Organisational Information

For registration please use the registration form which is available on the ECPE web page: www.ecpe.org > ECPE Events > ECPE Workshop: Current Measurement for Power Electronics Applications and in Lab Scale > Registration Form

www.ecpe.org/ecpe-events

Deadline for registration:

- **10 October 2017**

Participation fee:

- **€ 595,–** * for industry
- **€ 445,–** * for universities/institutes
- **€ 150,–** * for students/PhD students
  (copy of student ID requested)
  (limited number only)
  (optional dinner: € 50,-* extra fee)

*plus 19 % VAT

- The participation fee includes dinner, lunches, coffee/soft drinks and a flash drive with the workshop presentations. Students/PhD students can book the dinner for an extra fee of € 50,-*
- A printed version of the workshop handout is available on request (€ 50,-*).
- With the confirmation of registration by email you are registered for the workshop and the invoice will be sent by post.
- Three participants from each ECPE member company free of charge. Allocation in sequence of registration.
- Further information (hotel list and maps) will be provided after registration and is available on the ECPE web page.
- In case of cancellation later than two weeks before beginning or non-attendance 50 % of the participation fee is payable.

Organisational Information

Organiser	ECPE e.V. 90443 Nuremberg, Germany www.ecpe.org
Chairmen	Prof. Dr.-Ing. Mark-Bakran University of Bayreuth Prof. Dr.-Ing. Nando Kaminski University of Bremen Dipl.-Ing. (FH) Jochen Koszescha ECPE e.V.
Organisation	Lena Somschor, ECPE e.V. +49 911 81 02 88 – 18 lena.somschor@ecpe.org
Venue	east Hotel Hamburg Simon-von-Utrecht-Straße 31 20359 Hamburg Germany +49 40 30 99 30 info@east-hamburg.de www.east-hamburg.de

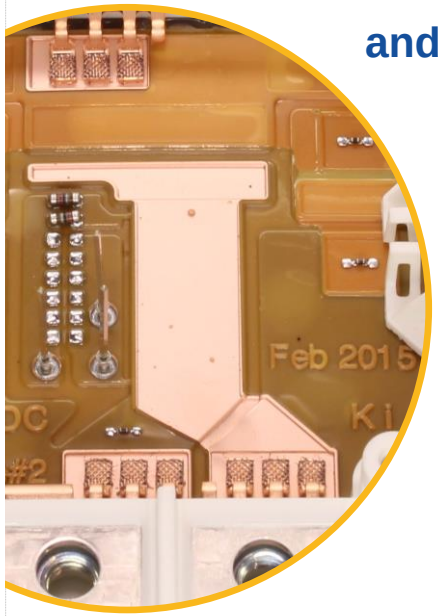
Source: east Hotel

ECPE
European Center for
Power Electronics e.V.

Draft Programm

ECPE Workshop

Current Measurement for Power Electronics Applications and in Lab Scale



17 - 18 October 2017
east Hotel Hamburg
Germany

in cooperation with

UNIVERSITÄT BAYREUTH

Universität Bremen
IALB
BCM
Bremer Centrum für Mechatronik

ECPE Workshop

Current Measurement for Power Electronics Applications and in Lab Scale

17 - 18 October 2017
Hamburg, Germany

Many engineers consider current measurement as a commodity, which you specify and purchase. But this is just the beginning of the challenge:
How to specify accuracy requirement including static and dynamic error, temperature and EMI environment?
Do you choose analog insulation or a digital one?
Do you combine measurement for overcurrent protection and control or keep them separate?
How to integrate everything to save space and money?

As a consequence, one finds many different solutions on the market from traditional transducers to state of the art closed or open loop hall sensors to different variations of shunt type measurements or different field sensors.

This workshop aims to give an overview on the available technologies and their differences with regard to application in a commercial product or just for laboratory purpose. Speakers will give technical background information on new methods but also present challenges originating from the application.

As this has a workshop character, there will be ample time to discuss with experts and among the participants current issues in current measurement.

The workshop is chaired by:
Prof. Dr.-Ing. Mark Bakran (University Bayreuth)
Prof. Dr.-Ing. Nando Kaminski (University Bremen)
Dipl.-Ing. (FH) Jochen Koszescha (ECPE e.V.)

All presentations and discussions will be in English language.

Programme

Tuesday, 17 October 2017

9:30 Start of Registration / Welcome Coffee

10:00 Welcome, Opening
Jochen Koszescha, ECPE (D)
Mark Bakran, University of Bayreuth (D)

Requirements on Current Measurement

10:15 Challenges in Current Measurements for Power Analysis in Inverter-Fed Drives
Johannes Teigelkötter, University of Applied Science Aschaffenburg (D)

10:45 PV Inverters Demands for High End Current Measurements
Gerd Wollenhaupt, SMA Solar Technology (D)

11:10 Stationary and Dynamic Accuracy Analysis of New Current Measuring Concepts and Comparison to State of the Art
Frank Lautner, University of Bayreuth (D)

11:40 Coreless Current Transducers
Roland Weiss, Siemens Cooperate Technology (D)

12:10 Discussion

12:25 Lunch

13:25 Current Measurement in Automotive Drive Train Application
NN, NN (enquired)

13:55 IPM with Integrate Current Measurement
Marco Honsberg, Semikron (D)

Current Measurement in the Application

14:25 Current Mirror at IGBT: Influence of Device Characteristics and Circuit Parasitics
Anton Mauder, Infineon Technologies (D)

14:55 Temperature and Current Sensing Using Power-MOSFET Devices
NN, STMicroelectronics (IT)

15:25 Discussion

15:40 Coffee Break

16:10 Gate Driver with Integrated Measurement of Junction Temperature and Inverter Output Current
Marco Denk, University of Bayreuth (D)

16:40 Current Sensors for High Bandwidth Applications
Glenn von Manteuffel, Sensitec (D)

17:10 Current Measurement with Magnetic Probes
Holger Schwenk, Vacuumschmelze (D)

17:40 Developments for Future of Current Measurement
Wolfram Teppan, LEM (CH) (enquired)

18:10 Discussion

17:45 End of 1st Workshop Day

19:30 Dinner

Programme

Wednesday, 18 October 2017

8:30 Start of 2nd Workshop Day

Current Measurement in the Application

8:30 High Precision and Dynamic Measurement of Battery Currents
Markus Freund, Fraunhofer IISB Chemnitz (D)

9:00 Shunt Resistors for Precision Current Measurement
NN, Bourns (US) (enquired)

9:30 Challenges and Solutions of High-Side Current- and of Phase Current Measurement
Bernhard Strzalkowski, Analog Device (D)

10:00 Discussion

10:15 Coffee Break

Current Measurement in the Lab

10:45 Ultra-Precision Current Sensors for Power Quality Measurement
Henrik Elbæk, Danisense (DK)

11:15 Exploration of the Electric Current Flow inside Power Modules and Chips with Tiny Sensors
Ichiro Omura, Kyushu Institute of Technology (JPN)

11:45 Dimensioning of a Proper Coaxial Shunt Type
Markus Billmann, Billmann Engineering (D)

12:15 Current Measurement with Low Inductive Planar Shunts
Christian Bödeker, University of Bremen (D)

12:45 Discussion

13:00 Lunch

14:00 Wide-Bandwidth Rogowski based Measurement in the Lab
Chris Hewson, PEM - Power Electronics Measurements (UK)

14:30 Case Study: High Bandwidth and Minimal Invasive Current Measurement for Semiconductor Characterization
Marco Denk, University of Bayreuth (D)

14:50 Integrated Current Sensor for Wide Band-Gap
Bernard Stark, University of Bristol (UK)

15:20 High Speed Current Measurement of Power Modules with Low-Inductive Switching Cell
Kirill Klein, Fraunhofer IZM Berlin (D)

15:50 Open Questions and Discussion

16:00 End of Workshop