NEW PRODUCT LAUNCH

LV Switchgears

Switchgear is defined as an assembly of switching and interrupting devices, providing control, metering, protection, and current regulating applications. The primary components of a switchgear include switching and interrupting devices that are used for turning the power on or off, control devices, used for checking and/or regulating the flow of electric current, metering devices, used for measuring the flow of electric current and protective devices, used to protect power service from interruption and prevent or limit damage to equipment.

Primary types of LV switchgear -

Air circuit breaker : These are circuit protection devices with air as the insulating medium. They are used when there is a need for high ampere ratings

MCCBs : These are circuit protection devices, whose current carrying components, mechanisms, and trip circuits are completely enclosed within a moulded case of insulating material

Changeover Switches : These are meant to move a circuit from one set of connections to another

Contactors and relays : A contactor is a type of relay that can handle high power required to directly drive an electric motor and a relay is an electrically operated switch, used where it is necessary to control a circuit by a low-power signal or where several circuits must be controlled by one signal

MCB : Is a small trip-switch operated by an overload and is used to protect an electric circuit, especially, in a domestic circuit as an alternative to a fuse

Residual Current Devices: They monitor residual current and switch off the circuit quickly if it rises to a preset level and can be broadly classified into earth leakage circuit breaker and residual current circuit breakers

Distribution Board : it 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 in a common enclosure with a main switch

Innovation in switchgears is primarily in terms of the aesthetics and customized features offered by the products rather than technological changes in the product, such as improving the product life cycle, tamper-proofing, increasing safety and handling, improving user-interface and focus on multi-functionality and niche functionality. Multinational companies and established manufacturers usually spend more on product improvement and the frequency of updating product features is usually two to three years.

The market for LV switchgear

LT or low voltage ("LV") electrical equipment is a rapidly evolving industry segment, traditionally driven by demand from the Industrial segment. The LV switchgear market primarily depends on the growth of end-user segments. The segment comprising residential and commercial development are expected to witness positive growth, whereas the segment comprising industries and power utilities are expected to show resilience on account of low capital expenditure and investment in the near term.

The market for LV switchgear is expected to grow at a CAGR of 6.1% during 2016-2020 and is expected to reach ₹ 7,609 crore by 2020. Market players catering to the industrial segment have expanded their product portfolio to include modular switchgear devices increasing their reach to capture the residential market. Further, manufacturers of wires and cables continue to enter the market for modular switchgear devices enabled by sales and distribution synergies.

Key growth drivers

-Revival of the industrial segment

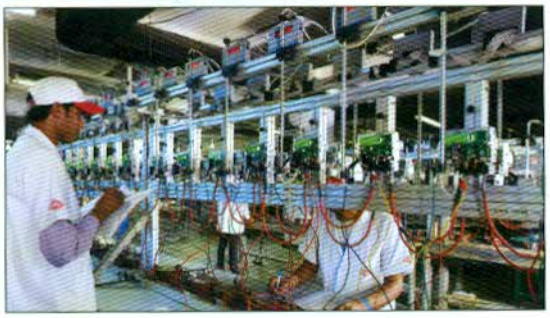
-Growth in the residential segment

-Government initiatives and reforms for expansion and development of the transmission and distribution

-network and power capacity augmentation
-Increased demand from the renewable energy segment

Raw material constitutes around 70% of the aggregate cost of production of LV switchgears and copper, steel and silver are the key raw materials used therein, constituting almost 75% of the total raw material cost. Manufacturing cost includes factory expenses, power and fuel, repair and maintenance.

HPL Smart Energy Meters



Smart energy meter is an electronic device that measures the most accurate amount of electricity consumed by a residence, business or any electrically-powered device. A smart meter is reliable source for most accurate information of consumed energy that reduces the chance of error in the existing billing system to minimal.

Smart meter comprise first-generation smart meters or AMR meters and second-generation meters or AMI meters. AMR meters provide for self-health check of the meter, data communication using secure and open standard protocols, periodic upgrade of meter software remotely over the transmission network, multi utility metering capabilities, consumption data acquisition and demand management and control. Comparatively, AMI meters or smart meters provide effecting utilisation and management of metering data, automatic management of meters, two-way communication with meters, demand response capabilities and further provides data to implement energy efficiency practices.

Smart Meter includes-

(a) **Meter,** which is used to measure the flow of electric power from input to the output terminal.

(b) **LCD Display,** which is used for displaying readings of the parameters that are being metered and

© **Communication,** which is present in modern electricity meters, which is used for one-way or two-way communication of information with the billing utility During 2016-2020, the overall market for electricity meters is expected to grow at a CAGR of 11.5%, with prepayment meters expected to grow more than the overall growth rate, at a CAGR of 15.1%, and smart meters expected to grow at a CAGR of 5.3%. However, the market for meters is expected to witness explosive growth subsequent to 2022, when the proposed civil works for smart cities and smart grids will near completion, paving way for a robust demand for smart meters. Particularly smart meters are expected to see a double digit growth once bottle-necks surrounding the smart grid projects are cleared. Demand for electronic meters dominates the market for meters and will continue due to replacement market for electrochemical and old meters and orders from power utilities. Of this, power utilities account for nearly 90% of the revenue generated from sale of tariff meters. Additionally, due to various initiatives of the Government for efficient utilization of present generation capacity, such as the 'perform, achieve and trade scheme' for high energy consuming industries, panel meters are expected to witness nearly a 12% growth, coupled with energy efficient solution systems. Renewable integration and energy management practices will also fuel the growth of panel meters during 2016-2020.

for more information please visit
Website : www.hplindia.com

Elecrama provides an **outstanding platform to showcase our latest offerings,** as one of the best places **to get to the end customer**

Please outline the tangible benefits and your expectations of participation in Elecrama 2018, the biggest showcase of the world of Electricity, especially since the 2018 mega show is slated to be the largest ever?

Elecrama provides an outstanding platform to showcase our latest product offerings and hands-on experience of products and technology in electrical equipment and manufacturing space. It is also a meeting place for the suppliers, consultants and industry experts. Our experience over the last few years has motivated us in a big manner. What also amazes us is that the relevant people from different states and power utilities gather to witness the technological developments, as it is one of the best places to get to the end consumer.

Mr. Gautam Seth
Joint Managing Director
HPL Electric & Power Ltd.

Elecrama provides a massive platform for showcasing the latest in Technology & Innovation to a huge audience. Please outline in brief the Product range your company will be putting on display, as well as the new Technology & Innovations you wish to introduce.

Elecrama layers the relevant audience for our products and it gives extra mileage to our products in the right segment at the right place. This year we have big plans of introducing our Smart & prepaid meters, Solar Specialty cables and distribution boxes, Energy efficient lighting products, Switchgears range and our brand new MCB range "Osafe".

Please provide a brief outline of your vision for the company's growth & investment plans, in view of the opportunities available in the Electric & Electricals sector in India today.

We see a high potential in electrical metering category in the coming years, where we have a range of smart & prepaid meters. Also, with short term disruptions like demonetization & GST set to reduce, we believe to enhance our opportunities to establish our reach in the market. Government run projects are extremely good platforms for companies like ours and are on growth trajectory and we assume is an opportunity to grow with.

LED Lighting

India is an attractive market for both domestic as well as international LED players. The reason for this is the benefit that they provide in terms of energy saving and conservation. The new applications which are coming are related to connectivity, better controls, and application of sensors and moving towards wireless technology. When it comes to an individual, what they are looking for is more convenience and comfort, apart from the cost. The efforts towards wireless technology and application of controls which help in controlling the light intensity are things which will benefit them. For a commercial outlet, the

LED lighting is much more Eco-Friendly and are up to 80% more efficient than traditional lighting such as fluorescent and incandescent lights. What we are seeing is that people are realising these benefits and are moving towards LED lighting realising that. The market has witnessed a phenomenal growth over the past few years and the trend is expected to continue in the coming years.Further, there is an increased focus by the Government towards energy conservation and efficiency, boosting the demand for LED lights. The Government of India has expressed increased interest in converting existing street lights into LED and this is expected to increase demand for LEDs in coming years.

aspects related to energy saving, conservation and cost benefits become supreme. Here as well, connectivity and control will help in providing customised Lighting solutions.

What is LED?

LED is a two-lead semiconductor light source which emits light when activated. This effect is called electroluminescence and the colour of the light is determined by the energy band gap of the semiconductor. LEDs find application in environmental and task lighting, with several advantages over incandescent light sources including lower energy consumption, longer lifetimes, improved physical robustness, smaller sizes, and faster switching.

LEDs may be broadly classified into three categories, (a) miniature LEDs, used as indicators, (b) mid-range LEDs, used in light panels, emergency lighting, auto tail lights and © high-power LEDs, used for lighting purposes. LEDs for lighting applications constitute the major market, although LEDs are also used in various forms across industries such as automotive lighting, railway signals, backlighting, displays and signage and medical appliances.

LEDs are now used in applications as diverse as aviation lighting, automotive headlamps, advertising, general lighting, traffic signals, camera flashes, and even LED wallpaper. However, LEDs also find applications in various forms across industries, including automotive lighting, railway signals, backlighting, displays and signage and medical appliances.

Due to the low domestic manufacturing capabilities, over 75% of LED lighting products are imported and the remaining 25% accounts for low value-add assembly activity. More than 10% of the LED lights assembled in India are exported to countries like Europe, the United States, Australia, Asia-Pacific, the Middle East, Latin America and South Africa.

HPL stepping forward as leader in the category HPL manufactures a wide range of LED lamps (including down-lighters), luminaries and LEDs at varied wattages and had a huge market share and a 5 th largest LED manufacturer in fiscal 2015 in the market for LED lamps. The company provides its customers energy efficient indoor commercial and domestic luminaries with superior design. Their lighting products are suited for use as task lighting, which is intended to be functional and concentrated, HPL LED Glo bulb which not only saves electricity but a revolutionary product in terms of design, longer life and best suitable for accent lighting, which is intended primarily for decorative purposes. The LED lamps have been certified to be in conformity with the Indian Standard Index by the BIS standards under compulsory registration order by MEITY- Ministry of Electronics & Information Technology.

HPL's Led Lighting range:

-Consumer Lighting
-Industrial Lighting
-Commercial Lighting
-Outdoor Lighting

HPL is one of the few manufacturers in the country that has pretty much backward integrated state-of-the-art manufacturing with two manufacturing facilities in Gurgaon & Jabli and one each in Kundli, Sonepat and Gharaunda. R&D centres in Gurgaon and Kundli, facilities are approved by the Department of Scientific and Industrial Research (DSIR) & Ministry of Science and Technology. These have in-house tool rooms and testing facilities and are manned by 105 engineers. HPL has gained a indispensable presence in electronics manufacturing space due to our 20-year experience in manufacturing. Nowadays Technology is moving at a faster pace than at any other time. HPL endeavours to design and develop the most technologically advanced and innovative products as per the existing consumer needs.

Technologies which help to save energy while maintaining the current requirements, which saves cost while also ensuring modern aesthetic for a compact & sleek design. In this regards HPL Electric are working continuously to provide the most innovative products, providing best energy saving and conservation options while providing the best in class to the Indian Markets.

Market for LED Lighting in India

The GDP in India is forecasted to be 7.62% between 2016 and 2020, driving economic growth and improving spending capacity of consumers. The growing interest in newer technologies and solutions, increasing awareness created by LED suppliers through product promotion and advertising is expected to increase adoption of LEDs.

Further, large scale promotion of energy efficiency by the Government has fuelled growth of the LED market in India, resulting in the residential segment

adopting LED lighting, which offers higher energy savings of around 60-75%, as compared to older technologies namely, CFL, incandescent, metal halides or sodium vapour lamps. Moreover, growing interest in intelligent and smart lighting is expected to change market dynamics with the announcement for the establishment of smart cities, which will increase demand for LED lighting, based on intelligent and connected infrastructure. Further, under the 'Make in India' initiative, 100% foreign investment under the automatic route has been permitted in construction, operation, and maintenance in specified rail infrastructure projects, which is expected to fuel demand for LED products for local consumption.

The Indian LED lighting market is expected to reach ₹ 31,010 crores in 2020, growing at a CAGR of 62% between 2016 and 2020. The Government of India's increased interest in converting existing street lights into LED is expected to increase demand for LEDs in coming years and the deteriorating power situation across the country and limited budget allocation for starting power projects have directed the Government's focus towards 'energy conservation and efficiency'.

The global LED lighting market is expected to cross revenues of ₹ 150,000 crores in fiscal year 2015 with a market penetration of over 30% in the overall general lighting market space. The global LED lighting market is likely to grow at a CAGR of over 40% until 2020.

Government measures and initiatives to improve market demand and manufacturing ecosystem

The Government has announced policies such as the Modified Special Incentive Package Scheme to encourage and subsidize investment in indigenous value addition. The Bureau of Energy Efficiency ("BEE") and EESL, working with electricity distribution companies, have developed a business model to sell subsidized LED lights to households at ₹ 10 against the market retail price of approximately ₹ 400. All existing Government schemes to distribute CFL lamps are being modified for distribution of LED lamps. The Government of India has been making efforts to adopt LEDs for street lighting in key cities and also for architectural lighting applications for national monuments. The Ministry for Renewable Energy, Government of India and the BEE for municipalities and local bodies have also been driving initiatives such as distribution of solar LED lanterns in villages to promote energy-efficient lighting in the country.