



## Australia Wide Solar – Grid Protection Relays

### The purpose of mains protection

To automatically disconnect the Solar PV system from the distribution network in the event the admissible parameter values of the grid are surpassed. These protection relays are designed to:

- Protect the solar PV system from mains disturbances
- Safely disconnect the solar PV system from the grid as soon as a failure is detected to protect linesmen working on the network
- Prevent the distributor network from failure or damage
- Maintain the distributor quality of power delivered to customers

To keep the balance and consistent operation of the grid, main protection is required by the electricity network distributors for grid connected Solar PV systems 30kW or over. The distributors have issued a set of regulations which mean any site generating power in this category must comply. These regulations highlight the need for protection relays in order to protect the networks distribution equipment. This mains protection comes in the form of another electrical box which encompasses a programmable relay that acts upon a network failure such as a blackout. This is typically installed next to the connection point of the solar PV system.

The owner of the Solar PV system must ensure compliance with locally applicable standards and rules along with technical conditions on connection to the distribution network. The distributor will nominate the correct relay at the point of application to the distribution network. System sizes over 30kW require up to 2-6 weeks for approval to connect to the network.

Australia Wide Solar will work with the network distributor to establish the correct mains protection required and will be quoted upon the acknowledgement of system size. As a guide the cost of the relays is: *(Plus install)*

- 30kW > 49kW = \$3,500ex
- 50kW > 79kW = \$4,500ex
- 80kW > 99kW = \$6,500ex

