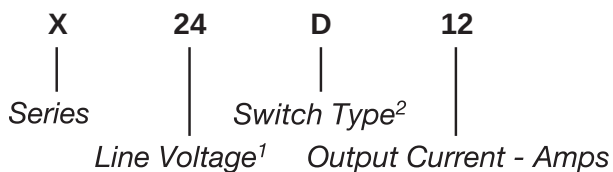


| Part Number | Description  |
|-------------|--------------|
| X24D12      | 12A, 280 Vac |
| X24D16      | 16A, 280 Vac |

#### Part Number Explanation



#### NOTES

- 1) Line Voltage (nominal): 24 = 240 Vac  
2) Switch Type: D = Zero-cross turn-on

#### MECHANICAL SPECIFICATION

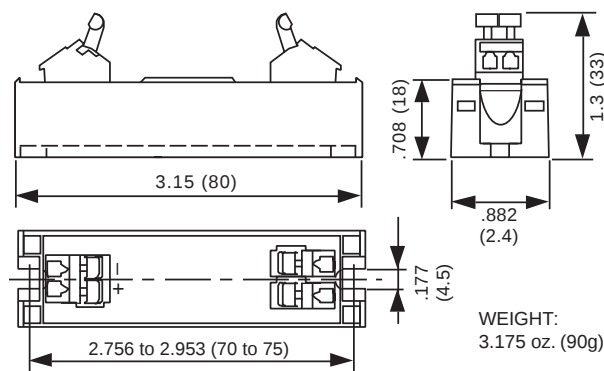


Figure 1 — X relays; dimensions in inches (mm)

#### CONNECTIONS

| Wires                                                                    | Tool                   |
|--------------------------------------------------------------------------|------------------------|
| 1 x (0.14-->2.5mm <sup>2</sup> )<br>1 x (22-->12AWG)<br>L = 0.2362 (6mm) | Screwdriver or fingers |



Figure 2 — X relays



#### FEATURES/BENEFITS

- Compact size
- Spring terminals
- Tight zero-cross window for low EMI
- Touch-proof terminals
- Designed for medium-power applications

#### DESCRIPTION

The Series X relays are designed in a thin compact plastic package. The X relays offer touch-proof spring terminals for ease of use and user safety. With its medium-power handling capabilities and compact size, the Series X is an excellent choice for medium-power AC loads.

#### APPLICATIONS

- Heating control
- Motor control
- Uninterruptible power supplies
- Light dimmers
- Industrial and process control
- On/Off controls of medium-power AC equipment

#### APPROVALS

Series X relays are UL pending.

#### TYPICAL APPLICATION

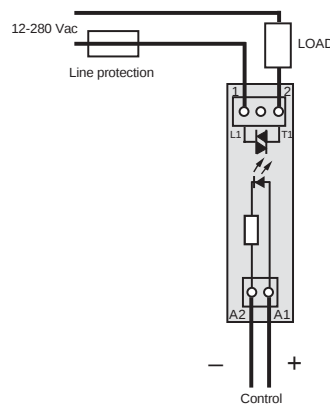


Figure 3 — X relays

#### INPUT (CONTROL) SPECIFICATION

|                            | Min | Max  | Units |
|----------------------------|-----|------|-------|
| Control Range              | 7   | 30   | Vdc   |
| Input Current Range        | 5   | 30   | mAdc  |
| Must Turn-Off Voltage      |     | 1    | Vdc   |
| Input Resistance (Typical) |     | 1000 | Ohms  |
| Reverse Voltage Protection |     | 30   | V     |

#### OUTPUT (LOAD) SPECIFICATION

|                 | Min | Max | Units |
|-----------------|-----|-----|-------|
| Operating Range | 12  | 280 | Vrms  |
| Peak Voltage    |     | 600 | Vpeak |

#### Load Current Range (Resistive)

|        |      |     |      |
|--------|------|-----|------|
| X24D12 | .005 | 12  | Arms |
| X24D16 | .005 | 25* | Arms |

\*Terminals limited at 16A

#### Maximum Surge Current Rating (Non-Repetitive)

|        |  |     |   |
|--------|--|-----|---|
| X24D12 |  | 120 | A |
| X24D16 |  | 250 | A |

|                                  |     |      |
|----------------------------------|-----|------|
| On-State Voltage Drop            | 1.3 | V    |
| Zero-Cross Window (Typical)      | ±12 | Vac  |
| Off-State Leakage Current (60Hz) | 1   | mA   |
| Turn-On Time (60 Hz)             | 8.3 | ms   |
| Turn-Off Time (60 Hz)            | 8.3 | ms   |
| Off-State dv/dt                  | 500 | V/μs |
| Maximum di/dt (Non-Repetitive)   | 50  | A²s  |
| Operating Frequency Range        | 0.1 | 440  |
|                                  |     | Hz   |

#### I²t for Match Fusing (<8.3ms)

|        |      |     |     |
|--------|------|-----|-----|
| X24D12 | .005 | 72  | A²S |
| X24D16 | .005 | 310 | A²S |

#### ENVIRONMENTAL SPECIFICATION

|                        | Min  | Max | Units |
|------------------------|------|-----|-------|
| Operating Temperature  | -40  | 100 | °C    |
| Storage Temperature    | -40  | 100 | °C    |
| Input-Output Isolation | 4000 |     | Vrms  |
| Output-Case Isolation  | 2500 |     | Vrms  |

#### CONTROL CHARACTERISTIC

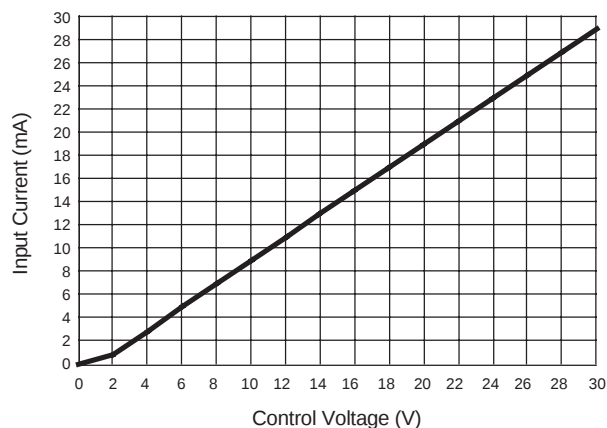


Figure 4 — X relays

#### SURGE CURRENT

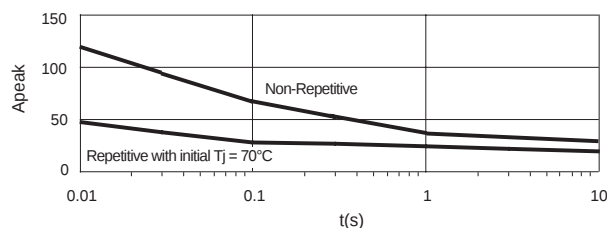


Figure 5a — X24D12 relay

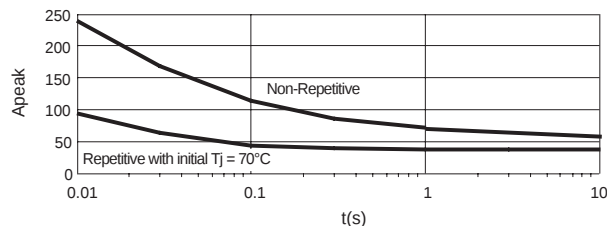


Figure 5b — X24D16 relay

### THERMAL CHARACTERISTICS

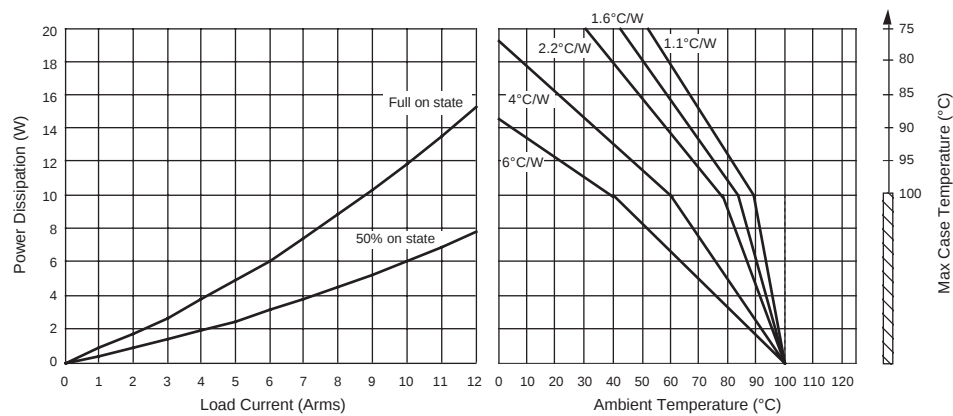


Figure 6a — X24D12 relay

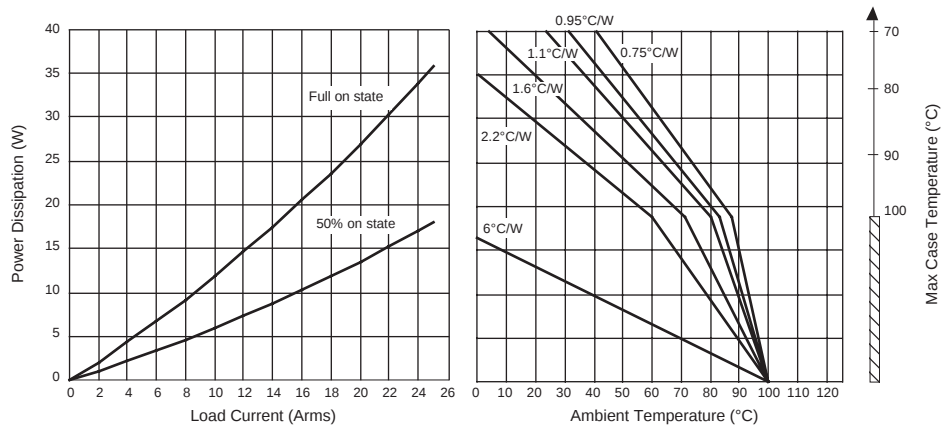


Figure 6b — X24D16 relay

#### NOTES:

1. External snubber is recommended when switching inductive loads.
2. Electrical specifications at 25°C unless otherwise specified.
3. For 800Hz applications, contact factory.
4. For additional/custom options, contact factory.