

## DOOR RELAY WIRING AND SPECIFICATIONS



ACL 740 door opening option:

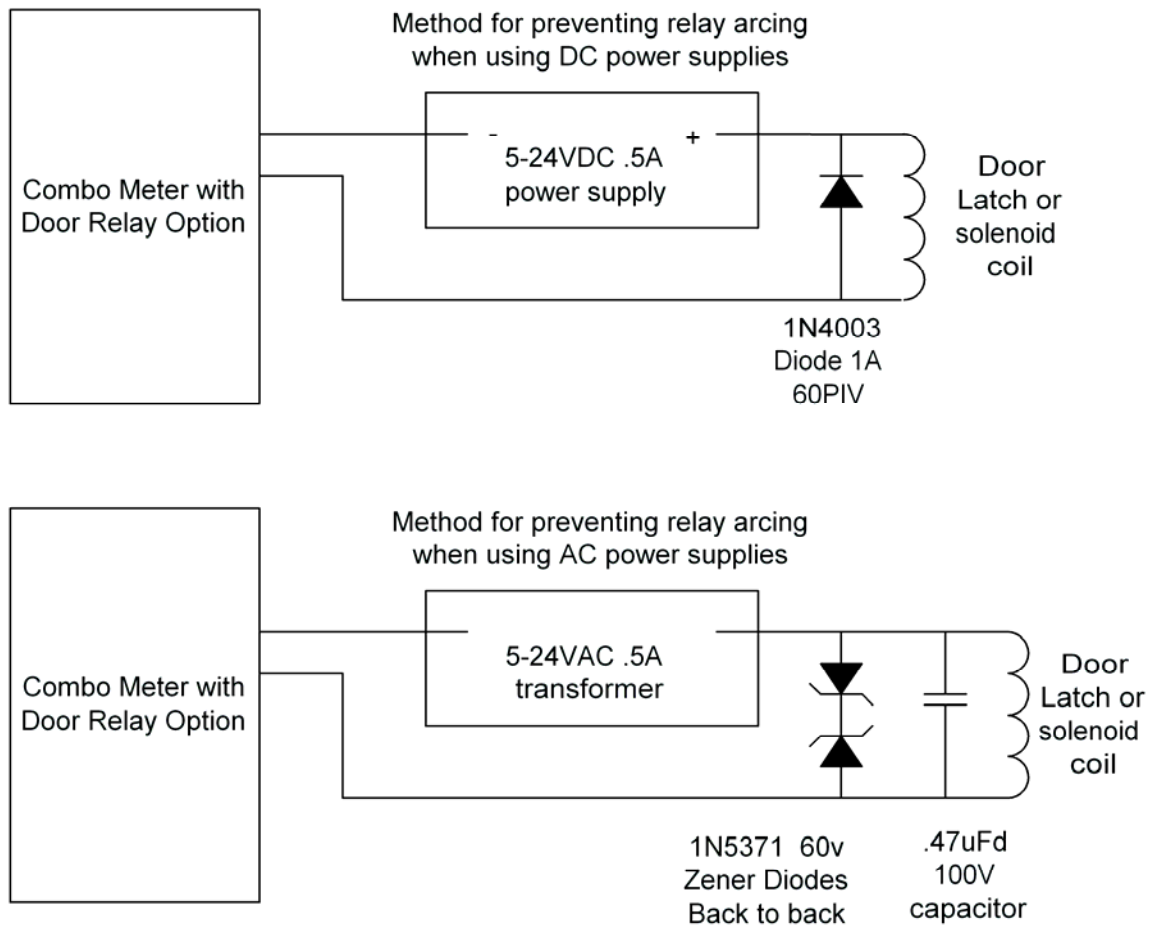
Both wires connect to customer's door relay.

The wires can be disconnected from the meter via bayonet connection.

Units that are ordered with an ACL 740 door-opening relay option will be equipped with two pigtail wires found on the right side of the unit. There are two male bayonet type plugs attached to these wires. There are two unwired female jacks attached to these male plugs, which can be attached to the open/close schematics on the door/bell circuit board (connected to the door mechanism). The relay in the ACL 750 is a single throw, low voltage single pole normally open relay. When the user passes a test, the relay is activated and remains closed for about 3 – 5 seconds after the user releases the test button. Units manufactured after 1/30/2006 have an activation time adjust trimpot in them which can be used to set the door open time.

The relay is rated .5 amps at 24 volts (DC). Please refer to the schematics of a footplate door opening mechanism. Substitute the two wire door wires for the two-wire connection of the door foot-switch or hand-switch.

The door in a facility has a second relay, usually of a higher voltage of 110 or 220VAC that allows voltage into the door electrical motor that opens and closes a door. This relay can be activated by a press button, a proximity sensor, or a floor switch as in a super market. When a person passes the combo meter strap tests, the low voltage relay in the combo meter is closed thus allowing current to pass into the higher voltage door relay and activate the motor in the door. When the low voltage relay in the meter opens the reverse happens – the high voltage relay in the door is opened thus stopping the door current, and the door closes.



If the door relay contact is in series with a high current inductive load door latch such as a large solenoid or electromagnet, then arcing can develop across the relay contact when the contact breaks the circuit, and shorten the relay life.

To prevent relay contact arcing if the contact current is DC, then a diode (such as a 1N4003 or 1N4004) across the coil leads, with cathode (band side) on the positive lead, may be wired across the contacts. The diode should have a PIV (peak inverse voltage) rating of at least twice the DC voltage.

To prevent relay contact arcing if the contact current is AC, then two zener diodes back to back (band to band) may be wired across the coil leads. The zener voltage should be at least twice the AC voltage. If running 24VAC (30VAC open load?), use two 60 volt 1N5371B zeners.