



PIONEER IN
**EPC
AND
TRADING**

SARTHAK
Optimizing Electrical Energy

SARTHAK COMPONENTS PVT LTD



Sarthak Components Pvt. Ltd. (SCPL) is well known organization for supplying wide range of Electro-mechanical & Automation equipment. We also source several electrical & automation solutions from various global manufacturers as per needs and requirement of our clients.

SCPL was established in the year of 2010. Five years after its inception the organization has been taken over by a group of three dynamic entrepreneurs in 2015. Immediately after acquisition the company has been given a new dimension by associating themselves with the world best companies in to diversified business areas.

SCPL is a one-stop solution provider in electrical-power sector. We at Sarthak Components do the consultancy, erection, procurement and commissioning of electrical and industrial projects and also provides advanced automation solution.

At **SCPL** a separate Engineering, Procurement and Construction Group has been set up to undertake the entire responsibilities of project from concept to commissioning of project. This group has specialized to take up the entire responsibilities from survey, study operational requirements, preparation of schemes, getting approval from appropriate authorities, procurement of equipment, erection, testing and commissioning including carrying out related civil and structural works etc.



EPC Services

EPC SERVICES WE OFFER

33/11 KV SUB STATION, GREEN-FIELD PROJECT

- **Sarthak Components Pvt. Ltd.** has a team of skilled & experience engineers for design-engineering, supply, erection and commissioning of substation up to 33/11 kV (AIS & GIS).
- **SCPL** has expertise in system design calculation and equipment sizing-up for **33/11 kV substation**.
- We **SCPL** are associated with leading substation equipments manufacturer in the respective field from various countries of the world.

11/0.415 KV SUB STATION (PSS & CSS)

- **Compact substation** or **package substation** (CSS / PSS) is the best solution for secondary distribution now days.
- PSS/ CSS are a compact design with **transformer, HT beaker, LT Feeders** and also with **APFC**.
- PSS/ CSS Metal clad packaged secondary substations are fully assembled, wired and ready to install. Simply mount on a plinth, cable up, earth it and its ready to use. Saves weeks of civil engineering works and cuts down installation costs drastically. Also ideal for locations where space is a constraint and aesthetics have to be given due attention.

33/11 KV UNMANNED SUB STATION with Remote Monitoring and Remote Control

- At this age of technological up gradation we offer our customer, such service, to enhance the ease of use like **unmanned substation**.
- By installing this kind of substation we can monitor, control and supervise all the activities of the particular substation from remote area by using "**Auto-recloser**" & "**Sectionalizer**".

Condition Monitoring of Electrical Installation

- You can detect well in advance the failures of potential equipment with our condition monitoring service. Condition monitoring (CM) is very effective initiative to protect any electrical system.
- Periodically condition monitoring enhances the equipment life and can avoid major system breakdown.

Feeder Automation

- Distribution feeder automation solution that improves distribution network reliability by employing self-healing, **smart grid** technology.
- 11Kv Underground systems redundancy can be increased using Ring Main Unit (RMU).
- 11kV & 33kV OH line automation with the use of “**Auto-recloser & Sectionalizer**”

33/11 KV Over Head Line Fault Detection

- With the use of “**Fault Passage Indicator**” (FPI) on 11kV & 33kV OH line the fault area/ zone can be easily detected and restored which helps the utility to minimize the outage time.

Electrification Work of Industry And Commercial Buildings

- We provide end to end electrical and automation installation for Industrial as well as Commercial buildings segments.

33 KV and 11 KV Tertiary Bus Insulation

- SCPL has a range of products for catering the needs of distribution and transmission industry, **tertiary bus insulation** is a mandate need now a days for major transmission utility and we are providing fruitful solution and service to those clients.

Retrofitting and Repairing

- Upgrade or retrofit existing machinery controls to decrease process downtime Minimize breakdowns by pinpointing potential component failure, We have sound skills on retrofitting and repairing of equipment like **VCB panel, Numerical Relay** etc.

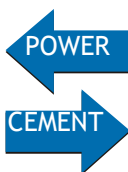
ON-LINE & OFF-LINE DC Earth Fault Locating

- We are quite enough capable to find out the earth fault of any system in different nature.
- We have solution for **DC earth fault, NGR relay** and **online insulation monitoring** etc.

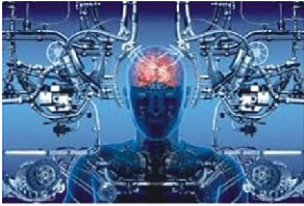
BUSINESS PARTNERS:



WORKING INDUSTRIES



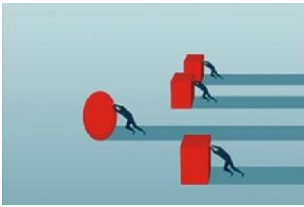
BUSINESSAREAS



TECHNOLOGY



SUSTAINABLE ENERGY



INNOVATION



AUTOMATION



CONSULTANCY



PROJECTS



SALES



ENGINEERING



MARKETING

OUR STRATEGIES

Strategy sets the course

To leverage the diverse opportunities of our complex world, a company needs a clear direction, a strong internal setup, and people who follow the set course and turn plans and ideas into reality and that is exactly what our strategy does. It includes a sharper customer and business focus and streamlined governance.

Customer and business focus

We're focusing on our positioning along the value chain of electrification. This is where our core business lies. From power generation to power transmission, power distribution and smart grid to the efficient application of electrical energy in every one of these interrelated fields, electrification, automation and digitalization are the key business drivers. Our integrated setup not only enables us to leverage opportunities in individual markets; it also allows us to exploit the potential at their interfaces. A world wide go-to-market setup and an organization geared towards a shared customer market are making this possible.

Mission

Our mission is not to be the biggest, but the best. We want to achieve recognition and growth through Customer Satisfaction, Employee Motivation, and Innovative Approach. A strong customer focus, an in-depth knowledge of core technologies & International industrial practices and a flexibility to offer expertise in a wider range of skills, enable Sarthak Components to successfully provide solutions across various market segments. Our Sales & service engineers are encouraged to use their technical skills and practical experience to think innovatively to provide the best solution.

Vision

Our vision is to achieve the highest award for best industrial trading practices and become the best electrical, automation and service solution provider to our customers within next 5 years. This vision has inspired us to create a distinctive business model, a model that is integrated and focused to value added products, clarity on what we want to sell, whom we want to sell and what industry space we want to specialize in.

MOULDED CASE CIRCUIT BREAKER(MCCB):



Moeller is now Eaton

- IEC, UL & Global Approvals
- 20 to 2500A with advance Protection Release with Display & Support to Network
- 10KA to 150KA, Fixed/Plug-in/Withdrwable versions

AIR CIRCUIT BREAKER (ACB):



Moeller is now Eaton

- Global Approvals: UL, IEC, CSAQ
- Global Availability
- IEC 60947-2
- 630A-6300A, 3Pole & 4Pole
- Two Frame Sizes: Frame 1: 800A-4000A, Frame 2:
4000A-6300A Q 42kA to 105kA, Icu=Ics=Icw (1Sec)
upto 690V
- IOT & ARMS Features

FINAL LOW VOLTAGE PRODUCT RANGE:



Moeller is now Eaton

- MCB - 0.5A to 125A in B,C&
D Curve Q Isolator-16A to
125A
- RCD - 16A to 125A, 30mA, 100mA, 300mA & 500mA
- Arc Fault Detection Device, Digital RCCB

CONTACTOR AND OVERLOAD RELAYS:



Moeller is now Eaton

- 10A Control Contactor with AC or DC Coil
- 7A to 1600A Power Contactor in AC-3 Duty, Upto 2600A in AC-1 Duty
- Above 800A Vacuum
Contactors
- OLR (Thermal &
Electronic)

MPCB



Moeller is now Eaton

- Push button & Rotary Type
MPCB upto 65A
- PKE Electronic MPCB upto 65A
- Higher Breaking Capacity upto 150KA
- DIN Mounting

PILOT DEVICES :



Moeller is now Eaton

- 16.5mm, 22.5mm & 30.5mm
- Emergency Switch and Foot Switches
- Buzzer, Potentiometers, 4Way Switch & Joy Stick
- Safety PLC Relays & Switches, Limit
Switches, Pressure Switches & all kind of
Sensors

MV & LV FUSES



MEDIUM VOLTAGE

Bussmann is now Eaton

- Voltage Rating : 3.6KV to 72KV
- Current Rating: 0.5A to 160A
- Breaking Capacity: 20KA to SOKA
- Operating Class: Back Up / Motor Protection / Metering
- fuseStandard: IEC 60282-1, DIN 43625 and BS 2692
- Mounting Style: Bolted / DIN type

LOW VOLTAGE

- Voltage Rating : 400-690V
- Current Rating: 0.5A to 1250A
- Breaking Capacity: 80KA to 120KA
- Operating Class: gG/gL/gM
- Standard: BS88 / IEC 60269 Part 1 & 2
- Mounting Style: Bolted / NH Bladed / Cylindrical type

HIGH SPEED SEMICONDUCTOR FUSES



* Bussmann is now Eaton*

- Voltage Rating : up to 4000V @ Current Rating: up to 7500A @ Breaking Capacity: 300KA
- Operating Class: aR / gR
- Standard: IEC 60269-4, DIN 43653 and 43620,
- Mounting Style: Bolted / NH Bladed / Cylindrical type / Flush End Contact

OBO PRODUCT RANGE:



VBS is one of a total of seven OBO product units, but of those it is one of the longest-standing and most extensive. Indeed, OBO Bettermann takes part of its name from one of the most successful ever products from the VBS product unit the OBO anchor, a metal anchor invented in 1952 that offers the advantage that it can be fitted "OhneBOhren", that is, without the need for any drilling.

VBS

DISTRIBUTION

Junction Box Systems, Concealed and Cavity Wall Systems, Terminal Systems, Cable Gland Systems



FASTENING

Beam Clamp Systems, Rail Systems, Clamp Clip Systems Screw-in and knock-in Systems



ROUTING

Cable and Pipe Fastening Systems
Pipe Systems



OBO offers cable support systems made by professionals for professionals: The technical properties are guaranteed by DIN EN 61537 (follow-up to DIN VDE 0639). It describes all the relevant parameters such as area of application, test conditions, corrosion resistance and temperature classification. As a competent manufacturer of cable support systems, OBO subjects itself to these requirements on a daily basis. Comprehensive test procedures guarantee that systems which conform to standards function safely.

KTS

CABLE TRAY

Cable tray with integrated quick fastening system. The usable length of the cable tray is 3,000 mm. The cable tray possesses continuous side perforations of 7 x 20 mm for the installation of additional connection and mounting components. The perforation for direct threaded rod suspension has a diameter of 11 mm

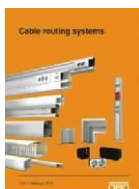


CABLE LADDER

The cable ladder is shipped folded up. You can find the appropriate U clamp of type 2056/N in the venical ladder systems chapter. Cable ladder with perforated side rail of side height 45 mm with riveted C profile rungs, open in an upwards direction.



OBO PRODUCT RANGE:



With a comprehensive programme of training courses and seminars on the subject of cable routing systems, OBO is able to support its customers with specialist knowledge from a single source. Alongside the basic theoretical principles, the programme also deals with practical implementation in everyday applications. Special calculation and application examples round off the comprehensive programme of knowledge transfer.

LFS

LKM METAL CABLE TRUNKING SYSTEM

Application: Machines application area, Corridor, Stairwell application area, Machine Trunking Mounting, Wall Trunking Mounting, Installation of Joint Connectors, Installation of internal corner, Installation of partition, Installation of cable fixing holder, Installation of duct clamp.



WDK PLASTIC CABLE TRUNKING SYSTEM

Application: Mounting of mini trunking, cut mini trunking, WDK for workshops, WDK with nail strip, mounting of cover clip, Mounting internal corner hood fitting, Mounting of external corner hood fitting, Mounting of accessory mounting box.



With a comprehensive programme of training courses and seminars on the subject of under floor systems, OBO is able to support its customers with specialist knowledge from a single source. Alongside the basic theoretical principles, the programme also deals with practical implementation in everyday applications. Special calculation and application examples round off the comprehensive programme of knowledge transfer.

UFS

SCREED COVERED DUCT SYSTEM EUK

Application: Composit screed application, Poured asphalt application, floating screed application, application with installation ducts, Expansion of underfloor boxes.



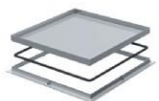
RFT RAISED FLOOR TRUNKING SYSTEM

GES9 universal service outlet: Service outlet for nine accessories in three GB3 mounting boxes for use in trucking systems and raised floors. Universal fixing bracket, adjustable to raised floor thicknesses to 65 mm. Carpet protection frame, hinged cover and cord outlet made of polyamide. 5 mm floor covering recess in the hinged cover, if necessary, adjustable to 3, 8 or 10 mm.



SQUARE FRAME CASSETTE

"Blank" frame cassette for the creation of an inspection opening in the UZD250-3 in dry or wet-cleaned floors. Only suitable for smooth floor coverings. Floor Covering thickness up to 23 mm and cassette height 25 mm.



OBO PRODUCT RANGE:



Highly developed modern electrical equipment is becoming ever more sensitive. Or to put it another way, as voltage ratings drop, so too does electrical stability. Electronic valves in the 1950s operated at a remarkably high rated voltage of 230 V, but as transistors arrived in the 1960s this dropped to 24 V. Integrated circuits came in around 1980, and they worked at just 5 V. Modern computers use 2.5 V in other words, just one per cent of the original voltage, which makes them many times more susceptible to electrical interference. Coupled with all this, the number of devices has grown hugely. So effective protection against surges has become much more important than it used to be.

TBS

SURGE PROTECTION DEVICE

Available Voltage Range for TYPE 2: 75 V, 150 V, 280 V, 320 V, 385 V, 440 V, 550 V, 1000 V
Available Voltage Range for TYPE 1+2: 150V, 280 V, 320 V, 385 V
Visual status display
Surge protection according to VDE 0100-443 (IEC 60364-4-44)
Arresting capacity up to 40 kA (8/20) per pole through high-performance varistors



LIGHTNING CURRENT METER

With the new lightning current meter LSC I+II, you've always got an eye on lightning strikes. This is because it measures and permanently saves pulse currents, together with the date and time. Thus, you can use the practical LCD display to check whether and when lightning has struck the lightning protection system. Should this be the case, then the lightning protection system must be maintained according to VDE 0185-305



EARTHING SYSTEM

Rod Material: Steel with Copper Plated,
Available Length: 2m, 3m,
Available Diameter: 14.2mm, 17.2mm, 20mm, 25mm,
Earthing Compound: 10 Kg/25 Kg
Packing Type: Paper Bag, Form: Powder



ROOF CABLE HOLDER EXTENSION

OBO now offers its tried-and-tested roof cable holders for flat roofs in the color light grey. The holders made from UV-resistant polyamide can be installed discreetly and they adjust to light foil roofs perfectly. They are suitable for the mounting of round cables with diameters of 8 to 10 millimetres.

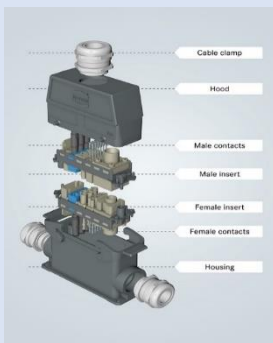


LIGHTNING PROTECTION

OBO Bettermann is one of the world's most experienced manufacturers of lightning and surge protection systems. For almost 100 years, OBO has been developing and producing standard-compliant lightning protection components. The rise of the modern computer began in the 1970s, with the invention of the electronic typewriter. OBO responded by launching its groundbreaking V-1S surge arrester. Countless new products over the years, such as the first connectable type 2 surge protection device with VDE test mark, or the first connectable type 1 lightning current arrester with carbon technology, laid the foundation for the uniquely comprehensive product range that we offer today.



INDUSTRIAL CONNECTORS:



HAN E SERIES

SPECIFICATIONS:

Number of contacts: 6, 10, 16, 24, 32, 48
 Electrical data acc. to IEC 61984: 16 A 500 V 6 kV 3, Pollution degree: 3
 Rated voltage acc. to UL: 600 V, Rated voltage acc. to CSA: 600 V
 Insulation resistance: $\geq 1010 \Omega$, Contact resistance: $\leq 1 \text{ m}\Omega$
 Limiting temperature: $-40 \dots +125^\circ\text{C}$, Mating cycles: ≥ 500
 Material (insert): Polycarbonate, Colour (insert): RAL 7032 (pebble grey)



HAN HSB SERIES

SPECIFICATIONS: (HIGH CURRENT)

Number of contacts: 6, 12
 Electrical data acc. to IEC 61984: 35 A 400/690 V 6 kV 3, Rated impulse voltage: 6 kV
 Pollution degree: 3, Alternative electrical data: 35 A 500 V 6 kV 3
 Rated voltage acc. to UL: 600 V, Rated voltage acc. to CSA: 600 V
 Insulation resistance: $\geq 1010 \Omega$, Contact resistance: $\leq 1 \text{ m}\Omega$
 Limiting temperature: $-40 \dots +125^\circ\text{C}$, Mating cycles: ≥ 500
 Material (insert): Polycarbonate, Colour (insert): RAL 7032 (pebble grey)
 Material (contacts): Copper alloy



HAN HV SERIES

SPECIFICATIONS: (HIGH VOLTAGE)

Number of contacts: 3, 6, 10, 12, 20
 Electrical data acc. to IEC 61984: 16 A 830 V 8 kV 3, Pollution degree: 3
 Rated voltage acc. to UL: 600 V, Rated voltage acc. to CSA: 600 V
 Insulation resistance: $\geq 1010 \Omega$, Contact resistance: $\leq 3 \text{ m}\Omega$
 Limiting temperature: $-40 \dots +125^\circ\text{C}$, Flammability acc. to UL: 94 V-0
 Mating cycles: ≥ 500 . Material (insert): Polycarbonate
 Colour (insert): RAL 7032 (pebble grey), Material (contacts): Copper alloy



HAN MODULAR SERIES

FEATURES: (UPTO 200A RATING)

- Flexible solutions according to specific customer requirements
- Reduction of installation time and production downtimes
- Space savings
- Cost savings
- Future safe design, easy extension

PRODUCT RANGE

CABLE ASSEMBLIES FOR RAILWAYS:



JUMPER FOR
EMU

FOR MEDHA AND BOMBARDIER MAKE EMU:

Harting India supply the connection technology for transmitting data, signal and power in railways application. Harting also supply the cable assembly jumper technology for MEDHA and BOMBARDIER make emu train in India. Harting is ICF approved source and provides the solution for all the cable assembly jumper in emus.



JUMPER FOR
MEMU

MEMU IS A MAIN LINE ELECTRIC MULTIPLE UNIT TRAIN. Harting india supply the connection technology for transmitting data, signal and power in railways application for all the memu train in india and also does the installation job by traind technical person.



JUMPER FOR
DEMU

HARTING INDIA supply the IV coupler for 1600 HP DEMU train including all the plugs and socket assemblies. The DEMU is Diesel Engine based and it is designed by IGBT based traction converter including Auxiliary converter, AC Traction Motors, Passenger information system, vehicle remote monitoring. The main purpose of these jumpers to connect and synchronize for all data, signal and powers by plugs and socket assemblies.



JUMPER FOR
METRO

Inter-car jumpers are designed for connections between train wagons as roof or underfloor systems. The jumper cables ensure reliable data, signal and power supply between the wagons. The core competence has long consisted of expert advice, conceptional design and the selection of the right components according to the latest railway standards, as well as the production of complete inter-car systems.

OTHER SOLUTIONS:

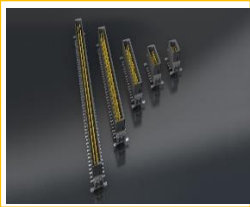


RFID SOLUTIONS

RFID (Radio Frequency Identification) systems from HARTING identify metal containers, machines, tools, trains, concrete parts, or other assets in most challenging and harsh industrial environments.

HA-VIS RFID SYSTEM COMPONENTS

Identification of a number of objects without a direct line of sight
Simultaneous information storage directly on the product
Reliable information processing under the most difficult conditions



PCB CONNECTION

Devices and applications are getting smaller and more compact. So the circuit boards and device innards must move closer together. HARTING is responding to the trend towards miniaturisation with appropriate solutions for the various dimensions and applications that involve PCB connections. Our har-flex and har-flexicon product range provides everything from the classic DIN-41612 rail that has evolved over the years through to the very small 1.27 mm pitch solutions.



ETHERNET CONNECTION

To date, the Ethernet interface in the IP20 environment has been embodied by the RJ45 connector. This connector, which is the most widely used in the world, is omnipresent and therefore loved by users. However, due to its lack of robustness through broken locking tabs and occasional contact problems, many users experience more of a love-hate relationship with the RJ45. In view of ever smaller devices, such as flat mobile devices, displays, smaller automation devices, cameras and sensors, the size of the RJ45 puts a limit on the miniaturisation possible. Thus, a smaller and more robust plug-in connection is on the wish list of many users and developers, though one which can still produce Cat. 6A performance for 1/10Gbit/s Ethernet at a control level.



TOOLS

To date, the Ethernet interface in the IP20 environment has been embodied by the RJ45 connector. This connector, which is the most widely used in the world, is omnipresent and therefore loved by users. However, due to its lack of robustness through broken locking tabs and occasional contact problems, many users experience more of a love-hate relationship with the RJ45. In view of ever smaller devices, such as flat mobile devices, displays, smaller automation devices, cameras and sensors, the size of the RJ45 puts a limit on the miniaturisation possible. Thus, a smaller and more robust plug-in connection is on the wish list of many users and developers, though one which can still produce Cat. 6A performance for 1/10Gbit/s Ethernet at a control level.



Metal Conduit without Cover – Multiflex and the optional fittings

The metal conduit from Multiflex, without a cover, is very flexible and can be used in almost any application where an high IP rate is not needed. Click the product category for all the options.

METAL CONDUIT WITHOUT COVER – MULTIFLEX



FITTINGS FOR METAL CONDUIT WITHOUT COVER



Metal Conduit with Convoluted Cover – Multitite and the optional fittings

In comparison to our Multiflex conduits without cover, our Multitite conduits with a convoluted cover give extra protection against certain aspects that could harm the cables in the conduit, such as liquids.

METAL CONDUIT WITH CONVOLUTED COVER – MULTITITE



FITTINGS FOR METAL CONDUIT WITH CONVOLUTED COVER



Non-Metallic Conduit and the optional fittings

At Anamet Europe you can also go for a plastic conduit. With the appropriate fittings you can use this for almost any application where a high mechanical resistance is not needed.

NON-METALLIC CONDUIT



FITTINGS FOR NON-METALLIC CONDUIT



Corrugated Nylon and the optional fittings

Besides smooth plastic conduits, we also offer conduits made of corrugated nylon. Click on the product category for all the options.

CORRUGATED NYLON



FITTINGS FOR CORRUGATED NYLON



Special Fittings and Accessories

At Anamet Europe we have an extensive assortment of different kinds of special fittings and accessoires.



Corrugated Metal Hoses for Fluids and Gases

Anaconda corrugated hoses are available in various wall thickness, convolution counts, diameters, braid constructions and materials to perform in many different applications and to last in rough environments



Superior Heat Protection Products

Anamet Europe invests in the continuous improvement of its flexible conduit solutions to deliver superior products that meet the precise requirements of its clients. It has developed a full range of sleeves, tapes, wraps and blankets in various qualities to protect against heat or provide insulation.



Hiprojacket Aero Red

Construction: Braided sleeving from E-glass yarns, solid constructed according to Aerospace standard SAE AS1072type 2

Colour: Red

Temperature: +800 °C

Molten Metal Splash: +1640 °C

Radiation Heat: +800 °C



Hiprosiltape Red

Construction: Unsupported silicone rubber tape, self-fusing, ideal to seal-off

Colour: Red

Temperature: -55 °C till +260 °C



Hypoblanket Wrap Heavy

Specifics: Temperature Wrap closure: +110 °C continuous. For higher temperatures additional securing with hiprosiltape is recommended.

Construction: Remountable sleeve from woven E-glass blanket with polyester hook & loop closure

Colour: Red

Temperature: -55 °C till +260 °C

Temperature under flames: +800 °C

Radiation Heat: +800 °C

Molten Metal Splash: +1640 °C



Thermojacket S

Construction: Braided E-glass sleeving, with acrylic saturant coating; high continuous temperature, halogen free, good thermal insulation, abrasion resistant, no end-fray, easy installation for long lengths.

Temperature: -55 °C till +538 °C



ATEX Solutions

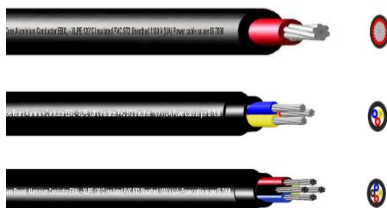
Anamet Europe develops and manufactures products to meet the highest specifications to guarantee a high level of performance under extreme conditions. Not only is this crucial for our clients to continue their operations without disruption, but also it is vitally important for the safety of the individuals and the environments where our products are used. For this reason, we offer a complete range in conduit and fittings viable for various applications in hazardous areas and explosive atmospheres.



Cable Glands

Cable glands are the connecting element between cable and many different hardware components such as: junction box, instrumentation box, electrical engine, frequency inverter, switches, fixtures, sensors and temperature gauges. These hardware components are only able to function with the use of power (U/I), data and other power feeds or data streams.





Instrumentation/Signal Cables

For signal & data transmission used in measurement & control technology such as in control room at industrial plants, power stations, refineries, petrochemical plants. Suitable for underground applications.

Twisted pair/Triad construction with short pitch & individual aluminium tape shielding, offers excellent immunity to cross talk & low frequency (up to 10 KHZ) electrostatic & electromagnetic interference.



Fire Resistant Cables

Application

Metro Rail, Airport, Schools, shopping malls, Cinemas, High-Rise Buildings, and fire prone areas.

Indoor and Outdoor uses

Product Construction

Conductor: Plain annealed copper solid or stranded circular conductor complying with BS 6360 class 5

Tape: Mica

Insulation: EBXL-XLPE

Outer Sheath: EBXL-ZHLS

Technical Data

Temperature Range: -15°C to +120°C

Rated Voltage: 600/1000V

Test Voltage: 3.5 kV/5 min

Bending Radius: up to 8 of Cable X OD

Features

Flammability: IEC 60332-1 & IEC 60332-3

Categories A, B & C

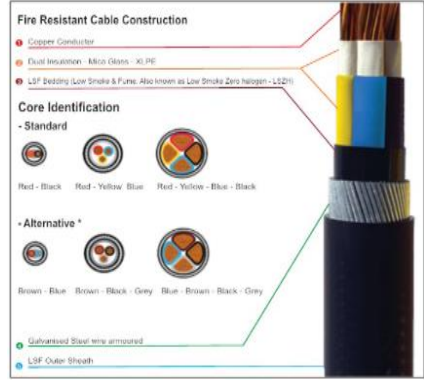
Resistance to Fire: CWZ of BS: 6387

IEC 60331 & F-2 of BS:7846

Smoke Emission: IEC 61034-1 & 2

Acid Gas Content: IEC 60754-1 & 2

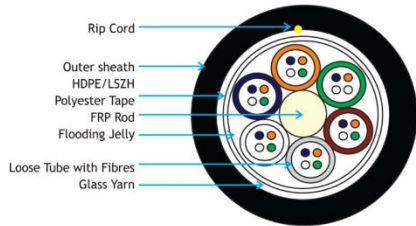
BS EN 50267-1&2



Optical Fiber Cables

Multi-Tube Design

Loose tube cables are the product of choice as the backbone in Outside Plant (OSP) environments. The loose tube design offers reliable transmission performance over a broad Rip Cord Temperature range. Optical fibers and water blocking elements are placed inside buffer tubes. The core is constructed by stranding the buffer tubes around FRP rod, the central strength member. The core is wrapped with flexible strength members covered with a water-blocking tape, then encased with a black jacket. A rip cord is included under the jacket for ease of entry.



Solar Cable as per TUV & UL Specification

Construction

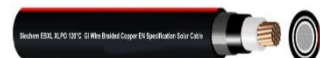
Conductor: Annealed Tinned copper according to IEC 60228, Class 5 or as per customer order

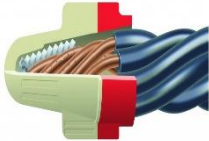
Insulation: EBXL-XLPO 120°C (Colour White, Red & Black) Other colours as per customer order

Jacket: EBXL-XLPO Highly Weather & UV Resistant (Colour Black, Blue, Red, Brown, Grey, Black with Red Strip)

Type of Solar Cables

TUV: Siechem Single & Multi Core and Screened Solar cables meets spec. 2 Pfg 1169/08.2007 **UL:** Siechem Single & Multicore and Screened Solar cables meets UL 4703 **Dual:** Siechem Single & Multicore and Screened cables to meet both TUV & UL spec.





WIRE CONNECTORS

The best connectors do more than fit the application. They also fit your hand. They feel good to use. 3M designs connectors that are as comfortable and easy to use as they are dependable. The complete line provides a wide range of connector choices. Simply choose the connector that fits your personal preference as well as the application.

Specification

- Wires feed better into the connector improving the security of the connection and increasing the level of pull out.
- A broad wire range reduces inventory. The versatility of 3M "plus" Wire Connectors saves time on the job and reduces inventory.
- Installation is smooth, fast and easy on the hands.
- The flexible skirt provides protection against potential shock situations.



MV HEAT SHRINK CABLE JOINTING KITS

3M Heat Shrink MV Splice Kit offers reliability and flexibility to meet the demands of cable network operators. The joints are available for 11, 22 & 33 kV. The kit provides a lightweight, compact, and environmentally sealed system for splicing extruded dielectric shielded power cables. The kit consists of heat shrinkable tubing, moulded parts, mastics and other accessories for making a complete joint.

Specification

- Quick Cable Preparation
- Suitable for all types of conductors and connection shapes
- Environmental sealing by specially developed sealants
- Effective and reliable stress control
- Compact dimensions
- Immediate energisation possible



ELECTRICAL MRO TAPES

3M Scotch® Vinyl tapes provide high dielectric strength along with resistance to moisture, UV rays, abrasion, corrosion, alkalis and acids. The aggressive, pressure-sensitive, rubber-based adhesive of the vinyl electrical tape performs well at both high and low temperatures. The fade-resistant colors of these vinyl tapes ensure fast identification of electrical phases, leads, piping and safety areas. Vinyl tapes from 3M provide primary electrical insulation for up to 600 volts and are effective in jacketing applications for high-voltage cables and wire harnessing.



Get durable and reliable protection that helps prevent failures and downtime in applications from 5-25 kV. 3M™ Heat Shrinkable Bus Bar Tubing BBI-5A covers and insulates rectangular, square or round bus bars, and resists splitting and solvents.

Suitable for copper or aluminum bus bars, metal-enclosed bus bars, metal-clad switchgear and substation switchgear, Made of red cross-linked polyolefin, Withstands temperatures of -67 to 230 degrees F (-55 to 110 degrees C)

Flame-retardant ASTM, IEC, ANSI, IEEE Approved and RoHS 2011/65/EU Compliant



3M™ Heat Shrinkable Rejacketing Splice Kit HSI Series is adhesive lined for watertight rejacketing of 15 to 35 kV JCN cable splices.

Designed for use with JCN cable splices
Rated for 15 to 35 kV applications

RoHS 2011/65/EU Compliant



3M™ Heat Shrink Tubing SMS is a dual wall tubing that is specially designed for automotive wire harnesses. This tubing has a 4:1 shrink ratio and semi rigid polyolefin construction with an internal layer of thermoplastic adhesive offers moisture seal protection.



Whether insulating, cleaning, preventing or protecting, 3M Sprays (Aerosols) offer the right product for the right application. 3M products are user-friendly and formulated for top performance.

All of these Scotch™ Sprays are complying with all European legal requirements including safety instructions printed on all spray cans.

ANTY-CORROSION SPRAY:

Scotch 1600 provides highly effective anti-corrosion protection. It's rubber-asphalt base forms a dense, abrasion resistant covering, that protects against moisture, spray salt water, all corrosive media and is resistant to the effects of physical impacts.



ZINC SPRAY:

3M™ Zinc Spray 16-501 is a dispersion of fine powdered 97% pure zinc in petroleum distillates. This spray is formulated to inhibit rust and corrosion of metal surfaces. It is suitable for use in transmission and distribution equipment including towers, transformers, light standards & other metal and galvanized surfaces.



Liquid Epoxy coating:

3M™ Scotchkote™ Liquid Epoxy Coating 323R is a two-part, ambient temperature cure, 100% solids content, thermosetting, liquid epoxy coating. Color match to Scotchkote™ 413.

6/box

no mix nozzles

Color match to 413/215PC

2A:1B





Fiberglass Cable Trays

Our perforated type of Cable Tray provides reliable cable support in the corrosive application. Both Polyester & Vinyl ester resin systems are available & all components incorporating U.V. Stabilizer & a surfacing veil to resist corrosive atmosphere.

Applications

- Chemical Plants
- Power Plants
- Effluent Treatment Plants
- Offshore Platforms
- Paper Plants
- Refineries

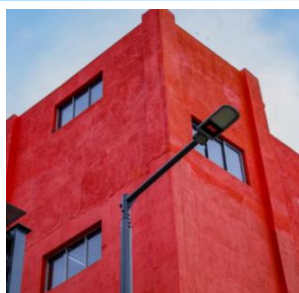


Fiberglass Poles

Sumip fiberglass light poles are constructed of Polyester/Epoxy resin systems & fiberglass woven roving with more than 65% of the reinforcing fiberglass in the axial vertical plane, increasing desired rigidity & axial strength. Sumip light poles and round tapered poles are available with two base options, direct Burial type & Anchor base type.

Applications

- Street Lighting
- Highway Lighting
- Docks / Water Fronts
- Offshore Platform



Fiberglass Enclosures

In 1994, Sumip introduced first hot press moulded fiberglass enclosures for electrical and instrument panel building. From the beginning, a commitment to innovation resulted in product developing into wide range.

Applications

- Temporary installations
- Electric panel control housing
- Water pump electric control housing
- Instrument Housing
- Meter box application
- Marine electric control housing
- Renewable energy electric control housing
- Telecommunications electronic control housing

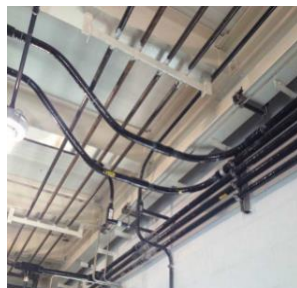


Fiberglass Conduits

Electrical systems perform in the toughest surroundings, underground or above grade. Our comprehensive range of products serves today's electrical, utility and telecommunication infrastructure construction needs.

Features

- Non-Metallic
- Rust or corrosion free
- Chemical Resistant
- No electric conductivity
- Light Weight
- Easy Joining



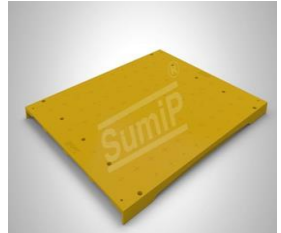
Fiberglass Ladders

Non-Conductive, Corrosion Resistance, Light in Weight, Shock Proof, Side Rails from Pultruded Channel, UV Stabilized, Flame Retardant, Economic in Long Run, High Strength to weight ratio, Low Thermal conductivity.



Fiberglass Trench Cover

Our entire range of products and systems are the results of continuous innovation, and research & development. We can provide competitive products in the market, which is becoming demanding, thanks to our modern and automated production facilities and high-quality standards.



Fiberglass Handrails

Pultruded gratings that can be used like traditional metal gates but with inherent benefits of Fiberglass. Lightweight and makes the installation easier. The unique crossbar construction allows easy cutting and modification of the grating panels to fit the requirements.

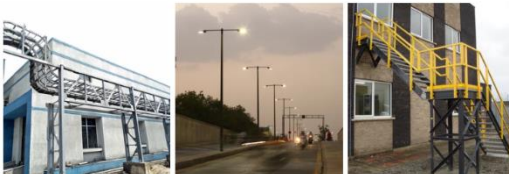


Fiberglass Cable Cleats

Sumip Trefoil Clamps are used to lay single core cables in Trefoil touching formation, which helps maintain magnetic symmetry, thereby avoiding electromagnetic heating and loss of current.



PROJECTS



1988

Year
Established

3000 +

Projects
Completed

15 +

Countries
Exported



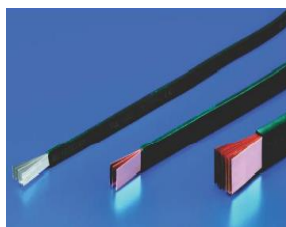
Introducing nVent ERIFLEX Flexbus

Innovative solution for connecting critical electric components: transformers, switchboards, generators and UPS. Use for applications from 500A to 4700A.

Flexibar or Flexible Busbar

Features

- Thin layers of tinned electrolytic copper formed into a stack
- Full range from 19.5 mm² up to 1200 mm² and 125 A to 2800 A
- Insulated by high-resistance, halogen free, flame retardant and low smoke material with less than 20% contact with conductor for high flexibility
- Easily bent, folded, and twisted, improving assembly flexibility, shortening connections, and decreasing footprint
- Dramatically smaller and more flexible than comparable cable based on ampacity



Specification

- Finish Tinned
- Dielectric Strength 20 kV/mm
- Flammability Rating UL® 94V-0
- Smoke, Toxicity and Acidity Rating IEC® 60754-2
- Insulation Elongation 500 %
- Insulation Thickness 1.8 mm
- Max Working Voltage, EN 50264-3-16,000 VAC/DC
- Working Temperature -50 to 115 °C



Low Voltage Insulator

Features

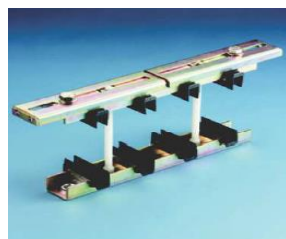
- Halogen Free
- High Resistance to Leakage Current
- Great stability of electrical and mechanical parameters
- Fiberglass reinforced
- UL recognized in E125470 and evaluated for dielectric withstand rating of 1500 VAC/DC
- RoHS compliant



ABS Adjustable Busbar Support

Features

- For use with ABS Adjustable Busbar Support Insulator Modules
- Drill holes in field for custom distances between phases
- Improve bending resistance by interlocking or stacking two profiles
- Attach profiles together or attach profile to the panel structure using ABS Adjustable Busbar Support Profile Stiffener
- RoHS compliant



Insulated Power Conductor

Features

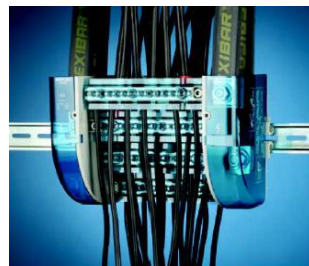
- Resistant to vibration, improving reliability and performance
- Insulated by high-resistance, halogen free, flame retardant and low smoke material
- Tinned copper provides superior corrosion resistance
- Improves assembly flexibility and aesthetics
- Quick and easy installation



Single Pole and Multi Pole Distribution Box

Features:

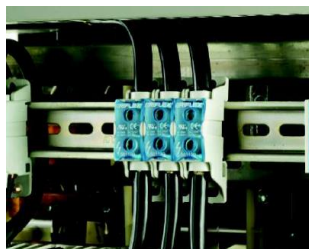
- Tinned copper or aluminium block allows for copper or aluminium conductor direct connections or using ferrule
- Screw retaining cover is hinged and removable
- Designs allows for visual inspection of conductor and confirmation of connection
- Modular snap-together blocks for building multi-pole power blocks
- Easily clips onto DIN rail or mounts to panel with screws
- 95% fill ratio
- RoHS compliant
- Conforms to EN 45545 obtaining an HL3 classification for chapter R23 and HL2 classification for chapter R22
- Halogen Free



Power Blocks and Power Terminals

nVent ERIFLEX offers a wide range of halogen free lug-to-lug, lug-to-tunnel, and tunnel-to-tunnel power terminals and fixing assemblies. The tinned copper block design allows for connections using copper or aluminum conductors while the accessible tunnels and studs allow for easy connections that can be visually inspected through the adjustable finger safe transparent cover. Conveniently gangable to allow for the construction of multi-pole power blocks, the power terminals are easily mounted onto DIN rails or directly to the panel itself using screws.

nVent ERIFLEX Power Blocks are the main DIN mounted output/input devices for connection between primary and secondary switchboard, or main input/output connection for machine or industrial equipment (such as inverter, air conditioning machines, etc.). The high short circuit rated large cross section blocks offer time savings and reliability in every panel configuration.

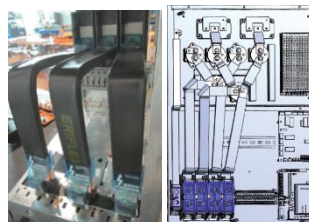


nVENT Electrical Solution

E-mobility is a continuously evolving field and EV manufacturers are expected to balance ever-increasing power requirements with moderate cost expectations. At nVent, we can leverage the expertise we have developed thanks to an extensive and comprehensive product range that brings together reliability and safety, by leveraging our ready-to-use solutions that reduce cost and space.

At nVent ERIFLEX, we provide technical expertise and innovative solutions that will help large OEMs or innovative start-ups be more efficient and greener while accelerating the adoption of EV technology (e.g reduced copper content vs bulky cables).

The nVent ERIFLEX solution addresses the main design constraints in the e-mobility charger market by offering compact, ready to install conductor solutions. We save space within the cabinet while reducing assembly labor time. Our conductor solutions are innovative, off-the-shelf or customizable and are fully compliant with all applicable Standards.





Multicable Transit

Features

Fire Rated, Gas-Tight, Water-Tight, Dust-Tight, Easy to maintain and inspect, provides built in spare capacity.

Fire: A-Class/ H-Class, **Tightness:** Gas: 2,5 bar (catastrophic) **Water:** 4 bar (catastrophic), **IP** 66/67, **Mounting Type:** Welding



Single Cable Transit

Features

Fire Rated, Gas-Tight, Water-Tight, Dust-Tight, Rodent Resistant, Quick and Easy to Install.

Fire: A Class, H Class, **EI** 60, **EI** 120, **UL1479**, **Tightness:** Gas 2.67 bar (catastrophic) **Water** 4 bar catastrophic, **Mounting Type:** Expansion



Enclosure

Features

Gas-tight, Watertight, Dust-tight, Rodent resistant, Easy to maintain and inspect, Provides built-in spare capacity

Fire: **EI** 60, **EI** 120, **UL 1479**, **Tightness:** Gas 1.5 bar (catastrophic), **Water** 3 bar (catastrophic), **IP** 66/67, **IP** 68, **Mounting Type:** Bolted, Casted



Underground Sealings

Features

Watertight, Rodent Resistant, Quick and easy to install, Easy to maintain and inspect

Tightness: Gas 0.3 bar (constant), **Water** 0.3 bar (constant), **IP** 68, **Mounting Type:** Casted



Application Areas

Traction Power:

Roxtec offers solutions to seal single and multiple cable and conduit penetrations into substations, switching stations, paralleling stations, wayside power control cubicles, aerial decks and overhead contact systems. Standardize with our seals to ensure reliable operations.

Signaling Rail Control:

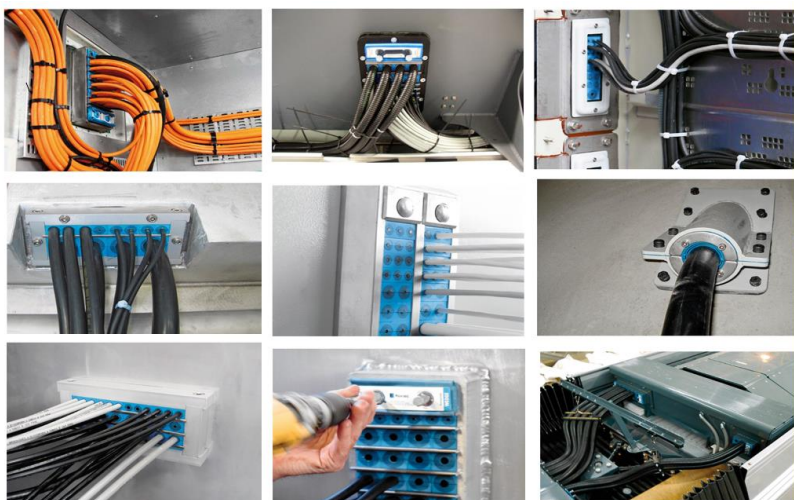
Roxtec seals are ideal for cable and conduit penetrations into signaling buildings, relay and control rooms, railway crossing shelters, trackside signalling cabinets and junction boxes. Use our area efficient solutions to protect cabling, electrical components, and electronic equipment in order to ensure operational reliability.

Communication:

Roxtec provides area efficient sealing solutions for GSM-R base transceiver stations (BTS), distributed antenna systems (DAS), data centres and communication shelters, including prefabricated shelters. Use them also to ensure tightness in enclosures, manholes and hand boxes.

Railway Station:

Roxtec seals meet flammability, smoke emission and toxicity (FST) requirements for railway stations. The seals are easy to install around existing infrastructure without disrupting operations. Use our solutions to ensure safety as well as long-term functionality in systems for passenger information and automatic fare collection.



Project Details in India:

Project Facts 1:

| | |
|--------------------------------|--|
| Project Descriptions: | Construction of metro and power supply to the trains |
| Owner: | Bangalore Metro Rail Corporation |
| Design and Engineering: | International consortium of RITES Ltd, PCI, PBI and SYSTRA |
| Contractor: | ABB Ltd. |
| Applications: | Sealing of 33 KV and 750 V DC cables on track and side wall below platform, routed into power control and supply rooms in metro station buildings. |
| Sealing requirements: | IP 66/67, watertight, fire-proof and dust-tight. Air-tight for efficient use of air-conditioning and as protection from rats, snakes and lizards. |

Project Facts 2:

| | |
|----------------------------|---|
| Project Description | Supply and fitment of EPDM module-based cable and pipe sealing system in conventional Elect. Locomotives WAG5/WAP4/WAG7 |
| Owner | ERS-POH Kharagpur Workshop, South-eastern Railway |
| PO Reference No: | ELT/2160/EPDM/14-15/PT-II/01 |
| Dated: | 31/08/2014 |

Project facts 3:

| | |
|----------------------------|--|
| Project Description | Supplying and installing of EPDM rubber based modular cable and pipe sealing for various locations in 7 stations from SKO to SAL |
| Owner | Chennai Metro Rail Limited |
| PO Reference No: | CMRL/CGM-EC/Stage-01/065/2016 |
| Dated: | 30/03/2016 |

RDSO approval information:

Roxtec is approved as manufacturer and supplier of cable transit system with EPDM Rubber module for Electric Locomotive as per spec no. RDSO/2008/EL/SPEC/0067, Rev-2 in part II Category.

Content:

- Based on unsuccessful completion of type test and performance report of users Railways, your application for fresh registration as a Part-II Source for manufacturing and supply of cable Transit System with EPDM Rubber Module for Electric Locomotive has been considered and name of your firm has been included in 'Master List approved vendors' as a part II source for subject item.
- It is advised that any design change, change of Bill of Material, Plant & Machinery and Quality Assurance Plane etc shall not be made without prior approval of RDSO.
- The effective date of approval is 04.12.2015.

SWITCHGEAR MODERNISATION SOLUTION



SOLUTIONS

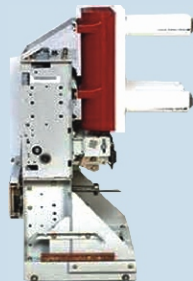
The modernization solutions, available for any manufacturer's low- and medium-voltage switchgear, will expand the capabilities of your electrical system with minimal downtime. Direct Replacement circuit breakers are designed to fit into the existing cubicle with little-to-no downtime since there is minimal (if any) outage to the equipment bus. Retro fill Solutions involve modifying the internal circuit breaker cell to accept the new circuit breaker. A bus outage is required for the modifications.

BENEFITS

Masterpact circuit breakers feature high ampere interrupting and short-time current ratings. Modbus™ communication protocol and field-installable devices.

Magnum medium-voltage circuit breakers are manufactured using totally new components including vacuum or SF6 arc interruption technology.

MV SPARES



BENEFITS

Spare parts with manufacturer warranty, A range of 800+ current and legacy low and medium voltage apparatus and equipment A database for fast identification of 15,000+ commercial references

SPARE PART IDENTIFICATION

Your equipment has been engineered to meet your specifications. Thanks to our spare part database, we can deliver the right spare part that fits your equipment and makes it available on site before an emergency happens.

SPARE PART AVAILABILITY

Stock the spare parts on your site or at one of ours stocking locations in more than 50 countries to cover your needs in case of emergencies. Delivery of the spare parts even 10 years after the end of product commercialization

RMU UPTO 24 KV :



Schneider
Electric

FBX

Fully SF6-insulated RMU switchboard for secondary distribution networks, available in compact or extensible installation footprints to best suit to your application.

Features

SF6-insulated switchgear for secondary distribution network, S₆ switch-disconnector, Protection through fuse combination or vacuum circuit-breaker, Two versions : FBX-C (Compact), FBX-E (Extensible), Compliant with IEC 62271-200, Rated Voltage: 12 / 17.5 / 24 kV, Bus-bar Rated Current: 630 A, Feeder Rated Current: 630 A, Rated Short Time Withstand Current : up to 21 kA 3s (up to 25 kA 1s for 12 kV), Internal Arc Containment : up to 25 kA 1s

Benefits

Simple Installation & Operation, Very compact with small dimensions, Easy installation and extension with plug-in connection, Very clear user panel with position indicators, Large front cable compartment for easy access to bushings, Improved continuity of service, Continuity of service LSC2A, Can be remotely controlled and monitored, Flood proof, Independent from environmental conditions even in highly, polluted areas, Maintenance free, Improved personnel safety, Internal Arc Withstand, Integrated interlocks for fool-proof protection Padlocking available for all operations, Environmentally friendly and fully recyclable

TRANSFORMER :



Schneider
Electric

PADMOUNT

For use on underground power distribution systems

LIQUID FILLED

TRANSFORMERS

All units are manufactured in accordance with applicable IEEE standards. The transformers are offered with either: Mineral oil or Less Flammable Seed oil. Primary voltages from 2.4 kV to 69 kV in 75 through 20,000 kVA sizes, 600 volt through 25 kV secondary voltage ratings are available.

SUBSTATION

LIQUID FILLED

TRANSFORMERS

Liquid-filled, substation transformers are used in a wide variety of commercial and industrial applications

All units are manufactured in accordance with applicable IEEE standards. The transformers are offered with one of 3 different fluids: Mineral oil, silicone transformer oil, and Less Flammable Seed oil. Primary voltages from 2.4 kV to 69 kV in 225 through 20,000 kVA sizes, 600 volt through 35 kV secondary voltage ratings are available.

MICOM PROTECTION RELAY :



OVER CURRENT EASERGY P3 PROTECTION

Easergy P3 is our latest protection relay for all common MV applications. It is designed for unparalleled efficiency, greater connectivity and enhanced safety to allow Panel Builders, Contractors and Partners to save time every day, whilst helping to ensure that critical assets and personnel remain protected.



MICOM P11x/P12x/P13x/P14x

The MiCOM is designed for the selective, short-circuit protection of high and medium-voltage networks, as well as for the overload protection of transformers, overhead lines and cables. Along with the wide range of protection functions, MiCOM also provides a number of surveillance functions.



SEPAM SERIES 20/40/60/80

Digital protection relays for current and voltage protection for any distribution system



VAMP SERIES 50

VAMP 50 series offers a comprehensive selection of modular protection relays for overcurrent, earth fault, voltage, frequency and line differential protection. Models available: VAMP50, VAMP52, VAMP55, VAMP59





ATS SERIES 230

FEATURES: (FOR LIGHT COMMERCIAL & INDUSTRIAL USE)

- 5 different frame sizes up to 800A
- Up to 415 V operating mode for both 50Hz & 60Hz
- Meets or exceeds the requirements of the following regulatory agencies
- PC Class ATS
- The utilization categories are AC-32A, AC-33B, and the ability to make and break is 10
- Unique contacts design limits contact bounce
- Different Operating Modes (Automatic, Remote Control and Manual)



PTS SERIES 300

FEATURES: (FOR COMMERCIAL & LIGHT INDUSTRIAL USE)

- Restriction of Hazardous Substances (RoHS) compliant controller
- 30 through 3000 amperes in a compact design
- Switch operating temperature range of 0 to +40 deg C
- Available to 600 VAC, single or three phases
- The Series 300 is listed to UL 1008 standard for total system loads for automatic transfer switches



PTS SERIES 4000
PTS SERIES 4000

CLASSIFICATION: (FOR INDUSTRIAL USE)

1. Four Pole, Closed-Transition Transfer Switch Rated 1000 amperes in Type 1 enclosure
2. Four Pole, Delayed-Transition Transfer Switch Rated 400 amperes in Type 1 enclosure

FEATURES:

- Conventional two-position transfer configuration, plus closed and delayed transition modes of operation. All configurations available with either automatic or non-automatic control.
- UL listed to 1008 Transfer Switch Equipment & CSA certified to CSA 22.2 No.178-1978 Automatic Transfer Switches.
- High withstand and close-on ratings including short time withstand current rating for optimum flexibility in circuit breaker coordination (800-4000 amperes).
- Rated up to 600 VAC, 30 through 4000 amperes. Reliable and field proven solenoid operating mechanism.



PTS SERIES 4000
PTS SERIES 4000

CLASSIFICATION: (FOR INDUSTRIAL USE)

The 4000 SERIES microprocessor controller is used with all sizes of Power Transfer Switches from 30 through 4000 amperes. It represents the most advanced digital controller in the industry and includes, as standard, all of the voltage, frequency, control, timing and diagnostic functions required for most emergency and standby power applications.

Because of severe voltage transients frequently encountered with industrial distribution systems, the microprocessor logic board is separated and isolated from the power board as shown below. This improves electrical noise immunity performance and helps assure compliance with the rigorous transient suppression standards highlighted below

PRODUCT RANGE



CRITICAL POWER MANAGEMENT

FEATURES:

- Understand power system and equipment status throughout the facility
- Quickly identify and resolve alarms to reduce downtime risk and increase reliability
- Monitor KW capacity and demand at any point in the distribution to effectively manage capital investments
- Ensure power quality compliance to increase capital life of business-critical equipment and devices
- Leverage existing network infrastructure and add existing legacy equipment



GAS FLOW CONTROL PANEL

ASCO relay control panels were originally designed to New York City Board of Education specifications to operate ASCO DC solenoid valves controlling gas flow to school kitchens, domestic cooking classes, ceramic and metal shops. ASCO relay panels may also be used in industrial and commercial installations where control of various gases and fluids are important.

FEATURES:

Reliability

ASCO's long experience in control assures a highly dependable system especially when used in combination with ASCO valves.

Silent Operation

Utilization of DC output provided by the relay panel to the valves eliminates constant AC hum.



LIGHTING CONTROL PANEL

ASCO 641 Lighting Control Panels are designed for automatic and manual on/off control of parking lot lighting, signs, building exterior lights, security lighting, interior safety lighting, and recreational lighting areas.

FEATURES:

- 3 standard models to choose from.
- Features ASCO 918 RC Contactors (electrically operated, mechanically held, designed for lighting applications) Quieter operation (no AC hum).
- Longer life expectancy for contactor.
- Fully rated for all types of lighting loads, including metal halide, mercury vapor, quartz halogen, tungsten, and fluorescent.

BENEFITS:

- Large dial, multifunction 7-day timer with reserve power feature or digital timeclock with battery backup (Models 641A, 641 S)
- ASCO 918 visual position indicators show open/closed position of each main contact.
- Fully rated for all types of lighting loads.
- High withstand current ratings.

SCHMERSAL PRODUCT RANGE:

SCHMERSAL
Safe solutions for your industry

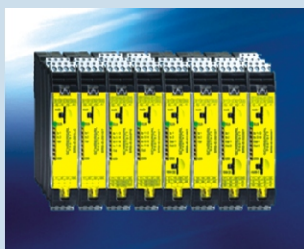


Solenoid Interlock: AZM400



The Schmersal Group is presenting an extension of its programme of solenoid interlocks. Characteristic properties of the AZM400 include the very high clamping force, the bistable active principle

Multifunction Safety Modules



The Schmersal Group is presenting a new family of safety relay modules with eight basic versions. All equipment versions can be employed in applications up to cat. 4 / PL

PROTECT PSC1



"With the new modular safety control system PROTECT PSC1, we have successfully achieved a significant development step. It is multifunctional and can optimally be adapted to the individual applications in the various sectors", explains Christian Runge, product manager at Schmersal.

Safety sensor RSS 16 with RFID



The housing will appear familiar to the users of electromagnetic safety switches because it has the same dimensions as the AZ 16 safety switch which is being used considerably in many industries around the world and is considered to be "the" safety switch.

Safety Light Curtains



The safety light curtains and light grids of the SLC / SLG 440 AS product range are now available with integrated interfaces for the bus system "AS-Interface Safety at Work" (AS-i Safety)

Position Switch



For Automation, Safety Applications and for Elevator Technology They are extremely compact, very robust and extremely versatile. The properties of these new Position Switches PS 116 are aimed at a wide range of applications across all disciplines of the machine and equipment manufacturers.

PRODUCT RANGE

SECURE PRODUCT RANGE:

SECURE

High precision, comprehensive
power quality measurements



precision class



graphical display

IEC

61850

in-built support



Apex 150



Apex 150 is a specially designed wall-mounted energy meter for bulk power transfer points where precise measurement and accurate revenue transactions are essential.

Apex 100



Apex 100 is a long range high-end precision meter specifically designed precise measurement at generation plants transmission substations and bulk power transfer points.

PT 1 Multi



PT1 is a range of compact configurable multiple measurand transducers designed to meet the demanding needs of supply utilities and industrial applications.

PT 1 Single



PT1 single is a range of compact configurable single input transducers designed to meet the demanding needs of supply utilities and industrial applications.

PT 1 Resistance



PT1 is a compact configurable resistance transducers designed to meet the demanding needs of supply utilities and industrial applications.

PT 3 Single



PT3 single is a range of compact configurable single input transducers designed to meet the demanding needs of supply utilities and industrial applications.

SECURE PRODUCT RANGE:



Quality

Secure / About us / What we do / Quality

Also in this section

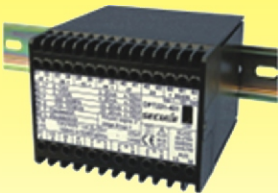
Quality Customer Finance Operations New product introduction

PT 3 Multi



PT 3 is a range of compact configurable multiple-input transducers designed to meet the demanding needs of supply utilities and industrial applications.

Digital Programmable Transducer



Our DPT range of programmable transducers measure electrical parameters including current, voltage, active power, reactive power, apparent power frequency and power factor.

Premier 300



Premier is our family of CT/VT operated meters which covers a wide range of power level and offers flexible time-of-use tariff metering and communications capabilities.

Saral



Saral is a compact, interoperable, intelligent credit single-phase meter, designed for domestic and small commercial applications.

Sprint 350



Sprint 350 is a three-phase direct-connected energy meter with advanced revenue protection features, interoperable communications protocol and support for reading in the absence of mains supply.

ECD 210



ECD 210 is an intelligent GSM/GPRS modem specifically designed for remote meter reading applications.

PRODUCT RANGE

SECURE PRODUCT RANGE:

SECURE



M-Cubed 100

Secure / Products / Transmission / M-Cubed 100



M-Cubed 100

M-Cubed 100 is Windows-based software for meter reading, and for configuring meters and modems manufactured by Secure.

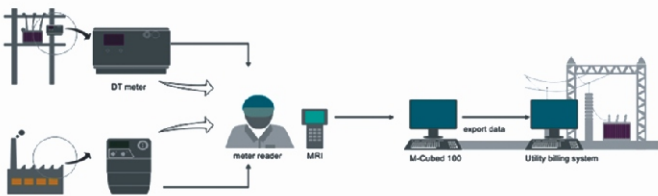
M-Cubed 100 is Windows-based software for meter reading, and for configuring meters and modems manufactured by Secure. It helps utilities to improve their billing efficiency by eliminating the errors that arise from manual data punching. Meters can be read remotely, via a modem, or directly, using a meter reading instrument (MRI). M-Cubed 100 has an intuitive user interface for meter data viewing and report generation, which helps in effective data management. Meter data can be exported for processing by the utility's billing function.

Features:

- Manual and automatic meter reading
- On demand and scheduled remote reading for small deployments, through GSM/GPRS
- Reporting, based on meter data
- Viewing of meter data
- Meter and modem configuration
- Automatic exporting of meter data

ARCHITECTURE:

Meter reading and billing





ELECTRICAL CONNECTION SYSTEM Copper Compression Cable Lugs

For round conductors, e.g. to DIN EN 60228 Cl. 1, 2, 5 and 6

- For non-tension copper cables, e.g. to DIN 48201-1
- For pre-rounded multi-stranded sector shaped conductors
- With code number for clear tool assignment
- To DIN 46235



Aluminium Compression Cable Lugs

For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium cables to DIN EN 50182
For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium cables to DIN EN 50182

- For pre-rounded sector shaped conductors
- To DIN 46329
- With code number for clear tool assignment
- Filled with contact grease for optimum crimp characteristics



Aluminium/Copper Compression Cable Lugs

For non-tension connections of aluminium conductors to DIN EN 60228 and aluminium open wires to DIN EN 50182 and pre-rounded sector shaped conductors

- Tube dimension to DIN 46329
- With code number for clear tool assignment
- Filled with contact grease for optimum crimp results



CRIMPING TOOLS

Mechanical Crimping Tools

One crimp profile per cross-section

- Lateral insertion (side crimping)
- Simple and safe: Easily select the correct cable size thanks to clear marking on the crimping tool
- Optimum handling due to ergonomically-shaped handle



Electromechanical Crimping Tools, 0.14 - 50 mm²

The Klauke micro with intuitive PowerSense function combines the benefits of manual crimping pliers with the convenience of battery powered hydraulic crimping tools.
Excellent crimps with minimum effort





CRIMPING TOOLS

Battery Powered Crimping Tools

Long service life thanks to robust head
Optimum crimping due to parallel guided crimping dies
Effortless working thanks to low weight
Powerful 10.8 V Li-Ion battery technology with battery charge indicator



Hand Operated Hydraulic Crimping Tools

For standardised crimping dies to DIN 48083
Effortless operations thanks to low weight



CUTTING TOOLS

Mechanical Cutting Tools

Perfect in confined areas
Handy shape with high cutting performance
Exceptional cutting tool for solid, multi, fine and superfine stranded cables e.g. to DIN EN 60228, Cl. 1, 2, 5 and 6
Increased user convenience thanks to two cutting profiles for small and large cable dimensions



Battery Powered Cutting Tools

For cutting cable trays, bolts and medium-hard steel wire (e.g. ST 37)
Slim cutting head - ideal when space is critical
Powerful 10.8 V Li-Ion battery technology with battery charge indicator



Hydraulic Cutting Heads and Cutting Systems

High cutting force cuts armoured copper and aluminium cables and Al/St cables (ACSR)
Also suitable for round material made of Al, Cu and steel





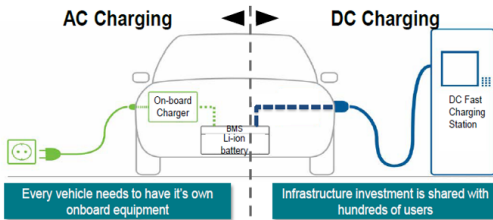
EMOBILITY ECOLOGY



Electric vehicles reduce pollution only if a high percentage of the electricity mix comes from renewable sources and if the battery manufacturing takes place at a site far from the vehicle use region. Industries developed due to increased electric vehicle adoption may also cause additional air pollution. The Indian government has committed to solving New Delhi's air pollution issues through an ambitious policy of switching 100% of the light duty consumer vehicles to electric vehicles by 2030.

EV CHARGING TYPES

- On-board versus Off-board equipment



Complete range of energy efficiency EV charging solutions with DC Quick Chargers, AC Chargers and Site management system. Convenient uses in multiple applications like Highway Service, Parking Space, Service Stations, Residential & Commercial Buildings. Maximizing convenience for system operators and EV drivers through smart network communication capabilities.

AC DESTINATION



PRIVATE CHARGING EVENTS 60%

- Single House
- Apartment
- Multi-dwelling/ Workplace

4 – 8 hours

DC DESTINATION



CAR PARK & DESTINATION CHARGING EVENTS 15- 35%

- Retail and Hospitality
- Business Workplace
- Fleet (Business, Logistics)

1 – 4 hours

DC HIGH POWER



HIGHWAY CHARGING EVENTS 5%

- Parking Lot
- Service Station
- Intercity Charging Network

10 – 30 min

DC Charger

Delta DC chargers have a power output ranging from 25kW to 200kW. With high power efficiency as well as multiple outputs and charging interface options, our DC chargers can optimize the operating costs of public and commercial charging services, especially in a space-limited sites.



DC Wallbox



City Charger 100kW



SLIM 100

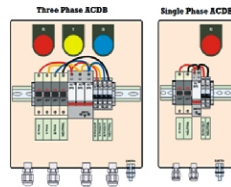


UFC 150 Ultra Fast Charger

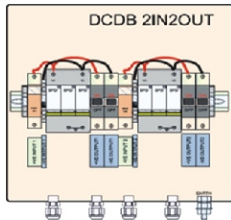
SOLAR SOLUTIONS :

ACDB
SYSTEM

A distribution board (also known as panel board or breaker panel) is a component of an electricity supply system which divides an electrical power feed into subsidiary circuits, while providing a protective fuse or circuit breaker for each circuit. The ACDB receives the AC power from the solar inverter and directs it to AC loads through the distribution board. The main purpose of the Solar ACDB, Solar AC Combiner Box is to eliminate the operation of the load at the immediate PCU O/P end and provide flexible operation of different loads like Street lights, general home or office lights and optional loads that optionally operated (On/Off). AC Combiner Box is also called inverter combiner box. It is basically a bigger version of ACDB. ACCB is used in place of ACDB in large solar PV power plants where there are several inverters.

DCDB
SYSTEM

The DC Distribution Box is used to provide flexibility for the operator of the solar power plant to disconnect and connect both the inward solar supply and battery terminals. Here an MCCB and a fuse of proper rating depending upon the capacity of the power plant and the battery bank are used. In the DCDB we have two sections one is the solar section and the other is the battery section. In solar section the incoming terminals from the MJB are fed to the input connectors and the conduction path takes place through the MCB and a HRC Fuse of proper rating selected as per the system capacity and the panel used in the power plant. The same is done for the incoming terminals from the battery bank.



SOLAR SOLUTIONS :



ARRAY JUNCTION BOX

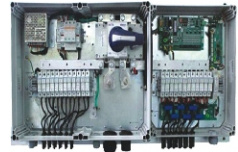
Array Box is a junction box which allows several photovoltaic strings (from 8 to 32) to be connected in parallel. The total DC power is then distributed to the photovoltaic inverter. It includes photovoltaic string protection, overvoltage protection and a DC output switch disconnect. They are well adapted for Power plants as well as for photovoltaic large buildings. The Array Box also integrates a monitoring module and communicates through Modbus protocol with the monitoring devices (iRIO, XLRIO) located in the inverter substation. For each string of panels, Array Box realises DC current measurement (0 to 20A per string). The DC voltage (up to 1000Vdc) is also measured and abnormal behaviour or failure are detected. Array Box can also propose safety opening control and remote control of the switch disconnect.



STRING COMBINER BOX

In a photovoltaic system, the modules are arranged in strings and fields depending on the type of inverter used, the total power and the technical characteristics of the modules.

Sarthak offers a plug & play solution that accommodates not only the inverter but also the overcurrent protection devices, disconnectors and surge protective devices (SPDs) in one solar combiner box. Depending on the application combiners are equipped with monitoring devices to measure the current, voltage and temperature to ensure the availability of the strings and to maximize generation. The string combiner boxes form subsystems that can be standardized according to the number of strings, voltage and rated current.



SOLAR PRODUCTS



AC SPD



DC SPD



AC MCB



DC MCB



SOLAR HT & LT PANEL



SOLAR INVERTER



SOLAR VFD

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