For a **Acond** heat pump installation, in line with latest regulations a dedicated earth leakage circuit breaker (RCD) needs to be installed. We have found the most economical unit is a **Type B 30 mA RCD**.

Additionally, an earth connection using a conductor with cross-section 10mm² is advised and surge protection devices should be installed according to the latest regulations. The installation should always be carried out to the latest British Standards (BS7671) by a suitably competent and qualified engineer. An installation in a commercial setting may not require an RCD, this should be checked by the installer.

Recommended overload protection (MCB) is as follows:

PRO Models	Switch Board	Hydromodule
3 x 400v		**1 x 6kW**
PRO-R	25A type B	32A type B
1 x 230v		
PRO-N	20A type B	40A type B
PRO-R	40A type B	50A type B

Grandis Models	Switch Board	Hydromodule (kW)
3 x 400v		**1 x 6kW**
Grandis-R	25A type B	32A type B
1 x 230v		
Grandis-N	20A type B	40A type B
Grandis-R	40A type B	50A type B

NOTE 1: Other Auxiliary Heater capacities are available, please ensure that the electrical supplies and equipment are suitably sized for other capacities.

NOTE 2: For the purpose of sizing the Maximum Demand (MD) for a property, in our experience, 50% diversity is sufficient but should always be checked by a qualified engineer against an individual properties load profile.

Any queries please don't hesitate to contact your installation company or Thermal Earth the exclusive distributor of Acond in the UK.

Surge Protection Devices

🏠 **Domestic (home) properties:**

- SPDs **are required** if:
    - The consequences of a surge would affect **human life**, cause **significant financial loss**, or disrupt **public services**.
- For typical homes, an SPD is **recommended** and **often installed as standard** in modern consumer units, but not legally enforced unless the above risks apply.

🌐 **2. Surge Protection on Internet/Data Lines**

⚠️ **Not strictly required by UK wiring regs, but recommended:**

- **BS 7671** focuses on **electrical installations**, not telecom/data lines.
- However, data lines (e.g., Ethernet, coaxial, telephone) **can conduct surges**, especially:
    - If external (e.g. aerials, outdoor cabling, satellite dishes, incoming broadband lines)
    - If there is **equipment sensitive to surges** (e.g. servers, routers, CCTV)

🔌 **When to consider SPD on internet/data lines:**

- In **commercial setups** with expensive IT equipment
- In **rural areas** or **properties with external cable runs**
- If the building is in a **high-lightning-risk area**

In the case of Acond Heat Pumps we require the correct SPDs to be installed in all cases as any surge may cause significant financial loss. If no SPDs are installed then any warranty for electrical issues may be void.

This document supersedes all previous versions.