DUXNET

Best Practice Guide to PoE Budgeting

Don't blow the budget halfway through the rack.

PLAN. YOUR. POWER.



WHY YOUR PoE BUDGET MATTERS

In South African networks, unpredictable power outages, high-draw devices, and tight uptime expectations mean one thing: **if your Power over Ethernet (PoE) budget isn't calculated properly, the entire network could fail silently.**

A 24-port switch doesn't guarantee 24 devices can run at full tilt. Especially not when you're powering PTZ cameras, Wi-Fi 6 access points, or PoE lighting. **Just because it powers up today, doesn't mean it will stay online tomorrow.**

- **Avoid surprise support calls.**
- **Design with a power plan.**

WHAT CAUSES PoE OVERLOAD?

- **Misunderstanding the switch's total power budget**
- **Mixing high-draw and low-draw devices on the same switch**
- **Adding new devices post-install without recalculating**
- **Skipping headroom and surge capacity in network design**

PRO INSTALLER TIPS

- Use PoE injectors or mid-span units for high-draw outliers - don't overload the core switch.
- Label ports with device type and draw - this saves time during maintenance and upgrades.
- Futureproof your power plan - newer devices are only getting more power-hungry.

BEST PRACTISE CHECKLIST

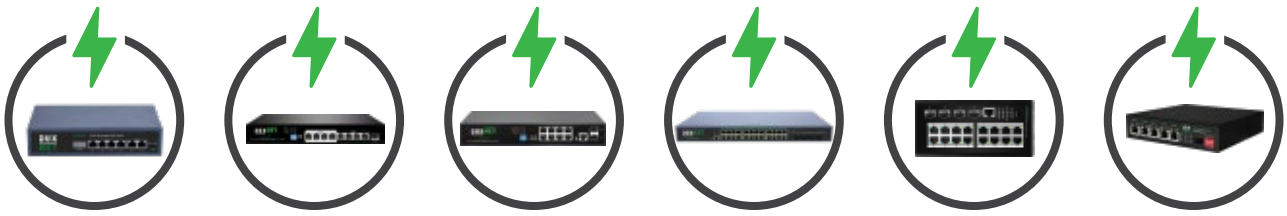
- **Know your switch's power budget**
  Always check the datasheet. Don't guess. Understand total PoE watts and per-port limitations.
- **Do the maths (or ask us to)**
  Combining multiple PTZs, intercoms and APs without planning can crash the system. Contact DuxNet Support for a quick pre-deployment power audit.
- **Leave 10–20% headroom**
  Plan for growth and fluctuations. Never design to max capacity.
- **Use PoE calculators**
  Many vendors offer online planning tools - use them when dealing with mixed environments.
- **Monitor live power draw**
  If your switch supports it, check usage stats and set alerts. Adjust before issues occur.

REALITY CHECK

In South Africa, unpredictable conditions like voltage drops and late-stage device additions can push networks over the edge. When a PoE budget gets maxed out, devices fail at random - and support calls come rolling in.

DON'T BUILD NETWORKS FOR TODAY. DESIGN FOR TOMORROW.

Let us assist with your PoE planning to ensure long-term reliability and smart expansion



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Installer PoE Budget Checklist

Best Practices for Power over Ethernet Planning in South African Conditions



PRE-INSTALLATION CHECKS

- [ ] Confirm total PoE power budget on switch (check datasheet, not port count)
- [ ] Note the power draw for each planned device (PTZs, APs, cameras, intercoms, etc.)
- [ ] Identify any high-draw outliers that may need injectors or separate power
- [ ] Allow 10–20% PoE headroom for future devices or fluctuations

DESIGN & PLANNING

- [ ] Don't mix too many high-draw devices on the same switch
- [ ] Use vendor PoE calculators for mixed environments
- [ ] Plan for separate power if devices will be added in later phases
- [ ] Label ports with expected device and power draw (optional but recommended)

INSTALLATION SETUP

- [ ] Spread high-draw devices across multiple switches if needed
- [ ] Use mid-span injectors for non-critical or high-power endpoints
- [ ] Confirm cable quality (CAT5e min, CAT6/6a recommended for higher loads)
- [ ] Avoid running power and data in the same conduit

POST-INSTALLATION TEST

- [ ] Monitor live PoE usage via the switch interface if available
- [ ] Run device boot tests to confirm power-up consistency
- [ ] Check for PoE overload events or auto-shutdowns
- [ ] Document port usage, total draw, and note any headroom left

NEED HELP?

Contact our expert support team for a pre-deployment audit or quick sanity check.