

75 Amp Screw Terminal Automotive Relay

PC775



FEATURES

- 75 Amp at 14VDC Continuous Carry
- Max Switching Current of 150 Amps
- 12VDC or 24VDC
- Copper Stud Construction for Efficient Heat Dissipation
- Standard Bifurcated Contacts
 - Tungsten contacts connect first, switching the load
 - Oversized Silver Tin Oxide contacts carry the load



CONTACT RATINGS 14VDC at 25°C

Contact Form	1 Form A SPST, N.O. Bifurcated
Maximum Switching Current	Make : 150 A ⁽¹⁾ Break : 75 A
Maximum Continuous Current	75 A @ 25°C 50 A @ 85°C 20 A @ 105°C
Max Switching Voltage	32 VDC
Max Switching Power	1200 W
Minimum Load	1 A @ 12 VDC

⁽¹⁾ With current load applied for a maximum of 1 seconds at a maximum duty cycle of 10%

CONTACT RATINGS 28VDC at 25°C

Contact Form	1 Form A SPST, N.O. Bifurcated
Maximum Switching Current	Make : 75 A ⁽¹⁾ Break : 50 A
Maximum Continuous Current	50 A @ 25°C 30 A @ 85°C 10 A @ 105°C
Max Switching Voltage	32 VDC
Max Switching Power	1200 W
Minimum Load	1 A @ 24 VDC

⁽¹⁾ With current load applied for a maximum of 1 seconds at a maximum duty cycle of 10%

CONTACT DATA

Material	W, AgSnO ₂
Initial Contact Resistance	50 mΩ max @ 0.1 A, 6 VDC
Service Life	Mechanical 1 x 10 ⁶ operations
	Electrical 1 x 10 ⁵ operations

CHARACTERISTICS

Operate Time	7 ms typical
Release Time	5 ms typical
Insulation Resistance	100 MΩ min. at 500 VDC
Dielectric Strength	50 Hz 750 V, between coil and contact 50 Hz 500 V, between contacts
Shock Resistance	147 m/s ² 11 ms

Vibration Resistance	10 - 40 Hz double amplitude 1.5 mm
Terminal Strength	100 N
Power Consumption	2.88 W
Operating Temperature	-40°C to 125°C
Storage Temperature	-40°C to 155°C
Weight	50g

ORDERING INFORMATION

Example	PC775	-1A	-24	C	-R	-X
Model:	PC775					
Contact Form:	1A = 1A SPDT bifurcated					
Coil Voltage:	6 = 6VDC 12 = 12VDC 24 = 24VDC					
Enclosure:	C = Dust Cover, IP54 rated					
Coil Power:	Nil = 2.9 W					
Coil Suppression	Nil = None R = Resistor D = Diode D2 = Double Diode	6V = 180 ohm 12V = 680 ohm 24V = 2700 ohm Diode = 1N4005				
RoHS Compliant	X = RoHS Compliant					

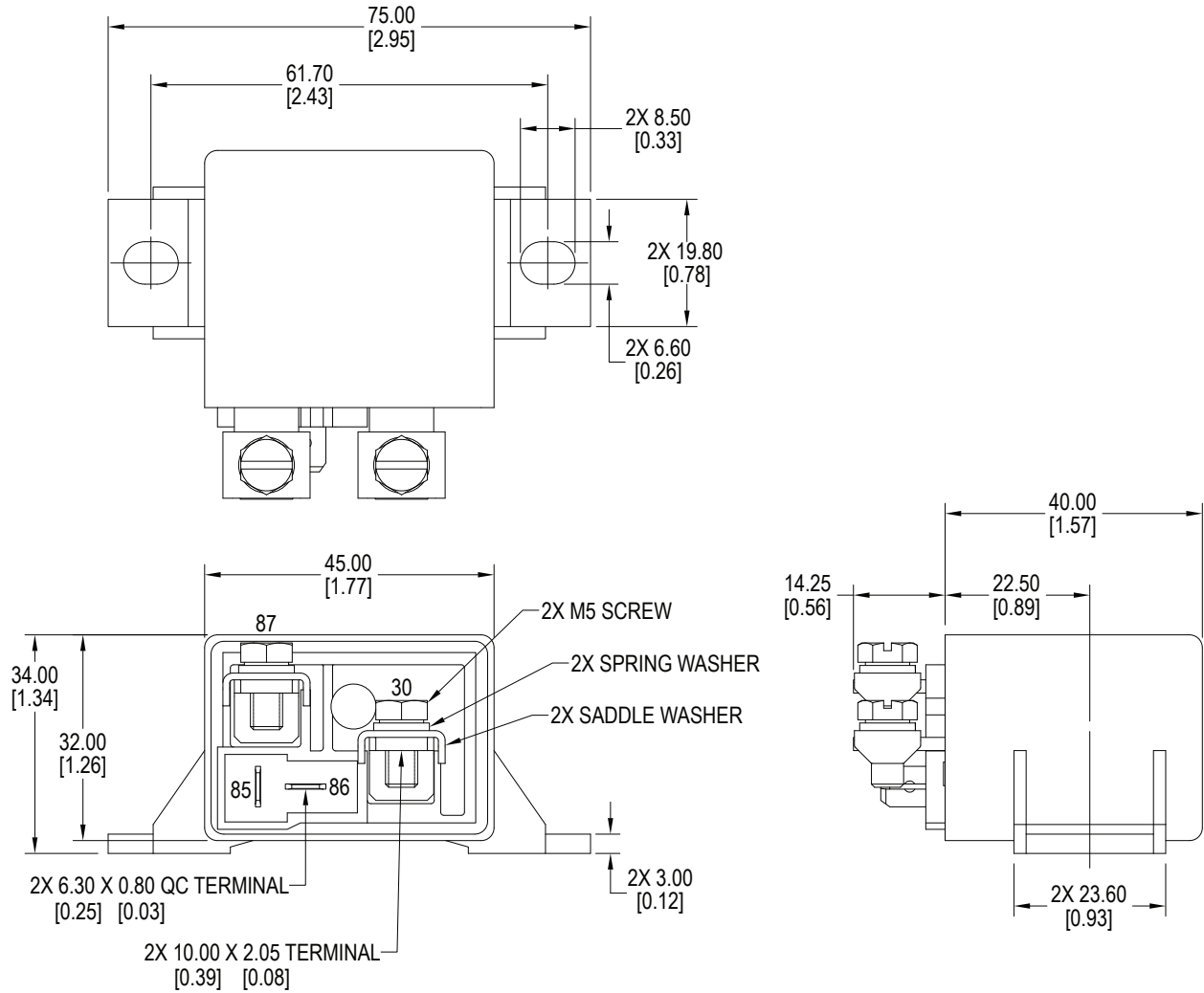
COIL DATA

Coil Voltage		Coil Resistance (Ohms \pm 10%)	Must Operate Voltage Max. (VDC)	Must Release Voltage Max. (VDC)	Coil Power (W)
Rated	Maximum				
6	7.8	12.5	3.9	1.2	2.9
12	15.6	50	7.8	2.4	
24	31.2	200	15.6	4.8	

PRECAUTIONS

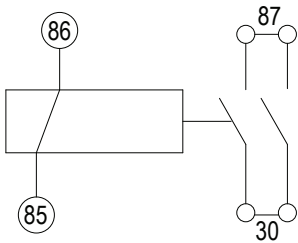
The use of any coil voltage less than the rated voltage will compromise the operation of the relays. Must Operate Voltage is listed for test purposes only and is not to be used as design criteria. Pickup and release voltages are for test purposes only and are not to be used as design criteria.

DIMENSIONS Inches (mm)

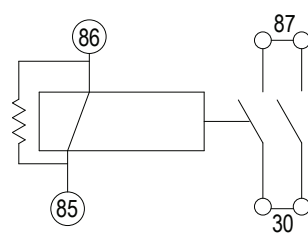


WIRING DIAGRAMS

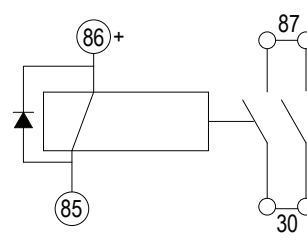
None



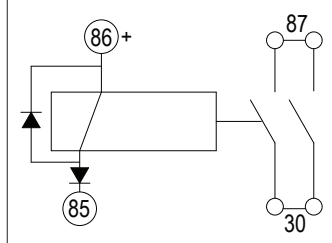
Resistor



Single Diode



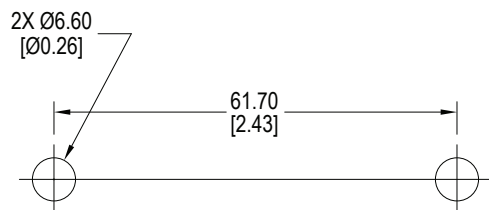
Double Diode



PRECAUTIONS

When a single or double diode coil suppression is selected, the positive voltage must be applied to terminal 86.

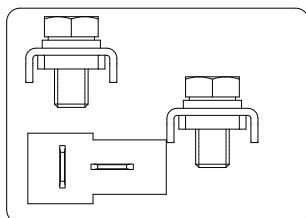
MOUNTING LAYOUT



SCREWS

2X M5 X 10mm

Maximum torque on each M5 screw $\leq 2.8\text{Nm}$.



COIL TERMINAL CONNECTORS

- Delphi 2973781 Metri-Pack 2-Way Female Connector, Black, 56 Series
- TE 180907 .250" Receptical, Nylon

BIFURCATED CONTACTS

- The goal is to keep the primary over-sized AgSnO₂ contacts clean and free from pitting, which can result from the high currents generated by inductive loads, both during closing and opening of the contacts.
- Tungsten contacts have an extremely low vapor pressure, even at high temperatures as found during the arcing conditions that exist when relay contacts open and close. Specifically, tungsten has excellent arc resistance, good electrical conductivity, low thermal expansion and superior thermal conductivity while being a hard metal.
- The bifurcated (dual) contacts are designed such that the tungsten contacts close first and open last a split second ahead of the silver tin oxide contact, absorbing the high inrush and surge currents.
- The over-sized silver tin oxide contacts, which are superior in terms of electrical conductivity and have lower contact resistance, carry the non-arcing load, generating less steady state heat.

