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: 10^9 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

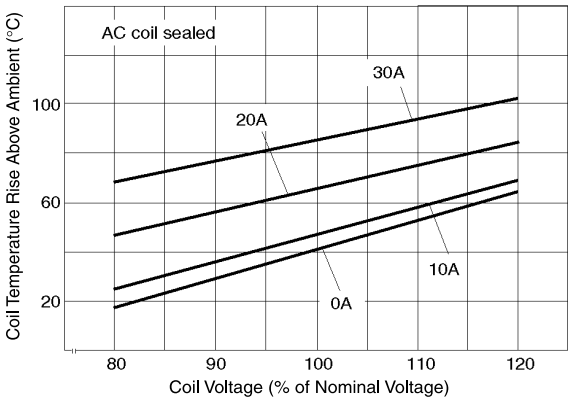
Environmental Data

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 ▶	491	-1	1	G	2	00

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 B (SPST-NC) 5 = 1 Form A (SPST-NO)

4. Coil Input:
P = 12VAC Q = 24VAC T = 120VAC U = 220VAC

5. Contacts:
2 = Silver-cadmium oxide

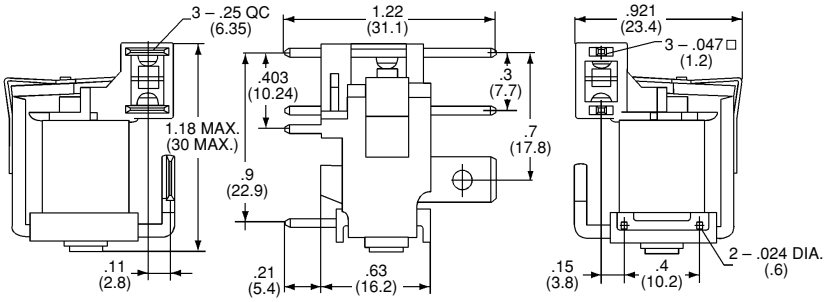
6. Coil Insulation and Special Features:
00 = Standard, UL Class B Coil Insulation System
F0 = Special, UL Class F Coil Insulation System
M0 = Magnetic Blowout (with enclosure 1 or 2 only, not UL or CSA)
A1 - E9 = Special - Customer Specific Features

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

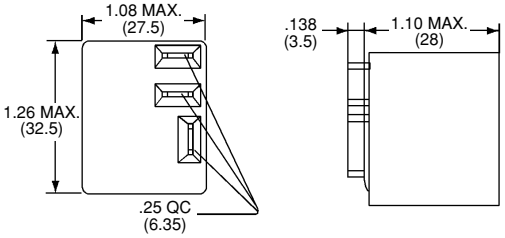
491-21T200	491-24T200	491-61T200	491-64T200
491-21Q200	491-24Q200	491-61Q200	491-64Q200

Outline Dimensions

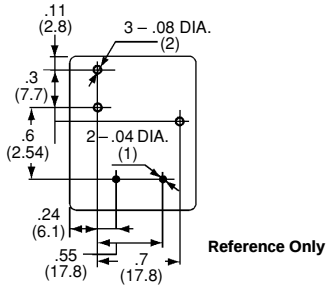
Open Style



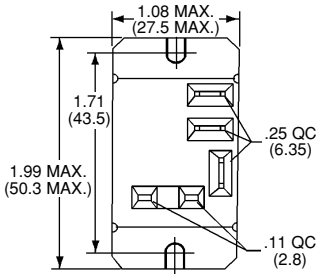
Sealed Case for PC Board Mounting



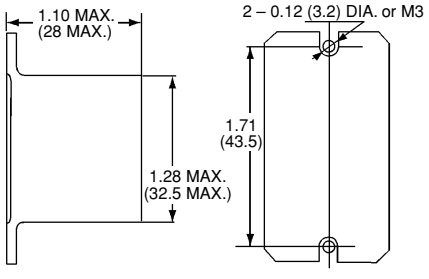
PC Board Layout (Bottom View)



Sealed Case for Panel Mounting

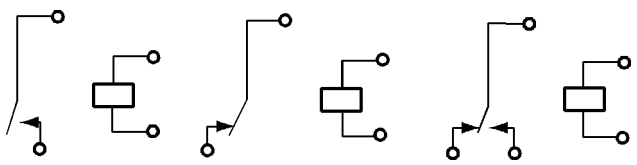


Mounting Hole Pattern



Wiring Diagrams (Bottom Views)

1 Form A **1 Form B** **1 Form C**



Dimensions are shown for reference purposes only.

Dimensions are in inches over (millimeters) unless otherwise specified.

Specifications and availability subject to change.

www.tycoelectronics.com
Technical support:
Refer to inside back cover.