

LN Series

EMC Compliant Solid State Relays (SSR)

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KEY FEATURES:

- ✓ **EMC Compliant:** Meets EN50081-1 and EN50082-2, eliminating external EMC filters
- ✓ **Zero-Crossing Switching:** For clean on/off operation, ideal for inductive loads
- ✓ **Compact Design:** Smaller heatsink needed due to efficient thermal behaviour
- ✓ **Wide Control Voltage Range:** 3–32VDC
- ✓ **Surge Withstanding:** Up to 520A/10ms @ 530V
- ✓ **Optical Isolation:** Ensures full protection of control circuitry
- ✓ **Standard Puck Mounting:** Compatible with industry-standard SSR sizes
- ✓ **Optional Add-ons:** LED indicators, load monitoring with alarms, resettable overcurrent protection

APPLICATIONS:

- HVAC systems (heating, ventilation, air conditioning)
- Electric motors and solenoid valves
- UPS systems and backup power switching
- Lighting and signage control
- Humidifiers and process heaters
- Industrial automation and building management systems

The **LN Series Solid State Relays** are designed for high-performance switching of AC loads with built-in **EMC compliance**, eliminating the need for external filters or snubbers. Engineered with **Direct Copper Bonding** and high-grade thyristors, they ensure reliable, low-loss switching, long service life, and reduced heat generation. Designed to meet **EN50081-1**, **EN50082-2**, and **EN61000-3-2** standards, they are ideal for noise-sensitive applications in both industrial and commercial environments.

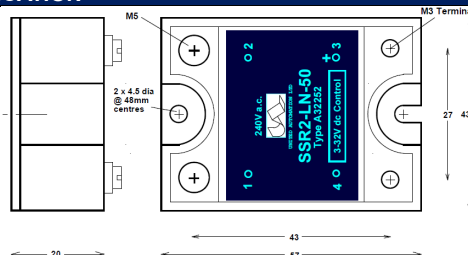
Compliance & Certifications

- **EMC Standards:** EN50081-1, EN50082-2, EN61000-3-2
- **Marine & Industrial:** EN60945:2002:2008
- **RoHS Compliant**
- **UL Listed** (Single-phase versions): UL-US-2013894-0, UL-CA-2011013-0
- ***Patent No. 1130777B**

TECHNICAL SPECIFICATIONS

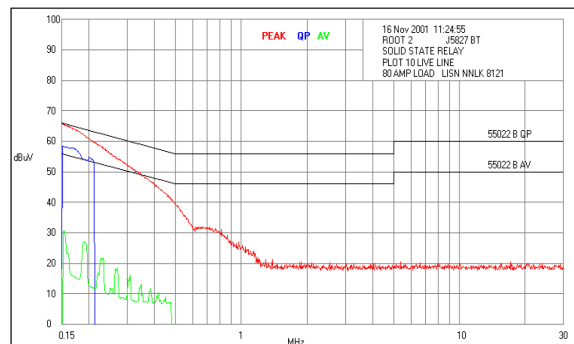
Load Current Ratings	25A to 75A @ 240VAC
Operating Voltage	Up to 240VAC nominal, 1000V peak
Supply Frequency Range	45Hz – 1kHz
Control Voltage Range	3–32VDC
Surge Current Handling	300A @ 240V, 520A @ 530V (10ms)
Switching Type	Zero-crossing (on and off)
Isolation	Optical, for full control/output separation
Certifications	UL, EN60945:2002:2008, RoHS, FCC Part 15B
Mounting	Industry-standard puck (SSR form factor)

MECHANICAL SPECIFICATION

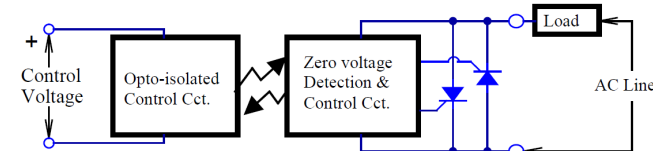


Mechanical Specification


TYPICAL CONDUCTED RF NOISE EMISSION @ 240V 80A



Block Diagram



YOU MUST READ THIS BEFORE INSTALLATION

 ELECTRICAL SAFETY	 INSTALLATION REQUIREMENTS	 USER RESTRICTIONS	 USAGE ENVIRONMENT	 HOT SURFACE WARNING
WARNING: RISK OF ELECTRIC SHOCK Always consult the Installation & Maintenance Instructions before connecting this product to the power supply. WARNING: Disconnect Power Before Servicing Ensure the electrical supply is safely disconnected before connecting to any supply, load, or control terminals.	WARNING: Installation by Qualified Personnel Only This product must only be installed or fitted by a competent, qualified installer familiar with the relevant electrical standards and installation practices.	WARNING: Not for Use by Vulnerable Individuals This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised or instructed by a person responsible for their safety.	WARNING: Industrial Use Only This is an industrial-grade product and is not intended for household use.	WARNING: Hot Surfaces On certain models, surfaces marked with this symbol become hot during use. Avoid direct contact and follow all thermal safety precautions.

LN Series

EMC Compliant Solid State Relays (SSR)

LN Series Low Noise Solid State Relays

ELECTRICAL CHARACTERISTICS Typical at +45°C Ambient

Input Specification	
Control voltage	3.0 to 28Vdc
Max. reverse voltage	-32Vdc
Impedance (nominal)	1,500Ω
On voltage (Max)	+3.0Vdc
Off voltage (Min)	+1Vdc
Input current (typical @ 12Vdc)	11mA
(typical @ 5Vdc)	4mA
On threshold	2mA
Isolation, Input-Output	2,500Vac

Output Specification	120V, 1 phase			240V, 1 phase					440V, 1 phase				530V, 3-phase		
SSR Type: LN	3025	3040	3075	6025	6030	6040	6050	6075	10015	10025	10040	10050	3P10015	3P10030	3P10050
Operating Voltage V_T @ 47-63hz, V rms	24 to 120V			24 to 240V					48 to 530V				48 to 530V		
Max. Average Forward Current, I_T , (A _V) _M , Amps	25	40	75	25	30	40	50	75	15	25	40	50	15	30	50
Min. Load Current, mA rms	130	130	130	140	140	140	140	140	250	250	250	250	250	250	250
Transient Over-voltage, V_{pk} , V	500	500	500	600	600	600	600	600	900	900	900	900	1200	1200	1200
Max On-state Surge Current for 10mSec, A pk	300	300	300	520	520	520	520	520	520	520	520	520	520	520	520
Max. On-state volt drop @ rated current	1.55V	1.55V	1.55V	1.55V	1.55V	1.55V	1.55V	1.55V	1.35V	1.35V	1.35V	1.35V			
Max. Off-state leakage current @ rated voltage	3mA	3mA	3mA	3mA	3mA	3mA	3mA	3mA	5.5mA	5.5mA	5.5mA	5.5mA			
Max I ² t at 45°C (t = 10mS), A ² s	1310	1310	1310	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350
Internal over-voltage protection	-	-		-	-	-	-	-					TVS & VDR		
Input status LED													Green LED		
Max. Turn-On time	1 cycle maximum														
Max. Turn-Off time	1 cycle maximum														
Operational Temperature range	-20 to +85°C														
Storage Temperature range	-40 to +110°														
Operating frequency range	50 to 400Hz														
Input – Output Capacitance	<130pF														
Case Material	Flame Retardant to UL94V-0														
Conducted Emission	Within EN55022 Class B Quasi-Peak and Average Emission Limits at 80 amps rms, (peak noise below 60dbuV)														
	UL Certification numbers, (single phase relays only): UL-US-2013894-0 and UL-CA-2011013-0														

RECOMMENDATIONS

FUSING

It is recommended to use semiconductor (fast acting) type fuses or circuit breakers (Semiconductor - MCB) for unit protection. On initial switch on some loads may need an increased Factor of Safety (F of S) for unit and/or device protection. See SRA datasheet for information.

DOCUMENTS

Other documents available on request, which may be appropriate for your application:

Code	Identity	Description
X10213	ITA	Interaction: Uses for phase angle and for burst fire control
X10255	SRA	Safety Requirements: Addressing the Low Voltage Directive (LVD) including, Thermal Data/Cooling, Live Parts Warning, Earthing Requirements and Fusing Recommendations

It is recommended that installation and maintenance of this equipment should be done with reference to the current edition of the I.E.T. regulations (BS7671) by suitably qualified/trained personnel. The regulations contain important requirements regarding the safety of electrical equipment. For International standards refer STANDARDS on D of C.

PRODUCT CODE AND RELATED PRODUCT CODE

Product Code	Product Description
A-LN3015	SSR-15A-120V, LN3015 1 Phase, 3 to 28Vdc control, UL Certification
A-LN3025A	SSR-25A-120V, LN3025A 1 Phase, 3 to 28Vdc control, UL Certification
A-LN3040	SSR-40A-120V, LN3040 1 Phase, 3 to 28Vdc control, UL Certification
A-LN3060	SSR-60A-120V, LN3060 1 Phase, 3 to 28Vdc control, UL Certification
A-LN3075A	SSR-75A-120V, LN3075A 1 Phase, 3 to 28Vdc control, UL Certification
A-LN6025	SSR-25A-240V, LN6025 1 Phase, 3 to 28Vdc control, UL Certification
A-LN6040A	SSR-40A-240V, LN6040A 1 Phase, 3 to 28Vdc control, UL Certification
A-LN6050	SSR-50A-240V, LN6050 1 Phase, 3 to 28Vdc control, UL Certification
A-LN6075A	SSR-75A-240V, LN6075A 1 Phase, 3 to 28Vdc control, UL Certification



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