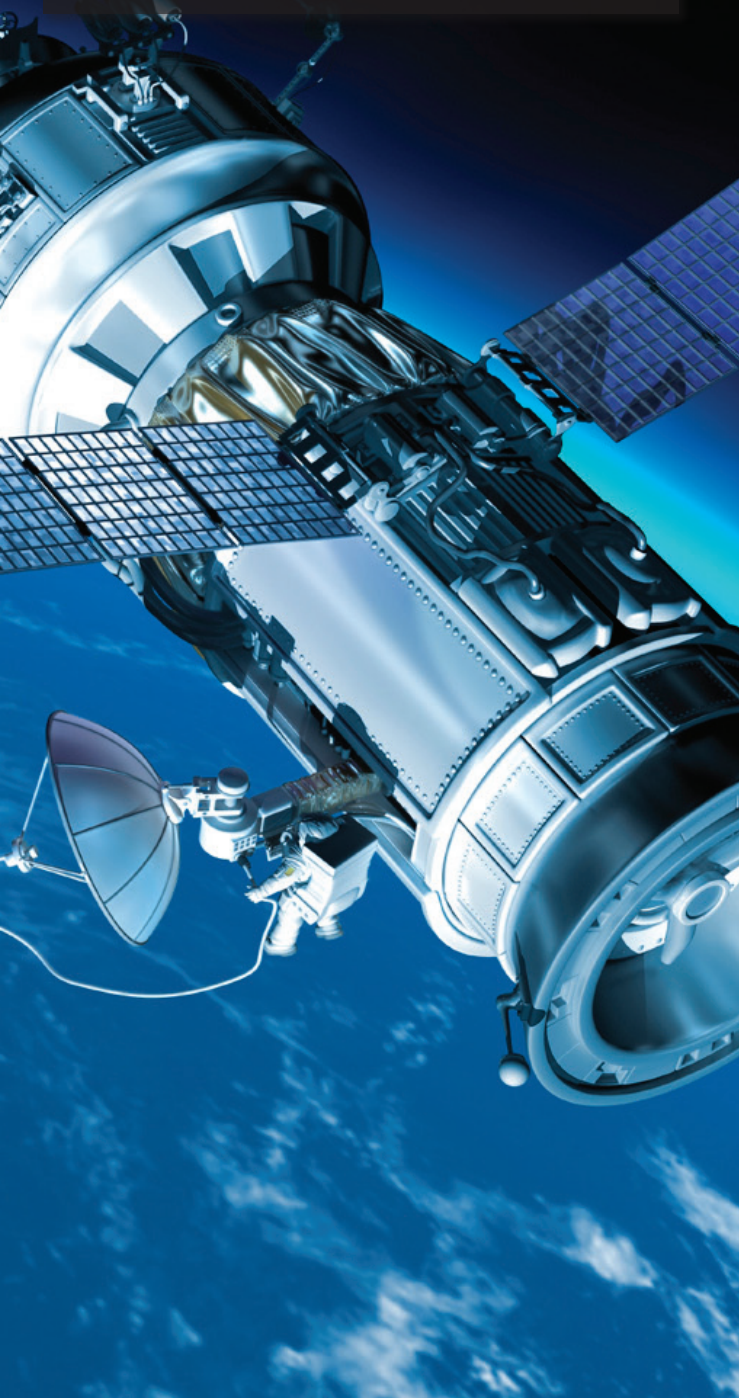
VISHAY

VPG

AREL
SEMICONDUCTOR

Space

Space-grade components and QPL devices from ESA- and ESCC-qualified manufacturers are backed by product specialists to help with component selection from breadboard (BB) to flight model (FM).



Passives: Space-grade & ESA/ESCC qualified

- Capacitors
 - Tantalum: wet, polymer & solid with high CV, low ESR
 - Ceramic: HV, stacked, pulse-energy rated
 - Film: HV, power, multi-module, filtering
 - Mica: long-term stability, voltage up to 10kV
- Resistors: precision, stable, current-sense & power
- Filters & magnetics
 - Ferrite beads, inductors, power transformers
 - Filter assemblies: feed-through, bulkhead, coax, discoidal
- Solid-body current-limiting fuses, QPL MIL-PRF-23419/12

Electromechanical

- Bi-metallic thermostats: NASA and MIL-spec approved
- Slip-rings: multi-channel power, signal & fibre combined
- Precision rotary/linear potentiometers and encoders
- Torque/LAT motors, actuators

RF & microwave

- High-Q ceramic capacitors
- Microwave ferrites 0.1 to 30GHz
- INVAR screws, self-locking for HF narrow bandwidth

Opto-electronics & sensors

- To MIL-PRF-19500 TX, TXV, S-level
- Fibre-optic components, multimode, ST-packaged
- Radiation-capable opto-coupler
- Hall-effect and optical slotted-switch sensors

Semiconductors

- Screened in accordance with Space-flows
- Discrete semiconductors in hi-reliability packages
- Multi-chip arrays: small-signal, power device options
- Microelectronic/hybrid assemblies in LTCC/HTCC
- Timing components with space heritage

Defence & Avionics

Meeting the demands of the Aerospace sector for 40+ years, Charcroft's COTS, BS/CECC, DSCC, MIL-PRF product range is supported by specialist skills such as qualified tin-whisker mitigation.



Passives

- COTS, BS/CECC, DSCC, MIL-PRF
- Capacitors
 - Tantalum: wet, polymer and solid with high CV, low ESR
 - Ceramic: HV, high temp, stacked, pulse-energy rated
 - Film: up to 25kV, DC-link modules, multi-module, filtering
 - Mica: long-term stability, high voltage, high temperature
 - Aluminium electrolytic: high CV, long life, low profile
- Resistors: precision, stable, HV, current-sense & power
- Magnetics: ferrite beads, inductors, transformers
- Filter assemblies: feed-through, bulkhead, HEMP & TEMPEST

Electromechanical

- Bi-metallic thermostats: MIL-spec approved
- Circuit breakers: thermal & hydraulic magnetic
- Precision switches: miniature, rugged, hermetic seal
- Aircraft motor protectors: single- & three-phase
- Slip-rings: multi-channel, power/signal/fibre
- PCB hardware, test-points & spring-loaded contacts
- Encoders and rotary position sensors

RF & Microwave

- High-Q ceramic capacitors
- Microwave ferrites 0.1 to 30GHz
- Dielectric and coaxial resonators
- Microwave tuning elements, trimmer capacitors

Opto-electronics & sensors

- MIL-PRF-19500 TX, TXV, S-level
- Fibre-optic components, multimode, ST-packaged
- Opto-isolators to 50kV
- Hall-effect and optical slotted-switch sensors

Semiconductors

- Screened in accordance with DSCC
- Custom diode/IGBT power modules for actuation
- Discrete semiconductors in hi-reliability packages
- SiC current-limiting diode for lightning protection
- ICs for power-management up to 230°C
- Microelectronic/hybrid assemblies in LTCC/HTCC
- High-reliability clocks and oscillators

Rail & Transportation

Rugged off-the-shelf components for rail, off-road or specialist vehicles in addition to semi-custom and full custom parts for new designs and Maintenance Refurbishment or Overhaul (MRO) projects.

Passives

- Rail approved & AEC-Q200
- Capacitors
 - Aluminium electrolytic: power conversion & traction DC-LINK
 - HV film, filtering, COTS and custom DC-LINK
 - Ceramic: high-temperature, flexible terminations
 - Polymer tantalum, high CV, low ESR
- Resistors
 - High power, surge rated & high voltage to 100kV
 - Precision shunts for current measurement
- Moulded magnetic inductors & transformers
 - High-current, low emissions
- Inductors & transformers
 - Multi-phase, high power, high current, IP rated
- Filter assemblies for EMC, smoothing

Power supplies

- EN50155-qualified DC/DC converters: 14 to 2000W
- RIA12 front-end modules
- High DC-input converters: 450 to 1100VDC

Electromechanical

- Hydraulic magnetic circuit breakers
- Bi-metallic thermostats
- Pressure sensors: ECE-R110 (CNG) approved
- Temperature/pressure sensor: ECE-R110 / ECE-R67
- Pressure switches: robust construction

Sensors

- Electrolytic tilt sensors, inclinometers and tilt switches
- Crash sensors: resettable, range of G forces
- Hall-effect sensors
- Slotted switch for position sensing
- Precision potentiometers
- EPS sensors: torque angle and position

Opto-electronics

- Fibre-optic components for HV systems & comms
- Slotted switch & reflective near-infrared sensors
- HV opto-isolator to 50kV for power-electronics drivers

Semiconductors

- Custom IGBT/diode power modules
- Discrete power semiconductor devices
- High-temperature ICs up to 230°C

Instrumentation/Audio

Delivering accuracy and stability for high-end instruments in addition to the unique 'naked' resistor and other specialist components and services which add impact to high-value Audio systems

Passives

- Resistors
 - Low-noise, high-stability precision foil
 - Tight-tracking resistor divider/networks
 - 'Any value' foil in non-standard values/tolerance
 - High-value to Tera-ohms
 - High energy, pulse rated or high voltage to 100kV
 - National laboratory-standard resistors
- Capacitors
 - High-stability mica: high-purity silver construction
 - COG ceramics: high stability, tolerance screening
 - High energy, pulse rated or high voltage to 25kV
 - Self-healing film for filtering/crossover networks
- Moulded magnetic inductors & transformers
- Filter assemblies EMC compliance

Electromechanical

- Hydraulic magnetic circuit breakers
- Bi-metallic thermostats
- Temperature/pressure sensors
- Pressure switches
- Precision motors and actuators

Sensors

- Electrolytic tilt sensors, inclinometers and tilt switches
- Hall-effect sensors
- Precision potentiometers

Opto-electronics

- Fibre-optic components for HV & data
- Slotted switch & reflective near-infrared sensors
- HV opto-isolator to 50kV

Power supplies

- Universal-input AC/DC converters to 350W
- Wide-input DC/DC converters: 1 to 600W

Specialist audio components

- 'Naked' foil resistors
- Low-ohmic value precision power resistor
- Analogue potentiometers
- Silver-leaded mica capacitors
- Slit-foil electrolytic
- Paired/matched discrete semiconductors
- Optimised polypropylene film capacitors for minimum resonance operation

Franchises

Bringing together a mix of global leaders and specialist manufacturers, Charcroft's product range is focused on rugged components for harsh and high-end applications



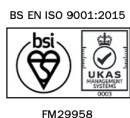
Charcroft: Challenge Accepted



Passives, Power, Sensors, Emech and more

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Brands

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Advanced Monolithic Ceramics
AEM
Arcotronics
Ashcroft
ATC
Barker Microfarads
Bowmar-Bowtech
Caddock
Cambion
Charcroft
ClarityCap
ICW
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BEI Sensors
Crydom
Cynergy3
DeltaTech
First Technology
Gigavac
Kavlico
Klixon
Sensor-NITE
Sonitron
Spectrum Control
Sprague Goodman
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Statek
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Thermtrol
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Union Technology Corp.
Vishay
Angstrom
Aztronic
BC Components
Beyschlag
Cera-Mite
Dale
Draloric
Electro Films
Geka
Mallory
Roederstein
Sfernice
Spectrol
Sprague
Tansitor
Techno
Thin Film
Vitramon
VPG Foil Resistors
Alpha Electronics
Micro-Measurements
Powertron
VPG BLH Nobel
VPG Onboard Weighing
Vitelec
X-REL Semiconductor