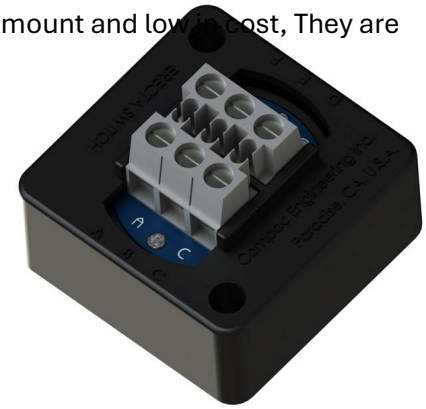
Solid State Relays, Latchers, Heat Sinks and Accessories.

Reed switch sensors often do not have the switching capacity to handle pump motors and solenoids. Relays are used to achieve the required switching capacity. The sensor switch pilots the relay which in turn switches the load. In other words, the relay enables the reed switch sensor to handle a bigger job then it can do by itself,

NistorPacs are solid state, AC switching relays expressly designed for DEM use and this purpose, They will switch up to 5 amps, have no moving parts, are silent, easy to wire, easy to mount and low in cost, They are ideal companions for ERECTA SWITCH sensors.

Two modes of operation are possible: The first and most common, is when the sensor switch closes, the load is turned “on" and then turned “off” as the sensor switch re-opens.

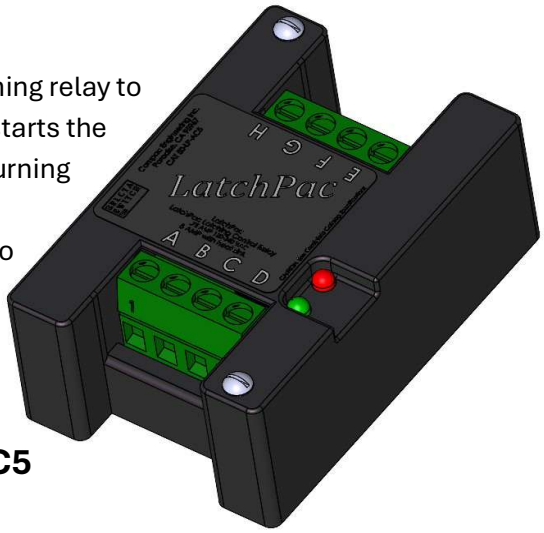


50-NP-AC5

NistorPac

NistorPacs are continuously powered devices. In the standby mode, they consume a tiny amount of current, (Typically, less than .001 AMP). When activated by a switch closure, supply voltage is switched to the load, turning “on” the lamp, solenoid, motor etc, Circuitry and wiring are intuitive. Eurostyle screw type terminals accept two wires from the voltage source, two wires from the load device to be “turned on" and two wires from the Reed Switch sensor. Optional accessory wiring ferrules facilitate wiring.

The second combines two sensor switches with a ***LatchPacs*** latching relay to provide wide differential control of liquid levels. Here, one switch starts the latch, turning a pump or valve "on" and the other stops the latch, turning the pump or valve “off”. Circuitry and wiring are intuitive. Eurostyle screw type terminals accept two wires from the voltage source, two wires from the load device to be “turned on" and two wires from the Start Reed Switch sensor and two wires from the Stop Reed Switch sensor. Optional accessory wiring ferrules facilitate wiring.



50-LP-AC5

LatchPac

NistorPacs and ***LatchPacs*** dissipate heat when the load is “turned on”, At load currents below .76 ANP, their built-in heat sink is sufficient to dissipate the heat generated. However, at higher current, they must be attached to a supplemental heat sink or any cool metal surface of sufficient area to keep them from overheating.

RELAY MODES OF OPERATION

Two common applications can be efficiently handled by ERECTA SWITCH Relays. ***NistorPacs***, provide a simple "on-off" switching of other AC control devices such as relays, solenoids and fractional motors. ***LatchPac*** latching relays start a load when both the start switch and the stop switch are closed and unlatching the load when both the start switch and the stop switch are open. A detailed description of each follows:

NistorPac ON-OFF SINGLE POLE AC SWITCH

When a load is connected to load terminals A & F and line voltage is connected to line terminals B & E, the relay is in the standby condition, poised for the command to switch. If a connection is now made between sensor terminals C & D, line voltage is supplied to the load as the "relay" is sensed as turned "on". The load will remain on as long as the connection between C & D is present. Thus, control of the load is accomplished by completing and interrupting the sensor circuit between terminals C & D.

LatchPac LATCH "ON", REMAIN "ON" UNTIL "UNLATCHED"

When a load is connected to load terminals E & F and line voltage is connected to line terminals G & H, the relay is in the standby condition, poised for the command to switch. For Start Low and Stop High, configure both switch sensors to open on rise. To Start High and Stop Low, configure both sensors to close on rise. The start switch is connected to terminals A and B, and the Stop switch is connected to terminals C and D. Thus, control of the load is accomplished when both switches are closed the circuit turns on and stays on until both switches are open.

WIRING CONSIDERATIONS

Eurostyle® (R) screw type terminal blocks and wiring ferrules simplify wiring. Use AWG 20 (minimum) stranded wire for sensor circuits and AWG 18 (minimum) stranded wire for line and load circuits. Fuse line and load circuits, check applicable equipment codes and specifications for other fuse considerations.

ELECTRICAL RATINGS

NistorPac RELAY PCS

50-60 HZ VOLTS AC 24-240
MAX LOAD AMPS 5
MAX IN RUSH AMPS 40
MAX SURGE AMPS 15
MAX SENSOR CIRCUIT OHMS 1000
INPUT SENSE VOLTS DC 5
SWITCHING MODE ..... DP
WAIT/AMP DISSIPATION ..... 32 WATTS
HEAT SINK REQUIRED AT > ..... .75 AMP
VDC BASE ISOLATION* 1000
* RESISTIVE LOAD.

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

HEAT SINK CONSIDERATIONS

NistorPac relays dissipate .32 watts per AMP switched. If this energy is allowed to raise the temperature of the relay beyond safe level, the ability of the relay to properly "latch" may be compromised. The bottom of Button Pack is an aluminum heat transfer surface. Factors such as switched AMPs, differential temperature and poor room/air circulation must be considered. The energy dissipated will be a function of I^2RT. Thus, a short "on" time may not require a heat sink at all. Whereas loads over .75 AMP will usually require a supplemental heat sink. See product specification sheets for additional heat sink parameters.

APPLICATION ENVIRONMENT

NistorPacs and ***LatchPacs*** will perform (100% duty cycle) over a temperature range 0°F to 140°F. Assuming the device is continuously powered and triggered by opening or closing contacts in the sensor circuit, these devices are reasonably tolerant of transient power line noises. However, rapid on/off operations are still possible. Consequently, these devices should not be used in any application in which a momentary false operation would cause injury to personnel or equipment.