THE EIC PAGE 2: SUPPLY CHARACTERISTICS, EARTHING AND BONDING

WHAT GOES IN THE MAXIMUM DEMAND BOX?

THE EIC PAGE 2: SUPPLY CHARACTERISTICS

Page two is where the installation gets described in numbers. Most of it is ticks.

FIELD	WHAT YOU PUT
Earthing arrangement	TN-S or TN-C-S on most installations — and tick **PME** if it's TN-C-S. The form lists other arrangements as well, but most installations you meet will be one of these two
AC or DC	AC
Number of wires	Single-phase **two-wire**, three-phase **four-wire** — "wires" means **lines plus neutral**
Nominal voltage	**230 V** single phase · **400/230 V** three phase (put the 400 in first)
Frequency	**50 Hz**
Maximum demand	The demand **after diversity**, in amps or kVA. The form says “kVA / A”, so delete the one you’re not using. It is **not** the main fuse or main switch rating — those have their own boxes. Guidance Note 3, 2.3

✋ **Two boxes on this page are LIVE tests. Z_e** (external earth fault loop impedance) and **PFC** (prospective fault current) cannot be filled in during dead testing. You either **measure them live**, or obtain them **by enquiry of the DNO**. In practice everyone measures — nobody's ringing the DNO and waiting for a reply when they'll be on site doing live tests anyway.

Earth electrode.
If there isn't one — and on TN-S or TN-C-S there won't be — that block gets **N/A** right through.

GN3 · Section 5 · the EIC · example EIC, Figures 5.1–5.3, pp.147–149 ★

BS 7671 · Appendix 6 · model forms

EARTHING, BONDING AND THE MAIN SWITCH

SIZING, STRAIGHT OFF TABLES YOU ALREADY KNOW

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FROM THE INCOMING TAILS
25 mm² tails
→ earthing conductor 16 mm²
→ main protective bonding 10 mm²  (read the table: Electrician's Guide Table 
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The tables: **Electrician's Guide Tables 3.3.2a (TN-S) and 3.3.2b (PME), p.59**, or **BS 7671 Tables 54.7 and 54.8**. 16, 25 and 35 mm² tails all give you a **16 mm²** earthing conductor. Main bonding you read off the table too — don't work it out by halving: on PME it's **10 mm²** for supplies up to 35 mm².

CONNECTION VERIFIED, OR CONTINUITY VERIFIED?

> ? Two different tick boxes, and they mean different things. You can **see** that a conductor is *connected*. You cannot see that it has **continuity** — that has to be tested.

> **Continuity of the main protective bonding is your first dead test.**
> Before anything else on the circuits.

You also tick what's actually bonded: **water, gas, oil, structural steelwork, lightning protection**. In a domestic property it's usually just water and gas. The material is normally copper.

THE MAIN SWITCH, AND THE STICKER THAT CATCHES EVERYONE

You record the main switch's location, its BS EN number, the number of poles, its rating and its voltage. Poles: **two** for single phase (line and neutral), **four** for three phase (three lines and neutral).

> ✋ **The BS EN number trap, again.** Boards come with a sticker sheet, and the number printed under "main switch" on the consumer unit cover is often the number for the **consumer unit itself**. Your main switch is **BS EN 60947-3**, and that number is printed on the **side or bottom of the switch body**. Read it off the device.

EG · Tables 3.3.2a and 3.3.2b · p.59 · earthing and bonding sizes ★

BS 7671 · Tables 54.7 and 54.8 ★ **BS EN 60947-3** · the main switch ★

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