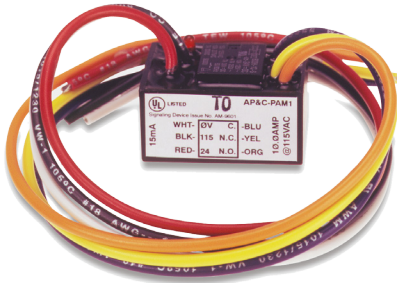
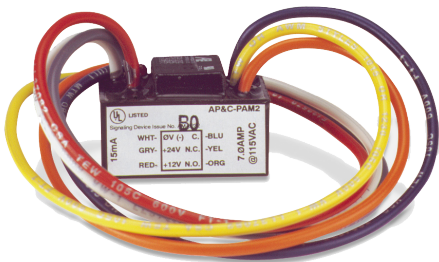


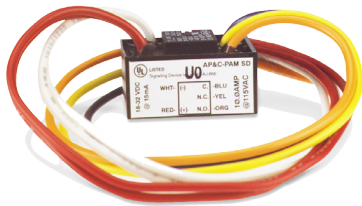
**NO EXCUSES!**



The **SSU-PAM-1** Relay provides 10.0 Amp Form C contacts. The relay may be energized by one of three (3) input voltages: 24VDC, 24VAC, or 120VAC. The DC input voltages are polarity sensitive and diode protected. A red LED is provided which, when illuminated, indicates the relay coil is energized.  
**SAE PN# SSU-PAM-1**



The **SSU-PAM-2** Relay provides 7.0 Amp Form C contacts. The relay may be energized by one of two (2) input voltages: 12VDC or 24VDC. The input voltages are polarity sensitive and diode protected. A red LED is provided which, when illuminated, indicates the relay coil is energized.  
**SAE PN# SSU-PAM-2**



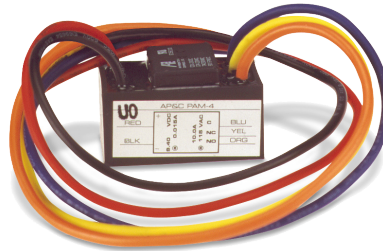
The **SSU-PAM-SD** Relay provides 7.0 Amp Form C contacts. The relay may be energized by an input voltage between 18VDC to 32VDC, making it ideal for 24VDC NAC circuits. The input voltages are polarity sensitive and diode protected. The PAM-SD provides an additional set of wires for redundant input voltage (Class "A" circuit supervision pass through).  
**SAE PN# SSU-PAM-SD**

# PAM

## Multi-Voltage Relay Modules

The PAM Series Relays are encapsulated multi-voltage devices with "flying" leads that offer versatile, reliable performance in a convenient package. Several of the versions provide a red LED which, when illuminated, indicates coil energization. The PAM Series Relays are packaged with a self-tapping screw and a piece of double sided tape for easy installation almost anywhere. The relays are also packaged with wire-nuts to aid installation.

PAM Relays are ideal for applications where remote relays are required for control or status feedback. They are suitable for use with HVAC, temperature control, fire alarm, security, energy management, lighting control systems and building automation systems.



The **SSU-PAM-4** Relay provides 10.0 Amp Form C contacts. The relay may be energized across a wide voltage range from 9VDC to 40VDC. The 15mA operating current is constant across the operating range. The input DC voltages are polarity sensitive and diode protected.  
**SAE PN# SSU-PAM-4**

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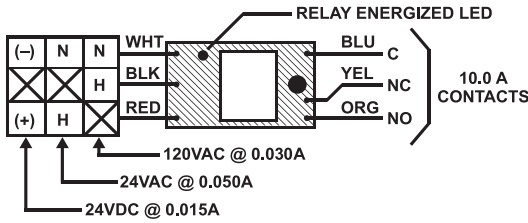


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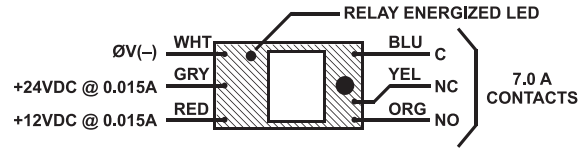


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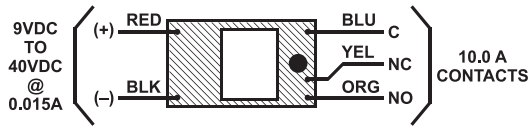
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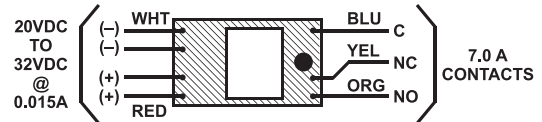
**PAM-1**



**PAM-2**



**PAM-4**



**PAM-SD**

## PRODUCT SPECIFICATIONS

MODEL NUMBER:	PAM-1	PAM-2	PAM-4	PAM-SD
COIL VOLTAGE:	24VAC/24VDC/120VAC	12VDC/24VDC	9 to 40VDC	20 to 32VDC
POLARIZED:	Yes	Yes	Yes	Yes
ENERGIZED LED INDICATOR:	Yes	Yes	No N	o
CURRENT REQUIREMENT:				
@ 12VDC		15mA	15mA	
@24VDC	15mA	15mA	15mA	15mA
@24VAC	50mA			
@120VAC	30mA			
CONTACT CONFIGURATION:	(1) SPDT dry form "C"	(1) SPDT dry form "C"	(1) SPDT dry form "C"	(1) SPDT dry form "C"
CONTACT RATINGS:				
(contact rating/ power factor)				
@5VDC	250µA / .35 PF	250µA / .35 PF	250µA	250µA / .35 PF
@24VDC	7A / .35 PF 7	A / .35 PF 7	A	7A / .35 PF
@120VAC	1 0A 7	A / .35 PF 1	0A 7	A / .35 PF
WIRE LEADS:	6 "flying" leads 12" / 18 AWG Wire-nuts provided W	6 "flying" leads 12" / 18 AWG ire-nuts provided W	5 "flying" leads 12" / 18 AWG ire-nuts provided W	7 "flying" leads 12" / 18 AWG ire-nuts provided
AMBIENT TEMPERATURE:	32°F to 120°F	32°F to 120°F	32°F to 120°F	32°F to 120°F
(@ 100% RH, condensing)	(0°C to 49°C) (	0°C to 49°C) (	0°C to 49°C) (	0°C to 49°C)
CONSTRUCTION: s	100% potted (sealed) with "flying" lead			
MOUNTING:	Pre-drilled mounting screw hole and self tapping screw provided. Double sided tape provided.			
DIMENSIONS:				
H	1 .50" (38mm) 1	.50" (38mm) 1	.50" (38mm) 1	.50" (38mm)
W	1.20" (25mm) 1	.00" (25mm) 1	.00" (25mm) 1	.00" (25mm)
D	0 .90" (20mm) 0	.90" (23mm) 0	.90" (23mm) 0	.80" (20mm)
LISTINGS AND APPROVALS:				
UL*:	U0XX/7.S3403 U	0XX/7.S3403 U	0XX/7.S3403 U	0XX/7.S3403
MEA:	73-92-E Vol. 21	73-92-E Vol. 21	73-92-E Vol. 21	73-92-E Vol. 21
CSFM:	7300-1004:101	7300-1004:101	7300-1004:101	7300-1004:101

\*UOXX=Control Unit Accessories, System; /7=also Certified for Canada



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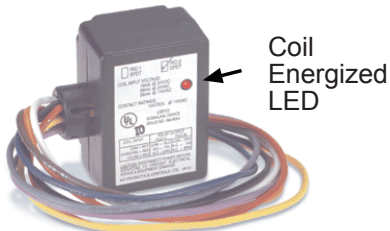
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The **SSU-RIC-1** Relay, SPDT, provides 10.0 Amp resistive form C contacts. The relay coil may be energized by one of three input voltages: 24VDC, 24VAC, or 115VAC. **SAE PN# SSU-RIC-1**



The **SSU-RIC-2** Relay, DPDT, provides 10.0 Amp resistive form C contacts. The relay coil may be energized by one of three input voltages: 24VDC, 24VAC, or 115VAC. **SAE PN# SSU-RIC-2**



The **SSU-RIC-3** Relay, SPDT, provides 10.0 Amp resistive form C contacts. The relay coil may be energized by one of two input voltages: 24VDC (non-polarized) or 24VAC. **SAE PN# SSU-RIC-3**

The **SSU-RIC-4** Relay is identical except the 24VDC is polarity sensitive. **SAE PN#**



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## RIC Series Relays (1 - 4)

The RIC Series is ideal for applications where remote relays are required for control or status feedback. They are suitable for use with HVAC, temperature control, fire alarms, security, energy management and lighting control systems.

The RIC Series Relay Modules are multi-voltage devices providing 10 Amp resistive dry form C contacts. These relays may be energized by one of three input voltages: 24VAC, 24VDC or 115VAC. A red LED is provided which when illuminated, indicates the relay coil is energized on the RIC-1 and RIC-2 only.

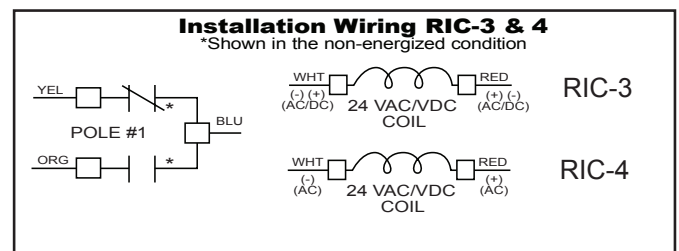
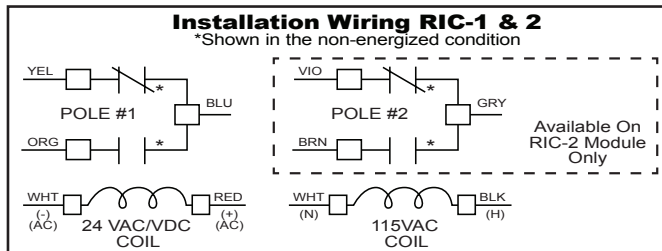
The RIC-3 and RIC-4 have a 2 - 3 Second "drop out" delay that allows the relay to remain activated on dirty power or if a pulsed input is supplied.

To mount the RIC Series module, simply push the self-clinching spud through a 1/2" (12.7mm) knockout on a junction box and connect via the 12" long "flying" leads.

### Standard Features:

- 10 Amp resistive dry form C contacts
- Coil input voltages: 24VAC, 24VDC, or 115VAC
- Contains a red LED which illuminates when the coil is energized (RIC 1 & 2 only)
- Wire nuts included for installation
- UL listed, file # S3403
- 12" wire leads
- Sturdy full plastic enclosure

Model Number	RIC-1	RIC-2	RIC-3	RIC-4
Power Requirements	24VAC, 24VDC, 115VAC	24VAC, 24VDC, 115VAC	24VAC, 24VDC (non-polarized)	24VAC, 24VDC (polarized)
Polarized	No	No	No	Yes (DC Only)
Energized LED Indication	Yes	Yes	No	No
Coil Requirements				
@24VDC	18mA	18mA	32mA	32mA
@24VAC	39mA	39mA	41mA	41mA
@115VAC	26mA	26mA	NA	NA
Delay upon De-Energization	No	No	2 - 3 Seconds	2 - 3 Seconds
Contact Configuration	SPDT	DPDT	SPDT	SPDT
Contact Ratings				
@28VDC	7Amp Resistive	7Amp Resistive	7Amp Resistive	7Amp Resistive
@115VAC	10Amp Resistive / 0.35PF Inductive	10Amp Resistive / 0.35PF Inductive	10Amp Resistive / 0.35PF Inductive	10Amp Resistive / 0.35PF Inductive
Wiring Leads	6 "Flying Leads" 12" - 18 AWG Wire Nuts Provided	6 "Flying Leads" 12" - 18 AWG Wire Nuts Provided	7 "Flying Leads" 12" - 18 AWG Wire Nuts Provided	7 "Flying Leads" 12" - 18 AWG Wire Nuts Provided
Ambient Temperature @85% RH, Non-Condensing	32°F to 120°F 0°C to 40°C	32°F to 120°F 0°C to 40°C	NA NA	NA NA
Ambient Temperature @93% RH, Non-Condensing	NA NA	NA NA	32°F to 120°F 0°C to 40°C	32°F to 120°F 0°C to 40°C
Mounting	Spud Mounting through 1/2" Knockout	Spud Mounting through 1/2" Knockout	Spud Mounting through 1/2" Knockout	Spud Mounting through 1/2" Knockout
Dimensions	2.5" H x 1.75" W x 1.3" D	2.5" H x 1.75" W x 1.3" D	2.5" H x 1.75" W x 1.3" D	2.5" H x 1.75" W x 1.3" D
Listings and Approvals				
UL	UOXX / 7.S3403	UOXX / 7.S3403	UOXX / 7.S3403	UOXX / 7.S3403
MEA	73-92-E Vol. 23	73-92-E Vol. 23	73-92-E Vol. 23	73-92-E Vol. 23
CSFM	7300-1004:101	7300-1004:101	7300-1004:101	7300-1004:101



## Ordering Information:

Part #	Description
SSU-RIC-1	RIC-1 10 Amp Relay SPDT
SSU-RIC-2	RIC-2 10 Amp Relay DPDT
SSU-RIC-3	RIC-3 10 Amp Relay SPDT
SSU-RIC-4	RIC-4 10 Amp Relay SPDT



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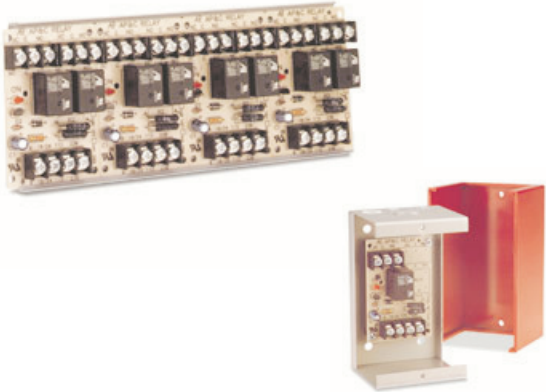
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# MR1 MR2



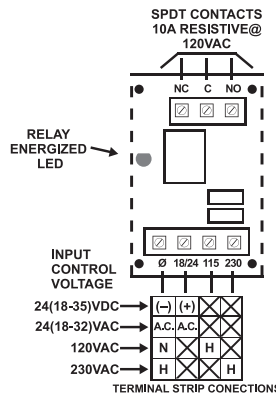
## MR-100 & MR-200 Series Relays

The MR Series Multi-voltage Control Relays offer SPDT or DPDT 10 Amp resistive contacts which may be operated by one of four input control voltages. A single relay may be energized from a voltage source of 24VDC, 24VAC, 120VAC or 230VAC by wiring to appropriate input terminals.

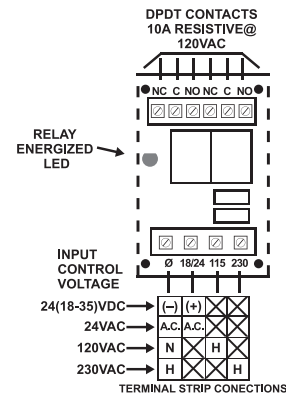
### Standard Features:

- Relays may be energized from a voltage source of 18 to 35VDC or VAC, 120VAC or 230VAC
- Each relay position contains a red LED, which illuminates when the coil is energized.
- Single, dual or triple relay modules may be “snapped apart” from standard 4-position master
- DC input is polarized
- Continuous duty use
- Available in dust resistant enclosures with LED viewing port
- /C versions mounted in enclosures
- /C/R versions with red covers for NYC and other uses
- /T versions come complete with track mounting hardware which facilitates installation in standard cabinets
- UL recognized relays rated at 10,000,000 mechanical operations
- UL listed as Control Unit Accessory

Each relay position contains a red LED which indicates the relay coil is energized. Relays may be “snapped apart” from a standard 4 module assembly and used independently. These devices are ideal for applications where local contacts are required for system status, remote contacts for control of electrical loads and general purpose switching. They are suitable for use with HVAC, temperature control, fire alarm, security, energy management and lighting control systems.



MR-101  
(MR-104)



MR-201  
(MR-204)



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## PRODUCT SPECIFICATIONS

MODEL NUMBER:	MODULE POSITIONS	CONTACT CONFIGURATION PER POSITION	TRACK MOUNTED H X W X D	ENCLOSURE MOUNTED H X W X D	COVER MATERIAL	UL* FILE S3403	MEA FILE 73-92-E	CSFM FILE 7300-1004
SSU-MR-101/T	1	SPDT	3.25" (82mm) 2.125" (54mm) 1.50" (38mm)			UOXX2		:106
SSU-MR-101/C	1	SPDT		5.125" (130mm) 3.125" (79mm) 2.50" (63mm)	Grey ABS-94VO Plastic	UOXX UOXX2	Vol. 14	:101
SSU-MR-101/C/R	1	SPDT			Red ABS-94VO Plastic	UOXX7	Vol. 22	
SSU-MR-104/T	4	SPDT	3.25" (82mm) 8.50" (215mm) 1.50" (38mm)			UOXX2		:106
SSU-MR-104/C	4	SPDT		5.125" (130mm) 9.50" (241mm) 2.50" (63mm)	Plated 18ga CRS	UOXX UOXX2	Vol. 14	:101
SSU-MR-104/C/R	4	SPDT			Red 18ga CRS	UOXX7		
SSU-MR-201/T	1	DPDT	3.25" (82mm) 2.125" (54mm) 1.50" (38mm)			UOXX2		:106
SSU-MR-201/C	1	DPDT		5.125" (130mm) 3.125" (79mm) 2.50" (63mm)	Grey ABS-94VO Plastic	UOXX UOXX2	Vol. 16	:101
SSU-MR-201/C/R	1	DPDT			Red ABS-94VO Plastic	UOXX7	Vol. 22	
SSU-MR-204/T	4	DPDT	3.25" (82mm) 8.5" (215mm) 1.50" (38mm)			UOXX2		:106
SSU-MR-204/C	4	DPDT		5.125" (130mm) 9.50" (241mm) 2.50" (63mm)	Plated 18ga CRS	UOXX UOXX2	Vol. 16	:101
SSU-MR-204/C/R	4	DPDT			Red 18ga CRS	UOXX7		

COIL VOLTAGE: MR-100: 24(18-35)VDC, 24(18-35)VAC, 120VAC, 230VAC  
 MR-200: 24(18-35)VDC, 24VAC, 120VAC, 230VAC  
 (Pull in voltage: 75% of nominal max. @ 25°C; Drop out voltage: 25% of nominal min. @ 25°C)

POLARIZED: DC input only

ENERGIZED LED INDICATOR: One per module position

CURRENT REQUIREMENT: Per module position: MR-100 Series = 18mA / MR-200 Series = 40mA

CONTACT RATINGS: 7A @ 28VDC / 10A (NO:1/6HP, NC:1/8HP) @ 120VAC / 7A @ 230VAC

CONTACT CONSTRUCTION: Dry Form "C"

ENVIRONMENTAL: 32°F to 120°F (0°C to 49°C) @ 85% RH (@ 32°F), Non-condensing, Non-freezing

WIRING: Solid or stranded; #12 to #22 AWG terminals

/T VERSIONS: 3.5" wide, low profile plastic snap track provided with mounting screws

/C VERSIONS: Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom

\*UOXX=Control Unit Accessories, System; 2=Component; 7=Certified for Canada



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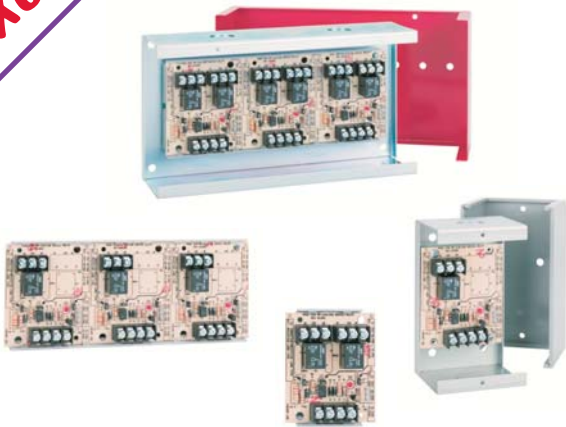
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LT10278

Rev.B

2/2

**NO  
EXCUSES!**



A sampling of mounting, enclosures and configurations shown above.

# MR3

## MR-310, 320 Series Relays Low-Voltage, Low-Current TTL+ Relays

MR 300 Series Relays provide virtually endless options for low-voltage application interconnectability. This robust relay is available in SPDT or DPDT configurations. Available in enclosure, snap-track or spacer mounted versions and single or multi-unit assemblies. Enclosure configurations available with red or gray covers and provide 'energized on' LED viewing port(s). No special tools are required for installation. Industrial/commercial sized PCB. Code required approvals in place.

The MR3 utilizes all pre-qualified, reliable hi-grade U.L. recognized components. Trip circuitry is 100% opto-isolated for complete non-interference and protection. Easy reversible selectability for trip/host voltages, low and ultra-low current trip operation which allows proper matching of trip to type of load switched (no tools necessary). Both trip and host inputs are diode protected against accidental reversed polarity DC hook-up. These relays are polarized so that either or both may be supervised and/or utilize input voltage logic for complex multi-criteria operations. Both trip and host are universal for use with standard TTL, fire, security and building control voltages. All field wiring terminations are done with positive clamping-action captive screw commercial/industrial terminals (#12 to #22 AWG). The design provides for positive or negative trigger inputs, and an integral energized (on) red LED indicator. There is also zener diode protection across relay coil. Environmental temperature ratings are between 32°F to 120°F @ 93% RH non-condensing / freezing. The unit provides for use of two differently referenced power sources on trip and host inputs. The MR3 will not false trip on less than four volts and allows regulated and un-regulated power sources.

### User-Selectable Operation Modes:

- **Super-low current dedicated** 24VDC trip mode allows for a variety of fire alarm driver type applications.
- **TTL level** trip is "real world" useable for building control/relay/annunciator driver board applications.
- **Trip / host "bridged"** mode provides a 12-27.3VDC standard package for security and general purpose solutions.

### Options/Configurations:

- Available in SPDT or DPDT configurations
- Available in enclosure, snap-track or spacer mounted versions
- Available in single or multi-unit assemblies
- Track mount version allows for adhesive, single/dual screw or optional DIN/"A" rail mounting
- Spacer configuration provides for screw or stud mounting
- Enclosure configurations available with red or gray covers

CSFM & MEA Listings targeted for approval April 2004.  
File numbers furnished upon request.

ISO9001  
REGISTERED



MEA



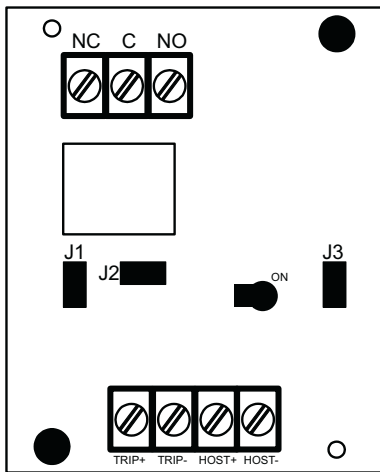
### Building Control

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**Installation Wiring**

**MR-310 SERIES**

SPDT CONTACTS  
RESISTIVE 10A @ 120 VAC  
7A @ 24VDC/VAC  
INDUCTIVE 0.35 PF(Power Factor)

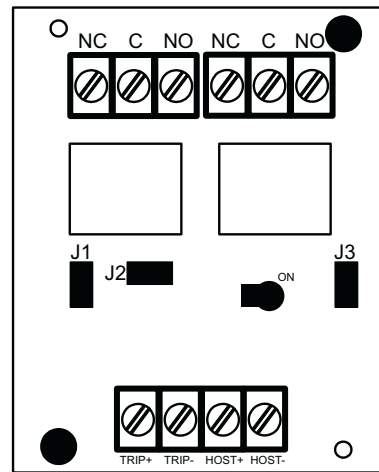


**TRIP+ / TRIP-** 5-27.3VDC @ 2.0-17mA  
(Min.-Max.)\* Relay **Triggering** Power  
Input (Polarized)

**HOST+ / HOST-** 12-27.3VDC @ 36-46mA  
(Min.-Max.)\* Relay **Operating** Power  
Input (Polarized)

**MR-320 SERIES**

DPDT CONTACTS  
RESISTIVE 10A @ 120 VAC  
7A @ 24VDC/VAC  
INDUCTIVE 0.35 PF(Power Factor)



**TRIP+ / TRIP-** 5-27.3VDC @ 2.0 -17mA  
(Min.-Max.)\* Relay **Triggering** Power  
Input (Polarized)

**HOST+ / HOST-** 12-27.3VDC @ 56-79mA  
(Min.-Max.)\* Relay **Operating** Power  
Input (Polarized)

\*Refer to application specific jumper configuration programming guide for precise current draw requirements. Relay is shipped with J1, J2 and J3 installed in OUT positions. You must perform all jumpers for the motor load type and special motors in your application to guarantee proper relay operation.

**MR-310 and MR-320 SERIES JUMPER CONFIGURATIONS**

MR-310 & MR-320 Operating Mode Examples												
Modes (Application)	Application Configuration				Trip Input				Host Input		General Usage Examples	
	J1 (Load)	J2 (Trip)	J3 (Host)	Load Type	Inductive Breaking Power	Voltage	Current	Voltage	Current			
									MR-310 (SPDT)	MR-320 (DPDT)		
"A" (LO trip - HI host)	In	In	Out	Any	Maximum	5 - 18.4VDC	3.2 - 17mA	18.5 - 27.3VDC	38 - 46mA	56 - 79mA	TTL/Security to Fire Alarm	
"B" (LO trip - HI host)	Out	In	Out	Resistive	Moderate	5 - 18.4VDC	2.5 - 13mA	18.5 - 27.3VDC				
"C" (HI trip - LO host)	In	Out	In	Any	Maximum	18.5 - 27.3VDC	2.1 - 3.3mA	12 - 18.4VDC	36 - 40mA	69 - 73mA	Fire Alarm to Security	
"D" (HI trip - LO host)	Out	Out	In	Resistive	Moderate	18.5 - 27.3VDC	2 - 3.2mA	12 - 18.4VDC				
"E" (LO trip - LO host)	In	In	In	Any	Maximum	5 - 18.4VDC	3.2 - 17mA	12 - 18.4VDC	36 - 40mA	69 - 73mA	TTL/Security to Security	
"F" (LO trip - LO host)	Out	In	In	Resistive	Moderate	5 - 18.4VDC	2.5 - 13mA	12 - 18.4VDC				
"G" (HI trip - HI host)	In	Out	Out	Any	Maximum	18.5 - 27.3VDC	2.1 - 3.3mA	18.5 - 27.3VDC	38 - 46mA	56 - 79mA	Fire Alarm to Fire Alarm	
"H" (HI trip - HI host As Shipped)	Out	Out	Out	Resistive	Moderate	18.5 - 27.3VDC	2 - 3.2mA	18.5 - 27.3VDC				

**BRIDGED MODE**

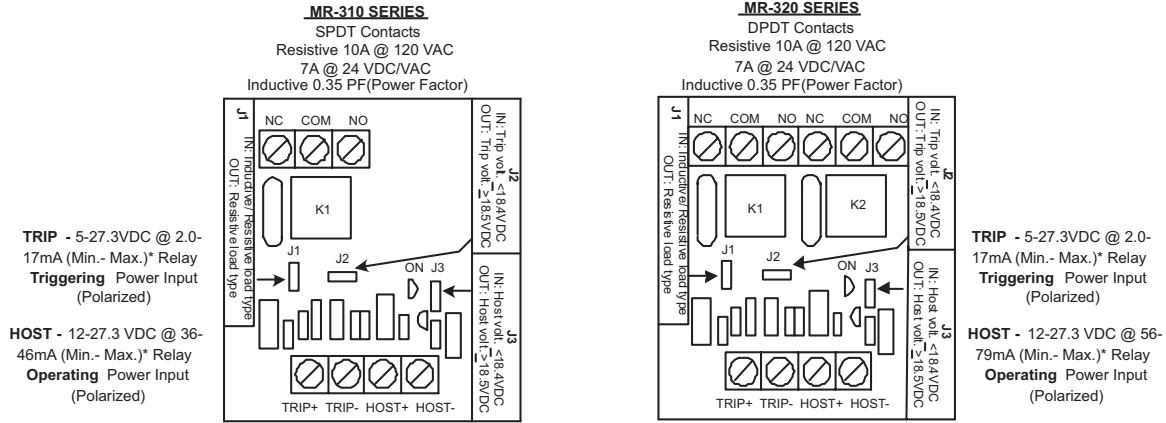
- To operate in bridged mode, connect jumpers from HOST+ to TRIP+ and from HOST- to TRIP-
- Only a single voltage input from 12-27.3VDC is required for relay operation (or nominal 24VDC as above)
- Jumper configurations as noted above may be used to tune relay operation

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## Configuration Examples

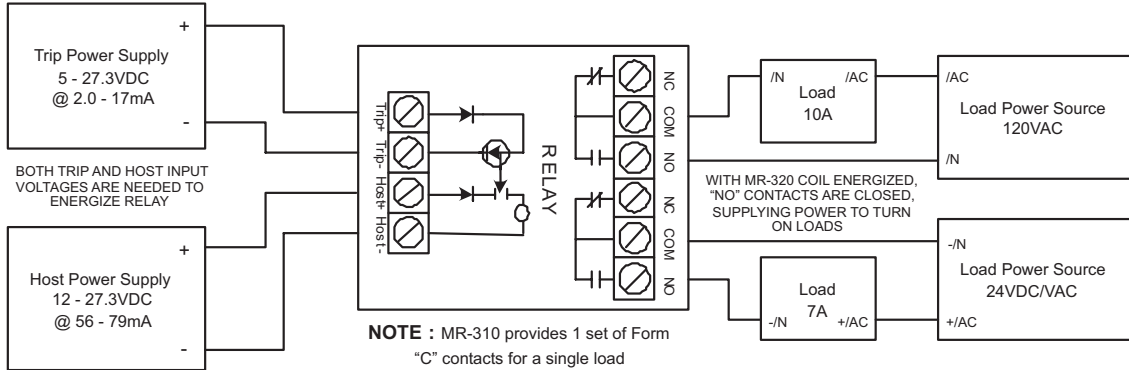
**CAUTION:** De-energize power prior to removing or installing jumpers and installation or service.



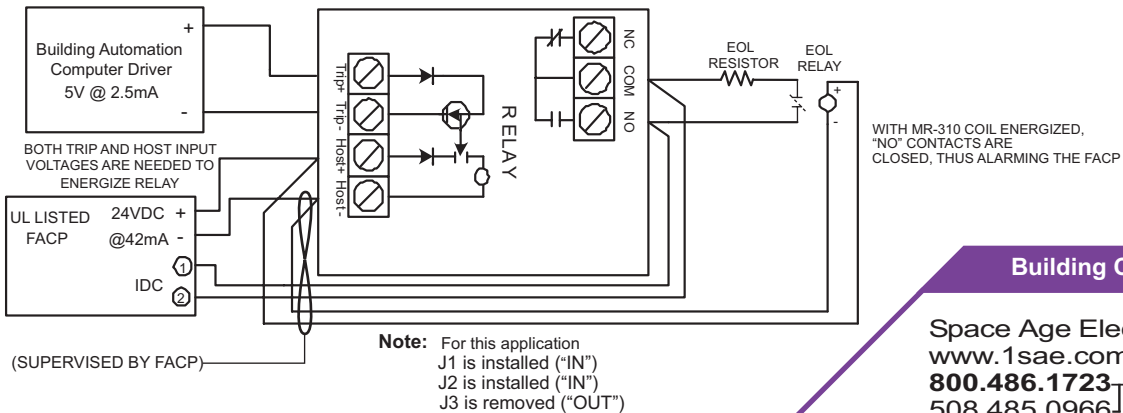
\*Refer to application specific jumper configuration programming guides for precise current draw requirements. Relay is shipped with J1, J2 and J3 installed in the "OUT" position. You must program all jumpers for the proper load type and specific voltages in your application to guarantee proper relay operation.

## Application Examples

**MR-320 Dual Contact Voltage Example**  
(Simultaneously switches 120VAC and 24VDC/VAC)



**MR-310 Typical TTL Driver Board to Fire Alarm System Example**



**Building Control**

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# Product Specifications

/S = Spacer Mounted /T = Track Mounted  
 /C = Enclosure /R = Red Finish Enclosure Cover

SAE PN#	MODULE POSITIONS	CONTACT CONFIGURATION PER POSITION	SPACER MOUNTED H X W X D	TRACK MOUNTED H X W X D	ENCLOSURE MOUNTED H X W X D	COVER MATERIAL	UL FILE* S3403	
SSU-MR-311/S	1	SPDT	3.25"(83mm)				UOXX2 NMTR2 UUKL2 PAZX2 UEHX2	
SSU-MR-321/S		DPDT	2.75"(70mm)					
SSU-MR-311/T		SPDT		3.40"(86.8 mm)				
SSU-MR-321/T		DPDT		2.75"(70mm)	1.5"(38.1mm)			
SSU-MR-311/C		SPDT				5.13"(131mm) 3.13"(80mm) 2.50"(64mm)	GREY ABS 94V-0 PLASTIC	UOXX NMTR UUKL PAZX UEHX
SSU-MR-321/C		DPDT						
SSU-MR-311/C/R		SPDT					RED ABS 94V-0 PLASTIC	
SSU-MR-321/C/R		DPDT						
SSU-MR-312/S	2	SPDT	3.25"(83mm)				UOXX2 NMTR2 UUKL2 PAZX2 UEHX2	
SSU-MR-322/S		DPDT	5.5"(140mm)					
SSU-MR-312/T		SPDT		3.40"(86.8mm)				
SSU-MR-322/T		DPDT		6.0"(152.4mm)	1.5"(38.1mm)			
SSU-MR-312/C		SPDT				5.13"(131mm) 9.5"(241.3mm) 2.50"(64mm)	PLATED 18GA CRS	UOXX NMTR UUKL PAZX UEHX
SSU-MR-322/C		DPDT						
SSU-MR-312/C/R		SPDT					RED 18GA CRS	
SSU-MR-322/C/R		DPDT						
SSU-MR-313/S	3	SPDT	3.25"(83mm)				UOXX2 NMTR2 UUKL2 PAZX2 UEHX2	
SSU-MR-323/S		DPDT	8.25"(210mm)					
SSU-MR-313/T		SPDT		3.40"(86.8mm)				
SSU-MR-323/T		DPDT		8.25"(210mm)	1.5"(38.1mm)			
SSU-MR-313/C		SPDT				5.13"(131mm) 9.5"(241.3mm) 2.50"(64mm)	PLATED 18GA CRS	UOXX NMTR UUKL PAZX UEHX
SSU-MR-323/C		DPDT						
SSU-MR-313/C/R		SPDT					RED 18GA CRS	
SSU-MR-323/C/R		DPDT						

VOLTAGE REQUIREMENTS: Host: 12 - 27.3VDC  
 Trip: 5 - 27.3VDC

POLARIZED INPUTS: Yes, on both trip optoisolator and host coil inputs

ENERGIZED INDICATOR: One red LED per module position

CURRENT REQUIREMENTS: Refer to Jumper Configuration Chart

CONTACT RATINGS: Resistive: 10A @120VAC; 7A @ 24VDC/VAC  
 Inductive 0.35 PF (Power Factor)

CONTACT CONSTRUCTION: Dry Form "C"

AMBIENT TEMPERATURE: 32°F to 120°F (0°C to 49°C) @ 93% RH (@32°C), NON-condensing/freezing

WIRING: #12 to #22 AWG terminals

"/S" VERSIONS: Aluminum spacers provided with #8 X 7/8" self tapping sheet metal screws

"/T" VERSIONS: 3.5" wide, low profile plastic snap track provided with mounting screws

"/C" VERSIONS: Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom

\*UOXX (UL864) = Control Unit Accessories, System; 2 = Component  
 \*UUKL (UL864) = Smoke Control System Equipment, System; 2 = Component  
 \*NMTR (UL508) = Miscellaneous Apparatus, System; 2 = Component  
 \*PAZX (UL916) = Energy Management Equipment, System; 2 = Component  
 \*UEHX (UL2017) = General Purpose Signaling Devices and Systems, System; 2 = Component

LISTINGS AND APPROVALS: MEA: File 73-92-E Vol.29

NOTICE: The information contained in this document is intended only as a summary and is subject to change without notice. The products described have specific instructional/ installation documentation, which covers various technical, approval, code, limitation and liability information. Copies of this documentation along with any general product warning and limitation documents, which also contain important information, are provided with the product and are also available from Space Age Electronics, Inc. The information contained in all of these documents should be considered before specifying or using the products. Any example applications shown are subject to the most current enforced local/national codes, standards, approvals, certifications, and/or the authority having jurisdiction. All of these resources, as well as the specific manufacturer of any shown or mentioned related equipment, should be consulted prior to any implementation. For further information or assistance concerning the products, contact Space Age Electronics, Inc. Space Age Electronics Inc. reserves the right to change any and all documentation without notice.

## Building Control

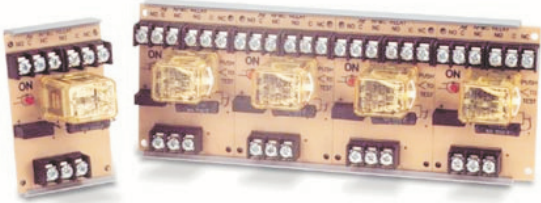
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# MR4

## MR-400 Series Relays

The MR-400 Series Relays provide DPDT 10 Amp contacts which are operated from either a 24VDC, 24VAC, or 115VAC control input. Each relay is equipped with a "Test Button" which enables the contacts to transfer manually.

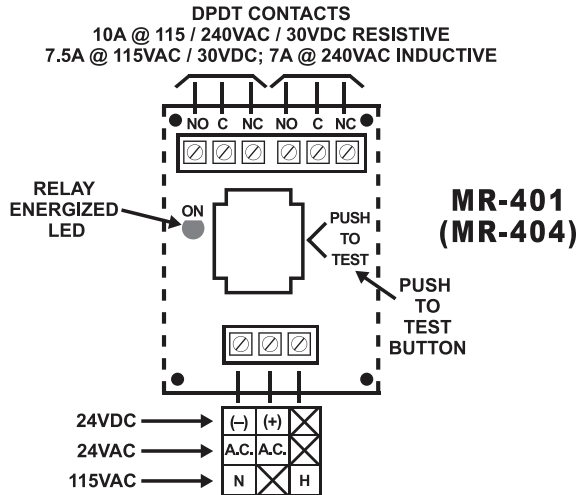


Each relay contains a high intensity LED which when illuminated indicates the relay coil is energized. This provides a time saving convenience when checking an installed system, no metering is required. Track mounting hardware included on /T versions for easy installation in standard boxes.

### Standard Features:

- Relay contains a high intensity red LED indicating energized coil status
- Single, dual, or triple relay modules may be "snapped apart" from a standard 4 position master
- /C and /C/R versions available in dust proof metal enclosures with LED viewing port(s)
- /T versions include track mounting hardware to facilitate installation in standard cabinets
- UL recognized relays rated at 10,000,000 mechanical operations
- Manual contact test button to verify switching without energizing the coil

These devices are well suited for applications such as fire alarm and security systems, HVAC, energy management, temperature control and lighting systems.



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## PRODUCT SPECIFICATIONS

MODEL NUMBER	MODULE POSITIONS	CONTACT CONFIGURATION PER POSITION	TRACK MOUNTED H x W x D	ENCLOSURE MOUNTED H x W x D	COVER MATERIAL
SSU-MR-401/T	1	DPDT	3.40" (87mm)	5.13" (130mm) 3.13" (79mm) 2.50" (64mm)	Grey ABS 94V-O Plastic
SSU-MR-401/C			2.13" (54mm)		
SSU-MR-401/C/R			1.94" (49mm)		
SSU-MR-404/T	4	DPDT	3.40" (87mm)	5.13" (130mm) 9.50" (241mm) 2.50" (64mm)	Plated 18ga CRS
SSU-MR-404/C			8.50" (215mm)		
SSU-MR-404/C/R			1.94" (49mm)		

POWER REQUIREMENTS: 24VDC @ 31mA  
(per position) 24VAC @ 28mA  
115VDC @ 34mA

COIL DATA: 24VDC/VAC, 115VAC  
Pull in voltage = 80% of rated voltage  
Drop-out voltage (AC) = 30% of rated voltage  
Drop-out voltage (DC) = 10% of rated voltage  
Max. voltage = 110% of rated voltage

COMPONENTS: Uses UL Recognized Components

POLARIZED: No

ENERGIZED LED INDICATOR: One per module position

CONTACT RATINGS: Resistive load: 10A @ 115VAC / 240VAC / 30VDC  
Inductive load: 7.5A @ 115VAC / 30VDC; 7A @ 240VAC

ENVIRONMENTAL: 32°F to 120°F (0°C to 49°C) @ 85% RH, Non-condensing, Non-freezing

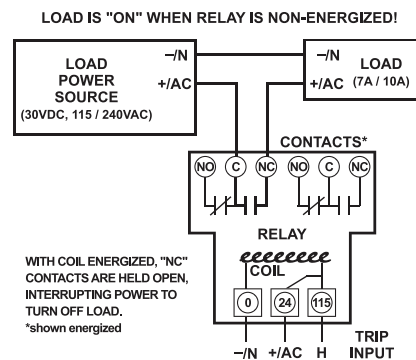
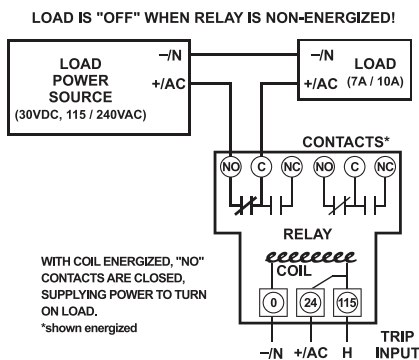
WIRING: Solid or stranded; #12 to #22 AWG terminals

MANUAL TEST BUTTON: One per module position

/T VERSIONS: 3.5" wide, low profile plastic snap track provided with mounting screws

/C VERSIONS: Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom

## APPLICATION EXAMPLES



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**NYC BUILDINGS**

# MR6

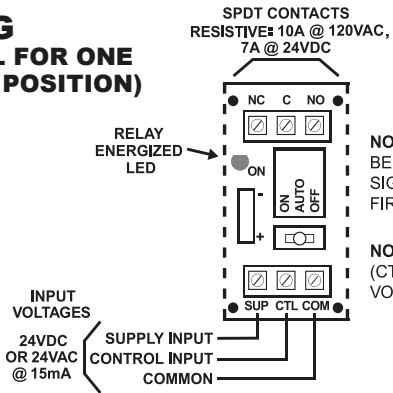
## MR-600 Series Relays

The MR-600 Series Relays are ideal for applications where local manual controlled contacts are required for switching of electrical loads. They are suitable for use with HVAC, temperature control, fire alarm, security, energy management, and lighting control systems.

MR-600 Series Relays offer SPDT 10 Amp contacts @ 120VAC and 7 Amp @ 24VDC with manual override capabilities by means of an integral "ON-AUTO-OFF" switch. The switch requires a 24VAC or 24VDC constant power source supplied by the controlling system. When the switch is in the "ON" position the relay is energized. With the switch in the "AUTO" position the relay is allowed to operate as signaled by the controlling system with a separate control input of the same 24VAC or 24VDC. With the switch in the "OFF" position the relay will not be energized.

Each relay position contains a high intensity red LED which, when illuminated, indicates the relay coil is energized. This provides a time saving convenience when checking an installed system - no metering is required. Relays may be "snapped apart" from standard 2, 4 or 8 position modules and are also available in the single circuit configuration. Relays are supplied with either mounting spacers, track mounting hardware or mounted in enclosures. The common (black) and supply (white) power to each relay position is bussed on the printed wiring board via color coded jumpers which permits power to be connected only once per multi-position module. These jumpers also allow position isolation or separation of cut.

### WIRING (TYPICAL FOR ONE MODULE POSITION)



**NOTE:** INPUT POWER SUPPLY SHOULD BE UL LISTED FOR FIRE PROTECTION SIGNALING SYSTEMS WHEN USED IN FIRE ALARM APPLICATIONS

**NOTE:** SUPPLY (SUP) AND CONTROL (CTL) INPUT MUST BE OF THE SAME VOLTAGE TYPE AND POLARITY

### Standard Features:

- Relays may be energized from a voltage source of 24VDC or 24VAC
- Each relay position contains a red LED which illuminates when the coil is energized
- Single, dual or triple relay modules may be "snapped apart" from standard 2, 4 and 8 position masters
- Integral "ON-AUTO-OFF" switch for local manual control
- For continuous duty use
- Available in dust resistant enclosures with LED viewing port(s)
- /C versions mounted in enclosures
- /C/R versions with red covers for NYC and other uses
- /T versions come complete with track mounting hardware which facilitates installation in standard cabinets
- /S versions supplied with spacers for installation on standard back panels
- Uses UL Recognized Components



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## PRODUCT SPECIFICATIONS

MODEL NUMBERS:	MODULE POSITIONS	CONTACT CONFIGURATION PER POSITION	SPACER MOUNTED H x W x D 3.25" (83mm) 1.06" (27mm) 1.25" (32mm)	TRACK MOUNTED H x W x D 3.50" (89mm) 2.00" (51mm) 1.375" (35mm)	ENCLOSURE MOUNTED H X W X D	COVER MATERIAL	UL* FILE S3403	MEA FILE 73-92-E	CSFM FILE 7300-1004
SSU-MR-601/S	1	SPDT					UOXX2		
SSU-MR-601/T	1	SPDT							
SSU-MR-601/C	1	SPDT			5.125" (131mm) 3.125" (80mm) 2.50" (64mm)	Grey ABS 94V-O Plastic Red ABS 94V-O Plastic	UOXX UOXX2	Vol. 29	:110
SSU-MR-601/C/R	1	SPDT							
SSU-MR-602/S	2	SPDT	3.25" (83mm) 2.125" (54mm) 1.25" (32mm)				UOXX2		
SSU-MR-602/T	2	SPDT		3.50" (89mm) 2.125" (54mm) 1.375" (35mm)					
SSU-MR-602/C	2	SPDT			5.125" (131mm) 3.125" (80mm) 2.50" (64mm)	Grey ABS 94V-O Plastic Red ABS 94V-O Plastic	UOXX UOXX2	Vol. 29	:110
SSU-MR-602/C/R	2	SPDT							
SSU-MR-604/S	4	SPDT	3.25" (83mm) 4.25" (108mm) 1.25" (32mm)				UOXX2		
SSU-MR-604/T	4	SPDT		3.50" (89mm) 4.25" (108mm) 1.375" (35mm)					
SSU-MR-604/C	4	SPDT			5.125" (131mm) 9.50" (242mm) 2.50" (64mm)	Plated 18ga CRS Red 18ga CRS	UOXX UOXX2	Vol. 29	:110
SSU-MR-604/C/R	4	SPDT							
SSU-MR-608/S	8	SPDT	3.25" (83mm) 8.50" (215mm) 1.25" (32mm)				UOXX2		
SSU-MR-608/T	8	SPDT		3.50" (89mm) 8.50" (215mm) 1.375" (35mm)					
SSU-MR-608/C	8	SPDT			5.125" (131mm) 9.50" (242mm) 2.50" (64mm)	Plated 18ga CRS Red 18ga CRS	UOXX UOXX2	Vol. 29	:110
SSU-MR-608/C/R	8	SPDT							

POWER REQUIREMENTS: Per Position: 24VAC or 24VDC @ 15mA

POLARIZED COIL INPUT(S): No

ENERGIZED LED INDICATOR: One red LED per module position

CONTACT RATINGS: Resistive load: 10A @ 120VAC; 7A @ 24VDC

CONTACT CONSTRUCTION: One dry form "C" SPDT per module position

AMBIENT TEMPERATURE: 32°F to 120°F (0°C to 49°C) @ 85% RH (@ 32°F), Non-Condensing, Non-Freezing

WIRING: Solid or stranded; #12 to #22 AWG terminals

/T VERSIONS: 3.5" wide, low profile plastic snap track provided with mounting screws

/S VERSIONS: Aluminum Spacers provided with #8 X 7/8" self tapping sheet metal screws

/C VERSIONS: Back Box: 18ga CRS, plated with 1/2" conduit knockouts top and bottom

\*UOXX (UL864)=Control Unit Accessories, System; 2=Component



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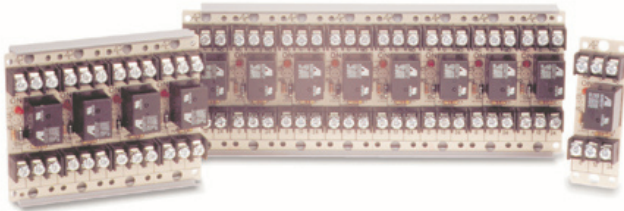
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# MR7



## MR-700 Series Relays

The MR-700 Series Relays offer SPDT 10 Amp contacts which may be operated by one of two input voltages; 12VDC or 24VDC.

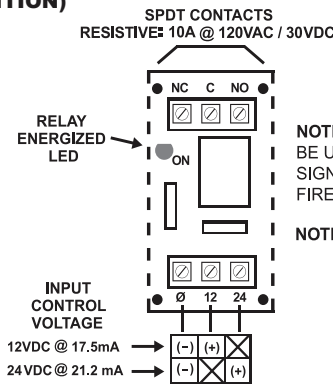
Each relay position contains a red LED which when illuminated, indicates the coil is energized. This provides a time saving device when checking an installed system - no metering is required. Relays may be "snapped apart" from standard 2, 4, or 8 position modules, and are also available in the single circuit configuration. Relays are supplied with either mounting spacers, track mounting hardware or are mounted in enclosures.

### Standard Features:

- Relays may be energized from a voltage source of 12VDC or 24VDC
- Each relay position contains a red LED, illuminates when the coil is energized
- Single, dual or triple relay modules may be "snapped apart" from standard 2, 4 or 8 position masters
- DC input is polarized
- For continuous duty use
- Available in dust resistant enclosures with LED viewing port(s)
- /C versions mounted in enclosures
- /C/R versions with red covers for NYC and other uses
- /T versions come complete with track mounting hardware which facilitates installation in standard cabinets
- /S versions supplied with spacers for installation on standard back panels
- Uses UL recognized components

These devices are ideal for applications where local contacts are required for control of electrical loads or general purpose switching. They are suitable for use with HVAC, temperature control, fire alarm, security, energy management and lighting control systems.

### WIRING (TYPICAL FOR ONE MODULE POSITION)



NOTE: INPUT POWER SUPPLY SHOULD BE UL LISTED FOR FIRE PROTECTION SIGNALING SYSTEMS WHEN USED IN FIRE ALARM APPLICATIONS

NOTE: DC COIL INPUTS ARE POLARIZED



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## PRODUCT SPECIFICATIONS

MODEL NUMBERS:	MODULE POSITIONS	CONTACT CONFIGURATION PER POSITION	SPACER MOUNTED H x W x D	TRACK MOUNTED H x W x D	ENCLOSURE MOUNTED H x W x D	COVER MATERIAL	UL* FILE S3403	MEA FILE 73-92-E	CSFM FILE 7300-1004
SSU-MR-701/S	1	SPDT	3.25" (83mm) 1.06" (27mm) 1.25" (32mm)				UOXX2		
SSU-MR-701/T	1	SPDT		3.50" (89mm) 2.00" (51mm) 1.375" (35mm)					
SSU-MR-701/C	1	SPDT			5.125" (131mm) 3.125" (80mm)	Grey ABS 94V-O Plastic	UOXX		:110
SSU-MR-701/C/R	1	SPDT			2.50" (64mm)	Red ABS 94V-O Plastic	UOXX2	Vol. 29	
SSU-MR-702/S	2	SPDT	3.25" (83mm) 2.125" (54mm) 1.25" (32mm)				UOXX2		
SSU-MR-702/T	2	SPDT		3.50" (89mm) 2.125" (54mm) 1.375" (35mm)					
SSU-MR-702/C	2	SPDT			5.125" (131mm) 3.125" (80mm)	Grey ABS 94V-O Plastic	UOXX		:110
SSU-MR-702/C/R	2	SPDT			2.50" (64mm)	Red ABS 94V-O Plastic	UOXX2	Vol. 29	
SSU-MR-704/S	4	SPDT	3.25" (83mm) 4.25" (108mm) 1.25" (32mm)				UOXX2		
SSU-MR-704/T	4	SPDT		3.50" (89mm) 4.25" (108mm) 1.375" (35mm)					
SSU-MR-704/C	4	SPDT			5.125" (131mm) 9.50" (242mm)	Plated 18ga CRS	UOXX		:110
SSU-MR-704/C/R	4	SPDT			2.50" (64mm)	Red 18ga CRS	UOXX2	Vol. 29	
SSU-MR-708/S	8	SPDT	3.25" (83mm) 8.50" (215mm) 1.25" (32mm)				UOXX2		
SSU-MR-708/T	8	SPDT		3.50" (89mm) 8.50" (215mm) 1.375" (35mm)					
SSU-MR-708/C	8	SPDT			5.125" (131mm) 9.50" (242mm)	Plated 18ga CRS	UOXX		:110
SSU-MR-708/C/R	8	SPDT			2.50" (64mm)	Red 18ga CRS	UOXX2	Vol. 29	

POWER REQUIREMENTS: Per Position: 12VDC @ 17.5mA or 24VDC @ 21.2mA

POLARIZED COIL INPUT(S): DC inputs only

ENERGIZED LED INDICATOR: One red LED per module position

CONTACT RATINGS: Resistive load: 10A @ 120VAC / 30VDC

CONTACT CONSTRUCTION: One dry form "C" SPDT per module position

AMBIENT TEMPERATURE: 32°F to 120°F (0°C to 49°C) @ 85% RH (@ 32°F), Non-Condensing, Non-Freezing

WIRING: Solid or stranded; #12 to #22 AWG terminals

/T VERSIONS: 3.5" wide, low profile plastic snap track provided with mounting screws

/S VERSIONS: Aluminum Spacers provided with #8 X 7/8" self tapping sheet metal screws

/C VERSIONS: Back Box: 18ga CRS, plated with 1/2" conduit knockouts top and bottom

UOXX (UL864)=Control Unit Accessories, System; 2=Component



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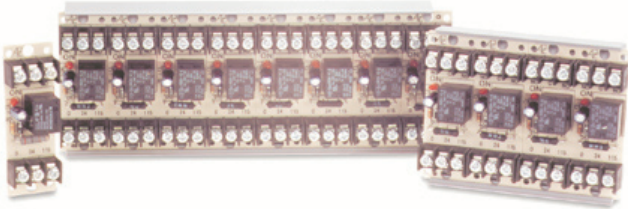
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# MR8



## MR-800 Series Relays

The MR-800 Series Relays provide SPDT 10 Amp contacts which may be operated by one of three input control voltages; 24VDC, 24VAC or 120VAC.

Each relay position contains a red LED which indicates the relay coil is energized. This provides a time saving device when checking an installed system - no metering is required. Relays may be "snapped apart" from standard 2, 4 or 8 position modules, and are also available in the single circuit configuration. Relays are supplied with either mounting spacers, track mounting hardware or are mounted in enclosures.

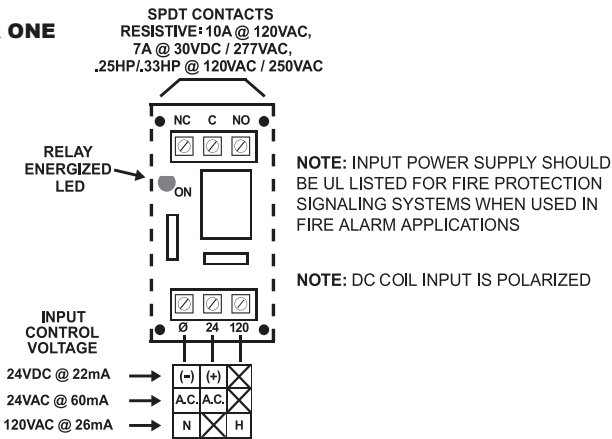
### Standard Features:

- Relays may be energized from a voltage source of 24VDC, 24VAC or 120VAC
- Each relay position contains a red LED, which illuminates when the coil is energized
- Single, dual or triple relay modules may be "snapped apart" from standard 2,4 or 8 position masters
- DC input is polarized
- For continuous duty use
- Available in dust resistant enclosure with LED viewing port(s)
- /C versions mounted in enclosures
- /C/R versions with red covers for NYC and other uses
- /T versions come complete with track mounting hardware which facilitates installation in standard cabinets
- /S versions supplied with spacers for installation on standard back panels
- Uses UL recognized components

These devices are ideal for applications where local contacts are required for control of electrical loads or general purpose switching. They are suitable for use with HVAC, temperature control, fire alarm, security, energy management and lighting control systems.

These devices are ideal for applications where control of 20 Amp electrical loads is required. They are suitable for use in HVAC, temperature control, fire alarm, security, energy management and lighting control systems.

### WIRING (TYPICAL FOR ONE)



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## PRODUCT SPECIFICATIONS

MODEL NUMBERS:	MODULE POSITIONS	CONTACT CONFIGURATION PER POSITION	SPACER MOUNTED H x W x D	TRACK MOUNTED H x W x D	ENCLOSURE MOUNTED H x W x D	COVER MATERIAL	UL* FILE S3403	MEA FILE 73-92-E	CSFM FILE 7300-1004
SSU-MR-801/S	1	SPDT	3.25" (83mm) 1.06" (27mm) 1.25" (32mm)				UOXX2		
SSU-MR-801/T	1	SPDT		3.50" (89mm) 2.00" (51mm) 1.375" (35mm)					
SSU-MR-801/C	1	SPDT			5.125" (131mm) 3.125" (80mm)	Grey ABS 94V-O Plastic	UOXX		:110
SSU-MR-801/C/R	1	SPDT			2.50" (64mm)	Red ABS 94V-O Plastic	UOXX2	Vol. 29	
SSU-MR-802/S	2	SPDT	3.25" (83mm) 2.125" (54mm) 1.25" (32mm)				UOXX2		
SSU-MR-802/T	2	SPDT		3.50" (89mm) 2.125" (54mm) 1.375" (35mm)					
SSU-MR-802/C	2	SPDT			5.125" (131mm) 3.125" (80mm)	Grey ABS 94V-O Plastic	UOXX		:110
SSU-MR-802/C/R	2	SPDT			2.50" (64mm)	Red ABS 94V-O Plastic	UOXX2	Vol. 29	
SSU-MR-804/S	4	SPDT	3.25" (83mm) 4.25" (108mm) 1.25" (32mm)				UOXX2		
SSU-MR-804/T	4	SPDT		3.50" (89mm) 4.25" (108mm) 1.375" (35mm)					
SSU-MR-804/C	4	SPDT			5.125" (131mm) 9.50" (242mm)	Plated 18ga CRS	UOXX		:110
SSU-MR-804/C/R	4	SPDT			2.50" (64mm)	Red 18ga CRS	UOXX2	Vol. 29	
SSU-MR-808/S	8	SPDT	3.25" (83mm) 8.50" (215mm) 1.25" (32mm)				UOXX2		
SSU-MR-808/T	8	SPDT		3.50" (89mm) 8.50" (215mm) 1.375" (35mm)					
SSU-MR-808/C	8	SPDT			5.125" (131mm) 9.50" (242mm)	Plated 18ga CRS	UOXX		:110
SSU-MR-808/C/R	8	SPDT			2.50" (64mm)	Red 18ga CRS	UOXX2	Vol. 29	

POWER REQUIREMENTS: Per Position: 24VDC @ 22mA, 24VAC @ 60mA, or 120VAC @ 26mA

POLARIZED COIL INPUT(S): DC inputs only

ENERGIZED LED INDICATOR: One red LED per module position

CONTACT RATINGS: **Resistive load:** 10A @ 120VAC; 7A @ 30VDC / 277VAC **Inductive Load:** .25HP / .33HP @ 120VAC / 250VAC

CONTACT CONSTRUCTION: One dry form "C" SPDT per module position

AMBIENT TEMPERATURE: 32°F to 120°F (0°C to 49°C) @ 85% RH (@ 32°F), Non-Condensing, Non-Freezing

WIRING: Solid or stranded; #12 to #22 AWG terminals

/T VERSIONS: 3.5" wide, low profile plastic snap track provided with mounting screws

/S VERSIONS: Aluminum Spacers provided with #8 X 7/8" self tapping sheet metal screws

/C VERSIONS: Back Box: 18ga CRS, plated with 1/2" conduit knockouts top and bottom

UOXX (UL864)=Control Unit Accessories, System; 2=Component



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2/2

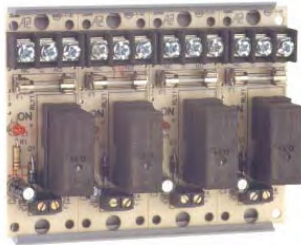
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# MR81

## MR-810 Series Relays

The MR-810 Series Relays offer SPDT 10A resistive contacts which may be operated from either a 24VDC or a 24VAC control input. The input voltages are polarity sensitive and diode protected. The common output contact contains a 10A fuse which protects the contacts and load from over current. Each relay position contains a red LED which indicates when the relay coil is energized. Relays may be "snapped apart" from a standard 8 module assembly and used independently. Relays are available with snap track and mounting hardware or swage type spacers. A single MR-811, MR-812, MR-814 or MR-818 is also available mounted in a sturdy NEMA 1 enclosure.

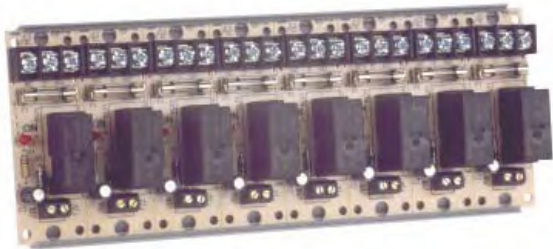
These devices are ideal for applications where protected control of up to 10A electrical loads are required. They are suitable for use with HVAC, Temperature Control, Fire Alarm, Security, Energy Management and Lighting Control Systems.



MR-814/T




MR-811/T



MR-818/T

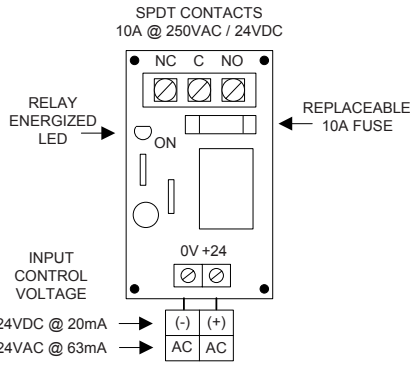
### Standard Features:

- Each relay contains a high intensity LED indicating an energized coil status
- /C versions in dust proof metal enclosures with LED viewing port(s)
- /T versions include track mounting hardware to facilitate installation in standard cabinets
- UL recognized relays rated at 10,000,000 mechanical operations

 - Uses UL Recognized Components



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## PRODUCT SPECIFICATIONS

MODEL NUMBER	MODULE POSITIONS	CONTACTS CONFIGURATION PER POSITION	PACER T MOUNTED M x W x D	RACK MOUNTED M H x W x D	ENCLOSURE MOUNTED H x W x D	COVER MATERIAL	
SSU-MR-811/S	1	SPDT	3.25" (83mm) 1.06" (27mm) 1.10" (28mm)				
SSU-MR-811/T				3.45" (88mm) 2.00" (51mm) 1.07" (27mm)			
SSU-MR-811/C						5.13" (130mm) 3.13" (79mm) P	Grey ABS 94V-O lastic
SSU-MR-811/C/R						2.50" (64mm) R	ed ABS 94V-O Plastic
SSU-MR-812/S	2	SPDT	3.25" (83mm) 2.12" (54mm) 1.10" (28mm)				
SSU-MR-812/T				3.45" (88mm) 2.13" (54mm) 1.07" (27mm)			
SSU-MR-812/C						5.13" (130mm) 3.13" (79mm) P	Grey ABS 94V-O lastic
SSU-MR-812/C/R						2.50" (64mm) R	ed ABS 94V-O Plastic
SSU-MR-814/S	4	SPDT	3.25" (83mm) 4.25" (108mm) 1.10" (28mm)				
SSU-MR-814/T				3.45" (88mm) 4.25" (108mm) 1.07" (27mm)			
SSU-MR-814/C						5.13" (130mm) 9.50" (241mm)	Plated 18ga CRS
SSU-MR-814/C/R						2.50" (64mm) R	ed 18ga CRS
SSU-MR-818/S	8	SPDT	3.25" (83mm) .50" (215mm) 1.10" (28mm)				
SSU-MR-818/T				3.45" (88mm) 8.50" (215mm) 1.07" (27mm)			
SSU-MR-818/C						5.13" (130mm) 9.50" (241mm)	Plated 18ga CRS
SSU-MR-818/C/R						2.50" (64mm) R	ed 18ga CRS

POWER REQUIREMENTS:	24VDC @ 20mA
(per position) 2	4VAC @ 63mA
COIL DATA:	24VDC/VAC nominal; Pick-up = 19.2VDC; Drop-out = 3.6VDC; Max. = 26.4VDC
COMPONENTS:	Uses UL Recognized Components
POLARIZED:	Yes
ENERGIZED LED INDICATOR:	One per module position
CONTACT RATINGS: R	resistive load: 10A @ 24VDC / 250VAC
ENVIRONMENTAL:	32°F to 120°F (0°C to 49°C) @ 85% RH, Non-condensing, Non-freezing
WIRING:	Solid or stranded; #14 to #22 AWG terminals
FUSE:	10A field replaceable 0.25" Dia. X 0.75" L buss type
/S VERSIONS:	Aluminum spacers provided with #8 X 7/8" screws
/T VERSIONS:	3.5" wide, low profile plastic snap track provided with mounting screws
/C VERSIONS:	Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom



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# MR9

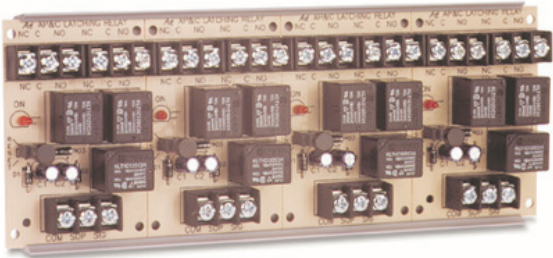
## MR-900 Series Relays

The MR-900 Series Latching Relays provide DPDT 10 Amp contacts which only requires a momentary impulse (24VAC or 24VDC) in order to latch. The relay also requires a like 24VAC or 24VDC steady power source; reset occurs either by depressing the on board N.C. momentary push button switch or by momentarily removing the steady (SUP) power from the circuit.

Each relay position contains a high intensity LED which when illuminated indicates the relay coil is energized. This provides a time saving convenience when checking an installed system, no metering is required.

Individual relay circuits may be "snapped apart" from a standard 4 position module and are also available in the single circuit configuration. These relays are equipped with either track mounting hardware or metal enclosure.

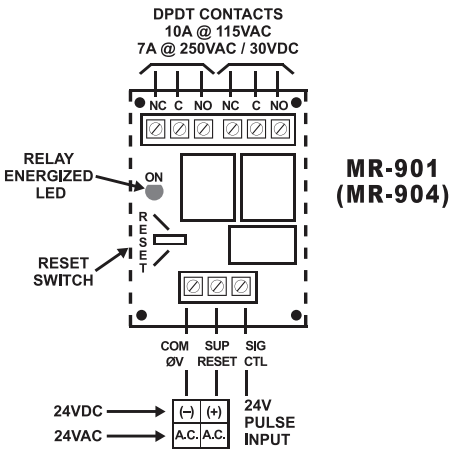
These devices are well suited for applications such as fire alarm systems, HVAC, energy management, temperature control and lighting systems.



### Standard Features:

- Each relay contains a high intensity red LED indicating energized coil status
- Single, dual, or triple relay modules may be "snapped apart" from a standard 4 position master
- /C versions available in dust proof metal enclosures with LED viewing port(s)
- /T versions include track mounting hardware to facilitate installation in standard cabinets
- UL recognized relays rated at 10,000,000 mechanical operations

### WIRING (TYPICAL FOR ONE MODULE POSITION)



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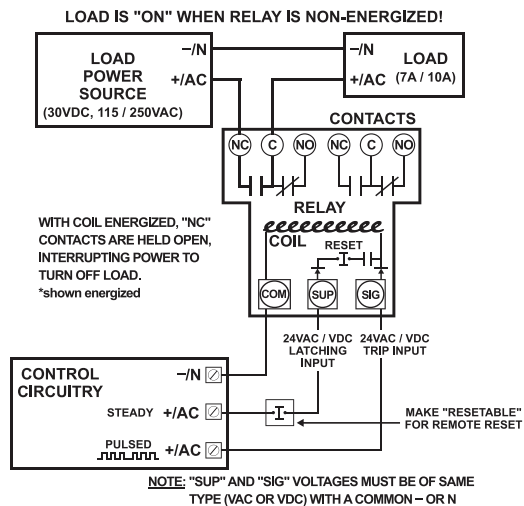
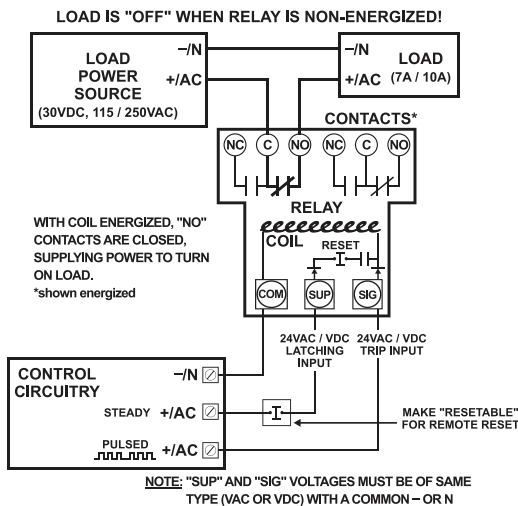


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## PRODUCT SPECIFICATIONS

MODEL NUMBER	MODULE POSITIONS	CONTACT T CONFIGURATION PER POSITION H	RACK MOUNTED M x W x D	ENCLOSURE MOUNTED H x W x D	COVER MATERIAL
SSU-MR-901/T	1	DPDT	3.40" (87mm)	5.13" (130mm) 3.13" (79mm) 2.50" (64mm)	Grey ABS 94V-O Plastic
SSU-MR-901/C			2.13" (54mm)		
SSU-MR-901/C/R			1.25" (32mm)		
SSU-MR-904/T	4	DPDT	3.40" (87mm)	5.13" (130mm) 9.50" (241mm) 2.50" (64mm)	Plated 18ga CRS
SSU-MR-904/C			8.50" (215mm)		
SSU-MR-904/C/R			1.25" (32mm)		

POWER REQUIREMENTS:	24VDC @ 42mA (per position)	24VAC @ 45mA
COIL DATA:	24VDC/VAC nominal; Pick-up = 19.2VDC; Drop-out = 3.6VDC; Max = 26.4VDC	
COMPONENTS:	Uses UL Recognized Components	
POLARIZED:	Yes	
ENERGIZED LED INDICATOR:	One per module position	
CONTACT RATINGS:	Resistive load: 10A @ 115VAC; 7A @ 250VAC / 30VDC	
ENVIRONMENTAL:	32°F to 102°F (0°C to 49°C) @ 85% RH, Non-condensing, Non-freezing	
WIRING:	Solid or stranded; #12 to #22 AWG terminals	
PUSHBUTTON SWITCH:	One per module position	
/T VERSIONS:	3.5" wide, low profile plastic snap track provided with mounting screws	
/C VERSIONS:	Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom	



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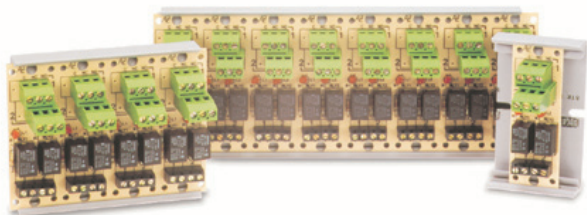
# MRD

## MR-820 Series Relays

The MR-820 Series Relays provide SPDT contacts which operate from a 24VDC input. Each relay position contains two independent UL recognized relays and a red LED which indicates a relay energized condition.

The MR-828 is an 8 position (16 relays) standard module. Individual sections which contain 2 relays may be “snapped apart” in any increments, up to 8.

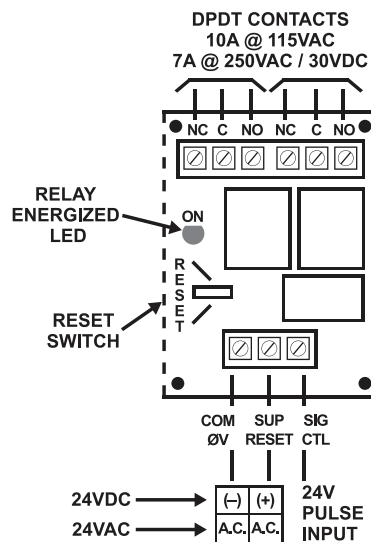
Relays are equipped with either mounting spacers or track mounting hardware. These devices are Ideal for applications where high density relay switching is required. They are suitable for use with HVAC, fire alarm security and energy management systems.



### Standard Features:

- Each relay contains two high intensity red LED indicating energized coil status
- Relay modules may be “snapped apart” from a standard 8 position master
- /S versions supplied with spacers for installation on standard back panels
- /T versions include track mounting hardware to facilitate installation in standard cabinets

### WIRING (TYPICAL FOR ONE MODULE POSITION)



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## PRODUCT SPECIFICATIONS

MODEL NUMBER	MODULE POSITIONS	CONTACT CONFIGURATION PER POSITION	SPACER MOUNTED H x W x D	TRACK MOUNTED H x W x D	ENCLOSURE MOUNTED H x W x D	COVER MATERIAL	
MR-821/S	1	SPDT	3.25" (83mm) 1.06" (27mm) 1.76" (45mm)				
MR-821/T				3.45" (88mm) 2.00" (51mm) 1.83" (46mm)			
MR-821/C						5.13" (130mm) 3.13" (79mm)	Grey ABS 94V-O Plastic
MR-821/C/R						2.50" (64mm)	Red ABS 94V-O Plastic
MR-824/S	4	SPDT	3.25" (83mm) 4.25" (108mm) 1.76" (45mm)				
MR-824/T				3.45" (88mm) 4.25" (108mm) 1.83" (46mm)			
MR-824/C						5.13" (130mm) 9.50" (241mm)	Plated 18ga CRS
MR-824/C/R						2.50" (64mm)	Red 18ga CRS
MR-828/S	8	SPDT	3.25" (83mm) 8.50" (215mm) 1.76" (45mm)				
MR-828/T				3.45" (88mm) 8.50" (215mm) 1.83" (46mm)			
MR-828/C						5.13" (130mm) 9.50" (241mm)	Plated 18ga CRS
MR-828/C/R						2.50" (64mm)	Red 18ga CRS

POWER REQUIREMENTS: Per position: 24VDC @ 17mA

COIL DATA: 24VDC nominal; Pick-up = 19.2VDC; Drop-out = 3.6VDC; Max. = 26.4VDC

COMPONENTS: Utilizes UL Recognized Components

POLARIZED: Yes

ENERGIZED LED INDICATOR: One per module position

CONTACT RATINGS: Resistive load: 40mA @ 115VAC / 2A @ 30VDC

Inductive load: 20mA @ 115VAC / 1A @ 30VDC

ENVIRONMENTAL: 32°F to 120°F (0°C to 49°C) @ 85% RH, Non-condensing, Non-freezing

WIRING: Solid or stranded; #14 to #22 AWG terminals

/S VERSIONS: Aluminum spacers provided with #8 X 7/8" screws

/T VERSIONS: 3.5" wide, low profile plastic snap track provided with mounting screws

/C VERSIONS: Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom



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# MRF

## MR-110 Series Relays

The MR-110 Series Relays provide SPDT 20 Amp contacts which are operated from a 24VDC control input. The common output contains a 20 Amp fuse which protects the contacts and load from over current.

Each relay contains a high intensity red LED which when illuminated indicates the relay coil is energized. Individual relays may be "snapped apart" from a standard 4 position module. Relays are available with track mounting hardware or a single MR-110 is available mounted in a NEMA 1 enclosure.

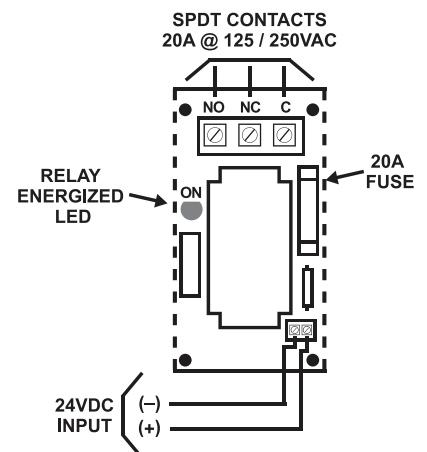
These devices are ideal for applications where control of 20 Amp electrical loads is required. They are suitable for use in HVAC, temperature control, fire alarm, security, energy management and lighting control systems.



### Standard Features:

- Relay contains a high intensity red LED indicating energized coil status
- Single, dual, or triple relay modules may be "snapped apart" from a standard 4 position master
- /C versions available in dust proof metal enclosures with LED viewing port(s)
- /T versions include track mounting hardware to facilitate installation in standard cabinets

### WIRING (TYPICAL FOR ONE MODULE POSITION)



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## PRODUCT SPECIFICATIONS

MODEL NUMBER	MODULE POSITIONS	CONTACT CONFIGURATION PER POSITION	TRACK MOUNTED M H X W X D	ENCLOSURE MOUNTED H X W X D	COVER MATERIAL
SSU-MR-111/T	1	SPDT	3.40" (86mm) 2.14" (54mm) 3.65" (92mm)		
SSU-MR-111/C	1	SPDT	3	5.125" (130mm) .1" (78mm) 4.12" (104mm)	Plated 18ga CRS
SSU-MR-111/C/R	1	SPDT	3	5.125" (130mm) .1" (78mm) 4.12" (104mm)	Red 18ga CRS
SSU-MR-114/T	4	SPDT	3.40" (86mm) 8.56" (217mm) 3.65" (92mm)		

POWER REQUIREMENTS:	Per module position: 24VDC @ 67mA
COIL DATA:	24VDC nominal, Pick-up = 19.2VDC, Drop-out = 3.6VDC, Max = 26.4VDC
COMPONENTS:	Uses UL Recognized
POLARIZED:	Yes
ENERGIZED LED INDICATOR:	One per module position
CONTACT RATINGS:	20A @ 125 / 250VAC resistive; 10A @ 125 / 250VAC inductive 0.75PF; 0.5KW @ 125VAC lamp; 0.75HP @ 125VAC / 2HP @ 250VAC motor; 15A @ 24VDC / 0.8A @ 125VDC resistive
ENVIRONMENTAL:	32°F to 120°F (0°C to 49°C) @ 85% RH (@ 32°F), Non-condensing, Non-freezing
WIRING:	Solid or stranded; #12 to #22 AWG terminals
FUSE:	20A field replaceable 1.25" buss type
/T VERSIONS:	3.5" wide, low profile plastic snap track provided with mounting screws
/C VERSIONS:	Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom



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LT10284

Rev.C

2/2

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# MRH

## MR0199 Series Relays

The MR-199 Series Heavy Duty Power Relays provide DPDT 30 Amp contacts which are operated from either a 120VAC or 24VDC control input. These relays are designed for control applications where 30-AMP DPDT contacts are required. Two models are available; a 120VAC coil and a 24VDC coil each of which may be mounted in a rugged steel enclosure.

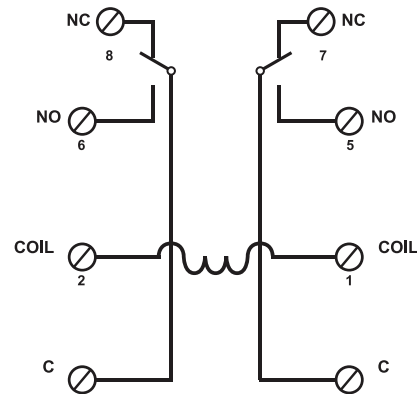


### WIRING

#### Standard Features:

- DPDT Standard contact arrangement
- /C versions mounted in rugged steel enclosure

#### MR-199 Series



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## PRODUCT SPECIFICATIONS

MODEL NUMBER V	INPUT VOLTAGE	MODULE POSITIONS	CONTACT CONFIGURATION PER POSITION	RELAY ONLY H X W X D	ENCLOSURE MOUNTED H X W X D	COVER MATERIAL	UL* FILE S3403
SSU-MR-199X-13	24VDC	1	DPDT	3.33" (84mm) 2.50" (63mm) 2.18" (55mm)			UOXX2
SSU-MR-199X-14	120VAC						
SSU-MR-199X-13/C	24VDC	1	DPDT		5.35" (136mm) 3.41" (86mm) 3.04" (77mm)	Grey 18ga CRS	UOXX UOXX2 UUKL UUKL2
SSU-MR-199X-14/C	120VAC						
SSU-MR-199X-13/C	24VDC	1	DPDT		5.35" (136mm) 3.41" (86mm) 3.04" (77mm)	Red 18ga CRS	UOXX UOXX2 UUKL UUKL2
SSU-MR-199X-14/C	120VAC						

POWER REQUIREMENTS: **MR-199X-13** 24VDC @ 85mA, Minimum pull-in voltage: 75% of nominal voltage @ 25°C  
**MR-199X-14** 120VAC @ 85mA, Minimum pull-in voltage: 85% of nominal voltage @ 25°C

COIL DATA: Nominal DC coils (-13) 2.0 Watts @ 25°C  
 AC coils (-14) 9.8VA @ 25°C  
 Max DC coils (-13) 8.0 Watts @ 25°C

COMPONENTS: UL Recognized as component; UL Listed when installed in enclosure (/C versions)

POLARIZED: No

CONTACT RATINGS: 30A @ 240VAC; 20A @ 277VAC; 2HP @ 240VAC / 1.5HP @ 120VAC

CONTACT CONSTRUCTION: Dry form "C" DPDT

ENVIRONMENTAL: 32°F to 120°F (0°C to 49°C) @ 85% RH (@ 32°F), Non-condensing, Non-freezing

WIRING: #6 to #14 AWG terminals

/C VERSIONS: Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom

\*UOXX = Control Unit Accessories, System; 2 = Component

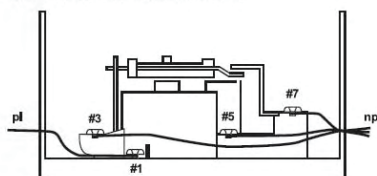
UUKL = Smoke Control System Equipment

UUKL2 = Control System Equipment, Smoke

### POWER LIMITED WIRING

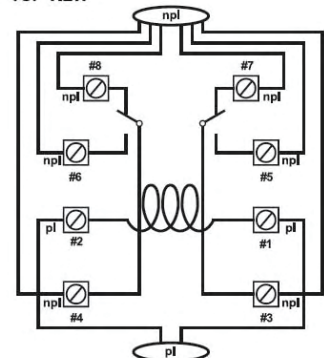
**MR-199X-13**  
**MR-199X-13/C**  
**MR-199X-13/C/R**  
 COIL POWER: 24VDC

SIDE VIEW - OTHER SIDE IDENTICAL



\*pl - POWER LIMITED  
 \*npl - NON-POWER LIMITED

TOP VIEW



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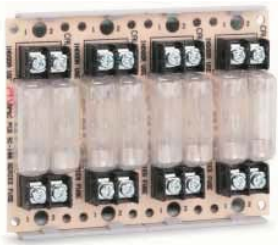
**CAUTION: MINIMUM 1/4" SEGREGATION BETWEEN POWER LIMITED AND NON-POWER LIMITED WIRING**  
**CAUTION: DE-ENERGIZE POWER BEFORE SERVICE**  
**CAUTION: NON-ENCLOSED VERSIONS MUST BE MOUNTED IN THE APPLICATION ENCLOSURE**

**NO EXCUSES!**



# SC1

## SC-100 Series Fuse Board Module



The SC-100 Series Fuse Modules provide a safe and convenient way to protect control and load circuits from over-current conditions. The SC-100 series is properly configured for maximum rated limit of (10A @ 250VAC). The SC-100 Series comes complete with 10A @ 250VAC fuses pre-installed with a protective cover on the fuse.

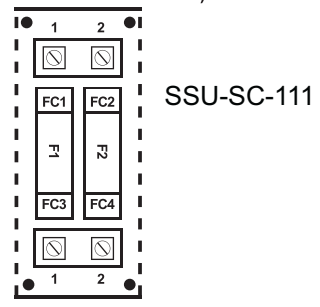
Modules may be 'snapped apart' from a standard 4 module assembly and used independently. SC-100 Series modules provide two independent circuits per module position. By jumpering the individual fused circuits together on the power input side, these modules make an excellent power distribution solution for a centralized power source.

### Standard Features:

- Provides two independent fuse circuits (per module)
- Circuits rated to a maximum of 10A @ 250VAC
- Protective fuse covers provided
- Simple wire jumpering on feed side allows use as a dual circuit power distribution module
- Compact PCB size allows for high density integration
- Provided fuse clips accept standard .25" X 1.25" buss type fuse(AG Series) (max. 10A @ 250VAC)
- Un-loaded fuse clips allow for custom application fusing of independent circuits- VAC and VDC at various currents up to 10A @ 250VAC max. (SC-110 Series)
- "/T" versions come complete with track and track mounting hardware which facilitates installation in standard cabinets
- "/C" versions mounted in dust resistant enclosures
- "/C/R" versions, enclosure mounted with red cover for NYC and other uses

### WIRING (TYPICAL FOR ONE MODULE POSITION)

10A @ 250VAC / VDC  
(MAXIMUM PER FUSE CIRCUIT)



**CAUTION:** DO NOT EXCEED FUSE RATINGS  
**CAUTION:** DE-ENERGIZE POWER BEFORE SERVICE  
**NOTE:** SC-100 SERIES FUSES INSTALLED ARE TO BE UL LISTED OR UL RECOGNIZED

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 406 Lincoln Street  
 Marlboro, MA 01752-2195  
 www.1sae.com  
**800.486.1723**—voice  
 508.485.0966  
 508.485.4740—fax

# Specifications

/T = Track Mounted  
 /C = Metal Enclosure  
 /R = Red Finish

SAE PN# WITH 10A FUSES LOADED	MODULE POSITIONS	TOTAL FUZE CIRCUITS	TRACK MOUNTED H X W X D	ENCLOSURE MOUNTED H X W X D	COVER MATERIAL
<b>SSU-SC-111/T</b>	1	2	3.40" (86mm) 2.00" (51mm) 1.15" (30mm)	5.13" (131mm) 3.13" (80mm) 2.50" (64mm)	Grey ABS 94V-O Plastic  Red ABS 94V-O Plastic
<b>SSU-SC-111/C</b>					
<b>SSU-SC-111/C/R</b>					
<b>SSU-SC-112/T</b>	2	4	3.40" (86mm) 2.13" (54mm) 1.15" (30mm)	5.13" (131mm) 3.13" (80mm) 2.50" (64mm)	Grey ABS 94V-O Plastic  Red ABS 94V-O Plastic
<b>SSU-SC-112/C</b>					
<b>SSU-SC-112/C/R</b>					
<b>SSU-SC-114/T</b>	4	8	3.40" (86mm) 4.25" (108mm) 1.15" (30mm)	5.13" (131mm) 9.50" (242mm) 2.50" (64mm)	Plated 18ga CRS  Red 18ga CRS
<b>SSU-SC-114/C</b>					
<b>SSU-SC-114/C/R</b>					
<b>SSU-SC-118/T</b>	8	16	3.40" (86mm) 8.50" (215mm) 1.15" (30mm)	5.13" (131mm) 9.50" (242mm) 2.50" (64mm)	Plated 18ga CRS  Red 18ga CRS
<b>SSU-SC-118/C</b>					
<b>SSU-SC-118/C/R</b>					

POWER CAPACITY: Per fuse circuit: 0 to 250VAC/VDC @ 0 to 10A max.

FUSE RATING: SC-110 Series: Factory installed fuses with a maximum rated limit of 10A @ 250VAC/VDC

FUSE TYPE: .25" X 1.25" buss type-3AG

FUSE SIZING: SC-100 versions only: refer to NEC (National Electric Code) for guidelines on sizing fuses to match application

AMBIENT TEMPERATURE: 32°F to 120°F (0°C to 49°C) @ 93% RH, NON-condensing

WIRING: #12 to #22 AWG terminals

"/R" VERSIONS: Red Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom

"/T" VERSIONS: 3.5" wide, low profile plastic snap track provided with mounting screws

"/C" VERSIONS: Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom

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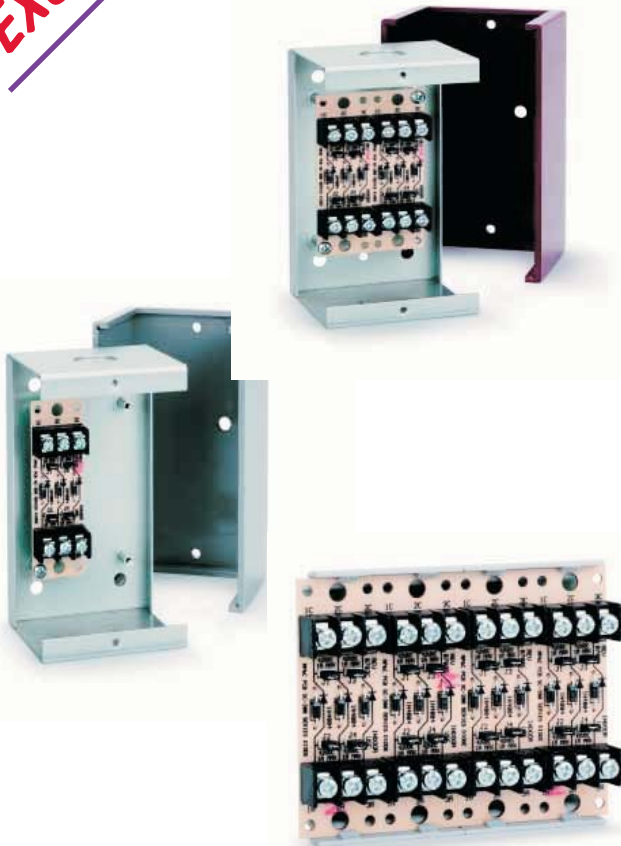
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**NO EXCUSES!**



# SC2

## SC-200 Series Diode Matrix Module



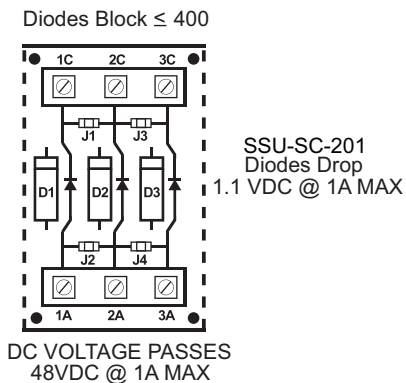
The SC-200 Series Triple Diode Matrix Modules provide a convenient way to insert diode based isolation and logic functionality to low voltage DC control circuitry. The SC-200 Series is equipped with three individual 1A diodes. The module also incorporates 4 re-configurable jumpers which allow for an individual common cathode and/or common anode matrix format. By jumpering from module to module an endless size and format matrix can be application configured.

For isolation of a single circuit control input, polarization of control circuits, or custom application logic matrix construction, the SC-200 provides an easy field configurable diode matrix solution.

### Standard Features:

- Provides three diode circuits
- Diode circuits can be jumper configured for independent, common anode, common cathode, and/or combinations
- Plug and header jumpers allow for easy future re-configuration
- Diodes are 1A (3W) rated for low voltage DC control circuits ( up to 48 VDC)
- Compact PCB size allows for high density integration
- "/T" versions come complete with track and track mounting hardware which facilitates installation in standard cabinets
- "/T" version track is a DIN/"A" rail mounted clip ready both DIN and A series rail
- "/C" versions mounted in dust resistant enclosures
- "/C/R" versions, enclosure mounted with red cover for NYC and other uses

### WIRING (TYPICAL FOR ONE MODULE POSITION)



**CAUTION: DE-ENERGIZE POWER BEFORE SERVICE**

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# Specifications

/T = Track Mounted  
/C = Metal Enclosure  
/R = Red Finish

SAE PN#	MODULE POSITIONS	TOTAL DIODE CIRCUITS	TRACK MOUNTED H X W X D	ENCLOSURE MOUNTED H X W X D	COVER MATERIAL
SSU-SC-201/T	1	2	3.40" (86mm) 2.00" (51mm) 1.10" (28mm)	5.13" (131mm) 3.13" (80mm) 2.50" (64mm)	
SSU-SC-201/C			Grey ABS 94V-O Plastic		
SSU-SC-201/C/R			Red ABS 94V-O Plastic		
SSU-SC-202/T	2	4	3.40" (86mm) 2.13" (54mm) 1.10" (28mm)	5.13" (131mm) 3.13" (80mm) 2.50" (64mm)	
SSU-SC-202/C			Grey ABS 94V-O Plastic		
SSU-SC-202/C/R			Red ABS 94V-O Plastic		
SSU-SC-204/T	4	8	3.40" (86mm) 4.25" (108mm) 1.10" (28mm)	5.13" (131mm) 9.50" (242mm) 2.50" (64mm)	
SSU-SC-204/C			Plated 18ga CRS		
SSU-SC-204/C/R			Red 18ga CRS		
SSU-SC-208/T	8	16	3.40" (86mm) 8.50" (215mm) 1.10" (28mm)	5.13" (131mm) 9.50" (242mm) 2.50" (64mm)	
SSU-SC-208/C			Plated 18ga CRS		
SSU-SC-208/C/R			Red 18ga CRS		

FORWARD POWER CAPACITY:	Per diode circuit: 0 to 48VDC @ 0 to 1A max. (3W max.)
FORWARD VOLTAGE DROP:	Per diode circuit: 1.1VDC @ 1A max.
PEAK INVERSE BLOCKING VOLTAGE:	Per diode circuit: 400VDC
DIODE TYPE:	1N4004, DO-41 package
AMBIENT TEMPERATURE:	32°F to 120°F (0°C to 49°C) @ 93% RH, NON-condensing
WIRING:	#12 to #22 AWG terminals
"/R" VERSIONS:	Red Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom
"/T" VERSIONS:	3.5" wide, low profile plastic snap track provided with mounting screws
"/C" VERSIONS:	Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom

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# SC3



**SSU-SC-314/C**



**SSU-SC-311/C/R**

## SC-310 Series Timing Relay Module

The SC-310 Series Timing Relay modules provide convenient, programmable timing control functionality for a large range of applications. The module may be easily field configured (and re-configured) on demand for control input voltage type, timer delay modes, time measurement units and timing increments.

The SC-310 incorporates an extremely accurate microprocessor-based digital timing circuit for repeatable reliability and long life. In addition, each module includes a dual color LED, which provides visual status of control input voltage, timer circuitry activation and relay contact state. Automatic timer reset is accomplished by simply removing and/or momentarily interrupting the control input voltage. Timing relays may be used in cascaded and paralleled configurations (and/or matrixes of both) for nearly endless custom application functionality. The SC-310 Series Timing Relay is suitable for Fire Alarm, Security, Access Control, CCTV, HVAC, Industrial Process Control, Energy Management, Lighting Control and general purpose applications.

### Standard Features:

- Control input voltage choices of 12 or 24 VAC/VDC
- DC type control inputs are polarized for use in supervised circuits
- Timing mode choices of "Delay On" (delay relay on operation) or "Delay Off" (automatic relay shut down)
- Time units of measure selection for seconds or minutes
- Timing increment choices of 15, 30, 45 or 60 seconds; or 2, 5, 10 or 15 minutes
- Accurate microprocessor digital timing to 1/1,000,000th of a second
- All programming choices are easily field configured or re-configured without special tools
- Dual color LED status indicator yields "No-Tools" diagnostics; green for timer active and red for relay energized
- On board 5A dry form "C" (SPDT) contact for direct load switching and reverse logic functionality
- "/C" versions mounted in sturdy enclosures with LED viewing port(s)
- "/C/R" versions with red covers for NYC and other uses
- "/T" versions come complete with track and mounting hardware - track is pre-configured for an optional DIN/"A" series rail mounting clip (TK-CL)
- Comprehensive selection of Listings and Approvals

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# WIRING (TYPICAL FOR ONE MODULE POSITION)

**NOTE:** INPUT POWER SHOULD BE UL LISTED FOR FIRE PROTECTION SIGNALING SYSTEMS WHEN USED IN FIRE ALARM APPLICATIONS.

**NOTE:** DC COIL INPUT IS POLARIZED.

## TIMING RELAY OPERATION

**DELAY ON:** Delays the transfer of a relay's contacts from the normal (non-energized) state until after a present amount of time has elapsed following application of the control input voltage.

**DELAY OFF:** Automatically returns a relay's contacts to the normal (non-energized) state after a preset amount of time has elapsed following application of the control input voltage, even though the control input voltage remains present. Also known as a "cut off" or "shut down" timer.



**SPDT Contact:**  
Resistive: 5A @ 30VDC, 120VAC, 240VAC  
1/8HP @ 250VAC  
Inductive: 1.5A @ 24VAC, 120VAC, 240VAC  
Power: 150W, 1200VA

**Control Input Voltages:**  
12 (9.6-13.2) VAC/VDC @ 60mA  
24 (19.2-26.4) VAC/VDC @ 45mA

## POWER REQUIREMENTS:

	<u>Voltage</u>	<u>Active</u>	<u>Relay On</u>
	12VDC	10.0mA	60.0mA
	12VAC	12.0mA	58.0mA
	24VDC	17.0mA	44.0mA
	24VAC	18.0mA	45.0mA

<b>POLARIZED:</b>	Yes, on DC control inputs
<b>STATUS INDICATOR:</b>	Dual color LED; Green = timer active; Red = relay energized
<b>CONTACT CONSTRUCTION:</b>	Dry Form "C" (SPDT)
<b>CONTACT RATINGS:</b>	Resistive: 5A @ 30VDC, 120VAC, 240VAC; 1/8HP @ 250VAC Inductive: 1.5A @ 24VDC, 120VAC, 240VAC Power: 150W, 1200VA
<b>ENVIRONMENTAL:</b>	32°F to 120°F (0°C to 49°C) @ 93% RH (@32°C), Non-Condensing / Non-Freezing
<b>WIRING:</b>	Solid or Stranded; #12 to #22 AWG terminals
<b>"/T" VERSIONS:</b>	3.5" wide, low profile plastic snap track with mounting screws; optional TK-CL ready
<b>"/C" VERSIONS: Backbox:</b>	18ga CRS, plated with 1/2" conduit knockouts top and bottom

- \*UOXX (UL864) = Control Unit Accessories, System; 2=Component; 7=Certi.ed for Canada
- \*UUKL (UL864) = Smoke Control System Equipment, System; 2=Component
- \*NMTR (UL508) = Miscellaneous Apparatus, System; 2=Component
- \*PAZX (UL916) = Energy Management Equipment, System; 2=Component
- \*UEHX (UL2017) = General Purpose Signaling Devices and Systems, System; 2=Component

## Product Specifications

SAE PN#	MODULE POSITIONS	TRACK MOUNTED H x W x D	ENCLOSURE MOUNTED H x W x D	COVER MATERIAL	UL* FILE S3403
SSU-SC-311/C	1			Grey ABS 94V-0 Plastic	UOXX UUKL PAZX UOXX7 NMTR UEHX
SSU-SC-311/C/R	1		5.13" (131mm) 3.13" (80mm) 2.50" (64mm)	Red ABS 94V-0 Plastic	
SSU-SC-311/T	1	3.50" (89mm) x 2.13" (54mm) x 1.50" (38mm)			UOXX2 NMTR UEHX2 UKL2 AZX2
SSU-SC-314/C	4			Plated 18ga CRS	UOXX UUKL PAZX UOXX7 NMTR UEHX
SSU-SC-314/C/R	4		5.13" (131mm) 9.50" (241mm) 2.50" (64mm)	Red 18ga CRS	
SSU-SC-314/T	4	3.50" (89mm) x 8.50" (215mm) x 1.50" (38mm)			UOXX2 NMTR2 UEHX2 UUKL2 PAZX2

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# SC4



**SSU-SC-414/C**



**SSU-SC-411/C/R**

## SC-410 Series Sequencing Relay Module

The SC-410 Series Sequencing Relay modules provide convenient, programmable timed control functionality for a large range of applications. The module may be easily field configured (and re-configured) on demand for control input voltage type and sequence patterns.

The SC-410 incorporates an extremely accurate microprocessor-based digital sequencing circuit for repeatable reliability and long life. In addition, each module includes a dual color LED, which provides visual status of control input voltage, sequence circuitry activation and relay contact state. Automatic sequence reset is accomplished by simply removing and/or momentarily interrupting the control input voltage. Sequencing relays may be used in cascaded and paralleled configurations (and/or matrixes of both) for nearly endless custom application functionality. The SC-410 Series Sequencing Relay is suitable for Fire Alarm, Security, Access Control, CCTV, HVAC, Industrial Process Control, Energy Management, Lighting Control and general purpose applications.

### Standard Features:

- Control input voltage choices of 12 or 24 VAC/VDC
- DC type control inputs are polarized for use in supervised circuits
- Sequencing mode choices of :
  - *One Shot*
  - *Temporal* (ANSI Temporal Code 3)
  - *Duty Cycle* (including 1, 5 and 10 minute "on" time choices)
  - *March Time Beat* (including 30, 60 and 120 beats/minute choices)
- Accurate microprocessor digital timing to 1/1,000,000th of a second
- All programming choices are easily field configured or re-configured without special tools
- Dual color LED status indicator yields "No-Tools" diagnostics; green for sequencing circuitry active and red for relay energized
- On board 5A dry form "C" (SPDT) contact for direct load switching and reverse logic functionality
- "/C" versions mounted in sturdy enclosures with LED viewing port(s)
- "/C/R" versions with red covers for NYC and other uses
- "/T" versions come complete with track and mounting hardware - track is pre-configured for an optional DIN/"A" series rail mounting clip (TK-CL)
- Comprehensive selection of Listings and Approvals

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**WIRING  
(TYPICAL FOR ONE MODULE POSITION)**

**NOTE:** INPUT POWER SHOULD BE UL LISTED FOR FIRE PROTECTION SIGNALING SYSTEMS WHEN USED IN FIRE ALARM APPLICATIONS.

**NOTE:** DC COIL INPUT IS POLARIZED.

**SEQUENCING OPERATION**

**ONE SHOT:** Yields a relay contact transfer for one second after a sixty second delay upon control voltage input, provided the control input voltage is still present after the sixty second delay.

**TEMPORAL:** Yields a relay contact transfer at an ANSI Temporal (Code 3) rate as long as the control voltage is present.

**DUTY CYCLE:** Yields a repeated transfer of relay contacts on and off (for equal intervals) at a preset interval, as long as the control voltage is present. Options include one, five and ten minute on/off intervals.

**MARCH TIME BEAT:** Yields a repeated transfer of relay contacts on and off (for equal intervals) at a preset beats-per-minute (BPM) frequency, as long as the control voltage is present. Options include the following:

March Time Slow: 30BPM (0.5Hz); relay contacts are on for 1 second, off for 1 second

March Time Normal: 60BPM (1Hz); relay contacts are on for 0.5 second, off for 0.5 second

March Time Fast: 120BPM (2Hz); relay contacts are on for 0.25 second, off for 0.25second



**SPDT Contact:**  
Resistive: 5A @ 30VDC, 120VAC, 240VAC  
1/8HP @ 250VAC  
Inductive: 1.5A @ 24VAC, 120VAC, 240VAC  
Power: 150W, 1200VA

**Control Input Voltages:**  
12 (9.6-13.2) VAC/VDC @ 60mA  
24 (19.2-26.4) VAC/VDC @ 45mA

**POWER REQUIREMENTS:**

	<u>Voltage</u>	<u>Active</u>	<u>Relay On</u>
	12VDC	10.0mA	60.0mA
	12VAC	13.0-26.0mA	58.0mA(*Depending on program selection)
	24VDC	16.0mA	47.0mA
	24VAC	20.0mA	44.0mA

<b>POLARIZED:</b>	Yes, on DC control inputs
<b>STATUS INDICATOR:</b>	Dual color LED; Green = sequencing circuit; Red = relay energized
<b>CONTACT CONSTRUCTION:</b>	Dry Form "C" (SPDT)
<b>CONTACT RATINGS:</b>	Resistive: 5A @ 30VDC, 120VAC, 240VAC; 1/8HP @ 250VAC Inductive: 1.5A @ 24VDC, 120VAC, 240VAC Power: 150W, 1200VA
<b>ENVIRONMENTAL:</b>	32°F to 120°F (0°C to 49°C) @ 93% RH (@32°C), Non-Condensing / Non-Freezing
<b>WIRING:</b>	Solid or Stranded; #12 to #22 AWG terminals
<b>"/T" VERSIONS:</b>	3.5" wide, low profile plastic snap track with mounting screws; optional TK-CL ready
<b>"/C" VERSIONS: Backbox:</b>	18ga CRS, plated with 1/2" conduit knockouts top and bottom

- \*UOXX (UL864) = Control Unit Accessories, System; 2=Component; 7=Certified for Canada
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- \*PAZX (UL916) = Energy Management Equipment, System; 2=Component
- \*UEHX (UL2017) = General Purpose Signaling Devices and Systems, System; 2=Component

**Product Specifications**

SAE PN#	MODULE POSITIONS	TRACK MOUNTED H x W x D	ENCLOSURE MOUNTED H x W x D	COVER MATERIAL	UL* FILE S3403
SSU-SC-411/C	1			Grey ABS 94V-0 Plastic	UOXX UUKL PAZX UOXX7 NMTR UEHX
SSU-SC-411/C/R	1		5.13" (131mm) 3.13" (80mm) 2.50" (64mm)	Red ABS 94V-0 Plastic	
SSU-SC-411/T	1	3.50" (89mm) x 2.13" (54mm) x 1.50" (38mm)			UOXX2 NMTR2 UEHX2 UKL2 AZX2
SSU-SC-414/C	4			Plated 18ga CRS	UOXX UUKL PAZX UOXX7 NMTR UEHX
SSU-SC-414/C/R	4		5.13" (131mm) 9.50" (241mm) 2.50" (64mm)	Red 18ga CRS	
SSU-SC-414/T	4	3.50" (89mm) x 8.50" (215mm) x 1.50" (38mm)			UOXX2 NMTR2 UEHX2 UUKL2 PAZX2

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