



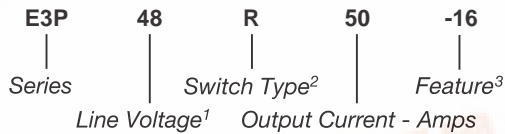
A Unit of Teledyne Electronics and Communications

Series E3P

Three-Phase Output to 75A 600 Vac
DC Control

Part Number	Description
E3P48R50-16	50A, 520 Vac
E3P48D50-16	50A, 520 Vac
E3P48D75-16	75A, 520 Vac
E3P48D12	12A, 600 Vac
E3P48D25	25A, 600 Vac
E3P48D50	50A, 600 Vac
E3P48A50	50A, 600 Vac
E3P48D75	75A, 600 Vac

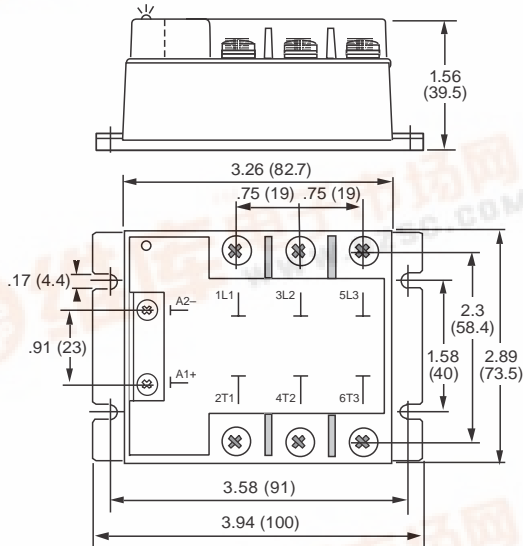
Part Number Explanation



NOTES

- Line Voltage (nominal): 48 = 480 Vac
- Switch Type: R = Random turn-on; D = Zero-cross turn-on;
A = AC control, Zero-cross turn-on
- Feature: -16 = MOV

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.

TYPICAL APPLICATION

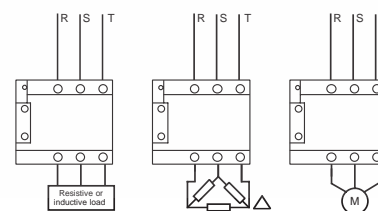


Figure 2 — E3P relays

INPUT (CONTROL) SPECIFICATION

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

BLOCK DIAGRAM

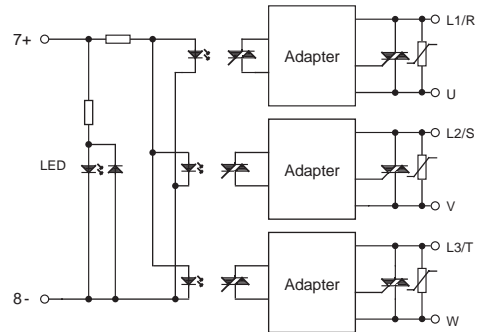


Figure 4a — E3P48R50-16

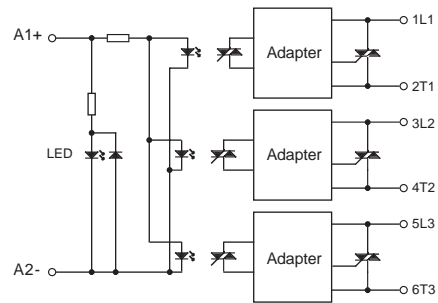


Figure 4b — E3P48D relays

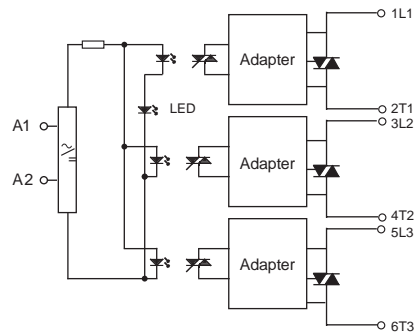


Figure 4c — E3P48A50

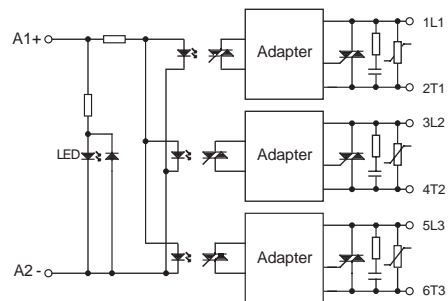


Figure 4d — E3P48DXX-16

CONTROL CHARACTERISTIC

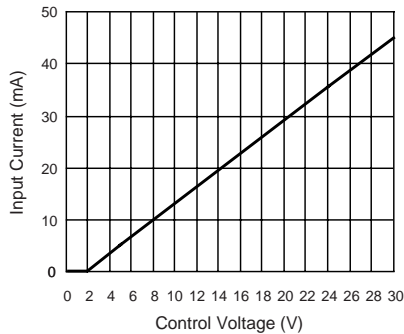


Figure 3a — All E3P relays except E3P48A50

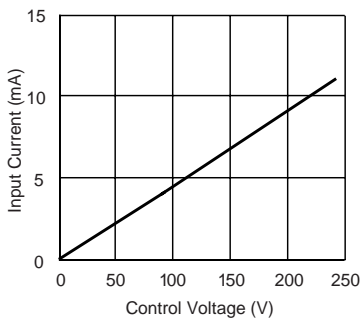


Figure 3b — E3P48A50

OUTPUT (LOAD) SPECIFICATION

	Min	Max	Units
Operating Range			
E3P48XXX-16	24	520	Vrms
E3P48	24	600	Vrms
Peak Voltage			
All relays		1200	Vpeak
Load Current Range			
12A output current	.005	12	A
25A output current	.005	25	A
50A output current	.005	50	A
75A output current	.005	75	A
Inductive Load Current			
E3P with -16 option 50A output		12	Arms
E3P with -16 option 75A output		16	Arms
Maximum Surge Current Rating (Non-Repetitive)			
12A output		120	A
25A output		230	A
50A output		550	A
75A output		1000	A
On-State Voltage Drop			
All relays output current		1.4	V
Zero Cross Window (Typical)			
E3P48DXX-16		12	V
E3P48		24	V
E3P48R		NA	
Off-State Leakage Current (60Hz)			
E3P48DXX-16		5	mA
All other relays		1	mA
Turn-On Time (60 Hz)			
E3P48R		0.1	ms
All other relays		8.3	ms
Turn-Off Time (60 Hz)			
All relays		8.3	ms

OUTPUT (LOAD) SPECIFICATION (Continued)

	Min	Max	Units
Off-State dv/dt			
All relays		500	V/μs
Maximum di/dt (Non-Repetitive)			
All relays		50	A/μs
Operating Frequency Range			
All relays	10	440	Hz
I²t for Match Fusing (<8.3ms)			
12A output		72	A ² S
25A output		265	A ² S
50A output		1500	A ² S
75A output		5000	A ² S

ENVIRONMENTAL SPECIFICATION

	Min	Max	Units
Operating Temperature	-40	100	°C
Storage Temperature	-40	100	°C
Input-Output Isolation	4000		Vrms
Output-Case Isolation			
E3P48D12	2500		Vrms
E3P48D25	2500		Vrms
All other relays	3300		Vrms

THERMAL CHARACTERISTICS

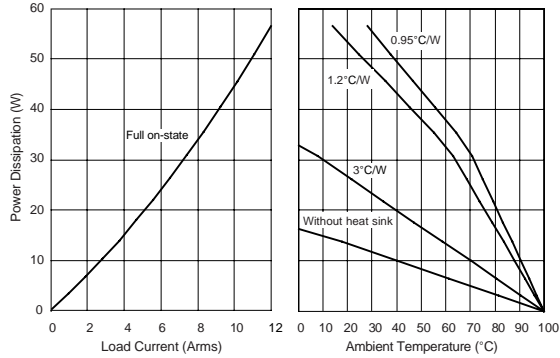


Figure 5a — 12A output

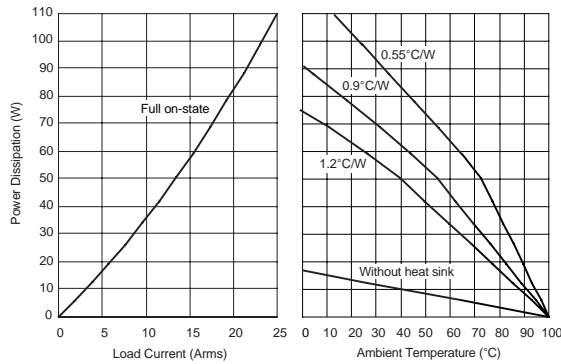


Figure 5b — 25A output

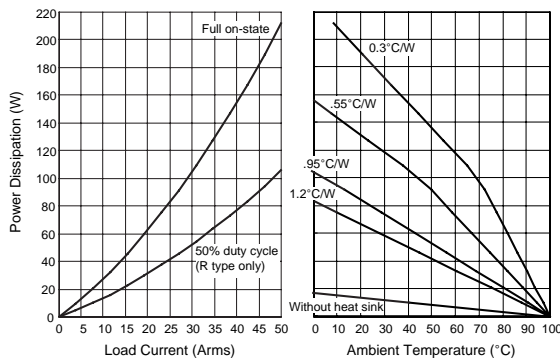


Figure 5c — 50A output

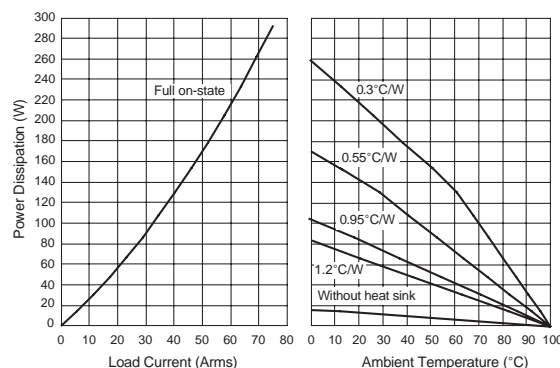


Figure 5d — 75A output

SURGE CURRENT

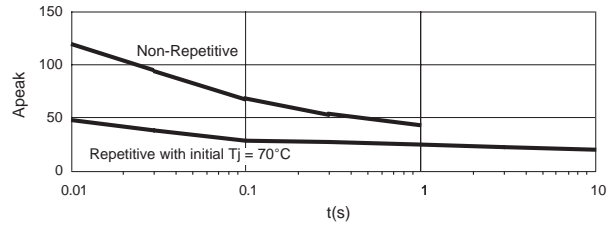


Figure 6a — 12A output

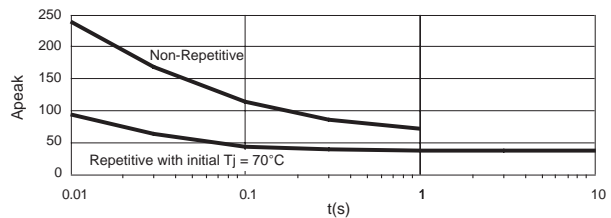


Figure 6b — 25A output

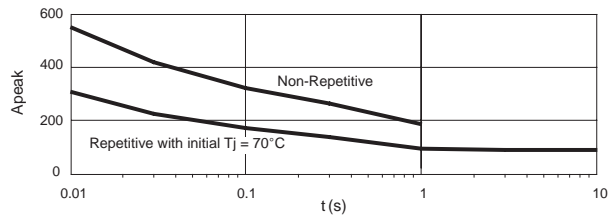


Figure 6c — 50A output

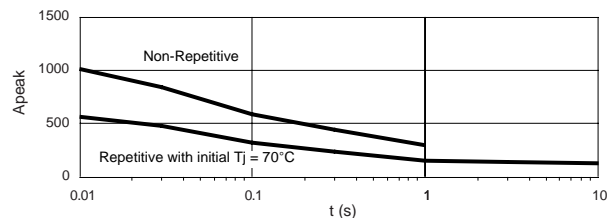


Figure 6d — 75A output

NOTES:

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