

# POWR-Switch



## POWR-Switch

Remote Trip Disconnect  
For Critical Distribution  
Circuits.

## LPS SERIES POWR-SWITCH



The Littelfuse POWR-Switch provides a simple and economical solution for applications that require selective coordination and shunt trip capabilities. Common applications include elevator circuits, data processing rooms, and building emergency systems.

By utilizing Class J time delay fuses, the POWR-Switch is easily coordinated with other system overcurrent protective devices. The shunt trip capability allows the POWR-Switch to meet the ANSI/ASME standard that requires power to be automatically disconnected before water is turned on by the fire safety system. The POWR-Switch also features pre-wired control circuits that can help reduce installation costs.

### Standard Features

- 600V 3-pole fuse power switch
- 200,000 RMS interrupting rating
- Shunt trip 120V
- Control power terminal block
- Ground lug per NEC
- Class J fuse block
- NEMA 1 enclosure

### Optional Features

- Control power transformer with fuses and blocks
- Fire safety interface relay
- Key to test switch
- Pilot light "On"
- Isolated neutral lug
- Mechanical interlock auxiliary contact for hydraulic elevators with automatic recall (5 amp 120 VAC rated)
- Fire alarm voltage monitoring relay
- NEMA 3R, 4, and 12 enclosures

### Benefits

- Optional features offer flexibility for a variety of applications
- UL Listed package
- Lower installation costs than systems with many separate components
- Pre-wired control circuits lower installation time
- Lockable Operating handle meets all code and safety requirements
- No confusion over which building trade is supplying the components
- POWR-Switch is a single unit...which makes procurement easier than systems with multiple components

## ORDERING INFORMATION

Complete catalog numbers consist of switch catalog numbers and the desired options. See example below.

### Example Catalog Number:

**LPS1 T48 R1 K N1 U = Littelfuse Catalog Number LPS1T48R1KN1U**

Littelfuse Switch Catalog Number		Control Power Transformer Std. 100 VA w/ PRI & SEC Fuse (120V Sec.)		Fire Safety Interface Relay (3PDT, 10amp, 120V)		Key to Test Switch		Pilot Light "On"		Isolated Neutral Lug		Mechanical Interlock Auxiliary Contact for Hydraulic Elevators w/ Automatic Recall (5 amp 120 VAC rated)		Fire Alarm Voltage Monitoring Relay (To monitor Shunt Trip voltage)		Optional Enclosures	
Catalog No.	Rating	Rating	Option Code	Rating	Option Code	Rating	Option Code	Rating	Option Code	Rating	Option Code	Rating	Option Code	Rating	Option Code	Rating	Option Code
LPS3	30A	208V	T20	24 VDC Coil	R2	120V	K	Red	R	30-60A	N6	1 NO & 1 NC	A	Single-Pole	F1	NEMA 3R	U
LPS6	60A	240V	T24	120 VAC Coil	R1			Green	G	100A	N1			Three-Pole	F3	NEMA 4	Y
LPS1	100A	480V	T48					White	W	200A	N2					NEMA 12	Z
LPS2	200A	600V	T60								N4						
LPS4	400A																

**NOTE:** Desired options must appear in the order shown in the table. For the availability of additional options, please contact the factory.

## SPECIFICATIONS

**Approvals:** UL Listed and CSA Certified

**Rating:** 30A, 60A, 100A, 200A, 400A

**Shunt Trip Ratings:**

Amp Rating	Voltage	Max Inrush	Max Overtime	Momentary Inrush
30-400	120V, 60Hz	4A	1.5 cycles	140VA

## ENCLOSURE DIMENSIONS

Catalog Series	Amp Rating	NEMA 1 Dimensions	NEMA 3R Dimensions	NEMA 4, 12 Dimensions	Lug Size
LPS3	30	24"H x 20"W x 9"D	24"H* x 20"W x 8"D	24"H x 20"W x 10"D	#14 - #8 Al or Cu
LPS6	60	24"H x 20"W x 9"D	24"H* x 20"W x 8"D	24"H x 20"W x 10"D	#14 - #8 Al or Cu
LPS1	100	24"H x 20"W x 9"D	24"H* x 20"W x 8"D	24"H x 20"W x 10"D	#8 - 1/0 Al or Cu
LPS2	200	30"H x 20"W x 9"D	30"H* x 24"W x 8"D	24"H x 20"W x 10"D	#6 - 250 kcmil Al or Cu
LPS4	400	48"H x 36"W x 12"D	Contact Factory	Contact Factory	Contact Factory

Note: Over-size enclosures used to accommodate control power transformer, interface relay and terminal blocks.

\*For NEMA 3R enclosures add 2 inches to height for mounting tabs.

**Designed to meet requirements of all applicable codes and standards**

- UL50 and UL98 Standards
- National Electric Code (NEC)
- National Fire Alarm Code (NFPA 72)
- Canadian Electric Code Part 1 (CEC)
- Safety Code for Elevators and Escalators (ANSI/ASME A17.1)
- Building Officials and Code Administrators (BOCA)

Critical distribution circuits such as elevator circuits and data processing rooms often require:

- Component protection
- Selective coordination
- High withstand ratings
- Shunt trip operation
- Fire safety interface

The Littelfuse POWR-Switch makes it simple to add a disconnecting means into your power system. The easy to install package provides maximum protection and meets codes, standards, and end user requirements.

**Lockable Operating Handle -** meets all applicable code requirements and can be locked in the "off" position with a maximum of three padlocks.

**UL Listed Unit -** The POWR-Switch is a UL Listed unit that is easily installed and coordinated with other system devices.





**Ground lug per NEC -**  
Meets NEC 110-9 and CEC  
14-012

**UL Listed Switch with Shunt Trip -**  
Available on all 30-400 amp POWR-Switches, the 600 volt 3-pole units meet all shunt trip requirements.

**Control Power Terminal Blocks -** Provides wiring ease

**Class J Fuse Block -**  
Allows the POWR-Switch to be easily coordinated with other system overcurrent protection devices and provides maximum protection with an interrupting rating of 200,000 amps.

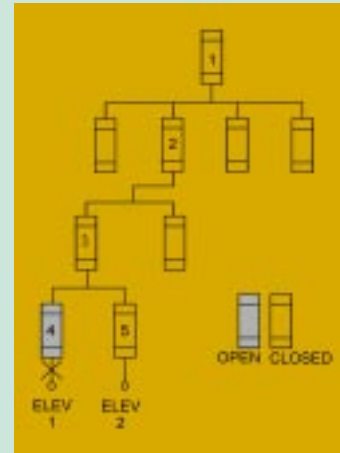
**Control Power Transformer Options -** Offers flexibility for a wide variety of applications. Available options include 208V, 240V, 480V, and 600V transformers with a 120V secondary.

**NEMA 1 Enclosure -**  
A standard oversized enclosure is used to accommodate the many components and allow for easy wiring. Optional enclosures include NEMA 3R, 4, and 12 styles.

## Selective Coordination Improves Electrical System Performance...

The Littelfuse POWR-Switch can be used to help coordinate electrical systems.

In a selectively coordinated system, only the protective device immediately on the line side of an overcurrent opens. All other equipment remains in service. Thus the fault is isolated, the identification and location of the overloaded equipment is simplified, and equipment removed from service is minimized. The diagram below illustrates a coordinated system.



Class J fuses allow the Littelfuse POWR-Switch to provide selective coordination and be easily coordinated with other system overcurrent devices.

The code requires selective coordination and end users demand it for critical distribution circuits.

## HORSEPOWER RATINGS

Maximum Horsepower Rating of Switch - Sizing Based on Motor Type

Voltage	LPS3 30 Amp Switch			LPS6 60 Amp Switch			LPS1 100 Amp Switch			LPS2 200 Amp Switch			LPS4 400 Amp Switch		
	A light duty	B medium duty	C heavy duty	A light duty	B medium duty	C heavy duty	A light duty	B medium duty	C heavy duty	A light duty	B medium duty	C heavy duty	A light duty	B mediu m duty	C heavy duty
208AC-3P	5	5	3	10	10	10	20	15	15	40	40	30	75	75	60
240AC-3P	5	5	5	10	10	10	20	20	15	50	40	30	125	75	75
480AC-3P	10	10	10	30	25	20	50	40	30	100	75	75	250	150	150
600AC-3P	15	15	10	30	30	25	60	50	40	125	100	100	250	200	200

To estimate the switch size for motor loads based upon the motor horsepower, use the above table.

## SIZING GUIDELINES

### Column A

The maximum horsepower rating of the switch with light-duty inrush currents. The time delay Class J fuses should be sized at a minimum of 150% of motor FLA or the next higher standard fuse rating.

*Example:* 208V, 20 HP motor with 59.4 FLA  
 Switch = LPS1 (100A)  
 Fuse Rating = 59.4 FLA x 150% = 89.1 amps or a 90 amp fuse

### Column B

The maximum horsepower rating of the switch for general applications (excluding wound rotor and DC motors) and with medium-duty inrush currents. Per NEC 430-52, time delay Class J fuses can be sized at 175% of motor FLA or the next higher standard fuse rating (NEC 240-6).

*Example:* 460V, 25 HP motor with 34 FLA  
 Switch = LPS6 (60A)  
 Fuse Rating = 34 FLA x 175% = 59.5 amps or a 60 amp fuse

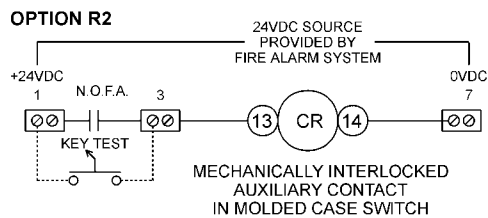
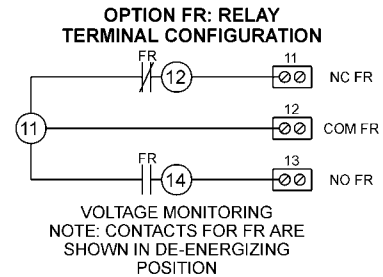
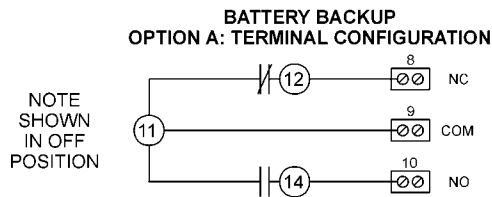
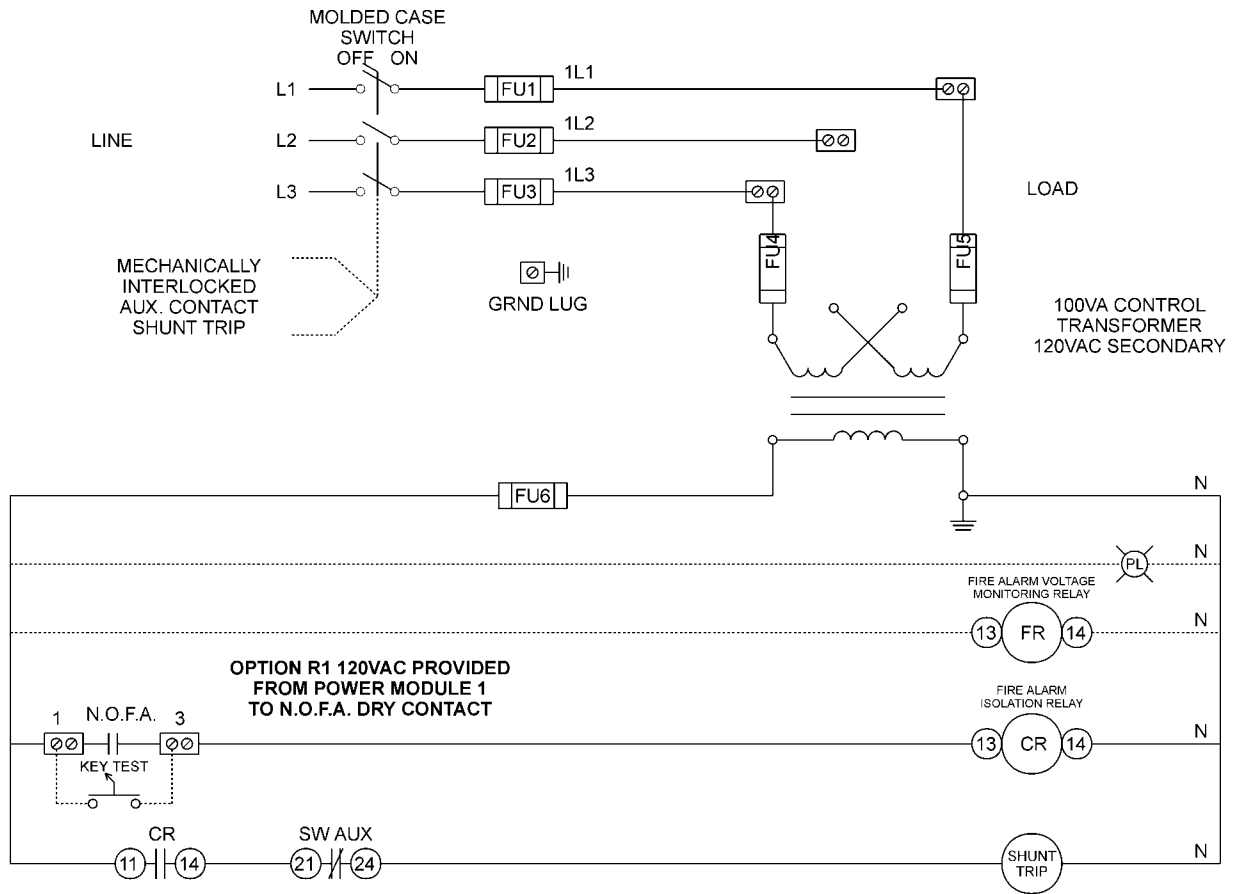
### Column C

The maximum horsepower rating of the switch for typical elevator cross line starts and heavy-duty inrush currents. NEC 430-52 allows fuses to be sized at a maximum of 225% of motor FLA if the 175% sizing does not allow the motor to start.

*Example:* 208V, 3HP motor with 10.6 FLA  
 Switch = LPS3 (30A)  
 Fuse rating = 10.6 FLA x 2.25% = 23.85 amps or a 20 amp fuse

**Note:** In sizing the fuses, the motor FLA is per NEC Table 430-150, not per nameplate information. Consult motor manufacturer data for correct sizing. Inrush currents of motors may vary. Motor load and auxiliary loads need to be considered on elevator applications. For correct fuse sizing, follow elevator manufacturer's recommendations. Column C can be used as a conservative approximation for estimation purposes.

# TYPICAL CONTROL WIRING OPTIONS



**OTHER NOTES:**

**OPTION A:**  
N.O. = CONTACT IS OPEN WHEN MOLDED CASE SWITCH IS OPEN  
N.C. = CONTACT IS CLOSED WHEN MOLDED CASE SWITCH IS OPEN

MAXIMUM CONTACT AMPERAGE RATING	VOLTAGE
6AMP	250VAC
0.3AMP	125VDC
0.15AMP	250VDC

**OPTION FR:**

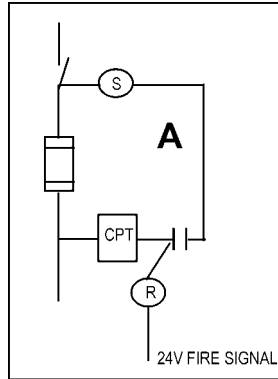
MAXIMUM CONTACT AMPERAGE RATING	VOLTAGE
6AMP	120VAC
6AMP	240VDC
6AMP	30VDC

# Meet Code Requirements and Reduce Installation Costs

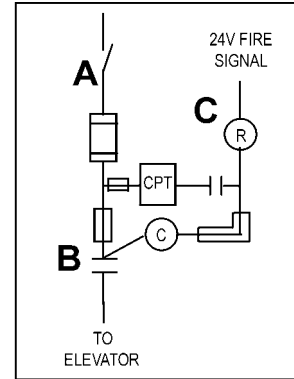
The Littelfuse POWR-Switch is a single device rather than several separate components. Multiple component systems risk not meeting all code requirements, create confusion over which building trade will supply the components and can be more costly to procure and install.

By providing the POWR-Switch, code requirements are met, procurement is easier, labor costs can be reduced up to 66% and total installation costs are lowered by over 30%.

## Littelfuse POWR-Switch vs. Separate Components



Estimated 1 hour of labor



Estimated 3 hours of labor

## Littelfuse Indicator® Fuses

- Increase Uptime
- Reduce Nuisance Opening
- Reduce Equipment Damage
- Improve Safety
- Reduce Fuse Inventories



Good

Blown

## Proven Protection ● Complete Selection

**Littelfuse, Inc.**  
**POWR-GARD™ Products**  
 800 E. Northwest Highway  
 Des Plaines, IL 60016 USA

Phone: 847-824-1188  
 Fax: 847-824-5489  
 Orders: 800-227-0029  
 Support: 800-TEC-FUSE  
 (800-832-3873)  
 Web: [www.littelfuse.com](http://www.littelfuse.com)

