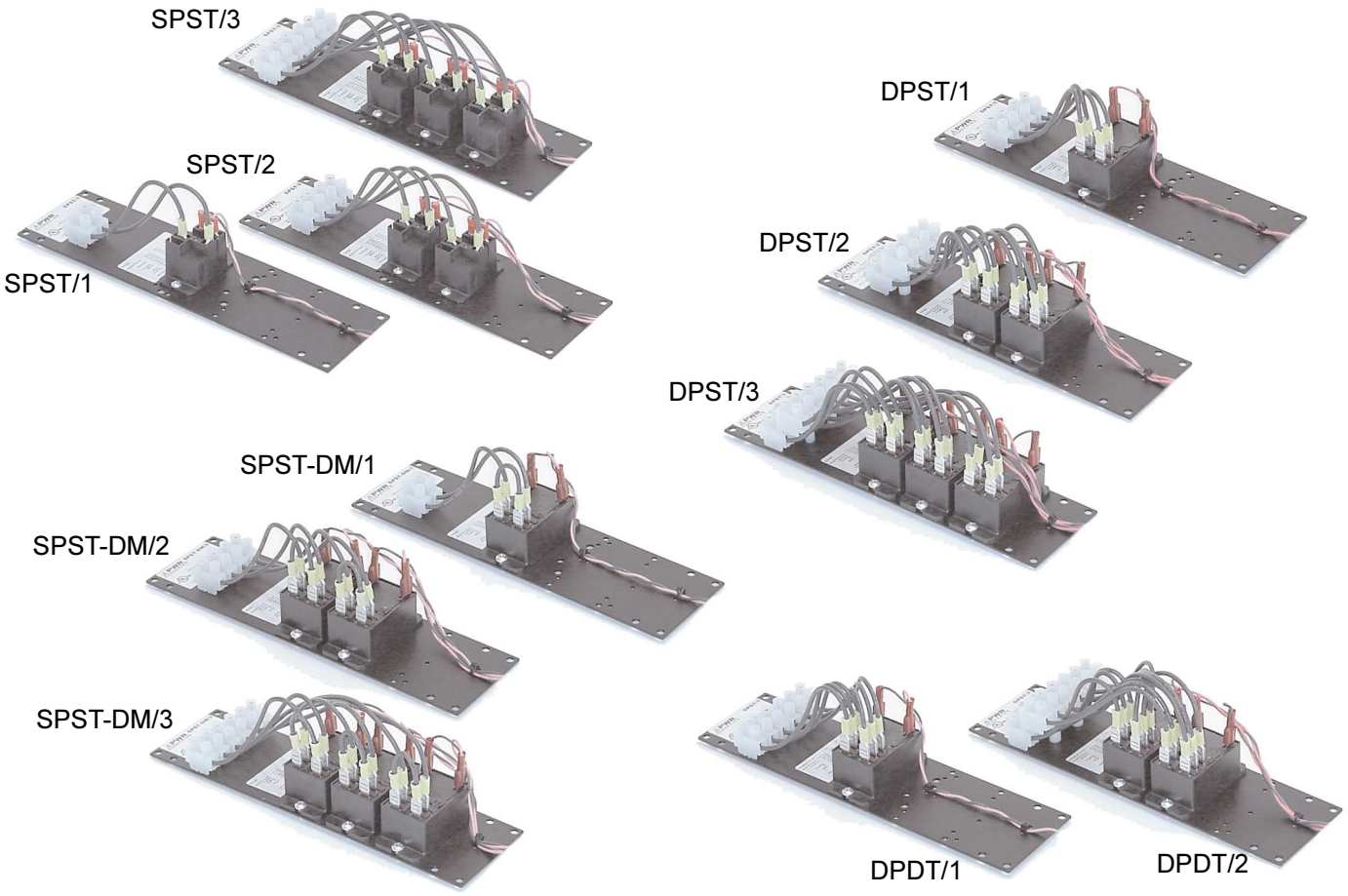
PWR SERIES

SP / DP

General Purpose Relay Modules



The SPST, SPST-DM, DPST, and DPDT modules feature electro-mechanical relays, the time-proven "work horse" of power control. They offer reliable and cost efficient switching solutions with air-gap isolation for a large variety of applications. The SPST modules are the ultimate in cost efficient switching and employ a industry-standard relay that performs billions of operations every day in systems all over the world. They are intended for general purpose, light to normal duty applications, and are also well suited as pilot relays for larger external relays and contactors. The SPST-DM modules offer an excellent solution for normal to heavy-duty applications where reliability and durability are major concerns. They utilize a dual make/break configuration to provide a large number of operations and handle relatively large inrush currents associated with incandescent lighting and inductive loads like transformers and lamp ballast. The DPST and DPDT modules offer dual pole configurations of one of the most commonly used relays in HVAC, industrial and process control. These versatile modules find numerous applications in more complex control systems as well as in applications like fountain and pool lighting where safety considerations require a positive disconnect of two poles.

The SPST, SPST-DM, DPST, and DPDT modules, as the rest of the unique PWR Series, were designed for exceptional reliability and durability under demanding circumstances. The PWR Series is a dimming and power control system for distributed installation in environments ranging from theme parks and theatres to sophisticated commercial, corporate, and public buildings. It's modularity and extensive features facilitate an unmatched selection of cost effective solutions to numerous control tasks in a wide variety of applications including lighting control and energy management. The PWR Series provides unparalleled versatility and scalability with a comprehensive range of controllers, dimmers, switching modules, and enclosures with or without integral circuit breakers.

Model	Description	Module Spaces
SPST/1	1 x Form 1A, SPST-NO Module	1
SPST/2	2 x Form 1A, SPST-NO Module	1
SPST/3	3 x Form 1A, SPST-NO Module	1
SPST-DM/1	1 x Form 1X, SPST-NO-DM Module	1
SPST-DM/2	2 x Form 1X, SPST-NO-DM Module	1
SPST-DM/3	3 x Form 1X, SPST-NO-DM Module	1
DPST/1	1 x Form 2A, DPST-NO Module	1
DPST/2	2 x Form 2A, DPST-NO Module	1
DPST/3	3 x Form 2A, DPST-NO Module	1
DPDT/1	1 x Form 2C, DPDT Module	1
DPDT/2	2 x Form 2C, DPDT Module	1

c UL US LISTED File E89391

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Specifications
SPST, SPST-DM, DPST & DPDT

1. The switching modules shall be PWR Series SPST/1, SPST/2, SPST/3, SPST-DM/1, SPST-DM/2, SPST-DM/3, DPST/1, DPST/2, DPST/3, DPDT/1 or DPDT/2 as required by the circuit layout.

2. All modules shall employ industry standard general purpose electro-mechanical relays. Solid-state, mercury relays, or devices not offering a dual make/break mechanism for heavy duty applications shall not be acceptable.

3. The SPST modules shall provide a Form 1A, single pole, single throw, normally open, (SPST-NO) contact arrangement. The SPST-DM modules shall provide a Form 1X, single pole, single throw, normally open, dual make (SPST-NO-DM) contact arrangement. The DPST modules shall provide a Form 2A, dual pole, single throw, normally open (DPST-NO) contact arrangement. The DPDT modules shall provide a Form 2C, dual pole, dual throw (DPDT) contact arrangement.

4. Relays shall be constructed with silver-cadmium oxide contact material and minimum UL Class F insulation materials. All internal wiring shall be UL recognized for minimum 125°C operating temperature.

5. Initial contact resistance shall not exceed 75mOhms at 1A 5VDC/12VAC.

6. Relays shall provide a typical mechanical life of at least 5 million operations.

7. Operate and release time, including bounce, shall not exceed 15ms for the SPST modules and 25ms for the SPST-DM, DPST, and DPDT modules.

8. The relay air-gap mechanism shall meet or exceed the requirements in UL1472.

9. The module load circuit surge and transient withstand capability shall meet and exceed the minimum recommendations of ANSI C64.21-1991. Continuous breakdown voltage between control terminals and load terminals shall be no less than 2500V.

10. Line and load terminals shall accept up to #8AWG wire. Control wiring shall be provided by a 24" harness factory terminated in a 4 position keyed plug-in connector.

11. The modules shall be UL listed for continuous operation at 100% of their rating per NEC 1999 Article 210-20-a. Systems failing to meet this requirement shall not be acceptable.

12. The modules including their wiring, termination points, mounting hardware, enclosure and controller shall be UL and cUL listed as a complete assembly and for Canadian installations comply with CSA Standard C22.2 #14-M91. UL recognized or listed devices alone shall not be acceptable unless documentation is submitted to verify that the entire assembly, including the controller and enclosure, has been tested and evaluated by a Nationally Recognized Testing Laboratory (NRTL) and found to meet all the herein-mentioned standards and requirements.

13. The modules shall be listed with the following minimum UL and cUL ratings per pole at 40°C ambient temperature:

SPST	
General Purpose	120 Vac, 30 A
	277 Vac, 10 A
Resistive	125 Vac, 30 A
	277 Vac, 10 A
Tungsten	120 Vac, 8.3 A
Ballast	125 Vac, 20 A
	277 Vac, 10A
Motor	125 Vac, 1 hp
	240 Vac, 1 hp
	277 Vac, 1 hp

SPST-DM, DPST, & DPDT NO Contacts	
General Purpose	277 Vac, 30 A
Resistive	277 Vac, 30 A
Tungsten	120 Vac, 10 A
Motor	125 Vac, 1 hp
	240 Vac, 3 hp
	277 Vac, 2.5 hp

DPDT NC Contacts	
General Purpose	277 Vac, 3A
Resistive	277 Vac, 3A
Motor	125 Vac, 1/8 hp
	240 Vac, 1/3 hp

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