

This one-page guide outlines the key electrical requirements for installing a solar photovoltaic (PV) system. All solar installations must comply with current electrical codes, utility standards, and inspection requirements.

WHEN IS AN ELECTRICAL PERMIT REQUIRED?

An electrical permit is required for all solar PV installations, including:

- Rooftop solar systems
- Ground-mounted solar systems
- Grid-connected (utility-interactive) systems
- Solar systems with battery energy storage

All electrical work must be completed by a qualified electrical contractor.

SOLAR PV SYSTEM REQUIREMENTS

Solar electrical systems must include:

- Approved solar panels and inverters
- Proper overcurrent protection
- Correct conductor sizing and grounding
- Rapid shutdown capability (where required)

All components must be installed according to code and manufacturer specifications.

LABELLING & IDENTIFICATION

Permanent labels are required for:

- Solar power sources
- AC and DC disconnects
- Electrical panels supplying or receiving solar power
- Rapid shutdown instructions (if applicable)

Labels must remain visible and legible after installation.

CODES & STANDARDS

Solar electrical installations must comply with:

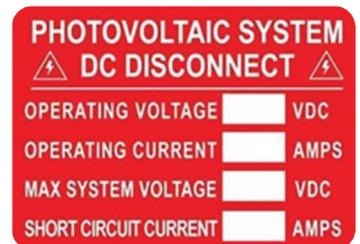
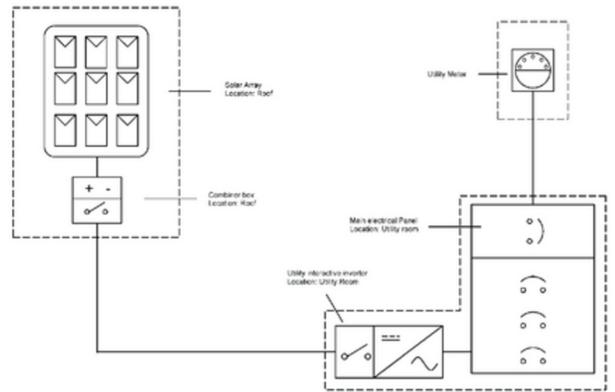
- Canadian Electrical Code (CEC), current edition
- Local utility provider requirements
- Manufacturer installation instructions

✓ All equipment must be approved and certified for use in Canada

INVERTERS & DISCONNECTS

- A lockable AC disconnect is required for utility-interactive systems
- Disconnects must be accessible and clearly labeled
- Inverters must be approved and rated for the system design

SINGLE LINE DIAGRAM EXAMPLE



EXAMPLE OF PROPER LABELING



UTILITY CONNECTION & INSPECTIONS

The NECB is designed to work with the National Building Code, National Plumbing Code and National Fire Code.

Where local or provincial energy provisions exist (e.g., Alberta's adoption of energy code requirements), the most stringent standard prevails.

BEFORE YOU START

- ✓ Obtain an electrical permit
- ✓ Hire a licensed electrical contractor
- ✓ Confirm equipment approval
- ✓ Receive utility authorization

BATTERY ENERGY STORAGE SYSTEMS (IF APPLICABLE)

When batteries are included:

- Batteries must be approved for the intended use
- Required clearances and ventilation must be provided
- Overcurrent protection and disconnects are required
- Installation must follow electrical code and manufacturer requirements

NEED MORE INFORMATION?

For clarification or special conditions, contact Building Inspection Services

