



E-T-A[®]

current 

Newsletter of E-T-A Circuit Breakers Ltd

Spring 2007

Cover Story

Circuit Breaker
type 1180

Product – industrial

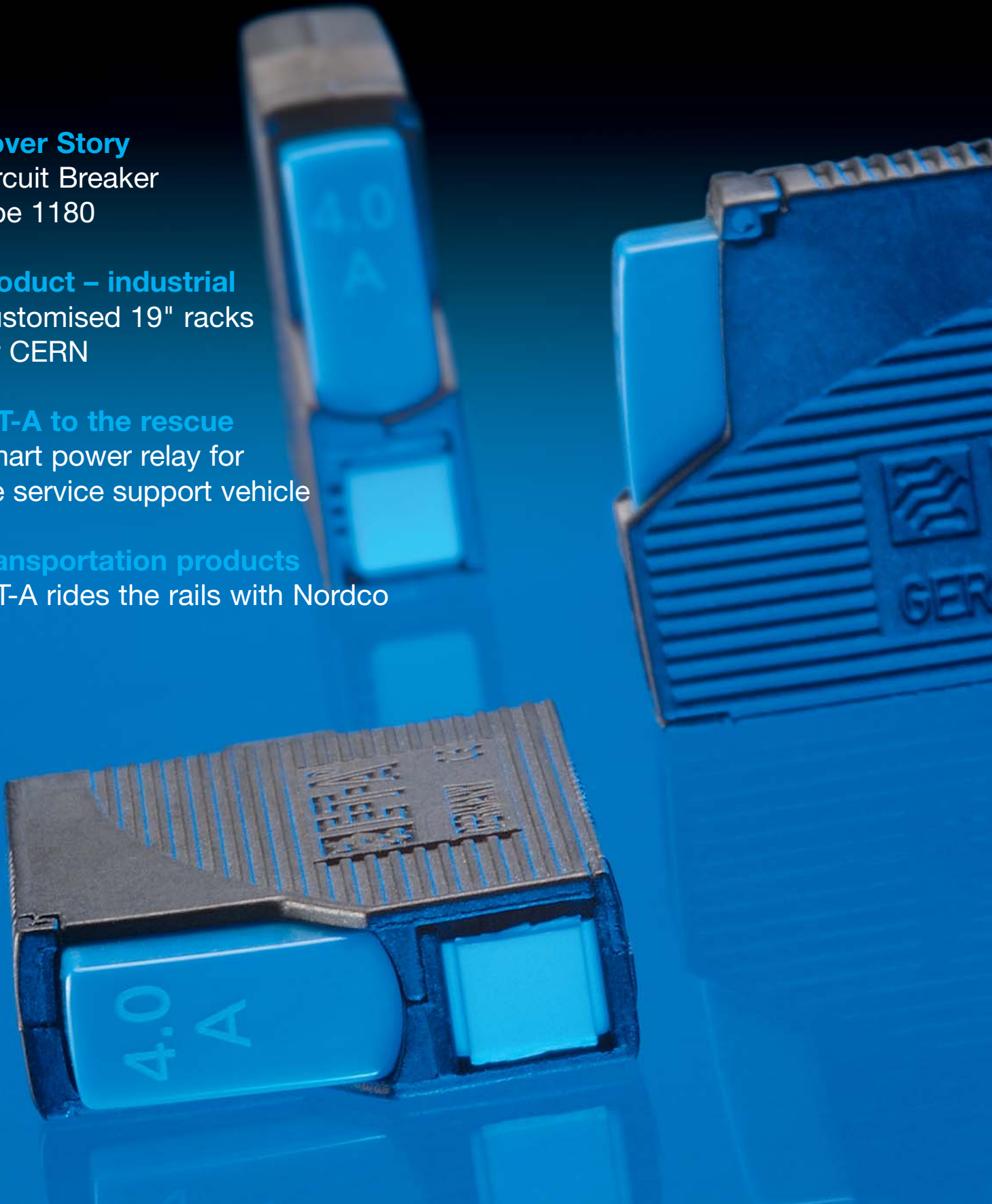
Customised 19" racks
for CERN

E-T-A to the rescue

Smart power relay for
fire service support vehicle

Transportation products

E-T-A rides the rails with Nordco



Visionary 10-year plan launched

During the course of the past 12 months the E-T-A Group has been examining all its operations in fine detail, culminating in the publication of a visionary 10-year plan which has been communicated to each and every member of the Organisation worldwide. 2007 should be an exciting year as we begin the implementation of a series of new initiatives to expand our product range, reduce our development cycles, and ensure world class levels of service.

Fundamental to our long-term aspirations is an absolute commitment to maintaining E-T-A's privately owned status. Ours is a business with some specialised requirements and long time scales: we are convinced that the expectations of our customers could not be met satisfactorily with any alternative approach.

Featured in this edition of Current is our plug-in circuit breaker series 1180 which, in conjunction with our terminal block

mounting kit, provides a reliable and flexible solution for the protection of load circuits in factory automation and process control systems. We also review some applications which further demonstrate the varied and international nature of our marketplace.

As always, our General Information and News pages complete this issue which we hope you will find interesting and informative. Please use the faxback form to give us your opinions or to request additional data. We are always here to help.



Jonathan Adams

Managing Director
E-T-A Circuit Breakers Ltd

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Newsletter of E-T-A Circuit Breakers Ltd

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Layout:

E-T-A Communication Department

Customised 19" racks for CERN

In Meyrin, near Geneva in Switzerland, is the biggest research centre for particle physics in the world, run by the European Organisation for Nuclear Research (CERN).



E-T-A ESS20 Electronic Circuit Breakers are used to ensure safe and reliable operation of the particle detectors.

How did the universe come into existence? What is the best possible radiation therapy to fight cancer? What is the structure of the AIDS virus? Answering these questions requires intensive research of elementary particles. As individual countries or companies do not have the financial means to run the necessarily high-tech laboratory, 20 European member countries share the costs.

CERN runs the ultra-modern community research centre on the French-Swiss border, west of Geneva. The major task of the laboratory is to provide underground sub-atomic particle acceleration systems,



which accelerate these particles to almost the speed of light, and detectors which make the paths of the resulting collision particles visible. The main circular tunnel is 27 km long and around 100 m below the earth's surface. Presently, 3000 people are employed by CERN. In addition, 6500 guest scientists from 500 universities and institutes from more than 80 nations are doing research work there.

CERN is using our electronic circuit breakers, type ESS20, in equipment for controlling the gas mixtures in the detectors. At the customer's request we supply our devices mounted and prewired in customer-specified 19" racks which have been designed particularly for CERN by E-T-A's systems specialists. The use of our racks provides the

customer with the huge benefit of mounting and wiring times being significantly reduced. As time is money, this also means a vital cost reduction which more than recoups the extra cost of our system.

Our electronic circuit breaker ESS20 is also supplied as a customised version to CERN: due to the long cable lengths (up to 500m) and at the same time small cable cross sections we supply a low-rated version of 0.5A. In addition, the devices for CERN have an inverted status output which has also been specially developed for this application.

Key to CERN's selection of our proposal was the flexibility we were able to demonstrate in meeting their requirements and our proven ability to offer unusual technical solutions, reliably and economically – factors which provide us with a significant competitive edge in the market place.

At a glance – features and benefits of the E-T-A ESS20 Electronic Circuit Breaker:

- selective load protection with visualisation
- active current limitation under overload conditions, and to enable capacitive loads to function reliably
- manual ON/OFF switch
- manual/electronic reset
- visible and electronic status signal
- only 12.5mm wide plug-in mounting



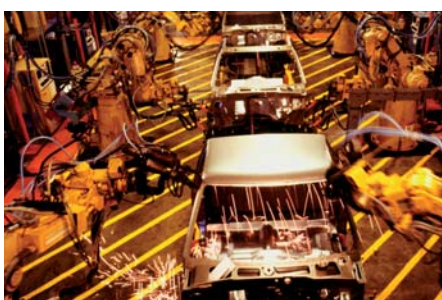
Reduce industrial downtime

A combined switch and circuit breaker for plug-in mounting

Our type 1180 is a miniaturised plug-in circuit breaker with combined switch functionality. Designed to reduce downtime in process control and automation applications, it provides a re-settable replacement for blade fuses and can be easily installed into standard fuse blocks.

All sensors, actuators, controls and monitoring units have one thing in common: they are either electrically powered, or current pulses transfer the necessary information from one component to the next. Typically the current is provided by power supplies that can supply more power than is actually needed, and the current often flows through cables too small to survive peaks in the event of a short circuit.

Standard blade or glass fuses are both popular forms of protection. Both types are cheap and can be plugged into terminal blocks that are snapped onto a DIN rail. If a fuse blows, it has to be



replaced. And is one always readily available? Too often replacements with an incorrect rating are used, or with a different trip behaviour, so that the replacement possibly does not blow at all in the event of another failure. Sometimes blown fuses are even shorted out, just to solve the problem quickly

Our type 1180s are the ideal solution to overcome these problems and reduce downtime. Instead of struggling to identify which fuse is blown, the pop-up button clearly identifies which circuit is at fault. The re-set button is simply depressed to instantly re-energise the circuit. Furthermore, the characteristic of the CBE is designed to avoid nuisance tripping from short-term surges or transients, caused, for example, by motor start-ups; these may cause fuses to blow unnecessarily.

Also, the E-T-A 1180-01 models feature a push button for manual switch-off. So, unlike fuses, they can be used to physically isolate and disconnect the circuit during service and maintenance without having to remove anything. Switch-on is achieved by a simple press of the push button.

Costs that arise from damage or stoppages during the search for a proper replacement fuse must be

avoided. E-T-A type 1180 circuit breakers, which are of small physical size, are designed to fit into standard fuse blocks and will help to solve the problem. They can be used as simple replacements for blade fuses without any further re-work.

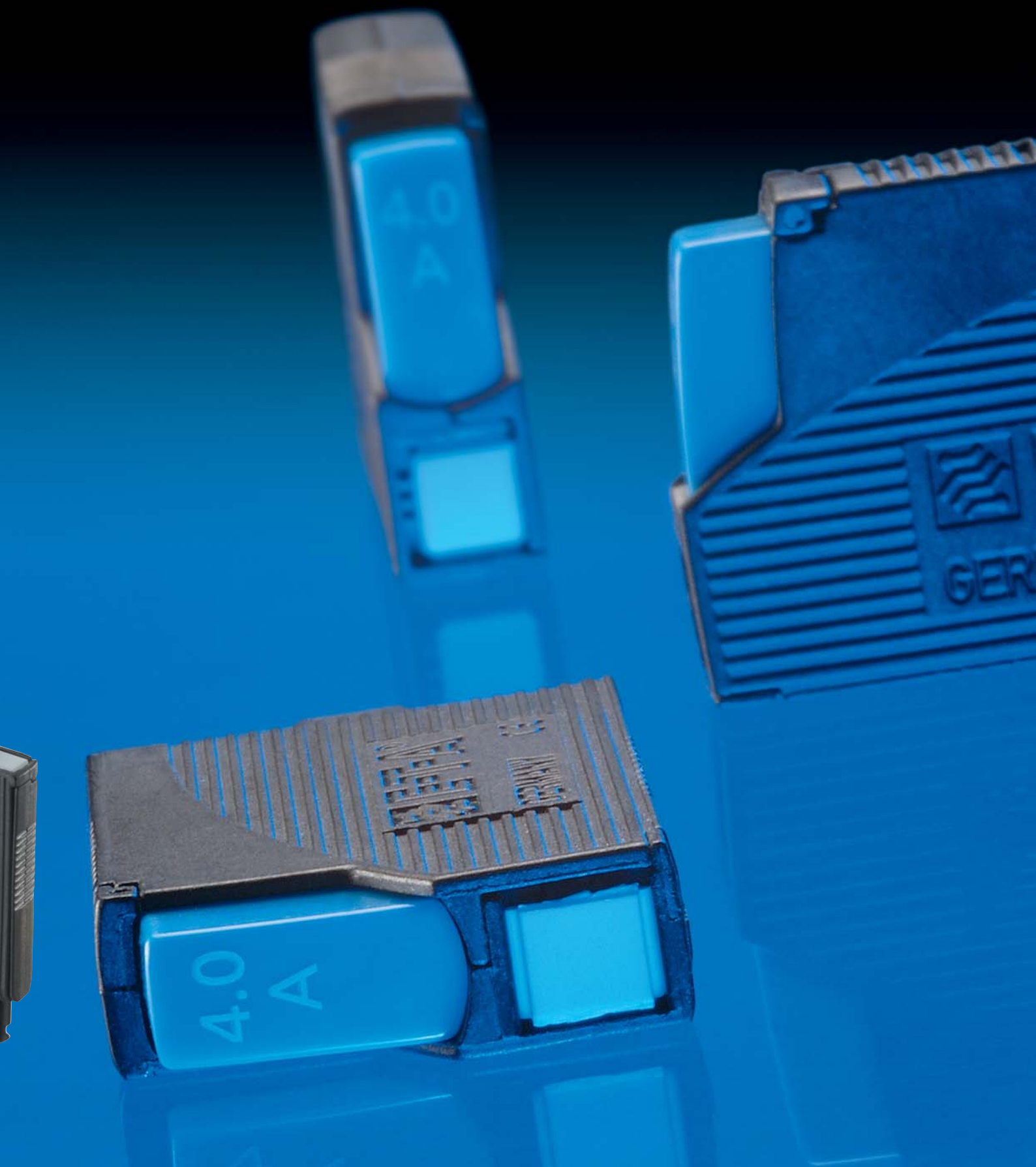
The E-T-A type 1180 is available in a wide range of current ratings from 0.1A to 10A for voltages up to 65V DC and up to 250V AC. We also manufacture DIN rail mounted terminal blocks for the type 1180 CBE. The terminal blocks, with a width of just 8.2mm, may be mounted side by side. They are available with either screw terminals or spring-loaded terminals for cable connection. For power distribution, the terminal blocks are fitted with busbars to distribute the current to multiple output circuits, each individually protected by one type 1180. For ease of trouble-shooting, terminal blocks can be supplied with a red LED (for 24V DC) which lights when the circuit breaker has tripped. Thus it is easy to see the faulty circuit quickly and immediately, even in a dark control cabinet.



E-T-A Circuit Breaker type 1180

At a glance:

- Plug-in circuit breaker for socket mounting
- Push/push on/off switching function
- Specially suitable for automation and process control applications
- Purpose designed sockets available with led indication
- Avoids nuisance tripping from short term surges or transients
- Wide choice from 0.1 A to 10 A, to 65 V DC and 250 V AC

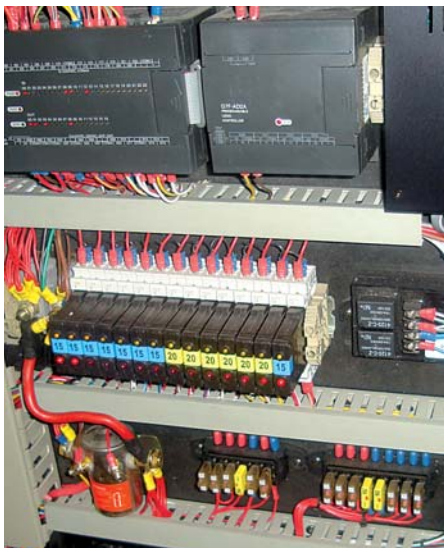


Products – Automotive

E-T-A to the rescue

When looking for new and innovative ways to save space and weight in a fire service support vehicle, Manchester-based AES chose E-T-A E-1048 Smart Power Relays and type 1610 Thermal Automotive Circuit Breakers

AES designs, builds and installs integrated electrical and communication systems for specialist vehicles. AES provides a 'One-stop-Shop' for customised solutions. Its services include full project management including design, quality and supply chain management integration and post production engineering services.



Electrical control cabinet

For the West Midlands Fire Service (WMFS), AES has fitted out a three new Command Support vehicles which will operate with a crew of up to 6 (including driver and passengers). When stationary, it can operate for prolonged periods whilst supporting 6 operational staff and Operational Commanders.

The primary purpose of the unit is to provide command and control facilities at the scene of an operation/incident. The secondary purpose is to enable the vehicle to be used as a Community Fire Safety vehicle, supporting Fire Safety Initiatives and/or Public Education needs and training.

The complex electrical systems in the vehicle include a generator and sophisticated communications equipment, controlled by a PLC. To facilitate switching and overcurrent circuit protection, AES incorporated into the design our type E-1048-8I Smart Power Relays.



These unique E-1048 Power Relays are fully solid state with no moving parts to wear out and provide particularly safe switching and protection of resistive, inductive or lamp loads in road vehicle DC voltage systems. In addition to the remotely operable relay function, the E1048-8I also acts as an electronic circuit breaker. It provides detection of overloads and short circuits, all in the same unit. The tripping characteristic is similar to that of a quality circuit breaker, thus providing added protection and avoiding nuisance tripping. The load circuit is automatically disconnected under specified conditions and will not restart before a valid reset signal. Switching status and overload indication are provided by integral LEDs, which can be slaved to a remote panel if required. Also included in the power relay is a wire break monitoring circuit and an analogue voltage output proportional to the current being passed.

With an operating voltage anywhere between 9V and 32V DC and a switching capacity of up to 20 amps, E-T-A's Power

Products – Automotive



West Midlands Fire Service
Command Support vehicle

Relays are used in this application primarily as an interface between the PLC and the 'blue light' functions, such as the strobes and sirens. Because the functions of a relay with self-limiting characteristics and a circuit breaker are combined in one unit, reliability is greatly improved, and the footprint is very compact. The 14 required for this vehicle fit into a space less than 178mm x 76mm. In this AES application they are push fitted into an E-T-A 17-P10-Si base.

The E-T-A 1610-21s are push-to-reset, trip-free, thermal circuit breakers designed for all types of vehicles as replacements for fuses. These are used to protect many other auxiliary circuits in the WMFS Command Support Vehicle.

At a glance – features and benefits of the E-T-A 1048 Solid-State Remote Power Controller:

- Three functions in a single device
 - electronic relay
 - electronic overcurrent protection
 - indication and diagnostic functions
- Colour coded label indicating current rating



E-T-A circuit breaker Type 1610-21



E-T-A Smart Power Relay E-1048-81

Products – Transportation



We will continue to draw on E-T-A's expertise to help enhance our product reliability as we focus on the details that make us stand out from our competitors



E-T-A Rides the Rails

Nordco, in the U.S., draws on E-T-A's products and expertise in the design of its latest railway track maintenance equipment

Railways are critical to the economic wellbeing of the U.S., moving 42% of the freight and countless passengers and commuters. The first rail service began in South Carolina and by 1833 there were 380 miles of track in service. Today there are over 120,000 miles of track and 474,839 freight cars in service, yet since 1980 accident rates have been reduced by 65%.

A big factor in this reduction has been in the attention paid to construction and maintenance of the tracks. Nordco, the oldest manufacturer of railway track

maintenance equipment in North America, designs, manufactures and markets equipment used in the construction, maintenance and repair of railway tracks.

With manufacturing facilities in Wisconsin and in Ontario, Canada, Nordco has played a major role in helping build and maintain better tracks. The company's business strategy is focused on building quality equipment that can be counted on to perform in remote areas, such as track maintenance equipment that lets a small



Nordco Model CX Spiker

group of workers maintain a long stretch of track.

Nordco continually improves its products by adopting modern technology. For example, hydraulic driven spikers (as seen in the photo) now use PLCs (programmable logic controllers) for system control. Rather than use fuses to protect the PLC outputs, Nordco's engineering team realised the advantages of using advanced circuit breakers and designed-in the E-T-A E-1048 solid-state Remote Power Controller.

Nordco finds great value in the E-1048, being a multi-function device that not only provides a relay function for circuit



At a glance – features and benefits of the E-T-A 1048 Solid-State Remote Power Controller:

- Three functions in a single device
 - electronic relay
 - electronic overcurrent protection
 - indication and diagnostic functions
- CE marking according to EMC directive
- Colour coded label indicating current rating

protection but which also can identify an electrical circuit's condition or failure. "This is ideal for an operator looking quickly to identify any potential problems associated with their electrical system and / or operation of their equipment," commented Bill Straub, Nordco VP of Engineering. "The E-T-A 1048 has allowed us to maximise available spacing by using the in-line version which is fully compatible with a 35 mm industry-standard DIN rail."

Nordco also uses other E-T-A DIN-rail mounted components, such as the 1170 thermal overcurrent circuit breaker, used for protecting individual loads to PLCs, including horns and lights.

Nordco continues to expand its product line to serve the increasing need for the mechanisation of railway track repair and maintenance equipment. "We will continue to draw on E-T-A's expertise to help enhance our product reliability as we focus on the details that make us stand out from our competitors," added Straub.



General Information

Exhibitions

E-T-A will be exhibiting at the following shows:

Nepcon, NEC – Birmingham

15 – 17 May

EDS – Las Vegas

15 – 17 May

Queensland Truck & Machinery Show – Brisbane

17 – 20 May

Elektro – Moscow

13 – 16 June

Defence Vehicle Dynamics (DVD) Show

Millbrook Proving Ground, Bedfordshire

27 – 28 June

Manufacturing Technology in Focus Sydney

24 – 26 July

Ineltec – Basle

4 – 7 September

EMO – Hannover

17 – 22 September

Smart Innovation – Linz

3 – 5 October

IBEX – Miami

10 -12 October

METS – Amsterdam

13 – 15 November

SPS/IPC/Drives – Nuremberg

27 – 29 November

IBEX Report

E-T-A's comprehensive line of marine circuit protection devices on show

The 2006 IBEX show took place in Miami in November last year, heralded as the only show that features the next generation of boatbuilding technologies from over 800 OEMs and suppliers.

An excellent show for E-T-A to present its very latest marine circuit protection technologies, we featured the 3131 Thermal Circuit Breaker/Switch – the most recent addition to our thermal product line. We were very pleased with the widespread interest shown in this and other products relevant to marine applications.



E-T-A thermal circuit breaker/switch type 3131

The type 3131 stylishly combines a high performance switch and thermal circuit breaker in one unit. Certified to IP66, it is an excellent circuit protection solution for extreme nautical conditions. Featuring a soft-touch rocker, the 3131 guarantees smooth and gentle operation with each use and is available in a wide range of configurations, including numerous actuator types, symbols and lighting options.

The combination circuit breaker/switch provides snap-in, panel-mounted, single pole protection against both limited short circuits and low level, but potentially very harmful, overload currents. The integral overload protection makes it unnecessary for fuse holders or additional circuit breakers – offering an advantage to boat users and simplifying the wiring circuits. The 3131 is available from 0.1A to 20A at up to 50V DC or 240V AC to protect circuits and vital navigation and communication equipment. The three-way switch variant offers additional switching for applications such as 2-speed fans and wipers.

Canadian Office

Further to the review of the E-T-A group's operations worldwide, we are delighted to announce the promotion of Bob Ashmore to the position of General Manager, Canada. Our Canadian office is based in Richmond Hill just to the north of Toronto, Ontario. We wish Bob every success in his new post.



Bob Ashmore

Aylesbury Business Excellence Awards

We have been supporting Aylesbury Business Excellence Awards for many years: in fact, we were named as 'Company of the Year' for the first two years. The scheme is promoted by our local Aylesbury Vale District Council, with the presentation of 10 awards annually at an event organised by The Bucks Herald. We decided to 'move aside' in the third year but become a sponsor instead, as we believe the awards help to improve skills and work practices as well as promote local companies.

In its 10th anniversary year in 2007, we decided to sponsor the Best Business Website Award: the judges' decision was for Vantage IT Solutions Limited,

Specialists in IT Support and Products for Small and Medium Businesses.

Paul Tarbox, Sales Director of Vantage IT, explained, "Our website was entirely designed and created by ourselves because we wanted to give potential customers an understanding of who we are, how we can help and the level of service that would be provided. We wanted the message to be clear that customers would receive a service that was not only of the highest quality, but also trustworthy and friendly. We are honoured that the judges considered our web site to be the best."

You can visit the company web site at www.vantageit.co.uk

Patter of tiny feet!

Many of you will have spoken to Shiromi Amarasinghe, who has been a member of our Customer Services team since joining us in 2004. We are all delighted to hear that she is expecting her first child during the Summer. I am sure you will want us to pass on your best wishes to her and her family.



Shiromi
Amarasinghe

Playtex® Moon Walk® London 2007 – uniting against breast cancer



Four of the five: Gill, Julie, Denise, Stephannie

Five ambitious women from E-T-A will be joining around 15,000 other brave walkers, striding out in their decorated bras, in order to raise money and awareness for breast cancer. MoonWalk London 2007, starting and finishing at Hyde Park on 19th May, marks the 10th anniversary of the Walk the Walk® Worldwide charity team's first 'power walk' in the London Marathon.

In 1998 the charity established the MoonWalk, and it has now become an annual event – the only Power Walking marathon that starts at midnight with thousands of dynamic women and men wearing bras! E-T-A's team, walking under

the name of 'Characteristic Curves', has been in training since June last year. Opting for the half-marathon distance, they hope to raise a considerable amount of money for this worthy cause.

Walk the Walk is a grant making charity dedicated to raising vital funds worldwide for breast cancer research and cancer care, but is also passionate about encouraging women and men to become fitter and to take control of their wellbeing. To find out more, visit the web site www.walkthewalk.org, or contact Gill Dennis here at Aylesbury if you wish to offer sponsorship.

