

J-PACK Series

Hi-Power Relay Pack



J-PACK Relay Packs are a universal hi-power series of 3 and 6 channel relay packs rated at a full 20 Amps per circuit. Designed for dry contact and/or DMX power control of LED fixtures, distributed commercial fluorescent installations or any environment where fast, precise hi-power control is demanded. J-PACK's offer versatility in virtually any environment; these commercial grade units include 120, 208, 240, and 277 volt models. These unique and compact units can be wall-mounted for permanent installations, 19" rack mounted, pipe mounted or used as portable units. Multiple units can be easily "ganged" together for fast system expansion. Long distance communication via DMX512 protocol lowers electrical installation costs and allows for centralized control.

Next generation "system-on-a-chip" technology provides unsurpassed value in professional grade hi-power switching. Standby power consumption of less than 1 Watt, allows for compliance with the International Energy Agency's "One Watt Initiative" for standby power consumption. This makes J-PACK's truly "green" with minimal possible impact on the environment!

All circuits contain fully isolated output power relays rated to 50 Amps! Self-contained units with premium UL489 rated hydraulic magnetic circuit breakers provide optimum safety while

eliminating the need for separate branch circuit breakers and relay panels. Intuitive LCD user interface combined analog inputs and contact closure inputs allow for industry wide application. This next-generation product helps save our environment as well as time and money.

- ✦ Power control via dry contact or DMX512 lighting control protocol.
- ✦ Designed for LED fixture power switching.
- ✦ Unique power saving standby mode reduces power consumption to less than 1 Watt, a "green" power management product.
- ✦ Heavy-duty "airgap" output relays rated to 50 Amps!
- ✦ DMX512 start addressable in single channel (offset) or individually (patch).
- ✦ Programmable DMX Status Hold timeout.
- ✦ Dual auxiliary contact inputs permits power management interface with BMS, photocells, occupancy sensors, HVAC, security and audio.
- ✦ Dry contact activated relay sequencing for special effects.
- ✦ LCD user interface for easy setup and monitoring.
- ✦ Keypad lockout prevents unauthorized access.
- ✦ Over-heat and over-current protected.
- ✦ Available in various voltages, output and mounting configurations.
- ✦ ETL Listed, compliance with UL508 and CSA 22.2.
- ✦ Up to 10 year product warranty available.



These products are energy efficient and consume less than 1 watt. Compliance with the International Energy Agency's "One Watt Initiative".



JOHNSON SYSTEMS INC.

"PROFESSIONAL LIGHT CONTROL PRODUCTS"

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J-PACK RELAY SERIES CHARACTERISTICS

Maximum Feeder Capacity
See Capacity Chart, next page.

Power Termination
See Model # Chart, next page.

Environment
Temperature Range: 23°F (-5°C) to 104°F (40°C) ambient.
Humidity Range: 0% to 90% non-condensing.

Load Type
Six 120V single phase 50/60 Hz circuits for AC Loads Only.
Rated for 20A General Purpose and 20A Tungsten.

Switch Type
"Airgap" power relay rated 1 million operations minimum at 50 Amps 240VAC.

Isolation
4,000 Volts minimum per circuit.

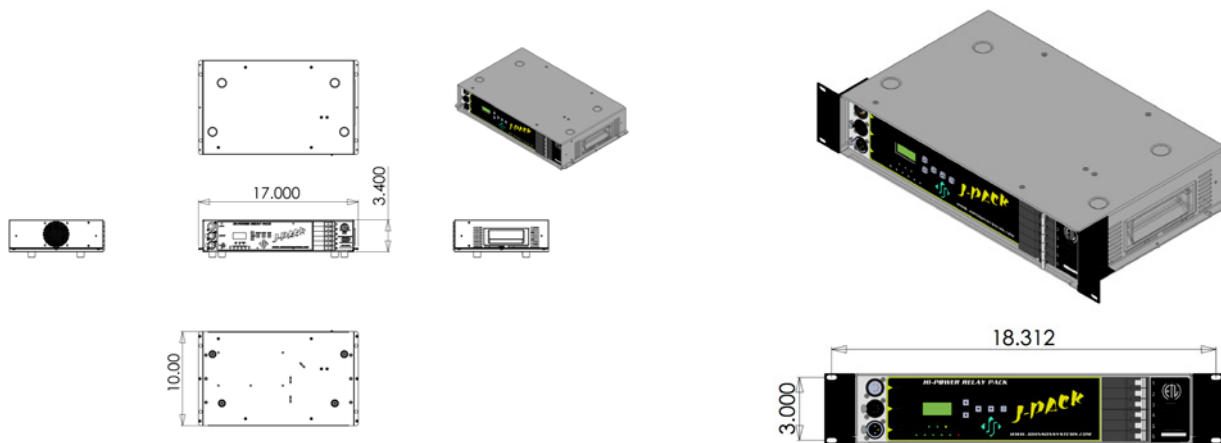
Physical
10" x 17" x 3.4" (25.4 cm x 43 cm x 8.5 cm).

Weight
12 - 13 lbs. (5.5 - 6.0 Kg) depending on model.

Material
18-gauge steel CRS.

Finish
Hammer texture black powder coat.

J-PACK RELAY PACK (RP) MOUNTING OPTIONS



Rubber Feet = RF

19" Rack Mount = RM



Wall Mount - WM

Pipe Mount = PM

* C-Clamp & Safety Cable Included



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J-PACK RELAY PACK (RP) ORDERING INFORMATION

HOW TO ORDER:

Example: **RP - 120/208 - SP - WM**

Relay Pack

Power Input Options

- 120** = 120VAC 1Ø 3 wire via Single 5' Edison Power Cord
- 120HO** = 120VAC 1Ø 3 wire via Dual 5' Edison Power Cords
- 120/240RC** = Pre-installed 1.5 meter, 8 Gauge, 40 Amp Range Cord
- 120/240** = 120/240 VAC 1Ø 4 wire Terminal Block
- 120/208** = 120/208 VAC 3Ø 5 wire Terminal Block
- 277/480** = 277/480 VAC 3Ø 5 wire Terminal Block

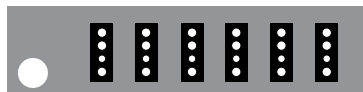
Output Options

- ED** = 6 x 15A Duplex Edison
- SP** = 6 x 20A Stage Pin (Bates)
- TL** = 6 x 20A L5-20R TLG
- SO** = 6 x 20A 19 Pin Socapex
- TB** = Terminal Block
- TL208** = L6-20R TLG (3 x 208V ccts.)
- SO208** = 19 Pin Socapex (3 x 208V ccts.)
- TB208** = Terminal Block (3 x 208V ccts.)
- TL240** = L6-20R TLG (3 x 240V ccts.)
- SO240** = 19 Pin Socapex (3 x 240V ccts.)
- TB240** = Terminal Block (3 x 240V ccts.)
- TB277** = Terminal Block (3 x 277V ccts.)

Mounting Options

- RF** = Rubber Feet
- PM** = Pipe Mount
- WM** = Wall Mount
- RM** = 19" Rack Mount

OUTPUT/REAR PANEL OPTIONS



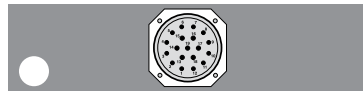
SP = 6 x 20 AMP Stage Pin (Bates)



TB = Terminal Block (Internal)



TL = 6 x L5-20R TLG Receptacles



SO = 19 Pin Socapex



ED = 6 x 15 AMP Duplex Edison



TL = 3 x L6-20R TLG Receptacles



These products are energy efficient and consume less than 1 watt. Compliance with the International Energy Agency's "One Watt Initiative".

MODEL #'S

- RP-120-ED-XX
- RP-120HO-ED-XX
- RP-120/240-ED-XX
- RP-120/240RC-ED-XX
- RP-120/240-SP-XX
- RP-120/240-TL-XX
- RP-120/240-SO-XX
- RP-120/240-TB-XX
- RP-120/208-ED-XX
- RP-120/208-SP-XX
- RP-120/208-TL-XX
- RP-120/208-SO-XX
- RP-120/208-TB-XX
- RP-120/208-TL208-XX
- RP-120/208-SO208-XX
- RP-120/208-TB208-XX
- RP-120/240-TL240-XX
- RP-120/240-SO240-XX
- RP-120/240-TB240-XX
- RP-277/480-TB277-WM

* Not available in wall mount (WM)

MAX. OUTPUT CAPACITY

- 6 circuits totaling 1,800W
- 6 circuits totaling 3,600W
- 6 circuits totaling 10,800W
- 6 circuits totaling 10,800W
- 6 circuits totaling 14,400W
- 6 circuits totaling 14,400W
- 6 circuits totaling 14,400W
- 6 circuits totaling 14,400W
- 6 circuits totaling 14,400W
- 6 circuits totaling 10,800W
- 6 circuits totaling 14,400W
- 6 circuits totaling 14,400W
- 6 circuits totaling 14,400W
- 6 circuits totaling 14,400W
- 3 circuits totaling 12,480W
- 3 circuits totaling 12,480W
- 3 circuits totaling 14,400W
- 3 circuits totaling 14,400W
- 3 circuits totaling 14,400W
- 3 circuits totaling 16,620W



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SPECIFICATIONS

1.0 J-PACK - GENERAL

- 1.1 J-PACK Relay Packs shall be capable of switching multiple independent general purpose lighting loads including LED and tungsten up to 20 Amps. Each relay shall be protected by a premium hydraulic magnetic breaker of the appropriate voltage rating for the model. Full rated operation shall be permitted without compromising product life expectancy.
- 1.2 J-PACK Relay Packs shall be powered by a range of supply options depending on the model, thereby permitting industry wide power supply compatibility.
- 1.3 J-PACK Relay Packs shall contain LCD user interface for ease of set up and monitoring. All programming shall be via a user-friendly, intuitive and self-prompting menu structure. No PC or special software is required.
- 1.4 DMX512 data start address shall be addressable in single channel (offset) or individually (patch) on a per circuit/relay basis. It shall be possible to address any relay to any channel within the entire DMX512 universe.
- 1.5 Dedicated DMX IN and DMX THRU ports shall be supplied internally via 3 pin break-away connectors, as well as externally, via 5-PIN XLR connectors.
- 1.6 Programmable DMX status hold shall permit the last DMX input levels to be held on loss of DMX data for a range of 0-99 minutes in one second increments or infinite.
- 1.7 J-PACK Relay Packs shall permit automatic positive or negative chase sequencing for special effects applications. The time between relay state changes shall be adjustable from 0.1 to 9.9 seconds. This chase sequence shall be triggered from an assignable dry contact input.
- 1.8 Two auxiliary contacts inputs shall be supplied internally, as well as externally, via 3-PIN XLR connector. Two "patches", A and B, will permit a predetermined group of relays to activate simultaneously. Dry-contact input triggers shall enable these stored "scenes" for automation with other AV control equipment. It shall also be possible to program the relay status (open or closed) for "load shedding" applications when interfaced to photocell, aux. sensor or BMS for power management applications.
- 1.9 In addition to over current protection, internal thermal protection shall also be provided in the CPU. An active over-temp input shall illuminate a red warning LED when an internal temperature of 85°C is measured. An internal temperature of 85°C shall immediately disconnect (open) all relay outputs and cause the red error LED on the J-PACK face panel to illuminate.

2.0 CONTROL PCB

- 2.1 J-PACK Relay Packs shall employ the "system-on-a-chip" advanced "3000 Series" digital technology. The control electronics shall be contained on the DMX Relay Driver (DRD-6) and it's associated User Interface Board (UIB).
- 2.2 The DRD-6 will operate with a voltage input range of 90-300VAC at 50Hz or 60Hz, thereby permitting global application.
- 2.3 J-PACK Relay Packs shall be capable of memorizing and storing two separate "patches". These "patches" shall be easily programmed via the keypad. Scene playback shall be activated by dry-contact closure of either of the two provided auxiliary contact.
- 2.4 The DMX input shall comply with USITT DMX512-A (ANSI E1.11 - 2008) standard protocol for digital data control. DMX data shall take priority over an active auxiliary contact input. Load shed activation shall take priority over all other inputs.
- 2.5 Compliance with the International Energy Agency's "One Watt Initiative" standby power requirement. Please refer to U.S. Executive Order #13221. Processor standby power on J-PACK Relay Packs shall not exceed 1 Watt.
- 2.6 J-PACK Relay Packs shall allow "back up" of all system configuration data. All data shall be protected from power failure by EEROM for a minimum of 100 years.
- 2.7 All relays shall have a fixed/default "Pulse OFF" threshold of 48% control and a fixed "Pulse ON" threshold of 52%. The resulting 4% hysteresis difference shall ensure no false triggering or "cycling" of the relays. Each relay shall have an adjustable trigger level from 2% to 98% DMX with a $\pm 2\%$ hysteresis.

- 2.8 The J-PACK Relay Pack face panel shall include an LCD display and momentary, self-illuminating push buttons for function select, parameter setting and feature monitoring. All programming shall be via a user-friendly, intuitive and self-prompting menu structure. It shall not be necessary to use a PC or any external programming device to configure or set-up any function of the J-PACK.

- 2.9 J-PACK Relay Packs shall support the following menu items:

Basic Menus

1. **ADDRESS** Set the DMX start address.
2. **DMX TRM** Enable or disable the DMX termination.

Advanced Menus

3. **RLY TEST** Test the relay outputs one at a time, or all at once.
4. **DMX O/P** Configure the on-board DMX protocol manager for offset or patch mode.
5. **DMX PAT** Patch each of the 6 relay outputs to any DMX input channel.
6. **SH TIME** Set the DMX status hold time from 0 to 99 minutes or infinite.
7. **TRIGGER LEVEL** Set the DMX trigger level threshold for each relay.
8. **EFFECTS** Activate effects mode and configure a pattern effect with selectable time.
9. **AUX TEST** Test the auxiliary dry-contact inputs.
10. **AUX1MODE** Set the auxiliary input 1 mode to trigger relays on, load shed or activate effects.
11. **AUX2MODE** Set the auxiliary input 2 mode to trigger relays on, load shed or activate effects.
12. **AUX PAT** Patch the auxiliary inputs to any combination of relay outputs.
13. **VOLT SEL** Select the relay output circuit operating voltage.
14. **CTL TEMP** View the temperature of the microprocessor.
15. **HARD-KEY** View the microprocessor's unique eight-character hard-key code.
16. **SERIAL#** View the microprocessor's unique eight-character silicone serial number.
17. **FIRMWARE** View the microprocessor's firmware version.
18. **DEFAULTS** Set various system configuration settings to the factory default.
19. **RLY INT** Set the intensity of the relay output status LED's.
20. **LED INT** Set the intensity of the programming switch LED's.
21. **LCD VIEW** Adjust the contrast of the LCD Display for optimum viewing.

- 2.10 J-PACK Relay Pack face panels shall include a green LED indicator for power supply and microprocessor status. The LED, when illuminated, shall indicate normal operation and when flashing, shall indicate a hardware fault. A power supply or power failure shall cause the LED to extinguish.
- 2.11 J-PACK Relay Pack face panels shall include a yellow LED for DMX data (RxD) end-of-line termination indication. Active end-of-line termination shall cause the LED to illuminate.
- 2.12 J-PACK Relay Packs face panels shall include one red ERROR LED for active alarm status or dimmer pack over temperature. An active error condition shall cause the LED to illuminate.
- 2.13 J-PACK Relay Packs face panels shall include six blue relay LED's, one per relay. A ON control signal to any given relay shall cause the corresponding LED to illuminate.
- 2.14 A reset push-button shall be included on the face panel of the J-PACK's. Resetting the unit, whether by the reset button or power-up, shall not affect any stored parameters or presets, and dimmer outputs shall automatically return to their former status.
- 2.14 All face panel buttons shall be blue LED back-lit with adjustable intensity.
- 2.15 All printed circuit boards (PCB's) shall be FR4/G10 with a UL 94V-0 Flame Class Rating.
- 2.16 J-PACK Relay Packs are ETL listed and comply fully with UL 508 and CSA 22.2 safety approvals.

Specifications subject to change without notice.



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