

LIGHTING CONTROL AND SYSTEMS MARKET- INDIA



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MARKET PARTICIPANTS

- The key participants in the lighting control devices market include Schneider Electric, ABB, Lutron Electronics Co. Inc, Koninklijke Philips Electronics N.V. (Dynalite), Legrand, Crestron Electronics Inc, Honeywell International Inc., Havells and Theben AG.
- The major companies in the lighting control gears market include Koninklijke Philips Electronics N.V (Dynalite), Crompton Greaves Limited, Bajaj Electricals Ltd, Surya Roshini Limited, Wipro Limited, Osram GmbH, Tridonic GmbH & Co KG, Intelux Electronics Pvt. Ltd and General Electric.

DEFINITION

For the purposes of this research, lighting control and systems are defined as energy saving components used to control the light output either manually or automatically. The lighting control and systems market consists of lighting control gears and lighting control devices integrated to form a system .

Lighting Control Gears

- Lighting control gears are used is to limit and stabilize the current in an electrical circuit, increase efficiency, ensure continuous operation of the lamp, provide ignition voltage, reduce/eliminate flicker and noise.
- Gas discharge lamps, such as the fluorescent, metal halide, mercury vapor and sodium, require a control gear to ignite it and keep a regular flow of electric current inside it.
- On the basis of technology, lighting control gears are broadly classified as electromagnetic control gears (electromagnetic ballasts) and electronic control gears (electronic ballasts). Electromagnetic ballasts employ copper coils and transformers to run a lamp, whereas electronic ballasts use state-of-the-art printed circuit boards.
- In India, typical manufacturing range for electromagnetic ballasts is 8 to 2,000 watts and for electronic ballasts is 8 watts up to 450 watts.
- Electronic control gears are further sub-divided into dimmable ballasts and non-dimmable ballasts.
- The dimmable ballasts can be an analog or digital type.

Analog type dimmable ballasts, or 0-10V system, is an analog low voltage lighting control system that uses analog dimming ballasts. These ballasts are connected in parallel and controlled simultaneously by changing the voltage from 0V up to 10V by means of a dimming control unit. The ballasts are not addressable and can not be controlled individually.

Digital control systems can be split down in to three different signals:

- SwitchDIM / Touch and Dim (Non-addressable)
- DSI (Digital Serial Interface) (Non-addressable)
- DALI (Digital Addressable Lighting Interface)

DEFINITION

Lighting Control Devices

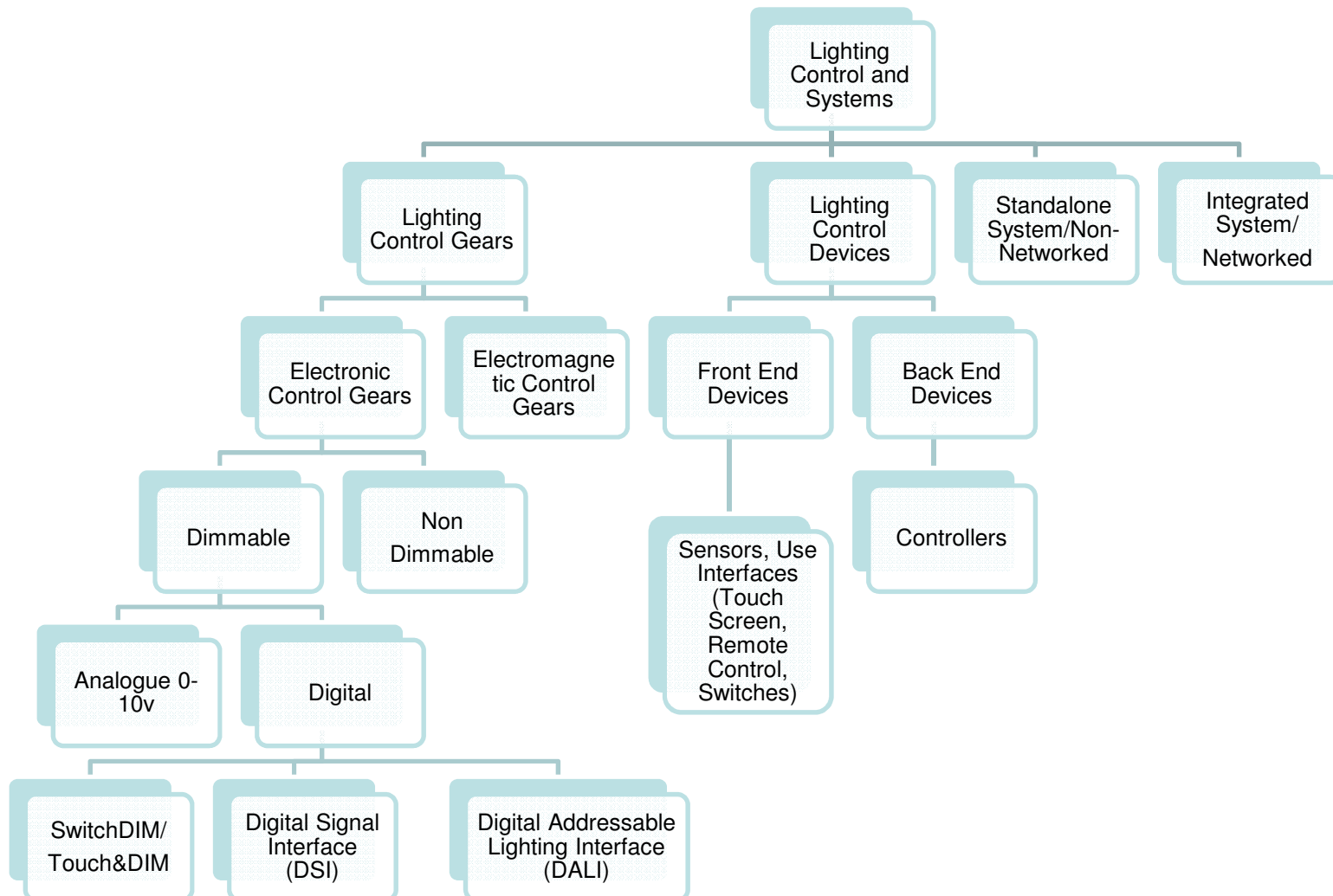
- Lighting control devices are comprised of various sensors, user interfaces and control modules that together form a lighting control system.
- Sensors include occupancy sensors (ultrasonic, passive infrared or dual technology type), day light sensor, and photo sensors.
- User interfaces include touch screen panels, switches, push buttons, and remote controls.
- Control modules include dimmer modules, relay modules, interface modules (GSM, DESKTOP/LAPTOP, building automation systems), and a power supply.
- Front-end devices include sensors and user interfaces.
- Back-end devices include control modules.

Research Scope

This research covers the market size for lighting control and systems, lighting control gears and lighting control devices. The revenues for lighting control gears have been excluded from the total market size estimate for the total lighting control and systems market. The installation of lighting control gears is done by electrical contractors. As per a leading industry participants, quote : *“We generally don ’t consider gears as a part of the total lighting control and systems market.”*

The total market size for the lighting control and systems market in 2011 is estimated by adding the revenues for control devices, such as sensors, user interfaces and the controllers, and the estimated integration costs (also known as programming and installation charges) of components such as cables, distribution boards, miniature circuit breakers, connectors, software, and others. The revenues for lighting control gears are provided separately. The integration costs are estimated to be 20 percent of the total market.

LIGHTING CONTROL AND SYSTEMS CLASSIFICATION CHART



Lighting Control and Systems Market : End Users

