Lightning & Power Surge Protection

SURGETEK®

www.surgetek.co.za

About Us

Established in 1970, Surge Technology, trading as Surgetek, specialises in all aspects of lightning, surge, safety and electric test equipment. Since its inception, the company has played a leading role in drafting relevant SABS earthing and lightning protection codes, and its highly experienced staff has served on various SABS IEC liaison committees.

Surge Technology is listed with the ISO 9001 Quality Assurance Programme and certification was awarded during July 1999. Today, Surgetek is a 100% black owned (B-BBEE) company and distributes a wide range of lightning, power surge protection, safety and test & measurement equipment in South Africa and neighbouring countries. Most of Surgetek's power protection and safety equipment are SABS approved and are specified by major users. Included amongst its customers are government departments, air traffic control (civilian and military/defence), state-owned enterprises and companies/entities/organizations in the following sectors - banking and financial services, telecommunications,

Our Agencies

DEHN + SÖHNE was founded in Nuremberg, Germany, during 1910, and has been producing lightning protection, earthing components and safety equipment to protect systems, building and personnel working at electrical installations. DEHN + SÖHNE introduced the first generation surge arresters in 1954 and is recognised as the global leader in the industry, having technically led the power protection industry ever since. SALTEK is a Czech company specialising in the development and production of surge protection devices. The company is a leader in its field in the Czech market and offers a full range of lightning current arresters and Class 1, Class 2 and Class 3 surge protection devices according to IEC 61643-1. The company offers surge protection for LV power supplies, signal, measurement and control, telecommunications, information technology and photovoltaic systems.

COPA is the brand name for our locally manufactured low cost surge protection devices, including for example, coaxial cableconnected systems, indoor 100/1000 Base-T Ethernet networks and ADSL line protectors. DELTEC, founded by DEHN + SÖHNE and Elsic, combine their experience and know-how in the field of safety equipment. Both companies specialise in occupational safety when working with electrical systems. Their product ranges complement one another and are identified as the Deltec safety program. TRIDELTA is one of Europe's leading manufacturers of magnetic materials and components. The company evolved in 1997 and offers a wide range of metal oxide arresters for voltages from 250 V - 800 kV. Arresters are characterised by low protective levels and high safety in operation. A wide range of housings made of porcelain and polymer permits optimal use, even in extreme climatic conditions.

HAUPA is a leading designer and manufacturer of safety tools and materials for electro-technical applications, and has been supplying its customers in more than 30 countries for over 40 years. MEGGER has been the premier provider of electric test equipment and measuring instruments for electrical power applications for over 100 years. Although it is best known for its world famous range of insulation testers, Megger provides a full service solution to meet electrical test and measurement needs.

PROGRAMMA, founded in 1976, is a world renowned supplier of test equipment and diagnostic methods for protection relays, high voltage circuit breakers, stationary batteries, as well as portable high current applications. Programma products have become an industry standard for rugged, portable test instruments for field and commissioning testing of HV switchyard components. DUCATI ENERGIA manufactures a highly diversified range of capacitors for direct and alternating current. Included in the range are DC capacitors – 3 kV DC networks and wave filter capacitors for railway systems. SFE International. The ESP (Electrical Safety Products) Division enjoys worldwide recognition as a manufacturing company providing solutions for the protection of property and persons against electrical hazards. In this high-risk environment, ESP is demonstrating its capacity for permanent adaption to the needs of national and international clients.

DEHN DELTEC TRIDELTA Überspannungsableiter GmbH haupa Megger Programma SFE international ESP division COPA SALTEK DUCATI energia s.p.a.

COPA DEHN SALTEK®

Industries we serve

Industry, processing & OEM

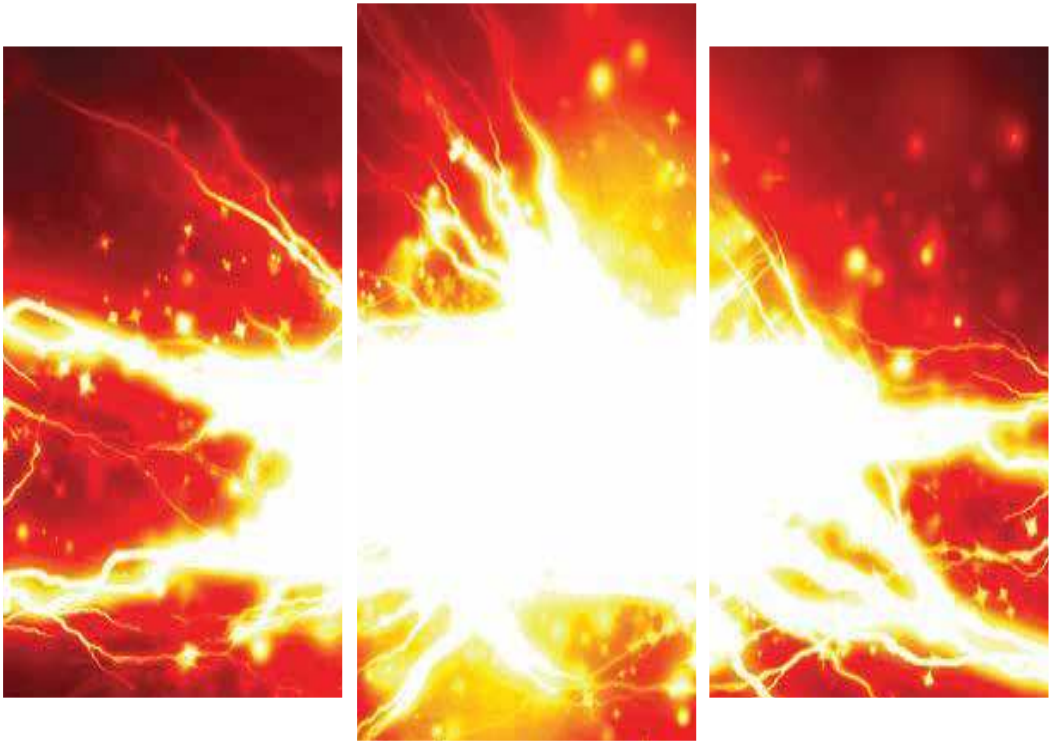
Telecoms

Transportation & Infrastrucure

Renewable Energy

Lifestyle, Health,

Commercial, Residential



Megger.

DUCATI energia s.p.a.

DELTEC®

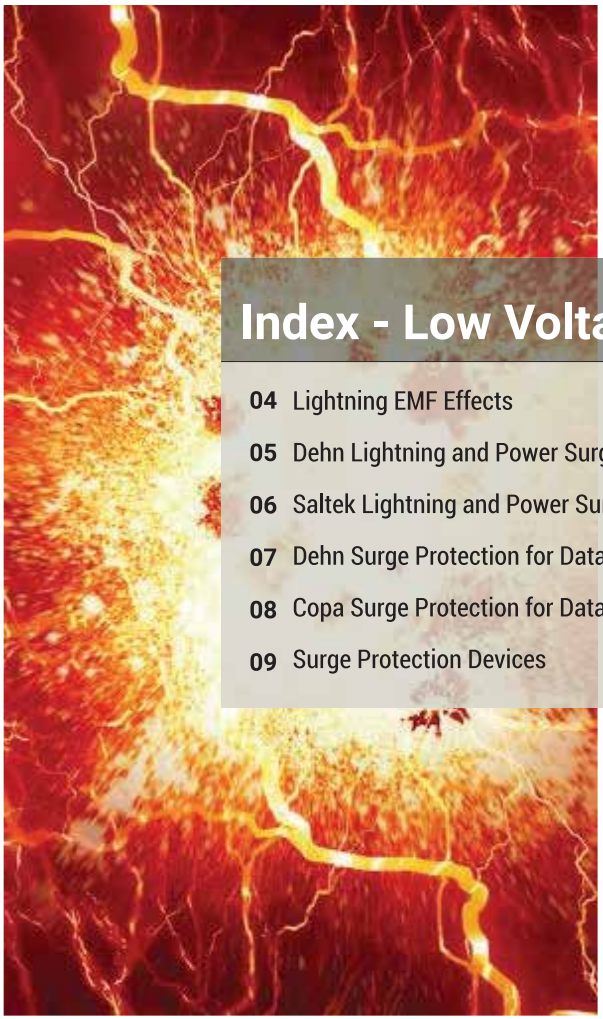
haupa®

Programma®

TRIDELTA

SFE international ESP DIVISION

streamer®
keeping the light



Index - Low Voltage

HIGH AND MEDIUM VOLTAGE FLASH SUITS

95 Cal Flash Suit

The 95 cal flash suit is made from multi-layer Protal material, offering a hazard risk category 4 and its light weight construction, makes the operator usage more comfortable and user friendly. The material is inherently flame retardant and not chemically treated cotton. The flash suit consists of a Jacket, Trousers, Gloves, Helmet and Storage Bag. The helmet offers a fog free visor for safer working conditions, Sizes are available from S to 5XL (bigger sizes by special request), International test report is available on request, the garment is manufactured to SANS 724/IEC61482

60 Cal Flash Suit

The 60 cal is a 3 layer suit and manufactured from locally made Protal material. The suit is hazard category (HRC 4) and the material is inherently flame retardant and not chemically treated which can wash out or be damaged by incorrect washing. The garment is light in weight and its Protal material offers highly breathablility, ensuring that the user is comfortable, whilest performing switching duties. Sizes are available from S to 5 XL International test report is available on request, the garment is manufactured to SANS 724/IEC61482. Optional ventilated hoods in 95/60 cal with anti-fog visor.

ARC Flash gloves and heat gloves

Heated gloves in Red. Optional 60/95.7 cal Arc rated gloves available in Blue.

Index - High Voltage

OW VOLTAGE DAILY WORK WEAR SUITS

Daily work wear 12 cal Tecasafe

ARC Flash rated high visibility suit are available in one and two piece work wear, with industrial wash ability (max 75C), for operations where user visibility is a requirement. The suits are also available in sizes from S to 5XL with colour options of High visibility yellow or dark blue. Tecasafe also offer a liquid chemical resistance to EN 13034:2005 + A1 2009. Test report are available, garments manufactured to SANS 724/ IEC61482-1-1.

Daily work wear 15 cal Protal

ARC flash rated Yellow and Blue colours offer a one and two piece construction, for operations where user requirements a greater degree of user visibility (yellow option). The suits are available in sizes S to 5XL. Test reports are available, garments manufactured to SANS 724/ IEC61482-1-1

Protal 15 cal Balaclava.

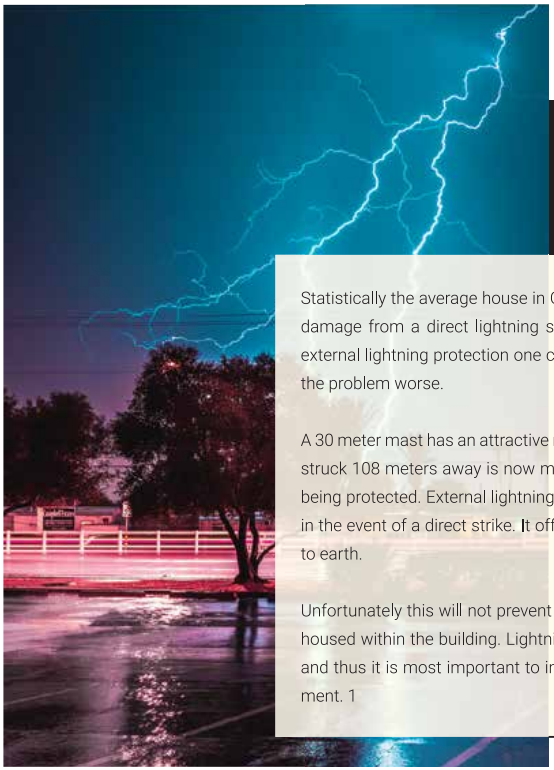
Balaclava is worn underneath the face shield when working on the live equipment or portal. The balaclava is offered in navy blue and natural white and being of double layer construction, provides a 15cal rating. To ensure user comfort one size fits all, and high material breathability is ensured by manufacturing the balaclava from knitted Protal. Available in white and blue with 1 or 2 eye holes

ARC rated visor and 1000v Hard hat

Face shield/visors offers protection of face and eyes from high levels of ultra violet radiation. The face shield comes with an 18 cal (Arc flash rating) and can be provided with a 1000v rated hard hat or separately.

ARC rated gloves

ARC rated gloves used to ensure complete protection against Electrical ARC flash hazard, (32.8 cal, hazard category 2) manufactured from Kevlar and Siliconised calf leather.



Approx. 20,000,000 lightning strikes in South Africa per year

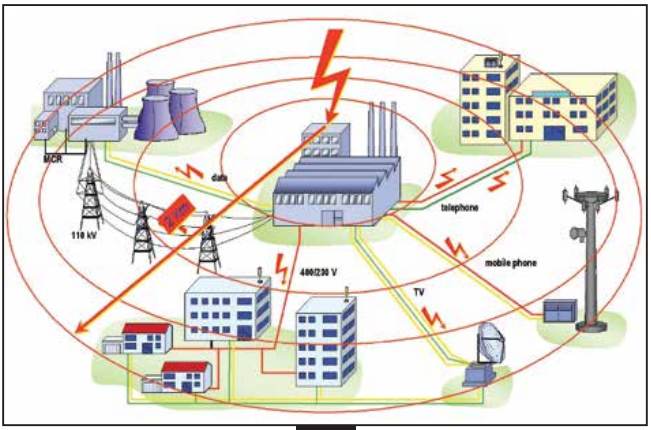
Statistically the average house in Gauteng, in a 25 year period, has less than 1 chance of suffering damage from a direct lightning strike. It is often suggested that by putting up a mast, finial or external lightning protection one can prevent damage to equipment, but in actual fact it can make the problem worse.

A 30 meter mast has an attractive radius of 108 meters which means that lightning that would have struck 108 meters away is now more likely to strike the mast which is next to the very equipment being protected. External lightning protection only protects the building against structural damage in the event of a direct strike. It offers a preferential point of strike and a controlled discharge path to earth.

Unfortunately this will not prevent damage to sensitive electronics such as computers and PABXs housed within the building. Lightning up to 2 km away can cause damage to sensitive electronics and thus it is most important to install internal lightning and overvoltage protection for the equipment. 1

Lightning EMF Effects

SABS CODE FOR LIGHTNING AND SURGE PROTECTION Installation of surge arresters is optional. Should they be installed, then they must be installed in accordance with SANS 10142-1:2012 Annex L (the wiring code which is law). This simply means that the minimum requirement is to install SABS compliant Class 2 surge arresters which must be hard-wired into the electrical distribution board by a registered electrician. The installation of Class 3 surge arresters such as plug tops, multi plugs, etc., can only be used after the minimum requirements have been met, therefore Class 3 arresters may NOT be used on their own.



ELECTRICAL SAFETY EQUIPMENT

Voltage Detector Type PHE III and PHE/G

The PHE III voltage detectors are for use in sub-stations, switchgear and overhead line applications from 3 kV to 132 kV / 50Hz. The voltage detectors comply with IEC / SANS 61243-1 and are SABS approved. The PHE/G voltage detectors are for use in sub-stations, switchgear and overhead lines of rail traction systems. The PHE/G voltage detector is available in single and two-pole design for DC voltages from 1 kV DC to 7,5 kV DC.

Phase Comparitor type TAG 5000S

Two device phase comparator, with audio and visual indication of in and out-phase situation..The device will perform phasing on both Switchgear and Overhead lines.(indoor and outdoor operation and is used in conjunction with 2 link sticks). Model dependent phasing can be confirmed between 4 and 36kV, a maximum of 230kV can be measured. The TAG5000s operates wirelessly and offers an operating range of 10m (outdoors). Extension electrodes (included) offer an insertion depth of 260mm for switchgear applications. Tag5000S complies to IEC 61481

Portable Earthing and Short-Circuiting Equipment

A selection of clamping devices are offered to ensure the safety of the operational personnel whilst working low, medium and high voltage electrical systems. Safe connection to earth points, overhead lines, tubular bus bar, and panel connections are easily made with a correct choice from the Surgetek range of earthing clamps. Accessories include, link sticks for positive connection to both earth and potentially live parts via fixed ball points etc. Cable sizes are from 16mm2 to 120mm2, with fault current ranges from 3kA to 31.5kA for one second

DEHN LIGHTNING AND POWER SURGE PROTECTION

Class 1 and 2 Lightning and Surge Protection

To be used when a site has external lightning protection as per SANS 10142-1:2012 Annex L, or if it will be exposed to potential direct lightning strikes/critical industry.

In accordance with SABS, IEC, EN, and VDE standards

- Built-in de-coupling
- RADAX-Flow spark-gap technology
- Installed in all power supply systems (TNC, TN-C-S,TNC, & TT)
- Capable of protecting equipment, even in the caseof a direct lightning strike (10/350 µs)
- Replaceable modules with visual fault indication

Class 1 Combined Lightning Current and Surge Arrester

For protecting residential buildings and special applications.

- Capable of protecting terminal equipment
- Discharge capacity up to 50 kA (10/350 µs)
- Easily integrated into closed distribution boards

Class 2 – Induced Lightning 40 kA (8/20µs)

For use in all electrical distribution boards, as well as sub boards (essential if lightning current arresters are installedupstream).

- Replaceable modules with visual fault indication
- Simple wiring eliminates potential faults
- Clamp voltages to less than 1 500 V as per SANS 10142:2012 table L1 (for sensitive electronics)
- Available in single and three-phase units

Class 3 – Induced Lightning 5 kA (8/20µs)

Protection of equipment downstream from Class 2 arresters.

- Designed to withstand surges of 10 kA (8/20µs)
- Energy-coordinated within the Red/Line product range
- Units such as the DEHNrail® are pluggable and have visual fault indication

Insulation Resistance Testers

Megger now offer 5kV, 10kV and 15kV insulation testers from their MIT series of products.

Very Low frequency cable testing

Megger offers up to 60kV VLF testing equipment, (34kV and 45kV are other output voltage selection options), the Sinus VLF range can be equipped with on board Tan-Delta, to allow for VLF and tan-delta testing from one unit.

The VLF sinus automatically adjusts the frequency to suit the cable length. To further enhance the versatility of the Sinus VLF test system, an external Partial discharge system , can be connected, allowing for complete cable testing and analysis on networks up to 35kV.

Megger SFX

The Megger SFX cable range of products offer simplicity in operation, but provides power solutions. Surge outputs between 8 – 40kV are available with surge energies from 1000 – 3500 joules. All SFX models are offered with wheel kits for ease of transportation, and all SFX models include an on board scope for determining the distance to fault.

All SFX models offer ARC, ICE, and other cable fault location methods. All SFX models will work with the Megger Digi-phone + fault pinpointer and the vLoc-pro series cable route tracer.

Relay Test Equipment

The SMRT relay testing system offers light weight, field portability, and capability for testing from CDG electro-mechanical relays to the latest generation IED devices with IEC61850. Operation is via a large easy read full colour high resolution TFT LCD touch screen. The SMRT 36-D has 3 X I and 3 X V, channels, where the voltage channels can be converted into an additional 3 current channels, high current (up to 60A @300VA is available for short period, but 30A @200VA is continuous. Smart features include Dynamic, Transient and GPS satellite Synchronised End to End test capabilities, with IEC 61850 testing abilities as an option.

Digital TRMS Multi-meter AVO 830 series.

A true RMS multi-meter with a CATIII 1000v rating and a CATIV 600v, measuring to 1000v AC and DC, (AVO835 only) offering a basic accuracy of 0.1% includes phase sequence, and is inclusive of the AVO analogue arc.

None contact detection of live cables, and auto impedance changes to rule out capacitor coupled voltages.

Megger MIT 300 series

Megger MIT 300 series, offers 250, 500 and 1000v DC insulation testing. Housed in a rugged rubber housing the MIT 300 series is the work horse of industry, and will with-stand many accidental falls with no complaint.

The MIT310, 320 and 330 all have an on board volt meter, and will display any voltage up to 500v (accidental live systems), whilst the MIT330 has USB down load if required. Supplied on a rugged plastic case.

Megger.

SALTEK LIGHTNING AND POWER SURGE PROTECTION

FLP-B+C MAXI VS/3+1 Class 1 and Class 2 Combined Arrester

Highly efficient varistor lightning current arrester to be installed in low voltage distributions at the boundary of LPZ 0A–LPZ 1 zones and higher, to prevent overvoltage effects induced during direct or indirect lightning strikes.

- Visual fault indicator
- Remote status signalling

FLP-B+C MAXI VS Class 1 and 2 Combined Arrester

Surge protection device for protection of low voltage (230 VAC) networks and connected appliances against surge voltages due to direct and indirect lightning strikes. Module offers a combination of heavy duty gas discharge tube (GDT) rated at (10/350 µsec pulse) with high energy varistor block.

- No follow-on current, very low leakage current (µA range)
- Very low residual voltage

SLP-275 V Class 2 Surge Arrester

Varistor surge protection to be installed in low voltagedistributions at the boundary of LPZ 1 and LPZ 2 zones to protectthe distributions and equipment against overvoltage effects induced during a lightning strike and to prevent switching overvoltage.

- Replaceable varistor module
- Visual fault indicator

SLP-275 V/1+1 Class 2 Surge Arrester

Combination of varistor surge arrester and encapsulated spark gap, connected in the 1+1 mode. Suitable to protect LV installations, especially to sub-distribution boards in TT and also TN-S systems. Provides protection against impact of induced surges during a lightning strike or switching surge voltages.

- Visual Fault Indicator
- Replaceable Modules

SLP-257 VD/3H Surge Arrester

Combination of 3-pole varistor surge protection and an encapsulated spark gap connected in the mode 3+1. To be installed in low-voltage distributions at the boundary of LPZ 1 and LPZ 2 zones to protect distributions and equipment against the overvoltage effects induced during a lightning strike and to prevent switching overvoltage.

- Replaceable module, visual fault signal
- Optional remote status signalling (S)

SALTEK®

THERMAL SCANNING, POWER QUALITY, LINK STICK SAFETY, ELECTRICAL SAFETY EQUIPMENT

Fluke Advanced Performance Infrared Cameras

Fluke's Ti400 infrared camera range is equipped with the LaserSharpTM Auto Focus feature that uses a laser to calculate the distance to the target before it focuses. The user simply places the red laser dot on the equipment he is inspecting and then pulls and releases the trigger for a perfect in-focus image. Temperatures up to 1 200 °C can be measured.

Megger MPQ 2000 Portable Power Quality Analyser

The MPQ 2000 is a highly intuitive advanced portable 3 phase analyser. The ability to view RMS data, waveforms, demand data, phase angles, harmonics, unbalance, flicker, whilst also being a digital volt meter, allow for comprehensive data management and interpretation. Auto recognition of CT's is standard and CTs are powered for the MPQ2000, its ability to measure 1000v AC and 1000v DC increase the use-ability to new heights. Full down load via USB cable/stick, Ethernet or from the SD card

Link stick testing system (Fameca TTR2)

The Fameca TTR2 is an easy instrument to operate and is designed to test link sticks and insulating ropes. The TTR2 offers a simple, go/ no go for link stick BEFORE they are used in service. By simply moving the TTR2 along the insulated and un-insulated sections of the link stick under test, the LED display will indicate the level of insulation/operator safety that the link stick is offering. Green is go, the yellow is warning and red is NO go. A silicon cloth is included with the kit to improve overall insulation of the device under test.

Fameca Vector

The Vector contact voltage detector is available in 3 - 10kV and 10 – 36kV ranges. IEC 61243-1 2009 standards apply. The vector displays presence of voltage through audio and visual indication. Visual indication is both on the side and the bottom of the device. The Vector continuously self-checks operation as long as the green light is on. Detects real voltage only, NOT induced voltages, show high visibility green for no presence of voltage, and flashes high bright RED LEDs and audio for presence of voltage. Category L, but easily made to measure category S with extension probes.



DEHN SURGE PROTECTION FOR DATA SYSTEMS AND HAZARDOUS AREAS

Blitzductor® Range

Pluggable 2- and 4-wire combination 2,5 kA (10/350 µs) lightning current and 20 kA (8/20 µs) overvoltage protection module. Suitable for use on most applications from 5 – 220 V, 4 – 20 mA loops and high frequency systems up to 100 MHz.

DEHNgate Antenna Protection

Antenna protectors for 50µ and 93µ coaxial systems with frequencies up to 1,0 GHz and 500 W output transmission

DEHNpatch

Universal Type 2 SPD for industrial Ethernet and similar applications in structured cabling systems. Fully shielded adapter with sockets for DIN rail mounting. • Used on 10/100 Base T, 1 Gigabit Ethernet and POE networks

Ex Type

Lightning surge protection units designed specifically for protection of equipment in hazardous areas.

BLITZductor BXT

Two-pole surge arrester device with LifeCheck monitoringfor use in potentially explosive atmospheres.

SURGE ARRESTOR, DC CAPACITORS, CABLE CUTTER AND CRIMPER SAFETY TOOLS

Surge Arresters

A complete range of MV and HV polymer and porcelain housed metal oxide surge arresters for the protection of transformers, switchgear and overhead line networks against lightning and switching overvoltages.

DC Capacitors for Railway Applications

DC power capacitors for traction and railway applications. Transnet approved 3 kVDC/4 µF capacitors to specification CEE0115 and 3,4 kVDC/10 µF, 3,4 kVDC/20 µF and 3,4 kVDC/50 µF wavefilter capacitors to specification BBB3139.

Safety Tools, Cable Cutters, Crimping Tools

A wide range of safety tools with 2-colour multi-layer insulation for live working up to 1000 V, hydraulic and battery operated cable cutters and crimpers as well as cable accessories

Battery powered DIE-less Crimper

The Haupa SD 400-6 (P/No 216667) battery powered die-less crimper, offers a crimping range of 25 – 400mm2 copper/aluminium cable. The crimping head is able to rotate through 180 degrees for ease of crimping on a cable. The crimper operates at 700bar with a crimping force of 60kN, and is powered by an 18v 1.5Ah Li-ion battery pack. The Die-less crimper is supplied in a hard carry case and is comes complete with battery charger

Hydraulic Safety LIFE LINE cable cutter

The Haupa hydraulic LIFE LINE cable cutter operates up to 850bar and easily cuts through Steel wire armoured cable, however should the cable being cut still be live cable (maximum upper voltage 60kV) the operator will be up to 10m away and safe from any electrical discharges that may occur. The cable cutter is supplied in a rugged steel box which contains a double action foot pump, 10m insulated hose with special insulating oil to increase safety, the cutting head, will cut up to 120mm diameter SWA, banded cable and single cores with comparative ease.

haupa

COPA SURGE PROTECTION FOR DATA SYSTEMS

Copa Data Multi Wire

Designed for surge currents of up 10kA (8/20µs). Available in 4, 8, and 12 wire configurations for 4-20mA current loops. Earths through the DIN-rail, operating voltages range from of 5V to 48V.

Data 8-wire

10kA (8/20) 8-wire data protection module typically for fire alarm panels, instrumentation and access control systems.

COP907

Surge arrester providing superior surge protection for indoor 100/1000 Base-T Ethernet networks.

COP903

Surge protection device for coaxial cable-connected systems such as video surveillance systems and similar equipment.

COPA DPL 10 F

10 kA (8/20µs) protection of 10-wire telephone lines and for installation in Krone LAS disconnect type blocks.

LINE LIGHTNING PROTECTION DEVICE FOR OVERHEAD LINES

EasyQuench is a new and unique technology, developed and improved since 1996 by Streamer. Products featuring EASY-QUENCH System, protect overhead lines against direct and indirect lightning strikes. LLPD prevent breakage of conductors, insulators and outages (trips) caused by lightning. According to their operating principle, Line Lightning Protection Devices (LLPD's) do not require ground lead nor ground rod. Therefore, devices work perfectly in areas with high soil resistivity. Over-voltage discharge is ensured through conductivity of the pole and the cross-arm.

- **No lightning trip anymore**
- **Return on investment lower than 2 years for mines**
- **No maintenance required**
- **20 years life expectancy**
- **Already installed in South African mine**

11kV LINE LIGHTNING PROTECTION DEVICES

Installation on tension/post or suspension poles

22kV LINE LIGHTNING PROTECTION DEVICES

Installation on tension/post or suspension poles

33kV LINE LIGHTNING PROTECTION DEVICES

SURGE COUNTER FOR LLPDs & OTHERS

STREAMER Lightning Strike Counter is meant to count the number of lightning strikes based on the current flowing in a conductor . The 250A high sensitivity Surge Counter can be installed easily on the ground leads even on existing installations thanks to its split core transformer.

EXAMPLE OF INSTALLATIONS FOR LLPDs

SURGE PROTECTION FOR DC APPLICATIONS AND AC FIELD DEVICES

SPD for DC Applications

Surge Protection Device for photovoltaic systems and other DC applications. Suitable to protect the off-grid DC solar inverters Available with and without remote signaling contacts. Available for operating voltages of 170V DC-1500V DC.

Isolating Spark Gaps

Encapsulated high performance isolating spark gap. Can withstand DC voltages of 50V DC to 500V DC. Available on von 50kA and 100kA. For indirect connection of isolated conductive parts under lightning conditions.

Voltage limiting device

Voltage Limiting Device class 1, type VLD-F, Connecting of exposed conductive parts with the return circuit with an earth of a railway system. Suitable for railway application.

Dehnpipe for field devices

SPDs for parallel or series connection. Made of corrosionresistant stainless steel and can be screwed onto the transmitters. Arrester for protecting a second interface (data or power side) available. For protecting intrinsically safe measuring circuits and bus systems Ex (i). Approvals depending on the arrester: IECEx, ATEX, FISCO, CSA Hazloc

HDO 280T class 2 surge protection device

HDO class 2 surge protection device is available in 3 wire. Designed to withstand peak surges of 30kA repeatedly. Ideally suited for outdoor applications and gate motors

FIPRES: FIRE PREVENTION SYSTEM FOR ELECTRICAL PANELS

The FIPRES range of products from STREAMER monitors continuously and detects the overheating of electrical connections, or devices in the LV and MV electrical panels and signal this overheating to the maintenance team. That way electrical fires and damages are avoided.

- **Both suitable for new and existing electrical panels**
- **Continuous monitoring of overheating**
- **Thermolabels do not require any power supply**
- **Clear indication of the faulty connection**

Visual Fire Prevention Thermolabels vFPT

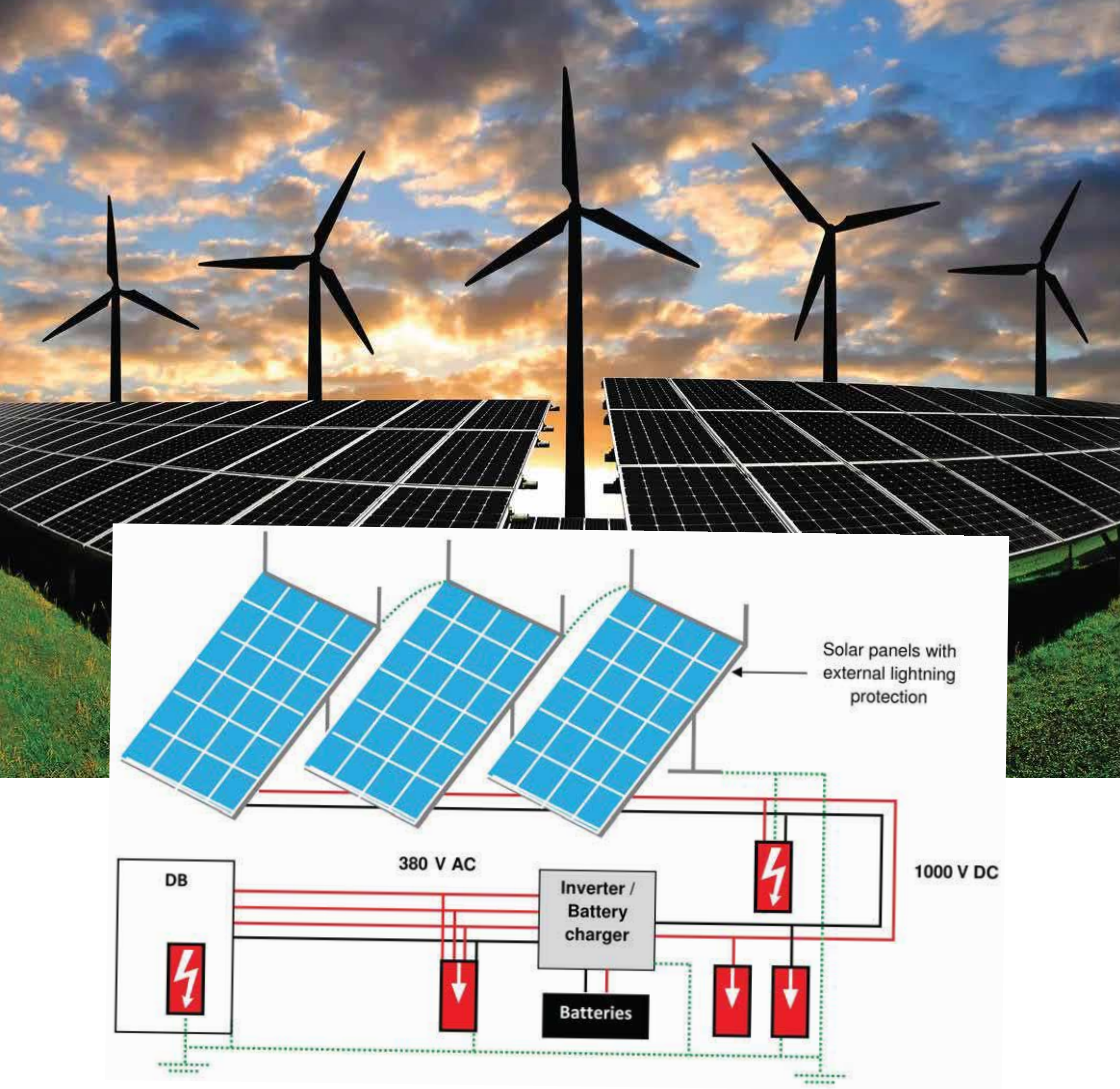
vFPT allows to check the quality of installation works by visual inspection. Unlike thermal imaging, the vFPT detects heating not only at the moment of inspection.
The principle of operation is pretty simple: at the activation temperature (indicated on the thermolabel) the strips irreversibly change their color to black period.

Remote Fire Prevention Thermolabels rFPT

The Remote Fire Prevention Thermolabels (rFPTs) are installed at the contact connection points, on electrical wires or some parts of electrical equipment which are potentially prone to overheating. When heated to activation temperature, a signal gas is emitted from the rFPT and is detected by Fire Prevention Alarm (FPA).

Fire Prevention Alarm FPA

The Fire Prevention Alarm (FPA) is designed to detect the threshold concentration of the signal gas in the protected object and to transmit the alarm signal. FPA has a LED indicator for operating mode (READY, ALARM, ERROR) and LED for indicating communication of the information. FPA is sending the information via Modbus RS-485 and also via dry contact which can trip a circuit breaker if required.



Highly excessive voltages and currents can threaten the operation of a PV plant. Such surges are mainly caused by lightning, but can also be due to faults in the grid. To ensure a path to earth for any lightning strike, or currents caused by overvoltage, is an extremely important factor in PV plant protection.

Solar panels are especially susceptible because of their large, fully exposed surface areas and prevalent installations in open, isolated areas. In all situations downtime has to be avoided and by using an economically coordinated lightning and surge protection system from Surgetek, this can easily be achieved. Wherever photovoltaic or solar systems have to be protected against the consequences from surge and lightning damage, DEHN and SALTEK have the answer. photovoltaic system protection 11

TEAM

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