

“ASR-SK Series Solid-State Relays in Plastic Processing and Semiconductor Manufacturing”

Precision, reliability, and efficiency are essential in industries like plastic processing and semiconductor manufacturing, where equipment must handle varying loads and temperature-sensitive processes. The ASR-SK Series Solid-State Relays (SSRs) offer a solution for these challenges with features like zero-crossing or random-on switching, SCR output, and integrated heatsinks.



Industry Challenges

Plastic Processing

Key challenges include managing high-power loads for heating elements and motors, maintaining temperature control, and ensuring durability for continuous operation. Downtime or variations can compromise product quality and efficiency.

Semiconductor Manufacturing

This industry demands noise suppression and rapid switching to protect sensitive electronic components. Equipment must operate efficiently under constant pressure, with reliable protection from electrical noise and transient voltage spikes.

ASR-SK Series Solutions

The ASR-SK SSRs ensure accurate switching for heating elements and motors in injection molding and extrusion, reducing downtime and improving energy efficiency. With its noise suppression and fast switching, the ASR-SK Series is ideal for semiconductor wafer production, ensuring reliability and protection in sensitive environments. Below are the main key features that let ASR-SK Series take advantage in these industries:

1. Zero-Crossing & Random-On Switching

Zero-crossing switching minimizes noise and voltage spikes, making it ideal for delicate semiconductor processes and precise control of heating elements in plastic injection molding machines. Random-on switching provides fast, dynamic load control, especially useful for motor-driven applications in plastic processing and high-power machinery.

2. SCR Output

The SCR output allows the ASR-SK Series to handle high-power AC loads (up to 25A @ 240VAC/600VAC), ideal for applications like plastic injection molding and semiconductor machinery that require heavy-duty performance.

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3. Integrated Heatsink & RC Snubber

An integrated heatsink manages thermal performance, ensuring continuous operation. The RC snubber circuit protects against transient voltages, ensuring the SSR and connected equipment stay safe and reliable. With two available heatsink options, HSK90 and HSL90, the ASR-SK Series supports different thermal management requirements, enabling operation at higher ambient temperatures without compromising performance. This makes the relay adaptable to environments ranging from -30°C to +80°C.

4. IP20 Touch-Safe Housing

The IP20-rated housing ensures user safety during installation and operation, a crucial feature in industrial environments where safety is paramount.

5. DIN Rail Mounting for Industrial Enclosures

The ASR-SK Series features a 35mm DIN rail mounting design, compatible with EN50022 standards, making it easy to install in standard industrial cabinets and enclosures. This mounting option is particularly advantageous for applications requiring quick and secure installation, ensuring the SSR fits neatly alongside other control components in tight industrial spaces.