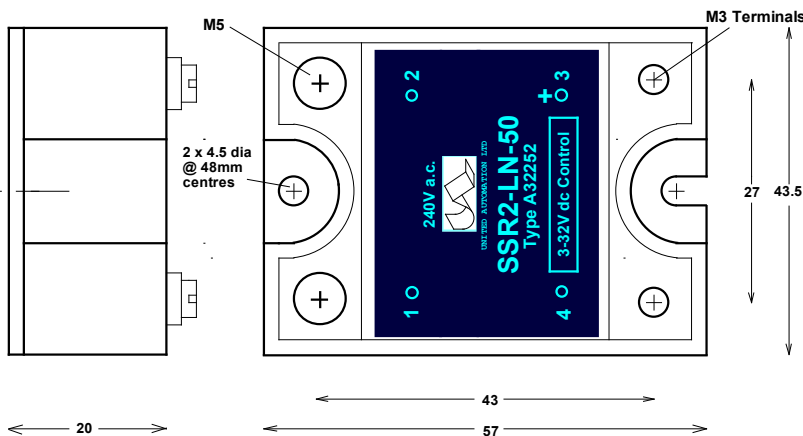


The LN series of **EMC Compliant** Solid State Relays\* are designed to provide switching of high current loads with a minimum of conducted electrical noise, (well within the EN50081-1 Emission Standard) plus immunity to EN50082-2 Standard. No additional EMC filters are needed to comply with EU Directive 2004/14/EU.

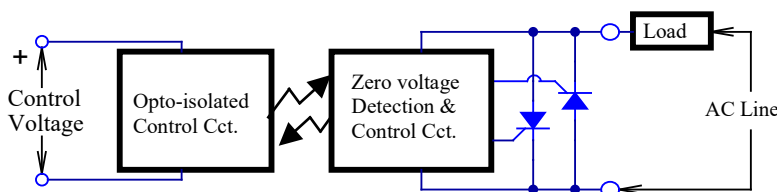
The efficient switching also minimises power loss allowing the device to run cooler at a higher loading. The use of **Direct Copper Bonding** Technology and high-grade thyristors ensures long life and reliability.



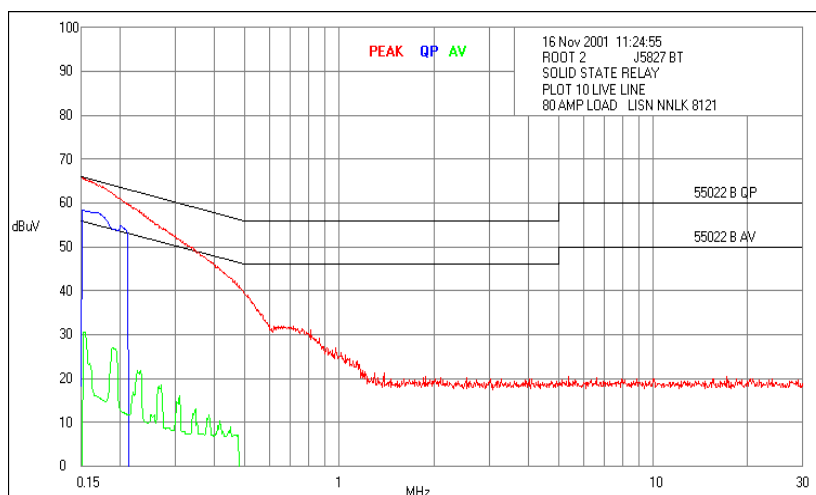
### MECHANICAL SPECIFICATION



### BLOCK DIAGRAM



### TYPICAL CONDUCTED RF NOISE EMISSION @ 240V 80A



### STANDARD FEATURES:

- ◆ **Industry Standard Package** - Power, ('Puck') is interchangeable with standard SSR types.
- ◆ **EMC** - complies with EN50081-1 at **80amps**, plus EN50082-2 and EN61000-3-2
- ◆ **Reduced Support Components** - requires no external components such as snubbers or in-line EMC filters. Reduced wiring/installation costs. Reduction in weight and size of final assembly. Improved reliability.
- ◆ **Greater efficiency:** requires smaller heat sink for the same load current.
- ◆ **True 'zero-crossing'** at On and Off switching points which is advantageous with inductive loads.
- ◆ **Power ranges:** 25 to 75 A @ 240Vac  
25 to 80A @ 530Vac
- ◆ **Supply Frequency** operating range: 45 to 1KHz.
- ◆ **Control Voltage:** 3 to 32V dc
- ◆ **Maximum Peak voltage:** 1,000Volts ac.
- ◆ **Maximum Surge Current:** 300A/10mS @ 240V  
520A/10mS @ 530V
- ◆ **Optical isolation** ensures complete protection of control circuitry from output voltage fluctuations, (2.5kV standard separation).

### SPECIAL OPTIONS:

- ◆ Alternative terminal types.
- ◆ LED's to indicate Control and/or Load status.
- ◆ Instant switch-off.
- ◆ Resettable over-current protection.
- ◆ Load monitoring with Alarm

### TYPICAL APPLICATIONS:

Switching of high power electrical apparatus, e.g. Motors, Heating, Air conditioning, Humidifiers, UPS's, Lighting, Solenoid valves, Signalling, Industrial process control, Building services, etc.

\* **Patent No. 1130777B**

## 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
Input status LED	Optional



#### Output Specification

SSR Type: LN	120V, 1 phase			240V, 1 phase					440V, 1 phase				530V, 3 phase		
	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, $I_T$ , (AV)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	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 $I^2t$ at 45°C (t = 10mS) A <sup>2</sup> s	1310	1310	1310	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350
Internal over-voltage protection	-	-		-	-	-	-	-							
Input status LED															TVS & VDR 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)														