

| Part Number | Description  |
|-------------|--------------|
| XV46D30K    | 30A, 420 Vac |

#### Part Number Explanation

|           |                           |                          |                       |                            |
|-----------|---------------------------|--------------------------|-----------------------|----------------------------|
| <b>XV</b> | <b>46</b>                 | <b>D</b>                 | <b>30</b>             | <b>K</b>                   |
| Series    | Line Voltage <sup>1</sup> | Switch Type <sup>2</sup> | Output Current - Amps | Control Range <sup>3</sup> |

#### NOTES

- 1) Line Voltage (nominal): 46 = 420 Vac
- 2) Switch Type: D = Zero-cross turn-on
- 3) Control Range: K = 20–30 Vdc, \*C = 12 Vdc also available

#### MECHANICAL SPECIFICATION

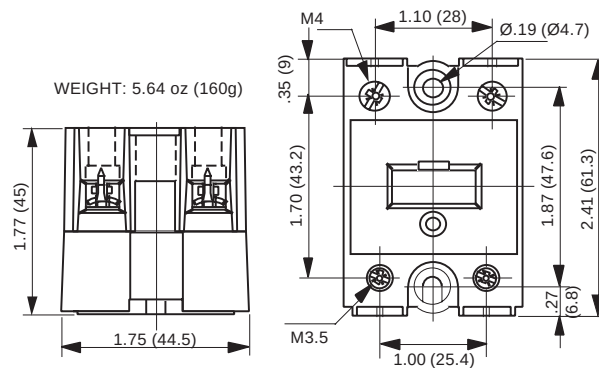


Figure 1 – XV relay; dimensions in inches (mm)

#### INPUT (CONTROL) SPECIFICATION

|                            | Min | Max | Units |
|----------------------------|-----|-----|-------|
| Control Range*             | 20  | 30  | Vdc   |
| Input Current Range        | 31  | 41  | mAdc  |
| Must Turn-Off Voltage      |     | 10  | Vdc   |
| Input Resistance (Typical) |     | 640 | Ohms  |
| Reverse Voltage Protection |     | 30  | Vdc   |
| Control Frequency          |     | 1   | Hz    |

#### TYPICAL APPLICATION

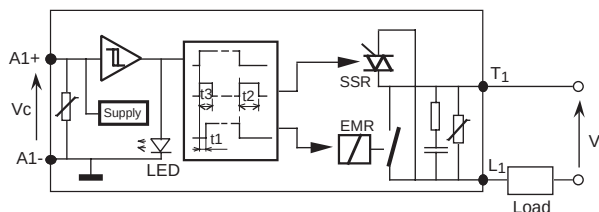


Figure 2 – XV relay



#### FEATURES/BENEFITS

- Industry standard package
- Combines the best of solid-state and electromechanical relays
- Tight zero-cross window for low EMI
- Control LED
- Internal output protection
- High immunity to surges

#### DESCRIPTION

The Series XV relay combines the best of solid-state and electromechanical technology. The relay is designed in a touch-proof hockey-puck package. The XV relay switches current up to 30A without a heat sink. Visual control status is provided as a standard. Elimination of the heat sink conserves space and makes the XV ideal for numerous applications.

#### APPLICATIONS

- Interface applications
- Heating Control
- Light/Lamp control
- Contactor driver
- Fan speed control
- HVAC controls

#### APPROVALS

Model XV46D30K is UL recognized.  
UL File Number: E128555.

#### CONTROL CHARACTERISTIC

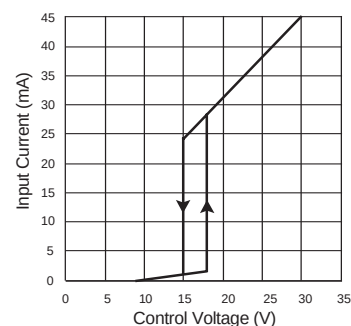


Figure 3 – XV relay

### OUTPUT (LOAD) SPECIFICATION

|                                                                 | Min | Max   | Unit             |
|-----------------------------------------------------------------|-----|-------|------------------|
| Operating Range                                                 | 12  | 420   | Vrms             |
| Peak Voltage                                                    |     | 800   | Vpeak            |
| Load Current Range                                              | 0.1 | 30    | Arms             |
| Motor Load Current                                              |     | 7.5   | Arms             |
| Maximum Surge Current Rating (Non-Repetitive)<br>(See Figure 4) | 240 | Apeak |                  |
| On-State Voltage Drop                                           |     | 0.3   | V                |
| Zero-Cross Window (Typical)                                     |     | ±12   | V                |
| Off-State Leakage Current (60Hz)                                |     | 2     | mA               |
| Turn-On Time (60Hz)                                             |     | 12    | ms               |
| Turn-Off Time (60Hz)                                            |     | 20    | ms               |
| Off-State dv/dt                                                 |     | 500   | V/μs             |
| Maximum di/dt (Non-repetitive)                                  |     | 50    | A/μs             |
| Operating Frequency                                             | 40  | 440   | Hz               |
| I <sup>2</sup> t for fuse matching (<8.3ms)                     |     | 288   | A <sup>2</sup> S |

### ENVIRONMENTAL SPECIFICATION

|                        | Min | Max          | Unit |
|------------------------|-----|--------------|------|
| Operating Temperature  | -40 | 90           | °C   |
| Storage Temperature    | -40 | 100          | °C   |
| Input-Output Isolation |     | 4000         | Vrms |
| Output-Case Isolation  |     | 4000         | V    |
| Life Expectancy        |     | See Figure 5 |      |

### SURGE CURRENT

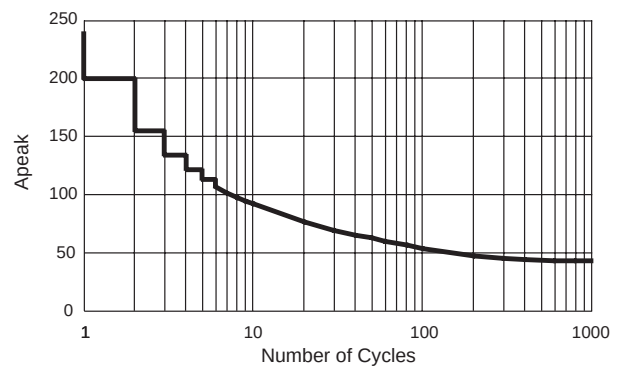


Figure 4 – XV relay

### LIFETIME EXPECTANCY

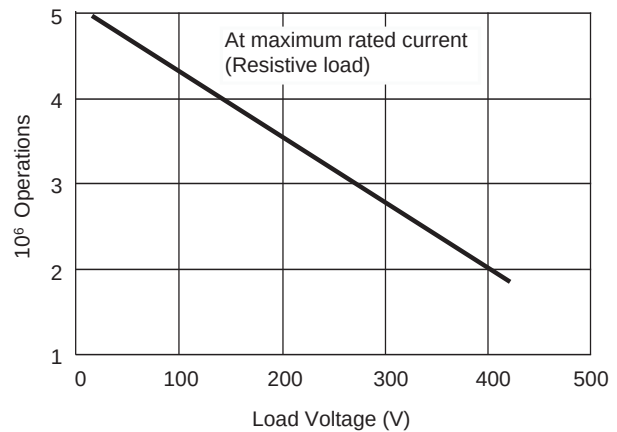


Figure 5 – XV relay

#### NOTES:

1. Electrical Specifications at 25°C unless otherwise specified.
2. For 800Hz applications, contact factory.
3. For additional/custom options, contact factory.