



491 series

AC Coil 20 Amp PC Board or Panel Mount Relay

File E38802

File LR75282

Users should thoroughly review the technical data before selecting a product part number. It is recommended that user also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application.

Features

- Up to 20 amp switching in SPST-NO and 13.3 amp in SPDT arrangements.
- Washable, plastic sealed case available.
- Meets UL 873 and UL 508 spacing – 1/8" through air, 1/4" over surface.
- Load connections made via 1/4" Q. C. terminals.
- Choice of UL Class B or F insulation system.
- Well suited for various industrial, commercial and residential applications.

Contact Ratings @ 23°C

Arrangements: 1 Form A (SPST-NO), 1 Form B (SPST-NC) and 1 Form C (SPDT).

Material: Silver-cadmium oxide.

Mechanical Life: 10 million operations, at 300 ops/minute.

Electrical Life: 100,000 operations at factory rated load, 6 ops/minute.

Minimum Contact Load: 1A @ 5VDC or 12VAC.

Initial Contact Resistance: 50 milliohms @ 100mA, 6VDC).

Contact Ratings @ 23°C with relay properly vented. Remove tape from vent hole after soldering and cleaning.

Factory Contact Ratings

Voltage	1 Form A	1 Form B	1 Form C	
			(NO)	(NC)
240VAC	20A	10A	13.3A	6.7A
28VDC	20A	6.7A	13.3A	6.7A

UL/CSA Contact Ratings

Voltage	Load Type	1 Form A	1 Form B	1 Form C	
				(NO)	(NC)
240VAC	General Purpose	30A	15A	20A	10A
240VAC	Resistive *	30A	15A	20A	10A
240VAC	Motor	2 HP	1/2 HP	2 HP	1/2 HP
120VAC	Motor	1 HP	1/4 HP	1 HP	1/4 HP
240VAC	LRA/FLA **	80/30	30/10	50/20	20/7
120VAC	LRA/FLA	98/22	—	—	—
120VAC	Tungsten *	TV5	TV3	TV5	TV3
277VAC	Ballast	10A	3A	10A	3A
28VDC	Resistive	20A	10A	20A	10A

Initial Dielectric Strength

Between Open Contacts: 1,500V rms, 1 minute.

Between Contacts and Coil: 1,500V rms, 1 minute.

Initial Insulation Resistance

Between Mutually Insulated Elements: 10⁹ ohms, min., @ 500VDC, 23°C and 50% R.H.

Coil Data @ 23°C

Voltage: 12 to 220VAC.

Nominal Coil Power: 2.0VA, (approx.).

Maximum Coil Temperature⁽⁴⁾: **Class B:** 130°C.
Class F: 155°C.

Duty Cycle: Continuous.

Coil Data

Nominal Voltage	DC Resistance ± 10% (Ohms)	Must Operate Voltage (Max.)	Must Release Voltage (Min.)
12	26	10.2	1.8
24	106	20.4	3.6
110	2,750	93.5	16
220	11,000	187	33

Operate Data @ 25°C

Must Operate Voltage: 85% of nominal voltage or less.

Must Release Voltage: 15% of nominal voltage or more.

Operate Time (Including Bounce)§: 20 ms, max.

Release Time (Including Bounce)§: 15 ms, max.

§ At or From Nominal Coil Voltage

Environmental Data

Storage Temperature Range: -40°C to 130°C.

Operating Temperature Range⁽¹⁾: -55°C to +85°C.

Vibration, Operational: 0.065" (1.5mm) max. excursions from 10-55 Hz.

Shock, Operational: 10g for 11 ms.

Shock, Mechanical: 100g.

Mechanical Data

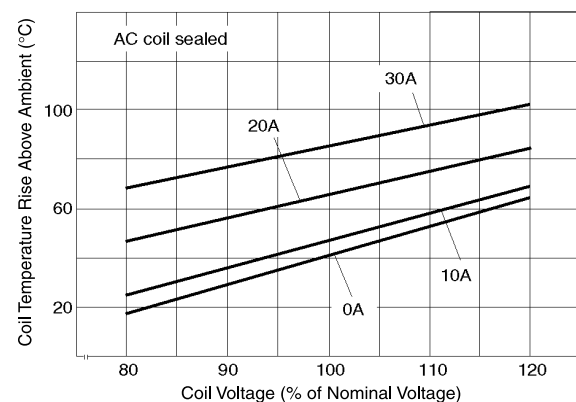
Termination: Printed circuit and quick connect terminals ⁽⁴⁾.

Enclosures (all have 94V-0 flammability rating):

Open, unsealed dust cover or sealed case.

Weight: 1.2 oz. (33g) approx.

Coil Temperature Rise



Notes

- (1) Operating ambient temperature must consider must operate voltage change over temperature, contact temperature rise, coil temperature rise (If coil is not allowed to cool) and maximum coil temperature.
- (2) Sealed relay terminals should not be bent.
- (3) Remove tape after cleaning process for optimum life of sealed relays.
- (4) Class B coils are UL systems approved for maximum coil temperature of 130°C, by change of resistance method. Class F coils are UL systems approved for maximum coil temperature of 155°C, by change of resistance method.

Ordering Information

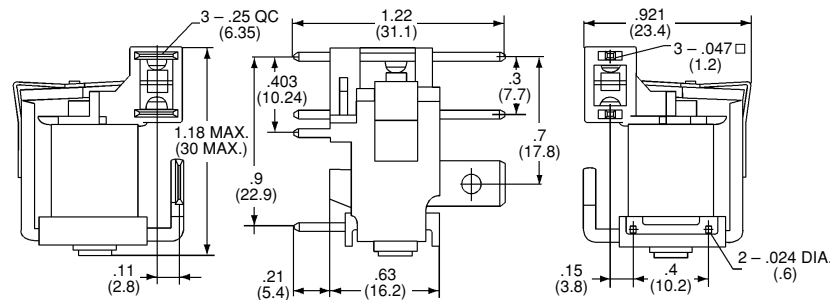
Typical Part Number ►					
1. Basic Series: 491 = AC coil, printed circuit board/panel power relay.					
2. Enclosure & Terminals: 1 = Dust Cover, PC terminal. 2 = Sealed Case, PC terminal. 6 = Sealed Case, Panel Mount, .110 Coil Terminal. 7 = Sealed Case, Panel Mount, .187 Coil Terminal. 8 = Open Unit					
3. Contact Arrangement: 1 = 1 Form C (SPDT) 4 = 1 Form A (SPST-NO) 5 = 1 Form B (SPST-NC)					
4. Coil Input: P = 12VAC Q = 24VAC T = 120VAC U = 220VAC					
5. Contacts: 2 = Silver-cadmium oxide					
6. Coil Insulation and Special Features: 00 = Standard, UL Class B Coil Insulation System F0 = Special, UL Class F Coil Insulation System M0 = Magnetic Blowout (with enclosure 1 or 2 only, not UL or CSA) A1 - E9 = Special - Customer Specific Features					

Our authorized distributors are more likely to maintain the following items in stock for immediate delivery.

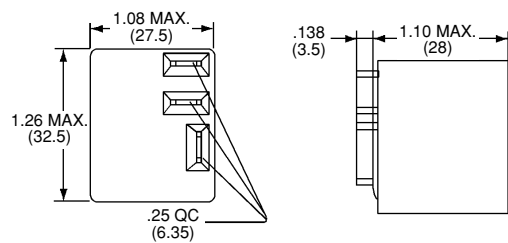
491-21T200 491-24T200 491-61T200 491-64T200
491-21Q200 491-24Q200 491-61Q200 491-64Q200

Outline Dimensions

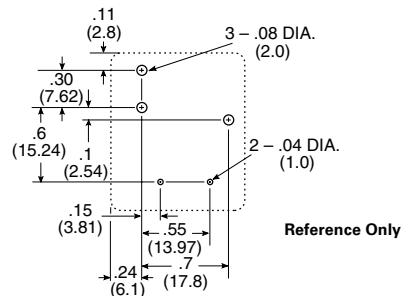
Open Style



Sealed Case for PC Board Mounting

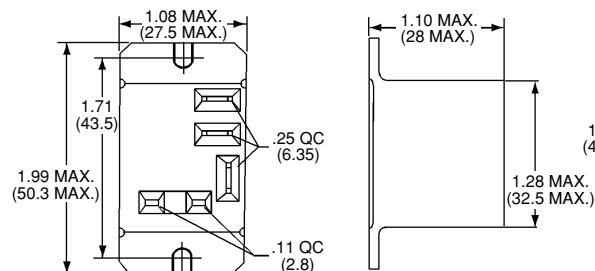


PC Board Layout (Bottom View)

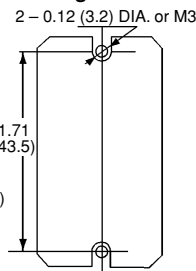


Reference Only

Sealed Case for Panel Mounting

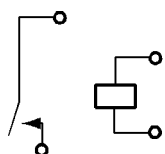


Mounting Hole Pattern

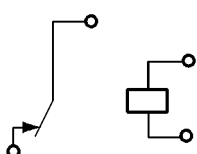


Wiring Diagrams (Bottom Views)

1 Form A



1 Form B



1 Form C

