READING TABLE 41.1 (U_0 AND THE THREE-PHASE TRAP)

THREE-PHASE: 400 VOLTS OR 230 TO EARTH?

For circuits that do fall under Table 41.1, you need two assumptions for the UK:

- The public supply is **AC** (not DC).
- The nominal voltage to earth, U_0, is **230 V**.

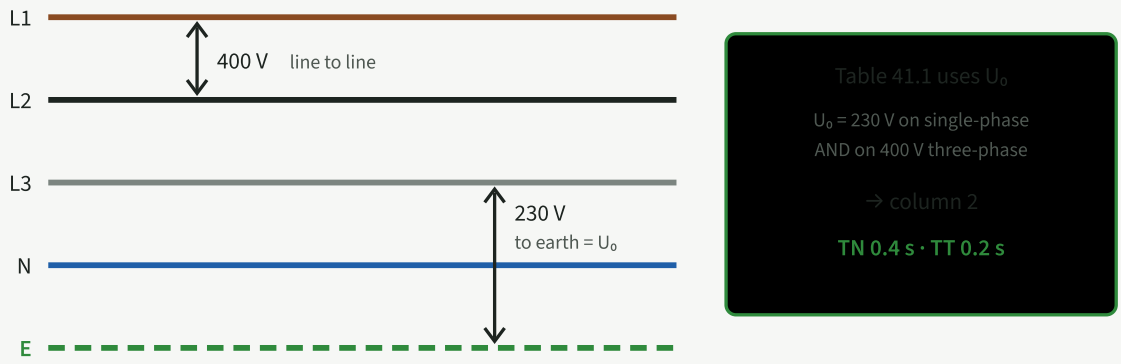
Split the table into **four voltage columns**. Look at the heading symbol U_0: it means **voltage to earth**. On a standard 230 V supply you're in **column 2**, which is the one you'll use most.

TABLE 41.1, AC VALUES (TN AND TT)

SYSTEM	1 · 50 V < U_0 ≤ 120 V	2 · 120 V < U_0 ≤ 230 V	3 · 230 V < U_0 ≤ 400 V	4 · U_0 > 400 V
TN	0.8 s	0.4 s	0.2 s	0.1 s
TT	0.3 s	0.2 s	0.07 s	0.04 s

The table also gives DC values in each column. You won't need them for a UK AC supply. Check your copy for those.

> **UK answer:** AC, TN, U_0 = 230 V → **0.4 s**. If it's TT → **0.2 s**. So in our example installation, circuits 1 and 4 must disconnect in **up to 0.4 s**.



A three-phase circuit is **400 V between phases** but still **230 V to earth**. Table 41.1 is read by voltage **to earth** (U_0), so it's still column 2.

The three-phase trap Lots of people see "400 V three-phase" and jump to column 3 or 4. **That's not correct.** Three-phase circuits are 400 V between phases but still **230 V to earth**, so you still use **column 2**. Only move columns if the question actually says the **voltage to earth** is something else.

About marking your book

You may see the four columns marked 1 to 4 in someone else's book. **Don't write in yours**. You can't take a marked-up book into the exam.

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