



EMI/EMC, LPS, SIGNAL INTEGRITY, EARTHING
Verification of L.V Electrical Installation

Design from PCB level up to EM compatible buildings
Consultancy, Risk Assessment, Training, Failure Analysis

The Right Partner for your IT enabled building
Buildings safe against "Fire due to Short Circuit"
Buildings free from Electronics Failures
Economical / Reliable / Easy to Maintain





Mr. Rengasamy Ganesan, Managing Director of LPCI is an Electronics and Communication Engineer. He has served in Army Centre for EMC (ACE), Mhow (MP) and SAMEER-Centre for Electromagnetics.

He has more than 25 years of experience in EMC testing and design. He has worked as project manager and implemented CE marking project for three EMC test centers. He has conducted EMC and lightning protection program in many countries including India, Malaysia, Sri Lanka and Singapore. He has published many technical papers on EMC in National and International conferences. He is a life member of Society of EMC Engineers India.



Mr. S. Gopakumar is an Electrical Engineer, founder of Cape Electric, OBO India and LPCI. He is having more than 25 years experience in Lightning protection, Surge Protection, Earthing and Electrical Safety.

He has done numerous site studies on failure of electronics, designed and executed Lightning protection of various industrial and commercial buildings. He has conducted more than 500 technical seminars on lightning protection across continents and has wide experience in Civil engineering as well. He has worked with several standardising organisations and also involved in drafting Lightning Protection and Earthing section in National Building Code 2016.

Member WG 03 and 05, SC-37A, IEC
Member NBC-2016 (Electrical committee)
Member ET30 - BIS, (Surge Arresters)

Advisors



Prof. (Dr.) G. R. Nagabhushana is AICTE Emeritus Fellow, retired as Professor and Chairman of High Voltage Engineering Division, IISc Bangalore.

His area of work includes lightning simulation of power systems, low Voltage Circuits, Tall objects, Satellite launch pads, Aircraft. He developed Lightning Test facility for Aeronautical Development Agency - Defense Research and Development Organisation (DRDO) for full-scale testing for lightning. He has published more than 100 research papers in international conferences and journals.



Prof. Dr. Chandima Gomes is the head of the Centre for Electromagnetic and Lightning Protection Research, Malaysia. He is also a Professor of Electrical Engineering at University Putra Malaysia.

He has held professorships in Physics, Meteorology and Engineering in several Universities in Asia and Asian campuses of USA and Australian Universities.

Prof. Dr. Gomes is a senior consultant in lightning protection for several international organisations. He is also an international trainer in lightning protection, grounding and bonding and electrical safety who has conducted over 120 programs in 12 countries so far. He has published over 200 research papers and several books on his expertise.



Dr. Srinivas Sathyamurthy, retired from DRDO in 2009 with a distinguished career as Scientist 'G'

Having worked on important electronics and communication projects of AFVs for more than three decades. He has 70 technical publications to his credit in the EMI-EMC field and he is the first DRDO recipient of N.V. Gadhadhar memorial Gold Medal award (2003) from IETE, Bangalore for his contributions to Mobile Communications.

He is the author of the Book titled 'Basics of Electromagnetic Compatibility' and Co-author of the Book titled ELEMENTS OF ROBOTIC SYSTEMS, 'Optical Communications'. He is an IEEE Member and he has been listed in the Marquis Who's Who listing as an achiever in Science and Engineering (2011-2012)



Established in 2007, our qualified, experienced and dedicated team help industries to identify & solve EMI, ESD, Signal Integrity, earthing and lightning related problems. We are capable of identifying and fixing existing problems by applying proven design and troubleshooting techniques conforming to the latest IEC / EN / CISPR / ANSI and IEEE standards.

Our short term and Long Term training courses are well appreciated in the construction industry (IT enabled buildings) and electronic manufacturing industry. Our application oriented training on EMC, ESD and lightning protection help industries not only to prevent future problems, but makes them experts in basic design considerations required.

We have the strongest resource in Asia to solve every failures in electrical and electronics systems, from some of the world famous advisers / consultants to our own collection of almost every international design standards and technical publications.

LPCI has solved or prevented hundreds of EMI and lightning related problems in a wide range of industries (DATA centers, medical devices, industrial processing, vehicles, telecom, railways etc). We have trained over 1,000 engineers and technicians in various asian countries through public and in-house seminars on EMI/EMC and lightning protection.

Electro Magnetic Compatibility (EMC), Electro - Static Discharge (ESD), Signal Integrity, Surge and Lightning Protection (LPS), Earthing system

Design..... Analysis.....Implementation.....Supervision..... Training..... Guarantee.....

Design and Project Management

- EM compatible buildings for installation of Electronic Equipment (Electrical and Signal / Data installations)
- Anti-Static Flooring (ESD Protected Manufacturing locations)
- Earthing System design for HV / EHV substations, Telecommunication Installations, Signaling Installations
- Permanent Earthing systems installations such as Foundation Earthing, Ring Earthing, Structural Earthing and EarthMat
- Protection of Electronics in buildings, Shielding Measures, Screening Measures, Bonding Measures, Harmonic Reduction
- SPM for protection of Electronics against Lightning and External EMI
- Design, Implementation and Guarantee of Electronic Equipments
- Equipotential Bonding Network in buildings using Steel reinforcement

Evaluation an audit service

- Evaluation of Internal and External Lightning Protection System
- Compatibility and Conformity check of electronic installations and equipment for various IEC / EN / CISPR standards
- Technical Support for CE confirmation for Electronic system Manufacturers
- Lightning Risk Assessment and Management as per IS 62305
- EMI / EMC study and implementation design guidelines up to PCB level
- Failure analysis of electronic system
- Electrical Safety Audits

Training

- 1 day training course on Lightning Protection System Design
- 1 day training course on Earthing system Design
- 2 Days Training course on LPS design acc. IS 62305
- 5 Day training course on EMI / EMC / LPS
- 5 day training course on PCB design (EMI / EMC part)

LPS Risk Assessment Software acc to IS/IEC 62305

LPCI Risk assessment software is based on IS 62305-2, which helps in easy selection of required lightning protection level for a project. Considerations for human safety (eg. automated fire protection) in the software ensures that optimum LPL is selected for an economical lightning protection design.

Verification of L.V installation as per IEC 60364-6

Verification of L.V electrical installation before commissioning is getting popular worldwide. This verification ensure safety from fire and electrocution. Much awaited IS732 also insit for testing of L.V installation. The testing comprices of identification of the network such as TN-S, TN-C-S, TT, IT etc, continuity of conductors, fault loop impedances, prospective fault current, prospective short circuit current, establishment of fault clarence times etc are highly skilled and specialised jobs.

LPCI works in this field of testing and verification of the L.V system and train engineers to carry out these testings which is going to be a viutal element in indian electrical industry to avoid "fire due to short circuit".

IT Enabled Buildings

Design and implementation of Common Bonding Networks, Equipotential Bonding, Functional Earthing and Safety Earthing.

Major reason for failure of electronic system are due to different kind of over voltages or EMI effects exist in the installation. Protection of sensitive Electronics against Over Voltages and EMI in modern buildings are becoming a challenge due to

- Use of more electronic systems such as computer systems, control and security systems, BMS, etc
- Reduced operating voltage of modern electronics and increased sensitivity of electronics against conducted and radiated surges
- Increased use of electrical devices creating number of power quality issues
- Bonding and shielding of electrical and control systems in buildings are not provided due to lack of awareness.

Over voltages in L V electrical installation of a building are due to Earth fault in HV system, Faults in LV systems, Transient over voltage due to lightning, transient over voltages due to switching of electrical installations, EMI etc. Even though most equipment used in building services are designed, manufactured and tested confirming to the latest IEC/IEEE/ANSI standards, they often fail or malfunction due to the fact that the environment where they are installed are not confirming the basic requirements.

LPCI assessment service confirm the compliance of electrical and electronic installations as per the following standard :

- IEC 60364-4-44: LV electrical installations - Protection against voltage disturbances and electromagnetic disturbances.
- ISO / IEC 30129: Information Technology - Bonding networks for buildings structures
- ANSI/BICSI Bonding Standards for data centers
- IS/IEC 62305 - 1 to 4, IEC 61643,-11, 12, 21 and 22, IEC 62561-1 to 7: Lightning protection, surge protection, TN-S with PME earthing - Design, Installation and maintenance
- IEEE 80 - AC Substation Grounding

Customers



Training

EMI / EMC / ESD / LPS / Earthing : LPCI conducts training courses independently and in association with leading national / international agencies. The training programs are for public or customised in-house for industries.



Seminar in RDSO (Research Design in Standards Organisation)



EMI/EMC Workshop in UL India.



EMC Training in Singapore for AVAGO

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