



A PROGRAMME OF INTERACTIVE CE MARKING WORKSHOPS

These workshops have been developed to address the needs of industry involved in CE marking and are run from the EMC Test Centres at Castleford, West Yorkshire and Donibristle, Fife, throughout the year.

For the latest list of dates or further information, please refer to our website at <http://www.yorkemc.co.uk>. or contact the CPD Secretary, using the form on the back page.

Title	Duration	Who should attend
A Beginner's Guide to EMC	1 day	Electronics Engineers or Technician Engineers directly involved in electronics design. Technical and Quality Assurance Managers new to Electromagnetic Compatibility.
EMC Design	2 days	Electronics Engineers or Technician Engineers directly involved in electronics design.
EMC Testing	2 days	All those tasked with establishing in-house test facilities, carrying out, supervising or witnessing EMC testing.
Electrical Safety requirements	2 days	Electrical Engineers or Technicians directly involved in design, Quality Assurance Engineers and engineers involved in product certification
On-going compliance for production	1 day	Engineering Managers, Quality Managers, Approvals Engineers, Design Engineers
EMC for Systems Integrators and Control Panels	1 day	Electrical Engineers or Technicians directly involved in design, Quality Assurance Engineers and engineers involved in product certification
The Technical Construction File	1 day	Anyone who needs to know what a TCF can do, and how to plan and compile it.
Wireman's workshop	Part-day	Wiring technicians and their supervisors

Continuing Professional Development

IEE ENDORSED PROVIDER

These activities are appropriate for the maintenance or enhancement of a competence relevant to an individual's Professional Development

A PROGRAMME OF INTERACTIVE CE MARKING WORKSHOPS

**Continuing Professional
Development & Training
for Today's Industry at one of
Britain's top Universities, and
the first to gain
'IEE Endorsed Provider' status.**

- **Our courses are attended by personnel from SMEs, large industrial companies, the Armed Forces and Government Agencies, and represent countries world-wide.**
- **Our courses are developed and presented by experienced specialist lecturers from the University and industry.**
- **Our courses are enhanced by the research & development activities and expertise within the Department of Electronics and York EMC Services Ltd.**

THE UNIVERSITY *of York*

A BEGINNER'S GUIDE TO EMC

Objectives

To provide familiarization with the European EMC regulations
To enable a Company EMC strategy to be formulated
To provide an overview of EMC testing requirements
To provide an overview of EMC design rules

Programme will include

What is EMC?
The European EMC Directive
Routes to Compliance and Declaration of Conformity
Legislation – enforcement, offences, penalties – defence of 'due diligence'
Testing for EMC – including tour of facilities
Design for EMC – 10 lessons from experience
On-going compliance
Project and Company EMC Strategies

EMC DESIGN

Objectives

To give a grounding in the design techniques and considerations which are important for achieving electromagnetic compatibility.

Programme will include

A combination of lectures, demonstrations and workshops covering:

Circuit design
Grounding & layout
Filters
Enclosures and shielding
Cables and cable screening

EMC TESTING

Objectives

To provide an overview of the principal EMC tests.
To give an understanding of the test equipment and facilities required to undertake EMC testing.
To give an appreciation of the differences between accredited, non-accredited and pre-compliance testing.
To enable participants to formulate an EMC testing strategy with respect to in-house facilities and third party testing.
To give participants practical experience of EMC testing and EMC test equipment.

Programme will include

Day 1: Introduction to EMC. The routes to compliance and the need to test equipment;
Measurement Environments —The use of screened rooms, anechoic chambers and Open Area Test Sites.
EMC testing - Emission and immunity testing explained in detail.
Types of EMC testing – The differences between accredited, non-accredited, pre-compliance and production testing.
UKAS Accreditation – Understanding what accreditation means to both laboratories and their customers.
Day 2: A series of guided practical laboratory sessions showing how the principal EMC tests are carried out and the test equipment required. Small groups allow full interaction with experienced EMC test personnel.



ELECTRICAL SAFETY REQUIREMENTS

Objectives

- To provide familiarization with the European 'Low Voltage' Directive
- To provide familiarization with the electrical safety requirements of the European 'Machinery' Directive
- The key features of safety standards eg. EN 60950 and their relevance to designers and approvals engineers
- The scope of testing required
- To provide a practical review of hardware to illustrate good and bad safety practices

Programme will include

- The legal background to CE Marking, Product Safety and Product Liability
- The role of harmonized standards
- Selecting the appropriate standard
- Routes to CE Marking
- Technical Files
- Assessment of Product Safety
- Classification of hazards
- Creepage, clearance and distance through insulation
- Interpreting standards
- Case studies and practical examples
- Product descriptions and manufacturing surveillance
- Checklists
- Testing

ON-GOING COMPLIANCE FOR PRODUCTION

After all the hard work that you put into ensuring that your products complied with the EMC Directive, how confident are you that the same product made two years later will still comply?

Objective

On this 1 day course you will learn the importance of ensuring "On-going compliance" and how you can attain a reasonable confidence of achieving it.

Programme will include

- What is "on-going compliance"?
- Legal requirements
- The 80/80 rule
- Quality Assurance including handling changes & variants
- Sampling plans
- In-house testing
- Case studies

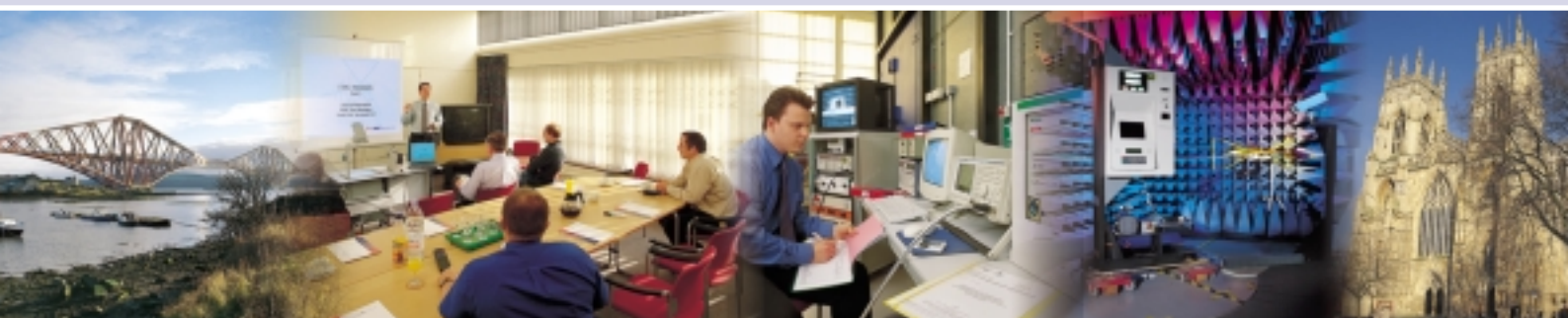
EMC FOR SYSTEMS INTEGRATORS AND CONTROL PANELS

Systems integrators probably have one of the greatest challenges in meeting the European EMC Directive. Manufacturers of systems be they "panel builders" or "rack & stack integrators" usually have: Short lead times; Low margins; One off or low volumes; Highly competitive market.

To help address these challenges, YES Ltd now offers a special one day course.

Programme will include

- What is EMC?
- The UK Legislation in brief
- EMC theory and practices without maths
- Case Study Template
- Application of Template
- Your cost effective route to compliance



THE TECHNICAL CONSTRUCTION FILE

Objectives

To enable companies to know:
When to select this route to compliance.
How to compile a TCF.
How to relate to a Competent Body.

Programme will include

Routes to compliance with the EMC Directive, with a TCF emphasis.
What is a TCF?
When should it be used?
When should the normally cheaper Standards route be used?
What should it contain?
How to compile the TCF.
The role of the Competent Body.

WIREMAN'S ESSENTIAL EMC COURSE

Programme will include

What is EMC?
Civil Requirements
Cables - types of cables; routing of cables for EMC; terminating cables for EMC
Grounding - what is grounding? Grounding methods
Filtering
Guidance Documents (NES515, NES1027 & BS IEC1000-5-2)

For more information about these workshops or a registration form, please return the fax back below or contact:

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This is not a registration document

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I am interested in the following workshops, please send me further information and a registration form.

Workshop titles

Name

Job Title

Company

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Post code

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FOR INFORMATION ABOUT THE SERVICES OFFERED BY YORK EMC SERVICES LTD PLEASE CONTACT:

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