



Complete Range of Electrical Standard Products

The Company

Larsen & Toubro is a technology-driven USD 5 billion company that infuses engineering with imagination. The Company offers a wide range of advanced solutions in the field of Engineering, Construction, Electrical & Electronics, Machinery and Information Technology.

L&T Switchgear, which forms part of the Electrical & Electronics business, is India's largest manufacturer of low voltage switchgear, with the scale, sophistication and range to meet global benchmarks. With over four decades of experience in this field, the Company today enjoys a leadership position in the Indian market with growing presence in international markets.

It offers a complete range of products including controlgear, powergear, motor starters, energy meters, wires and host of other accessories. The products conform to international standards, carry CE markings and are KEMA certified.



Switchgear Factory, Mumbai

Manufacturing Facilities

L&T's manufacturing facilities for standard switchgear products are at Mumbai, Ahmednagar and Coimbatore. These facilities follow world-class processes including Lean Manufacturing, Forced Draft Ventilation System, TQM, Value Engineering, JIT and Six Sigma. The manufacturing units have a testing facility that includes 85kA short circuit test station.

The quality management systems at L&T's factories conform to ISO 9001 & ISO 14000 Standards.

Distribution

L&T Switchgear is available through a network of more than 700 authorized stockists, one of the largest distribution networks in the industry.

International Sales

L&T Switchgear has found acceptance not only in India but has customers in over 40 countries like Malaysia, Singapore, Taiwan, China, Hong Kong, Indonesia, Sri Lanka, Bangladesh, UAE, Qatar, Oman, Bahrain, Saudi Arabia, Kuwait, Iran, Turkey, Egypt, Nigeria, Kenya and UK.



Switchgear Factory, Ahmednagar

Environment & Community

The Company has a comprehensive Quality, Environment and Safety management system. The manufacturing facilities conform to ISO 14001 (Environmental Management System) & OSHAS 18001 by BVQI.

L&T has taken a number of community initiatives in rural & semi-urban areas across the country. These include health checkup camps like cancer detection, eye checkup, and general checkup in partnership with the stockists. L&T supports schools through distribution of PCs, books, and uniforms and providing teaching staff. L&T has also come to the rescue of common man at the time of natural calamities like floods and earthquakes, helping the community by distributing clothes, food and essential commodities.



Training Centre, Pune

Training

L&T's Switchgear training centres at Pune, Lucknow and Coonoor have state-of-the-art training facilities with well equipped workshops and testing systems. Training programs are designed to suit the needs of electrical professionals from various areas like maintenance, projects, panel design and consultancy. Over 55,000 participants have benefited from these programs.

After Sales Service

The Company has over 40 branch offices across the country and a network of over 100 service centres to deliver after-sales-service to its customers.

A range of service solutions is available to support the switchgear, right from installation till the complete life cycle. They come in the form of preventive maintenance, breakdown maintenance, retrofits and upgrades.



Training Centre, Lucknow

Segment Focus

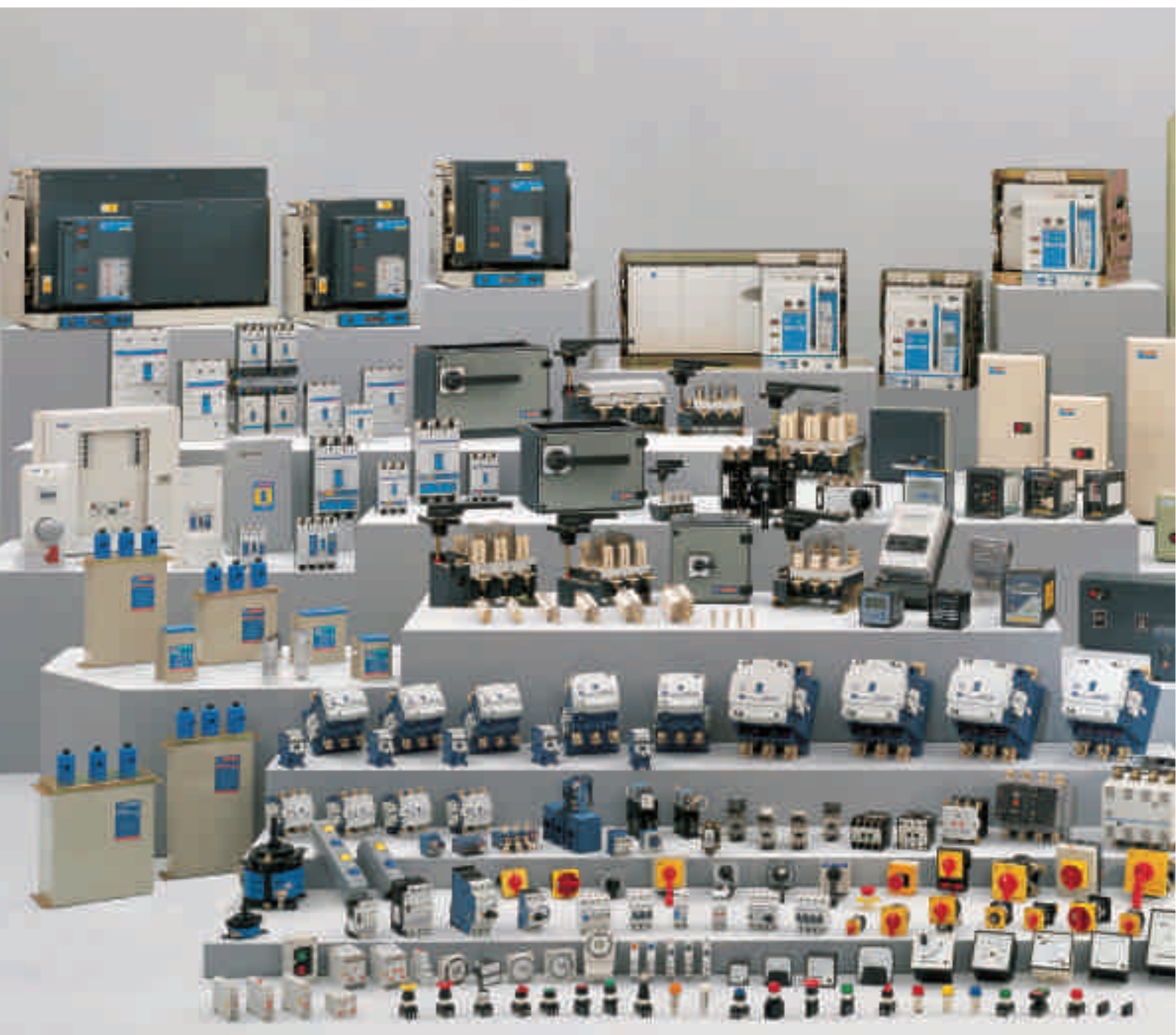
L&T has a wide range of products & solutions to address every customer requirement.

The Company has dedicated specialists for vital segments like, Industry, OEM, Agriculture, Building and Utilities.



Training Centre, Coonoor

A complete range of Electrical Standard Products



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AIR CIRCUIT BREAKERS

C-POWER

- Comprehensive range: 400 A to 6300 A
- $I_{cs}=I_{cu}=I_{cw}$ for complete selectivity
- Proven track record of over 300,000 installations in 40 years
- Elegant design and rugged construction
- Unique pole design for bounce-free operation
- High mechanical and electrical life
- Optimally compact ACBs with adequate terminal capacity and low temperature rise
- Suitable for direct termination of aluminium links
- Distinct 'maintenance' position in draw-out ACBs
- Common depth and height up to 4000 A
- In-built mechanical anti-pumping feature
- CE marking for C & H range of ACBs



C-POWER

Comprehensive range of microprocessor based protection and control units with true-RMS sensing, self-powered protections, fault annunciation & communication capabilities

SR61C - Communication capable protection and control units with current metering, fault history and zone selective interlocking

SR21i - Overcurrent and earth fault protection with zone-selective interlocking

SR18/18G - Practical all round solution with over current and earth-fault protections



U-POWER

- 400 A to 6300 A in four optimized frame sizes
- Standard 100% neutral rating. 50% and 200% neutral ratings also available
- Unique arc chute interlock prevents breaker closing when arc chute is missing
- Smart racking shutter ensures total safety in racking operations
- Unique pole design ensures energy saving through low watt loss
- Common height and depth across the range
- Display of complete accessory information on front facia
- Tool-less fixing of voltmetric releases
- Suitable for direct termination of aluminium links
- Independent locking of ON / OFF buttons
- Optimally compact dimensions, without sacrificing termination area



AIR CIRCUIT BREAKERS

U-POWER

- Comprehensive range of micro controller based protection and control units
- Real-time on-line graphical representation of protection characteristics on high resolution LCD display
- Basic protection independent of external power supply
- Additional protection for voltage variation, frequency variation, undercurrent, reverse power, temperature rise, earth leakage and restricted earth fault
- Event recording and fault history
- Metering of current, voltage, power, energy, frequency and power factor
- Communication capable on MODBUS protocol
- Trip circuit supervision
- Two storable settings



Com Manager™

- Comprehensive solution for protection and power management
- Controls up to 32 devices on MODBUS protocol, extendable to 256 devices
- Customized single line diagram of power system
- Integrates all communicable L&T products viz. ACBs, MCCBs and meters
- Intuitive Windows based graphical user interface (GUI)
- Remote real-time monitoring and data acquisition
- Comprehensive reporting and alarm management
- Real-time and historical trending
- Multi-level password protection



MOULDED CASE CIRCUIT BREAKERS

MCCB: Type DU

- Available range: 32 A to 200 A
- Breaking capacity up to 30kA
- Aesthetic and compact
- High electrical and mechanical life
- Total safety to user
- Available in SS enclosures
- High vibration and shock resistant
- Conforms to IS 13947-2, IEC 60947-2, EN 60947-2



MCCB: Type DH

- Wide range: 12 A to 630 A
- Breaking capacity up to 65kA
- Available in 3 pole and 4 pole
- No line load bias
- High electrical and mechanical life
- Low let through energy and low cut-off current
- Adjustable thermal releases
- Add on earth fault modules
- Special MCCBs for motor, generator and furnace protection
- Suitable for copper and aluminium terminations
- Safe to install & use
- Conforms to IS 13947-2, IEC 60947-2, EN 60947-2



MOULDED CASE CIRCUIT BREAKERS



MCCB : Type DN

- Complete range: 16 A to 1600 A in 3 pole / 4 pole versions
- Breaking capacities up to 100kA
- Micro-controller based intelligent and communication capable protection and control units
- Global bench marking-KEMA certified
- Positive isolation
- User friendly features
- Ergonomic design
- Superior safety features, safe to install & use
- Conforms to IS 13947-2, IEC 60947-2, EN 60947-2
- Wide range of internal & external accessories



Release Features

RC 10

- Micro-processor based design
- Overload protection with fixed time delay
- Short circuit protection with two time delay settings
- Instantaneous over ride protection
- Earth fault protection with two time-delay settings
- Built-in CTs
- Self diagnostic test possible
- Wide range of selection
- True RMS sensing
- Selfpowered

RC 20

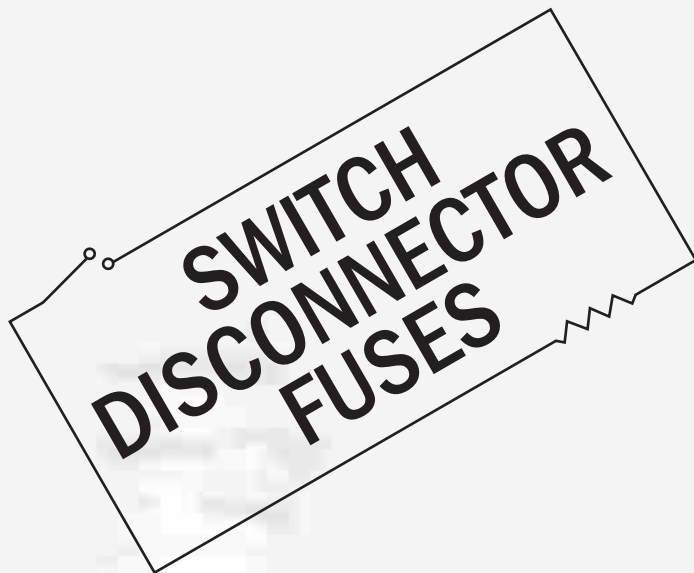
- O/L with selectable, S/C Inst over ride protection
- E/F with selectable time delay
- Backlit LCD display
- Metering for current
- Protection against unbalanced load
- I²t protection, neutral protection, cold load protection
- Time resolution in current and time delay setting
- User friendly navigation system
- Selfpowered for basic protection
- Communication using RS 485 Port and MODBUS RTU protocol



MCCB: Type DN0

- Available in ratings from 20 A to 100 A
- Breaking capacity - 30kA
- Compact size: 75 x 130 x 60 suitable for side-by-side mounting
- Specially designed 'speedo-quench' contact system and 'arc suction effect' arc chutes provide efficient arc quenching
- Adjustable overload setting
- Easy ON / OFF / RESET operations
- Wide variety of click-fit accessories





F-line

SDFs: Type FNX

- Ratings: 32 A to 800 A in six frame sizes
- AC-23 A rating for the complete range
- Available in TPN and four pole versions
- High short circuit capacity of fuses (100kA)
- Electro dynamically compensated contact system
- Versatile handle (patented)
- High clearance and creepage distances
- Suitable for copper and aluminium terminations
- CE marking and conformance to IS 13947-3, IEC 60947-3
- Easy inspection and replacement of contacts
- Fuse barriers to prevent inter phase short circuits
- DIN rail mounting up to 100 A
- Suitable for horizontal and vertical installations
- Terminal shrouds for safety
- Telescopic shaft for the handle (stepless adjustment)
- Clear ON / OFF indication
- Aesthetic appearance

Accessories

- Auxiliary contact kit
- Castell lock
- Fuse operation indicator
- Extended terminal shroud
- Fuse puller unit
- Mechanical interlock kit



SDFs: Type FN

- Ratings: 32A to 800A
- Version: TP/TPN
- High short circuit rating of fuses (100kA)
- Full AC-23 A utilization category
- Positive isolation of fuses
- Quad break contact system
- Separate arcing and current carrying zones
- High clearance and creepage distances
- Phase barriers
- Suitable for aluminium terminations
- Built-in isolable or add-on switched neutral
- Easy inspection and replacement of contacts
- Suitable for horizontal and vertical terminations
- Clear ON / OFF indications
- Available in sheet steel enclosure
- Conformance to IEC 60947-3 and IS 13947-3
- Switch interiors for panel mounting type FF / FFO / FAC

Accessories

- Handle assembly (Type A/B/C/E)
- Shaft extension kit
- Switched neutral kit
- Auxiliary contact kit
- Mechanical interlock kit
- Castell interlock
- Terminal shroud kit
- Interphase barrier kit

Spares

- Handle assembly
- Front housing assembly
- Spare kit of contacts



CHANGEOVER SWITCHES

Type FG

- Excellent aesthetics
- Ratings: 63 A to 1600 A
- High making and breaking capacities
- Highly reliable
- Convenient single handle operation
- Suitable for tropical conditions
- Quick make and quick break mechanism
- Reduced operating torque
- Conformance to IEC 60947-2 & 3 and IS 13947-2 & 3

Accessories

- Safety key lock
- Auxiliary contacts
- Clutch handle
- Terminal shroud



HIGH RUPTURING CAPACITY FUSES

DIN Fuses Type HN

- Ratings: 63 A to 800 A
- High breaking capacity (100kA)
- Low watt loss
- Low let-through energy
- Immediate fault indication
- Size: 0 to 3

Cylindrical Fuses Type HF

- Ratings: 2 A to 63 A
- High breaking capacity (80kA)
- Low watt loss
- Immediate fault indication
- Same size from 2 A to 63 A

Bolted Fuses Type HG

- Ratings: 2 A to 32 A
- High breaking capacity (80kA)

Bolted Fuses Type HQ

- Ratings: 2 A to 630 A
- High breaking capacity (80kA)

Accessories

- Fuse base
- Fuse pulling handle



CONTACTORS

M-line

Power Contactors

- Rating: 9 A to 550 A
- Available in six frame sizes
- Easy inspection and replacement of coils and contacts
- Alpha-numeric terminal markings
- Front ON / OFF indication
- Aesthetic appearance
- CE Marked and approved
- Conforms to IEC 60947-4-1, BSEN 60947-4-1 & IS 13947-4-1
- Entire range UL certified
- Operating band from 62 % to 120% up to 32A

Special features of 9A-40A Contactors

- Snap fit construction
- Fingerproof terminals
- Common coil for entire range

Accessories

- Add-on auxiliary contact block
- Surge suppressor
- Mechanical interlock kit

Single-Pole Contactors Type MR 1

- Available in ratings 16 A, 25 A and 40 A
- The ultimate solution for heating, ventilation and air-conditioning applications
- Available with screw and fasten type terminations

Control Contactors Type MN0

- Suitable up to 8 NO / 8 NC contact combinations (with add-on)
- Snap fit DIN rail mounting
- Suitable for AC / DC operation
- Alpha-numeric terminals eliminate wiring errors



CONTACTORS

THERMAL OVERLOAD RELAYS

4 Pole Contactors Type MCX

- Ratings: 16 A to 700 A (AC1duty)
- Suitable for gen-set applications
- Available in five frame sizes and eighteen current ratings
- Alpha-numeric terminal marking
- Conforms to IEC 60947-4-1, IS 13947-4-1 standards
- Wide operating band up to 100A AC1
- MCX range to replace MC range of 4 pole contactors
- Enhanced appearance



Mini Contactors Type MX

- Suitable for both control power applications
- AC/DC versions available
- Front ON / OFF mechanical indication
- Base and DIN rail mounting facility
- Finger proof terminals
- Built-in surge suppressor for DC contactors
- Direct mounting of overload relays
- Wide range of accessories
- Conforms to IEC 60947-4-1, IS 13947-4-1 standards



Type MNX R

- Ratings: 0.20 A to 570 A
- Inbuilt single phasing protection
- Suitable for direct/separate mounting
- Built-in 'START' and 'OFF / RESET' push buttons
- Auto and manual reset modes
- Ambient temperature compensation: -5°C to +55°C
- Electrically separate NO contact
- Conformance to IEC 60947 and IS13947

Accessories

- Pushbutton unit
- Relay mounting kit



STARTERS

Type MN

- Excellent aesthetics
- Flush mounted push buttons
- Built in single phase protection relay
- Suitable for rural and industrial motor application
- Enclosures with IP54 degree of protection
- Lockable push button
- Terminal block for ease of termination
- Copper and aluminium terminations possible
- Conforms to IS 13947-4-1 and IEC 60947-1 standards

Direct-On-Line Starters

- Suitable for motors up to 45 hp
- Wide band of operating voltage
- Wide range of relay settings and coil voltages

Star-Delta Starters

- Suitable for 10 hp to 400 hp motors
- Base plate mounting with rubber gasket makes the starter assembly vibration proof
- Available in semi automatic and fully automatic versions
- Electronic timers in fully automatic starters for high repeat accuracy



SOFT STARTERS

Soft starters

- Total motor starting solution
- Range : 7.5 kW to 800 kW @ 400 V
- Wide control voltage range (110 – 440 VAC)
- XLR8 adaptive acceleration control
- Timed voltage ramp, constant current, torque control, kick start
- Soft stopping
- Soft braking
- Phase sequence protection
- Auto start
- Fault history
- Communication on RS 485
- Forward / Reverse jog functions



MOTOR PROTECTION CIRCUIT BREAKERS

Type MNX

- Compact in size
- High short circuit breaking capacity (50kA)
- Current limiting design
- Door coupling handle for clear ON / OFF / TRIP indication
- Conforms to IEC 947-2 & 3, IEC 947-4-1 standards
- DIN-rail mounting for the entire range
- Wide range from 0.16 A to 63 A with adjustable overload
- Differential trip indication facility for trip alarm contact

Accessories

- Standard auxiliary contacts (front and side mounting)
- Trip indicating auxiliary contacts
- Shunt release
- Under voltage release
- Door coupling rotary handle



AC INVERTER DRIVES

- New generation Yaskawa AC drives with latest technological advancements in AC induction motor speed control
- Adjustable S-curves for acceleration and deceleration
- DC injection braking at start or stop
- Power loss ride-through - for protection against momentary power loss / under voltage
- Volts / frequency ratio - fully adjustable
- Drive efficiency 96% / 98%
- Many protective features like torque limit, heat sink over-heat, current limiting DC bus fuse, motor overload protection and single phasing protection
- Operating temperature -10 to +60 °C



PROGRAMMABLE LOGIC CONTROLLERS

Programmable Logic Controller (PLC)

- Compact & modular
- Wide range : 10 – 1600 I/Os
- On board I/O mapping for ` faster setup
- 2 in-built communication ports (MODBUS / user defined protocol)
- Run / remote / programming switch - on board
- User friendly windows based programming software for entire range
- Advanced software features, offline simulator & time chart monitoring



DIGITAL PROTECTIVE RELAYS

- Compact and lightweight meters
- Self-diagnostic feature ensures complete reliability
- Low power burden
- Communication capable
- Offers multiple protection
- Flexibility in selection of protection curve
- Conforms to latest standards IEC 6100, IS 3231 and IS 8686

Product Range

- Single phase & three phase over current and earth fault relays
- Under-voltage & over-voltage
- Control supervision
- Power factor control
- Motor protection
- Generator protection
- Transformer protection



ROTARY SWITCHES

- Ratings: AC: 6A-600 A
DC: 16A-500A
- Standard and customized switches
- Suitable for AC / DC applications
- Break before make/Make before break type switches
- Flexibility of operating positions and switching angles
- Multistep programming switches
- Versatile mounting options to suit variety of applications
- User defined marking on the script plates
- DIN rail mounting facility
- Choice of attractive colors in front knob plate
- Padlocking switches for safety

Types available

- AC switches (series S, TP and RT)
- AC / DC switches (series D)
- Spring return switches

Applications

- Isolator
- Changeover switches
- Multi-step switches
- Gang switches
- Selector switches
- Control switches
- Motor switches



REACTIVE POWER MANAGEMENT SOLUTION

CONTROL ACCESSORIES

Power Factor Correction Capacitors

- Self Healing (SH) type as per IS 13340 & 41
 - Normal duty Metalised Poly Polypropylene MPP-SU
 - Heavy duty Metalised polypropylene MPP-4
 - Super heavy duty - Mix Dielectric low loss MD-XL
- Non Self Healing (NSH) type as per IS 13585
 - Mixed Dielectric (MD)
 - Film Foil - FF (or APP)

Harmonic Mitigation Devices

- Reactors 7%, 14% & custom design & setting
- Detuned filter units in various ratings

Automatic Power Factor Correction Solution (APFC) for variable loads

- APFC with power factor correction capacitors
- APFC with Harmonic filters

Active filters for special applications



Push Buttons / Actuators / LED indicators

- New design to meet end user requirement
- Can accommodate 1 NO block or 1 NC block or 1 bulb holder
- No screws required for assembly
- Ease in mounting and wiring
- Excellent aesthetics
- International approvals

UL CE VDE

Types available

- Modular remote control units
- Push button actuators, pendants and stations
- Selector switches & accessories
- LED indicators
- Filament indicators and spares
- Modular blocks and spares
- All purpose enclosures and spares



Timers, Time Switches, Hour Meters & Supply Monitors

- Auto reset synchronous timers
- Electronic timers
 - ON delay, cyclic, OFF delay, Star Delta
 - Asymmetrical ON / OFF
- Supply monitors
 - Single phasing preventor U/V + O/V relay
- Hourmeters
 - Electromechanical Digital
- Time switches
 - Electromechanical time switches
 - Digital time switches
 - Astronomical time switches



CURRENT TRANSFORMERS

Features

- Cost effective moulded case measuring current transformers
- Limited range include the seven most popular sizes of current transformers
- Ratio ratings from 30/5 to 4000/5
- Wide range of current ratings, busbar sizes, case widths and apertures
- Sealable terminal covers
- Base mounting and busbar mounting option

Applications

- Switchgear
- Distribution system
- Generator sets
- Control panels
- Overload protection
- Control devices



INDICATING METERS

Available in

- Sizes - 48 x 48, 72 x 72, 96 x 96 and 144 x 144
- Scale - 90° and 240°
- Version - AC/DC

Types

- › Voltmeter, Ammeter, Wattmeter
- › Ammeter (CT operated)
- › Power factor meter, frequency meter
- › Dual meters-available in various combinations



ELECTRONIC ENERGY METERS

Digital Panel meter and Multifunction meter

- 3 line, 4 digit LED display
- Accuracy of 0.5%
- 14-50 parameter display in digital multifunction meter
- On site programmable PT / CT ratio
- User selectable CT 5A / 1A
- User selectable 3ph, 3 wire and 4 line



Quasar - Intelligent Panel meter

- All instantaneous and cumulative values
- Flush mounting - 96mm x 96mm overall size (cutout size - 92mm x 92mm)
- Class I accuracy
- Separate display of fundamental and total harmonic values for currents and voltages of all phases
- Front panel programming
- Communication interface via RS 485 port & MODBUS protocol



AcruX - Three-Phase Energy meter

- Flush mounting - 96mm x 96mm overall size (cutout size - 92mm x 92mm)
- Compact and light-weight
- Class I accuracy as per IS 13779
- LED indication proportional to kWh for on spot calibration
- Meter records correct energy
 - ▶ Irrespective of current direction
 - ▶ Balance and imbalance condition with any phase sequence



ELECTRONIC ENERGY METERS

Electronic kWh Meter

- Single and three phase versions available
- Current reversal indication
- LED indication proportional to kWh for on-spot calibration
- Six digit counter
- Dust proof body, rugged construction, elegant polycarbonate casing
- Not affected by mounting position
- Not affected by external magnetic field
- Earth load tamper indication in single phase energy meter
- Three phase energy meters work even on neutral removal



Trivector meter Type ER300P

- 0.2 / 0.5 / 1.0 class accuracy
- Multi tariff capability with programmable TOD
- Three programmable maximum demand (MD) registers
- Tamper/failure detection and record capability
- Communication interface via optical port conforming to IEC 1107 protocol / RS 232 / RS 485
- Battery back-up for data storage
- Available in projection & flush mounting versions



Energy Management System, Power Navigator Type ER300N

- 0.5 / 1.0 class accuracy
- User-friendly software for PC operation
- Communication interface via RS 485 port and MODBUS protocol
- Back-lit LCD display
- Front panel programming

Demand Controller Type ER300D

- 4 output contacts for early alarms and tripping of non essential loads
- MD control by monitoring rising demand
- 0.5/1.0 class accuracy
- User-friendly software for PC operation
- Communication interface via RS 485 port & MODBUS protocol



MODULAR DEVICES- hager

Miniature Circuit Breakers (MCBs)

- Protects against overload and short circuits in domestic, commercial and industrial electrical distribution systems
- High breaking capacity of 10 kA
- Available in SP, DP, TP & FP versions in B, C and D curve, widest range from 0.5 to 125 A ratings
- Two position DIN rail clips allows faster installation
- SP MCB is suitable for DC applications up to 60 V
- Conforms to latest standards IEC 60898, IEC 60947, IS 8828-1996

Accessories for MCBs and RCCBs

- Auxiliary contact (1 NO+1 NC)
- Trip alarm contact
- Shunt release
- Under-voltage release
- Locking kit
- Flush-mounting kit



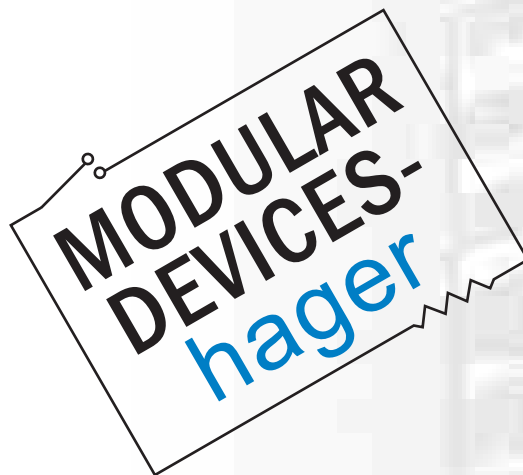
Residual Current Circuit Breakers (RCCBs)

- Provides protection against electric shocks & earth leakage
- Available in DP and FP versions in 25 A, 40 A, 63 A and 100 A ratings with 30 mA, 100 mA and 300 mA sensitivity
- Avoids nuisance tripping
- Conforms to IEC 61008
- Provided with true contact indication and earth fault indication for further safety
- Also available in RCCB - Hi version

RCBOs

- Offers **3 in 1 protection** against earth leakage, short circuit and overload
 - Rating: 6A to 32A in 2 pole with 30 mA and 300 mA sensitivity in 2 module version
 - Breaking capacity 4.5 kA
 - Conforms to IEC 61009
- Also available:
Earth Leakage Relays and
Voltage Surge Devices





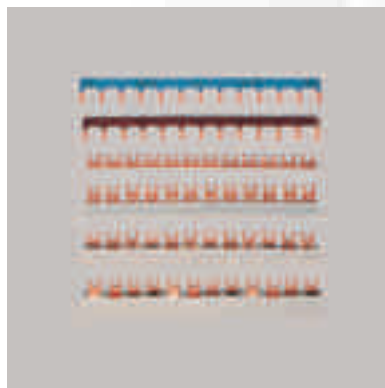
Distribution Boards

- Widest range of sheet metal and plastic DBs & enclosures designed
- Available in SPN, TPN, for phase isolation, Flexi, VTPN, Phase change over, Phase segregated DBs
- Plug & Socket outlets and one way enclosures are also available in range
- Suitable for flush & surface mounting
- Finger proof DBs range - available with IP30, IP43 and IP54 degree of protection
- Choice for plain & glazed door in IP43 DBs
- Complete DB - provided with all accessories like busbar, wire sets, blanking plates, identification labels, cable ties, earth bar and insulated N-bars
- Additional safety - by providing door earthing, plastic inserts on corners, hazard labels, cement spill protector, etc
- Additional convenience - provided with removable front plate and frame, removable gland plates, DIN rail stopper, two piece auto lock door knob, etc



Busbars

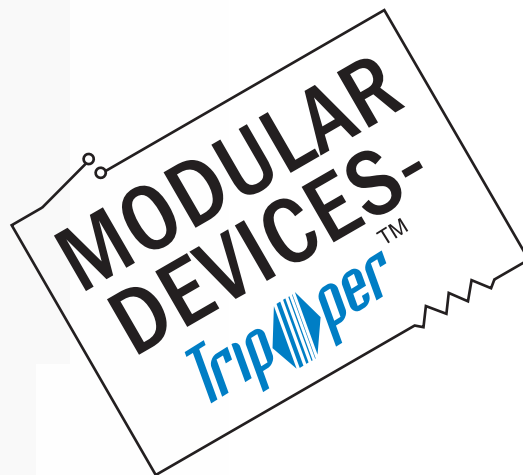
- Insulated fork busbars are rated upto 63 A and are available in 1, 2, 3 and 4 pole versions
- Enable safe and fast connection of 1 to 4 pole devices by a common busbar system
- End caps available for 2P, 3P and 4P busbars to avoid tracking between phases



Automation & Control Devices

- Isolators, two-way-center-off changeover switches
- Modular electro-mechanical and digital time switches
- Time lag and twilight switches
- Modular bells and buzzers
- Electronic thermostats
- Dimmers and dimming systems
- Analog voltmeter and ammeters





Miniature Circuit Breaker

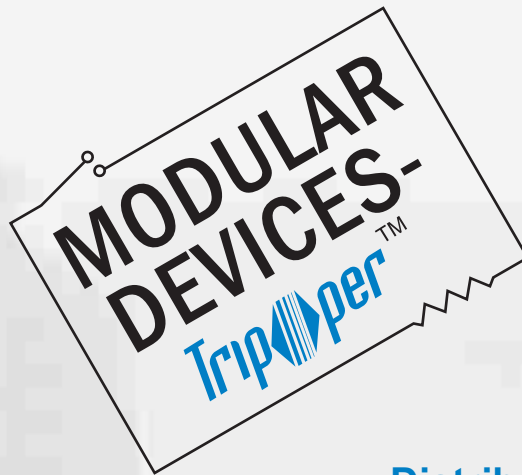
- Conforms to latest standards like IS 8828, EN / IEC 60898-1-2003
- Carries CE and ISI markings and also KEMA certification
- Breaking capacity of 6 kA for entire range
- Available in B Curve in SP & DP and C Curve in SP, DP, TP & FP versions from 6 A to 40 A ratings
- Unique - true contact Indication shows actual status of contact
- Low power loss - almost 50% of the values prescribed by IEC
- Terminals are suitable up to 35 sq.mm wire, provided with dual termination facility
- No line-load bias
- Suitable for isolation



Isolator

- Conforms to latest standards like IS 13947, EN / IEC 60947-3
- Carries CE marking and KEMA certification
- Available in range of 40 and 63 A in DP, TP and FP versions
- Suitable for AC 22-A utilization category
- Finger proof terminals IP20 degree of protection
- Ergonomically designed, profiled for superior cooling and manufactured with fire retardant material





Earth Leakage + Miniature Circuit Breaker (EL+MCB)

- Provides 3 in 1 protection against earth leakage, short circuit and overload. It also avoids excessive metering due to leakage
- Conforms to latest standards like IS 12640, EN / IEC 61009-1
- Carries CE and ISI marking
- Available in DP & FP versions in the range of 6 to 63 A with 30 mA or 100 mA or 300 mA sensitivity
- Truly current operated, operates even at nominal 1 volt
- Featured with neutral advance mechanism
- Operation even in case of neutral failure



Distribution Boards - Tripbox

- Available in aesthetically superior ivory colour to suit the interiors of buildings and can be supplied in different colour for bulk requirements
- Readily available in IP30 (single door) & IP42 (double door) degree of protection
- Distribution boards are suitable for flush and surface mounting
- Ready to use DBs - provided with 100 A phase busbar, wire set, earth & neutral bars as standard
- Provided with removable top and bottom gland plates with adequate knockout for easy wiring
- For bottom entry, neutral bar can be shifted to bottom for comfortable wiring
- TPN DBs will have provision to accommodate 6 MOD incomer
- Easy installation and flexibility in usage





TEBIS

Home Comfort Solution

Tebis is an elite solution for easy control of electrical devices such as lights, dimmers, motorized shutters, blinds, heaters coolers etc. All Tebis components comply with KNX standard. These components communicate over twisted pair (TP) wire EIB cable. The Tebis system is equally beneficial for both new installations as well as for existing ones undergoing refurbishment.

Components of Tebis system

- Input modules and sensors
- Output modules light control, dimming control, shutter control



Room Controller

Groups four push buttons and LCD display screen

- **Push buttons**
4 sides of product act as sensitive push buttons for various controls
- Freely and independently programmable
- **Display**
Indication of status of inputs connected and description of control
- Display of date, time, alarm, local temperature



Time Switch

Two channel time switch with communication feature

- For comfort of time based switching and energy saving
- Transmission of control command directly on EIB bus
- Can be programmed for any or all week days with 56 steps of programming
- Facility of festival or holiday setting
- Provision of automatic change of schedule for summer / winter
- Programming possible locally or with the help of programming key





Presence Detector

Used for automatic lighting or cooling control based on occupancy

- Detection based on movement as well as presence with two lenses
- Covers large area of detection upto 1 8m x 9m depending on installation height
- Available in two versions 2 channel detector with ON/OFF control
- 1 channel lighting regulation
- Turn off delay adjustable up to 1 hour
- Application; corridors, offices, cabins, conference rooms, class rooms



Weather Controller

For control output loads by monitoring various weather related parameters such as rain, wind, inside and outside temperature, light, etc.



Telephone Module

- Controls up to 3 loads over any landline or mobile telephone
- Voice guide in english
- Password protected operation
- Status indication for each load
- Possible to operate the loads manually



Sensors

Various sensors such as wind gauge, temperature probe, light and rain sensor monitor weather parameters and weather send it to controller for controlling loads



WIRES

- Wires for industrial, commercial and domestic applications
- Voltage grade up to 1100 V
- Conforms to IS 694-1990 standards
- Complete safety ensured
- Insulation types available for all wires are:-Flame Retardant (FR), Flame Retardant Low Smoke (FRLS), Zero Halogen Flame Retardant (ZHFR) and Heat Resistant (HR)

Flat Cables

- These cables are rigid and withstand all adverse conditions
- Made of bright plain multi-strand annealed copper conductors
- Available in 100 meter coils and drums of 500 and 1000 meters
- Range 1.5 sq.mm to 70 sq.mm

Flexible Wires

- Single and multi-core wires are available
- Suitable for industrial wiring applications
- Available in standard length of 100 meters coil
- Range 0.5 sq.mm to 1000 sq.mm

House Wires

- Made of annealed copper conductor
- Conforms to IS 8130-1984 standards
- The insulation used is FR PVC compound for additional safety
- Twin coating for superior insulation
- Range 0.75 sq.mm to 25 sq.mm



BUSBAR TRUNKING SYSTEM

Busbar Trunking System

L&T Megaduct

- Current Rating: 100 A to 6000 A
- System Voltage: 600 V up to max. of 1000 V
- Conductor material: High conductivity Cu/Al
- Ingress Protection of IP66 / IP54 / IP42
- Configuration of 3P3W / 3P4W / 3P5W with or without integral earth
- Halogen free, fire retardant Class - H - Epoxy insulation
- High temperatures withstand capability of 55 degree over 50 degree celsius as normal operating temperature
- Single Bolt bridge joint system incorporates 5mm thermal expansion provision
- Tap - off units are provided for MCCBs or SDFs or MCBs
- Sandwich construction results in lower mV drops, hence higher efficiency distribution system
- Available as feeder for power transmission and plug-in for power distribution
- Standard lengths of 3M / 2M / 1M up to 0.45M
- Excellent short circuit ratings (up to 100 kA)
- System primarily consists of components such as Straight Length, End Flange, End Feed Unit, Tap of Units, Bends, Fixing clips, etc



Electrical Standard Products (ESP) Branch Offices:

REGISTERED OFFICE AND HEAD OFFICE

L&T House, Ballard Estate
P. O. Box 278
Mumbai 400 001
Tel: 022-6752 5656
Fax: 022-6752 5858
Website: www.Larsentoubro.com

ELECTRICAL STANDARD PRODUCTS (ESP)

501, Sakar Complex I
Opp. Gandhigram Rly. Station
Ashram Road
Ahmedabad 380 009
Tel: 079-66304007-11
Fax: 079-26580491
e-mail: esp-ahm@LNTEBG.com

38, Cubbon Road, Post Box 5098
Bangalore 560 001
Tel: 080-25020100, 25593613
Fax: 080-25580525
e-mail: esp-blr@LNTEBG.com

131/1, Zone II
Maharana Pratap Nagar
Bhopal 462 011
Tel: 0755-4233906, 4233907
Fax: 0755-2769264
e-mail: esp-bho@LNTEBG.com

Plot No. 559, Annapurna Complex
Lewis Road
Bhubaneswar 751 014
Tel: 0674-6451342, 2436696
Fax: 0674-2537309
e-mail: esp-bbi@LNTEBG.com

SCO 32, Sector 26-D
Madhya Marg, P. O. Box 14
Chandigarh 160 026
Tel: 0172-4646841 to 7
Fax: 0172-4646802
e-mail: esp-chd@LNTEBG.com

10, Club House Road
Chennai 600 002
Tel: 044-28462072 / 4 / 5
Fax: 044-28462102
e-mail: esp-maa@LNTEBG.com

67, Appuswamy Road
Post Bag 7156
Opp. Nirmala College
Coimbatore 641 045
Tel: 0422-2588120 / 1 / 5
Fax: 0422-2588148
e-mail: esp-cbe@LNTEBG.com

L&T House, Group MIG - 5
Padmanabhpur
Durg 491 001
Tel: 0788-2213833 / 14 / 28 / 29
Fax: 0788-2213820

A1/11, Astronauts Avenue
Bidhan Nagar
Durgapur 713 212
Tel: 0343-2536891 / 8952 / 7844
Fax: 0343-2536493
e-mail: esp-dgp@LNTEBG.com

Milanpur Road, Bamuni Maidan
Guwahati 781 021
Tel: 0361-2651297
Fax: 0361-2551308
e-mail: esp-gau@LNTEBG.com

II Floor, Vasantha Chambers
5-10- 173, Fateh Maidan Road
Hyderabad 500004
Tel: 040-66720250
Fax: 040-23296468
e-mail: esp-hyd@LNTEBG.com

D-24, Prithvi Raj Road, C-Scheme
Jaipur 302 001
Tel: 0141-2385913 / 19
Fax: 0141-2373280
e-mail: esp-jai@LNTEBG.com

Akashdeep Plaza, 2nd Floor
P. O. Golmuri
Jamshedpur 831 003
Jharkhand
Tel: 0657-2340864
Fax: 0657-2341250
e-mail: esp-jam@LNTEBG.com

Skybright Bldg. M. G. Road
Ravipuram Junction, Ernakulam
Kochi 682 016
Tel: 0484-4409420 / 427
Fax: 0484-4409426
e-mail: esp-cok@LNTEBG.com

3-B, Shakespeare Sarani
Kolkata 700 071
Tel: 033-44002572 / 3 / 4
Fax: 033-22822589
e-mail: esp-ccu@LNTEBG.com

A28, Indira Nagar, Faizabad Road
Uttar Pradesh,
Lucknow 226 016
Tel: 0522-2312904 / 5 / 6
Fax: 0522-2311671
e-mail: esp-Lko@LNTEBG.com

Plot No. 518
4th Main Road
K. K. Nagar
Madurai 625 020
Tel: 0452-2537404, 2521068
Fax: 0452-2537552
e-mail: esp-mdu@LNTEBG.com

EBG North Wing Office - 2
Powai Campus
Mumbai 400 072
Tel: 022-67052874 / 2737 / 1156
Fax: 022-67051112
e-mail: esp-bom@LNTEBG.com

8B, Farmland
Ramdaspath
Behind Hotel Radhika
Nagpur 440 010
Tel: 0712-2420641 / 24
Fax: 0712-2420619
e-mail: esp-ngp@LNTEBG.com

32, Shivaji Marg
P. O. Box 6223
New Delhi 110 015
Tel: 011-41419500 / 1, 41419515
Fax: 011-41419600
e-mail: esp-del@LNTEBG.com

L&T House
P. O. Box 119
191/1, Dhole Patil Road
Pune 411 001
Tel: 020-26135048, 26135611
Fax: 020-26129586, 26124910
e-mail: esp-pnq@LNTEBG.com

3rd Floor
Vishwakarma Chambers
Majura Gate, Ring Road
Surat 395 002
Tel: 0261-2473726
Fax: 0261-2477078
e-mail: esp-sur@LNTEBG.com

Radhadaya Complex
Old Padra Road
Near Charotar Society
Vadodara 390 015
Tel: 0265-6613610 / 11 / 12
Fax: 0265-2336184
e-mail: esp-bar@LNTEBG.com

48-8-16, Dwarakanagar
Visakhapatnam 530 016
Tel: 0891-6620411-4
Fax: 0891-6620416
e-mail: esp-viz@LNTEBG.com

Product improvement is a continuous process. For the latest information and special applications, please contact any of our offices listed here.



Electrical Standard Products
Larsen & Toubro Limited
Powai Campus, Mumbai 400 072
Tel: 022-6705 0505
Fax: 022-6705 1746
E-mail: ebg-esp@LNTEBG.com
Website: www.LNTEBG.com

