



# 2018 PROTECTION TRAINING

Doble offers 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 is accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET).

## COURSES

### RTS ESSENTIALS TRAINING

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

### 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

### 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

### 2018 PROTECTION SEMINAR

- The Protection Seminar brings together protection testing topics, training and discussion forums with multiple learning tracks to best fit your needs.  
Free with your Doble Protection Software License

### 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

### ESSENTIALS OF PROTECTION - BEGINNERS COURSE FOR TECHNICIANS

- A must for technicians who are setting out to build a career in relay testing  
NETA CTD credits: 24 | \$1400

### 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 2018 CALENDAR

## JANUARY

30	31
RTS Essentials	

## FEBRUARY

27	28
RTS Developer	

## MARCH

6	7	8
Substation Maintenance		
13	14	15
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		
20	21	22
RTS Advanced Developer		

## APRIL

17	18	19
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		
24	25	
RTS Essentials		

## MAY

8	9	10
Schematic Electrical Print Reading		
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		
22	23	24
Basics of Protection for Utilities		
RTS Developer		

## JUNE

4	5	6	7
2018 Protection Seminar			
Basics of Protection for Industrials			
19	20	21	
Essentials of Protection - Beginners Level for Technicians			
RTS Advanced Developer			

## JULY

17	18	19
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		
RTS Essentials		
31	1	2
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		

## AUGUST

7	8	9
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		
21	22	23
RTS Developer		
Basics of Protection for Utilities		

## SEPTEMBER

5	6	7
Basics of Protection for Industrials		
11	12	13
Substation Maintenance		
18	19	20
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		
RTS Advanced Developer		

## OCTOBER

10	11	12
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		
23	24	
RTS Essentials		
24	25	26
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		


## NOVEMBER

6	7	8
Schematic Electrical Print Reading		
Essentials of Protection - Beginners Level for Technicians		
20	21	
RTS Developer		
27	28	29
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		

## DECEMBER

4	5	6
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		
11	12	13
RTS Advanced Developer		
18	19	20
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		

 2018 Protection Seminar Hosted in Clearwater Beach, FL

 Event Hosted at Training Facility in Tulsa, OK

 Event Hosted at Training Facility in Morrisville, NC

**VISIT [EVENTS.DOUBLE.COM/PROTECTION](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.