



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

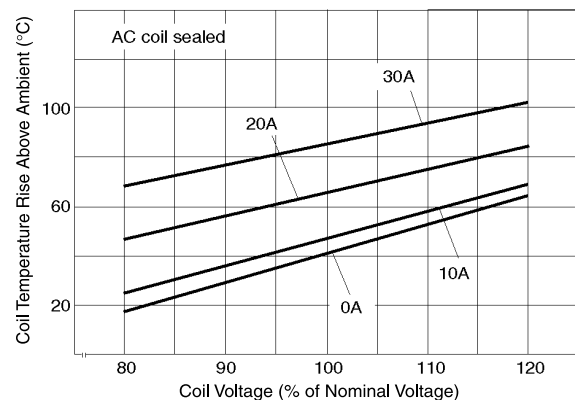
Termination: Printed circuit and quick connect terminals ⁽⁴⁾.

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.

