PROSPECTIVE FAULT CURRENT ON THREE PHASE

WHY DOUBLE THE HIGHEST READING?

Guidance Note 3 · p.88 and p.89 · section 2.6.16. On single phase this is easy — you take the loop test and press the button. On three phase the worst case is a fault **across all three lines** (about twice the single-phase value) — and measuring between line conductors may not be possible, and may not be safe.

I_{pf} on three phase ≈ 2 × the highest single-phase value

WORKED EXAMPLE

Measured line-to-neutral, one conductor at a time:

```
L1 – N  =  400 A
L2 – N  =  406 A
L3 – N  =  415 A   ← the highest
```

Take the highest and double it:

415 × 2 = **830 A = 0.83 kA**

The reason it works: line to neutral is **230 V** even on a three-phase supply, so each of those readings is taken at the same voltage. Doubling the worst one is a rule of thumb that **errs on the side of safety**.

Three readings, one conductor at a time.

You take line to neutral on each phase separately — not all three together, which would be dangerous. Then you double the highest. It is an assumption, and it is meant to be.

Two values, record the higher.

The instrument gives you PEFC and PSCC. Take the **highest** and put that on the schedule — the same habit as the single-phase board.

Do it in the same breath as Z_s.

The loop test and the fault current measurement happen together. Take your Z_s, then press the PSC button without moving the leads — you get both off effectively one test. No need to pull leads off and start again.

✋ **A missing phase is a phone call.** If a three-phase system should have three phases and one is absent, tell the DNO immediately.

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