

## 03. AC/DC Power Conversion ICs

**Non-isolated buck, isolated PSR/SSR and SSR controllers for appliance and offline auxiliary power supplies.**

This category converts AC mains into low-voltage auxiliary rails for MCUs, relays, sensors and Wi-Fi modules.

### Product Positioning

#### Non-Isolated AC/DC

- For low-power appliances, Wi-Fi modules, lighting and heater control boards.

- Typical outputs include 3.3V, 5V, 12V and adjustable rails.

#### Isolated PSR / SSR

- Covers built-in/external start-up and high-voltage BJT/MOS architectures.

- For offline auxiliary power, appliances, meters and charging-pile control supplies.

### Representative Models / Product Lines

Category	Representative Models	Power / Output	Typical Applications
Non-isolated Buck	ICW4007, ICW4008A/B, ICW4009A/B, ICW2802	3.3V/0.1A, 5V/0.2A-0.4A, 12V/0.2A-0.4A, ADJ/0.5A	Wi-Fi modules, lighting, coffee machines, fans and heaters
Isolated PSR	ICW3667A/B, ICW3783A, ICW3669F, ICW2540A, ICW3618, ICW2545	3W-25W recommended power	Smart appliances, meters and adapters
Isolated SSR Transistor	ICW118A, ICW207, ICW206/H, ICW208AD, ICW2358H, ICW209	5W-45W withstand power class	High-voltage offline auxiliary rails
SSR Controller	ICW6510, ICW6510T, ICW6510C, ICW8020, ICW6511	65W-150W recommended power	High-efficiency QR flyback / external MOS solutions

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### Applications and Promotion Notes

#### Typical Applications

- Smart appliances: TV, refrigerator, air conditioner, washer, water heater and range hood control supplies.
- Small appliances: fan, heater, air purifier, doorbell and telephone.
- Kitchen and health/beauty appliances: cooker, microwave, shaver, massage chair and electronic scale.

#### Promotion Focus

- Converts AC mains into low-voltage rails for MCU, relays, sensors and Wi-Fi modules.
- Fast selection by isolation, output power, start-up method and package.
- Can be combined with LDO/DC-DC to form complete appliance power solutions.

### Questions to Ask Customers

Question	Why It Matters
Is isolation required? Is the input 85-264VAC or fixed mains?	Determines non-isolated, PSR or SSR topology.
What is the target output voltage and power?	Matches 3W / 5W / 12W / 18W / 24W / 45W power classes.
Is high efficiency, low standby power or QR flyback required?	Determines general switching supply or higher-performance SSR controller.
Is the end product a white good, small appliance, meter or charging pile?	Impacts safety, package, thermal design and reliability requirements.

Note: Before design-in, verify temperature grade, package, certification status, PPAP support and availability with the latest datasheet.