

# 75 Series Electromechanical Relay Selection Guide



75 series relays are general purpose relays designed for a wide range of applications, from power to sequence controls in various factory machines and control panels. They are ideal for electrical control panels requiring stable and reliable relays.

## Features

- Octal base design
- Silver Cadmium Oxide, gold flashed contacts
- High open contact dielectric strength (1,500 V rms)
- High reliability and long life
- High vibration and shock resistance
- Flag indicator shows relay status in manual or powered condition
- LED indicator on all models, so you can easily see if relay is working properly without using a voltmeter
- A pushbutton allows manual operation of the relay without the need for power to the coil
- I.D. tag/write label for identifying relays in multi-relay circuits

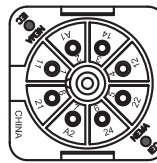
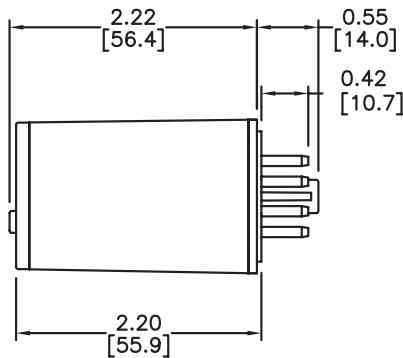
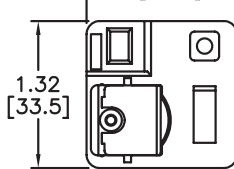
75 Series Relay Selection Guide							
Part Number	Price	Coil Voltage	Configuration	Contact Rating	Dimensions	Relay Socket Part Number	Price
750-2C-12D	\$7.25	12VDC	DPDT	12A	Figure 1	750-2C-SKT	\$4.25
750-2C-12A	\$8.75	12VAC					
750-2C-24D	\$8.25	24VDC					
750-2C-24A	\$8.25	24VAC					
750-2C-120A	\$8.25	120VAC					
750-2C-240A	\$8.50	220VAC					
750-3C-12D	\$8.25	12VDC	3PDT	12A	Figure 2	750-3C-SKT	\$4.75
750-3C-12A	\$10.50	12VAC					
750-3C-24D	\$9.25	24VDC					
750-3C-24A	\$9.50	24VAC					
750-3C-120A	\$9.50	120VAC					
750-3C-240A	\$10.00	240VAC					

Order socket separately.

## Dimensions

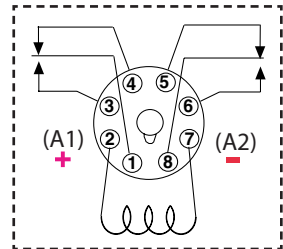
inches [mm]

Figure 1: 750-2C-xxx [34.3]



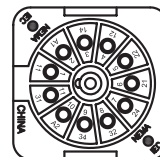
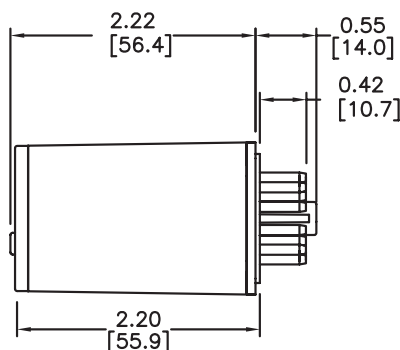
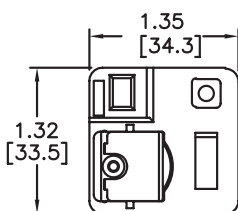
## Wiring

750-2C-xxx wiring diagram

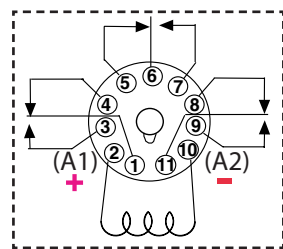


Note: Contacts and coil shown are internal to the relay

Figure 2: 750-3C-xxx



750-3C-xxx wiring diagram



Note: Contacts and coil shown are internal to the relay

# 75 Series Electromechanical Relay Specifications

75 Series Specification Table												
Part Numbers	750-2C-12D	750-2C-12A	750-2C-24D	750-2C-24A	750-2C-120A	750-2C-240A	750-3C-12D	750-3C-12A	750-3C-24D	750-3C-24A	750-3C-120A	750-3C-240A
<b>General Specifications</b>												
<b>Service Life</b>	Mechanical: 5 million operations, Electrical: 100,000 operations @ rated resistive load											
<b>Operating Temperature</b>	-40°C to 55°C (-40°F to 131°F)											
<b>Response Time</b>	20 ms											
<b>Vibration Resistance</b>	3 G's @ 10 to 55 Hz(0.6mm double amplitude)											
<b>Shock Resistance</b>	10 G's											
<b>Weight</b>	89 g (3.1 oz)											
<b>*Agency Approvals and Standards</b>	UL Recognized file E191059, CE, CSA Certified 244610											
<b>Environmental Protection</b>	IEC IP40											
<b>Coil Specifications</b>												
<b>Standard</b>	LED Indicator											
<b>Coil Input Voltage</b>	12VDC	12VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	240VAC 50/60 Hz	12VDC	12VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	240VAC 50/60 Hz
<b>Coil Resistance</b>	120Ω	18Ω	470Ω	72Ω	1.7kΩ	7.2kΩ	120Ω	18Ω	470Ω	72Ω	1.7kΩ	7.2kΩ
<b>Power Consumption</b>	3VA (60Hz) AC, 1.4W DC											
<b>Dropout Voltage (% of rated voltage)</b>	15% AC, 10% DC											
<b>Pull-in Voltage</b>	Max. 85% of nominal voltage or less											
<b>Max. Voltage (Max. continuous voltage)</b>	110% of the rated coil voltage											
<b>Contact Specifications</b>												
<b>Contact Type</b>	DPDT						3PDT					
<b>Contact Material</b>	Silver cadmium oxide, gold flashed											
<b>Minimum Switching Requirement</b>	100mA @ 5VDC											
<b>Contact Rating</b>	Refer to Contact Ratings chart											
<b>Dielectric Strength Between Contacts</b>	1500V rms											

\*Note: UL listed when used with sockets 750-2C-SKT, 750-3C-SKT. Current limited to rating of relay or socket, whichever is less.

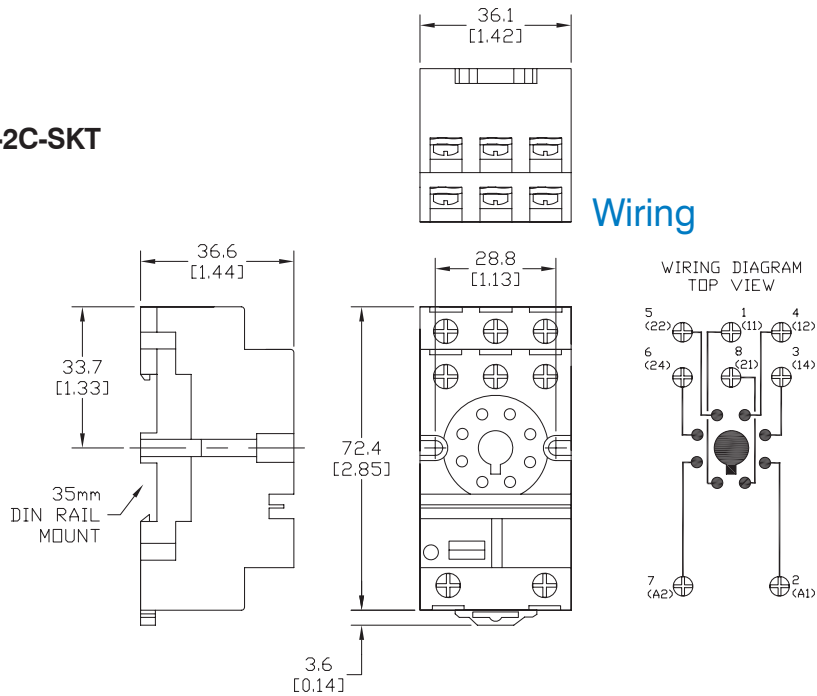
75 Series Contact Ratings (current)				
Voltage	Resistive			Motor Load
	Nominal	UL	CSA	UL
28VDC	12A	12A	12A	---
120VAC	12A	12A	12A	1/3Hp
240VAC	12A	12A	12A	1/2Hp

# 75 Series Socket Dimensions

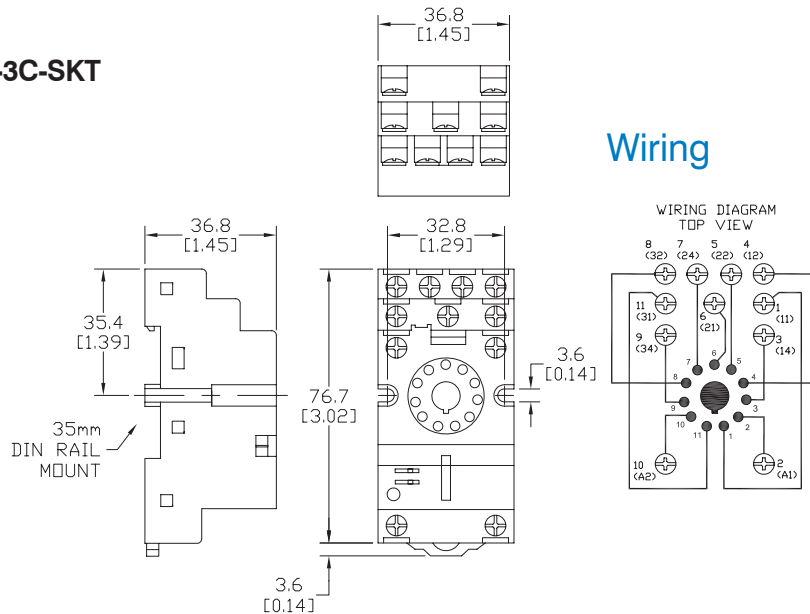
## Dimensions

inches [mm]

**Figure 3: 750-2C-SKT**



**Figure 4: 750-3C-SKT**



### Bus Connector



Accessory		
Part Number	Description	Price
<b>33-796-1</b>	Coil bus connector used to connect multiple relays in parallel. Package includes 5 pairs of bus bars to connect up to 5 relays together.	\$3.25

# Packaged M.O.V.s and Diodes

## Overview

Metal Oxide Varistors (MOV) and Diode circuits are offered as convenient plug-in modules. Plugging a module into the relay socket connects the circuit in parallel with the relay coil. No additional wiring is required.

Modules fit within the maximum dimensions of the relay and socket.

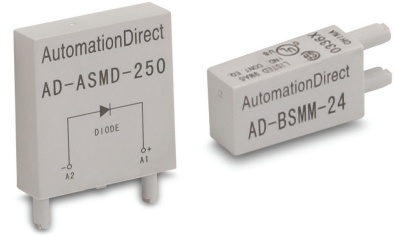
## Features

- MOVs protect by shunting potentially damaging electrical spikes away from the relay coil. Ideal for AC and DC applications.
- Diodes protect external drive circuitry from inductive voltages generated when removing coil voltage. Ideal for DC applications. Polarity sensitive.

## Application

Many PLC systems control one or more inductive load devices. These inductive loads (devices with a coil) generate transient voltages when they are de-energized with a relay contact. When a relay contact is closed it “bounces”, which causes the coil to energize and de-energize until the “bouncing” stops. The transient voltage which is generated is much larger in amplitude than the supply voltage, especially with a DC supply voltage.

When switching a DC-supplied inductive load the full supply voltage is always present when the relay contact opens (or “bounces”). When switching an AC-supplied inductive load, if the voltage is not zero when the relay contact opens, there is energy stored in the inductor that is released when the voltage to the inductor is suddenly removed. This release of energy is what produces transient voltages.



When inductive load devices (motors, motor starters, interposing relays, solenoids, valves, etc.) are controlled with relay contacts, it is recommended that a surge suppression device be connected directly across the coil of the field device. If the inductive device has plug-type connectors, the suppression device can be installed on the terminal block of the relay output.

Metal oxide varistors (MOV) and diodes are devices which provide good surge and transient suppression of AC and DC powered coils.

Protection Device Selection Guide					
Part Number	Price	Description	Nominal Input Voltage	Dimensions & Package	Mating Socket
AD-ASMD-250	\$9.75	Protection diode module for 784 and 75 series relays. Plug-in modules come in package of 5.	6-250VDC	Figure 1	783-3C-SKT 784-4C-SKT-1 750-2C-SKT 750-3C-SKT
AD-ASMM-24	\$8.00	MOV module for 784 and 75 series relays that operate at 24VAC coil voltage. Package includes 5 modules.	24VAC/VDC		
AD-ASMM-120	\$8.00	MOV module for 784 and 75 series relays that operate at 120VAC coil voltage. Package includes 5 modules.	120VAC/VDC		
AD-ASMM-240	\$8.00	MOV module for 784 and 75 series relays that operate at 240VAC coil voltage. Package includes 5 modules.	240VAC/VDC		
AD-BSMD-250	\$8.00	Protection diode module for 782 series relays. Plug-in modules come in package of 5.	6-250VDC	Figure 2	782-2C-SKT
AD-BSMM-24	\$8.00	MOV module for 782 series relays that operate at 24VAC coil voltage. Package includes 5 modules.	24VAC/VDC		
AD-BSMM-120	\$8.00	MOV module for 782 series relays that operate at 120VAC coil voltage. Package includes 5 modules.	120VAC/VDC		
AD-BSMM-240	\$8.00	MOV module for 782 series relays that operate at 240VAC coil voltage. Package includes 5 modules.	240VAC/VDC		

## Accessory dimensions

inches [mm]

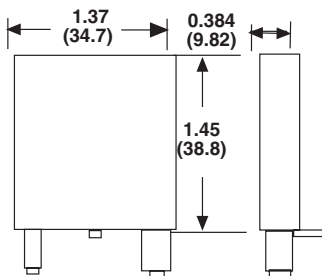


Figure 1

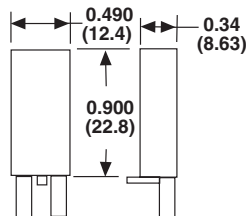


Figure 2

