

OPERATING PRINCIPLE

Series 50 Solid State Relays

WHY RELAYS — THE SENSOR / LOAD PROBLEM

ERECTA SWITCH® reed switch sensors are precision devices rated for low-current resistive loads — indicator lamps, logic inputs, small relay coils. They are not rated to directly switch pump motors, solenoid valves, contactors, or other inductive loads at full line current. Attempting to do so welds or erodes the reed contacts, causing premature failure.

Series 50 relays solve this problem. A reed switch sensor pilots the relay using a few milliamps in the sensor circuit. The relay switches the full AC load current — up to 5 A for the NistorPac, up to 10 A for the LatchPac — without any current passing through the sensor contacts. The sensor does the sensing; the relay does the switching.

Both Series 50 products are **solid state** — no mechanical contacts, no moving parts, no arcing, no audible clicking. They are silent, long-lived, and tolerant of the vibration and duty cycles common in OEM fluid handling equipment.

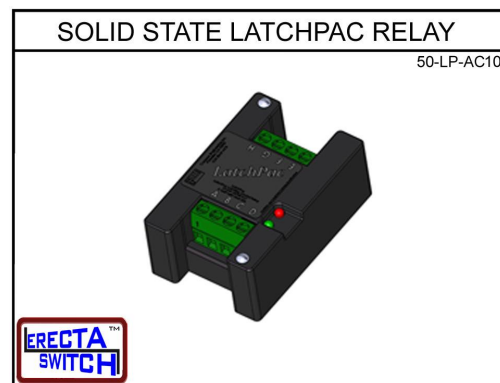
Two Products, Two Switching Behaviors

NistorPac (50-NP-AC5) — non-latching ON/OFF relay. One sensor switch. Load follows the sensor: sensor closes → load ON; sensor opens → load OFF. Simple, direct, one-to-one control.

LatchPac (50-LP-AC10) — latching relay for wide-differential level control. Two sensor switches. Load latches ON when start conditions are met and stays ON until stop conditions are met — regardless of intermediate sensor state changes.



50-NP-AC5 NistorPac — solid state ON/OFF relay, SP NO, 5 A max load



50-LP-AC10 LatchPac — solid state latching relay, wide-differential pump control, 10 A max load

NISTORPAC — ON/OFF SINGLE POLE AC SWITCH

How the NistorPac Works

The 50-NP-AC5 is a continuously powered device. In standby, it draws less than 0.001 A. When a sensor switch closes the circuit between terminals C and D, line voltage is switched to the load terminals A and F — turning the load ON. When the sensor opens, the load turns OFF immediately. No latching, no memory, no timing.

Terminal assignments are straightforward: load connects to A and F, line voltage connects to B and E, sensor switch connects to C and D. Eurostyle screw-type terminals accept two conductors per terminal for clean, tool-assisted wiring.

NistorPac Electrical Ratings

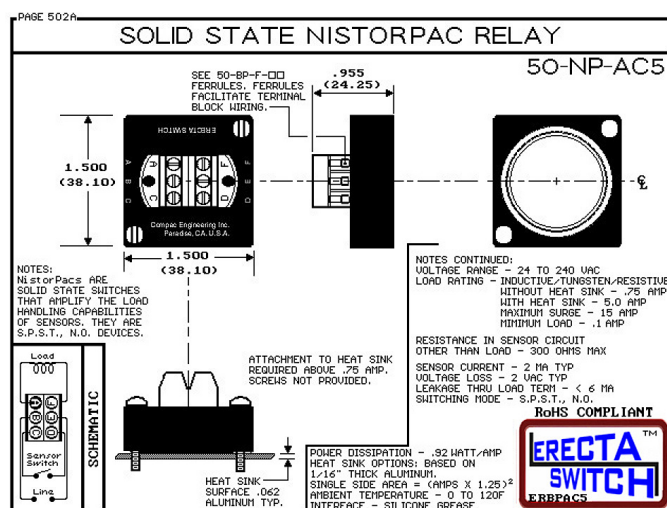
ELECTRICAL RATINGS			
NISTORPAC RELAY	AC5		
50-60 Hz VOLTS	24-240		
MAX LOAD AMPS	5		
MIN LOAD AMPS	.1		
MAX SURGE AMPS	15		
MAX SENSOR CIR OHMS	300		
SENSOR CIR AMPS TYP	.01		
SWITCHING MODE	SP NO		
WATT/AMP DISSIPATION	.92		
HEAT SINK REQ >	.75 AMP		
VDC BASE ISOLATION	1000		

50-NP-AC5 NistorPac — AC5 relay ratings

Heat Sink Requirement

NistorPac dissipates **0.92 watts per amp** switched. The built-in aluminum base heat sink is sufficient for loads up to 0.75 A continuous. Above 0.75 A, mount the NistorPac against a supplemental metal heat sink surface. Heat sink area = (Amps × 1.25)² square inches of single-side aluminum at 1/16" thickness. Use silicone grease at the interface.

NistorPac Dimensional Drawing



50-NP-AC5 — dimensions 1.500" × 1.500" (38.10 × 38.10 mm), schematic, and heat sink notes

LATCHPAC — WIDE-DIFFERENTIAL LATCHING RELAY

How the LatchPac Works

The 50-LP-AC10 uses two sensor switches — Start and Stop — to control a single AC load with a wide differential between the ON and OFF set points. This is the defining capability: the relay holds the load ON across the full travel between set points, without requiring the sensor to maintain its state.

When line voltage is connected to terminals G and H and the load is connected to E and F, the relay is in standby. The Start switch connects to terminals A and B; the Stop switch connects to C and D.

Latch ON: Both Start and Stop switches closed → relay latches ON, load energized. Relay holds ON even if switch states change, until unlatch conditions are met.

Unlatch OFF: Both Start and Stop switches open → relay unlatches, load de-energized.

For Start Low / Stop High pump fill control: configure both sensors as N.O. (open on rise). For Start High / Stop Low pump drain control: configure both sensors as N.C. (close on rise). The LatchPac logic is symmetric — it responds to the switch states, not their physical orientation.

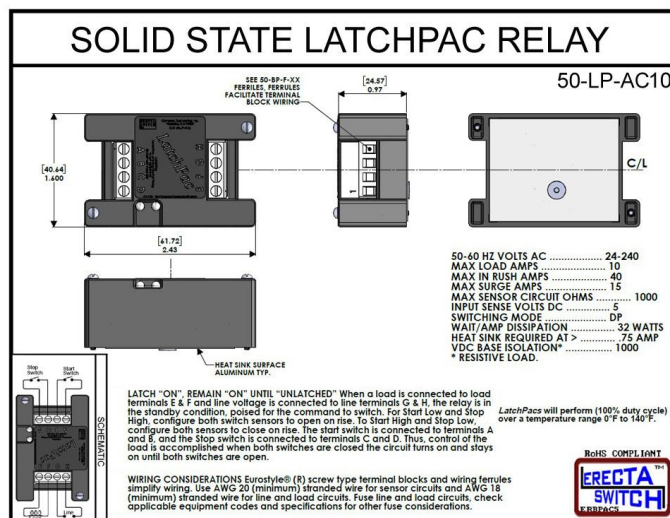
LatchPac Electrical Ratings

ELECTRICAL RATINGS			
LatchPac LATCHING RELAY	AC10		
50-60 HZ VOLTS AC	24-240		
MAX LOAD AMPS	10		
MIN LOAD AMPS	.1		
MAX IN RUSH AMPS	40		
MAX SURGE AMPS	15		
MAX SENSOR CIRCUIT OHMS	1000		
INPUT SENSE VOLTS DC	5		
WAIT/AMP DISSIPATION	32 WATTS		
HEAT SINK REQUIRED AT >	.75 AMP		
VDC BASE ISOLATION*	1000		

* RESISTIVE LOAD.

50-LP-AC10 LatchPac — AC10 latching relay ratings

LatchPac Dimensional Drawing



50-LP-AC10 — dimensions 2.43" × 1.600" (61.72 × 40.64 mm), terminal layout, schematic

LatchPac — Coming Soon

The 50-LP-AC10 LatchPac is in final development. Full technical specifications are published here. Product availability is pending completion of final production qualification.

Contact sales@compac.com to register interest or discuss your application — early inquiries may accelerate availability.

Heat Sink Requirement

LatchPac dissipates **32 watts maximum** at full rated load. Built-in aluminum base heat sink is sufficient below 0.75 A continuous. Above 0.75 A, mount against supplemental metal surface. Same heat sink sizing formula as NistorPac applies.