



An invitation to Annual General Meeting (AGM) & A Technical Seminar on

“Front End Converters for Medium Voltage Drives”

Date: 27th January 2007 (Saturday)

Venue: Multimedia University
Faculty of Engineering
Cyberjaya, Selangor

FREE of CHARGE
Tea Break and Lunch Provided

Organized by:

Power Electronics, Industrial Electronics and Industry Applications
Societies (PELS/IES/IAS) Joint Chapter of IEEE Malaysia Section

Co-organizers:

- Centre of Electric Energy and Automation (CEEAA), Faculty of Engineering, MMU
- School of Electrical Systems Eng., Universiti Malaysia Perlis (UniMAP)

Seminar Overview

Front end converters feed an intermediate dc link circuit from a three-phase utility. The dc power is subsequently used to generate a three-phase system of variable voltage and variable frequency for controlled motor drive applications. The simplest front end configuration is a six-pulse diode rectifier. Its disadvantages are the high harmonic content of the line currents and the absence of regenerative operation. The installation of tuned harmonic filters or the use of front end configurations having higher pulse numbers serve to reducing undesired line current distortions. Regenerative operation is obtained by active front end topologies operated as pulse width controlled boost converters. Applications at medium voltage level demand operation at lower switching frequency in order to limit the switching losses of the power semiconductor devices. The harmonic problem then persists. A solution is the installation of higher order filters in the feeding line, or the use of multilevel topologies. The use of multipulse configuration is an alternative, which combines harmonic reduction with increasing the voltage blocking capability of the front end topology. Even more efficient in this regard, although also more complex, are hybrid circuit topologies. These consist of a main converter to handle the throughput of electrical power, and an auxiliary converter of reduced rating that serves for harmonic reduction. The auxiliary converter must be pulse width controlled, while the main converter uses either diodes or active switches. The two converters operate either in parallel or in series connection. Transformer coupled topologies offer additional advantages. Various control strategies for hybrid front end converters serve to improve the performance of this interesting technology

Seminar Presenter (Prof. Joachim Holtz, *Fellow, IEEE*)

Joachim Holtz graduated in 1967 and received the Ph.D. degree in 1969 from the Technical University Braunschweig, Germany. In 1969 he became Associate Professor and, in 1971, Full Professor and Head of the Control Engineering Laboratory, Indian Institute of Technology in Madras, India. He joined the Siemens Research Laboratories in Erlangen, Germany, in 1972. From 1976 to 1998, he was Professor and Head of the Electrical Machines and Drives Laboratory, Wuppertal University, Germany. He is presently Professor Emeritus and a Consultant. Dr. Holtz has extensively published, among others 12 invited papers in journals. He has received 12 Prize Paper Awards. He is the coauthor of four books, and holds 31 patents. Dr. Holtz is the recipient of the IEEE Industrial Electronics Society Dr. Eugene Mittelmann Achievement Award, the IEEE Industrial Applications Society Outstanding Achievement Award, the IEEE Power Electronics Society William E. Newell Field Award, the IEEE Third Millennium Medal, and the IEEE Lamme Gold Medal. He is a Fellow of the IEEE and Past Editor-in-Chief, IEEE Transactions on Industrial Electronics.

Program Schedule

9.00 to 10.30 am - Technical Seminar by Prof. Joachim Holtz
10.30 to 10.45 am - Tea Break
11.00 to 12.30 pm - Annual General Meeting (Joint Chapter PELS/IES/IAS)
12.30 pm - Lunch

Fees and Registration

This is a Free Technical Seminar. Please register in advance to book your seat. For more details, please contact:

Mr. Gobbi Ramasamy
IEEE PELS/IAS/IES Seminar Secretariat
Faculty of Engineering
Multimedia University
63100 Cyberjaya,
Selangor, Malaysia
Phone: 03 83125419 Fax: 03 83183029
Handphone : 013-3403323
Email: gobbi@mmu.edu.my

To know more about our PELS/IAS/IES Joint Chapter, please visit http://www.ieee.org/go/Malaysia_pels_ias_ies

Kindly fax this page back to the Seminar Secretariat latest by 22nd January 2007.
 Fax: 03 83183029 (Attn: Gobbi Ramasamy)



**An invitation to
 Annual General Meeting (AGM) &
 A Technical Seminar on**

“Front End Converters for Medium Voltage Drives”

Date: 27th January 2007 (Saturday)
Venue: Multimedia University
 Faculty of Engineering
 Cyberjaya, Selangor

**FREE of CHARGE
 Tea Break and Lunch Provided**

Name and Address of Organization:			
Name of Contact person:			
Telephone No:		Fax. No:	
Email address:			
Name of participants:		<i>IEEE membership number (if any)</i>	
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			