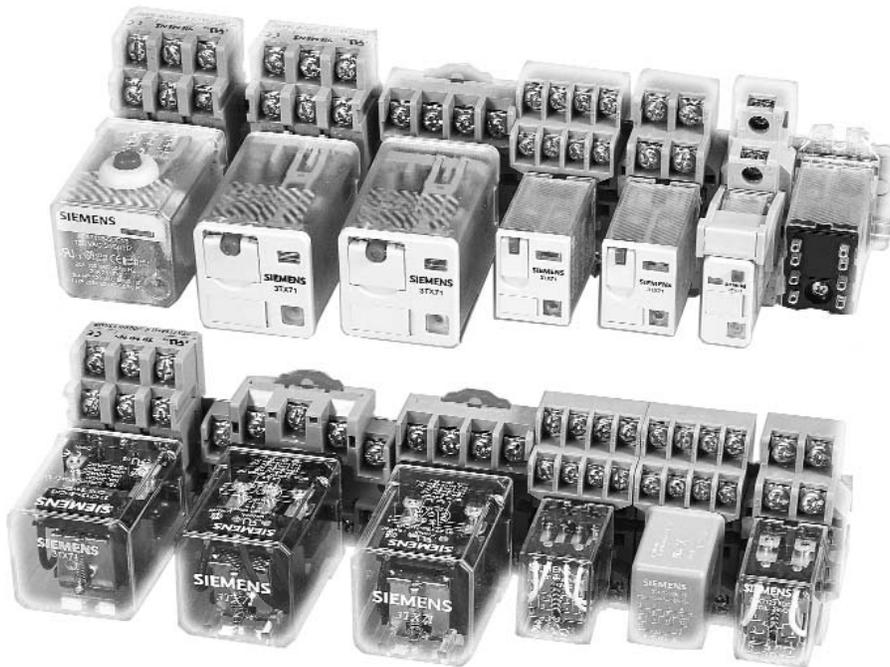


Industrial Plug-In Relay Catalog Supplement



Siemens new general purpose plug in relay line is designed to meet your needs

We have updated our general purpose plug in relay offering to better suit your needs. Plug in relays are easy to use and install. The sockets can be either panel mounted or DIN rail mounted. Since most of our relays have the industry standard form, fit and function they can typically fit right into your current application.

Premium Line

Our new durable Premium Line has many features and covers multiple contact configurations such as: Single Pole/Double Throw, Double Pole/Double

Throw, Three Pole/Double Throw or Four Pole/Double Throw and are available in most common coil voltages. Each relay has Easy Grip covers, LED status indicator, mechanical indicator with push to test button as well as an I.D. label. Our new Premium Line offers premium benefits at a reasonable price.

Basic Line

For simple applications that require a reliable relay, we offer our standard Basic Line. Our Basic Line can cover most any relay need up to currents as high as 25A

and come in many different styles and contact configurations.

Heavy Duty Power Relays

For heavy duty applications we offer our 3TX7130 series of power relays. These durable relays can handle currents up to 30A and come in various contact configurations.

Our commitment to you

Our mission is to be your relay provider of choice by providing quick service and reliable relays at a reasonable price.

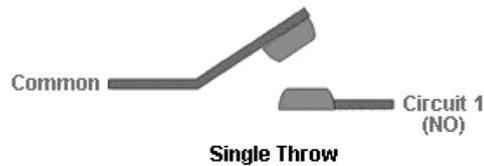
IMPORTANT

This catalog supplement does not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the local Siemens sales office. The contents of this catalog supplement shall not become part of or modify any prior or existing agreement, commitment or relationship. The sales contract contains the entire obligation of Siemens. The warranty contained in the contract between the parties is the sole warranty of Siemens. Any statements contained herein do not create new warranties or modify the existing warranty.

NOTE: For a current copy of all the pertinent instruction sheets, which contain important safety, application, and installation information relating to this product, please see the Siemens Energy & Automation web site: www.sea.siemens.com/controls. Downloading is highly recommended. Failure to review this information could create a situation leading to death, serious injury, or property damage.

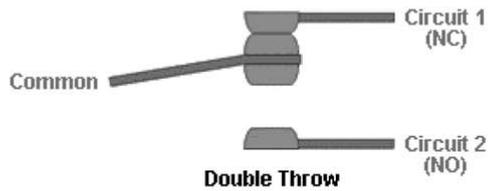
Contact Arrangement — Throws

Throw is the number of different closed-contact positions per pole. In other words, throw describes the total number of different circuits each pole controls.



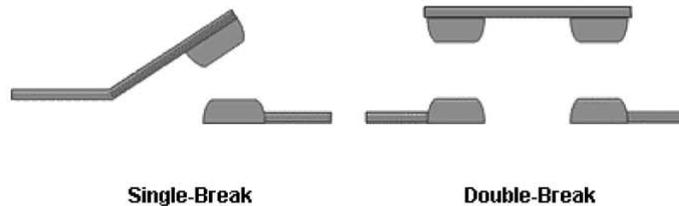
The following abbreviations are used to indicate contact configurations:

- SPST** Single-Pole, Single-Throw
- SPDT** Single-Pole, Double-Throw
- DPST** Double-Pole, Single-Throw
- DPDT** Double-Pole, Double-Throw



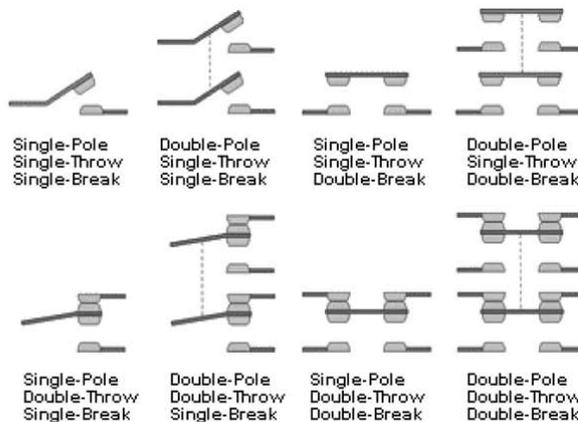
Contact Arrangement — Break

Break is the number of separate contacts the switch uses to open or close individual circuits. If the relay breaks the circuit in one place, it is a single-break relay. If it breaks the circuit in two places, it is a double-break.



Contact Arrangements

The following illustrates various contact arrangements.



Contents	Pages	
Plug In Relay Line Product Overview .....	.1
General Relay Information .....	.2
Table of Contents .....	.3
 8 and 11 Pin Octal Base Relays		
Premium Line .....	.4-5
Basic Line .....	.6-7
Socket Selection .....	.8-11
 General Purpose Square Base Relays		
Premium Line .....	.12-13
Basic Line .....	.14-17
Magnetic Latch .....	.18-19
Socket Selection .....	.20-21
 Miniature Relays		
Premium Line .....	.22-29
Basic Line .....	.30-35
Socket Selection .....	.36-41
 Heavy Duty Power Relays42-45
Solid State Relays46-47
Timing Relays48-51
 Standard Terms and Conditions of Sale52

8 and 11 Pin Octal Base Relays - Premium Line



Features

Green LED status indicator - Allows worker to see the relay status in dark conditions

Mechanical Indicator - Allows worker to see relay status under normal light or bright conditions

Push to test button with pull-out locking tab-makes testing and analyzing your circuit easier

Easy Grip cover - Adds to the ease of removing the relay from the socket

Removable I.D. Label - Allows for easy identification



Premium Line 12A, 8 PIN Octal Socket, DPDT

Catalog No.	Coil Voltage	List Price	Socket
3TX7112-1LB13	12VAC	\$17.00	3TX7144-1E2
3TX7112-1LC13	24VAC	\$17.00	3TX7144-1E2
3TX7112-1LF13	120VAC	\$17.00	3TX7144-1E2
3TX7112-1LG13	220/230VAC	\$17.00	3TX7144-1E2
3TX7112-1LB03	12VDC	\$17.00	3TX7144-1E2
3TX7112-1LC03	24VDC	\$17.00	3TX7144-1E2
3TX7112-1LF03	110VDC	\$17.00	3TX7144-1E2

UL Contact Ratings Table

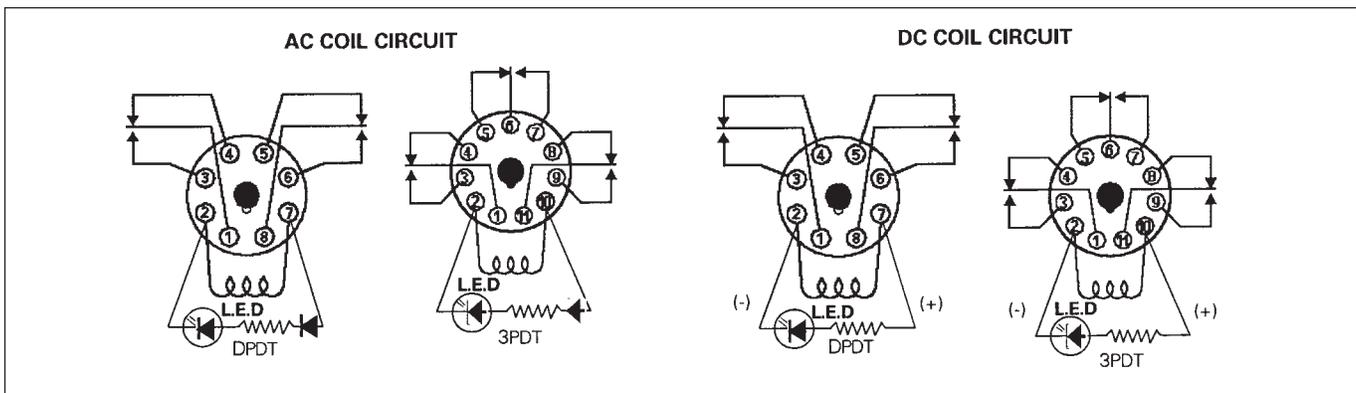
POLES	120 VAC	240 VAC	28 VDC
2 & 3	12 AMP	12 AMP	12 AMP
POLE	1/3 HP	1/2 HP	

Premium Line 12A, 11 PIN Octal, 3PDT

3TX7112-1NB13	12VAC	\$17.50	3TX7144-1E3
3TX7112-1NC13	24VAC	\$17.50	3TX7144-1E3
3TX7112-1NF13	120VAC	\$17.50	3TX7144-1E3
3TX7112-1NG13	220/230VAC	\$17.50	3TX7144-1E3
3TX7112-1NB03	12VDC	\$17.50	3TX7144-1E3
3TX7112-1NC03	24VDC	\$17.50	3TX7144-1E3
3TX7112-1NF03	110VDC	\$17.50	3TX7144-1E3

Wiring Diagrams

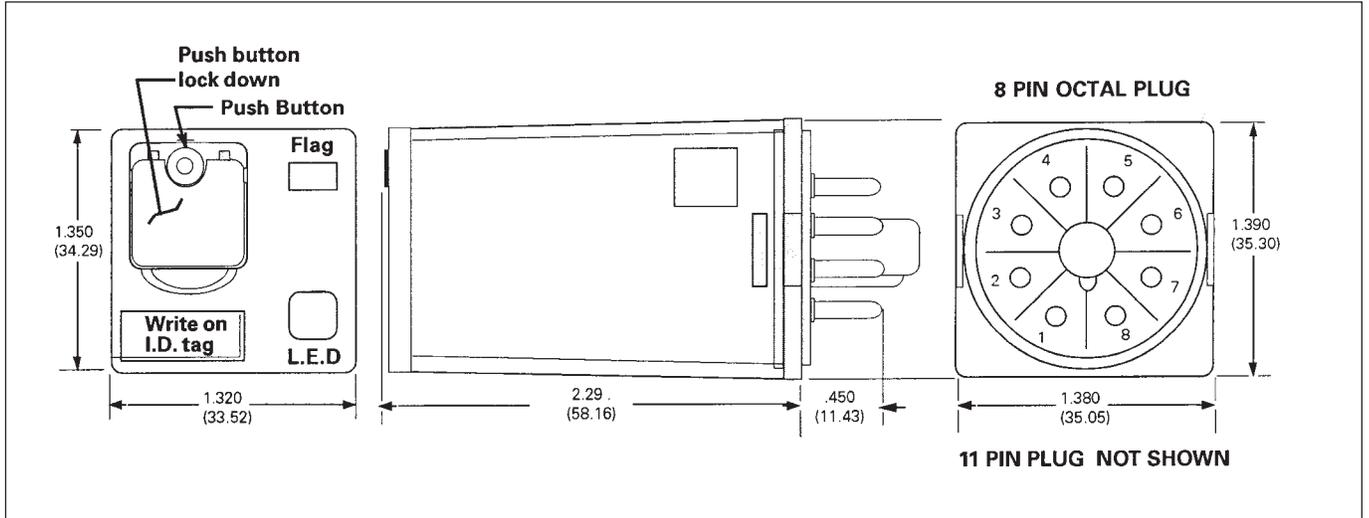
Viewed from pin end



8 and 11 Pin Octal Base Relays - Premium Line

Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Specifications

COIL	
Pull-in voltage:	80% of nominal voltage or less for DC coils 85% of nominal voltage or less for AC coils
Drop-out voltage:	≥10% of nominal voltage.
Coil resistance:	± 10 % measured @ 25°C
Minimum sensitivity:	125 milliwatts per pole
Nominal power:	1.2 Watts for DC coils, 2 VA-2.75VA for AC coils
Insulation System:	Class "B" (130°C per UL std. 1446)
Duty:	Continuous
CONTACTS	
Contact material:	3/16" silver cadmium oxide, gold flashed.
Contact resistance:	50 milliohms maximum @ 10A, 120VAC or 24 VDC Contact conditioned for 50 make & break Operations at 1 second "ON and 1 second "OFF".
Minimum Load:	12 V @ 100 Milliamps
TIMING	
Operate time:	Max. 20 ms.
Release time:	Max. 15 ms.
DIELECTRIC STRENGTH	
Contacts to coil:	2500 V rms
Across open contacts:	1500 V rms
Pole to pole:	2500 V rms
Contacts to frame:	2500 V rms
Insulation resistance:	100 Megohms min. @ 500 VDC

Temperature	
Ambient Temperature (Operating):	-30°C to +50°C (AC), -30°C to +65°C (DC)
Non operating storage:	-30°C to +100°C
SHOCK RESISTANCE	
Operating:	5 G's
Non-operating:	20 G's
Vibration Resistance	
Operating:	5 G's, 10 Hz to 55 Hz
LIFE	
Electrical:	200,000 Operations
Mechanical:	5,000,000 Operations
MISCELLANEOUS	
Insulation material:	Molded plastic
Operating Position:	Any
Terminals:	8 pin or 11 pin octal plug-in
Weight:	83 grams

8 and 11 Pin Octal Base Relays - Basic Line



Features

- Available in multiple coil voltages
- Available with current ratings up to 10A
- Economical
- DPDT & 3PDT contact configurations
- Uses industry standard socket



Basic 10A, 8 PIN Octal DPDT

Catalog No.	Coil Voltage	List Price	Socket
3TX7120-1DB13	12VAC	\$14.00	3TX7144-1E2
3TX7120-1DC13	24VAC	\$14.00	3TX7144-1E2
3TX7120-1DF13	120VAC	\$14.00	3TX7144-1E2
3TX7120-1DH13	240VAC	\$14.00	3TX7144-1E2
3TX7120-1DB03	12VDC	\$14.00	3TX7144-1E2
3TX7120-1DC03	24VDC	\$14.00	3TX7144-1E2
3TX7120-1DF03	110VDC	\$14.00	3TX7144-1E2

Basic 10A, 11 PIN Octal 3PDT

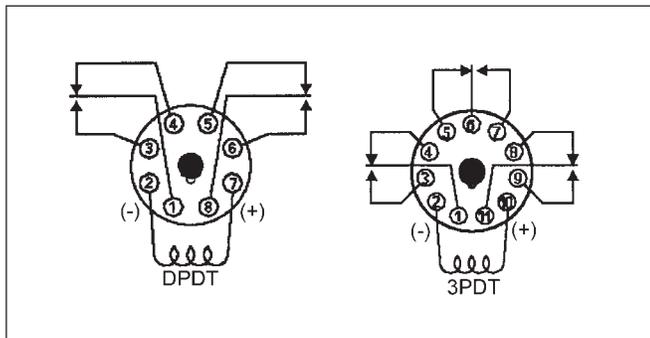
3TX7120-1FB13	12VAC	\$14.50	3TX7144-1E3
3TX7120-1FC13	24VAC	\$14.50	3TX7144-1E3
3TX7120-1FF13	120VAC	\$14.50	3TX7144-1E3
3TX7120-1FH13	240VAC	\$14.50	3TX7144-1E3
3TX7120-1FB03	12VDC	\$14.50	3TX7144-1E3
3TX7120-1FC03	24VDC	\$14.50	3TX7144-1E3
3TX7120-1FF03	110VDC	\$14.50	3TX7144-1E3

UL Contact Ratings Table

POLES	120 VAC	240 VAC	28 VDC
DPDT	12 AMP 1/3 HP	10 AMP 1/2 HP	10 AMP
3PDT	10 AMP 1/3 HP	10 AMP 1/2 HP	10 AMP

Wiring Diagrams

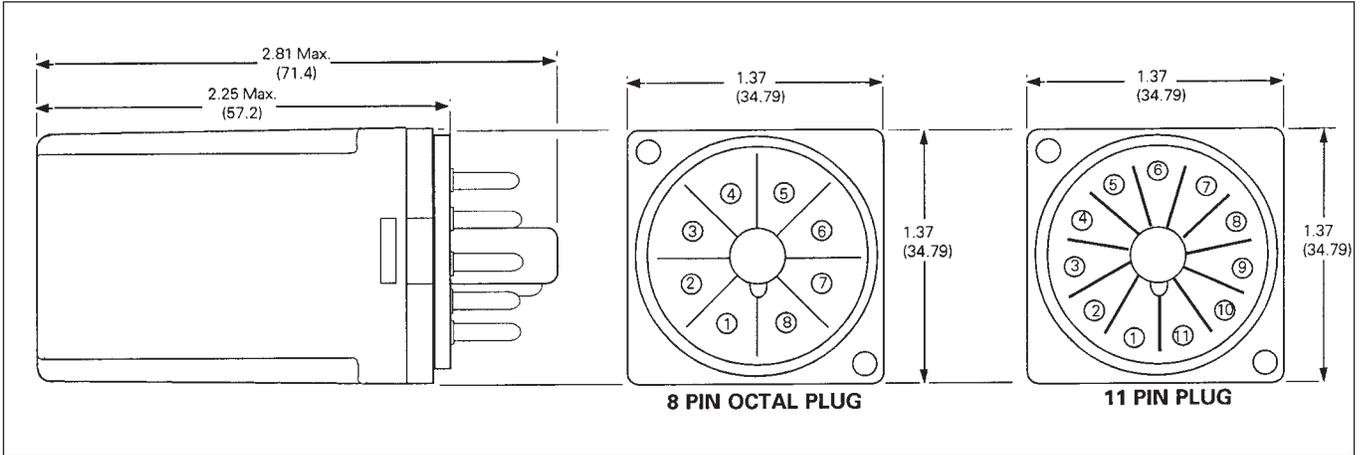
Viewed from pin end



8 and 11 Pin Octal Base Relays - Basic Line

Outline Dimensions

Dimensions shown in Inches & (Millimeters)



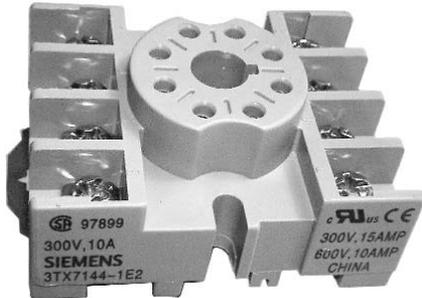
Specifications

COIL	
Pull-in voltage*	80% of nominal voltage or less for DC coils 85% of nominal voltage or less for AC coils
Drop-out voltage:	≥10% of nominal voltage.
Coil resistance*	±10%
Minimum sensitivity*	125 milliwatts per pole
Nominal power*	1.2 Watts for DC coils, 2 VA-2.75VA for AC coils
Maximum coil dissipation*	Capability of DC coils 3.0 Watts max.
Coil insulation System	Class "B" coil insulation (130°C) per UL std. 1446
Duty:	Continuous
CONTACTS	
Contact material	3/16" silver cadmium oxide, gold flashed Std.
Contact resistance:	50 milliohms maximum initial resistance at rated current
Minimum Load:	12 V @ 100 Milliamps
TIMING	
Operate time:	Max. 25 ms.
Release time:	Max. 20 ms.

*Measured at 25°C

DIELECTRIC STRENGTH	
Contacts to coil:	1500 V rms
Across open contacts:	1000 V rms
Pole to pole:	1500 V rms
Contacts to frame:	1500 V rms
Insulation resistance:	1,000 Megohms min. @ 500VDC
TEMPERATURE	
Operating:	-10°C to +50°C (AC), -10°C to +60°C (DC)
Storage:	-30°C to +105°C
Shock Resistance	
Operating:	5 G's,
Non operating:	20 G's
VIBRATION RESISTANCE	
Operating:	5 G's, 10 Hz to 55 Hz
MISCELLANEOUS	
Insulation material:	Molded plastic
Operating Position:	Any
Terminals:	8 or 11 pin octal plug-in
Weight:	3 1/2 ozs. 99.2 g approx.

8 and 11 Pin Octal Base Relays - Socket Selection



Sockets & Accessories

Catalog No.	Additional Description	List Price
3TX7144-1E2	8 pin octal, panel/DIN rail, screw term socket	\$4.75


 UL Recognized
 File No: E196786

Specifications

Electrical Rating:	300 V, 15 AMPS / 600V, 10 AMPS
Voltage:	2000 V rms Min. between all electrical elements of opposite polarity including a metal mounting surface
CONSTRUCTION	
Terminals:	Clamping screws: M 3.5 x 0.6 yellow zinc plated with pressure clamp washers. Terminal connections are capable of accepting two #12 AWG wires or smaller, one wire on each side of the clamping screw.
Molding:	Break resistant high electrical grade thermoplastic Internal electrical current carrying elements conform with UL requirements for relay sockets, including maximum operating temperature rise limits and electrical spacing.
Grips:	Fits 35mm wide DIN mounting track
Torque:	Max. torque to clamping screws should not exceed 8-10 inch lbs.

8 and 11 Pin Octal Base Relays - Socket Selection



Sockets & Accessories

Catalog No.	Additional Description	List Price
3TX7144-1E3	11pin octal, panel/DIN rail, screw term socket	\$10.00



 UL Recognized

 File No: E196786

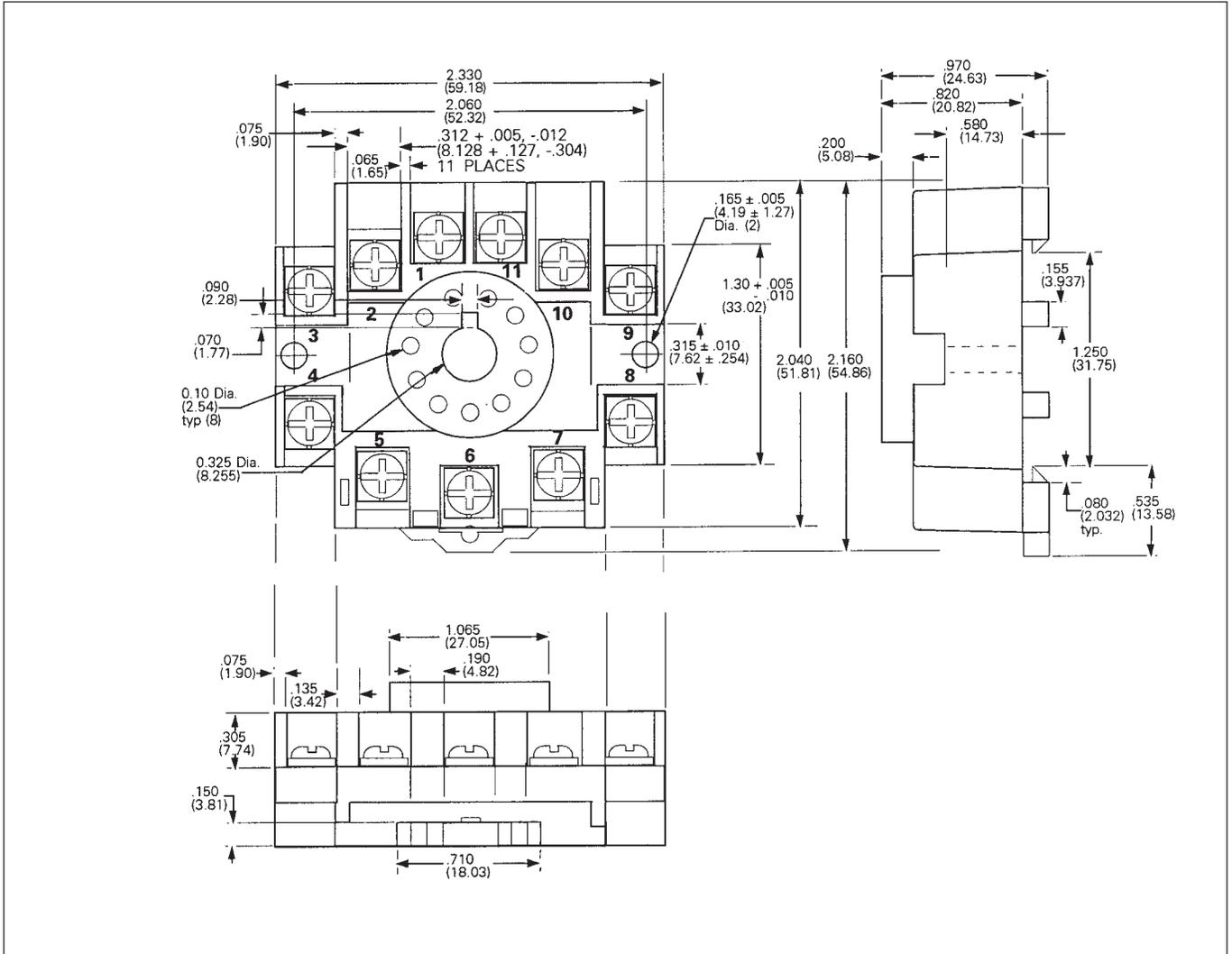
Specifications

Electrical Rating:	300V rms, 15 AMPS 600V rms 5 AMPS
Dielectric Withstanding Voltage:	2000V rms Min. between all electrical elements of opposite polarity including a metal mounting surface
CONSTRUCTION	
Terminals:	Clamping screws: M 3.5 x 0.6 yellow zinc plated with pressure clamp washers. Terminal connections shall be capable of accepting two #12 AWG wires or smaller, one wire on each side of the clamping screw. Terminal wire clamp must provide equally good clamping when either one or two wire conductors are connected to a single terminal.
Molding:	Break resistant high electrical grade thermoplastic Internal electrical current carrying elements conform with UL and CSA requirements for relay sockets, including maximum operating temperature rise limits and electrical spacing.
Grips:	Fit 35mm wide DIN mounting track
Torque:	Max. torque to clamping screws should not exceed 8-10 inch lbs.

8 and 11 Pin Octal Base Relays - Socket Selection

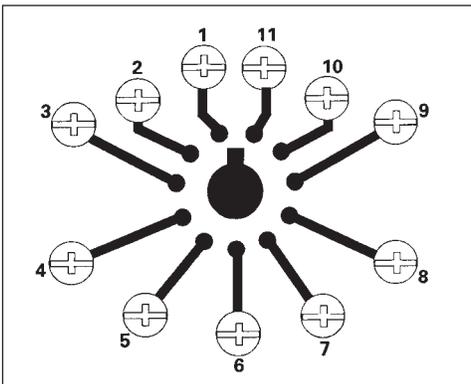
Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Wiring Diagram

Top View



General Purpose Square Base Relays - Premium Line



Features

Green LED status indicator - Allows worker to see the relay status in dark conditions

Mechanical Indicator - Allows worker to see relay status under normal light or bright conditions

Push to test button with pull-out locking tab-makes testing and analyzing your circuit easier

Easy Grip cover - Adds to the ease of removing the relay from the socket

Removable I.D. Label - Allows for easy identification

Premium Line 12A, Square Base, DPDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7115-5LC13	24VAC	\$17.00	3TX7144-1E4
3TX7115-5LF13	120VAC	\$17.00	3TX7144-1E4
3TX7115-5LH13	240VAC	\$17.00	3TX7144-1E4
3TX7115-5LB03	12VDC	\$17.00	3TX7144-1E4
3TX7115-5LC03	24VDC	\$17.00	3TX7144-1E4
3TX7115-5LF03	110VDC	\$17.00	3TX7144-1E4

Premium Line 12A, Square Base, 3PDT

3TX7115-5NC13	24VAC	\$17.50	3TX7144-1E4
3TX7115-5NF13	120VAC	\$17.50	3TX7144-1E4
3TX7115-5NH13	240VAC	\$17.50	3TX7144-1E4
3TX7115-5NB03	12VDC	\$17.50	3TX7144-1E4
3TX7115-5NC03	24VDC	\$17.50	3TX7144-1E4
3TX7115-5NF03	110VDC	\$17.50	3TX7144-1E4



UL Contact Ratings Table

POLES	120 VAC	240 VAC	28 VDC
2 & 3 POLE	12 AMP 1/3 HP	12 AMP 1/2 HP	12 AMP

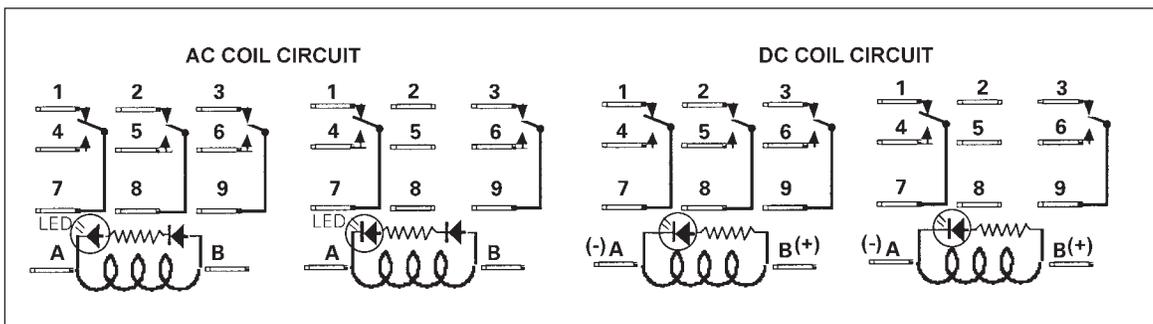
Typical Operating Characteristics

(For DC voltage types only @ 25°C)

POLES	DPDT	3PDT
Min. Operate mW Sensitivity	250	375
Operate Time (Milliseconds maximum)	20.0	24.0
Release Time (Milliseconds maximum)	28.0	26.0

Wiring Diagrams

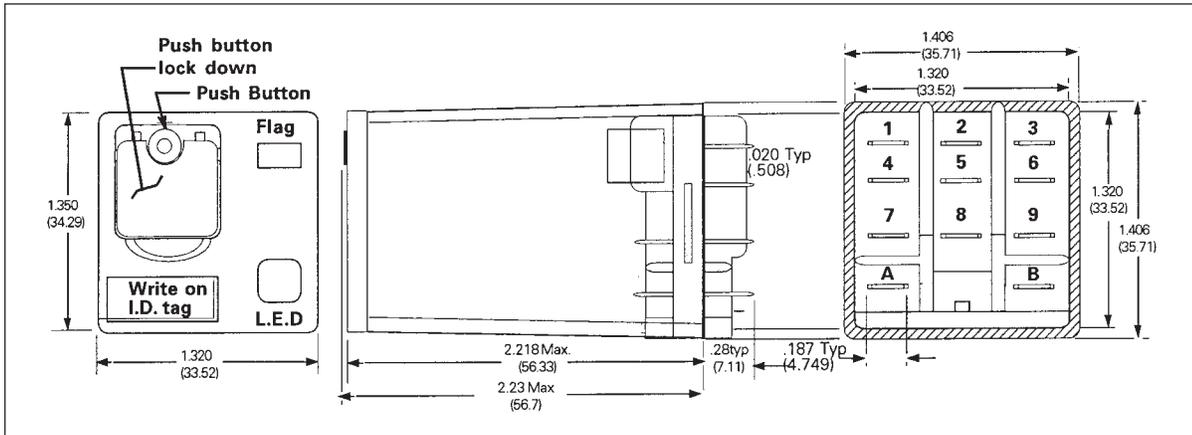
Viewed from pin end



General Purpose Square Base Relays - Premium Line

Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Specifications

COIL	
Pull-in voltage:	80% of nominal voltage or less. for DC coils 85% of nominal voltage or less for AC coils.
Drop-out voltage:	≥10% of nominal voltage.
Coil resistance:	± 10 % measured @ 25°C
Minimum sensitivity:	125 milliwatts per pole
Nominal power:	1.2 Watts for DC coils, 2 VA-2.75VA for AC coils
Maximum coil dissipation:	Capability of DC coils 3.0 Watts max.
Insulation System	Class "B" (130°C per UL std. 1446)
Duty:	Continuous
CONTACTS	
Contact material:	3/16" silver cadmium oxide, gold flashed.
Contact resistance:	50 milliohms maximum @ 10A, 120VAC or 24 VDC
	Contact conditioned for 50 make & break operations at 1 second "ON" and 1 second "OFF"
Minimum Load:	12 V @ 100 Milliamps
TIMING	
Operate time:	Max. 20 ms
Release time:	Max. 15 ms
DIELECTRIC STRENGTH	
Contacts to coil:	2500 V rms
Across open contacts:	1500 V rms
Pole to pole:	2500 V rms
Contacts to frame:	2500 V rms
Insulation resistance:	100 Megohms min. @ 500VDC

TEMPERATURE	
Ambient Temperature (Operating):	-30°C to +50°C (AC), -30°C to +65°C (DC)
Non operating storage:	-30°C to +100°C
SHOCK RESISTANCE	
Operating:	5 G's,
Non operating:	20 G's
VIBRATION RESISTANCE	
Operating:	5 G's, 10 Hz to 55 Hz
LIFE	
Electrical:	200,000 Operations
Mechanical:	5,000,000 Operations
MISCELLANEOUS	
Insulation material:	Molded plastic
Operating Position:	Any
Terminals:	3/16" x .020 Q.C. Solder/ plug-in
Weight:	83 grams approx.

General Purpose Square Base Relays - Basic Line



Features

Available in multiple coil voltages

Styles available with current ratings up to 16A and 25A

Economical

Mechanical Indicator - Allows worker to see relay status under normal light or bright conditions

Push to test button - Makes testing and analyzing your circuit easier

Various contact configurations: DPDT, 3PST and 3PDT

Both Socket Mount and Panel Flange Mount available



16A, Square Base, DPDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7113-5DC13	24VAC	\$16.00	3TX7144-1E4
3TX7113-5DF13	120VAC	\$16.00	3TX7144-1E4
3TX7113-5DH13	240VAC	\$16.00	3TX7144-1E4
3TX7113-5DB03	12VDC	\$16.00	3TX7144-1E4
3TX7113-5DC03	24VDC	\$16.00	3TX7144-1E4

16A, Mounting Bracket, DPDT

3TX7113-6DC13	24VAC	\$16.00	Require .187 Quick Connect
3TX7113-6DF13	120VAC	\$16.00	Require .187 Quick Connect
3TX7113-6DH13	240VAC	\$16.00	Require .187 Quick Connect
3TX7113-6DB03	12VDC	\$16.00	Require .187 Quick Connect
3TX7113-6DC03	24VDC	\$16.00	Require .187 Quick Connect

25A, Mounting Bracket, DPDT

3TX7113-4DC13	24VAC	\$16.50	Require .250 Quick Connect
3TX7113-4DF13	120VAC	\$16.50	Require .250 Quick Connect
3TX7113-4DH13	240VAC	\$16.50	Require .250 Quick Connect
3TX7113-4DC03	24VDC	\$16.50	Require .250 Quick Connect
3TX7113-4DB03	12VDC	\$16.50	Require .250 Quick Connect

16A, Square Base, 3PST

3TX7113-5EC13	24VAC	\$16.00	3TX7144-1E4
3TX7113-5EF13	120VAC	\$16.00	3TX7144-1E4
3TX7113-5EH13	240VAC	\$16.00	3TX7144-1E4
3TX7113-5EC03	24VDC	\$16.00	3TX7144-1E4

16A, Square Base, 3PDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7113-5FC13	24VAC	\$16.00	3TX7144-1E4
3TX7113-5FF13	120VAC	\$16.00	3TX7144-1E4
3TX7113-5FG13	220VAC	\$16.00	3TX7144-1E4
3TX7113-5FB03	12VDC	\$16.00	3TX7144-1E4
3TX7113-5FC03	24VDC	\$16.00	3TX7144-1E4

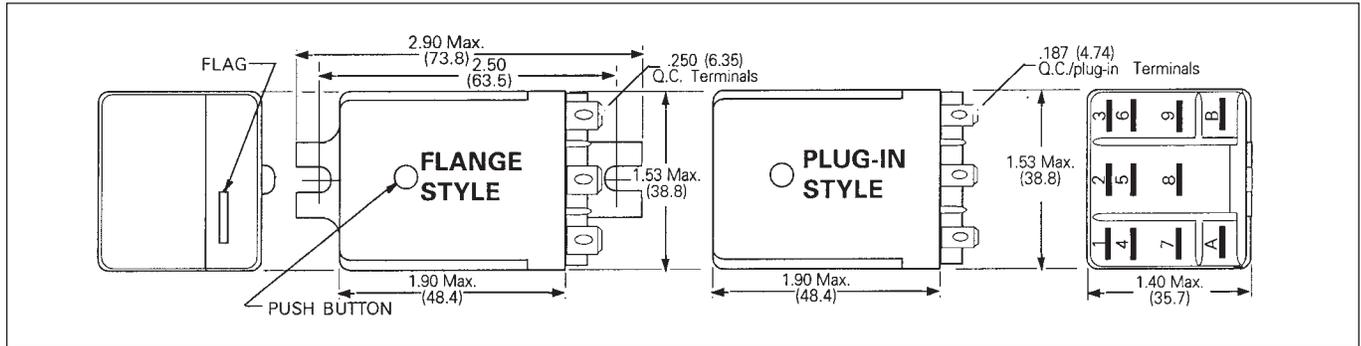
16A, Mounting Bracket, 3PDT

3TX7113-6FC13	24VAC	\$16.00	Require .187 Quick Connect
3TX7113-6FF13	120VAC	\$16.00	Require .187 Quick Connect
3TX7113-4FF13	120VAC	\$16.00	Require .250 Quick Connect
3TX7113-6FH13	240VAC	\$16.00	Require .187 Quick Connect
3TX7113-6FC03	24VDC	\$16.00	Require .187 Quick Connect

General Purpose Square Base Relays - Basic Line

Outline Dimensions

Dimensions shown in Inch & (Millimeters)



Specifications

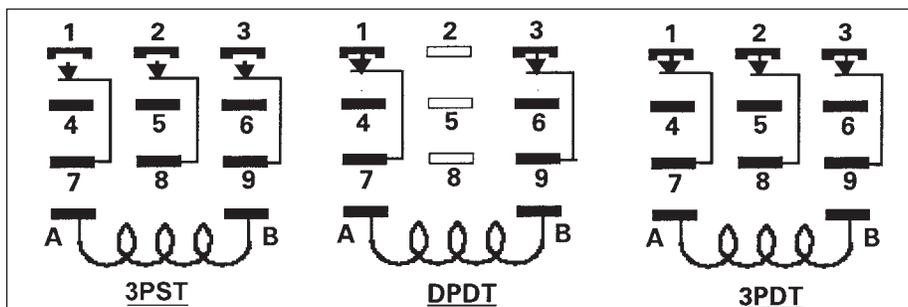
COIL	
Pull-in voltage:*	80% of nominal voltage or less, for DC coils. 85% of nominal voltage or less for AC coils.
Drop-out voltage:	≥10% of nominal voltage.
Coil resistance:*	± 10 %
Coil insulation:	Class "B" coil insulation system (130°C) per UL Standard 1446
COIL POWER	
Maximum coil dissipation:*	Capability of DC coils 2.5 Watts max.
Duty:	Continuous
CONTACTS	
Contact material:	1/4" silver cadmium oxide, gold flashed
Contact gap:	0.015 min. is standard
Contact resistance:	50 Milliohms max. initial resist. at rated current
TIMING	
Operate time, (exc. bounce):	20 ms typical at nominal voltage.
Release time, (exc. bounce):	20 ms typical at nominal voltage.

DIELECTRIC STRENGTH	
Contacts to coil:	2000 V rms
Across open contacts:	500 V rms
Pole to pole:	2000 V rms
Contacts to frame:	2000 V rms
Insulation resistance:	1000 megohms min. @ 500 VDC.
TEMPERATURE	
Operating:	-30°C to +50°C (AC), -30°C to +60°C (DC)
Storage:	-30°C to 100°C
LIFE	
Electrical:	100,000 at rated load.
Mechanical:	5 Million Operations no load
MISCELLANEOUS	
Insulation material:	Molded plastic
Terminals:	.250 x 0.032 QC, .187 x 0.020 QC plug-in
Weight:	3.3 ozs. (94 grams) approx. with cover.

*Measured at 25°C

Wiring Diagrams

Viewed from pin end



NEMA Pilot Duty Contact Ratings

Rating Codes for AC control-circuit contacts at 50/60Hz

NEMA CONTACT CODE DESIGNATION	THERMAL CONTINUOUS TEST CURRENT AMPERES	MAXIMUM CURRENT, AMPERES									
		120 VOLTS 50/60Hz		240 VOLTS 50/60Hz		480 VOLTS 50/60Hz		600 VOLTS 50/60Hz		MAXIMUM VOLT-AMPERES	
		Make	Break	Make	Break	Make	Break	Make	Break	Make	Break
B300	5	30	3.00	15	1.50	-	-	-	-	3600	360
B600	5	30	3.00	15	1.50	0.75	0.75	6	0.06	3600	360



Features

Available in multiple coil voltages

Available with current ratings up to 15A and 20A

Economical

DPDT and 3PDT contact configurations

Both Socket Mount and Panel Flange Mount available



15A, Square Base, DPDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7121-5DB13	12VAC	\$13.50	3TX7144-1E4
3TX7121-5DC13	24VAC	\$13.50	3TX7144-1E4
3TX7121-5DF13	120VAC	\$13.50	3TX7144-1E4
3TX7121-5DH13	240VAC	\$13.50	3TX7144-1E4
3TX7121-5DB03	12VDC	\$13.50	3TX7144-1E4
3TX7121-5DC03	24VDC	\$13.50	3TX7144-1E4
3TX7121-5DF03	110VDC	\$13.50	3TX7144-1E4

15A, Square Base, 3PDT

3TX7121-5FB13	12VAC	\$14.50	3TX7144-1E4
3TX7121-5FC13	24VAC	\$14.50	3TX7144-1E4
3TX7121-5FF13	120VAC	\$14.50	3TX7144-1E4
3TX7121-5FH13	240VAC	\$14.50	3TX7144-1E4
3TX7121-5FB03	12VDC	\$14.50	3TX7144-1E4
3TX7121-5FC03	24VDC	\$14.50	3TX7144-1E4
3TX7121-5FF03	110VDC	\$14.50	3TX7144-1E4

20A, Square Base, DPDT

3TX7122-5DC13	24VAC	\$15.50	3TX7144-1E4
3TX7122-5DF13	120VAC	\$15.50	3TX7144-1E4
3TX7122-5DH13	240VAC	\$15.50	3TX7144-1E4
3TX7122-5DB03	12VDC	\$15.50	3TX7144-1E4
3TX7122-5DC03	24VDC	\$15.50	3TX7144-1E4
3TX7122-5DF03	110VDC	\$15.50	3TX7144-1E4

15A, Mounting Bracket, DPDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7121-6DC13	24VAC	\$14.00	Require .187 Quick Connect
3TX7121-6DF13	120VAC	\$14.00	Require .187 Quick Connect
3TX7121-6DB03	12VDC	\$14.00	Require .187 Quick Connect
3TX7121-6DC03	24VDC	\$14.00	Require .187 Quick Connect
3TX7121-6DF03	110VDC	\$14.00	Require .187 Quick Connect

15A, Mounting Bracket, 3PDT

3TX7121-6FC13	24VAC	\$14.50	Require .187 Quick Connect
3TX7121-6FF13	120VAC	\$14.50	Require .187 Quick Connect
3TX7121-6FH13	240VAC	\$14.50	Require .187 Quick Connect
3TX7121-6FB03	12VDC	\$14.50	Require .187 Quick Connect
3TX7121-6FC03	24VDC	\$14.50	Require .187 Quick Connect
3TX7121-6FF03	110VDC	\$14.50	Require .187 Quick Connect

UL Contact Ratings Table

POLES	120 VAC	240 VAC	28 VDC
2 & 3	12 AMP	12 AMP	12 AMP
POLE	1/3 HP	1/2 HP	

Typical Operating Characteristics

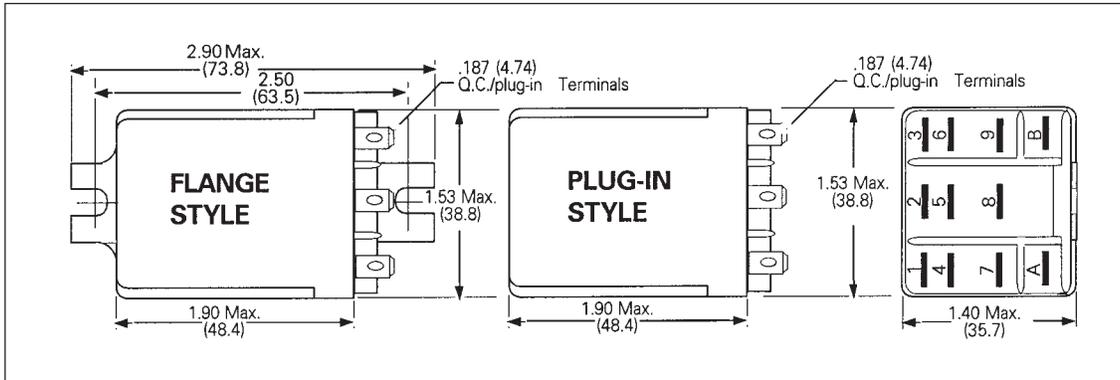
(For DC voltage types only @ 25°C)

POLES	DPDT	3PDT
Min. Operate mW	250	375
Sensitivity		
Operate Time (Milliseconds maximum)	20.0	24.0
Release Time (Milliseconds maximum)	28.0	26.0

General Purpose Square Base Relays - Basic Line

Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Specifications

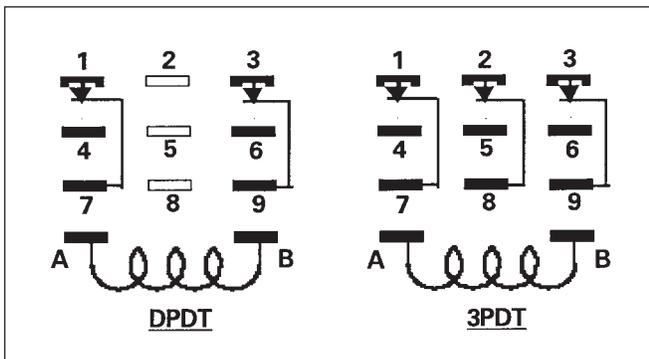
COIL	
Pull-in voltage:*	80% of nominal voltage or less for DC coils 85% of nominal voltage or less for AC coils
Drop-out voltage:	≥10% of nominal voltage.
Resistance:*	± 10 %
Coil power:*	1.2 Watts for DC coils, 2 VA to 2.75 VA for AC coils
Insulation System:	Class "B" (130°C per UL std. 1446)
Maximum coil dissipation:	Capability of DC coils 3.0 Watts max.
Duty:	Continuous
CONTACTS	
Contact material:	3/16" silver cadmium oxide, gold flashed
Contact resistance:	50 Milliohms maximum initial resistance at rated current
DIELECTRIC STRENGTH	
Across open contacts:	500 V rms
Pole to pole	2000 V rms
Contacts to frame:	2000 V rms
Insulation resistance:	1000 Megohms min. @ 500 VDC

*Measured at 25°C

TEMPERATURE	
Operating:	-30°C to +50°C (AC), -30°C to +65°C (DC)
Storage:	-30°C to 100°C
LIFE EXPECTANCY	
Electrical:	100,000 Operations @ rated AC load
Mechanical:	5,000,000 Operations @ No load
MISCELLANEOUS	
Operating Position:	Any
Insulation material:	Molded plastic
Terminals:	3/16" (.187) solder/plug-in
Weight:	3.1 oz. (88 g approx).

Wiring Diagrams

Viewed from pin end



Magnetic Latch Relays



Features

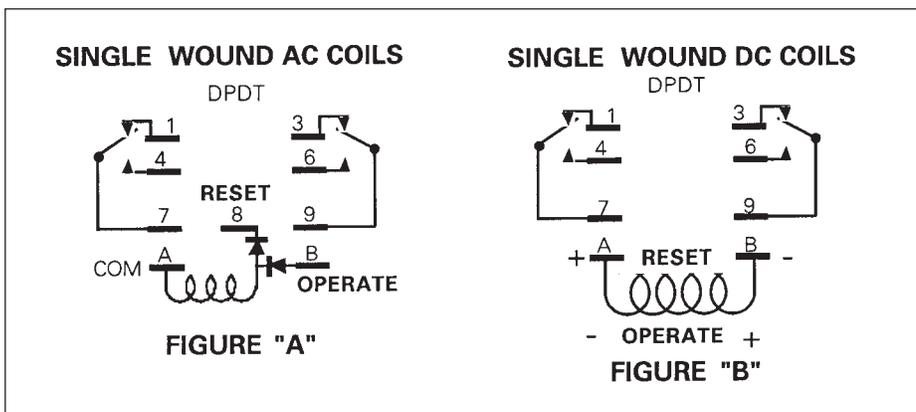
- Available in multiple coil voltages
- Available with current ratings up to 10A
- Economical
- DPDT contact configurations



10 A Latching Relay , DPDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7125-5DC13	24VAC	\$30.00	3TX7144-1E4
3TX7125-5DF13	120VAC	\$30.00	3TX7144-1E4
3TX7125-5DB03	12VDC	\$35.00	3TX7144-1E4
3TX7125-5DC03	24VDC	\$35.00	3TX7144-1E4

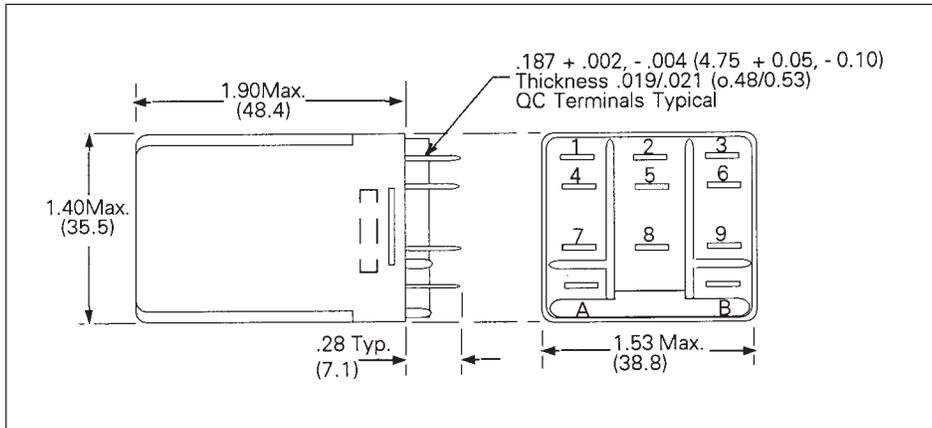
Wiring Diagrams



Magnetic Latch Relays

Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Specifications

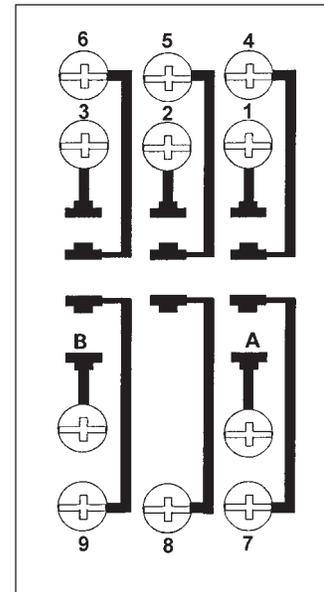
COIL	
Pull-in Voltage:	AC: 85%, DC: 75% of nominal voltage measured at 25°C
Duty Cycle: (Nominal Voltage)	Dual coil are intermittent duty.
Pulse Duration Min.:	30 Milliseconds
MAX. OVER VOLTAGE	
Intermittent:*	5 x Nominal voltage with no false transfer of contacts during operate or reset pulse.
Continuous:*	110% of nominal voltage
Coil Resistance:	±10% Measured @ 25°C
Coil Insulation:	Class "B" (130°C per UL std.1446)
CONTACTS	
Contact Material:	Silver Cadmium Oxide, Gold Flashed.
Contact configuration:	DPDT
Contact Rating:	10 Amps @ 120/240VAC, 28VDC 1/3 HP @ 120 VAC, 1/2 HP @ 240 VAC

TIMING	
Operate Time: (@ Nom. V)	AC: 30 ms max., DC: 20 ms max.
Release Time: (@ Nom. V)	AC: 30 ms max., DC: 20 ms max.
DIELECTRIC STRENGTH	
Across open contacts between current carrying parts to ground:	500 V rms 1500 V rms
Insulation Resistance:	500 VDC Exceeds 1000 Megohms min.
TEMPERATURE	
Temperature Rating:	-45°C to +70°C @ Rated Operation.
LIFE EXPECTANCY	
Mechanical:	10 Million Operations no load
Electrical:	100,000 Operations @ Rated Load.
MISCELLANEOUS	
Terminals:	3/16" (.187) Quick Connect Style
Weight:	3 oz. 85 grams approx.

General Purpose Square Base Relays - Socket Selection



Wiring Diagrams
Top View



Sockets & Accessories

Catalog No.	Additional Description	List Price
3TX7144-1E4	11 Pin, panel/DIN rail, Screwterm socket	\$11.00
3TX7144-3D0	11 Pin, Chassis Mount Socket	\$11.00
3TX7144-1L5	Spring Clip 3TX7144-1E4	\$0.75
3TX7144-4L6	Spring Clip for 3TX7144-3D0	\$0.75
3TX7144-1L2	Spring Clip for 3TX7115	\$0.75



3TX7144-1E4 Specifications

Electrical Rating:	300 V rms, 15 AMPS
Dielectric Withstanding Voltage:	2000 V rms Min. between all electrical elements of opposite polarity including a metal mounting surface
CONSTRUCTION	
Terminals:	Clamping screws: M 3.5 x 0.6 yellow zinc plated with pressure clamp washers. Terminal connections shall be capable of accepting two #12 AWG wires or smaller, one wire on each side of the clamping screw. Terminal wire clamp must provide equally good clamping when either one t two wire conductors are connected to a single terminal.
Molding:	Break resistant high electrical grade thermoplastic. Internal electrical current carrying elements must conform with UL and CSA requirements for relay sockets, including maximum operating temperature rise limits and electrical spacing.
Grips:	To fit 35mm DIN mounting track.
Torque:	Max. torque to clamping screws should not exceed 8-10 inch lbs.

Spring clip 3TX144-1L5 ordered separately

3TX7144-3D0 Specifications

Electrical Rating:	300 V rms, 15 AMPS
Dielectric Withstanding Voltage:	2000 V rms Min. between all electrical elements of opposite polarity including a metal mounting surface
CONSTRUCTION	
Terminals:	.187 quick connect
Molding:	Break resistant high electrical grade thermoplastic. Internal electrical current carrying elements conform with UL and CSA requirements for relay sockets, including maximum operating temperature rise limits and electrical spacing.
Clip:	Hold down 3TX7144-4L6 clips not supplied with socket and are ordered and supplied separately.

Miniature Relays - Premium Line



Features

Green LED status indicator - Allows worker to see the relay status in dark conditions

Mechanical Indicator - Allows worker to see relay status under normal light or bright conditions

Push to test button - Makes testing and analyzing your circuit easier

Easy Grip cover - Adds to the ease of removing the relay from the socket

Removable I.D. Label - Allows for easy identification

Convenient cover adapters - Adds flexibility for socketless mounting for either soldering or quick connect leads with DIN rail mount or flange mount adapters

Premium Line 15A, SPDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7110-5JC13	24VAC	\$10.00	3TX7144-1E7
3TX7110-5JF13	120VAC	\$10.00	3TX7144-1E7
3TX7110-5JG13	220/230VAC	\$10.00	3TX7144-1E7
3TX7110-5JB03	12VDC	\$10.00	3TX7144-1E7
3TX7110-5JC03	24VDC	\$10.00	3TX7144-1E7



Specifications

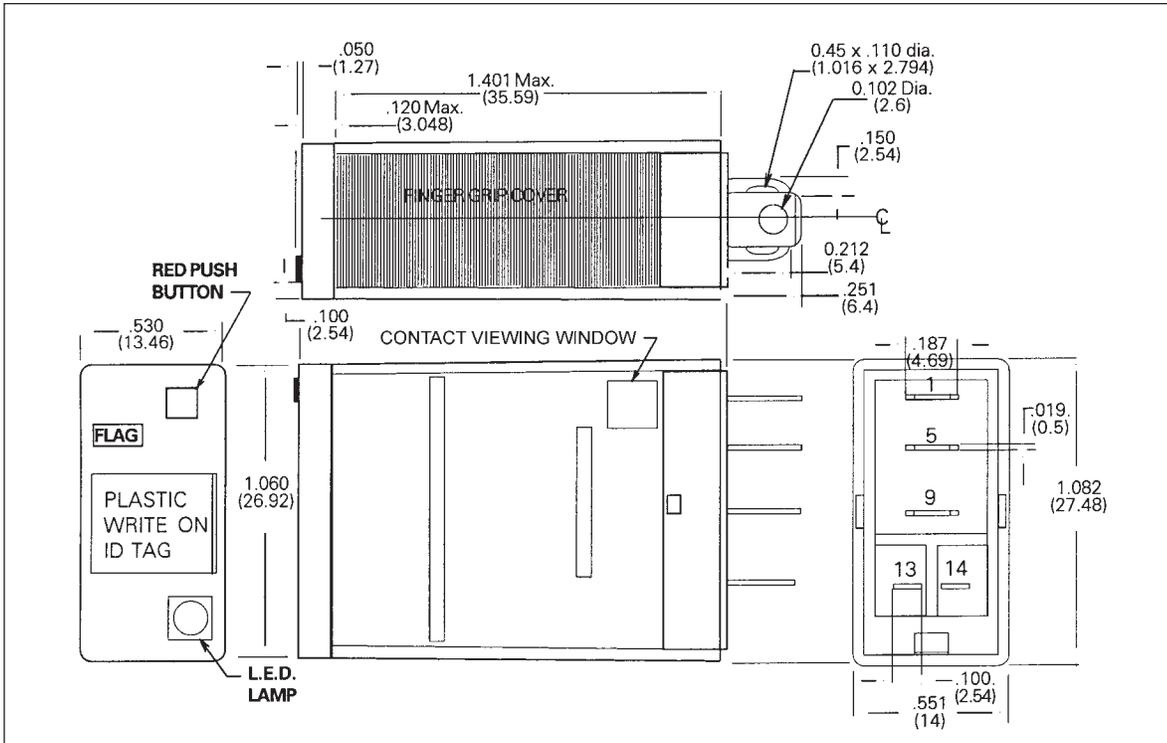
COIL	
Pull-in Voltage:	DC:75%, AC: 80% of Nominal Voltage or less @ 25°C
Drop-out voltage:	DC -10% min., AC - 30% min.
Max. Voltage:	110%
Coil Resistance:	±15% AC & DC
Coil insulation:	Class "B" coil insulation system (130°C per UL standard 1446)
Power consumption (Approx.):	DC: 0.8 Watts DC, AC: 1.1 VA (50Hz), 1.0 VA (60 Hz).
Duty:	Continuous
CONTACTS	
Contact Configurations:	SPDT
Contact Material:	Silver Cadmium Oxide. (Ag-CdO)
Contact Resistance:	50 Milliohms Max. @ 10A, 120VAC or 24 VDC. Contacts to be conditioned for 50 operations make and break @ 1 second ON & 1 second OFF.
Contact Rating:	15 Amps @ 110-120 VAC 50/60 Hz, 15 AMPS @ 28 VDC, 12 AMPS 220-277VAC, 50/60Hz, 1/2 HP, 110-120VAC 50/60Hz, 1 HP 220-250VAC 50/60Hz
TIMING	
Operate Time:	25 ms Max. @ Nominal Voltage
Release Time:	25 ms Max. @ Nominal Voltage

DIELECTRIC STRENGTH	
Coil to Contacts:	1500 V rms (1 minute)
Across Open Contacts:	1000 V rms (1 minute)
Contact to Frame:	1500 V rms (1 minute)
Insulation Resistance:	100 Megohms Min. @ 500 VDC
TEMPERATURE	
Ambient Temperature:	-40°C to + 70°C @ Rated Operation
VIBRATION RESISTANCE	
Functional:	10 to 55 Hz; 1mm (Double Amplitude)
SHOCK RESISTANCE	
Mechanical Durability:	Mechanical Durability, 1000 m/s ² (approx. 100 G)
Malfunction Durability:	Malfunction Durability, 2000 m/s ² (approx. 20 G)
LIFE EXPECTANCY	
Mechanical (No Load):	10,000,000 Operations
Electrical (Rated Load):	150,000 Operations Min. (at rated Resistive load)
MISCELLANEOUS	
Weight:	24g (Approx.)

Miniature Relays - Premium Line

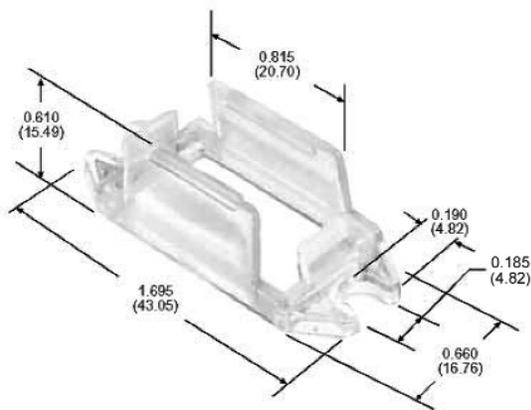
Outline Dimensions

Dimensions shown in Inches & (Millimeters)



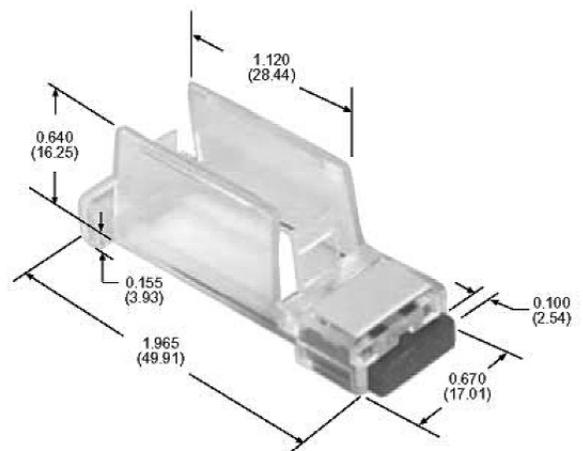
Catalog No.	Description	List Price
3TX7144-3L5	Top/Bottom Flange for 3TX7110 style relay	\$0.75
3TX7144-3L4	Top Din Rail Adapter for 3TX7110	\$1.25

3TX7144-3L5 FLANGE ADAPTER



ALL DIMENSIONS SHOWN ARE ± 0.010 TOLERANCE

3TX7144-3L4 DIN ADAPTER



ALL DIMENSIONS SHOWN ARE ± 0.010 TOLERANCE
 FITS STANDARD 35 MILLIMETER DIN RAIL

Miniature Relays - Premium Line



Features

Green LED status indicator - Allows worker to see the relay status in dark conditions

Mechanical Indicator - Allows worker to see relay status under normal light or bright conditions

Push to test button with pull-out locking tab - Makes testing and analyzing your circuit easier

Easy Grip cover - Adds to the ease of removing the relay from the socket

Removable I.D. Label - Allows for easy identification

Convenient cover adapters - Adds flexibility for socketless mounting for either soldering or quick connect leads with DIN rail mount or flange mount adapters

Premium Line 5A, DPDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7111-3LC13	24VAC	\$11.00	3TX7144-1E5
3TX7111-3LF13	120VAC	\$11.00	3TX7144-1E5
3TX7111-3LC03	24VDC	\$11.00	3TX7144-1E5



Specifications

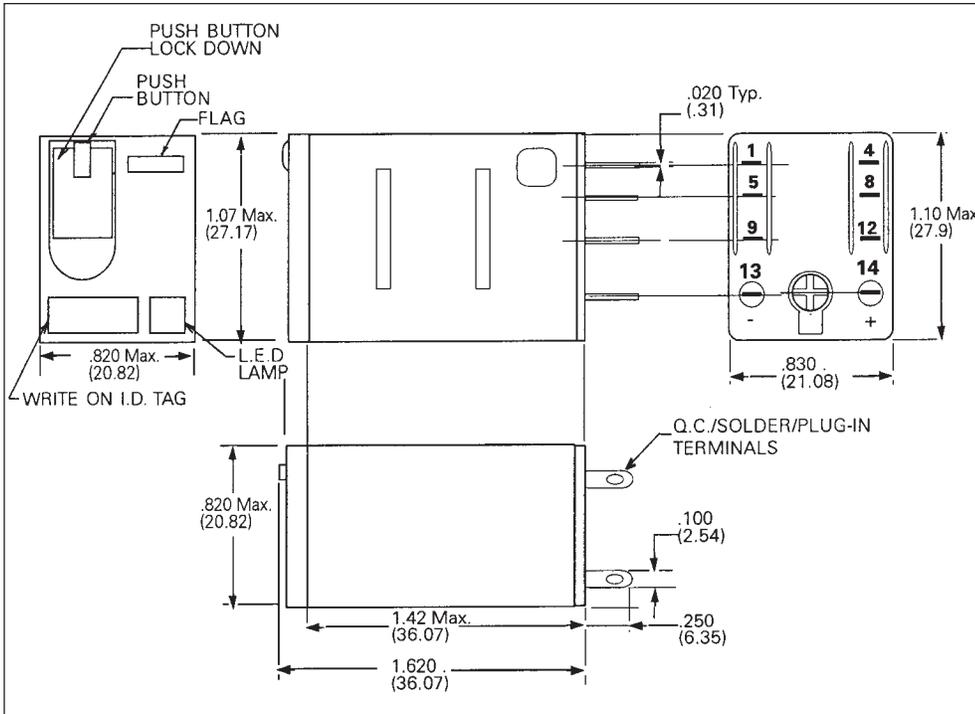
COIL	
Pull-in Voltage:	75% of Nominal Voltage or less for DC, 80% of nominal or less for AC.
Drop-out voltage:	DC -10% min., AC - 30% min.
Max. Voltage:	110% of nominal voltage
Coil Resistance:	±15% AC & DC measured @ 25°C
Coil Insulation:	Class "B" coil insulation system (130°C per UL standard 1446)
Maximum coil dissipation:	2.3 Watts DC, 2.55 VA (60Hz) AC
Duty:	Continuous
CONTACTS	
Contact Configurations:	DPDT
Contact Material:	5 Amp, Silver Cadmium Oxide (gold flashed)
Contact Resistance:	100 Milliohms Max (3 & 5 @ 6V, 1 Amp) 50 Milliohms Max. (3 Amp bifurcated) @ 6V, 0.1 AMP
Contact Rating:	5 Amps @ 120 VAC, 30VDC, 1/10HP 120/240VAC, C300 pilot duty
TIMING	
Operate Time:	25 ms Max. @ Nominal Voltage
Release Time:	25 ms Max. @ Nominal Voltage

DIELECTRIC STRENGTH	
Coil to Frame:	1500V rms
Across Open Contacts:	1000V rms
Contact to Frame:	1500V rms
Insulation Resistance:	100 Megohms Min. @ 500 VDC
TEMPERATURE	
Ambient Temperature:	-40°C to + 70°C @ Rated Operation
VIBRATION RESISTANCE	
Functional:	10 to 55 Hz; 1mm (Double Amplitude)
SHOCK RESISTANCE	
Mechanical Durability:	Mechanical Durability, 1000 m/s ² (approx. 100 G)
Malfunction Durability:	Malfunction Durability, 2000 m/s ² (approx. 20 G)
LIFE EXPECTANCY	
Mechanical (No Load):	10,000,000 Operations (AC & DC)
Electrical (Rated Load):	200,000 Operations Min. (at rated Resistive load).
MISCELLANEOUS	
Weight:	36 grams Approx.

Miniature Relays - Premium Line

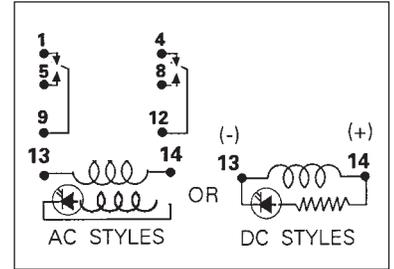
Outline Dimensions

Dimensions shown in Inches & (Millimeters)



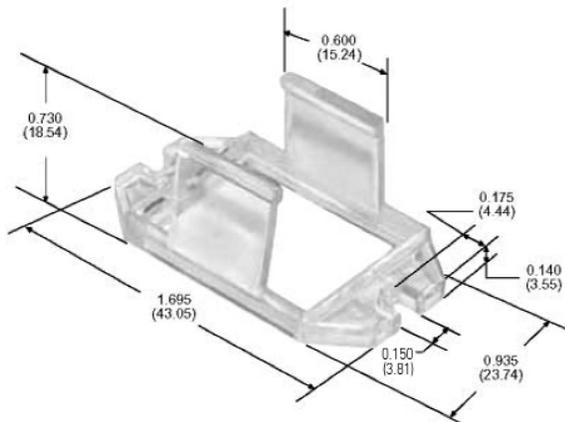
Wiring Diagram

Viewed from pin end



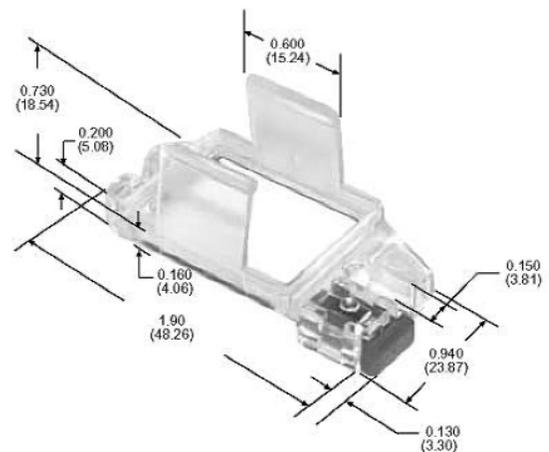
Catalog No.	Description	List Price
3TX7144-3L7	Top/Bottom Flange for 3TX7111 & 3TX7114 style relay	\$0.75
3TX7144-3L6	Top Din Rail Adapter for 3TX7111 & 3TX7114 style relay	\$1.25

3TX7144-3L7 FLANGE ADAPTER



ALL DIMENSIONS SHOWN ARE ±0.010 TOLERANCE

3TX7144-3L6 DIN ADAPTER



ALL DIMENSIONS SHOWN ARE ±0.010 TOLERANCE
FITS STANDARD 35 MILLIMETER DIN RAIL

Miniature Relays - Premium Line



Features

Green LED status indicator - Allows worker to see the relay status in dark conditions

Mechanical Indicator - Allows worker to see relay status under normal light or bright conditions

Push to test button with pull-out locking tab - Makes testing and analyzing your circuit easier

Easy Grip cover - Adds to the ease of removing the relay from the socket

Removable I.D. Label - Allows for easy identification

Convenient cover adapters - Adds flexibility for socketless mounting for either soldering or quick connect leads with DIN rail mount or flange mount adapters

Premium Line 5A, 4PDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7111-3PB13	12VAC	\$11.50	3TX7144-1E5
3TX7111-3PC13	24VAC	\$11.50	3TX7144-1E5
3TX7111-3PF13	120VAC	\$11.50	3TX7144-1E5
3TX7111-3PG13	230VAC	\$11.50	3TX7144-1E5
3TX7111-3PA03	6VDC	\$11.50	3TX7144-1E5
3TX7111-3PB03	12VDC	\$11.50	3TX7144-1E5
3TX7111-3PC03	24VDC	\$11.50	3TX7144-1E5



Specifications

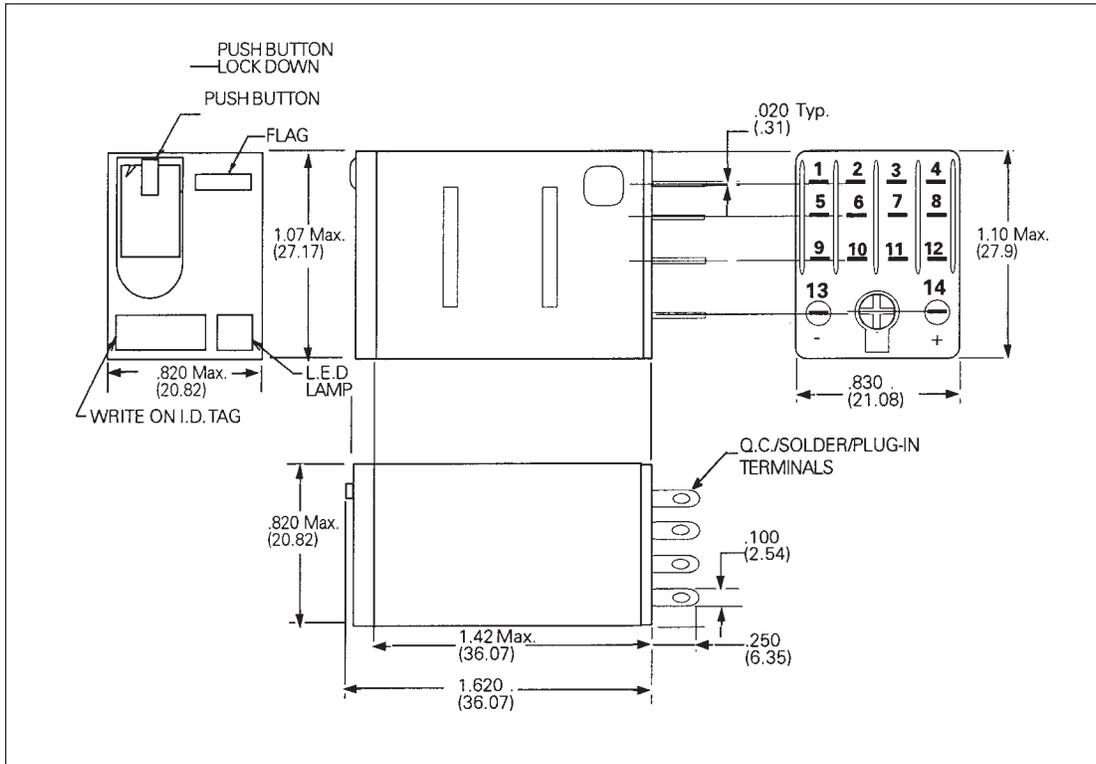
COIL	
Pull-in Voltage:	75% of Nominal Voltage or less for DC, 80% of nominal or less for AC
Drop-out voltage:	DC -10% min., AC - 30% min.
Max. Voltage:	110% of nominal voltage
Coil Resistance:	±15% AC & DC measured @ 25°C
Coil Insulation:	Class "B" coil insulation system (130°C per UL standard 1446)
Maximum coil dissipation:	2.3 Watts DC, 2.55 VA (60Hz) AC
Duty:	Continuous
CONTACTS	
Contact Configurations:	4PDT
Contact Material:	5 Amp, Silver Cadmium Oxide (gold flashed)
Contact Resistance:	100 Milliohms Max (3 & 5 @ 6V, 1 Amp) 50 Milliohms Max. (3 AMP bifurcated) @ 6V, 0.1 Amp
Contact Rating:	5 Amps @ 120 VAC, 30VDC, 1/10HP 120/240VAC, C300 pilot duty
TIMING	
Operate Time:	Max. 25 ms @ Nominal Voltage
Release Time:	Max. 25 ms @ Nominal Voltage

DIELECTRIC STRENGTH	
Coil to Frame:	1500 V rms
Across Open Contacts:	1000 V rms
Contact to Frame:	1500 V rms
Insulation Resistance:	100 Megohms Min. @ 500 VDC
TEMPERATURE	
Ambient Temperature:	-40°C to + 70°C @ Rated Operation
VIBRATION RESISTANCE	
Functional:	10 to 55 Hz; 1mm (Double Amplitude).
SHOCK RESISTANCE	
Mechanical Durability:	Mechanical Durability, 1000 m/s ² (approx. 100 G)
Malfunction Durability:	Malfunction Durability, 2000 m/s ² (approx. 20 G)
LIFE EXPECTANCY	
Mechanical (No Load):	10,000,000 Operations (AC & DC)
Electrical (Rated Load):	200,000 Operations Min. (at rated Resistive load)
MISCELLANEOUS	
Weight:	36 grams Approx.

Miniature Relays - Premium Line

Outline Dimensions

Dimensions shown in Inches & (Millimeters)

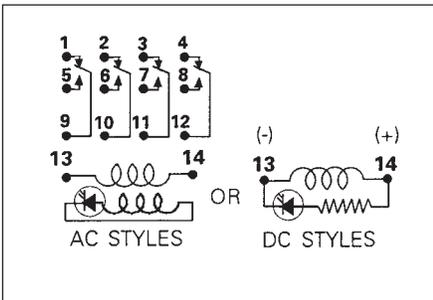


Wiring Diagrams

Viewed from pin end

Note:

For top/bottom flange adaptors see page 24



Miniature Relays - Premium Line



Features

Green LED status indicator - Allows worker to see the relay status in dark conditions

Mechanical Indicator - Allows worker to see relay status under normal light or bright conditions

Push to test button with pull-out locking tab - Makes testing and analyzing your circuit easier

Easy Grip cover - Adds to the ease of removing the relay from the socket

Removable I.D. Label - Allows for easy identification

Convenient cover adapters - Adds flexibility for socketless mounting for either soldering or quick connect leads with DIN rail mount or flange mount adapters.

Premium Line 10A, DPDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7114-5LC13	24VAC	\$11.50	3TX7144-1E6
3TX7114-5LF13	120VAC	\$11.50	3TX7144-1E6
3TX7114-5LH13	240VAC	\$11.50	3TX7144-1E6
3TX7114-5LB03	12VDC	\$11.50	3TX7144-1E6
3TX7114-5LC03	24VDC	\$11.50	3TX7144-1E6
3TX7114-5LF03	110VDC	\$11.50	3TX7144-1E6



Specifications

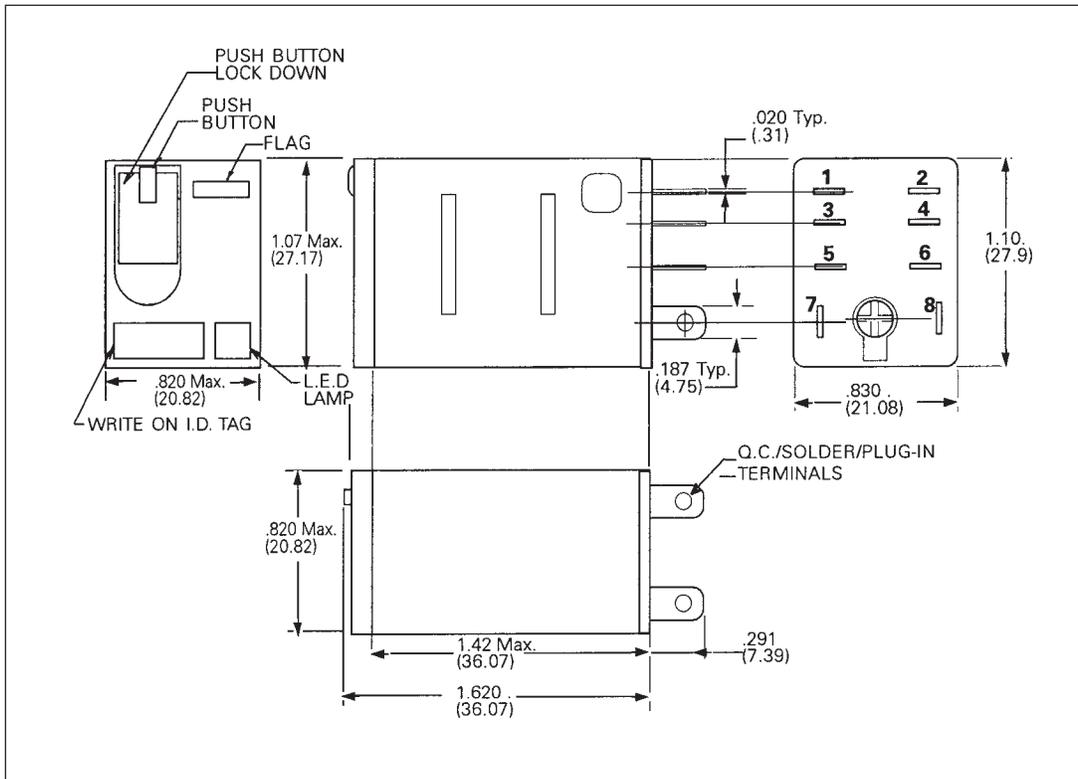
COIL	
Pull-in Voltage:	DC: 75%, AC :80% of Nominal Voltage or less @ 25°C
Dropout:	DC -10% min., AC - 30% min.
Max. Voltage:	110%
Coil Resistance:	±15% AC & DC
Coil insulation:	Class "B" coil insulation system (130°C per UL standard 1446)
Power consumption (Approx.):	DC: 0.8 Watts DC, AC: 1.1 VA (50Hz), 1.0 VA (60 Hz)
Duty:	Continuous
CONTACTS	
Contact Configurations:	DPDT
Contact Material:	Silver Cadmium Oxide. (Ag-CdO)
Contact Resistance:	50 Milliohms Max. @ 10A, 6V
Min. Load:	5V Min. @ 100 mA
Contact Rating:	10 Amps @ 120/240 VAC 50/60 Hz, 10 Amps @ 30 VDC, 1/3 HP; 120VAC 50/60Hz, 1/2 HP 240VAC 50/60Hz Pilot Duty B300
TIMING	
Operate Time:	25 ms Max. @ Nominal Voltage
Release Time:	25 ms Max. @ Nominal Voltage

DIELECTRIC STRENGTH	
Coil to Contacts:	1500 V rms (1minute)
Across Open Contacts:	1000 V rms (1 minute)
Contact to Frame:	1500 V rms (1 minute)
Insulation Resistance:	100 Megohms Min. @ 500 VDC
TEMPERATURE	
Ambient Temperature:	-40°C to + 70°C @ Rated Operation
VIBRATION RESISTANCE	
Functional:	10 to 55 Hz; 1mm (Double Amplitude)
SHOCK RESISTANCE	
Mechanical Durability:	Mechanical Durability, 1000 m/s ² (approx. 100 G)
Malfunction Durability:	Malfunction Durability, 2000 m/s ² (approx. 20 G)
LIFE EXPECTANCY	
Mechanical (No Load):	10,000,000 Operations (AC & DC)
Electrical (Rated Load):	200,000 Operations Min. (at rated Resistive load)
MISCELLANEOUS	
Weight:	37 g (Approx.)

Miniature Relays - Premium Line

Outline Dimensions

Dimensions shown in Inches & (Millimeters)

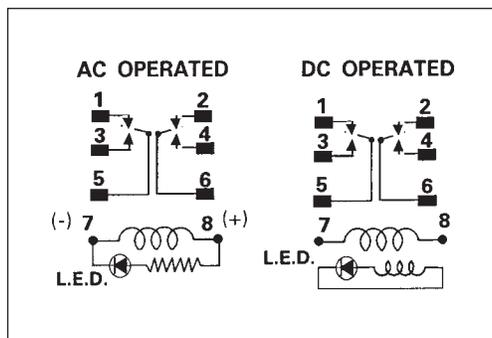


Wiring Diagrams

Viewed from pin end

Note:

For top/bottom flange adaptors see page 24



Miniature Relays - Basic Line



Features

- Available in multiple coil voltages
- Available with current ratings up to 3A & 5A
- Economical
- 4PDT contact configurations
- Uses industry standard socket



Basic Line 3A, 4PDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7126-3HB10	12VAC	\$9.00	3TX7144-1E5
3TX7126-3HC10	24VAC	\$9.00	3TX7144-1E5
3TX7126-3HF10	120VAC	\$9.00	3TX7144-1E5
3TX7126-3HB03	12VDC	\$9.00	3TX7144-1E5
3TX7126-3HC00	24VDC	\$9.00	3TX7144-1E5
3TX7126-3HF00	110VDC	\$9.00	3TX7144-1E5

Basic Line 5A, 4PDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7126-3HF13	120VAC	\$9.00	3TX7144-1E5
3TX7126-3PF13*	120VAC	\$9.00	3TX7144-1E5
3TX7126-3HB03	12VDC	\$9.00	3TX7144-1E5
3TX7126-3HC03	24VDC	\$9.00	3TX7144-1E5
3TX7126-3HF03	110VDC	\$9.00	3TX7144-1E5

*with lamp

Specifications

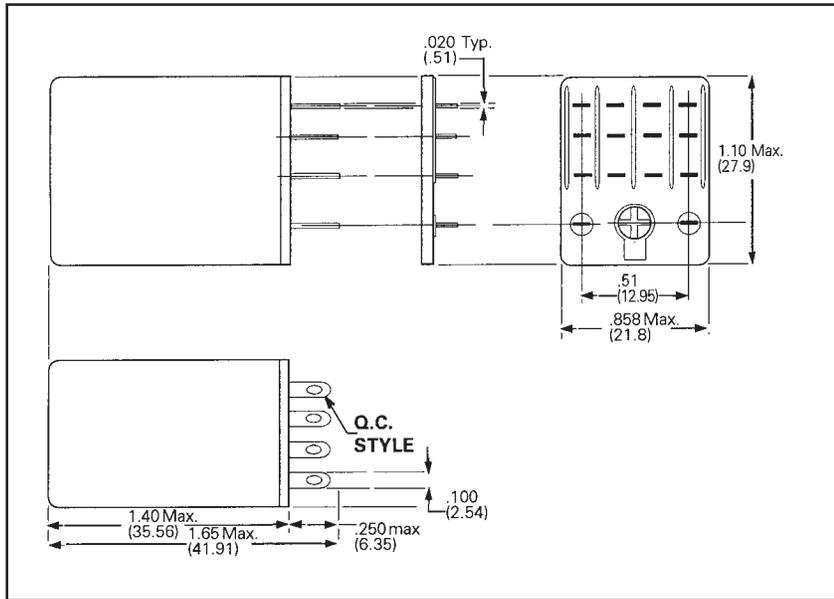
COIL	
Pull-in Voltage:	75% of Nominal Voltage or less for DC, 80% of nominal or less for AC @ 25°C
Drop-out voltage:	DC-10% min., AC-30% min. @ 25°C
Maximum Voltage:	110%
Coil Resistance:	±15% AC & DC @ 25°C
Coil Insulation :	Class "B" Coil Insulation system (130°C per UL standard. 1446)
Maximum coil dissipation:	2.3 Watts DC, 2.55 VA (60Hz) AC, 5 minutes maximum at 40°C
Approx. Continuous (Nominal coil) dissipation:	0.9 to 1.1 Watts DC, 1.2 to 1.4 VA (60Hz) AC
Duty:	Continuous
CONTACTS	
Contact Configuration:	4PDT
Contact Material:	(3A Bifurcated) - Silver gold plate, (3A) - Silver (Gold Flash 10 microinches min.)
Contact Resistance:	100 Milliohms Max. @6V, 1 Amp.
Contact Rating:	3 Amp Bifurcated @ 120/240VAC. 30VDC. 1/16HP (2.8A FLA), 120VAC, pilot duty -5 Amp make, 1/2 amp break. 3 Amps continuous 3 Amp contacts - 3 Amps, 120VAC. 30VDC. 1/10HP. 120/240VAC, C300 Pilot Duty
TIMING	
Operate Time:	25 ms Max. @ Nominal Voltage
Release Time:	25ms Max. @ Nominal Voltage

DIELECTRIC STRENGTH	
Contacts to Coil:	1500 V rms
Across open Contacts:	1000 V rms
Contact to Frame:	1500 V rms
Insulation Resistance:	100 Megohms min. @ 500 VDC
TEMPERATURE	
Operating:	-40°C to + 70°C @ Rated Operation
VIBRATION RESISTANCE	
Functional:	10 to 55Hz; 1mm (Double Amplitude)
SHOCK RESISTANCE	
Mechanical Durability:	Mechanical Durability, 1000 m/s ² (approx. 100 G)
Malfunction Durability:	Malfunction Durability, 2000 m/s ² (approx. 20 G)
LIFE EXPECTANCY	
Mechanical (No Load):	10,000,000 Operations (AC & DC).
Electrical (Rated Load):	200,000 Operations min. (at rated resistive load)
MISCELLANEOUS	
Weight:	1.12 oz. (Approx. 32 g).

Miniature Relays - Basic Line

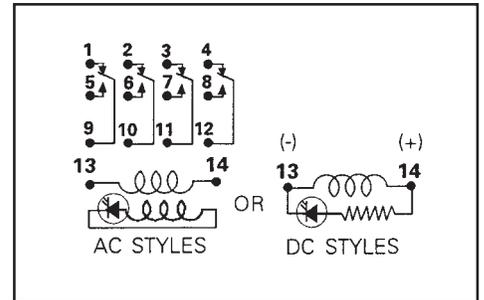
3TX126 Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Wiring Diagrams

Viewed from pin end



Miniature Relays - Basic Line



Features

- Available in multiple coil voltages
- Available with current ratings up to 3A & 5A
- Meet UL Class 1 Division 2
- 4PDT contact configurations
- Uses industry standard socket



Hermetically Sealed, Basic Line 3A, 4PDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7127-3HC10	24VAC	\$60.00	3TX7144-1E5
3TX7127-3HF10	120VAC	\$60.00	3TX7144-1E5
3TX7127-3HB00	12VDC	\$55.00	3TX7144-1E5
3TX7127-3HC00	24VDC	\$55.00	3TX7144-1E5
3TX7127-3HF00	110VDC	\$55.00	3TX7144-1E5

Hermetically Sealed, Basic Line 5A, 4PDT

3TX7127-3HF13	120VAC	\$60.00	3TX7144-1E5
3TX7127-3HB03	12VDC	\$55.00	3TX7144-1E5
3TX7127-3HC03	24VDC	\$55.00	3TX7144-1E5

Contact Material and Ratings Table

Contact Material	Resistive Contact Rating	
	Minimum	Maximum
Silver	100 mA @ 12VAC/12VDC	3A @ 120/240VAC, 28VDC
Silver Cadmium Oxide	500 mA @ 12VAC/12VDC	5A @ 120/240VAC, 28VDC

Specifications

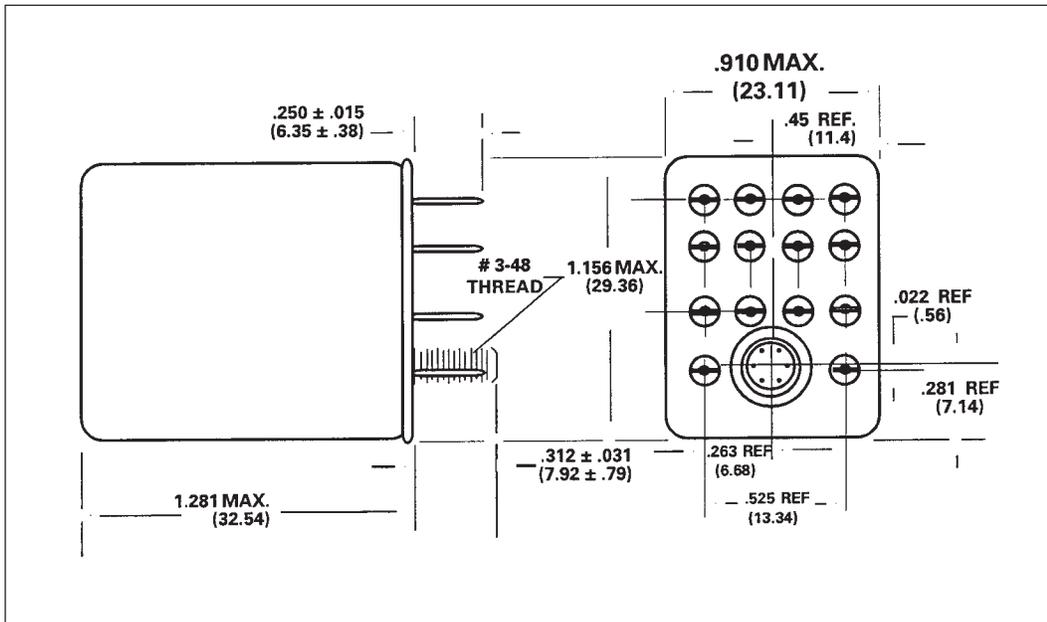
COIL	
Pull-in Voltage:	75% of Nominal Voltage or less for DC, 80% of nominal or less for AC @ 25°C Ambient (Coil Warm and Stabilized)
Drop-out voltage:	DC-10% min., AC-30% min. @ 25°C
Maximum Voltage:	110% of nominal voltage
Coil Resistance:	±15% AC & DC measured @ 25°C
Coil Insulation :	Class "B" Coil Insulation system (130°C per UL standard. 1446)
Maximum intermittent coil dissipation:	2.0 Watts DC, 5 minutes maximum at 25°C
Nominal coil dissipation:	0.9 Watts DC, 1.2 VA (60Hz) AC @ 25°C
Duty:	Continuous
CONTACTS	
Contact Configuration:	4PDT
Contact Material:	See contact material and ratings table
Contact Load min.:	
Contact Rating max.:	
TIMING	
Operate Time:	13 ms max. @ Nominal Voltage typical excluding bounce
Release Time:	6 ms max. @ Nominal Voltage typical excluding bounce

DIELECTRIC STRENGTH	
Contacts to Coil:	1240 V rms
Across open Contacts:	500 V rms
Contact to Frame:	1240 V rms
Insulation Resistance:	100 Megohms min. @ 500VDC
TEMPERATURE	
Operating:	-45°C to +70° C @ Rated Operation
Storage:	-60°C to +130°C
VIBRATION RESISTANCE	
Functional:	10 to 55Hz; 6 g's (Double Amplitude)
SHOCK RESISTANCE	
Operating:	10 g's (11mS)
LIFE EXPECTANCY	
Mechanical (No Load):	10 Million Operations (AC & DC)
Electrical (Rated Load):	100,000 Operations min. (at rated resistive load)
MISCELLANEOUS	
Weight:	1.6 oz. (Approx. 45 g)

Miniature Relays - Basic Line

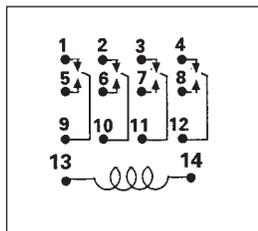
Outline Dimensions

Dimensions shown in Inches & (Millimeters)

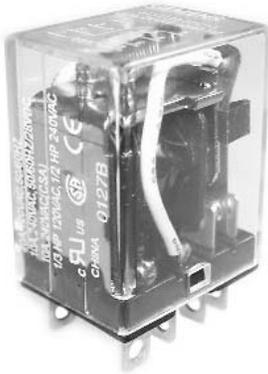


Wiring Diagram

Viewed from pin end



Miniature Relays - Basic Line



Features

- Available in multiple coil voltages
- Available with current ratings up to 10A
- Economical
- DPDT contact configurations
- Socket Mount, Panel Flange Mount, or PCB pins available



Basic Line 10A, DPDT, PC Term

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7123-2DB03	12VDC	\$9.50	Not required
3TX7123-2DC03	24VDC	\$9.50	Not required
3TX7123-2DF03	110VDC	\$9.50	Not required

Basic Line 10A, DPDT

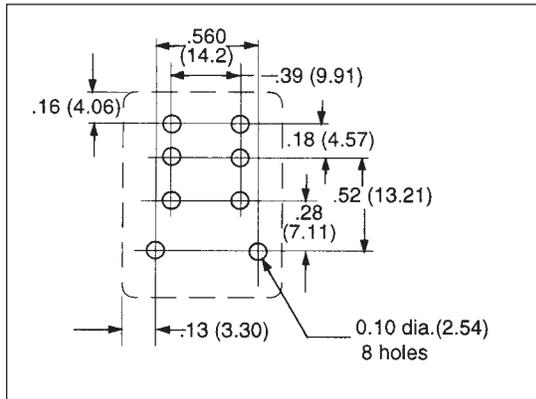
3TX7123-5DB13	12VAC	\$9.50	3TX7144-1E6
3TX7123-5DC13	24VAC	\$9.50	3TX7144-1E6
3TX7123-5DF13	120VAC	\$9.50	3TX7144-1E6
3TX7123-5DB03	12VDC	\$9.50	3TX7144-1E6
3TX7123-5DC03	24VDC	\$9.50	3TX7144-1E6
3TX7123-5DF03	110VDC	\$9.50	3TX7144-1E6

Basic Line 10A, DPDT, Mounting Bracket

3TX7123-6DF13	120VAC	\$9.50	Require .187 Quick Connect
3TX7123-6DB03	12VDC	\$9.50	Require .187 Quick Connect
3TX7123-6DC03	24VDC	\$9.50	Require .187 Quick Connect

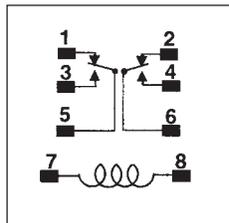
Printed Circuit Board Layout

Bottom view



Wiring Diagram

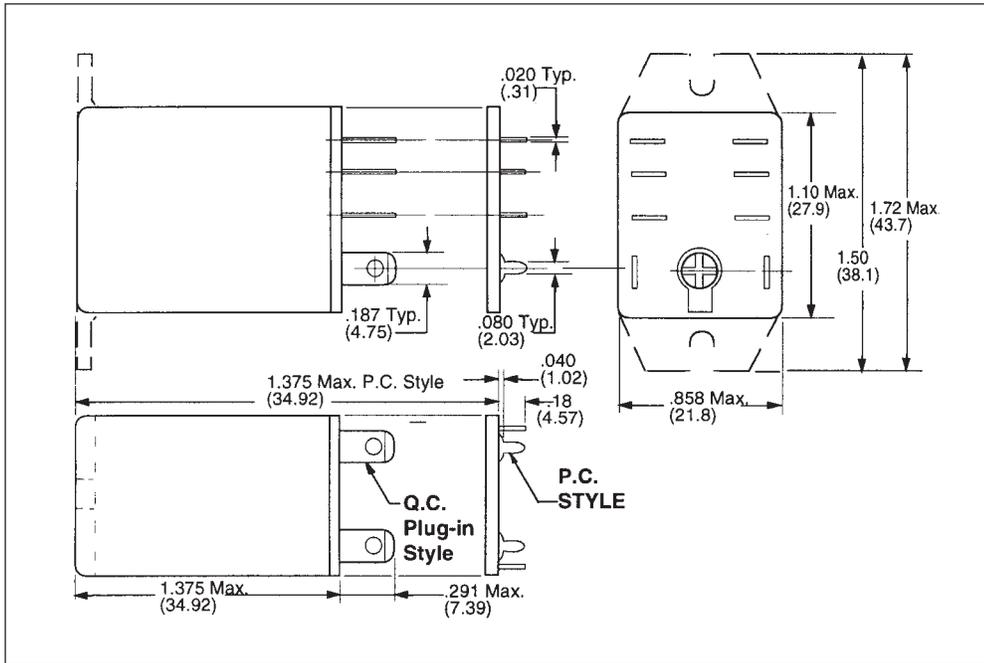
Viewed from pin end



Miniature Relays - Basic Line

Outline Dimensions

Dimensions shown in Inches & (Millimeters)

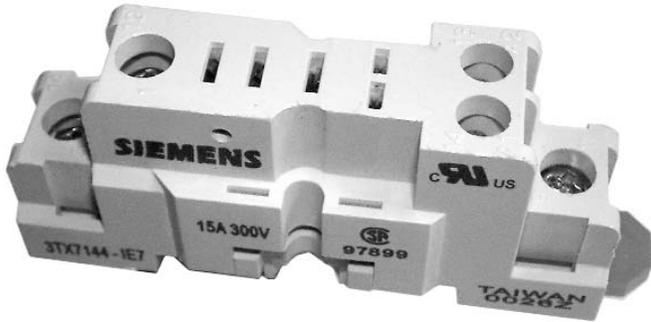


Specifications

COIL	
Pull-in Voltage:	75% of Nominal Voltage or less for DC, 80% of nominal or less for AC
Drop-out voltage:	DC-10% min., AC-30%min.
Maximum Voltage:	110%
Coil Resistance:	±15% AC & DC
Coil Insulation :	Class "B" Coil Insulation system (130°C per UL standard.1446)
Maximum coil dissipation:	2.3 Watts DC, 2.55 VA (60Hz) AC, 5 minutes maximum at 40°C
Approx. Continuous (Nominal coil) dissipation:	0.9 to 1.1 Watts DC, 1.2 to 1.4 VA (60Hz) AC
Duty:	Continuous
CONTACTS	
Contact Configuration:	DPDT
Contact Material:	Silver Cadmium Oxide
Contact Resistance:	100 Milliohms Max. @ 6V, 1 Amp
Contact Rating:	10 AMPS @ 120/240VAC, 30VDC 1/3HP 120, 1/2 HP, 240VAC
TIMING	
Operate:	25 ms max. @ Nominal Voltage
Release:	25 ms max. @ Nominal Voltage

DIELECTRIC STRENGTH	
Contacts to Coil:	1500 V rms
Coil to Frame:	1500 V rms
Contact to Frame:	1500 V rms
Insulation Resistance:	100 Megohms min. @ 500VDC
TEMPERATURE	
Operating:	-40°C to + 70°C @ Rated Operation
VIBRATION RESISTANCE	
Functional:	10 to 55Hz; 1mm (Double Amplitude)
SHOCK RESISTANCE	
Mechanical Durability:	Mechanical Durability, 1000 m/s ² (approx. 100 G)
Malfunction Durability:	Malfunction Durability, 2000 m/s ² (approx. 20 G)
LIFE EXPECTANCY	
Mechanical (No Load):	10,000,000 Operations (AC & DC)
Electrical (Rated Load):	200,000 Operations min. (at rated resistive load)
MISCELLANEOUS	
Weight:	1.41 oz. (Approx. 40 g)

Miniature Relays - Socket Selection



Catalog No.	Coil Voltage	List Price
3TX7144-1E7	SPDT, Panel/DIN rail, Screw term	\$8.00

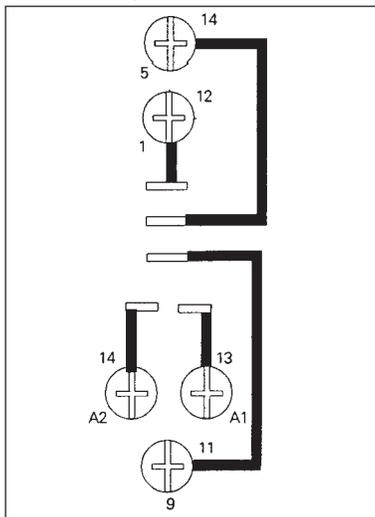
* Hold down clip included

Specifications

Electrical Rating:	300 V, 15 AMPS
Dielectric Withstanding Voltage:	2000 V rms Min. between all electrical elements of opposite polarity including a metal mounting surface
CONSTRUCTION	
Terminals:	Clamping screws: M 3.5 x 0.6 yellow zinc plated with pressure clamp washers. Screws are assembled in the socket with pressure clamping plates under the finger safe blocks. Contact terminal connections shall be capable of accepting two #12 AWG wires or smaller, one wire on each side of the clamping screw. Terminal wire clamp must provide equally good clamping when either one or two wire conductors are connected to a single terminal. Internal connections must be made up of metal tracks. The terminal receptacle and screw terminal plate must be an integral part of the track. (Each track is one piece construction). No soldered or crimped internal wire is allowed in the construction of this socket. Sockets to be molded from break resistant high electrical grade thermoplastic. Internal electrical current carrying elements must conform with UL and CSA requirements for relay sockets, including maximum operating temperature rise limits and electrical spacing.
Torque:	Max. torque to clamping screws should not exceed 6-8 inch lbs.

Wiring Diagram

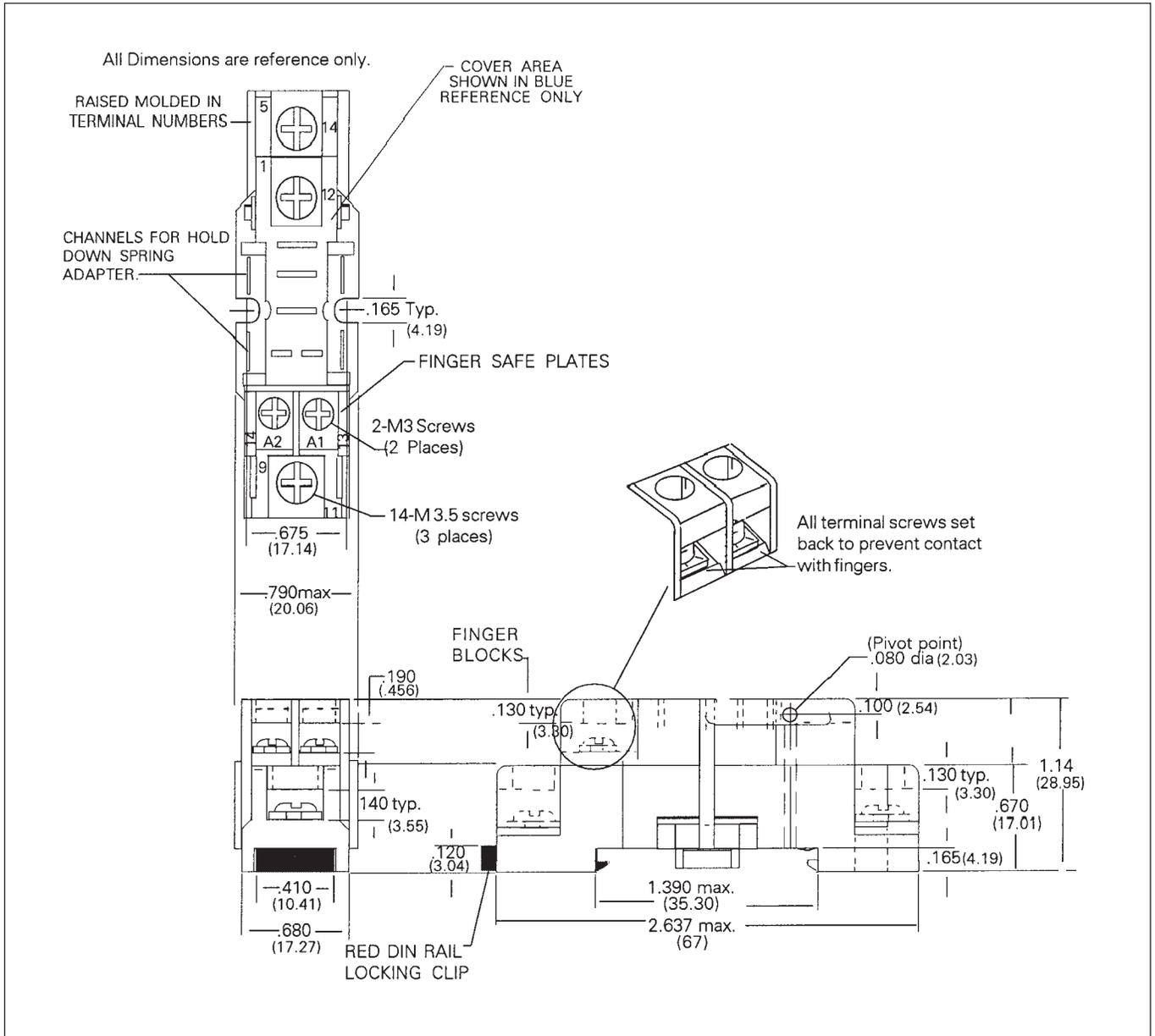
Viewed from pin end



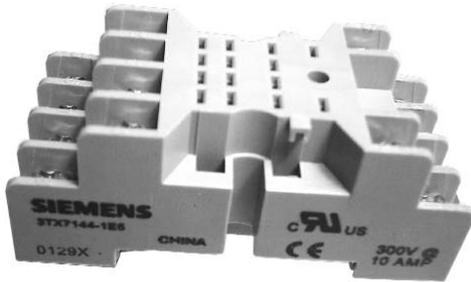
Miniature Relays - Socket Selection

Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Miniature Relays - Socket Selection



Catalog No.	Coil Voltage	List Price
3TX7144-1E5	4 Pole, Panel/DIN rail, Screw term socket	\$12.50



Specifications

Electrical Rating:	300 V rms, 10 AMPS
Dielectric Withstanding Voltage:	1600V rms Min. between all electrical elements of opposite polarity including a metal mounting surface.
CONSTRUCTION	
Terminals:	Clamping screws: M 3 x 0.5 yellow zinc plated with pressure clamp washers. Screws are assembled in the socket with pressure clamping washers. Terminal connections shall be capable of accepting two #16 AWG wires or smaller, one wire on each side of the clamping screw. Terminal wire clamp must provide equally good clamping when either one or two wire conductors are connected to a single terminal.
Molding:	Break resistant high electrical grade thermoplastic. Internal electrical current carrying elements must conform with UL and CSA requirements for relay sockets, including maximum operating temperature rise limits and electrical spacing.
Torque:	Max. torque to clamping screws should not exceed 6-8 inch lbs.

NOTE:

- 1) Basic line spring clip 3TX7144-1L4 ordered separately
- 2) Premium line spring clip 3TX7144-1L1 ordered separately
- 3) Spring clip 3TX7144-1L3 for 3TX7127 hermetically sealed relay ordered separately

Miniature Relays - Socket Selection

Catalog No.	Description	List Price
3TX7144-3E0	Socket	\$4.80

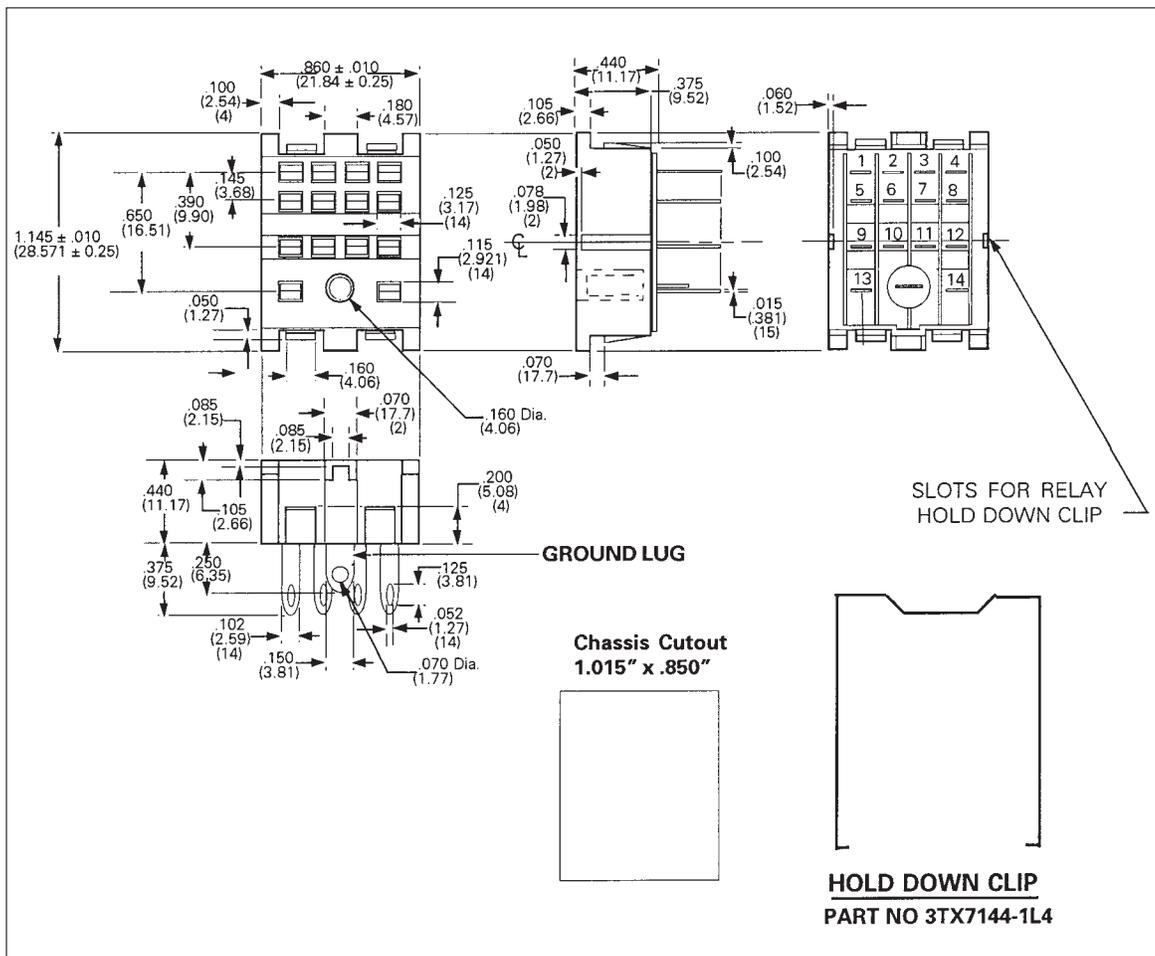


Specifications

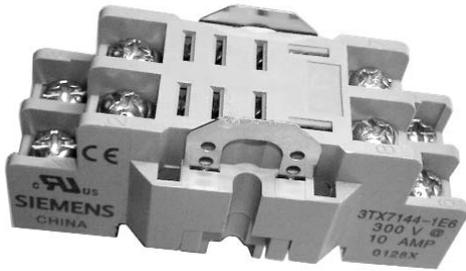
Electrical Rating:	5 AMPS, 120 VAC
Dielectric Withstanding Voltage:	1500 V rms Min. between all electrical elements of opposite polarity including a metal mounting surface
CONSTRUCTION	
Terminals:	Solder
Molding:	Break resistant high electrical grade thermoplastic Internal electrical current carrying elements conform with UL and CSA requirements for relay sockets, including maximum operating temperature rise limits and electrical spacing.
Clip:	Hold down clips not supplied with socket and are ordered and supplied separately

Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Miniature Relays - Socket Selection



Catalog No.	Coil Voltage	List Price
3TX7144-1E6	1 or 2 Pole, Panel/DIN rail, Screw term socket	\$9.00



Specifications

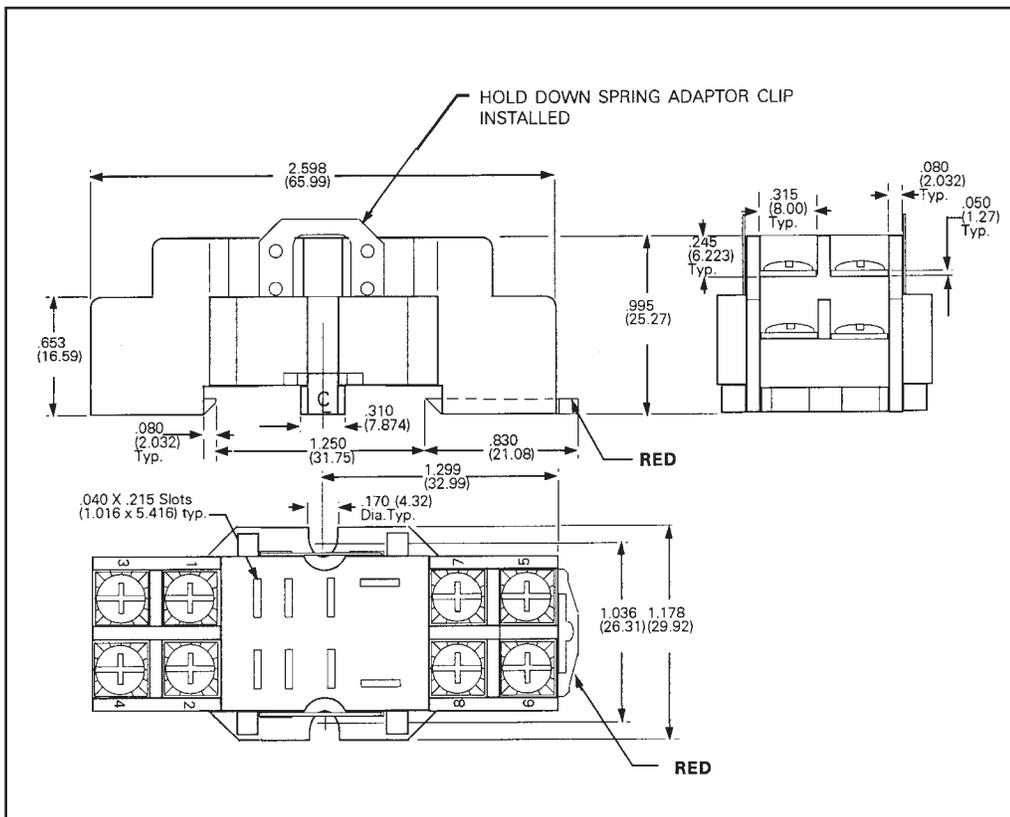
Electrical Rating:	300 V rms, 10 AMPS
Dielectric Withstanding Voltage:	2000 V rms Min. between all electrical elements of opposite polarity including a metal mounting surface.
CONSTRUCTION	
Terminals:	Clamping screws: M 3.5 x 0.6 yellow zinc plated with pressure clamp washers. Terminal connections shall be capable of accepting two #12 AWG wires or smaller, one wire on each side of the clamping screw. Terminal wire clamp must provide equally good clamping when either one or two wire conductors are connected to a single terminal.
Molded:	Break resistant high electrical grade thermoplastic. Internal electrical current carrying elements must conform with UL and CSA requirements for relay sockets, including maximum operating temperature rise limits and electrical spacing.

NOTE:

- 1) Basic line spring clip 3TX7144-1L4 ordered separately
- 2) Premium line spring clip 3TX7144-1L1 ordered separately

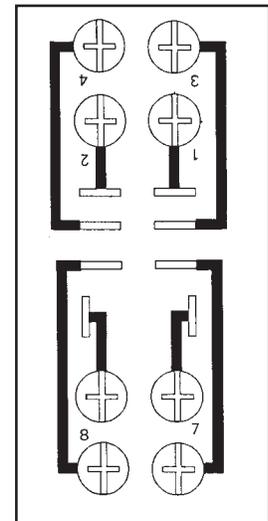
Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Wiring Diagram

Top view



Heavy Duty Power Relays



Features

Available in multiple coil voltages

Available with current ratings up to 30A

Economical

Various contact configurations: SPST-NC, SPST-NO, SPDT, DPST-NO, DPDT, DPDT with Magnetic Blowout

Panel Mount



UL Recognized
File No: E14900



LR 6535

Heavy Duty Power Relays 30A, SPST-NO

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7130-OAC13	24VAC	\$22.00	No base required
3TX7130-OAF13	120VAC	\$22.00	No base required
3TX7130-OAH13	240VAC	\$22.00	No base required

Heavy Duty Power Relays 30A, SPDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7130-OBC13	24VAC	\$24.00	No base required
3TX7130-OBF13	120VAC	\$24.00	No base required
3TX7130-OBH13	240VAC	\$24.00	No base required
3TX7130-OBS13	277VAC	\$24.00	No base required

Heavy Duty Power Relays 30A, SPST-NC

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7130-OAC03	24VDC	\$22.00	No base required
3TX7130-OQF13	120VAC	\$22.00	No base required

Heavy Duty Power Relays 30A, DPDT

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7130-ODC13	24VAC	\$26.00	No base required
3TX7130-ODF13	120VAC	\$26.00	No base required
3TX7130-ODH13	240VAC	\$26.00	No base required
3TX7130-ODS13	277VAC	\$26.00	No base required
3TX7130-ODB03	12VDC	\$26.00	No base required
3TX7130-ODC03	24VDC	\$26.00	No base required
3TX7130-ODD03	48VDC	\$26.00	No base required

Heavy Duty Power Relays 30A, DPST-NO

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7130-OCC13	24VAC	\$24.00	No base required
3TX7130-OCF13	120VAC	\$24.00	No base required
3TX7130-OCH13	240VAC	\$24.00	No base required
3TX7130-OCS13	277VAC	\$24.00	No base required
3TX7130-OCB03	12VDC	\$24.00	No base required
3TX7130-OCC03	24VDC	\$24.00	No base required

Heavy Duty Power Relays 30A, DPDT w/Magnetic Blowout

Catalog No.	Coil Voltage	List Price	Socket Style
3TX7130-ORB03	12VDC	\$31.00	No base required
3TX7130-ORC03	24VDC	\$31.00	No base required
3TX7130-ORF03	110VDC	\$31.00	No base required
3TX7130-ORF13	120VAC	\$31.00	No base required
3TX7130-ORD03	48VDC	\$31.00	No base required

Heavy Duty Power Relay Dust Cover

3TX7144-1M0	\$19.00
-------------	---------

Heavy Duty Power Relays

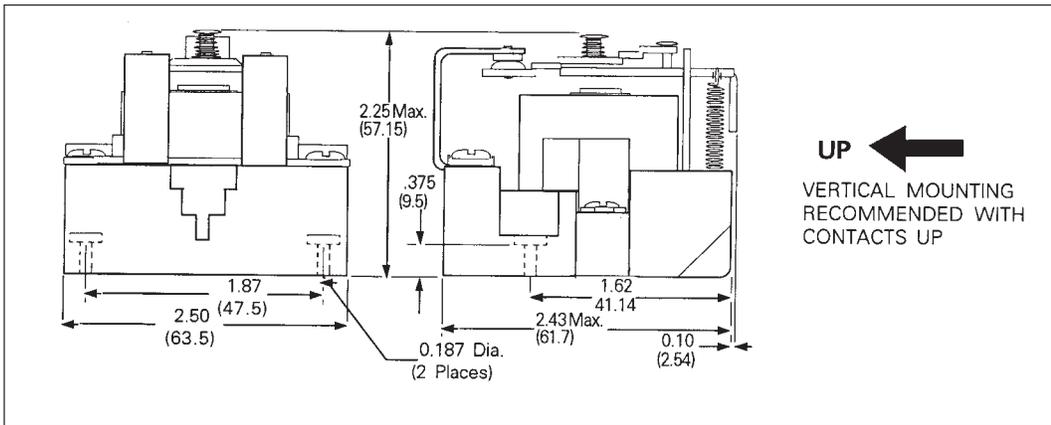
Specifications

COIL	
Pull-in Voltage:	80% DC Coils, 85% AC coils of nominal voltage or less @ 25°C
Drop-out voltage:	10% of Nominal Voltage or more @ 25°C
Coil Resistance:	±10% @ 25°C
Max. Coil Dissipation:	DC Coils - 4 Watts Max. Continuous
CONTACTS	
Contact Combinations:	DPDT
Contact Rating for each pole:	30 Amps up to 300 VAC, 50/60Hz 5 Amps @ 480/600VAC, 0.75pF Inductive Load. 1-1/2 HP Motor Load (each Pole) @ 120 thru 600 VAC, 50/60 Hz. 2 HP Motor Load @ 200 thru 600 VAC, 50/60 Hz only when using two poles to switch both sides of Load 30 Amps @ 28VDC Resistive each Pole. NEMA A600 Pilot Duty 50/60 Hz
DC Ratings for DPDT w/Magnetic blowout:	10 Amps @ 110VDC, Resistive; 4 Amps at 220VDC, Resistive, 2 Amps @ 325VDC Resistive. For inductive Loads, contacts must be derated accordingly. Capacitive loads must have current limiting to insure that inrush current will not exceed 50 Amps
Contact Material:	Silver Cadmium Oxide, Gold Flashed 5/16" Diameter Standard

TIMING	
Operate time:	40 Milliseconds Max. @ Nominal V
Release Time:	30 Milliseconds Max. @ Nominal V
DIELECTRIC STRENGTH	
Between Open Contacts:	1500 V rms
Mutually Insulated Conductive elements:	2200 V rms
TEMPERATURE	
Operating Range:	(AC) -30°C to +50°C, (DC) -30°C +60°C
Non-Operating Storage:	-30°C to +100°C
LIFE	
Electrical (Rated Load):	100,000 Operations
Mechanical (No Load):	5,000,000 Operations
MISCELLANEOUS	
Coil Terminals:	6-32 Combination Head Screws
Contact Terminals:	8-32 Combination Head Screws
Short Circuit Rating:	5KA (RMS) 600V fuses only

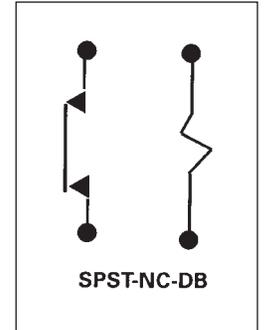
SPST-NC Outline Dimensions

Dimensions shown in Inches & (Millimeters)



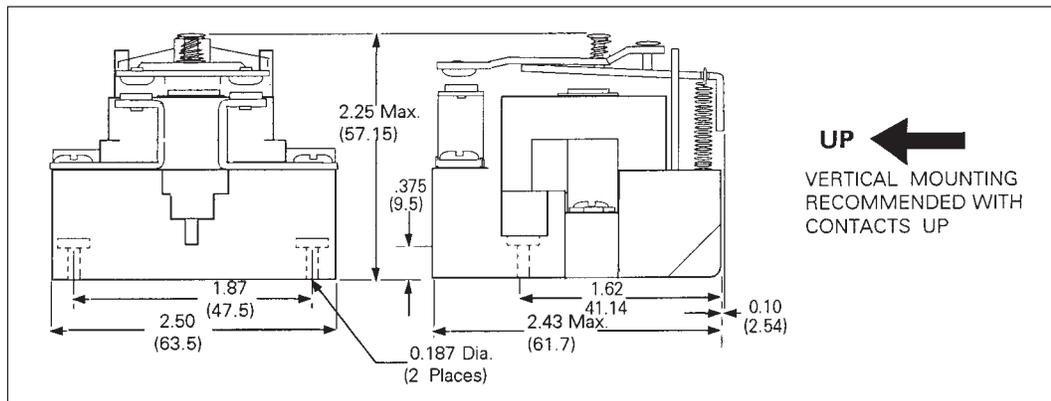
Wiring Diagram

Top view



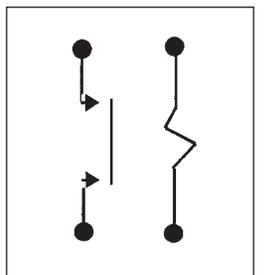
SPST-NO Double Make Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Wiring Diagram

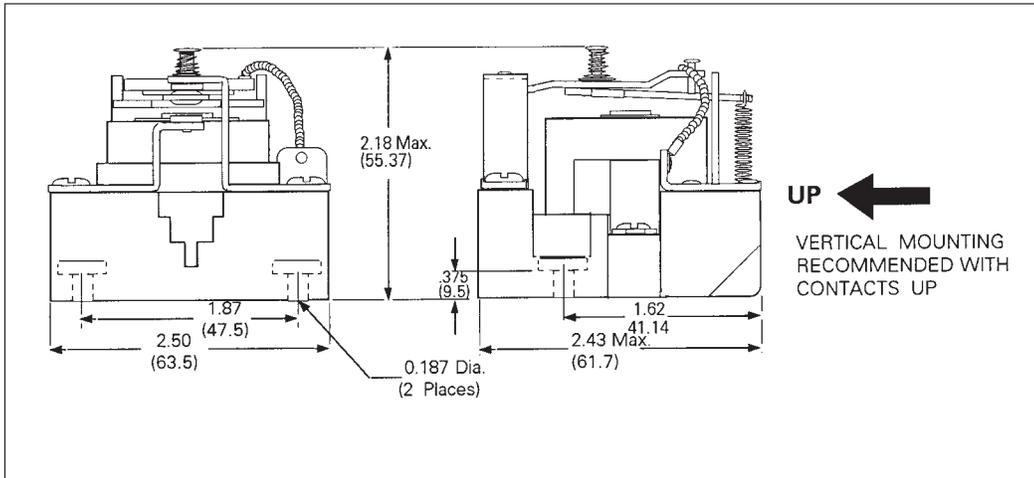
Top view



Heavy Duty Power Relays

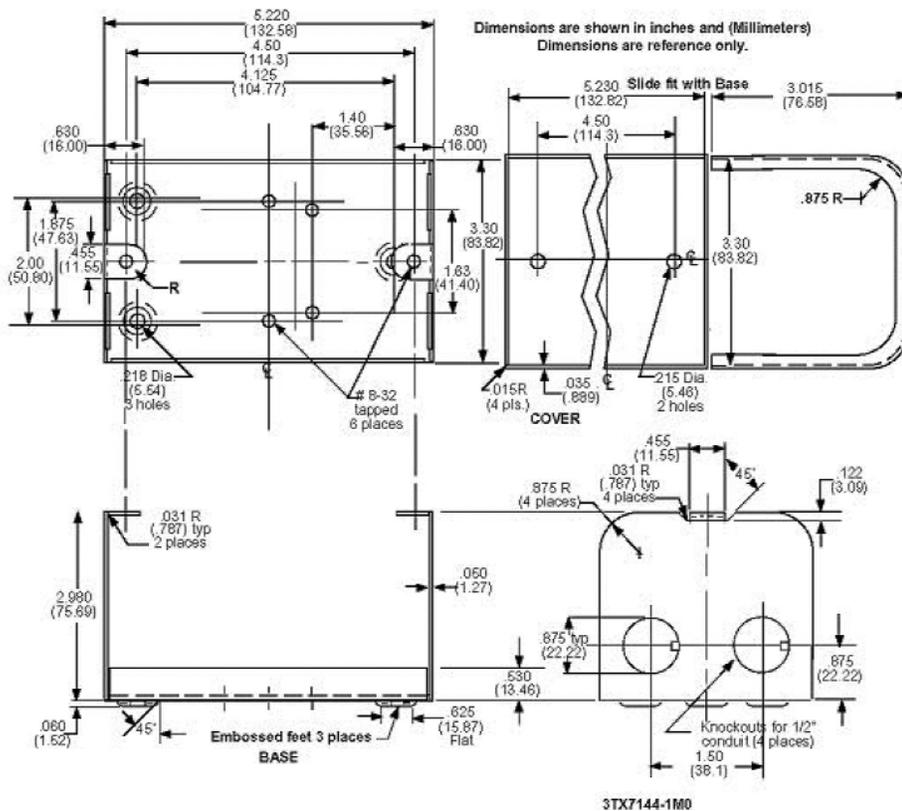
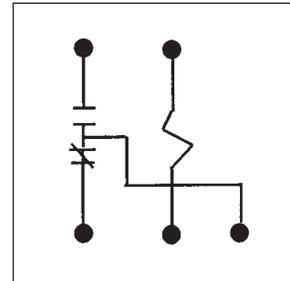
SPDT Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Wiring Diagram

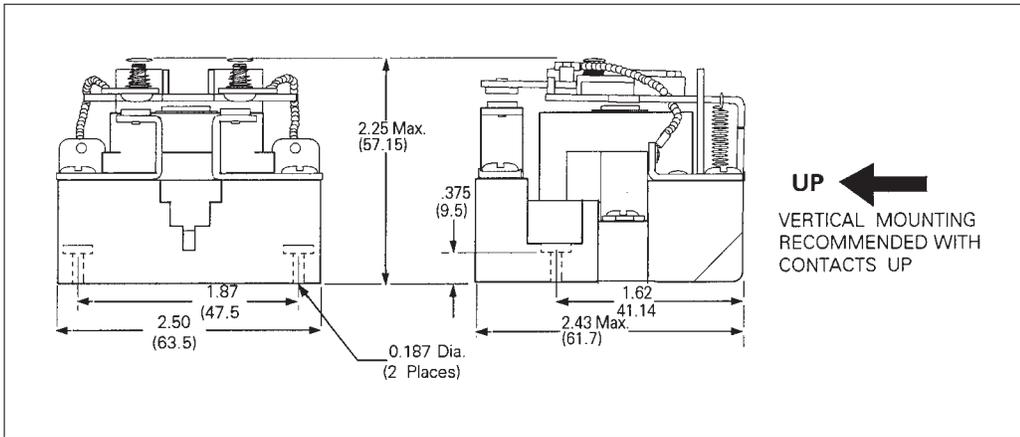
Top view



Heavy Duty Power Relays

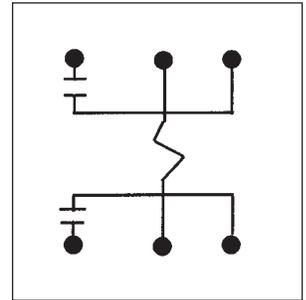
DPST-NO Outline Dimensions

Dimensions shown in Inches & (Millimeters)



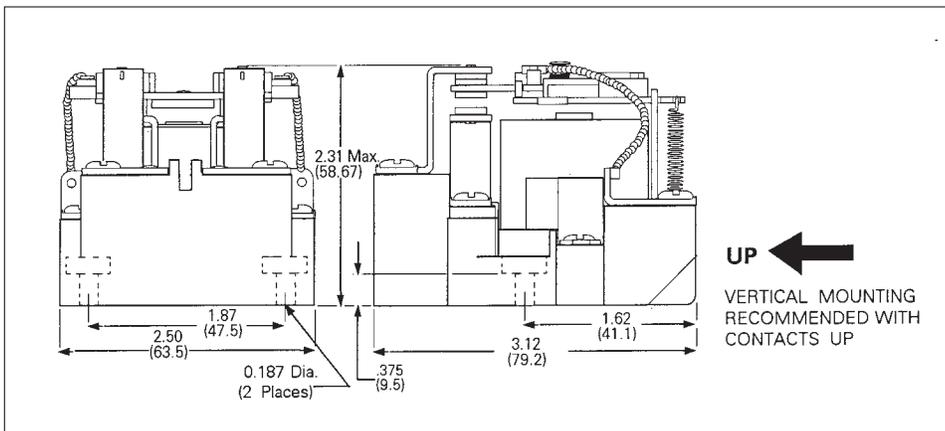
Wiring Diagram

Top view



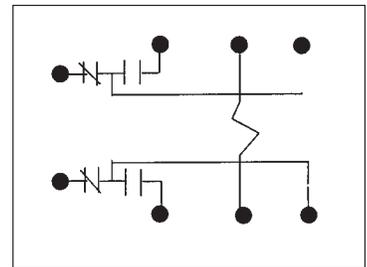
DPDT Outline Dimensions

Dimensions shown in Inches & (Millimeters)



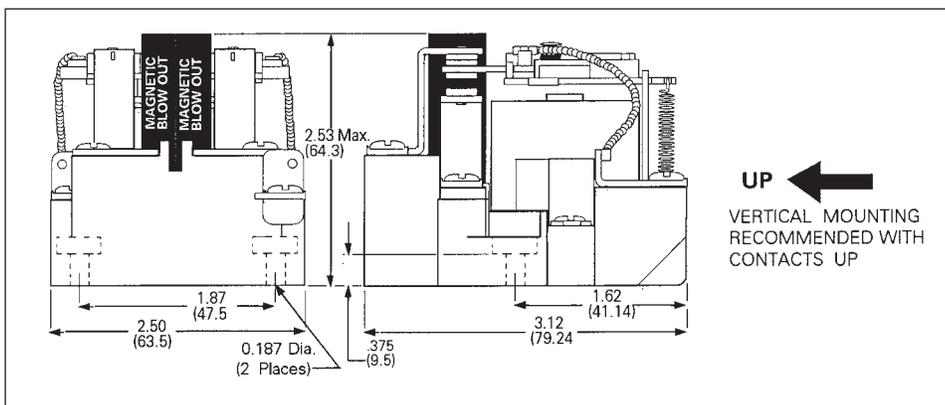
Wiring Diagram

Top view



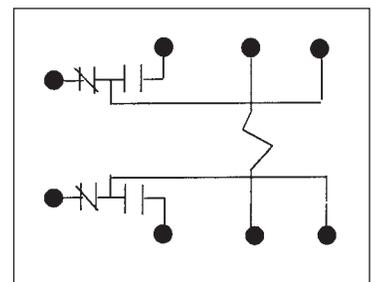
DPDT w/Magnetic Blowout Outline Dimensions

Dimensions shown in Inches & (Millimeters)



Wiring Diagram

Top view



Solid State Relays

Solid State Relay Line

Catalog No.	Additional Description	Nom. Input Voltage	List Price	Socket Style
3TX7133-OSK14	10A, AC INPUT	90-280VAC	\$27.00	None required
3TX7134-OSK14	25A, AC INPUT	90-280VAC	\$34.00	None required
3TX7135-OSK14	40A, AC INPUT	90-280VAC	\$52.00	None required
3TX7133-OSJ04	10A, DC INPUT	3-32VDC	\$27.00	None required
3TX7134-OSJ04	25A, DC INPUT	3-32VDC	\$34.00	None required
3TX7135-OSJ04	40A, DC INPUT	3-32VDC	\$48.00	None required

Specifications

INPUT	
Input current	8 mA @ 3VDC, 25mA @ 32VDC
Input power indicator	YES (Red L.E.D.)
Reverse Polarity Protected	YES (On DC input Styles)
Response Time:	1/2 Cycle max.
OUTPUT	
Maximum Off State Voltage dv/dt	200 uS to 500 uS for 25A to 40 A models
Min. Load Current to maintain "On"	10A (50 mA), 25A (120 mA), 40A (250mA)
Non-Repetitive Surge Current I_{TSM} (1 Cycle Surge)	10A (83), 25A (250), 40A (625)
Max. RMS Overload current for 1 second	10A (24), 25A (40), 40A (80)
Max. Off State Leakage current I_o (RMS)	10 Milliamps Max.
Typical On-State Voltage Voltage drop (RMS)	Up to 40 Amp (1.6V)
MISCELLANEOUS	
Suggested Heat Sink *CW	10A (3.2), 25A (0.5), 40A (0.2)
Dielectric Strength V_{ISO} (Input-Output Isolation)	4000 V rms
Insulation Resistance R_{ISO} @ 500VDC	$10^{10} \Omega$
Operating Temperature Range	-40°C to + 80°C
Storage temperature Range	-40°C to + 100°C
Weight	100 g up to 40 Amps

Our 3TX71 Solid State relays function as zero crossing relays; that means the relay turns on when control voltage is present and the Sine wave crosses zero. The relay is turned off when the control voltage is removed and load current Sine wave crosses zero. In the case where the input voltage is DC the relay will turn on immediately when the input voltage is applied. When the output voltage is DC the relay will turn off as soon as the input power is removed. See figure A for AC input/AC output applications.

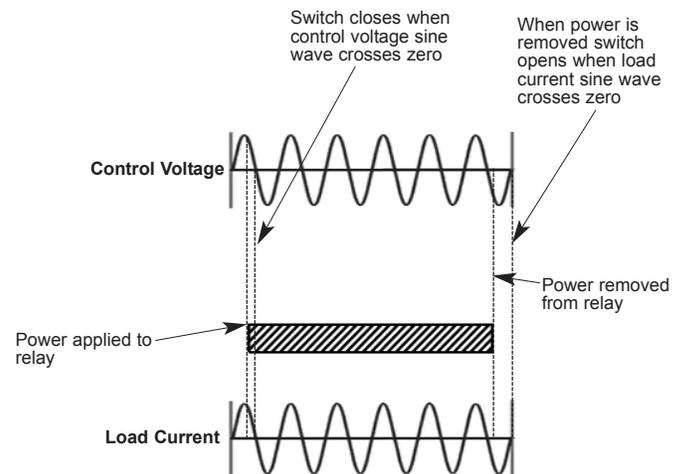


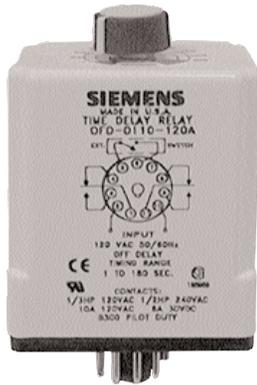
Figure A



 UL Recognized

 File No: E27683

Timing Relays




 UL Recognized
 File No: E14900


 LR 6535

 When used with socket

OFF Delay timers 11 Pin Octal Socket	Timing Range	Nominal Input Voltage	List Price	Base Style
OFD-0110-24D	0.1 - 10 Seconds	24VDC	\$103.00	3TX7144-1E3
OFD-0110-24A	0.1 - 10 Seconds	24VAC	\$103.00	3TX7144-1E3
OFD-0110-120A	0.1 - 10 Seconds	120VAC	\$103.00	3TX7144-1E3
OFD-1180-120A	1.0 - 180 Seconds	120VAC	\$103.00	3TX7144-1E3

On Delay timers 8 Pin Octal Socket	Timing Range	Nominal Input Voltage	List Price	Base Style
OND-0110-24D	0.1 - 10 Seconds	24VDC	\$95.00	3TX7144-1E2
OND-0110-24A	0.1 - 10 Seconds	24VAC	\$95.00	3TX7144-1E2
OND-1180-24A	1.0 - 180 Seconds	24VAC	\$95.00	3TX7144-1E2
OND-0110-120A	0.1 - 10 Seconds	120VAC	\$95.00	3TX7144-1E2
OND-1180-120A	1.0 - 180 Seconds	120VAC	\$95.00	3TX7144-1E2

Specifications

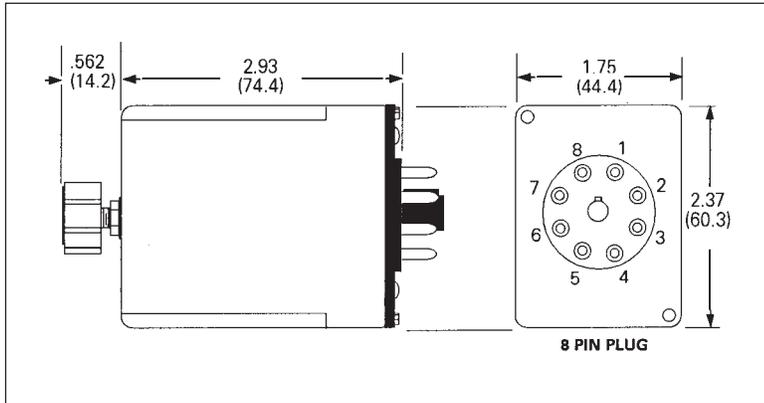
TIMING	
Operating Modes Available:	On Delay, Interval, Off Delay
Timing Adjustments:	See Part number table.
Repeatability (repeat Accuracy when Stabilized):	±0.1% max. or ± 33 ms AC min. or ± 10 ms DC. min. @ Constant voltage & temperature
Timing change over temperature and voltage range:	± 10%
Timing Tolerance high end of range:	- 0 to + 40%
Timing Tolerance low end of range::	+ 0 to - 40%
Reset time:	100 Milliseconds Max.
CONTACTS	
Contact Configuration:	DPDT
Contact Rating:	10 Amps @ 120VAC/30VDC Resistive Load, 1/2 Hp @ 240 VAC, 1/3 Hp @120 VAC, NEMA B300 Pilot Duty.
Contact Life:	200,000 Operations @ 120VAC, 10Amp resistive Load. 1,000,000 Operations @ 120 VAC, 5 Amp Resistive Load 2,000,000 Operations @ 120VAC, 2 Amp Resistive Load.
Mechanical Life:	10,000,000 operations

INPUT	
Temperature Range (Operate):	- 30°C to + 55°C
Temperature Range (Storage):	- 55°C to + 85°C
Steady State Input Current:	20 mA @ 120 VAC, 40 mA @ 24 VAC 20 mA @ 48 VDC, 80 mA @ 24 VDC 15 mA @ 230 VAC, 80 mA @ 12 VDC
PROTECTION	
Reverse Polarity:	DC models only
Transient:	UL 508 Surge test: 5000V for 50 uS
Noise Immunity:	NEMA ICS2-230 2500 VAC
DIELECTRIC STRENGTH	
Coil to Contacts:	1500 V rms
Across Open Contacts:	1000V rms
MECHANICAL	
Enclosure:	Polycarbonate dust cover.
Mounting:	Standard 8 or 11 Pin Octal
Operating Position:	Any
Weight:	4 oz. (115 grams)

Timing Relays

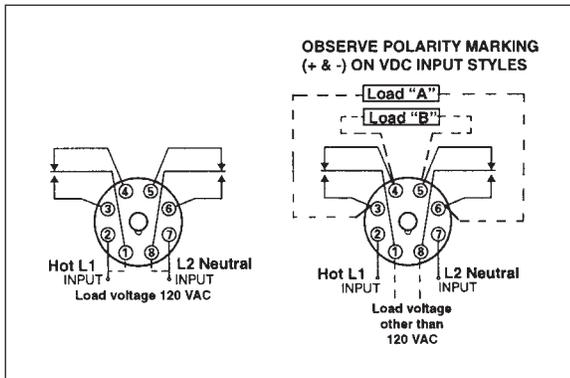
Outline Dimensions

Dimensions shown in Inches & (Millimeters)



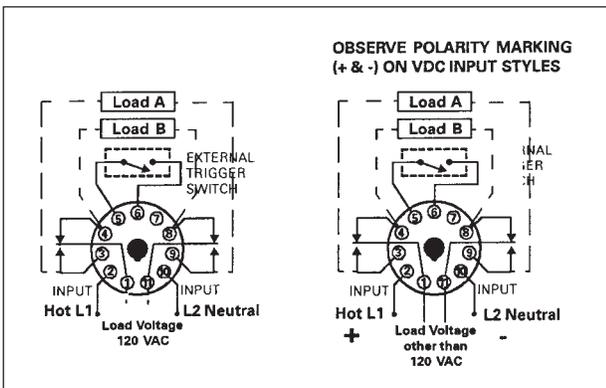
On Delay Wiring Diagrams

Viewed from pin end



Off Delay Wiring Diagrams

Viewed from pin end



Timing Relays



General description

- Multi-function (6 functions)
 - ON-Delay
 - OFF-Delay with auxiliary voltage
 - Flashing, pulse-starting
 - Flashing, interval-starting
 - Making pulse contact
 - Pulse shaping
- 1 SPDT contact
 LCD display
 0.01sec - 9999h 11 possible settings
 24V AC/DC / 110-240V AC



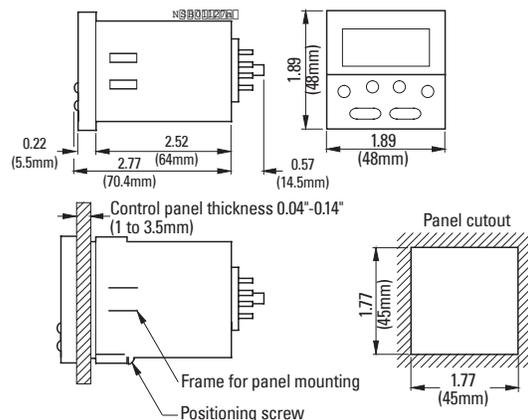
OFF Delay timers 11 Pin Octal Socket	Timing Range 11 Time Setting Ranges	Nominal Input Voltage	List Price	Base Style
7PV3348-2AX34	0.01s... - 9999 h	24VDC, 24/110 ... 240AC	\$115.00	3TX7144-1E3 or 7PX9921

Technical Data	
Rated insulation voltage Overvoltage category C acc. to DIN VDE 0110	250V AC
Working range of excitation	+10 ... -15%
Rated power Power consumption at AC 230V, 50 Hz	1 W 11VA
Rated operational current I_e AC-1 at AC 230V, 50 Hz	8A
Operating frequency when loaded with I_e , AC 230 V when loaded with 3RT10 16 contactor, AC 230 V	600 /h
Recovery time	50 ms
Minimum ON period	50 ms
Setting accuracy with reference to upper limit of scale	$\pm 0.03\%$ ± 10 ms
Repeat accuracy	$\pm 0.03\%$ ± 10 ms
Mechanical endurance	operating cycles 5 x 10 ⁶
Permissible ambient temperature	in operation when stored -10°... +60°C -30°... +70°C
Degree of protection acc. to EN 60 529	IP 65
Permissible mounting position	any

7PV Socket for front mounting with rear connection

Catalog No.	Additional Description	List Price
7PX9921	11pin octal, front panel mount, screw term socket	\$12.00

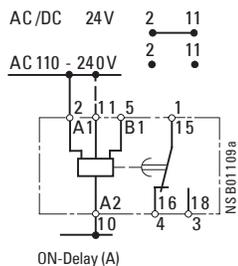
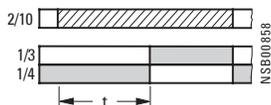
Dimensions shown in Inches & (Millimeters)



Timing Relays

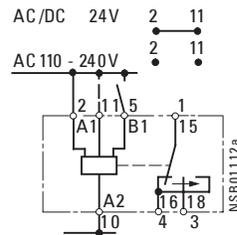
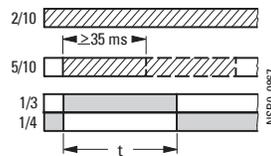
Functions

1) ON-Delay (A)



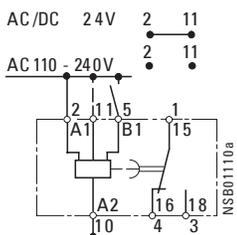
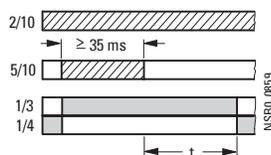
ON-Delay (A)

4) For pulse shaping with auxiliary voltage (B)



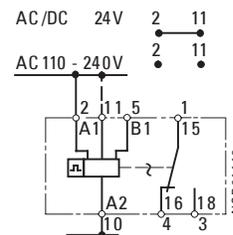
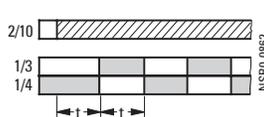
Pulse Shaping with Auxiliary Voltage (B)

2) OFF-Delay with Auxiliary Voltage (C)



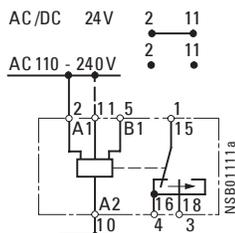
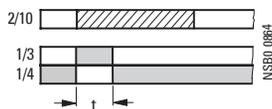
OFF - Delay with Auxiliary Voltage (C)

5) 6) Flashing, starting with interval (D) or starting with pulse (Di)

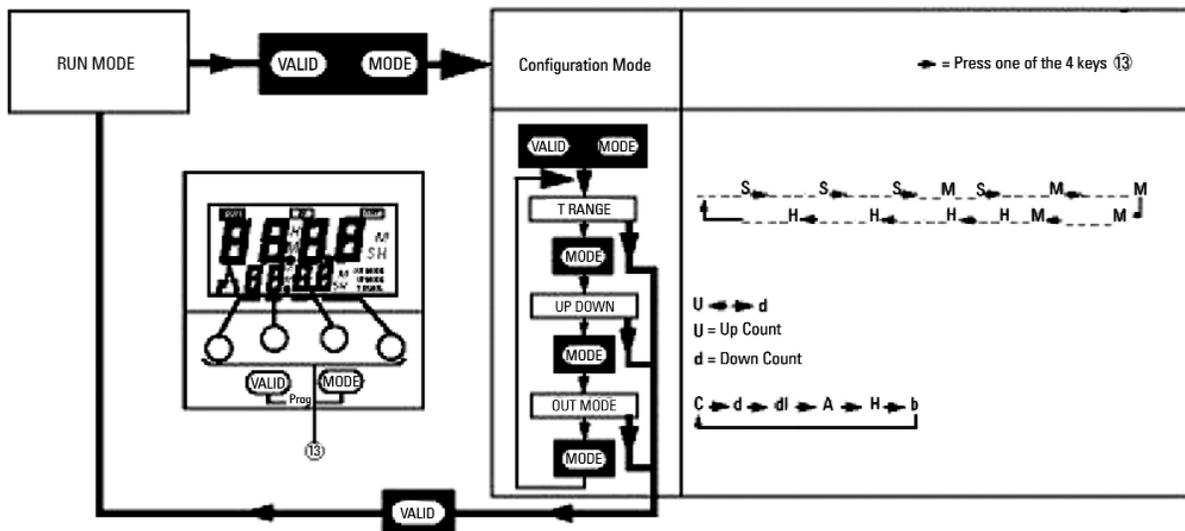


Flashing, Starting with Interval (D) or Flashing, Starting with Pulse (Di)

3) Passing make contact (H)



Passing Make Contact (H)





Standard Terms and Conditions of Sale (09/01/2001)

1. **WARRANTY** - (a) Seller warrants that on the date of shipment the goods are of the kind and quality described herein and are free of non-conformities in workmanship and material. This warranty does not apply to goods delivered by Seller but manufactured by others.

(b) Buyer's exclusive remedy for a nonconformity in any item of the goods shall be the repair or the replacement (at Seller's option) of the item and any affected part of the goods. Seller's obligation to repair or replace shall be in effect for a period of one (1) year from initial operation of the goods but not more than eighteen (18) months from Seller's shipment of the goods, provided Buyer has sent written notice within that period of time to Seller that the goods do not conform to the above warranty. Repaired and replacement parts shall be warranted for the remainder of the original period of notification set forth above, but in no event less than 12 months from repair or replacement. At its expense, Buyer shall remove and ship to Seller any such nonconforming items and shall reinstall the repaired or replaced parts. Buyer shall grant Seller access to the goods at all reasonable times in order for Seller to determine any nonconformity in the goods. Seller shall have the right of disposal of items replaced by it. If Seller is unable or unwilling to repair or replace, or if repair or replacement does not remedy the nonconformity, Seller and Buyer shall negotiate an equitable adjustment in the contract price, which may include a full refund of the contract price for the nonconforming goods.

(c) **SELLER HEREBY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, EXCEPT THAT OF TITLE. SPECIFICALLY, IT DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING AND USAGE OF TRADE.**

(d) Buyer and successors of Buyer are limited to the remedies specified in this article and shall have no others for a nonconformity in the goods. Buyer agrees that these remedies provide Buyer and its successors with a minimum adequate remedy and are their exclusive remedies, whether Buyer's or its successors' remedies are based on contract, warranty, tort (including negligence), strict liability, indemnity, or any other legal theory, and whether arising out of warranties, representations, instructions, installations, or non-conformities from any cause.

(e) Note: This article 1 does not apply to any software which may be furnished by Seller. In such cases, the attached Software License Addendum applies.

2. **PATENTS** - Seller shall pay costs and damages finally awarded in any suit against Buyer or its vendees to the extent based upon a finding that the design or construction of the goods as furnished infringes a United States patent (except infringement occurring as a result of incorporating a design or modification at Buyer's request), provided that Buyer promptly notifies Seller of any charge of infringement, and Seller is given the right at its expense to settle such charge and to defend or control the defense of any suit based upon such charge. Seller shall have no obligation hereunder with respect to claims, suits or proceedings, resulting from or related to, in whole or in part, (i) the use of software or software documentation, (ii) compliance with Buyer's specifications, (iii) the combination with, or modification of, the goods after delivery by Seller, or (iv) the use of the goods, or any part thereof, in the practice of a process. THIS ARTICLE SETS FORTH SELLER'S ENTIRE LIABILITY WITH RESPECT TO PATENTS.

3. **PERFORMANCE; DELAYS** - Timely performance by Seller is contingent upon Buyer's supplying to Seller, when needed, all required technical information and data, including drawing approvals, and all required commercial documentation. If Seller suffers delay in performance due to any cause beyond its reasonable control, the time of performance shall be extended a period of time equal to the period of the delay and its consequences. Seller will give to Buyer notice within a reasonable time after Seller becomes aware of any such delay.

4. **SHIPMENT, TITLE AND RISK OF LOSS** - Unless the delivery terms of this contract expressly provide for F.O.B. destination, shipping/delivery will be F.O.B. Seller's point of shipment with title to the goods and risk of loss or damage passing to Buyer at that point. Buyer will be responsible for shipment during transit and for filing any damage or loss claims directly with the carrier. Seller may make partial shipments.

5. **TAXES** - Any applicable duties or sales, use, excise, value-added or similar taxes will be added to the price and invoiced separately (unless an acceptable exemption certificate is furnished).

6. **TERMS OF PAYMENT** - (a) Unless otherwise stated, all payments shall be in United States dollars, and a pro rata payment shall become due as each shipment is made. If shipment is delayed by Buyer, date of notice of readiness for shipment shall be deemed to be date of shipment for payment purposes.

(b) On late payments, the contract price shall, without prejudice to Seller's right to immediate payment, be increased by 1 1/2% per month on the unpaid balance, but not to exceed the maximum permitted by law.

(c) If any time in Seller's judgment Buyer is unable or unwilling to meet the terms specified, Seller may require satisfactory assurance or full or partial payment as a condition to commencing or continuing manufacture or making shipment, and may, if shipment has been made, recover the goods from the carrier, pending receipt of such assurances.

7. **NONCANCELLATION** - Buyer may not cancel or terminate for convenience, or direct suspension of manufacture, except with Seller's written consent and then only upon terms that will compensate Seller for its engineering, fabrication and purchasing charges and any other costs relating to such cancellation, termination or suspension, plus a reasonable amount for profit.

8. **NUCLEAR** - Buyer represents and warrants that the goods covered by this contract shall not be used in or in connection with a nuclear facility or application. If Buyer is unable to make such representation and warranty, then Buyer agrees to indemnify and hold harmless Seller and to waive and require its insurers to waive all right of recovery against Seller for any damage, loss, destruction, injury or death resulting from a "nuclear incident", as that term is defined in the Atomic Energy Act of 1954, as amended, whether or not due to Seller's negligence.

9. **LIMITATION OF LIABILITY** - Neither Seller, nor its suppliers shall be liable, whether in contract, warranty, failure of a remedy to achieve its intended or essential purposes, tort (including negligence), strict liability, indemnity or any other legal theory, for loss of use, revenue or profit, or for costs of capital or of substitute use or performance, or for indirect, special, liquidated, incidental or consequential damages, or for any other loss or cost of a similar type, or for claims by Buyer for damages of Buyer's customers. Seller's maximum liability under this contract shall be the contract price. Buyer and Seller agree that the exclusions and limitations set forth in this article are separate and independent from any remedies which Buyer may have hereunder and shall be given full force and effect whether or not any or all such remedies shall be deemed to have failed of their essential purpose.

10. **GOVERNING LAW AND ASSIGNMENT** - The laws of the State of Georgia shall govern the validity, interpretation and enforcement of this contract, without regard to its conflicts of law principles. The application of the United Nations Convention on Contracts for the International Sale of Goods shall be excluded. Assignment may be made only with written consent of both parties; provided, however, Seller may assign to its affiliate without Buyer's consent.

11. **ATTORNEY FEES** - Buyer shall be liable to Seller for any attorney fees and costs incurred by Seller in enforcing any of its rights hereunder.

12. **DISPUTES** - Either party may give the other party written notice of any dispute arising out of or relating to this contract and not resolved in the normal course of business. The parties shall attempt in good faith to resolve such dispute promptly by negotiations between executives who have authority to settle the dispute. If the matter has not been resolved within 60 days of the notice, either party may initiate non-binding mediation of the dispute.

13. **STATUTE OF LIMITATIONS** - To the extent permitted by applicable law, any lawsuit for breach of contract, including breach of warranty, arising out of the transactions covered by this contract, must be commenced not later than twelve (12) months from the date the cause of action accrued.

14. **PRICES** - In the event of a price increase or decrease, the price of goods on order will be adjusted to reflect such increase or decrease. This does not apply to a shipment held by request of Buyer. Goods already shipped are not subject to price increase or decrease. Orders on a bid or contract basis are not subject to this article. Seller's prices include the costs of standard domestic packing only. Any deviation from this standard packing (domestic or export), including U.S. Government sealed packing, will result in extra charges. To determine such extra charges, consult Seller's sales offices. Orders of less than \$400 will be charged a \$25 handling fee.

15. **ADDITIONAL TERMS OF PAYMENT** - (a) Invoice payment terms are as shown on latest discount sheets as issued from time to time. Cash discounts are not applicable to notes or trade acceptances, to prepaid transportation charges when added to Seller's invoices or to discountable items if there are undisputed past due items on the account. Portions of an invoice in dispute should be deducted and the balance remitted with a detailed explanation of the deduction. Cash discounts will only be allowed on that portion of the invoice paid within the normal discount period.

(b) Freight will be allowed to any common-carrier free-delivery point within the United States, excluding Alaska and Hawaii, on shipments exceeding \$1,000 net or more providing Seller selects the carrier. On shipments to Alaska and Hawaii, freight will be allowed to dockside at the listed port of debarkation nearest the destination point on shipments of \$1,000 net or more. Buyer shall pay all special costs such as cartage, stevedoring and insurance. Special freight allowances are as shown on latest discount sheets as issued from time to time. Cataloged weights are estimated, not guaranteed. Seller assumes no responsibility for tariff classifications on carriers.

16. **CHANGES IN LAWS AND REGULATIONS** - Seller's prices and timely performance are based on all applicable laws, rules, regulations, orders, codes, standards or requirements of governmental authorities effective on the date of Seller's proposal. Any change to any law, rule, regulation, order, code, standard or requirement which requires any change hereunder shall entitle Seller to an equitable adjustment in the prices and any time of performance.

Siemens Energy & Automation, Inc.
Power Distribution Infrastructure & Controls Division
1000 McKee Street, Batavia, IL 60510

Tel: 630/879-6000
Tel: 800/683-6000
<http://www.sea.siemens.com>

© 2002 Siemens Energy & Automation, Inc.
Lit. No. SFCS-6002A-0502
Subject to change without prior notice