

Power Telemetry Design Guide

Current / Voltage / Power Sense — Real-Time Measurement

Version 1.0

Outline

- Current sensing: shunt (high/low side), Hall/fluxgate, isolated delta-sigma.
- Voltage sensing: dividers, buffers, impedance & bandwidth trade-offs.
- Digitization: SAR vs delta-sigma, sample rate vs noise, PMBus reporting.
- Power/energy: $P=V \times I$, coulomb counting, alert thresholds.
- Protection & optimization via telemetry (UV/OV/OC/OT, DVFS).

Quick Reference

- Key terms: keep consistent with on-site taxonomy for SEO.
- Cross-links: LDO, Buck/Boost, Isolated Power, Supervisors & Watchdog, Sensing.
- Diagrams: reuse inline SVG styles from the web pages.
- Checklist: specs, selection tips, thermal/EMI notes, safety/automotive flags.