

exida Can Show you the Way



Training Course: Burner Management Systems

The function of a burner management system (BMS) is to assure safe operation of the combustion associated with boilers, ovens, kilns, process heaters and furnaces. The BMS provides a safe start-up procedure and stops fuel flow if conditions are detected that affect the safety of the unit. With the advancement of microprocessor technology, programmable systems have become the preferred solution for burner management design. Programmable systems offer enhanced capabilities for operator graphics and diagnostics as well as ease of system expansion and modification. Since the failure modes of microprocessor technology is not readily predictable, the National Fire Protection Association (NFPA) and a number of other agencies (FM, IRI, TUV etc.) have established recommended practices and guidelines for applying this technology in burner management applications.

Skills You Will Learn:

- ◇ Understand the hazards of combustion
- ◇ Develop an understanding of NFPA, ISA and IEC standard requirements for BMS programmable systems.
- ◇ Identifying safety functions of combustion systems.
- ◇ How to determine SIL levels for BMS design.
- ◇ How to review BMS Logic and P&ID's
- ◇ How to design compliant BMS safety functions
- ◇ How to verify that BMS designs are optimized for risk reduction and economics

Course Topics:

- ◇ Purpose of Burner Management Systems
- ◇ Causes of Furnace Explosions / Implosions
- ◇ Overview of Combustion Equipment
- ◇ Standards covering Burner Management Systems
- ◇ Burner Management System Interlocks/Safety Instrumented Functions
- ◇ Light-off Sequences
- ◇ Selecting Safety Integrity Levels for Burner Management System Interlocks
- ◇ Quantitative Reliability Analysis of Burner Management System Interlocks
- ◇ Function testing
- ◇ Documentation

Who Should Attend:

- ◇ Control Engineers
- ◇ Safety Engineers
- ◇ Engineering Management

Length: 2 Days **Cost:** TBD

Learning from the Experts



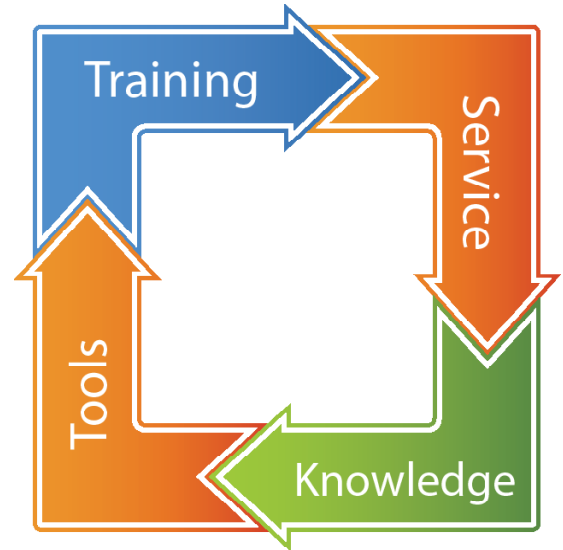
Experience has shown that most companies benefit from training as the first step in implementing a safety program. Having a solid up-front understanding of the Safety Life Cycle, the related standards and requirements for compliance, and the equipment selection and certification options ensures a focused and cost-effective safety initiative. And when you rely on exida for this knowledge, you gain access to some of the world's top experts in functional safety.

exida employees have written the books used for evaluating automation safety and reliability, they helped write the standards used for designing safe and secure systems, and they wrote many of the procedures used to certify the effectiveness of system hardware. They give the lectures and symposia that train industry's top professionals and present the latest developments. And since exida instructors are active safety professionals who participate in standards committees and provide professional safety services, the training reflects the most current and pressing issues.

exida delivers your training flexibly to accommodate your time and budget. Options include training courses delivered at your location, at an exida office, and through computer-based training modules. Example course topics include:

- The IEC 61508 and IEC 61511 Standards
- Hazard and Risk Analysis
- Safety Integrity Level (SIL) Selection
- Functional Safety Life Cycle Management
- CSFE (Certified Functional Safety Expert) preparation

exida also regularly publishes white papers and text books to facilitate learning on key topics, such as the best-selling book Safety Instrumented System Verification and the recently published book Final Elements and the IEC 61508 and 61511 Standards.



Main Offices:

<p>Germany</p> <p>exida.com GmbH Birkensteinstr. 53 83730 Fischbachau PHONE: +49-89-49000547</p>	<p>USA</p> <p>exida.com LLC 64 North Main Street Sellersville, PA 18960 PHONE: +1-215-453-1720</p>
<p>South Africa</p> <p>exida South Africa PTY LTD Suite 1003, 34 Essex Terrace Westville, 3629, KZN PHONE: +27 31 2671564</p>	<p>Switzerland</p> <p>exida Certification SA Chemin de Champ-Poury 2 1272 Genolier PHONE: +41 22 364 14 34</p>
<p>Canada</p> <p>exida Canada Ltd. 2nd Floor 3003 - 23rd Street NE Calgary, Alberta T2E 7A4 Canada PHONE: +1-403-475-1943</p>	<p>Mexico</p> <p>exida Consulting Mexico Giorgione No. 6 Col. Nonoalco Mixocac Mexico, D.F. 03700 Mexico PHONE: 52-55-5-6-11-98-58</p>

www.exida.com