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-

- Meter, which is used to measure the flow of electric power from input to the output terminal.
- 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

Mr. Gautam Seth - Joint Managing Director, HPL Electric Power

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.

HPL Electric & Power Ltd pioneering the Metering space.

HPL Electric and Power Ltd an established electric equipment manufacturing company in India, manufacturing a diverse portfolio of electric equipment, including, metering solutions, switchgears, LED lighting and wire & cables, catering to consumer and institutional customers in the electrical equipment industry. HPL manufacturing capabilities are supported by a large sales and distribution network with a pan-India presence. The company currently manufacture and sell its products under the umbrella brand 'HPL', which has been registered in India since 1975. The company has one of the widest portfolios of meters in India. It has a whole range of metering solutions with advance communication interfaces like LPRF (low power radio frequency), GSM/GPRS, IrDA, Modbus, Ethernet. In addition, HPL supply their products to Power Utilities, which primarily includes

Domestic application	Industrial application
• Single phase/three phase, whole current counter/LCD type meters	• Digital panel meters
• Dual source projection metering solutions	• Digital energy meters
• Special long range metering solutions	• LT Tri-vector meter
• Smart metering solutions	• Single module meter
• Prepayment metering solutions	• Multi-function meter
• DLMS metering solutions	• Load manager and demand controllers
• RF/optical port/LPR meters	• Power factor control and regulators
	• Prepayment metering solutions
	• DLMS metering solutions
	• Long range integrated metering solutions
	• Net metering solutions
	• Smart metering solutions

supply of meters under direct contractual arrangements to electricity boards and power distribution companies, as well as through project contractors.

HPL strong research & development capabilities have enabled it to keep it abreast of technological developments in the electric equipment industry. The company's research and development efforts include design and development of all types of energy metering solutions, including interactive communication between metering devices and metering infrastructure that includes AMR and AMI, prepayment metering solutions, solar net metering solutions, smart meters with two way communication and a complete range DLMS compliant meters, amongst others, and technologies and solutions that allow for active monitoring of energy consumption for electric equipment.

The company's portfolio of meters includes single phase, three phase and LTCT/HT energy meters, smart meters, panel meters, prepayment meters (whereby a monetary limit can be set on the electricity to be supplied to a particular consumer), net metering solutions and transformer metering solutions remote communication facilities. All our tariff meters are certified by the BIS as conforming to the Indian Standards Index.

Set forth below are certain meters that we manufacture, categorized based on their end-use, as domestic and industrial

The market for meters in India was estimated to be ₹ 3,000 crore in fiscal 2015, with organised participants contributing to over 80% of the total market. There has been a continued and visible shift from demand for traditional meters to demand for metering solutions, which helps in energy management as compared to mere monitoring and billing functionalities. 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.

For more information
Web: www.hplindia.com

HPL : LV Switchgears

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 Portfolio- LV Switchgear

HPL Electric & Power Ltd has further strengthened its switchgear range by bringing a new and upgraded line of its Electrical Operated Switches, AV ATS- Advance Version Automatic load Transfer Switch. The new variant is a highly sophisticated and technologically advanced which is simple and easy to use and has been designed keeping the safety of the customers in mind. In terms of application, AV ATS is relevant for Healthcare, Internet Data Centres, Commercial Buildings, Industrial Buildings, Telecom Central Office, Process Manufacturing, Distribution Power / Load Management, HVAC, Telecommunications and BMS. At nearly 50% share of the entire market for the manual changeover switches, HPL Electric is one of the oldest manufacturers of LV switchgear in India. Over the years, HPL Electric has increased its presence across switchgear products in the industrial and residential segments. 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.

At nearly 50% share of the entire market for changeover switches, HPL is one of the oldest manufacturers of LV switchgear in India. They also enjoy significant brand recall and customer loyalty and have increased their presence across other switchgear products in the industrial and residential segments

For more information
Web: www.hplindia.com