

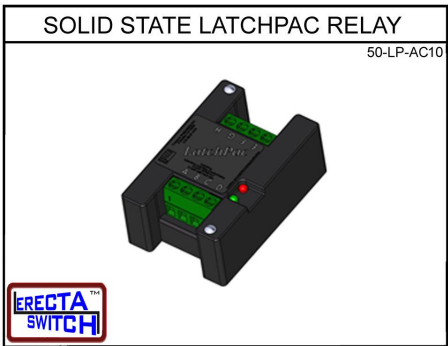
PRODUCT FAMILY OVERVIEW & RATINGS

Series 50 Solid State Relays

PRODUCT OVERVIEW



50-NP-AC5 NistorPac — solid state ON/OFF relay, 5 A, 24–240 VAC



50-LP-AC10 LatchPac — solid state latching relay, 10 A, wide-differential pump control (Coming Soon)

Series 50 solid state relays extend the switching capability of ERECTA SWITCH® sensors to handle the full range of OEM AC loads — pump motors, solenoid valves, contactors, heaters, and alarm circuits. Reed switch and bimetallic sensor contacts are rated for low-current resistive loads only; Series 50 relays bridge the gap to inductive, high-current loads without exposing sensor contacts to damaging current.

Both products are solid state — no mechanical contacts, no moving parts, no arcing. Silent operation, high duty-cycle capability, and long service life in the vibration-prone environments typical of fluid handling OEM equipment.

Why Series 50 for OEM?

- Protects ERECTA SWITCH® reed contacts from inductive load damage
- Solid state — no moving parts, silent, high cycle life
- 24–240 VAC operation — single product covers all common line voltages
- Eurostyle screw terminals — fast, tool-assisted field wiring
- Built-in aluminum heat sink — no heat sink required below 0.75 A
- Compatible with all ERECTA SWITCH® sensor families (S5, S10, S11, S15, S20)
- Compatible with any passive SPST dry-contact sensor ≤ 300 Ω (NP) / ≤ 1000 Ω (LP)
- RoHS compliant

Series 50 — Product Line

Model	Type	Max Load	Sensors
50-NP-AC5	NistorPac — ON/OFF	5 A	1 (C/D)
50-LP-AC10	LatchPac — Latching (Coming Soon)	10 A	2 (Start A/B, Stop C/D)

ELECTRICAL RATINGS & SPECIFICATIONS

NistorPac — 50-NP-AC5

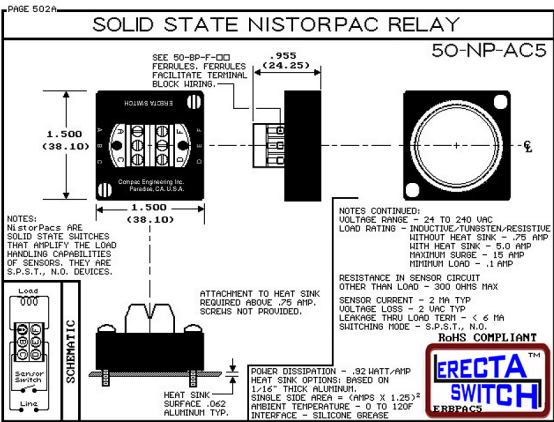
ELECTRICAL RATINGS		
NISTORPAC RELAY	AC5	
50-60 Hz VOLTS	24-240	
MAX LOAD AMPS	5	
MIN LOAD AMPS	.1	
MAX SURGE AMPS	15	
MAX SENSOR CIR OHMS	300	
SENSOR CIR AMPS TYP	.01	
SWITCHING MODE	SP NO	
WATT/AMP DISSIPATION	.92	
HEAT SINK REQ >	.75 AMP	
VDC BASE ISOLATION	1000	

50-NP-AC5 NistorPac electrical ratings

NistorPac Terminal Map

Terminals	Function
A, F	Load connection
B, E	Line voltage input (24–240 VAC)
C, D	Sensor switch input

NistorPac Dimensional Drawing



50-NP-AC5 — 1.500" × 1.500" (38.10 × 38.10 mm)

LatchPac — 50-LP-AC10

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	

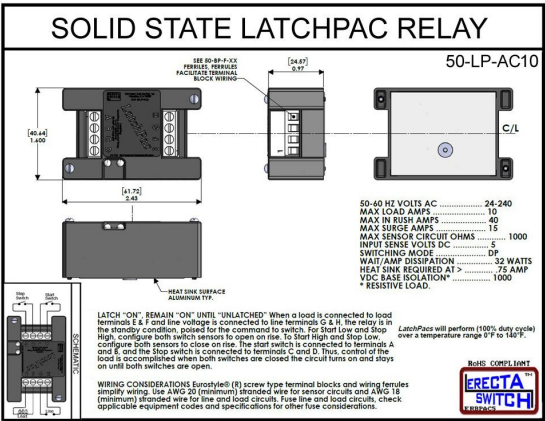
* RESISTIVE LOAD.

50-LP-AC10 LatchPac electrical ratings

LatchPac Terminal Map

Terminals	Function
E, F	Load connection
G, H	Line voltage input (24–240 VAC)
A, B	Start sensor switch input
C, D	Stop sensor switch input

LatchPac Dimensional Drawing



50-LP-AC10 — 2.43" × 1.600" (61.72 × 40.64 mm)

LatchPac — Coming Soon

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

MODES OF OPERATION

NistorPac — ON/OFF Mode

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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 OEM 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. The second combines two sensor switches with a Button Pack relay and Button Pack latch 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".

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.

NistorPacs dissipate heat when the load is "turned on". At load currents below .76 AMP, 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 the NistorPacs from overheating.

Product of Beau Interconnect Systems. 05-03-01 G50NP-1



50-NP
NistorPac

Series 50 product overview — NistorPac and LatchPac modes of operation

LatchPac — Latching Mode

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Solid State Latching Relay for Wide Differential Level Sensing

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.

Combine 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.

LatchPacs dissipate heat when the load is "turned on". At load currents below .76 AMP, 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.

Product of Beau Interconnect Systems. 05-03-01 G50LP-1



50-LP-AC10
LatchPac

LatchPac — wide-differential latching relay for level sensing pump control

Modes & Ratings Reference

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BUTTON PACK RELAY MODES OF OPERATION

Two common applications can be efficiently handled by Button Pack Relays. First, simple "on-off" switching of other AC control devices such as relays, solenoids and fractional HP motors. Second, latching "on" a load with a normally open momentary contact switch and unlatching the load with a normally closed momentary contact switch. A detailed description of each follows:

ON-OFF SINGLE POLE AC SWITCH

When a load is connected to line 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's SS switch is 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.

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

The operation is the same as described for "on-off" AC switching except a Button Pack Latch is connected in tandem with a Button Pack Relay. See schematics on product specification pages. Start and stop sensor switches are connected to the Latch as shown in the schematic diagram. When the start sensor switch closes its contacts, the relay is turned "on" and remains "on" until the stop sensor switch opens its contacts. This is a common operational mode for pump-in and pump-out applications.

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

BUTTON PACK RELAY	
50-60 HZ VOLTS	24-240
MAX LOAD AMPS	5
MIN LOAD AMPS	.1
MAX SURGE AMPS	15
MAX SENSING CIR OHMS	300
SENSING CIR AMPS TYP	.01
SWITCHING MODE	SP NO
HEAT SINK DISSIPATION	.92
HEAT SINK CSD >	.76 AMP
VOL BASE ISOLATION	1000

* RESISTIVE LOAD.

BUTTON PACK LATCH

MIN RELAY LOAD AMPS	
MIN CYCLE TIME SEC	

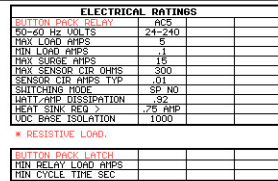
HEAT SINK CONSIDERATIONS

Button Pack relays dissipate .92 watts per AMP switched. If this energy is allowed to raise the temperature of the SS relay beyond a safe level, the ability of the relay to properly turn "off", may be compromised. The bottom of Button Pack is an aluminum heat transfer surface. Factors such as AMPS switched, differential temperature and power "on" time of the switched device must be taken into account. The energy dissipated will be a function of I²Rt. Thus, a short "on" time may not require a heat sink at all. Whereas, 100% duty above .75 AMP will surely require a supplemental heat sink. See product specification sheets for additional heat sink parameters.

APPLICATION ENVIRONMENT

Button packs will perform (100% duty cycle) over a temperature range of 0 to 65 °C, 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 noise. However, false, momentary 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.

04-14-06 G50BP-2



Button Pack relay modes — ON/OFF and latching operation with electrical ratings

LatchPac Modes Detail

RELAY MODES OF OPERATION

LatchPac latching relays start a load when both the start switch and the stop switch are closed and unlatches the load when both the start switch and the stop switch are open. A detailed description of each follows:

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.

HEAT SINK CONSIDERATIONS

NistorPacs and **LatchPacs** relays dissipate .92 watts per AMP switched. If this energy is allowed to raise the temperature of the SS relay beyond a safe level, the ability of the relay to properly turn "off", may be compromised.

ELECTRICAL RATINGS

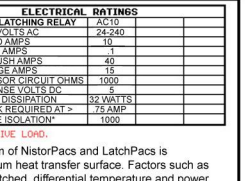
LATCHING RELAY	
50-60 HZ VOLTS AC	24-240
MAX LOAD AMPS	10
MIN LOAD AMPS	.1
MAX IN RUSH AMPS	40
MAX SURGE AMPS	15
MAX SENSING CIRCUIT OHMS	1000
INPUT SENSE VOLTS DC	5
VOL/AMP DISSIPATION	32 WATTS
HEAT SINK REQUIRED AT >	75 AMP
VOL BASE ISOLATION	1000

* RESISTIVE LOAD.

The bottom of NistorPacs and LatchPacs is an aluminum heat transfer surface. Factors such as AMPS switched, differential temperature and power "on" time of the switched device must be taken into account. The energy dissipated will be a function of I²Rt. Thus, a short "on" time may not require a heat sink at all. Whereas, 100% duty above .75 AMP will surely require a supplemental heat sink.

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.



LatchPac relay modes — latching logic, wiring considerations, heat sink, and application environment

OEM APPLICATIONS & SELECTION REFERENCE

Application	Relay	Sensor Pairing	Load
Tank level ON/OFF solenoid valve	NistorPac	S10 or S15 reed switch	Fill / drain solenoid
Pump motor ON/OFF level control	NistorPac	S10 reed switch	Fractional HP pump
Wide-differential pump fill/drain	LatchPac (CS)	Two S10 reed switches	Pump motor, 1–10 A
Flow presence interlock	NistorPac	S5 flow switch	Process enable relay
Overheat heater cutoff	NistorPac	S11 temperature switch (Type C)	Heater contactor coil
Freeze protection enable	NistorPac	S11 temperature switch (Type CR)	Trace heater, recirculation pump
Sump pump anti-short-cycle	LatchPac (CS)	Two S10 PP switches	Sump pump motor
Chemical dosing pump	NistorPac	S10 KR reed switch	Peristaltic pump motor
Cooling tower makeup water	NistorPac	S10 PP reed switch (N.C.)	Makeup water solenoid
Alarm relay pilot	NistorPac	Any ERECTA SWITCH sensor	Alarm relay coil, indicator
Pressure switch relay output	NistorPac	Dry-contact pressure switch	Compressor, pump
Safety door interlock	NistorPac	Magnetic contact switch	Machinery enable circuit

Specifications at a Glance

Parameter	NistorPac (NP-AC5)	LatchPac (LP-AC10)
Line voltage	24–240 VAC	24–240 VAC
Max load amps	5 A	10 A
Min load amps	0.1 A	0.1 A
Max surge amps	15 A	15 A
Max inrush amps	—	40 A
Sensor inputs	1 (C/D)	2 (Start, Stop)
Max sensor circuit Ω	300 Ω	1000 Ω
Input sense VDC	5 VDC	5 VDC
Heat sink required at	> 0.75 A	> 0.75 A
Operating temp	0°F–140°F	0°F–140°F
Switching mode	SP NO	DP
Dimensions	1.50" × 1.50"	2.43" × 1.60"
Compliance	RoHS	RoHS

Design Assistance

Compac provides free engineering consultation: relay selection, sensor pairing, heat sink sizing, wiring review, sample qualification.

Contact sales@compac.com with your load current, sensor type, and control logic requirements.

See the *Series 50 Application Notes* for wiring diagrams, sensor pairing guide, use case scenarios, and heat sink sizing. See the *Series 50 Operating Principle* for solid state relay theory, terminal assignments, and dimensional drawings.

LatchPac 50-LP-AC10 — Coming Soon

The LatchPac is in final development. Full specifications and application information are available now for design planning. Contact sales@compac.com — early inquiries may accelerate production release.