

mA~600A Connector Solutions

Where
would
you be
without
us?



www.cie-components.com

Contents

- An Introduction to the CIE-Group 02
- Leading the Way in Connectivity Supply 03
- IP-rated 'Weatherproof' Connectors 04 - 05
- Multi Pole Connectors 06 - 07
- Cable Assemblies 08 - 09
- Mains & Power 10 - 11
- Jack Plugs & Sockets 12 - 13
- Audio/Broadcast Connectors 14 - 15
- Card Edge Connectors 16 - 17
- Adapters & Accessories 18 - 19
- UPS/Circuit Protection 20 - 21
- Custom Design 22 - 23
- Sourcing Service 22 - 23



An Introduction to the CIE-Group...

- The CIE-Group combines well over 35 years of experience and background knowledge of the communications and electronics industry to bring you one of the most extensive product ranges, directly from one source, currently available in the UK market.

Each member of the Group aims toward one primary goal and CIE-Components is no exception - **"To provide competitive, high quality integrated system solutions for the Communications and Electronics Industries"**.

From our purpose-built premises in Nottingham all sales, distribution and marketing services are provided, together with access to our fully equipped showroom and training facilities.

Consisting of CIE-Components, CIE-Audio, CIE-Security, CIE Pro-Lighting and Amina Technologies; the CIE-Group is a completely independent UK company who constantly strive to increase efficiency and quality of service to our customers, proven by our accreditation to ISO 9002.



Leading the way in Connectivity Supply...

- CIE-Components, our specialist connector division, is one of the most experienced members of the Group, with a long history of servicing the most diverse of industries from recording, broadcast and data/telecommunications to marine, automotive and medical applications.

Our success throughout the years has been based on both the quality and range of product and also our unequalled levels of service. CIE-Components not only hold higher levels of stock than our competitors, ensuring fast efficient delivery times, but also we provide expert product and suitability advice.

Furthermore, CIE-Components are proud of our reputation for sourcing product. As representatives for many of the markets leading brands, we are able to source both new and non-standard connectivity products from around the world to meet **your** exacting requirements.

CIE-Components' dedication to providing the highest levels of quality, range and service has led to contracts with some of the UK's biggest names in manufacturing. Communications, I.T., defence, supply and entertainment now all benefit from CIE-Components' products...

IBM
Granada Television
Solid State Logic
Radio Detection
Technolog
Siemens
Davies Industrial
Solectron
CBS News

Control Techniques
RS Components
ABB Automation
MSI Defence Systems
Powergen
Mitel Telecommunications
Philips
Hewlett Packard



Contact:

CIE-Components

Widdowson Close, Blenheim Ind Est, Bulwell, Nottingham NG6 8WB, England

T 0115 977 0075

F 0115 977 0081

E components@cie-ltd.co.uk

W www.cie-components.com

Where would you be without...?

IP-rated Connectors

Combining unique design criteria with excellent manufacturing practice has produced an excellent range of IP-rated multi pole connectors suitable for use in many applications.

With IP ratings up to IP68, our connectors are suitable for use in all but the most demanding situation. This high specification, however, does not mean high prices, with the products proving highly competitive against many (inferior) products. Their excellent design has meant that often the product is being used not because of the IP rating, but because they provide compact, robust solutions with low lifetime costs.

Applications have already included marine, CCTV, process control, instrumentation and automotive.

Specifications:

IP 67 / 68 versions

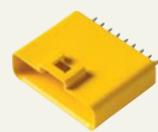
1 pole thru' 37 pole
Cable, in-line, panel & PCB variants
Solder, crimp & PCB contacts



3 Pole Waterproof Cable Assembly



Pre-Wired Connector



PCB Mount Waterproof Connector



Waterproof Connector Body



Fully Moulded Weatherproof Cable Assembly



EN3 Series IP68 Cable Socket



EN3 Series IP68 Cable Plug



IP Rated Chassis Connector



EN3 Chassis Plug



EN3 Chassis Socket



High Pin Count IP Connector



MegaCon X Panel Connector



MegaCon X Cable Connector



MaxiCon X IP Connector



Military Equivalent IP Connector

Products:

- EN3 series
- Conxall series
- Edac 566 - 570 series
- MIL-E-Qual (MIL-C-5015)

Typical Applications:

- Marine, data logging, process control instrumentation, CCTV, automotive, medical, outdoor applications, etc.



High reliability and 'splash proof' design are essential requirements for the Multi Pole connectors used in mission critical medical environments.

Where would you be without...?

Multi Pole Connectors

CIE-Components offer solutions to meet most multi pole requirements. With contact permutations in 2 pole to 120 pole and options including in-line, cable to panel, board to board and cable to board; whatever your requirements we will almost certainly have the answer.

Recent applications for our multi pole products have included process control systems in the oil & gas sector, hand-held controllers for disability equipment, trackside railway signalling equipment and security video equipment.

Much of the range comes with manufacturer's lifetime guarantee as standard.

Specifications:

'D' type	9 way thru' 62 way Solder, crimp, IDC & PCB mount Stamped pin or turned pin contacts Hybrid versions (signal & power) Stackable versions High temperature versions Various covers & fixing accessories
516 Series Rack & Panel	20 pole thru' 120 pole. Up to 8.5A
Tini QG (miniature XLR)	3 pole thru' 8 pole Current rating up to 5A, Lifecycle > 2000 Cable, in-line, panel, PCB & surface mount
EN3 – Conxall Series	IP67 / 68 rating 2 pole thru' 37 pole Cable, in-line, panel & PCB variants Solder, crimp & PCB contacts
Headers / Sockets	Various pin / box headers Please contact the sales desk with any specific requirements
IEEE1394 & USB	RA PCB or surface mounting Meets IEEE 1394R-4006N Current rating 1.5A Lifecycle > 1500
RJ Plugs / Sockets	4P4C, 6P4C, 6P6C & 8P8C and shielded versions



EN3 Chassis Plug EN3 Cable Socket



PCB Mount Tini QG Tini QG Series Mini XLR



Shielded Multi Pole Colour Coded Edac Connector



Edac Cable Connector & Cover Edac Rack & Panel Socket



EXAMPLES INCLUDE:

Box Header with Latches RJ45 Plugs Slimline 'D' Type Connector PCB Mount 'D' Type Solder 'D' Type Ultra Low Profile 'D' Type
IDC Header Socket PCB Mount Box Header High Quality Die Cast Hood Shielded Hood 'D' Type Plastic Cover Snap Together Hood



Products:

- 'D' Types
- 516 Rack & Panel
- Tini QG
- EN3 – Conxall
- Headers / sockets
- IEEE 1394
- RJ plugs / sockets

Typical Applications:

- Audio / Broadcast, petrochemical, datacoms, instrumentation, telecoms, process control, medical, marine and general electronics.

Reliability, high cable counts and ease of maintenance make the Edac 516 Rack & Panel range ideal for trackside signalling cabinets.

Where would you be without...?

Cable Assemblies

The combination of CIE-Group's fully equipped engineering facility and the extensive portfolio of connector products allows us to provide many and varied cable assemblies at highly competitive rates.

With the ability to supply either 'assembly' or 'over-moulded' cable types, we are able to offer the excellent combination of value for money, alongside quality and reliability.

Examples include Multi Pole rectangular connectors for use in the petro-chemical industry, ribbon cables for use in ATM cash machines, Category 5e data patchleads, 'D' type moulded cables for use with point of sale equipment in supermarkets and BNC leads for use with video/CCTV equipment.

Whether you are finding that assembling your own cables in-house is too time consuming and expensive, or you have requirements for customised assemblies, CIE-Components can help.

Specifications:

- To meet customer requirements Cables are generally available either as fully over-moulded or as assembly types
- Please enquire with any specific requirements

EXAMPLES INCLUDE:



Fully Moulded IP Cable



Video Patchcord



High Quality Moulded Assembly



Moulded DC Lead



Custom Designs



Custom Ribbon Cable



Push Button Cord Switch



Compact 1/4" Cable

Products:

- IP rated 'weatherproof' cables
- Power cables
- 'D' Type assemblies
- IDC Ribbon assemblies
- Multi-core assemblies
- Audio cables
- CCTV cables
- Custom assemblies



Flying Lead Assembly



Sensor Lead Assembly



Process Control Cable



IP Rated Sensorlink Cable



25 Way 'D' Cable



Data Cable



Standard Mains Lead



Special Mains Cable

Typical Applications:

- Include internal interconnections, patchleads, sensor leads, monitor cables, power cables, data logging, point of sale cable looms, extension cables, general electronics.

Cold overnight winter temperatures were causing many cash machines to fail when in use. CIE-Components designed and produced an enhanced cable with improved reliability, dramatically reducing costly call-out charges.

Where would you be without..?

Mains & Power

Whilst many connectors are designed for signal level use, virtually all equipment has to receive power to function correctly. Mains voltages or low voltage DC are common requirements and, of course, CIE-Components have products suitable for use in both these situations.

The Magnum series of barrier & terminal strips offers a wide range of power connectivity solutions including multi pole high amperage barrier strips, with typical applications in motor drive controllers and power supply units.

EAC mains inlet/outlet receptacles are ideal for use in many applications where a detachable mains cable is preferred. These are available in numerous options including PCB mount, snap-in panel designs and hard-wired versions.

The low voltage DC power connector range includes unique lockable types where accidental disconnection could be a problem. Also available are the latest 0.65mm pin designs, ideal for use on portable equipment where space is often limited.

Specifications:

EAC mains receptacles	Male & Female versions, panel, PCB & 'snap-in' fixings
DC plugs / Sockets	All are 2 conductor 0.65mm, 1.0mm, 1.3mm, 2.1mm & 2.5mm variants Cable plugs can incorporate a locking ring to prevent accidental removal Sockets are available as chassis, PCB or surface mount and incorporate automatic switchover from AC to DC operation
Barrier Strips	2 pole thru' 36 pole Current rating up to 175A Single, closed back or double row variants Numerous termination options, including 'wire-ready' raised screws & 'Faston' push fit
Terminal Strips	2 pole thru' 14 pole Current rating up to 15A 5.00mm & 5.08mm centres Stackable, screwless, 45deg options



Products:

- EAC series mains receptacles
- Power plugs and sockets
- Barrier strips
- Terminal strips
- High power range up to 600A, 1000V

Typical Applications:

- Suitable for use on any mains powered or low voltage equipment including medical, instrumentation, hand held, battery adapters, process control, etc.

Specifications:

- Industrial applications up to 600A, 1000V
- Single & 3 Phase Versions / Multipole Versions
- IP Ratings up to IP67
- Break 'on-load' capability
- IEC/EN 60309-1
- IEC/EN 60947-3
- UL, VDE, CSA Approvals
- Explosion proof option



High Power Connectors

EXAMPLES INCLUDE:



Closed Back Barrier Strip

30A Terminal Strip

Mains Distribution Panel

Voltage Selector Switch

CIE-Components' barrier strips are ideal for use in motor drive controllers used as part of the factory production process.

EXAMPLES INCLUDE:



EAC Series Mains Outlet Socket

Moulded DC Lead

DC Cable Plug

Lockable DC Plug

High Quality DC Connector

PCB DC Socket

EAC Series PCB Mount Mains Inlet

Mains Power Cord

Fuseholder

'In line' DC Cable Socket

Surface Mount DC Socket

Open Chassis DC Socket

Where would you be without..?

Jack Plugs & Sockets

Providing the electronics industry with a vast range of jack plug / socket combinations, CIE-Components are able to fulfil most requirements from quality manufacturers on a global basis.

Encompassing products for use in many market sectors including instrumentation, multimedia, test equipment and audio/broadcast, we are able to supply solutions directly from stock, minimising lead-times and forward commitments for our customers.

Most recently our jack plug/socket products have been specified in diagnostic equipment for the automotive industry, data logging equipment for the water utilities and lighting equipment for use in the broadcast sector.



Products:

- 1/4" Plugs & Sockets
- 3.5mm Plugs & Sockets
- 2.5mm Plugs & Sockets
- 4.4mm Plugs & Sockets
- Phono (RCA) Plugs & Sockets

Typical Applications:

- Used in many I/O situations within instrumentation, test, measuring, audio, multi-media & general electronics.

Photograph: Supplied with thanks to the Widget Rally Team www.widgetracing.com

Specifications:

- Available in 2.5mm, 3.5mm, 4.4mm & 6.3mm (1/4") sizes 2 & 3 pole (mono & stereo)
- Phono (RCA) versions
- Cable, panel & PCB types, including locking types for added security



EXAMPLES INCLUDE:

In the competitive world of rallying, the in-car communication system plays a critical role. Subject to high mechanical stress & vibrations, as well as wide variations in temperature and humidity, our range of highly reliable plugs & sockets have proved to be the obvious choice.

Where would you be without..?

Audio/Broadcast Connectors

Within this technically demanding industry, CIE-Components' product portfolio is lead by the highly respected **Switchcraft** and **Edac** product ranges.

The **Switchcraft** range includes a vast array of audio and video connectivity solutions, from highly robust, easy to assemble XLRs and 1/4" plugs to innovative 'mid-sized' 32 jack video patchpanels, ideal for use in outside broadcast vans where space is at a premium. All Switchcraft products are backed by a Lifetime Guarantee.

The **Edac** range of multi pole rack & panel connectors have long been used by the broadcast industry as they provide one of the best solutions to the problem of a large number of signal cables required to be terminated within limited 'real estate' constraints. Also available from Edac is an innovative variation of the standard 516 rack & panel connector, which allows the combination of audio signal cables and co-axial video cables, all within a single body shell!

Specifications:

XLRs	3 pole thru' 7 pole Cable/Panel/PCB mount
QG Twist	Cable XLRs consist of only 2 parts enabling quick & easy assembly
516 Series Rack & Panel	20 pole thru' 120 pole. Up to 8.5A
521 Series	Multi-media, featuring a combination of audio/video/power contacts within one connector body
1/4" - 3.5mm - 4.4mm plugs & sockets	Mono & stereo versions Straight & RA cable plugs Panel & PCB mount sockets
1/4", Bantam, XLR & Video Patchpanels	Audio – 48, 52, 96 Way Panels Video – Meeting SMPTE 292 Specifications
Phono	(RCA) products in panel, thru-bulkhead & cable variants Heavy duty metal handled cable options Multi bank PCB versions available
True 75 ohm BNCs	Return loss < 25db @ 3GHz Lifecycles > 500

Outside Broadcast provides one of the ultimate challenges for connectors, with regular connection and disconnection, physical abuse and environmental factors all playing a part. Switchcraft and Edac connectors and patchpanels easily meet these exacting broadcast requirements.



EXAMPLES INCLUDE:



EXAMPLES INCLUDE:



Products:

- Standard QG (XLRs) & Tini QG
- 516 & 521 Rack & Panel connectors
- 1/4" & 3.5mm Plugs/Sockets
- Bantam (4.4mm) Plugs/Sockets
- Audio patchpanels, patchcords & plugs
- HD Video patchpanels, patchcords & plugs
- Phono plugs / sockets / arrays
- True 75 ohm BNC plugs

Typical Applications:

- All areas of the Pro-Audio/Broadcast industry, including equipment manufacture, studio use, live broadcast applications, cable assembly, indeed any situation calling for high quality, reliable connections within this technically demanding market.

Where would you be without..?

Card Edge Connectors

With one of the largest ranges of card edge connectors in the world, CIE-Components are well placed to fulfil any of your card edge requirements.

Supplied in partnership with Edac of Canada, we are able to supply both standard and custom designs including solderless 'Pressfit', through-hole PCB and hard-wire solder types. The product is available with a wide range of contact numbers (up to 150) and contact spacings in either single or dual row variations.

Typical applications include professional audio/broadcast, process control, military and computer – indeed any motherboard / daughterboard application.

Products:

- One of the largest ranges in the world with over 400,000 varieties available

Typical Applications:

- Any mother / daughterboard application such as computing, backplanes, telecoms, process control, etc.

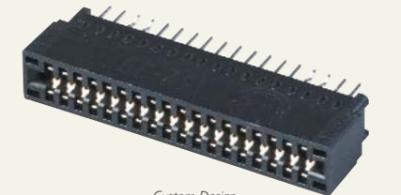
Specifications:

Card Edge

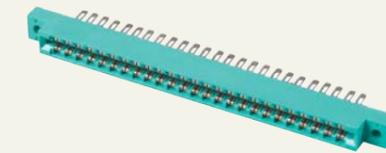
- **Contact spacings:** 1.27mm (.50"), 2.54mm (.100"), 3.18mm (.125"), 3.81mm (.150), 3.96mm (.156"), 5.08mm (.200")
- **Terminations include:** Solder, PCB, wire hole & press-fit, in single or double row configurations



PCB Mount



Custom Design



Hard Wired

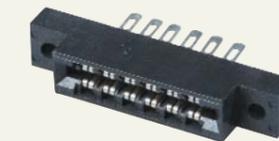


Fine Pitch

EXAMPLES INCLUDE:



Pressfit



Panel Mount



Wirewrap

Often incorporated into the function & safety control systems of lifts & elevators, Edac card edge connectors provide excellent reliability and flexibility of design.

Where would you be without...?

Adapters & Accessories

Whilst you should never need them, every toolbox should have them! How many times have you or your engineers found yourselves in the situation where the cable and the equipment needed to link together have a mis-match on the mating connectors?

Covering a wide range of adapters and accessories including 'BT' style connectors, RJ45, 'D' types, phono, XLR, male & female 'gender changers' our Adapter & Accessories range has many and varied potential applications.

Products:

- A range of adapters including: 'RJ' to 'D', 'RJ' to BT style, gender changers, XLR to phono, Thru' Bulkhead, In-Line Couplers

Typical Applications:

- Any situation where you find yourself with a mis-match of connectors.

Specifications:

- To discuss Adapters or Accessories specific to your particular application, call the CIE-Components Sales Office on 0115 977 0075 or email to components@cie-ltd.co.uk.



BT-RJ45 Adapter



'D' Type to RJ Socket



XLR to Phono Adapter



'D' Type Gender Changer



RJ45 In-Line Coupler



BNC Thru Adapter

EXAMPLES INCLUDE:



Mis-matches such as printer and computer connections are quickly and easily remedied with the use of our 'D' type gender changer.



Where would you be without...?

UPS / Circuit Protection

How would you cope if your computer or other equipment was prematurely shutdown due to power failure or a power surge – would the loss of data cause you problems? How much time would be required to get your system back up to speed?

UPS

A UPS (Uninterruptible Power Supply) system not only acts as an insurance policy against power failure, but can also protect your equipment against under-voltage, over-voltage and other mains supply problems – all of which can cause serious problems to sensitive electronic equipment.

An as official UK Supply Partner for **Liebert (Emerson)**, a world leader in UPS design and manufacture, CIE-Components can support virtually any UPS requirement you may have.

Thermal Breakers

Typically used on auxiliary and accessory circuits, these thermal breakers provide excellent protection against overload currents for use in many DC applications, including the automotive and marine sectors.

Options and variations include manual or auto reset, with current ratings ranging from 7A through to 150A.

Specifications:

Uninterruptible Power Supplies	For use in any situation where mains supply is critical
Thermal Breakers	Battery chargers, welding equipment, automotive, portable generators, marine

Products:

- Liebert Uninterruptible Power Supplies
- Cooper USD Thermal Circuit Breakers

Typical Applications:

Uninterruptible Power Supplies

- For use in any situation where mains supply is critical

Thermal breakers

- Battery chargers, welding equipment, automotive, portable generators

Our Liebert UPS range ensures that offices around the world benefit from 'clean' incoming mains supply and emergency back-up power should the mains fail.



EXAMPLES INCLUDE:

Modular Design UPS

High Capacity UPS

Interactive UPS

Rackmount UPS

Stand Alone UPS

DC Circuit Breakers

Custom / Sourced Products

Custom Products

Though CIE-Components provide one of the UK's widest connector ranges, there could be occasions when a standard product does not quite match your exact requirements.

Over the past 40 years the CIE-Group have established strong links with many manufacturing companies throughout the world, many of these companies thrive on custom opportunities and modifications to existing products.

In addition, we have developed our own dedicated engineering facility based at our Nottingham Head Office location. From here we can modify, design, build and test all manner of custom solutions, including selectively loaded connector shells, cable assembly work, custom sub-assembly and design.

Examples of work undertaken include special switch assemblies for petrol forecourts, high performance cables for use in ATM cash machines and solderless power outlet wallplates for use in stock market dealing houses. All these projects were designed in-house, in close conjunction with the client, to provide a custom solution that fulfilled their exact needs.

Sourcing Service

With many years of sourcing components from around the world, we have established strong links and partnerships with many manufacturing companies enabling CIE-Components to source products unavailable from competing suppliers.

When a leading supermarket chain came to re-equip its checkout areas, the range of equipment involved required complex cable looms to complete the task.

CIE-Components were able to quickly source the cables to the exact specifications required at very competitive price levels; thereby helping to ensure the store re-fit work was completed both on schedule and within budget.

Products:

- CIE-Group Engineering Division can help with any custom build / sub-assembly projects.
- Please contact the CIE-Components Sales Office on:
T +44(0)115 977 0075 or
E components@cie-ltd.co.uk
 to discuss your requirements.

Case Studies:

Wyatts

- Wyatts had a problem with the provision of a 48V power outlet socket. In conjunction with Wyatts, CIE-Components designed a faceplate solution which incorporated a rear termination method that enables their engineers to quickly install the unit without requiring access to power.

Olivetti

- Olivetti were spending a large number of man-hours assembling an unusual ribbon cable assembly. The assembly itself was also prone to early failure in use.
 CIE-Group re-designed the cable, incorporating different connectors, cable and packaging. The end result was an assembly that cost more than the original, but as we had designed-in much higher reliability, the cable proved to be extremely cost effective, with the number of engineers service calls reduced dramatically.



Products:

- With long term contacts and suppliers in all corners of the Globe, CIE-Group are well placed to help you source all your components needs, whether this is to give you the competitive edge or to help you find the exact specifications you require.
- Contact us with any specific requirements.

Case Studies:

- A leading manufacturer of communication headsets required a particular specification of microphone capsule to combat the challenging outdoor working environment in which the headsets would be used.
- With our network of contacts, CIE-Components were quickly able to obtain not only the exact specification required, but were also 30% more competitive than any other source they tried.

mA~600A Connector Solutions



- IP-rated 'Weatherproof' Connectors
- Multi Pole Connectors
- Cable Assemblies
- Mains & Power
- Jack Plugs & Sockets
- Audio/Broadcast Connectors
- Card Edge Connectors
- Adapters & Accessories
- UPS/Circuit Protection
- Custom Design
- Sourcing Service


cie-group
integrated system solutions

CIE-Components is a member of the CIE-Group

CIE-Group Ltd Widdowson Close Blenheim Ind Est Bulwell Nottingham NG6 8WB England
T +44(0)115 9770075 F+44(0)115 9770081 E components@cie-ltd.co.uk W www.cie-components.com