

# Solar PV Installation eLearning Course | Hands-On Photovoltaic Skills

PV Installation - WX20105-AD03JEN-E1

Skill 1: Draw 1-Line and 3-Line PV Circuit Diagrams

Procedure Overview

In this procedure, you will use given information regarding system components to create 1-line and 3-line circuit diagrams for single-phase and three-phase PV systems.

AMATROL Page 16 of 40

## eLearning Course: M20105

Amatrol's Solar PV Installation eLearning course (M20105) teaches the installation and commissioning of grid interactive and stand-alone photovoltaic (PV) systems for commercial and residential applications in a convenient and effective [eLearning](#) format that gives learners a solid foundation in solar technologies.

## Teach Solar PV Installation

### Why is there a Shortage of Solar Installation Technicians?

Industries across all sectors — including the renewable resources sector — are experiencing a shortage of highly-skilled workers to fill crucial technician roles. Employers in the alternative energy industry face an ongoing problem with hiring qualified solar installation technicians despite job growth in recent years.

Experts blame a younger generation not interested in the skilled trades, but the bottom line is the same: industry demand exceeds the supply of highly-skilled workers, and the demand for qualified solar installation technicians continues to rise as more consumers and businesses apply solar energy in their communities.

### Are Solar Installation Certifications Important?

Due to the shortage of highly-skilled solar installation technicians, industry-standard certifications have taken on greater importance in recent years. Many employers prefer workers with certifications, because they provide evidence that workers have the skills they need.

Amatrol's Solar PV Installation eLearning course provides foundational training that will help students and workers prepare for solar certifications from the North American Board of Certified Energy Practitioners ([NABCEP](#)), the premier solar technology certification organization.

For example, Amatrol's Solar PV Installation eLearning course strongly supports those seeking NABCEP's [PV Installer Specialist \(PVIS\)](#) certification. Equipped with foundational knowledge and hands-on skills, users of Amatrol's solar installation eLearning will be able to earn industry-standard certifications that will put them on the path to a rewarding solar energy career.

## Interactive eLearning

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### Solar PV Installation eLearning Features Engaging Multimedia

Amatrol's interactive multimedia eLearning curriculum teaches solar installation topics using text, audio, video, interactive quizzes, and stunning 3D animations to appeal to a variety of different learning styles. Learners begin with the basics, such as identifying and analyzing sites for array locations and developing and implementing a site layout.

From there, they steadily advance to more complex concepts and skills, including calculating PV circuit voltage and currents; selecting and installing wiring; and installing and commissioning real-world components in a grid interactive and/or standalone photovoltaic system for commercial and residential applications.

This eLearning course is broken down into four convenient segments:

- Wire Selection and Sizing
- Ground and Lightning Protection
- PV Installation
- Startup and Commissioning

Learners using Amatrol's eLearning will find that its comprehensive, detailed curriculum teaches both the foundational knowledge and practical hands-on skills (using Amatrol's Solar PV Installation Learning System ([950-SPF1](#))) they need to excel on the job. It also teaches installation of both of the most common types of installations: grid interactive and standalone.

### Additional Info

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#### Requirements:

- Computer (See [Computer Requirements](#))

#### Referenced Equipment:

- Solar PV Installation Learning System ([950-SPF1](#))

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