

PV DISTRIBUTION



# DISTRIBUTION UNITS FOR PV INSTALLATIONS

[proteusswitchgear.co.uk](http://proteusswitchgear.co.uk)

# SOLAR ENERGY IN THE UK

**With growing energy prices and the demand for cleaner, greener energy, solar installations are becoming a more desirable option for homeowners and businesses across the UK.**

Proteus Switchgear work alongside customers to ensure they have a wide range of PV solutions. From commercial/industrial installations to smaller domestic installations, we have the switchgear to meet your requirements.

**The UK government's Powering up Britain report has reaffirmed its ambition for a five-fold increase in deployment of solar generation by 2035, with up to 70 gigawatt (GW) installed – enough to power around 20 million homes.**

The UK's first transmission-connected solar farm was energised in May 2023. This was the first PV solar array to feed electricity directly into the UK's transmission network, allowing it to be transported over greater distances to power the equivalent of over 17,300 homes – and will displace 20,500 tons of CO<sub>2</sub> each year compared to traditional energy production.

# BIDIRECTIONAL DEVICES

With the ever-growing solar photovoltaic (PV) and energy storage markets, it is important to consider the requirement for bidirectional protective devices that protect the devices electronics against power flowing in both directions.

530.3.201. Selection and erection of equipment for protection, isolation, switching, control and monitoring shall take account of all possible directions of power flow. Where bidirectional power flow is possible, only a device suitable for bidirectional power flow shall be used.

**Bidirectional protective device.** A protective device where a power supply may be connected to either set of connection terminals, and power flow may be in either direction.

**Unidirectional protective device.** A protective device where it is intended that a power supply is only connected to one defined set of connection terminals, and power flow is only in one direction.

**Note.** Product standards as listed in Appendix 1 for RCCBs, RCBOs, circuit breakers and AFDDs require these devices to be marked to indicate if they are unidirectional e.g. 'in' and 'out' or 'line' and 'load' or arrows.



## Circuit Protection Devices:

Proteus Switchgear have a comprehensive range of bidirectional circuit protection devices to support the growth in PV installations. Here is a list of our ranges which have bidirectional devices available, for the full range of bidirectional devices please refer to our website:

- RCCBs
- RCBOs
- AFDDs
- Stand Alone Earth Leakage Units

# DOMESTIC DISTRIBUTION FOR PV INSTALLATIONS

In the UK, demand for domestic PV installations are increasing due to unprecedented energy costs in recent years.

PV installations can open up drastic savings for homeowners on their energy bills, due to having the facility to generate their own power and in some cases even export that power back to the grid.

Whether you're working on a new build or retro fitting into an existing installation, here at Proteus Switchgear we have a wide range of distribution solutions for you.



## Bespoke Switchgear:

### 01. Metering:

- To provide a complete solution we have a range of metering products, enclosed isolators and 100A colour coded terminal blocks.

### 02. Enclosure:

Depending on the environment of your installation we have a number of options to suit:

- IP65 Plastic
- IP4Xc Metal
- IP65 Metal

### 03. Circuit Protection Devices:

We have a large range of bidirectional circuit protection devices and surge protection options to support the demands of your PV installation.

### 04. Cabling:

To enhance the speed and efficiency on your installation we can provide your board complete with a range of pre-fitted cables, copex and glands to your specification.

# READY-MADE SOLUTIONS

# 3 PHASE DISTRIBUTION FOR PV INSTALLATIONS

Depending on the kW size of your PV install at a commercial/industrial level, Proteus Switchgear have multiple solutions to run individual, or parallel supplies.

We can provide bespoke solutions up to 2500A incomers with a range of MCCBs to feed/receive the energy generated, down to standard 3 phase distribution boards. Motorised MCCBs or G99/G100 relays can also be pre-fitted to ensure compliance.



## G99/G100 Relays:

- Ideal for commercial/industrial scale projects, ensuring the safe operation of your renewable installation. G99/G100 relays\* for trip/trip-reclose interfacing with the grid, future proofing your installation with emerging grid specifications. \*3rd party commissioning required.

## Motorised MCCBs:

- Available 63A - 1600A
- 3 and 4 pole versions available
- Interrupting capacities up to 50kA\* at 400/415V AC
- Enclosures available for mounting individually
- Bidirectional as standard

## Sub Distribution Boards:

- Wide range of distribution boards available
- Pre-fitted isolator incomer
- Surge options available
- Various combination boards also available

\*Higher values – contact us



## PRO2000s:

As a unique service we offer completely bespoke LV switchboards up to 2500A. Designed and built to customer specification.



**IP67 RATED  
ROTARY  
ISOLATORS**

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