

Course Outline
Smart Homes & Lightning
(1 hour credit)

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|------|---|--------------|
| I. | Introduction | (5 minutes) |
| II. | How Does Lightning Enter the Smart Home
a. Strikes to Nearby Objects
b. Other Earth Grounds
c. Side Flashes | (15 minutes) |
| III. | Protection Envelope
a. Surge Entrances
b. Typical Surge Protector Layout
c. Problems & Risks | (10 minutes) |
| IV. | Protecting Equipment
a. Effective Surge Protection
b. Wireless Option
c. Costs & Benefits of Each Option | (15 minutes) |
| V. | Information for Adjusters
a. Key Questions to Ask
b. Role of the Expert
c. Other Information to Consider
d. Resources | (15 minutes) |
| VI. | Questions | |

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Course Description & Objectives

Smart Homes & Lightning

A. Course Description

The seminar provides an overview of how smart homes work, the surge risk associated with smart homes, and options available to better protect the home. It also provides the claims professional with information needed to accurately and thoroughly assess the claim.

B. Objectives

- To expand knowledge of smart homes.
- To educate on the risks associated with smart homes.
- To provide and evaluate surge protection options.
- To equip the adjuster with the information and assessment skills to better evaluate a smart home claim.

Continuing Education Qualification Statement

US Forensic has the expertise and experience to provide those seeking continuing education with sound technical instruction from licensed professionals.

The ***Smart Home & Lightning*** course was authored by Mr. Michael DeHarde, P.E.. Mr. DeHarde obtained his Bachelors degree in Mechanical Engineering from the University of New Orleans and is a registered professional engineer in mechanical engineering in numerous states.

Mr. DeHarde's professional experience includes fleet design, maintenance, refurbishment, management and repair of diesel, gasoline, and electric powered vehicles; high voltage equipment design, facility engineering, electric, liquefied petroleum gas (LPG), gasoline, and diesel powered lift trucks, automotive and heavy equipment maintenance, mechanical and high voltage electrical equipment manufacturing, machine shop operations, residential home design and construction, and battery and chargers.

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Mr. DeHarde's forensic engineering experience includes machine design, psychrometrics, air conditioning, vehicle maintenance, plastic manufacturing, medical device design, machine shop practices, high voltage equipment design, and residential and industrial design, construction and failure analysis. He has provided engineering consulting services and forensic investigation in support of legal cases and has conducted forensic damage analysis throughout the United States.

Sources

Lightning Protection by Golde, F.F., PhD. D.Sc. Chemical Publishing Co.

How to Protect you House and Its Contents from Lightning, IEEE Guide for Surge Protection of Equipment Connected to AC Power and Communication Circuits Published by Standards Information Network IEEE Press.

The Art and Science of Lightning Protection by Martin A. Uman

Powering and Grounding Electronic Equipment, 1100 – 2005 by IEEE

U.S. Forensic Case Studies of Lightning Strikes.

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