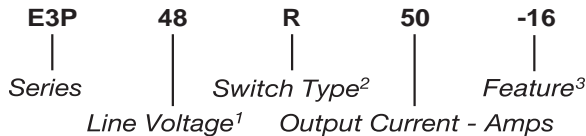


| Part Number | Description |
|-------------|--------------|
| E3P48A50 | 50A, 600 Vac |
| E3P48A75 | 75A, 600 Vac |
| E3P48A75-22 | 75A, 600 Vac |
| E3P48D25 | 25A, 600 Vac |
| E3P48D50 | 50A, 600 Vac |
| E3P48D75 | 75A, 600 Vac |
| E3P48D75-16 | 75A, 520 VaC |



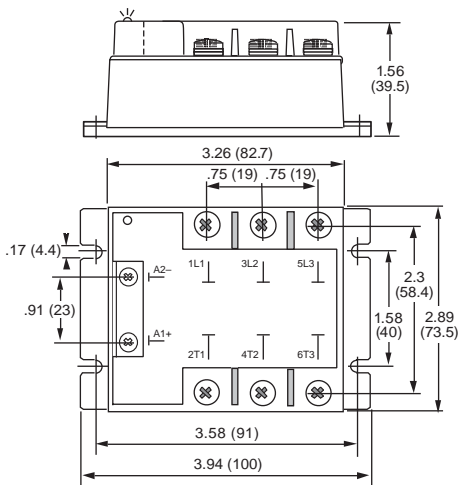
Part Number Explanation



NOTES

- 1) Line Voltage (nominal): 48 = 480 Vac
- 2) Switch Type: R = Random turn-on; D = Zero-cross turn-on
A = AC control, Zero-cross turn-on
- 3) Features: -16 = MOV, -22 = 10-30Vac

MECHANICAL SPECIFICATION



WEIGHT: 13.05 oz. (370g)

Figure 1 — E3P relays; dimensions in inches (mm)

FEATURES/BENEFITS

- Three-phase output
- AC or DC control
- Internal output protection
- Control LED on all models
- Designed for all types of loads
- Excellent thermal performance
- Tight zero-cross window for low EMI
- High immunity to surges

DESCRIPTION

The Series E3P three-phase relays are designed for all types of loads. The design incorporates a thyristor output. Control status LED is a standard on all models. Output protection is provided internally on certain models. The Series E3P utilizes optical isolation to protect the control from load transients. High-current models are excellent for motor control.

APPLICATIONS

- Heating control
- Motor control
- Uninterruptible power supplies
- Light dimmers
- Three-phase industrial and process control
- On/Off controls of AC equipment

APPROVALS

All models are UL recognized.
UL File Number: E128555.

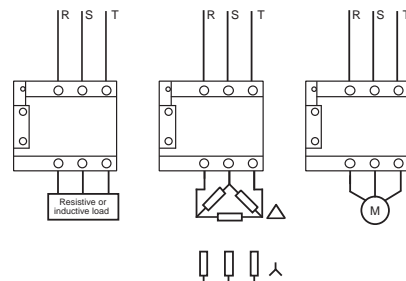


Figure 2 — E3P relays

INPUT (CONTROL) SPECIFICATION

| | Input Type | Min | Max | Units |
|-----------------------------------|------------|-----|-----|---------|
| Control Range | | | | |
| E3P | R/D | 8.5 | 30 | Vdc |
| E3P | A | 90 | 240 | Vac/Vdc |
| E3P | AXX-22 | 10 | 30 | Vac |
| Input Current Range | | | | |
| E3P | R/D | 10 | 45 | mA |
| E3P | A | 4 | 11 | mA |
| E3P | AXX-22 | 11 | 55 | mA |
| Must Turn-Off Voltage | | | | |
| All Relays | | | 4 | Vdc |
| Input Resistance (Typical) | | | | |
| E3P | R/D | | 620 | Ohms |
| E3P | A | | 21 | KOhms |
| ESP | AXX-22 | | 400 | Ohms |
| Reverse Voltage Protection | | | | |
| E3P | R/D | | 30 | V |
| E3P | A | | N/A | |

BLOCK DIAGRAM

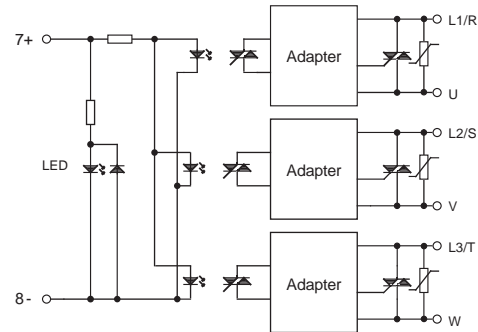


Figure 4a — E3P48R50-16

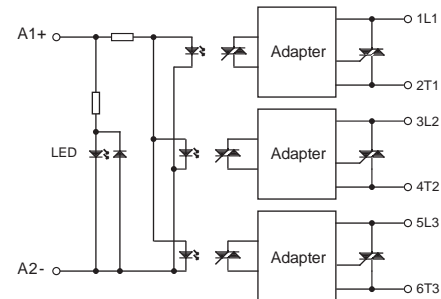


Figure 4b — E3P48D relays

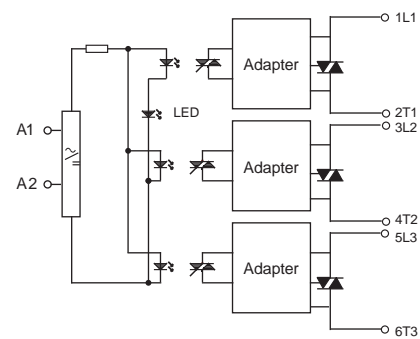


Figure 4c — E3P48A50 and E3P48A75

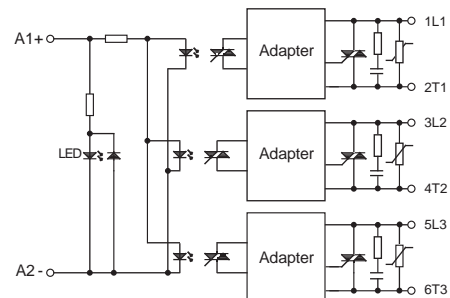


Figure 4d — E3P48DXX-16

CONTROL CHARACTERISTIC

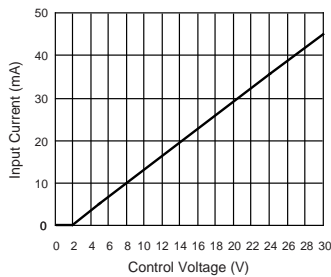


Figure 3a — All E3P relays except E3P48A50 and E3P48A75

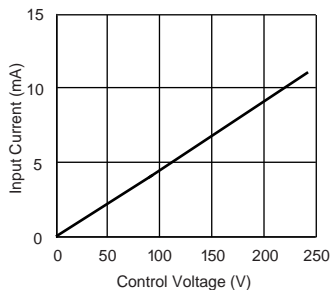


Figure 3b — E3P48A50 and E3P48A75

| OUTPUT (LOAD) SPECIFICATION | | | | OUTPUT (LOAD) SPECIFICATION (Continued) | | | |
|--|------|------|-------|---|------|------|------------------|
| | Min | Max | Units | | Min | Max | Units |
| Operating Range | | | | Turn-Off Time (60 Hz) | | | |
| E3P48XX-16 | 24 | 520 | Vrms | All relays | | 8.3 | ms |
| E3P48 | 24 | 600 | Vrms | | | | |
| Peak Voltage | | | | Off-State dv/dt | | | |
| All Relays | | 1200 | Vpeak | All relays | | 500 | V/μs |
| Load Current Range | | | | Maximum di/dt (Non-Repetitive) | | | |
| 12A output current | .005 | 12 | Arms | All relays | | 50 | A/μs |
| 25A output current | .005 | 25 | Arms | | | | |
| 50A output current | .005 | 50 | Arms | Operating Frequency Range | | | |
| 75A output current | .005 | 75 | Arms | E3P48D50 | 10 | 680 | Hz |
| | | | | All other relays | 10 | 440 | Hz |
| Inductive Load Current | | | | I²t for Match Fusing (<8.3 ms) | | | |
| E3P with -16 option 50A output | | 12 | Arms | 12A output | | 72 | A ² S |
| E3P with -16 option 75A output | | 16 | Arms | 25A output | | 265 | A ² S |
| | | | | 50A output | | 1500 | A ² S |
| | | | | 75A output | | 5000 | A ² S |
| Maximum Surge Current Rating (Non-Repetitive) | | | | ENVIRONMENTAL SPECIFICATION | | | |
| 12A output | | 120 | A | | Min | Max | Units |
| 25A output | | 230 | A | Operating Temperature | | | |
| 50A output | | 550 | A | E3P48D50 | -55 | 100 | °C |
| 75A output | | 1000 | A | All other relays | -40 | 100 | °C |
| On-State Voltage Drop | | | | Storage Temperature | | | |
| All relays output current | | 1.4 | V | E3P48D50 | -55 | 100 | °C |
| | | | | All other relays | -40 | 100 | °C |
| Zero-Cross Window (Typical) | | | | Input-Output Isolation | | | |
| E3P48DXX-16 | | 12 | V | 4000 | | | |
| E3P48 | | 24 | V | Output-Case Isolation | | | |
| E3P48R | | N/A | | E3P48D50 | 2500 | | Vrms |
| | | | | E3P48D50 | 2500 | | Vrms |
| Off-State Leakage Current (60 Hz) | | | | All other relays | | | |
| E3P48DXX-16 | | 5 | mA | 3300 | | | Vrms |
| All other relays | | 1 | mA | | | | |
| Turn-On Time (60 Hz) | | | | | | | |
| E3P48R | | 0.1 | ms | | | | |
| All relays | | 8.3 | ms | | | | |

THERMAL CHARACTERISTICS

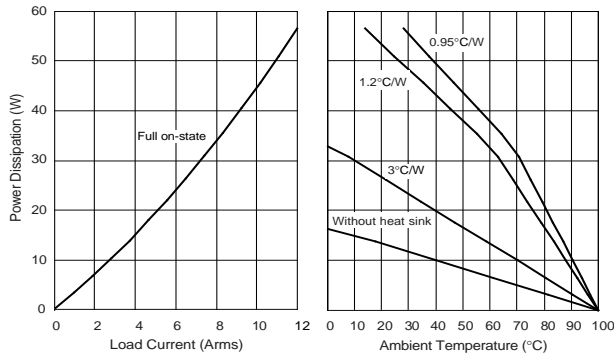


Figure 5a — 12A output

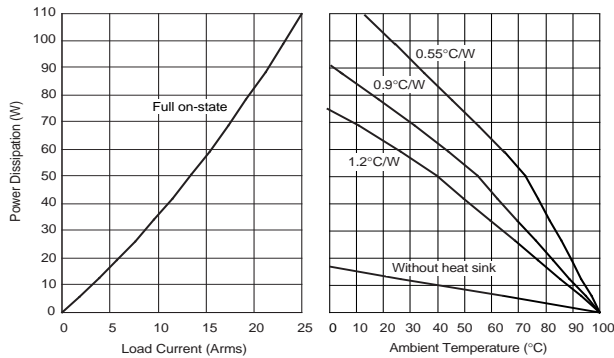


Figure 5b — 25A output

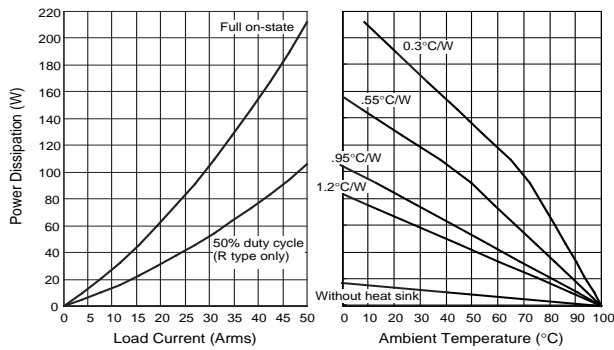


Figure 5c — 50A output

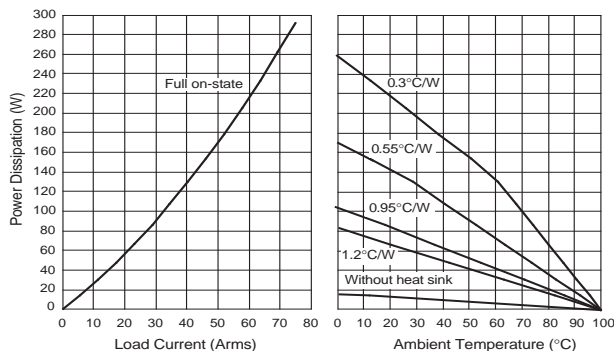


Figure 5d — 75A output

SURGE CURRENT

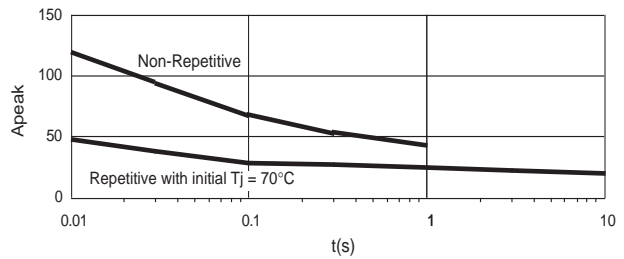


Figure 6a— 12A output

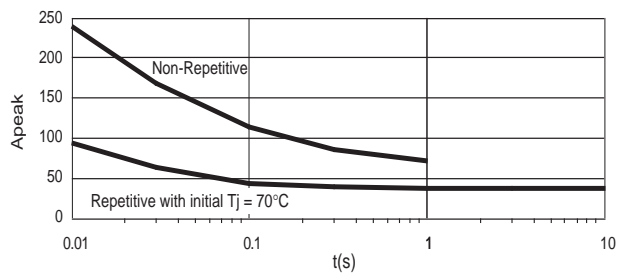


Figure 6b— 25A output

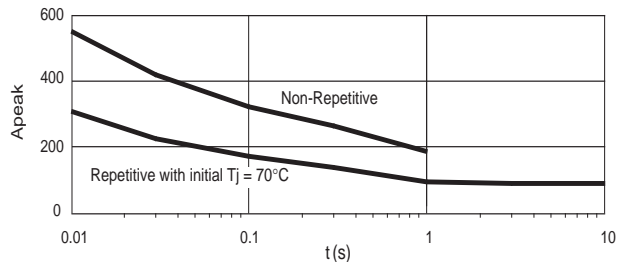


Figure 6c— 50A output

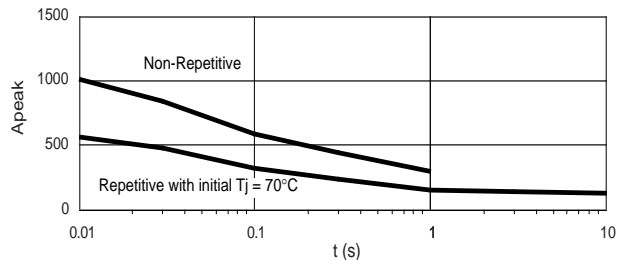


Figure 6d— 75A output

- NOTES:**
1. Electrical specifications at 25°C unless otherwise specified.
 2. For 800Hz applications, contact factory.
 3. For additional/custom applications, contact factory.

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