# SURGE PROTECTIVE DEVICES — SECTION 534

## TYPE 1, 2 OR 3. WHICH SPD GOES WHERE?

> ✋ **Terminology.** It's a **surge protective device**, not a surge *protection* device. If you search Part 2 for "protection" you may not land on it, and it is the book's own term. Say it the way the book says it.

Everything the exam can ask you about SPDs lives in **section 534**. Two things in there are worth tabbing.

### LPZ — LIGHTNING PROTECTION ZONE

The section opens with a figure showing **lightning protection zones** and what you'd install for each zone around your equipment. Worth recognising the abbreviation; you're unlikely to be asked to reproduce the diagram.

### THE THREE TYPES, AND WHERE EACH ONE GOES

| TYPE | WHERE IT GOES |
|---|---|
| Type 1 or 2 | **At or near the origin** of the installation — i.e. in the main distribution board |
| Type 2 or 3 | Further along, e.g. at a **sub-board**, where it is beyond the origin SPD's protective distance |
| Type 3 | **Close to sensitive equipment**, where the equipment needs it |

A typical domestic board carries a **type 2**, marked in capitals inside the enclosure. "Near the origin" doesn't mean inside the box: you'll see boards with a **separate SPD enclosure** sitting alongside, which is still at the origin of the installation. Others sit in their own little box inside the board.

> **You can get a combined type 1 + type 2.**
> And nothing stops you fitting a type 2 everywhere — but a type 2 at the origin isn't always the end of it. Extra SPDs are needed where the origin SPD's protective distance is exceeded, or where the equipment requires one.

> **Which side of the main switch?**
> Some manufacturers put the SPD on the supply side of the main switch. It doesn't matter for the exam — it's still contained within the distribution board, so it's still at the origin.

Also worth knowing: there is **no map of lightning-strike frequency** in the regulations book, so don't go hunting for it. The design point survives: if you're in an area that takes a lot of strikes, you're more likely to need protection.

- **534** · measures against overvoltages · SPDs, types 1, 2 and 3 ★
- **443** · transient overvoltage (Part 4, Part 1)
- **Part 2** · "surge protective device" definition

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