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REGISTRATION FORM
ONE DAY TECHNICAL SEMINAR
LIGHTNING & SURGE PROTECTION AND POWER QUALITY & RELIABILITY
(Closing Date: 27 SEPTEMBER 2019)

No	Name	M'ship No.	Grade	Fee (RM)
SUB TOTAL				
ADD 6% SST				
TOTAL PAYABLE				

Enclosed herewith a crossed cheque No: _____ for the sum of RM _____ issued in favour of "**The Institution of Engineers, Malaysia**" and crossed 'A/C payee only'. I/We understand that the fee is not refundable if I/We withdraw after my/our application is accepted by the Organising Committee as stated in the **cancellation term**. If I/We fail to attend the seminar, the paid registration fee will not be refunded.

Contact Person: _____ Designation: _____

Name of Organization: _____

Address: _____

Telephone No.: _____ (O) _____ (Fax)

_____ (H) _____ (HP)

Email: _____

 Signature & Stamp Date

Photocopies are acceptable

CANCELLATION POLICY

IEM reserves the right to postpone, reschedule, allocate or cancel the course. Full refund if cancellation is received in writing more than 7 days before start date of the event. No cancellation will be accepted prior to the date of the event. However, replacement or substitute may be made at any time with prior notification and substitute will be charged according to



ONE DAY TECHNICAL SEMINAR
LIGHTNING & SURGE PROTECTION
AND POWER QUALITY & RELIABILITY

30TH SEPTEMBER 2019

Organised by
Electrical Engineering Technical Division, IEM
 In cooperation with
Hioki Singapore Pte. Ltd.

Venue : Malakoff Auditorium, Ground Floor, Wisma IEM, Petaling Jaya, Selangor, Malaysia
 Time : 8:30am – 5:30pm
 Speaker : Er. Professor Dr. Lock Kai Sang

BEM Approved CPD/PDP hours: 7 Ref. No.: IEM19/HQ/301/S

REGISTRATION FEES (SUBJECT TO 6% SST)

	ONLINE	NORMAL (Offline)
IEM Student Member	RM 50.00	RM 80.00
IEM Graduate Member	RM 150.00	RM 200.00
IEM Corporate Member	RM 250.00	RM 300.00
Non-IEM Member	RM 500.00	RM600.00

IMPORTANT NOTES

- Closing Date: **27 SEPTEMBER 2019**
 - For **ONLINE REGISTRATION**, payment **MUST BE MADE VIA ONLINE PAYMENT [via RHB Now and Maybank2u - Personal Saving & Personal Current; Any Credit Card - Visa/Master]**. If payment is not received within the stipulated time, the registration fee will automatically be reverted to the normal fee.
 - Payment via **CASH/CHEQUE/BANK-IN TRANSMISSION/BANK DRAFT/MONEY ORDER/ POSTAL ORDER/LOU/LOG/WALK-IN** will be considered as **NORMAL REGISTRATION**
 - **FULL PAYMENT must be settled before commencement of the event**, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participant fails to attend the course, the fee is to be settled in full. If the participant failed to attend the course, the fee paid is non-refundable. IEM reserve the right to reject any LOU/LOG not in accordance with these instructions.
- The Organising Committee reserves the right to alter or change the programme due to unforeseen circumstances.

SYNOPSIS

Electrical and electronic equipment are designed and built to operate satisfactorily under specified power quality and electromagnetic environment. They may malfunction or degrade in performance when operating beyond the stipulated power quality and EM environment.

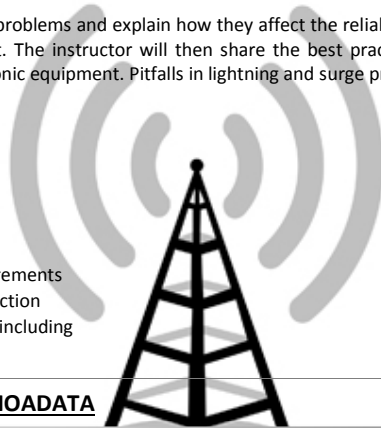
Power quality of utility supply is deteriorating due to grid connection of renewable energy sources, such as the PV farms, and the proliferation of electronic loads, which include variable-frequency drives and charging stations of electric vehicles. Harmonic voltage waveform distortion, transient voltage disturbances associated with short circuit faults, lightning, and network switching have emerged as major concerns to manufacturers and users of electronic equipment. Increasingly, a high proportion of the disturbances is generated by user equipment and by inadequate wiring and grounding practices.

In the Malaysian context, lightning and the associated surges are the major causes for equipment damage and operational disruption. Unfortunately, misconception and malpractice in bonding and surge protection implementation often lead to additional problems instead of achieving the intended mitigation.

This seminar will provide an overview of the power quality problems and explain how they affect the reliability and availability of sensitive electrical and electronic equipment. The instructor will then share the best practices for powering and grounding such sensitive electrical and electronic equipment. Pitfalls in lightning and surge protection will be identified together with sharing of the best practices.

The key topics include:

- Overview of power quality
- Causes for poor power quality
- Reliability and availability design approach
- Mitigating measures to enhance power quality
- Overview of lightning and surge protection requirements
- Pitfalls in implementing lightning and surge protection
- Best practices for lightning and surge protection, including earthing and bonding



SPEAKER'S BIOADATA

Er. Professor Dr. Lock Kai Sang

B.Sc, Ph.D, FSEng Hon., FIES, SFAAET, FIET, FICS, FSIArb, CEng., ACPE, PEng.

Dr Lock is a Professor at Singapore Institute of Technology (SIT) and the Principal of PQR Consultants. He has a unique blend of practicing and academic experience acquired through a career equally split between the industry and the academia. As a teacher and trainer, his key strength is the fusion of practical examples with fundamental principles.

He is a Board Member of the Professional Engineers Board, Singapore and a Past President of the Institution of Engineers, Singapore. He is well-versed with standards and codes of practice and was the Chairman of Singapore Standards Council for 6 years, actively contributing to the promotion and establishment of Standards and Codes of Practice in Singapore. He is a Fellow of Academy of Engineering, Singapore, Honorary Fellow of ASEAN Federation of Engineering Organizations, and Senior Fellow of ASEAN Academy of Engineering and Technology.

He received his BSc (1st Class Honours) in Electrical and Electronics Engineering in 1975 from the University of Strathclyde, UK. He completed his Ph.D. degree at the same university in 1979 researching on the design optimization of electrical machines. He joined the National University of Singapore as a lecturer in 1980 and was the Head of its Power and Machines Division, Department of Electrical Engineering, when he left in 1997 to set up his consulting practice. He has authored over 200 consultancy reports, mainly in power quality and reliability, EMC, lightning and surge protection, failure analysis, and design for mission-critical power system. After 19 years in consulting practice, he returned to the academia in 2016 as a Professor at SIT. He is the co-author of a book "Grounds for Grounding: a Circuit-to-System Handbook" published by IEEE/John Wiley in 2010.

TENTATIVE PROGRAMME

Time	Topic
08:30 – 09:00	Registration
09:00 – 09:45	Overview of Power Quality & Causes for Poor Power Quality
09:45 – 10:45	Causes for poor power quality
10:45 - 11:00	Morning Break
11:00 – 12:00	Reliability and availability design approach
12:00 – 13:00	Mitigating measures to enhance power quality
13:00 – 14:00	Lunch
14:00 – 15:00	Interactive Engineers Challenge Exercise
15:00 – 15:45	Overview of lightning & surge protection requirements Pitfalls in implementing lightning and surge protection
15:45 – 16:00	Coffee Break
16:00 – 16:45	Best Practices for Lightning & Surge Protection, including Earthing and Bonding
16:45 – 17:30	Question & Answer Session
17:30	End of Seminar

PERSONAL DATA PROTECTION ACT

I have read and understood the IEM's Personal Data Protection Notice published on IEM's website at <http://www.myiem.org.my> and I agree to IEM's use and processing of my personal data as set out in the said notice.