

**Raychem *RPG***



Connecting the Future

# Future is in Smart Foundation

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Raychem RPG (P) Ltd., incorporated in 1989, is a 50:50 Joint Venture between TE Connectivity, U.S.A. and RPG Enterprises, India. It is the longest running successful joint venture in India for over 30 years.

RRL offers a wide range of low and extra high voltage cable accessories, insulation & protection, covered conductors, connectors & fittings, cable management solutions, junction boxes, electrical safety products, distribution transformers, gas metering solution, earthing & lightning protection systems and build-to-print solution.

RRL's products and solutions cater to key sectors of economy like industries, utilities, infrastructure, and building. With manufacturing operations at Vasai, Naigaon, Halol and Chakan in India adhere to global practices of excellence and receive support from well-equipped in-house engineering team as well as tooling team that contribute to precision in manufacturing. For you, this means foundation of trust and commitment.

# Future is in Smart Solutions

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RRL's range of products offers solutions to many sectors – utilities, industrial, building, mega-retail, airport, data center, hospitality, power generation-transmission-distribution, mining, transportation... and more. The products in our range are designed to perform efficiently, even in harsh conditions. Our products are designed for user/ installer convenience & safety. Our products have features that ensure quality and reliability of power, shrink distribution & transmission losses and efficient management of energy. Technologically superior, elegantly designed, RRL's products offer high value.

For you, this means a range that is as wide as your needs.

# Future is in Smart Distribution Network

**60<sup>+</sup>** Global Channel Partners

**120<sup>+</sup>** Channel Partners

RRL's has a strong distribution network with over 180+ channel partners located in India and across the globe. Ready access to world-class products, speeds up your project, reducing the downtime. For you, this means convenience and easy availability of our products.

# Future is in Smart Engineering

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Comprehensive knowledge and learning in design and engineering over the last three decades have helped us set up a strong technical base and offer contemporary products that are on par with international quality and reliability.

Based on the feedback of customers like you, our team of 50+ design engineers continuously researches on improvement and unexplored ideas in material science, electrical design and industrial product engineering.

This enables us to identify gaps in the marketplace and offer you new, innovative products. Unique differentiation in products, achieved through innovation, adds to our knowledge bank. These are protected through continuous filing of Intellectual Property, and help maintain our leadership position in the market.

For you, this means embracing the latest technology.

# Future is in Smart Manufacturing Facilities



Halol Plant **23** Acres



Vasai Plant **04** Acres



Naigaon Plant **2.5** Acres



Chakan Plant **11** Acres



We have state-of-the-art manufacturing facilities at four locations in India (Vasai, Naigaon, Halol and Chakan). With strong capability in lean manufacturing operations results in an optimised and cost-effective products.

RRL manufactures a wide range and variety of products at these facilities using conventional as well as contemporary processes and exclusive material including packaging items, which are environment friendly.

We have implemented smart manufacturing practices like integrated workstations, error-free assembly and streamlined techniques of production. Adoption of internationally acclaimed tools and techniques, combined with automation and digitization at each stage of manufacturing ensures high level of productivity, quality, reliability, safety and morale. As a testimony to our disciplined and structured working as well as self-reliance, each of our manufacturing facilities is certified for their continued compliance to international standards like ISO 9001, ISO 14001, and OHSAS 18001 for the Quality, Environment, Health and Safety Management Systems respectively. Besides, these facilities have been certified for ISO 50001 and ISO 27001 for their Energy and Information Security Management Systems.

For you, this means international quality products.

# Future is in Smart Services

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Our wide range of Products matches and exceeds global benchmarks for reliability and quality. However, in order to ensure that your business sails smoothly through any electrical turbulence, every element should be in perfect working condition.

At RRL, we offer you the benefit of three decades of experience in providing after-sales service for various systems in every type of industry. With over 50+ service engineers & authorised service contractors – equipped with highly-skilled technicians, we offer prompt response to requests that can ensure better functioning of your systems.

For you, this means interruption-free operation and peace of mind.

## CABLE ACCESSORIES





## LOW VOLTAGE CABLE ACCESSORIES

### RVSJ - Rayvolve Low Voltage Cable Connection Kits

#### Features

- Suitable for voltage upto 1.1 kV, cable from 25-400 Sq.mm.
- Conforms to EN 50393
- Suitable for XLPE / PVC Power Cables
- Available in Connector Type - Crimp or Mechanical
- Sleeve type : Armour cast tape"
- The gripping force of the specially formulated EPDM elastomer combines with a high-performance sealant to form a reliable, water & dirt resistant, insulating sleeve
- Easy, Tool-free installation thanks to the smart dual-wall design with an entrapped lubricant, making installation without any special tools



### EPKJ - Inline Joints for Polymeric Cables up to 1kV

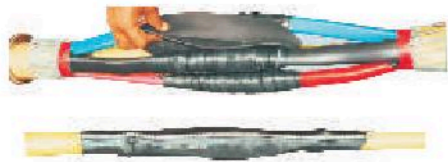
#### Features

- Conforms to IS 13573-1 / EN 50393
- Suitable for voltage upto 1.1 kV, cable range of 2.5 - 630 Sq. mm.
- Suitable for XLPE / PVC Power Cables
- Built-in Tin plated Cu earthing braid
- Connector Type - Crimp
- Sleeve type : Tubular

### ECKJ - Straight Through Joint Kit

#### Features

- Conforms to IS 13573-1 / EN 50393
- Suitable for voltage upto 1.1 kV, cable range of 1.5 & 2.5 Sq. mm
- Suitable for Muticore Control Cables
- Built-in tin plated Cu earthing braid
- Connector Type - Cu Crimp
- Sleeve type : Tubular



### RLVJ - Straight Through Joint

#### Features

- RLVJ kit comes with Cold Applied unique mastic coated insulating tape and Heat Shrinkable wraparound sleeve
- Suitable for voltage upto 1.1 kV, Seven sizes cover wide range of cable from 6-400 Sq. mm.
- Conforms to IS 13573-1 / EN 50393
- Suitable for XLPE / PVC Power Cables
- Connector Type - Crimp

## MEDIUM VOLTAGE CABLE ACCESSORIES

### EPKT / HVT - Heat Shrinkable Termination System for Cables up to 36kV

#### Features

- Conforms to IS 13573-2
- Suitable for voltage upto 36 kV, cable range of 35 - 1000 Sq. mm.
- Suitable for XLPE Power Cables
- Built-in Tin plated Cu earthing braid
- Connector Type - Crimp
- Sleeve type : Tubular



### IXSW/OXSW - Heat Shrinkable Termination System for Cables up to 36kV using ZnO Technology for Stress Control

#### Features

- No sheds for indoor applications up to 42 kV
- High-performance termination material
- New ceramic stress control system
- Compact design
- Few components
- Simple to install, high reliability
- Mechanical robustness
- Range taking
- No shelf life limitation

### EPKJ/HVS-X/HVCJ - Heat Shrinkable Joints for Screened Plastic and Rubber Insulated Cables up to 36 kV

#### Features

- Conforms to IS 13573-2
- Suitable for voltage upto 36 kV, cable range of 35 - 1000 Sq. mm.
- Suitable for XLPE Power Cables
- Built-in Tin plated Cu earthing braid
- Connector Type - Crimp
- Sleeve type : Tubular & wraparound



### MXSW - Heat Shrinkable Joints for Screened Plastic Insulated Cables up to 36 kV including Mechanical Connector

#### Features

- Conforms to IS 13573-2
- Suitable for voltage upto 36 kV, cable range of 35 - 1000 Sq. mm.
- Suitable for XLPE Power Cables
- Built-in Tin plated Cu earthing braid
- Built-in Mechanical connector
- Sleeve type : Rayfit Tubular

## MEDIUM VOLTAGE CABLE ACCESSORIES

### RPIT - Switchgear Inner Cone Termination

#### Features

- Conforms to size 2 & 3 bushing as per EN50180 / EN 50181
- Plug-in single as per core termination for Inner cone bushing
- Separable inline connection for high current, gas insulated switchgears up to 42 kV



### ELBC - Switchgear Outer Cone Termination

#### Features

- Conforms to type C bushing as per EN50180 / EN 50181
- Suitable for voltage upto 36kV & current upto 1250 Amps, wide cable range of 35 - 800 Sq. mm.
- Screened, Separable elbow connector for Type C bushing
- Built-in Trifurcation Kit for three core version
- Connector Type - Mechanical
- Removable rear plug with capacitive test point
- Earthing Eye and Ground lead provides a connection point for earthing the screen



### RSTI - Switchgear Outer Cone Termination

#### Features

- Conforms to type C bushing as per EN50180 / EN 50181
- Suitable for type c bushing as per voltage upto 36kV & current upto 1250 Amps, wide cable range of 35 - 800 Sq. mm.
- Screened, Separable elbow connector for Type C bushing
- Built-in Trifurcation Kit for three core version
- Connector Type - Mechanical
- Removable rear plug with capacitive test point
- Earthing Eye and Ground lead provides a connection point for earthing the screen



## HIGH VOLTAGE CABLE ACCESSORIES

### IHVT-H/OHVT-H- Heat Shrinkable Termination

The Raychem heat-shrinkable terminations 52 kV to 72 kV are suitable for all climates, areas, and environments, even severely polluted areas, as well as for all installation conditions, including top feed installation.

#### Features

- Heat-shrinkable stress control sleeves
- Compact and modular design
- Non-tracking, heat-shrinkable outer insulation
- Water- and corrosion-resistant
- Different creepage distances available
- Easy to install
- Suitable for compression and mechanical lugs
- No special or expensive tools
- Lightweight components
- Unlimited shelf life under normal storage conditions
- No oil or compound filling
- Reduced waste for disposal



### FCEV- Heat Shrinkable Terminations for DC Filter Cables

The cable is prepared in the same simple and easy way as for Raychem medium voltage terminations without sanding or penciling. Based on the design of Raychem high voltage terminations, the filter cable termination consists of a staggered layer of stress control tubing's and patches.

A heat-shrinkable non-tracking insulation tubing and shed are shrunk over the stress control system and ensure a reliable seal to the lug and the over sheath. A mechanical lug is supplied with the kit. The termination is supplied as a single-phase termination.

#### Features

- Heat-shrinkable stress control sleeves
- Compact and modular design
- Non-tracking, heat-shrinkable outer insulation
- Easy to install
- No special or expensive tools
- Lightweight components
- Unlimited shelf life under normal storage conditions
- No oil or compound filling
- Reduced waste for disposal



### EHVS-H- Heat Shrinkable Joints

The Raychem heat-shrinkable Joints 52 kV to 72 kV are suitable for all Polymeric insulated cables of various designs can be adapted with respect to shielding and metal sheath. Our heat shrink accessories have been used by utilities and industrial companies around the world for more than 40 years. This ongoing field experience has us a leader in materials science and technology for high voltage applications. Our materials technology is at the core of the development of our heat-shrinkable joints. The materials, used in Raychem cable accessories, have been extensively optimized with respect to product design and function, manufacturing, and expected service environments.

#### Features

- Compact and modular design
- Heat-shrinkable stress control sleeves
- Torque-controlled connector
- Joint fits on all polymeric cable constructions
- Proven shield continuity concept
- Short cut-back dimension
- Cable size transition possible
- Water and corrosion-resistant
- Easy and fast to install
- No special or expensive tools required
- Lightweight components
- Unlimited storage life-time under normal conditions
- Reduced waste for disposal



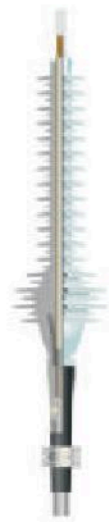
## EXTRA HIGH VOLTAGE CABLE ACCESSORIES

### OHVT-C- Outdoor high Voltage Terminations Composite type

The termination is designed for voltage classes 72 kV to 245 kV and to operate under severe environmental conditions. Polymeric insulated cables of various designs can be adopted with respect to shielding and metal sheath. Composite housings are supplied with suitable creepage for the most common and extreme pollution levels according to IEC 60071-1 and IEC 60071-2.

#### Features

- Pressure-tight and light weight composite housing
- Pre-fabricated and factory-tested Silicone-rubber stress cone
- Torque-controlled conductor bolt
- No special tools required to install the termination
- Insulating-oil filling without preheating
- Insulated base plate for sectionalization
- Fittings made of corrosion-resistant alloy
- Type tested according to IEC 60840 and IEC 62067 standards



### OHVT-DF- Outdoor high Voltage Dry Flexible Termination

The dry flexible outdoor termination is designed for voltage class 145 kV and operation under severe environmental conditions. It is free from any insulating liquid or gel. Polymeric insulated cables of various designs can be adopted with respect to shielding and metal sheath.

#### Features

- Single piece termination body with premoulded stress cone
- 100% routine tested
- Creepage distance 4590 mm
- Light weight, less than 35kg
- Easy installation and fast assembly
- Maintenance-free in service
- Install in any position

### EHVS-S- Energy High Voltage Splice Single Piece

The joint is a pre-fabricated one-piece design for voltage classes 72 kV to 245 kV. Polymeric insulated cables of various designs can be adapted with respect to shielding and metal sheath. The silicone rubber joint body with integrated geometrical stress control, provides proven electrical function. The joint components combine electrical performance, stress control and moisture sealing to provide the important functions required for all high voltage products

#### Features

- Premoulded one-piece joint body
- Torque-controlled connector
- Choice of outer Sealing and protection systems
- Joint fits on all polymeric cable constructions
- Proven shield continuity concept
- Factory-tested silicone-rubber body
- Special silicone rubber provides perfect compression force for optimised electrical performance
- Simple assembly
- No tension set of joint body
- Geometrical electrical stress control by moulded conductive deflectors
- Type tested according to IEC 60840, IEC 62067 standards



## EXTRA HIGH VOLTAGE CABLE ACCESSORIES

### EHVS-T- Energy High Voltage Splice Three Piece

The joint is a pre-fabricated three piece design for voltage classes up to 145 kV. Polymeric insulated cables of various designs can be adapted with respect to shielding and metal sheath. The silicone rubber joint parts with integrated geometrical stress control provides proven electrical function. The joint components combine electrical performance, stress control, and moisture sealing to provide the important functions required for all high voltage products

#### Features

- Premoulded three piece joint design
- Torque-controlled connector
- Joint fits on all polymeric cable constructions
- Proven shield continuity concept
- Factory-tested silicone rubber bodies
- Special silicone rubber provides perfect compression force for optimized electrical performance
- Short cut-back dimensions
- No special tools required to install the joint
- Cable size transition possible
- No tension set of joint body
- Moulded outer conductive screen
- Geometrical electrical stress control by moulded conductive deflectors
- Type tested according to IEC60840 standards



### PHVS/PHVT- Dry Plug-In Switchgear and Transformer Terminations

The dry compact switchgear termination for voltage classes 72 kV to 245 kV is designed to be installed in cable entry housings of gas-insulated switchgear (GIS). It complies with IEC 62271-209 standard, which essentially specifies the interfaces between the termination and the switchgear. Therefore, the termination will fit into all GIS that comply with IEC 62271-209.

Adapters are available to match the dimensions of wet (oil-filled) type terminations, and older designs specified in IEC 60859. The termination operates in SF6 but also in insulating liquids like transformer oil.


A corona shield at the top of the termination then provides the necessary shielding for the terminal.

The termination is easily separable and consists of a plug-in part and an epoxy resin insulator. The insulator can be installed by the GIS or transformer manufacturer directly at the factory, saving installation time on-site and reducing the risk of contamination of the cable entry housing

#### Features

- Dry interfaces, no oil-filling
- Dimensions comply with IEC 62271-209
- Pressure-tight resin housing
- Operates in SF6 and insulating liquids
- Pre-fabricated and factory-tested silicone-rubber stress cone
- Torque-controlled or wedge-type multi-contact conductor bolt
- No special tools required to install the termination
- Insulated cable gland for sectionalization
- Type tested according to IEC 60840, IEC 62067 and IEC 62271-209 standards





## CABLE MANAGEMENT SOLUTIONS

## Connectors & Fittings for MVCC

### Features

- IPC for Insulated to Insulated / Insulated to Bare connections
- Anchor Clamp & Suspension Clamp with Built-in Insulation Piercing mechanism
- Waterproof IPC's with long neck 13mm shear head nut ensuring reliable installations
- IPC Contact plates made of copper bolt made of steel with Geomet (Chromium free) protection
- String Hardware with bolted type clamps
- Anchoring clamp, Suspension clamp, IPC and Cable Tie confirms to EN 50397-2



## Connectors & Fittings for LV ABC

### Features

- For Bare & insulated messenger application
- Complete range of LV ABC accessories with IPC's, Connecting Sleeves (MJPT), Bi-metallic lugs (CPTAU), Anchoring/tension clamps, suspension clamp, eye hook, & Pole clamp
- Waterproof IPC's with long neck 13mm shear head nut ensuring reliable installation
- IPC's Conforms to NFC 33020 and EN 50483-4 Standards
- Connecting sleeves (MJPT) & Bi-metallic lugs (CPTAU) comes with colour code of elastomeric sealing ring allows an easy identification of the cross sections.



## Clamps & Connectors for HVCS

### Features

- Bolted Connectors
- Terminal connectors for equipment to conductors/IPS aluminum tubes
- PG Clamps, T Connector, Inter-connector, Welding sleeve, Support connectors, Corona bell, Sliding connector, Elbow connector etc.
- Inhouse Gravity die-casting (GDC) & Sand-casting facility
- Approved by major state & Central utilities like PGCIL, NTPC etc Upto 765kV



## AMPACT C-Wedge Connector & Universal Distribution Connector (UDC)

### Features

- Boltless connector
- Conforms to IS 5561 and ANSI C 119.4 (class AA) standards
- Fail Safe, Self locking and elastic property of material.
- Maintenance Free Connectors
- Re-usable two-piece connector
- Offers Uniform Mechanical Stress Distribution, Increased Electrical Contact Area & Higher Strength
- The wedge is inserted at a very high-speed using the AMPACT connector tool & booster
- Easy, uniform & time saving installation method
- Boltless connection
- Used for distribution connection upto 50mm<sup>2</sup> connector
- Re-usable two piece connector with locking window for better visual indication
- Made of tin platted Copper alloy
- Simple connection methodology using piler.



## Cable Lugs & Connectors

### Features

- Available in Copper, Aluminum & Bi-metallic
- One, two & four stud hole options
- Barrel have variety such as Standard, Long, Heavy duty & Bell mouth
- With/without and rectangular notch inspection window options
- Ferrule are Internally beveled wire entry for easy conductor insertion
- Available in Short, Standard, Long & DIN barrel options
- Terminal ends used for light duty application that incorporates a wire crimp connection and a bolted stud hole connection
- Terminal ends available in Non-insulated & insulated option with colours.
- Fork, Ring, Pin, Blade, Bootless types with separate DIN sizes options



## Clamping

### Features

- Cable ties available in coated & uncoated version
- Flammability Rating : UL94 fireproof, Halogen free and UV-resistant
- Ball lock, Spring type, releasable type & Ladder type cable ties options
- Rounded edges and Smooth Surfaces for safe handling
- Comes with Identification system such as alpha numeric characters, marker tags & plates
- Available in SS304 & SS316 material
- Packed in easy-to-use plastic tote dispensers, available in 4 colour codes based on band widths. Carton box packing also available



## Cable Glands

### Features

- Designed for robust mechanical fastenings, stringent ingress protection & reliable earth continuity
- Comprehensive range of cable glands solutions for all types of cables (armored and unarmored) for industrial & explosive atmospheres applications
- Available in Brass / Nickel Plated Brass finish
- Gland sizes M16 to M100 with Ingress Protection IP66 (Changes as per range)



## JUNCTION BOX

### Aluminum Junction Box

#### Features

- Material provide high impact strength and rigidity.
- Superior working temperature of -40 degree Celsius to 135 degree Celsius
- Excellent dimensional stability and electrical properties.
- Good resistance to chemical attack (painted)
- Good heat sink properties.



### Fire Rated Junction Box

#### Features

- Intrinsic fire resistance in accordance with DIN 4102 PART 12 ( German standard ) in combination with fire survival cable and ceramic terminal block
- Intrinsic fire resistance from external flame , water and external impact with BS 6387:2013 in combination with fire survival cables & ceramic terminal block
- Protection against accidental is ensured by enclosure .
- Cable junction box can be used for tunnel application



### Aluminium Junction Box

#### Features

- Material provides high impact strength and rigidity.
- Superior working temperature of -60 degree Celsius to 140 degree Celsius
- IEC 60529 Certified for protection class.
- Available in plain and powder coated



### Stainless Steel Junction Box

#### Features

- Stainless steel's ability to resist corrosion comes from its chemical composition
- Superior working temperature of -20 degree Celsius to 80 degree Celsius
- Excellent dimensional stability and electrical properties.
- Provides high resistance to corrosion and ensures performance of equipment



### GRP Junction Box

#### Features

- Fiber Glass, a thermoset polyester material reinforced with fiber glass
- Superior working temperature of -40 degree Celsius to 150 degree Celsius
- Flexible provision for Earthing ,Din rail and Mounting plate
- IP 66 and IP 67 & IP 68 on request



### GRP Junction Box

#### Features

- Fiber Glass, a thermoset polyester material reinforced with fiber glass
- Superior working temperature of -60 degree Celsius to 110 degree Celsius
- UL 94 V0 certified for Flammability
- IEC 60529 certified for protection



# TRANSFORMER

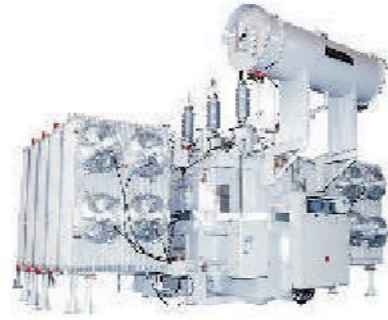


## POWER TRANSFORMERS

**Rating: Upto 60MVA, 145KV, 3Ph Transformers**

### Features

- Robust design and sturdy construction to competently handle short circuits
- Mineral Oil, Silicon Oil, Ester Oil as per requirement
- Step lap construction and mitred joint for core
- Winding material: Copper or Aluminium
- Applicable standards: IS, IEC, ANSI, IEEE etc.,
- Available in both ONAN,KNAN and ONAF cooling
- Contra shield winding for uniform voltage distribution
- Winding construction available with continuously transposed conductor

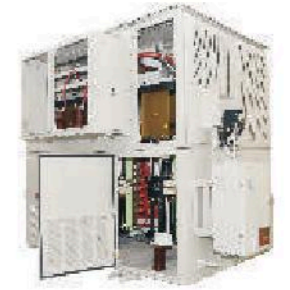


## Cast Resin Transformers

**Range: Upto and Including 20MVA, 33KV, 3Ph Transformers.**

### Features

- Available in Distribution & Converter Duty Applications
- Winding material - Copper / Aluminium
- High impulse and Dynamic short circuit strength
- Low partial discharge
- Non hygroscopic & fire retardant with self-extinguish property
- IP protection upto IP44
- Class of Insulation : F (155 deg c) & H (180 deg c)
- Available in OCTL, OCTC & OLTC



## SPECIAL TRANSFORMERS

### Converter Duty Transformers: Upto & Including 40MVA, 33KV, 3Ph Xmer

#### Features

- K rated Transformers
- Designed to accommodate harmonics
- Highly efficient and durable
- Automatic ON/OFF cooling options



### Inverter Duty Transformers: Upto & Including 20MVA, 33KV, 3/5 winding Xmer.

#### Features

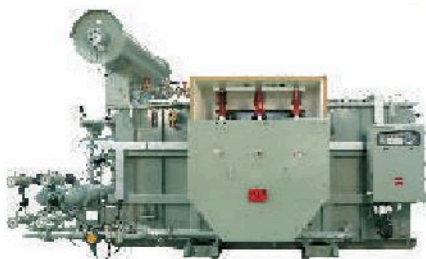
- Suitable for Solar load profile
- Designed to withstand voltage excursions due to pulsed mode inverter operation
- Electrostatic shield between & Primary & Secondary windings
- Available in Copper / Aluminium windings



### Furnace Transformers: Upto & Including 15MVA, 33KV Xmer

#### Features

- High current than conventional X'mer
- Image : Furnace Xmer
- Provides Large voltage variation to suit furnace applications
- Withstand Harmonics generated during to rectifier furnace operation
- With OFWF cooling at 100% standby capacity
- Comes with Off circuit or On load tap changers
- Types - Induction, Arc & Laddle furnce applications



### Vacuum Pressure Impregnated Transformers Range: Upto and Including 15MVA, 17.5KV, 3Ph Transformers

#### Features

- Impregnation done under vacuum
- Suitable for variable loads
- Can be designed for 6, 12, 24 & 36 pulse converter applications with multi secondaries
- Widely suitable for Variable frequency drives
- Class of Insulation: H (180 deg c) N (200 deg c) & R (220 deg c)
- IP protection upto IP54



## SWITCH BOARD COMPONENTS

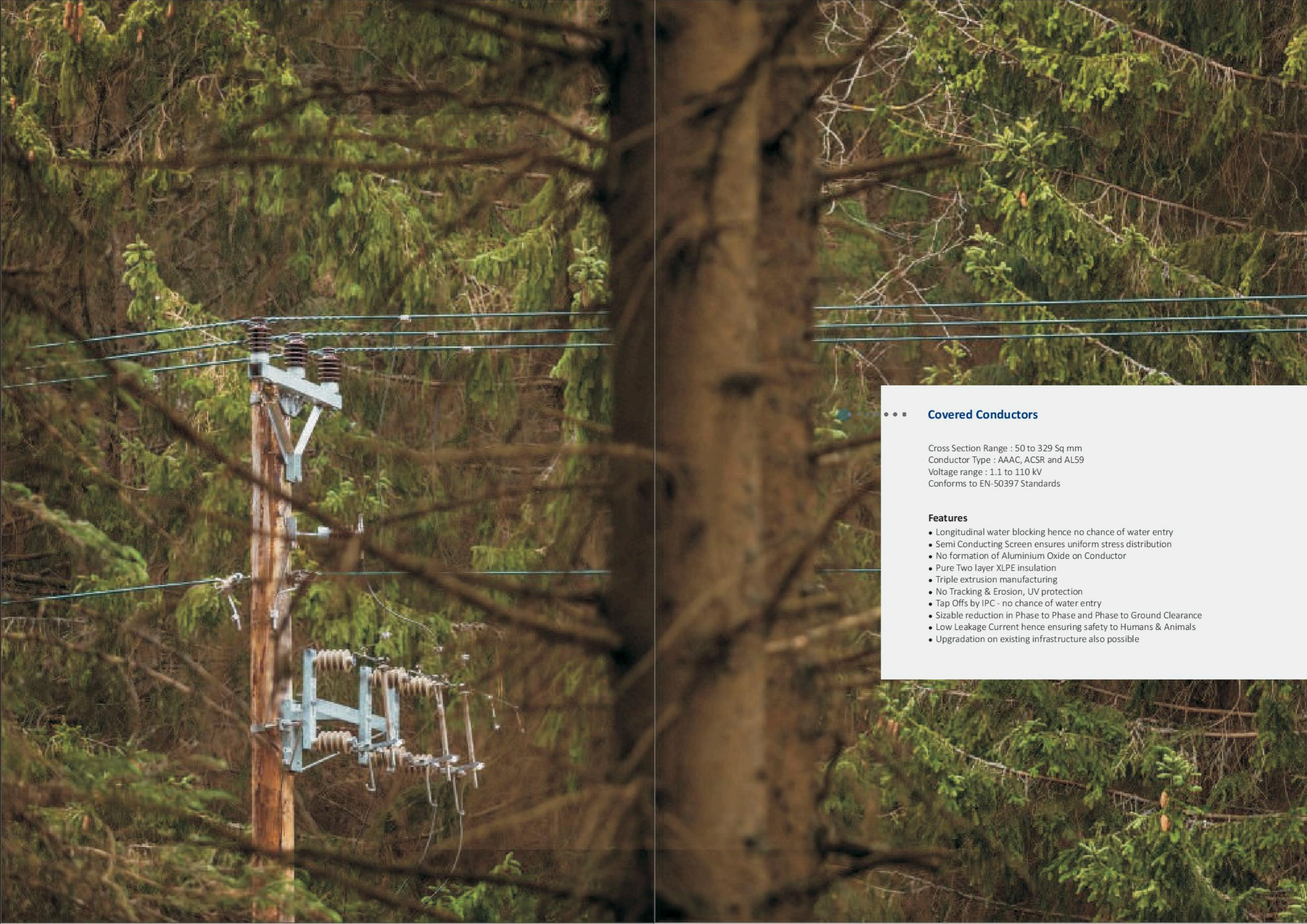
**Rating: Upto 60MVA, 145KV, 3Ph Transformers**

### Features

- Copper flexible bus bars, Profile bus bars, Laminated bus bars,
- Sleeved and painted bus bars, Jaw contact assembly, Earth switches, HT Isolators, Switch fuse unit, Machined or forged components.







### Covered Conductors

Cross Section Range : 50 to 329 Sq mm  
Conductor Type : AAAC, ACSR and AL59  
Voltage range : 1.1 to 110 kV  
Conforms to EN-50397 Standards

#### Features

- Longitudinal water blocking hence no chance of water entry
- Semi Conducting Screen ensures uniform stress distribution
- No formation of Aluminium Oxide on Conductor
- Pure Two layer XLPE insulation
- Triple extrusion manufacturing
- No Tracking & Erosion, UV protection
- Tap Offs by IPC - no chance of water entry
- Sizable reduction in Phase to Phase and Phase to Ground Clearance
- Low Leakage Current hence ensuring safety to Humans & Animals
- Upgradation on existing infrastructure also possible

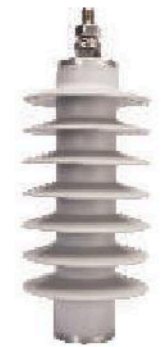
# SURGE ARRESTERS

## SURGE ARRESTERS

### Indoor/ Outdoor Distribution Medium Class (DM) - Model PSO

#### Features

- Conforms to IEC 60099-4
- 9KV, LD 75A, 1000µSec, Distribution medium class
- Direct moulded housing to prevent moisture ingress
- Hydrophobic silicone housing (Tracking and erosion resistant)
- Excellent cantilever and tensile performance



### Indoor distribution high class (DH) (Class 1) - Model DA1

#### Features

- Conforms to IEC 60099-4
- Range from 3kV to 15kV, Distribution High Class (DH) (Class 1)
- Low residual Voltage
- "Safe non-shattering short circuit behavior to higher current levels"
- Direct moulded housing to prevent moisture ingress
- Hydrophobic silicone housing (Tracking and erosion resistant)
- Excellent cantilever and tensile performance



### Indoor station low class (SL) (Class 2) - Model MCPA2

#### Features

- Conforms to IEC 60099-4
- Range from 3kV to 15kV, Station Low Class (SL) (Class 2)
- Low residual Voltage
- "Safe non-shattering short circuit behavior to higher current levels"
- Direct moulded housing to prevent moisture ingress
- Hydrophobic silicone housing (Tracking and erosion resistant)
- Excellent cantilever and tensile performance



### Indoor station medium class (SM) (Class 3) - Model PCA

#### Features

- Conforms to IEC 60099-4
- Range from 6kV to 36kV, Station Medium Class (SM) (Class 3)
- Low residual Voltage
- "Safe non-shattering short circuit behavior to higher current levels"
- Direct moulded housing to prevent moisture ingress
- Hydrophobic silicone housing (Tracking and erosion resistant)
- Excellent cantilever and tensile performance



## SURGE ARRESTERS

### Indoor/ Outdoor Distribution high class (DH) (Class 1) - Model DA1

#### Features

- Conforms to IEC 60099-4
- Range from 3kV to 36kV, Distribution High Class (DH) (Class 1)
- Low residual Voltage
- "Safe non-shattering short circuit behavior to higher current levels"
- Direct moulded housing to prevent moisture ingress
- Hydrophobic silicone housing (Tracking and erosion resistant)
- Excellent cantilever and tensile performance



### Indoor/ Outdoor Station low class (SL) (Class 2) - Model OCP2

#### Features

- Conforms to IEC 60099-4
- Range from 6kV to 45kV, Station Low Class (SL) (Class 2)
- Low residual Voltage
- "Safe non-shattering short circuit behavior to higher current levels"
- Direct moulded housing to prevent moisture ingress
- Hydrophobic silicone housing (Tracking and erosion resistant)
- Cage Construction : Excellent cantilever and tensile performance

### Indoor/ Outdoor Station Medium class (SM) (Class 3) - Model PCA

#### Features

- Conforms to IEC 60099-4
- Range from 6kV to 216kV, Station Medium Class (SM) (Class 3)
- Low residual Voltage
- "Safe non-shattering short circuit behavior to higher current levels"
- Direct moulded housing to prevent moisture ingress
- Hydrophobic silicone housing (Tracking and erosion resistant)
- Cage Construction : Excellent cantilever and tensile performance



### Indoor/ Outdoor Station low class (SL) (Class 2) - Model PAA

#### Features

- Conforms to IEC 60099-4
- Range from 60kV to 216kV, Station Low Class (SL) (Class 2)
- Low residual Voltage
- "Safe non-shattering short circuit behavior to higher current levels"
- Direct moulded housing to prevent moisture ingress
- Hydrophobic silicone housing (Tracking and erosion resistant)
- Cage Construction : Excellent cantilever and tensile performance

## SURGE ARRESTERS - ACCESSORIES

### Surge Counter SC12

#### Features

- No auxillary supply required
- Weather proof sealed model
- High degree of resistance to corrosion



### Surge Monitor SC13

#### Features

- No auxillary supply required
- weather proof sealed model
- High degree of resistance to corrosion
- leakage measurement scale for leakage current

### Surge Monitor SC13AC

#### Features

- No auxillary supply required
- Weather proof sealed model
- High degree of resistance to corrosion
- leakage measurement scale for leakage current
- with NO/NC contact



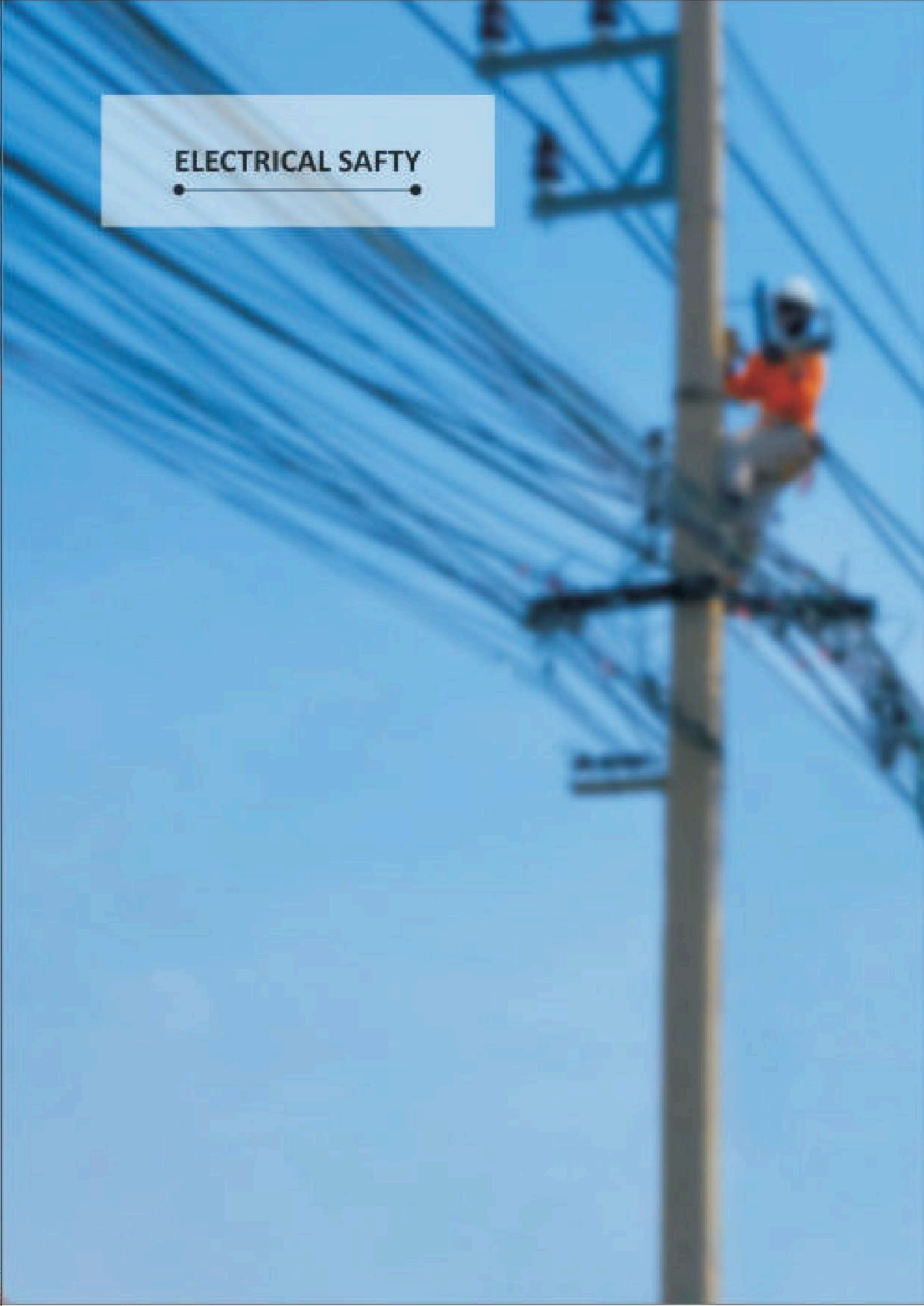
### Surge Monitor SC003

#### Features

- No auxillary supply required
- Weather proof sealed model
- High degree of resistance to corrosion



**ELECTRICAL SAFTY**



## ELECTRICAL INSULATING RUBBER GLOVES

### KL - Insulating Series

#### Features

- Its ergonomic design provides comfort to the wearer for a longer duration and its thickness ensures dexterity
- Manufactured from natural rubber latex for ultimate durability and flexibility
- Ultimate fit, comfort and performance for electrical workers' safety and protection
- Generous flared cuff allows room for clothing and improves ventilation
- The design also features a smooth finish for easy donning and doffing
- The gloves are individually tested and delivered in a sealed UV protecting plastic bag
- Available in two versions: Straight Cuff and Rolled Cuff



### KL - ARC - Insulating & Arc Flash Series

#### Features

- 2-in-1 Gloves: Electrical Insulating and ARC Flash Protection
- Its ergonomic design provides comfort to the wearer for a longer duration and its thickness ensures dexterity
- Manufactured from natural rubber latex for ultimate durability and flexibility
- Ultimate fit, comfort and performance for electrical workers' safety and protection
- Generous flared cuff allows room for clothing and improves ventilation
- The design also features a smooth finish for easy donning and doffing
- ARC Flash: ASTM F2675 tested
- ARC Flash: IEC 61482-1-2 Box tested
- The gloves are individually tested and delivered in a sealed UV protecting plastic bag
- Available in two versions: Straight Cuff and Rolled Cuff



### KC - Composite Series

#### Features

- Three-in-one gloves : Combining Di-electric, Mechanical and Arc Flash Protection
- Composite gloves are made from a natural latex base with a specially treated outer layer and combine mechanical resistance and comfort with a high protection level
- The composite material confers on the gloves with great flexibility despite the required thickness for guaranteeing real protection against mechanical hazards. Moreover, the chemical formula of the outer coating gives the gloves an exceptional grip, even in damp conditions
- Specially treated composite insulating gloves to obtain high di-electric characteristics and for working in complete safety without leather over gloves
- Its ergonomic design provides comfort to the wearer for a longer duration and its thickness ensures dexterity
- Manufactured from a natural rubber latex for ultimate durability and flexibility, ultimate fit, comfort and performance for electrical workers' safety and protection
- Generous flared cuff allows room for clothing and improves ventilation. The design also features a smooth finish for easy donning and doffing
- ARC Flash: ASTM F2675 tested
- The gloves are individually tested and delivered in a sealed UV-protecting plastic bag
- Bi-Coloured: Black outer with Red inner coating

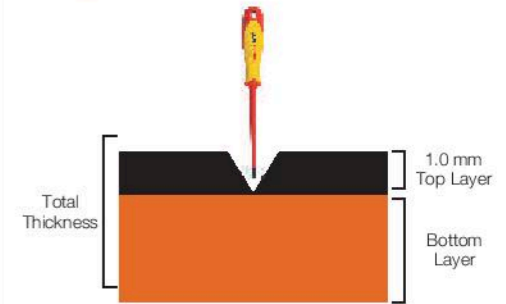


## ELECTRICAL INSULATING RUBBER MATTING

### Insulating Matting - Bi-Colour Series

#### Features

- Fully tested to specification IEC 61111:2009
- Bi-Colour (Life Indicator ) Technology:- Black on top and Orange on bottom
- High electrical resistance from 50 volts to 50,000 volts.
- Suitable for both AC and DC applications
- Provides safety for operators against electrical shock
- Anti-slip surface finish. Conforming to slip-resistant test
- Resistant to acid, oil and low temperatures
- Permanent marking - durable and un-erasable
- Fully traceable supply
- Low maintenance
- Highly durable & quality rubber compound
- Highly flexible mats with a self-gripping design
- Anti-fatigue type, comfortable while standing for long periods
- Operating temperature: - 40°C to + 55°C
- Repetitive marking (3 markings every 1 meter)
- Halogen-free, RoHS2 and REACH compliant



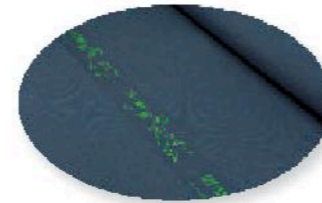
IEC 61111 : 2009  
Bi-Colour Matting



### Insulating Matting - Dark Grey Series

#### Features

- Fully tested to specification IEC 61111:2009
- High electrical resistance from 50 volts to 50,000 volts.
- Suitable for both AC and DC applications
- Provides safety for operators against electrical shock
- Anti-slip surface finish. Conforming to slip-resistant test
- Resistant to acid, oil and low temperatures
- Permanent marking - Durable and un-erasable
- Fully traceable supply
- Low maintenance
- Highly durable & quality rubber compound
- Highly flexible mats with a self-gripping design
- Anti-fatigue type, comfortable while standing for long periods
- Operating temperature: - 40°C to + 55°C
- Repetitive marking (3 markings every 1 meter)
- Halogen-free, RoHS2 and REACH compliant



## ELECTRICAL INSULATION ENHANCEMENT SOLUTIONS

### BBIT - Busbar Insulation Uncoated Tubes

#### Features

- Suitable for voltage upto 36 kV, application  $\phi$  11-125 mm
- High flexibility ideal for curved or bent busbars without cracking or creasing
- Excellent thermal emissivity means no busbar derating is required
- REACH and RoHS compliant



### BPTM - Busbar Protection Uncoated Tube

#### Features

- Suitable for voltage upto 25 kV, application  $\phi$  6.5-150 mm
- Assured performance even at continuous high operating temperatures
- Excellent thermal emissivity means no busbar derating is required
- REACH and RoHS compliant

### RBPM - Busbar Protection Uncoated Tube

#### Features

- Suitable for voltage upto 25 kV, application  $\phi$  13.5-150 mm
- High anti-tracking and thermal emissivity properties



### MWTM - Medium Wall Insulating Uncoated Tube

#### Features

- Medium-wall low voltage insulation and core protection tubing up to medium voltage
- Suitable for general sealing and re-jacketing of insulated cables
- 3:1 shrink ratio with high shelf life
- REACH and RoHS compliant

### WCSM - Outer Protection Insulating Coated Tube

#### Features

- Thick-wall low voltage insulation and outer sealing tubing
- Available inline coated with hot melt adhesive
- High material hardness with semi-rigid flexibility
- 3:1 shrink ratio with high shelf life
- REACH and RoHS compliant



### Cable End Sealing Caps

#### Features

- Suitable for all cable types
- High resistance to moisture, fungus and weathering
- Suitable for underwater and underground application

## ELECTRICAL INSULATION ENHANCEMENT SOLUTIONS

### IRJ - Cable Outer Jacket Repair Sleeve

#### Features

- Suitable for Standard Poly or elastomeric insulated cables
- Moisture vapor transmission barrier
- Fast & Labour saving installation
- Fitting and sealing all in one step
- Abrasion and corrosion resistant



### HVBT - Busbar Insulation Tape

#### Features

- A single layer of tape with two-third overlapped is suitable for 17.5 kV AC voltage and dual layer for 36 kV AC voltage
- Wide operating temperature  $-40^{\circ}\text{C}$  to  $90^{\circ}\text{C}$
- Excellent thermal emissivity means no busbar derating is required
- Adhesive-coating produce a complete lap to lap seal
- Non Adhesive to metal or porcelain, allowing easy removal for maintenance

### MVFT - Medium Voltage Fusion Tape

#### Features

- Silicone self amalgamating fusion tape
- A single layer of tape with two-third overlapped is suitable for 15 kV AC voltage and dual layer for 35 kV AC voltage
- Wide operating temperature  $0^{\circ}\text{C}$  to  $90^{\circ}\text{C}$
- Designed to combine the integrity of a Silicone polymer with the versatility of a wraparound product
- It sticks to itself and other insulating materials, it will not adhere to metal or porcelain allowing easy removal for maintenance
- Offers easy installation over a wide variety of shapes including complex connections



### MVLC - Medium Voltage Line Cover

#### Features

- MVLC provide state-of-the-art insulation to help prevent electrical caused by trees or wildlife or civil structure coming into contact with distribution lines
- It can be applied selectively on problem area such as distribution lines passing very closely to any civil structure, cyclone or natural calamity prone region, forest, etc.
- It is made up of cross-linked material to create an extremely robust insulation system, ensuring many years of reliable operation in the harshest environments

### SE-CAB, E-CAB & CAB - Elastomeric Insulating Bushing Boot

#### Features

- Easy tool free installation
- One product for straight and right angle application
- Ideal for switchgear and transformer cable boxes
- Non-tracking elastomeric housing having high erosion resistance



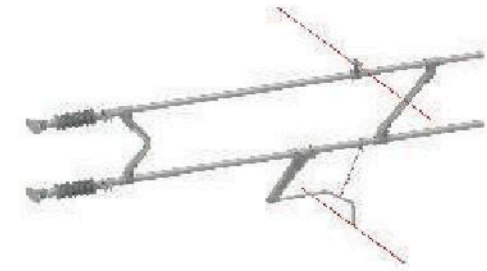
## RAILWAY OHE SOLUTIONS



### Modular Cantilever System (MCS)

#### Features

- Simple & Light weight Design
- Factory assembled product, ready to dispatch
- Ease of on-site installation and servicing
- Low maintenance & onsite inspection
- Structural integrity Validated for severe static & dynamic loading condition
- Corrosion Resistant, Long Service life & High Reliability
- Designed for high tension OHE lines for all Existing and New high-speed lines Railway lines, DFCC & for Metro Projects



### Auto Tensioning Device (ATD)

#### Features

##### Spring based ATD with:

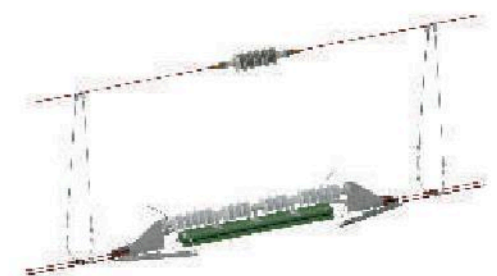
- Patented designs with Innovative technology
- Factory fitted assembly, ready to install reduced Installation time
- Our Make in India initiative under Aatmanirbhar Bharat
- Cable of catering load requirements upto 30 KN
- Light weight, compact design resulting in Ease of handling & transportation with reduced maintenance
- One fit for all - catering various configurations such as portals, tunnels etc.
- Flexible to accommodate semi speed line to high speed line
- No tensioning weight is required. Complete safety with no falling weight in case of any accident



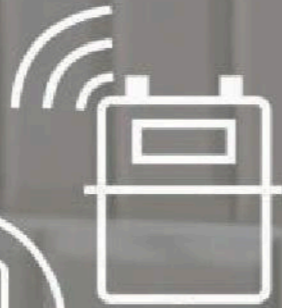
### Short Neutral Section (SNS)

#### Features

- Uniform wearing of the contact with long service life
- Best arc extinguishing capability
- Propriety PTFE technology assuring reduced friction with pantographs
- Reduced sliding friction between Pantograph & PTFE Roller resulting in enhanced life for PTFE contact
- Smooth Transition from one section to other with Bidirectional Crossing function
- M Insulator body revolvable in case of wear.
- For max. speed up to 250 km/h
- Minimum breaking load of the Neutral Section Element: 120 kN.
- SML of insulator rod: 80 kN.



## GAS METER



Stay Safe. Stay Connected.

## GAS METER AND SOLUTIONS

### Mechanical G1.6 Meter

#### Features

- 0.5dm<sup>3</sup> Cyclic volume optimum for Indian Market needs
- Accuracy Class 1.5, Maximum working pressure Pmax 50 kPa (0.50 bar)
- Temperature range -10 to +55°C.
- Major Advantage: Compact Design, Light Weight, and Easy to install.



### Postpaid G1.6 Meter

#### Features

- Daily readout including current device state along with daily gas consumption in m3
- Tamper detection: lid opening, external magnet, exceeding Qmax
- Scheduled daily readouts > Server initiated
- Easy data synchronization, configuration & installation

### Prepaid G1.6 Meter

#### Features

- Remote Flow shutoff Control through motor operated Ball valve once credit gets exhausted or reaches emergency value
- Low power consumption and high battery life
- Holiday list update available
- Online communication through payment gateway for credit updates in gas meter







## Earthing & Lightning Protection Solutions

- To protect buildings, machinery & appliances under fault conditions.
- To protect human & animals.
- Design - Risk Assessment - IEC 62305 - Part 1, Part 2, Part 3 & Part 4 , IEEE std80 and BS 7671
- Air Termination Rod, Conductors IEC 62561 - 2
- Earthing , Exothermic welding IEC 62561-5 , IEC 62651-2 , UL 467



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"We offer one stop solution platform for all your customized parts requirement with our expertise in various segments of capabilities like precision machining, forging, casting, sheet-metal, fabrication, heat treatment, surface treatment and other process.

Our range covers components from the areas of mechanical, hydraulic, precision measurement, Sensor technology, electrical drive system and control technology.

# Raychem RPG

## Offices

### Head Office:

Raychem RPG (P) Ltd.  
A-1401, 14<sup>th</sup> Floor, Thane One,  
DIL Complex, Majiwada  
**Thane (West) 400610**

To learn more about Raychem RPG solutions  
& offerings visit [www.raychemRPG.com](http://www.raychemRPG.com).  
Or reach our Customer Interaction Cell  
Contact No.: 022 45745060 |  
Email: [CIC@raychemrpg.com](mailto:CIC@raychemrpg.com)

### Follow us on



### Regional Offices :

Raychem RPG Private Limited  
(Avanta Business Centre Pvt Ltd)  
Unit # 4.27 & 4.28, 4th Floor,  
Stateman House, Barakhamba Road,  
Connaught Place, **New Delhi – 110001**

Raychem RPG Private Limited  
(Regus Eversun Business Centre Pvt Ltd)  
E-1, Manyata Embassy Business Park,  
Outer Ring Road, Nagawara, **Bangalore,**  
**Karnataka – 560045**

Raychem RPG Private Limited  
(Regus Citygold Business Centre Pvt Ltd)  
RDB Boulevard, 8th Floor, Plot K 1,  
Sector V, Block EP & GP, Salt Lake City,  
**Kolkata, West Bengal – 700091**

Raychem RPG Private Limited  
(Regus Business Centre Nagpur Pvt Ltd)  
Level 6, 10/11, Citi Centre,  
Dr. Radhakrishnan Salai, Mylapore,  
**Chennai, Tamil Nadu – 600004**

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