#### Chairman,

Electrical Engineering Technical Division, The Institution of Engineers Malaysia, Lots 60 & 62, Jalan 52/4, P.O. Box 223 (Jalan Sultan), 46720 PetalingJaya, Selangor Darul Ehsan Tel: 03-7968 4001/2 Fax to 03-7957 7678 (Email : roselein@iem.org.my)

## REGISTRATION FORM ONE DAY COURSE ON "ATS MS IEC 60947-6-1 & Power Capacitors IEC 60831"

Date : 9<sup>th</sup> August 2016

Venue: Auditorium Tan Sri Chin Fung Kee, 3rd Floor, Wisma IEM, Petaling Jaya

Closing Date : 5<sup>th</sup> August 2016

No	Name(s)	M'ship No.	Grade	Fee (RM)*
SUB TOTAL				
ADD GST @6%				
	Total Payable			

\*Fees MUST be fully paid BEFORE the CLOSING DATE. Seats could only be confirmed upon payment.

Enclosed herewith a crossed cheque No: \_\_\_\_\_\_\_for the sum of RM \_\_\_\_\_\_ issued in favour of "<u>The Institution of Engineers, Malaysia</u>" 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:	Designatio	Designation:			
Name of Organization:					
Address:					
Talanhana Na i	(0)	(For)			
Telephone No.:	(0)	(Fax)			
	(H)	(HP)			
Email:					
Signature & Stamp	Date				
	Photocopies are acceptable				



The Institution of Engineers, Malaysia

# ONE DAY COURSE ON "ATS MS IEC 60947-6-1 & Power Capacitors IEC 60831"

Organised by: Electrical Engineering Technical Division, IEM

Date : 9th August 2016

- Venue : Auditorium Tan Sri Chin Fung Kee, 3<sup>rd</sup> Floor, Wisma IEM, Petaling Jaya
- Time : 9.00 a.m. 5.30 p.m.

BEM Approved CPD/PDP Hours : 6 Ref No:IEM16/HQ/124/C

REGISTRATION FEE (GST NOT INCLUDED)						
Registration Fee		Normal Fee	On-line Fee			
IEM Student Member	:	180.00	150.00			
IEM Graduate Member	:	300.00	250.00			
IEM Corporate Member	:	450.00	400.00			
Non IEM Member	:	1200.00	1100.00			

#### Terms & Conditions:

- For ONLINE REGISTRATIONS, only ONLINE PAYMENT is applicable [via RHB and Maybank2u –Personal Saving & Personal Current ; Credit Card Visa/Master].
- Payment via CASH / CHEQUE / BANK-IN TRANSMISSION / BANK DRAFT / MONEY ORDER / POSTAL ORDER / LO / WALK -IN will be considered as NORMAL REGISTRATION.
- FULL PAYMENT must be settled before commencement of the course, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participants fail to attend the course, the fee is to be settled in full.
- Fee paid is not refundable. Registration fee includes lecture notes, refreshment.
- The Organizing Committee reserves the right to cancel, alter, or change the program due to unforeseen circumstances. Every effort will be made to inform the registered participants of any changes. In view of the limited places available, intending participants are advised to send their registrations as early as possible so as to avoid disappointment.

#### **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 membership status.

#### 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.

#### Details Synopsis: "AICHI" & VITZROTECH" Auto Transfer Switches (ATS)

- 1) MS IEC60947-6-1 for ATSE
  - a) Short circuit withstand of ATS
  - b) Category utilization AC31/33 in "A" or "B" c) Different Class of ATSs' CB, PC & CC
- 2) The functionality and application for different types of Automatic Transfer Switch. Types of Automatic Transfer Switches available for different application such as :
  - a) Standard Transfer : Open Type Simple transfer system for small load
  - b) Closed Transition Transfer : Overlap Type For interruption of power supply to load
  - c) Delay Transfer with "OFF" position : Open Type The "OFF" position is important when transferring large motor load. This is to allow the magnetic field to "decay" before transfer to prevent back EMF generated by the motor which can trip the CB or blow the fuses.
  - d) High Speed Transfer less than 20ms : Open Type Introducing High speed transfer for loads such as electronic equipment without interruption. Comply to SEMI-F47, ITIC Voltage / depth duration curve.
- 3) As required in MS IEC, together with the Smart ATS Controller, these Automatic Transfer watches function perfectly without much complications. The ATS Smart controller had functions or voltage, frequency and timer settings for types for application. Engine start / stop and other functions are also available from these Smart Controllers.
- 4) Comparison to other types of change-over devices as ATS.

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#### Details Synopsis: "SHIZUKI" Power factor Capacitor and Reactor Bank

- Recently our Associate Association, TEEAM has been engaging with the Ministry of Energy, Green Technology and Water (KETTHA) to improve the Power Factor from the current level 0.85 up to 0.95. Power Capacitors are important components in the electrical power distribution and with higher PF at 0.95, it will be good for energy efficiency (EE). With higher EE, there will be less demand on fossil fuel, reductions of carbon emission and other resources. Maximum demand will be reduced accordingly. For best EE usage, it is even better at PF = 1.0
- 2) However, it is important to have the right selection of PF Capacitors for the type of loads to prevent high failure rates which may otherwise stress on the environments. Accidents such as fire may occur when capacitors fails. PF Capacitors designs are based on integrity protection with metalized PP film (for the capacitor elements) and impregnating materials. Long life operating capacitors are most friendly to the environment with more than 10 years operation. Careful consideration against harmonic contents and designed with other components in the PF Capacitors banks, it will operate without much problems throughout their life span and thus maintaining high constant PF.
- 3) Power Factor Capacitor Testing Criteria to MS IEC60831-1 & 2

a) Destruction Test - Case Integrity Test preventing rupture b) Aging Test

- c) Self Healing Test
- d) proper installation guideline
- 4) How to prevent case rupture?
- 5) How to select the correct reactor for the system?
- 6) System Design and Calculation for correct PF Compensation for Motor load & Transformer
- 7) Harmonics solution

### About our Speakers

Our presenters are registered presenters with the IEM institute. Wisepro has been operating in the industry for over 25 years and is highly experienced in the topics mentioned above and others.

**Mr Jeffrey Ng** is currently the Managing Director for Wisepro Sdn Bhd, a company established since 1992. He has vast experience in handling LV electrical components such as circuit breakers, power capacitors, and light- ning and surge devices, automatic transfer switches motor starters, motor protection relays and other related products for the past 30 years. Ha has been actively involved in offering his advice on technical services to the industries which include design, trouble shooting at site and installation of equipment. He has a Diploma in Mechanical Engineering in 1980 at Federal Institute of Technology.

Program 2 ATS MS IEC 69047-6-1 and Power Capacitors IEC 60831					
Time	Contents				
08.30am -09.00am	Registration				
09.00am -9.05am	Introduction By Session Chairman				
	Standards governing ATS and ATS Controllers Transfer Switch				
09.00am to 10.30	technologies and comparisons Redundancy, Resilience and				
	Reliability of ATS Mechanical and Electrical Characteristics of				
	ATS				
10.30am to 11.00am 00	Tea Break				
11.00	Utilization category (ATS sizing) ATS				
11.00am to 12.30pm	Protection (Fault Free Zone) ATS Controller				
	characteristics				
	Various ATS types and description (Open Transition, Closed				
	Transition. High Speed etc)				
12.30pm to 1.30pm	Lunch				
13.30pm to 15.00pm	Standards governing power capacitors				
13.30pm to 13.00pm	Destruction test				
	Ageing test Self healing test				
	Power Capacitor Design				
	Power Factor Controller				
15.00pm to 15.30pm	Tea Break				
	Use of reactors and design consideration for detuned filters				
15.30pm to 17.00pm	Selection guide for reactors				
13.30hiii (0 17.00hiii	Design of capacitor banks for PF correction, Transformer & Motors				
	Guidelines for installation of capacitor banks and reac- tors				

**Mr Kenny Ong** is currently the chief Representative of Shizuki Electric Co. Inc. He has vast experience in capacitors and power factor correction for the past 17 years. He is actively involved in power factor correction capacitors offering his advices on capacitors, reactors and harmonics implications and solutions. He graduated from Toyoma University Japan with a degree in Electronics Engineering.

**Mr SF Ng** is currently the sales and marketing engineer at Wisepro Sdn Bhd. He has been working in the industry for the past 10 years and has gathered great experience in the design, installation, troubleshooting and site works for the industries mentioned above. He has also received extensive training on the Lightning Protection at Dehn headquarters in Germany, power factor capacitors, reactors and harmonics at Shizuki headquarters in Japan and ATS applications and troubleshooting at Vitzrotech headquarters in Korea. He graduated from the University of Hertfordshire with a Master's Degree in Automotive Engineering.

**Mr Ritesh Lutchman** is currently the Senior Sales and Marketing Manager at Wisepro Sdn Bhd. He has been working in the industry for the past 15 years and has gathered great experience in the design, installation, troubleshooting and site works for the industries mentioned above. He has also received extensive training on the Lightning Protection at Dehn headquarters in Germany, power factor capacitors, reactors and harmonics at Shizuki headquarters in Japan and ATS applications and troubleshooting at Vitzrotech headquarters in Korea. He graduated from the University of Cape Town with a Master's Degree in Electrical Engineering.