

Electrical Motor and Electrical Motor Drive Troubleshooting Workshop

16 April 2007

As a valued Fluke's customer, I am inviting you to a full day workshop on Electrical Motor / Motor Drive Troubleshooting.

This workshop is designed for the electrician or plant maintenance engineer who maintains electric motors or electric motor drives and will cover the following topics:

Electric Motors Troubleshooting

- √ Identification of motor types and common motor failures
- √ Selection of best test instrument when troubleshooting
- √ Application of the proper test procedures and what results to expect
- √ Interpretation of test instrument data and what corrective actions to take

Electric Motor Drives Troubleshooting

- √ Making measurements safely with the proper test tool
- √ Adjustable speed drive (ASD) operation theory
- √ Troubleshooting philosophy for motor drive systems
- √ How to make measurements on motor systems using the best test tool for the job
- √ How to identify some common motor drive problems like overvoltage reflections, bearing currents, leakage currents (common mode noise), testing SCRs, testing insulated gated bi-polar transistors (IGBT), control circuit noise problems and ASD trip problems

Each attendee will not only leave this workshop with a better understanding of motor drive operation and troubleshooting, but will have their own personal copy of American Technical Publishers' Electric Motor Drive Installation and Troubleshooting and a Fluke T5-1000 Electrical Tester.

The cost for this very informative workshop is S\$299.00 per attendee. If you're a member of the FlukePlus portal, you enjoy a special rate of S\$250.00 per attendee. To register, simply call us at (65) 6799-5575, email at info.asean@fluke.com or fax at (65) 6799-5577. In order to ensure that we order enough materials, please register at least 1 week prior to the workshop date.

This is an excellent opportunity to increase your productivity and possibly reduce downtime through faster identification of motor drive problems. Don't wait too long to register because seating is limited.

Thank you.

Best regards,

Sophia Wan
Asst. Marketing Manager

Registration Form

Electrical Motors and Electrical Motor Drives Troubleshooting Workshop

Each attendee gets

- A Workshop binder
- A text book on motors and motors drives
- Their own Fluke T5-1000 Electrical Tester
- And increased productivity and possibly reduce factory downtime



Venue: **ITE College East**
10 Simei Avenue Singapore (486047)
School of Engineering (T04-02)
Technology Block, Electrical Drives Lab

Time: Session 1: 19 June 2007, Tuesday, 8.30am - 5.00pm
Session 2: 12 October 2007, Friday, 8.30am - 5.00pm
Session 3: 04 January 2008, Friday, 8.30am - 5.00pm

Course Fee: The course fee of S\$299.00 includes course documentation, a textbook, a T5-1000 electrical tester, lunch and refreshments at breaks. FlukePlus member enjoy a special rate of S\$250.00.

Course Accreditation: This course has been approved for 7 PDU units under the PE Board Continuing Professional Development program. A certificate of proficiency will also be issued at the end of the course.

Speakers / Trainers: *Mr. Cheng Shing Haur*, Lecturer, **ITE College East**
Bio-Data
Mr. Cheng has a Diploma in Electrical Engineering from Singapore Polytechnic and trained in Instructional Technology from the University of Minnesota, Crookston (US). He has been teaching Electrical Drives and Machines for past 5 years and was a Curriculum Development Officer (CDO) for the Vietnam-Singapore Industrial Park project. As for job attachment experiences, they involves Public Utilities Board (PUB), TED Machinery (ECON International) and Arcturus System Pte Ltd.

In addition, Mr. Cheng has attended numerous training sessions in electrical drives conducted by MNC like Schneider Electric Singapore Pte Ltd, Danfoss etc and have hands-on experience on different types of drive like Telemecanique, Danfoss, Toshiba, Terco, Teco etc

As for projects with students, they are conveyor belt application with multi-speed control and multi-pump switching application via wireless network.

Mr. Xavier Choong Kim Fook, Lecturer, **ITE College East**
Bio-data
Mr. Xavier Choong has completed a Diploma in Electrical Engineering with Merit from Singapore Polytechnic in 1996. He has attended training sessions in electrical drives conducted by Schneider Electric Singapore, Danfoss, Toshiba, Terco, Control Techniques and has been teaching drives to students in Power and Machines Nitec Course.

Mr. Choong is a member of the working committee of the World Skills Competition (formerly called National Skills) and judge for the 3 consecutive series in Industrial Wiring. He has attended various courses on automation and control conducted by Omron, Festo, SMC and Bosch.

To gain extensive hands-on experiences, Mr. Choong was attached to many companies like Industrial Combustion & Engineering, Sysmech Automation and EDM Technology.

Mr. Joseph Ong, Senior Product Consultant
Fluke South East Asia Pte Ltd

Bio-data

Joseph has a degree of Master in Information Technology from University of Newcastle and a Certificate of Professional Competency in Infrared Thermography Technologist (Basic).

He is currently the Senior Product Consultant in Fluke South East Asia Pte Ltd. He has more than 10 years of experience in pre-sales and post-sales application supports on electrical and electronic testing instruments. He is very experienced trainer in power harmonic analyzers and calibration equipment, and has been conducting regular product training and seminar both in Singapore and the regional countries.

For more information on this workshop, please feel free to contact us. Thank you.

Yes, we will be attending the Electrical Motors and Electrical Motor Drives Troubleshooting workshop.

- Session 1:** 19 June 2007, Tuesday
- Session 3:** 04 January 2008, Friday

- Session 2:** 12 October 2007, Friday

* Participant Name _____ Designation _____

Email _____ Direct Tel _____

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Email _____ Direct Tel _____

Company _____

Address _____

Tel _____ Fax _____ Email _____

Complete coupon and fax to **(65) 6799-5577**. Seats are allocated on a first-come-first-serve basis.

** Please check the box if you are a FlukePlus Member*

Ms. Genevieve Hong (65) 6799-5576 Email: Genevieve.hong@fluke.com

Ms. Joanna Wong (65) 6799-5575 Email: Joanna.wong@fluke.com