



# 2016 PROTECTION TRAINING

Doble and ENOSERV offer a wide range of **protection training courses** that will help prepare you for a modern grid, power plant and industrial facility. We can conduct these courses at your facilities, or at one of our training facilities.

READ FULL COURSE DESCRIPTIONS AT [events.doble.com/protection](http://events.doble.com/protection)

## PROFESSIONAL CREDITS

Most of our protection training courses are eligible for NETA Continuing Technical Development Credits (CTDs) as well as IACET certified Continuing Education Units (CEUs). For more information visit <http://www.doble.com/earning-ceus/>

Doble Engineering Company and ENOSERV, as a division of Doble, are accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET).

## COURSES

### ENOSERV RTS ESSENTIALS TRAINING

- Two-day training on the basics of RTS and routine creation  
**NETA CTD credits: 16 | \$750**

### ENOSERV RTS DEVELOPER

- Two-day training on how to create and modify automated relay test routines with the FasTest system & learn RTS commands that are beyond the FasTest system  
**NETA CTD credits: 16 | \$1800**

### ENOSERV RTS ADVANCED DEVELOPER

- Three-day training on advanced techniques to develop advanced and custom test procedures that are tailored to specific class needs  
**NETA CTD credits: 24 | \$2500**

### 2016 ENOSERV CLIENT TRAINING CONFERENCE

- Three-days of software training taught by industry experts, customer presentations, hands-on learning lab and networking opportunities.  
**\$1495 | Register by April 1st for a rate of \$1395**

### RICK ASHTON'S RELAY 101

- Three-days of fundamental training for technicians to understand the function of protective relays in a power system  
**NETA CTD credits: 16 | \$1650**

### SCHEMATIC ELECTRICAL PRINT READING

- Three-days of training on electrical print terminology, symbols, device numbers, & abbreviations, AC/DC control schematics, and power circuit breakers | **\$1650**

### SUBSTATION MAINTENANCE

- Three-day training on the hazards and safety in a substation, concepts of switching in a high voltage yard  
**\$1650**

### PROTECTIVE RELAYING APPLICATION & TESTING

- Three-day training on protective relay testing applicable for utilities, industrial plants, commercial facilities and power plants  
**NETA CTD credits: 24 | \$1650**

### BASICS OF PROTECTION FOR INDUSTRIALS

- Three-day training on protection basics as it applies to industrial plants, commercial facilities and power plants  
**NETA CTD credits: 24 | \$1650**

### BASICS OF PROTECTION FOR UTILITIES

- Three-day training on protection basics for power utilities  
**NETA CTD credits: 24 | \$1650**

### HARMONICS SIMPLIFIED

- One-day training to gain a working knowledge of harmonics, simple methods to calculate distortion levels, quick hand calculations to calculate resonant frequencies, detailed analysis using software, and a detailed procedure of designing harmonic filters  
**NETA CTD credits: 8 | \$800**

### BASIC HANDS-ON TRAINING FOR THE APPLICATION AND TESTING OF ELECTRO-MECHANICAL & MICROPROCESSOR RELAYS

- Three-day training on testing of simple overcurrent relays such as time overcurrent, under/overvoltage, and over/under frequency electromechanical relays  
**NETA CTD credits: 24 | \$1400**

### INTERMEDIATE HANDS-ON TRAINING FOR THE APPLICATION & TESTING OF ELECTRO-MECHANICAL & MICROPROCESSOR RELAY

- Three-day training on testing of distance, differential, rate of change of frequency, loss of field, reverse power and synchronizing relays  
**NETA CTD credits: 24 | \$1650**

### ADVANCED HANDS-ON TRAINING FOR THE APPLICATION AND TESTING OF ELECTRO-MECHANICAL & MICROPROCESSOR RELAY

- Three-days of advanced testing training involving communication assisted protection, analysis of event reports, COMTRADE and ss1 files, line current differential, relays, bus differential and out-of-step protection testing  
**NETA CTD credits: 24 | \$2000**

### IEC 61850 APPLICATION AND TESTING

- One and a half days of training on IEC 61850  
**NETA CTD credits: 12 | \$1200**

### FAULT CALCULATION & SYMMETRICAL COMPONENTS

- Two-day training covering fault calculations for various types of short circuit faults that can occur in a power system  
**NETA CTD credits: 24 | \$1200**

### GENERATOR PROTECTION APPLICATION & TESTING

- Two-day training on the basics of generator protection testing, including all elements that are typically used in power plant applications  
**NETA CTD credits: 12 | \$1200**

# PROTECTION TRAINING CALENDAR

## JANUARY

12	13	14
Application And Testing Electro-Mechanical & Microprocessor Relays (Basic)		
19	20	21
Protective Relaying Application & Testing		
26	27	28
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		
ENOSERV RTS Essentials Training		

## FEBRUARY

2	3	4
Basics of Protection Course for Industrials		
9	10	11
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		
16	17	18
Basics of Protection Course for Industrials		
23	24	
ENOSERV RTS Developer Training		

## MARCH

8	9	10
Basics of Protection Course for Utilities		
Substation Maintenance		
15	16	17
Basics of Protection Course for Utilities		
22	23	24
Protective Relaying Application & Testing		
ENOSERV RTS Advanced Developer Training		

## APRIL

12	13	14
Generator Protection Application & Testing		
Rick Ashton's Relay 101		
19	20	
ENOSERV RTS Essentials Training		
26	27	28
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		
Schematic Electrical Print Reading		

## MAY

3	4	
Fault Calculation & Symmetrical Components		
10	11	12
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		
17	18	
Harmonics Simplified		
ENOSERV RTS Developer Training		
24	25	26
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		

## JUNE

7	8	9
ENOSERV Client Training Conference		
14	15	16
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		
21	22	23
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		
ENOSERV RTS Advanced Developer Training		

## JULY

12	13	14
Basics of Protection Course for Industrials		
Substation Maintenance		
19	20	21
Basics of Protection Course for Utilities		
ENOSERV RTS Essentials Training		
26	27	28
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		

## AUGUST

2	3	
IEC 61850 Application & Testing		
9	10	11
Schematic Electrical Print Reading		
16	17	18
Protective Relaying Application & Testing		
23	24	
Generator Protection Application & Testing		
ENOSERV RTS Developer Training		

## SEPTEMBER

7	8	
IEC 61850 Application & Testing		
13	14	15
Rick Ashton's Relay 101		
20	21	22
ENOSERV RTS Advanced Developer Training		

## OCTOBER

4	5	
Fault Calculation & Symmetrical Components		
12	13	
Fault Calculation & Symmetrical Components		
18	19	20
ENOSERV RTS Essentials Training		Harmonics Simplified

## NOVEMBER

1	2	
Generator Protection Application & Testing		
8	9	10
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		
Rick Ashton's Relay 101		
15	16	17
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		
ENOSERV RTS Developer Training		

## DECEMBER

6	7	8
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		
13	14	15
Basics of Protection Course for Industrials		
ENOSERV RTS Advanced Developer Training		
20	21	22
Basics of Protection Course for Utilities		

- ENOSERV Client Training Conference in Nashville, TN
- Event Hosted at ENOSERV Training Facility in Tulsa, OK
- Event Hosted at Doble Training Facility in Morrisville, NC

**VISIT [EVENTS.DOUBLE.COM/PROTECTION TO LEARN MORE & REGISTER](https://events.doble.com/protection-to-learn-more-&-register)**

If you have 8 or more people that your company would like to send to a course, consider hosting it at your facility. Email Doble Events at [events@doble.com](mailto:events@doble.com) to find out more information.