

Selection and ordering data

Siemens offers a wide range of plug-in relays to meet your industrial needs. Basic style relays are the most economical and are equipped with a mechanical flag indicator only. Premium style relays are full featured with LED and mechanical flag indication, push to test button and typically a latching hold down door which provides a method of activating the contacts without applying power to the coil. This feature is very handy during commissioning and troubleshooting. Premium Bifurcated style relays are ideal for low minimum holding current requirements on the contacts. Typical minimum holding current for bifurcated contacts is 3mA instead of 100mA.

Relays are divided up by the following functions for selection:

- Base style
- Contact Arrangement
- Contact Rating
- Coil Voltage
- Optional Features (Basic, Premium and Premium Bifurcated)



Square Base (Narrow)

Contacts	Contact Rating (A)	Coil Voltage	Basic Relay	Premium Relay	Premium Bifurcated	Uses Socket 3TX7144-	Uses Clip 3TX7144-	Socket Access Set	Panel Mount Adaptor 3TX7144-	DIN Rail Mount Adaptor 3TX7144-
SPDT	20A for Basic and Premium and 3A for Bifurcated	24 VDC	3TX7110-5BC03C	3TX7110-5JC03	3TX7110-5JC03B	3TX7144-4E7	1L7	B	3L5	3L4
		24 VAC	3TX7110-5BC13C	3TX7110-5JC13	3TX7110-5JC13B	3TX7144-4E7	1L7	B	3L5	3L4
		120 VAC	3TX7110-5BF13C	3TX7110-5JF13	3TX7110-5JF13B	3TX7144-4E7	1L7	B	3L5	3L4



Square Base (Standard)

Contacts	Contact Rating (A)	Coil Voltage	Basic Relay	Premium Relay	Premium Bifurcated	Uses Socket 3TX7144-	Uses Clip 3TX7144-	Socket Access Set	Panel Mount Adaptor 3TX7144-	DIN Rail Mount Adaptor 3TX7144-
SPDT	20	12 VDC	3TX7109-5BB03C	3TX7109-5JB03	—	3TX7144-4E6	1L6	B	3L7	3L6
		24 VDC	3TX7109-5BC03C	3TX7109-5JC03	—	3TX7144-4E6	1L6	B	3L7	3L6
		24 VAC	3TX7109-5BC13C	3TX7109-5JC13	—	3TX7144-4E6	1L6	B	3L7	3L6
		120 VAC	3TX7109-5BF13C	3TX7109-5JF13	—	3TX7144-4E6	1L6	B	3L7	3L6
DPDT	10A for Basic and Premium and 3A for Bifurcated	24 VDC	3TX7111-3DC03C	3TX7111-3LC03	—	3TX7144-4E5	1L6	B	3L7	3L6
		24 VAC	3TX7111-3DC13C	3TX7111-3LC13	—	3TX7144-4E5	1L6	B	3L7	3L6
		120 VAC	3TX7111-3DF13C	3TX7111-3LF13	—	3TX7144-4E5	1L6	B	3L7	3L6
DPDT	15	12 VDC	3TX7114-5DB03C	3TX7114-5LB03	—	3TX7144-4E6	1L6	B	3L7	3L6
		24VDC	3TX7114-5DC03C	3TX7114-5LC03	—	3TX7144-4E6	1L6	B	3L7	3L6
		24VAC	3TX7114-5DC13C	3TX7114-5LC13	—	3TX7144-4E6	1L6	B	3L7	3L6
		110 VDC	—	3TX7114-5LF03	—	3TX7144-4E6	1L6	B	3L7	3L6
		120 VAC	3TX7114-5DF13C	3TX7114-5LF13	—	3TX7144-4E6	1L6	B	3L7	3L6
		240 VAC	3TX7114-5DH13C	3TX7114-5LH13	—	3TX7144-4E6	1L6	B	3L7	3L6
DPDT	16	12 VDC	3TX7115-5DB03C	—	—	3TX7144-4E4	1L12	A	—	—
		24VDC	3TX7115-5DC03C	3TX7115-5LC03	—	3TX7144-4E4	1L12	A	—	—
		24VAC	3TX7115-5DC13C	3TX7115-5LC13	—	3TX7144-4E4	1L12	A	—	—
		120 VAC	3TX7115-5DF13C	3TX7115-5LF13	—	3TX7144-4E4	1L12	A	—	—
DPDT	20 <small>Note: No Lock Down Door on Premium Style</small>	12 VDC	—	3TX7119-5LB03	—	3TX7144-4E4	1L12	A	—	—
		24VDC	—	3TX7119-5LC03	—	3TX7144-4E4	1L12	A	—	—
		24VAC	—	3TX7119-5LC13	—	3TX7144-4E4	1L12	A	—	—
		120 VAC	—	3TX7119-5LF13	—	3TX7144-4E4	1L12	A	—	—
		240 VAC	—	3TX7119-5LH13	—	3TX7144-4E4	1L12	A	—	—

Option	Basic	Premium	Premium Bifurcated
Mechanical Flag	✓	✓	✓
Push To Test		✓	✓
Lock Down Door		✓	✓
LED		✓	✓

Note: See page 11/90 for socket accessories.

3TX71 plug-in relays

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Square Base (Standard)

Contacts	Contact Rating (A)	Coil Voltage	Basic Relay	Premium Relay	Premium Bifurcated	Uses Socket 3TX7144-	Uses Clip 3TX7144-	Socket Access Set	Panel Mount Adaptor 3TX7144-	DIN Rail Mount Adaptor 3TX7144-
3PDT	15	24VDC	3TX7116-5FC03C	3TX7116-5NC03	—	3TX7144-4E8	1L9	A	1M3	1M4
		120 VAC	3TX7116-5FF13C	3TX7116-5NF13	—	3TX7144-4E8	1L9	A	1M3	1M4
3PDT	16	12 VDC	3TX7115-5FB03C	3TX7115-5NB03	—	3TX7144-4E4	1L12	A	—	—
		24VDC	3TX7115-5FC03C	3TX7115-5NC03	—	3TX7144-4E4	1L12	A	—	—
		24VAC	3TX7115-5FC13C	3TX7115-5NC13	—	3TX7144-4E4	1L12	A	—	—
		120 VAC	3TX7115-5FF13C	3TX7115-5NF13	—	3TX7144-4E4	1L12	A	—	—
		240 VAC	3TX7115-5FH13C	3TX7115-5NH13	—	3TX7144-4E4	1L12	A	—	—
4PDT	10A for Basic and Premium and 3A for Bifurcated	24VDC	3TX7111-3HC03C	3TX7111-3PC03	3TX7111-5PC03B	3TX7144-4E5	1L6	B	3L7	3L6
		24VAC	3TX7111-3HC13C	3TX7111-3PC13	3TX7111-5PC13B	3TX7144-4E5	1L6	B	3L7	3L6
		120 VAC	3TX7111-3HF13C	3TX7111-3PF13	3TX7111-5PF13B	3TX7144-4E5	1L6	B	3L7	3L6
4PDT	15	24VDC	3TX7117-5HC03C	3TX7117-5PC03	—	3TX7144-4E9	1L10	A	1M5	1M6
		24VAC	3TX7117-5HC13C	3TX7117-5PC13	—	3TX7144-4E9	1L10	A	1M5	1M6
		120 VAC	3TX7117-5HF13C	3TX7117-5PF13	—	3TX7144-4E9	1L10	A	1M5	1M6



Specialty Relay

Contacts	Contact Rating (A)	Coil Voltage	Basic Relay	Premium Relay	Premium Bifurcated	Uses Socket 3TX7144-	Uses Clip 3TX7144-	Socket Access Set	Panel Mount Adaptor 3TX7144-	DIN Rail Mount Adaptor 3TX7144-
DPDT Latching	16	24 VDC	3TX7137-5DC03	—	—	3TX7144-1E4	1L12	—	—	—
		24 VAC	3TX7137-5DC13	—	—	3TX7144-1E4	1L12	—	—	—
		120 VAC	3TX7137-5DF13	—	—	3TX7144-1E4	1L12	—	—	—

Option	Basic	Premium	Premium Bifurcated
Mechanical Flag	✓	✓	✓
Push To Test		✓	✓
Lock Down Door		✓	✓
LED		✓	✓

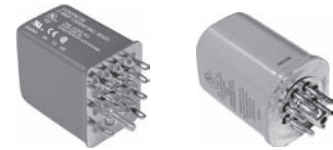
Note: See page 11/90 for socket accessories.

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Standard Octal Base

Contacts	Contact Rating (A)	Coil Voltage	Basic Relay	Premium Relay	Premium Bifurcated	Uses Socket 3TX7144-	Uses Clip 3TX7144-	Socket Access Set	Panel Mount Adaptor 3TX7144-	DIN Rail Mount Adaptor 3TX7144-
DPDT	16	12 VDC	3TX7112-1DB03C	3TX7112-1LB03	—	3TX7144-4E2	1L14	A	—	—
		24VDC	3TX7112-1DC03C	3TX7112-1LC03	—	3TX7144-4E2	1L14	A	—	—
		24VAC	3TX7112-1DC13C	3TX7112-1LC13	—	3TX7144-4E2	1L14	A	—	—
		110 VDC	3TX7112-1DF03C	3TX7112-1LF03	—	3TX7144-4E2	1L14	A	—	—
		120 VAC	3TX7112-1DF13C	3TX7112-1LF13	—	3TX7144-4E2	1L14	A	—	—
3PDT	16	12 VDC	3TX7112-1FB03C	3TX7112-1NB03	—	3TX7144-4E3	1L14	A	—	—
		24VDC	3TX7112-1FC03C	3TX7112-1NC03	—	3TX7144-4E3	1L14	A	—	—
		24VAC	3TX7112-1FC13C	3TX7112-1NC13	—	3TX7144-4E3	1L14	A	—	—
		110 VDC	—	3TX7112-1NF03	—	3TX7144-4E3	1L14	A	—	—
		120 VAC	3TX7112-1FF13C	3TX7112-1NF13	—	3TX7144-4E3	1L14	A	—	—
		220/230 VAC	—	3TX7112-1NG13	—	3TX7144-4E3	1L14	A	—	—



Hermetically Sealed

Contacts	Contact Rating (A)	Coil Voltage	Basic Relay	Premium Relay	Premium Bifurcated	Uses Socket 3TX7144-	Uses Clip 3TX7144-	Socket Access Set	Panel Mount Adaptor 3TX7144-	DIN Rail Mount Adaptor 3TX7144-
DPDT	12	12 VDC	3TX7127-5HB00	—	—	3TX7144-4E2	1L12	A	—	—
		24 VDC	3TX7127-5HC00	—	—	3TX7144-4E2	1L12	A	—	—
		110 VDC	3TX7127-5HF00	—	—	3TX7144-4E2	1L12	A	—	—
		120 VAC	3TX7127-5HF10	—	—	3TX7144-4E2	1L12	A	—	—
4PDT	3	24VDC	3TX7127-3HC00	—	—	3TX7144-4E5	1L11	B	—	—
		24VAC	3TX7127-3HC10	—	—	3TX7144-4E5	1L11	B	—	—
		120 VAC	3TX7127-3HF10	—	—	3TX7144-4E5	1L11	B	—	—
4PDT	5	12 VDC	3TX7127-3HB03	—	—	3TX7144-4E5	1L11	B	—	—
		24VDC	3TX7127-3HC03	—	—	3TX7144-4E5	1L11	B	—	—
		120 VAC	3TX7127-3HF13	—	—	3TX7144-4E5	1L11	B	—	—

Option	Basic	Premium	Premium Bifurcated
Mechanical Flag	✓	✓	✓
Push To Test		✓	✓
Lock Down Door		✓	✓
LED		✓	✓

Note: See page 11/90 for socket accessories.

3TX71 plug-in relays

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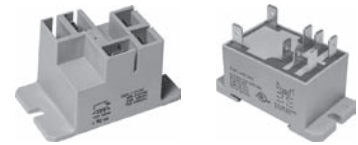
Open Power Relays

Contacts	Contact Rating (A)	Coil Voltage	Basic Relay	Metal Cover 7144-
SPST NO-DM	40	24VAC	3TX7130-0AC13	1M0
SPST NO-DM		120 VAC	3TX7130-0AF13	1M0
SPST NO-DM		240 VAC	3TX7130-0AH13	1M0
SPST NC-DM		240 VDC	3TX7130-0AC03	1M0
SPST NC-DM	40	120 VAC	3TX7130-0QF13	1M0
SPDT		24 VAC	3TX7130-0BC13	1M0
SPDT		120 VAC	3TX7130-0BF13	1M0
SPDT		240 VAC	3TX7130-0BH13	1M0
SPDT		277 VAC	3TX7130-0BS13	1M0
DPDT	40	24 VAC	3TX7130-0DC13	1M0
		120 VAC	3TX7130-0DF13	1M0
		240 VAC	3TX7130-0DH13	1M0
		277 VAC	3TX7130-0DS13	1M0
		12 VDC	3TX7130-0DB03	1M0
		24 VDC	3TX7130-0DC03	1M0
		48 VDC	3TX7130-0DD03	1M0
DPST NO	40	24 VAC	3TX7130-0CC13	1M0
		120 VAC	3TX7130-0CF13	1M0
		240 VAC	3TX7130-0CH13	1M0
		277 VAC	3TX7130-0CS13	1M0
		12 VDC	3TX7130-0CB03	1M0
		24 VDC	3TX7130-0CC03	1M0
		48 VDC	3TX7130-0CD03	1M0
		110 VDC	3TX7130-0CF03	1M0
DPDT (Mag Blowout)	40	120 VAC	3TX7130-0RF13	1M0
		12 VDC	3TX7130-0RB03	1M0
		24 VDC	3TX7130-0RC03	1M0
		48 VDC	3TX7130-0RD03	1M0
		110 VDC	3TX7130-0RF03	1M0



Enclosed Power Relays

Contacts	Contact Rating (A)	Coil Voltage	Basic Relay
DPST-NO	30	24VAC	3TX7131-4CC13
		120 VAC	3TX7131-4CF13
		230 VAC	3TX7131-4CH13
DPDT	30 NO/3 NC	12 VDC	3TX7131-4DB03
		24 VDC	3TX7131-4DC03
		24VAC	3TX7131-4DC13
		120 VAC	3TX7131-4DF13
		230 VAC	3TX7131-4DH13
SPDT	30 NO/15 NC	5 VDC	3TX7132-6BA03
		12 VDC	3TX7132-6BB03
		24 VDC	3TX7132-6BC03
		120 VAC	3TX7132-6BF13



Note: See page 11/90 for socket accessories.

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Octal Based Timers

Contacts	Contact Rating (A)	Coil Voltage	Basic Relay	Time Range	Function	Uses Socket 3TX7144-	Uses Clip 3TX7144-	Socket Access Set	Panel Mount Adaptor 3TX7144-	DIN Rail Mount Adaptor 3TX7144-
DPDT	12	24 V AC/DC	OND-DFOB-24	0.1S - 10h	A, C	3TX7144-4E2	1L8	A	—	—
		120 V AC/DC	OND-DFOB-120	0.1S - 10h	A, C	3TX7144-4E2	1L8	A	—	—
		240 VAC	OND-DFOB-240	0.1S - 10h	A, C	3TX7144-4E2	1L8	A	—	—
DPDT	12	24V AC/DC	OFD-DFOB-24	0.1S - 10h	D, E	3TX7144-4E3	1L8	A	—	—
		120 V AC/DC	OFD-DFOB-120	0.1S - 10h	D, E	3TX7144-4E3	1L8	A	—	—
		240 VAC	OFD-DFOB-240	0.1S - 10h	D, E	3TX7144-4E3	1L8	A	—	—



Square Based Timers

Contacts	Contact Rating (A)	Coil Voltage	Basic Relay	Time Range	Function	Uses Socket 3TX7144-	Uses Clip 3TX7144-	Socket Access Set	Panel Mount Adaptor 3TX7144-	DIN Rail Mount Adaptor 3TX7144-
DPDT	12	24V AC/DC	OND-DFSB-24	0.1S - 10h	A, C	3TX7144-1E4	1L8	—	—	—
		120 V AC/DC	OND-DFSB-120	0.1S - 10h	A, C	3TX7144-1E4	1L8	—	—	—
		240 VAC	OND-DFSB-240	0.1S - 10h	A, C	3TX7144-1E4	1L8	—	—	—
DPDT	12	24V AC/DC	OFD-DFSB-24	0.1S - 10h	D, E	3TX7144-1E4	1L8	—	—	—
		120 V AC/DC	OFD-DFSB-120	0.1S - 10h	D, E	3TX7144-1E4	1L8	—	—	—
		240 VAC	OFD-DFSB-240	0.1S - 10h	D, E	3TX7144-1E4	1L8	—	—	—

Selecting Function	
Function for OND	SW I
On Delay	OFF
Interval	ON
Function for OFD	
Function for OFD	SW I
Off Delay	OFF
One Shot	ON

Selecting Time Range			
Time Range	SW II	SW III	SW IV
0.1s - 1 s	OFF	OFF	OFF
1s - 10s	OFF	OFF	ON
10s - 100s	OFF	ON	OFF
0.1m - 1m	OFF	ON	ON
1m - 10m	ON	OFF	OFF
10m - 100m	ON	OFF	ON
0.1h - 1h	ON	ON	OFF
1h - 10h	ON	ON	ON



Front Panel Timers

Contacts	Contact Rating (A)	Coil Voltage	Basic Relay	Time Range	Function	Uses Socket 3TX7144-	Uses Clip 3TX7144-	Socket Access Set	Panel Mount Adaptor 3TX7144-	DIN Rail Mount Adaptor 3TX7144-
DPDT	12	12-240V AC/DC	OFD-DFPR-00	0.1S - 9990h	A,B,C,D,E,F,G,H,I,J	3TX7144-4E3	1L25	—	—	—
SPDT		12-240V AC/DC	OND-DFPR-01	0.1S - 9990h	A,B,C,D,E,F,G,H,I,J	3TX7144-4E2	1L25	—	—	—
DPDT		12-240V AC/DC	OND-DFPR-02	0.1S - 9990h	A,B,C	3TX7144-4E2	1L25	—	—	—

Note: See page 11/90 for socket accessories.

3TX71 plug-in relays

Multifunction Timer Modes		
Function	Name	Description
A	On Delay (Power On)	When input voltage U is applied, timing delay t begins. Relay contacts R change state after the time delay is complete. Contacts R return to their shelf state when input voltage U is removed. Trigger switch is not used in this function.
B	Repeat Cycle (Starting Off)	When input voltage U is applied, time delay t begins. When time delay t is complete, relay contacts R change state for time delay t. This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.
C	Interval (Power On)	When input voltage U is applied, relay contacts R change state immediately and timing cycle begins. When time delay is complete, contacts return to shelf state. When input voltage U is removed, contacts will also return to their shelf state. Trigger switch is not used in this function.
D	Off Delay (S Break)	Input voltage U must be applied continuously. When trigger switch S is closed, relay contacts R change state. When trigger switch S is opened, delay t begins. When delay t is complete, contacts R return to their shelf state. If trigger switch S is closed before time delay t is complete, then time is reset. When trigger switch S is opened, the delay begins again, and relay contacts R remain in their energized state. If input voltage U is removed, relay contacts R return to their shelf state.
E	Retriggerable One Shot	Upon application of input voltage U, the relay is ready to accept trigger signal S. Upon application of the trigger signal S, the relay contacts R transfer and the preset time t begins. At the end of the preset time t, the relay contacts R return to their normal condition unless the trigger switch S is opened and closed prior to time out t (before preset time elapses). Continuous cycling of the trigger switch S at a rate faster than the preset time will cause the relay contacts R to remain closed. If input voltage U is removed, relay contacts R return to their shelf state.
F	Repeat Cycle (Starting On)	When input voltage U is applied, relay contacts R change state immediately and time delay t begins. When time delay t is complete, contacts return to their shelf state for time delay t. This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.
G	Pulse Generator	Upon application of input voltage U, a single output pulse of 0.5 seconds is delivered to relay after time delay t. Power must be removed and reapplied to repeat pulse. Trigger switch is not used in this function.
H	One Shot	Upon application of input voltage U, the relay is ready to accept trigger signal S. Upon application of the trigger signal S, the relay contacts R transfer and the preset time t begins. During time-out, the trigger signal S is ignored. The relay resets by applying the trigger switch S when the relay is not energized.
I	On/Off Delay (S Make/Break)	Input voltage U must be applied continuously. When trigger switch S is closed, time delay t begins. When time delay t is complete, relay contacts R change state and remain transferred until trigger switch S is opened. If input voltage U is removed, relay contacts R return to their shelf state.
J	Memory Latch (S Make)	Input voltage U must be applied continuously. Output changes state with every trigger switch S closure. If input voltage U is removed, relay contacts R return to their shelf state.

Socket Accessories

Access. Series	MOV	MOV	R/C	R/C	Diode
	24VAC/DC	120VAC/DC	6-24VAC/DC	110-240VAC/DC	6-250VDC
A	3TX7144-H1	3TX7144-H2	3TX7144-H4	3TX7144-H5	3TX7144-H6
B	3TX7144-H9	3TX7144-H17	—	—	3TX7144-H12

General specifications

Contact Characteristics		Units	3TX7109	3TX7110	3TX7111					
Number and Type of Contacts			SPDT	SPDT	SPDT	DPDT	DPDT	4PDT	4PDT	
Contact Material			Silver Alloy	Silver Alloy	Silver Alloy	Silver Alloy	Silver Alloy	Silver Alloy	Silver Alloy	
Thermal (Carrying) Current	A		20	20	3 (Bifurcated)	10	3 (Bifurcated)	10	3 (Bifurcated)	
Maximum Switching Voltage	V		300	300	300	300	300	300	300	
Switching Current at Voltage		Resistive	16A @240V	20A @240V	3A @240V	8A @240V	3A @240V	8A @240V	3A @240V	
			Resistive	16A @120V	20A @120V	—	10A @120V	3A @120V	10A @120V	3A @120V
			Resistive	16A @ 28	20A @ 28	—	8A @ 28	3A @ 30	8A @ 28	3A @ 30
			HP	1/2 @ 120VAC	1/2 @ 120VAC	—	1/3 @ 120VAC	1/16 @ 120VAC	1/3 @ 120VAC	1/16 @ 120VAC
			HP	1 @ 240VAC	1 @ 240VAC	—	1 @ 240VAC	—	1 @ 240VAC	—
			Pilot Duty	B300	B300	—	B300	—	B300	—
Minimum Switching Requirement	mA		100 @ 5VDC (.5W)	100 @ 5VDC (.5W)	3 @ 17VDC (.4W)	100 @ 5VDC (.5W)	3 @ 17VDC (.4W)	100 @ 5VDC (.5W)	3 @ 17VDC (.4W)	
Coil Characteristics										
Voltage Range	AC	V	6...240	6...240	6...240	6...240	6...240	6...240	6...240	
	DC	V	6...125	6...125	6...125	6...125	6...125	6...125	6...125	
Operating Range	AC	%	85 to 110	85 to 110	85 to 110	85 to 110	85 to 110	85 to 110	85 to 110	
	DC	%	80 to 110	80 to 110	80 to 110	80 to 110	80 to 110	80 to 110	80 to 110	
Average Consumption	AC	VA	1.2	0.9	0.9	1.2	1.2	1.2	1.2	
	DC	W	0.9	0.7	0.7	0.9	0.9	0.9	0.9	
Drop-out Voltage Threshold	AC	%	15	15	15	15	15	15	15	
	DC	%	10	10	10	10	10	10	10	
Performance Characteristics										
Electrical Life (UL508)	Operations @ Rated Current	(Resistive)	100,000	100,000	100,000	200,000	200,000	200,000	200,000	
Mechanical Life	Unpowered		10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	
Operating Time (response time)		ms	20	20	20	20	20	20	20	
Dielectric Strength	Between Coil and Contact	V(rms)	2500	2500	2500	2500	2500	2500	2500	
	Between Poles	V(rms)	1500	1500	1500	1500	1500	1500	1500	
	Between Contacts	V(rms)	1500	1500	1500	1500	1500	1500	1500	
Environment										
Product Certifications	Standard Version		UL,RoHS	UL,RoHS	UL,RoHS	UL,RoHS	UL,RoHS	UL,RoHS	UL,RoHS	
Ambient Air Temperature around the Device	Storage	°C	-40...+85	-40...+85	-40...+85	-40...+85	-40...+85	-40...+85	-40...+85	
	Operational	°C	-40...+55	-40...+55	-40...+55	-40...+55	-40...+55	-40...+55	-40...+55	
Vibration Resistance	Operational	g-n	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	
Shock Resistance		g-n	10	10	10	10	10	10	10	
Degree of Protection			IP40	IP40	IP40	IP40	IP40	IP40	IP40	
Weight		grams	36	29	29	36	36	36	36	

Contact Characteristics		Units	3TX7112	3TX7114	3TX7115	3TX7116	3TX7117			
Number and Type of Contacts			DPDT	3PDT	DPDT	DPDT	3PDT	3PDT	4PDT	
Contact Material			Silver Alloy	Silver Alloy	Silver Alloy	Silver Alloy	Silver Alloy	Silver Alloy	Silver Alloy	
Thermal (Carrying) Current	A		16	15	15	16	15	15	15	
Maximum Switching Voltage	V		300	300	300	300	300	300	300	
Switching Current at Voltage		Resistive	16A @240V	16A @240V	12A @277V	16A @277V	16A @277V	12A @277V	12A @277V	
			Resistive	16A @120V	16A @120V	15A @120V	16A @120V	16A @120V	15A @120V	15A @120V
			Resistive	16A @ 28	16A @ 28	12A @ 28	16A @ 28	16A @ 28	12A @ 28	12A @ 28
			HP	1/3 @ 120VAC	1/3 @ 120VAC	1/2 @ 120VAC	1/3 @ 120VAC	1/3 @ 120VAC	1/2 @ 120VAC	1/2 @ 120VAC
			HP	1/2 @ 240VAC	1/2 @ 240VAC	1 @ 240VAC	1/2 @ 240VAC	1/2 @ 240VAC	3/4 @ 240VAC	3/4 @ 240VAC
			Pilot Duty	B300	B300	B300	B300	B300	B300	B300
Minimum Switching Requirement	mA		100 @ 5VDC (.5W)	100 @ 5VDC (.5W)	100 @ 5VDC (.5W)	100 @ 5VDC (.5W)	100 @ 5VDC (.5W)	100 @ 5VDC (.5W)		
Coil Characteristics										
Voltage Range	AC	V	6...240	6...240	6...240	6...240	6...240	6...240		
	DC	V	6...125	6...125	6...125	6...125	6...125	6...125		
Operating Range	AC	%	85 to 110	85 to 110	85 to 110	85 to 110	85 to 110	85 to 110		
	DC	%	80 to 110	80 to 110	80 to 110	80 to 110	80 to 110	80 to 110		
Average Consumption	AC	VA	1.2	1.2	1.2	1.2	1.5	1.5		
	DC	W	0.9	0.9	0.9	0.9	1.4	1.5		
Drop-out Voltage Threshold	AC	%	15	15	15	15	15	15		
	DC	%	10	10	10	10	10	10		
Performance Characteristics										
Electrical Life (UL508)	Operations @ Rated Current	(Resistive)	200,000	200,000	100,000	100,000	100,000	200,000	200,000	
Mechanical Life	Unpowered		10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	
Operating Time (response time)		ms	20	20	20	20	20	20		
Dielectric Strength	Between Coil and Contact	V(rms)	2500	2500	2500	2500	2500	2500		
	Between Poles	V(rms)	1500	1500	1500	1500	1500	2500		
	Between Contacts	V(rms)	1500	1500	1500	1500	1500	2500		
Environment										
Product Certifications	Standard Version		UL,RoHS	UL,RoHS	UL,RoHS	UL,RoHS	UL,RoHS	UL,RoHS		
Ambient Air Temperature around the Device	Storage	°C	-40...+85	-40...+85	-40...+85	-40...+85	-40...+85	-40...+85		
	Operational	°C	-40...+55	-40...+55	-40...+55	-40...+55	-40...+55	-40...+55		
Vibration Resistance	Operational	g-n	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz		
Shock Resistance		g-n	10	10	10	10	10	10		
Degree of Protection			IP40	IP40	IP40	IP40	IP40	IP40		
Weight		grams	89	89	36	88	88	60	60	

3TX71 plug-in relays

General specifications

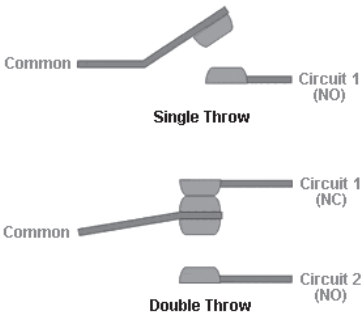
Contact Characteristics		Units	3TX7119	3TX7127			3TX7130
Number and Type of Contacts			DPDT	DPDT	4PDT	4PDT	All
Contact Material			Silver Alloy	Silver Alloy	Fine Silver	Silver Alloy	Silver Alloy
Thermal (Carrying) Current	A		20	12	3	5	40
Maximum Switching Voltage	V		600	300	300	300	600
Switching Current at Voltage	Resistive		20A @300V	12A @240V	3A @240V	12A @240V	40A @277V
	Resistive		—	12A @120V	3A @120V	—	—
	Resistive		20A @ 28	12A @ 28	3A @ 30	—	40A @ 28
	HP		1/3 @ 120VAC	1/3 @ 120VAC	1/16 @ 120VAC	—	—
	HP		1/2 @ 600VAC	1/2 @ 240VAC	1/10 @ 240VAC	—	—
	Pilot Duty		B600	B300	—	—	—
Minimum Switching Requirement	mA		100 @ 5VDC (.5W)	100 @ 5VDC (.5W)	10 @ 5VDC (.5W)	100 @ 5VDC (.5W)	1000 @ 12VAC/DC
Coil Characteristics							
Voltage Range	AC	V	6...240	6...240	6...240	6...240	6...600
	DC	V	6...125	6...125	6...125	6...125	6...600
Operating Range	AC	%	85 to 110	85 to 110	85 to 110	85 to 110	85 to 110
	DC	%	80 to 110	80 to 110	80 to 110	80 to 110	80 to 110
Average Consumption	AC	VA	2.75	1.2	1.2	1.2	10
	DC	W	2	0.9	0.9	0.9	4
Drop-out Voltage Threshold	AC	%	15	15	15	15	10
	DC	%	10	10	10	10	10
Performance Characteristics							
Electrical Life (UL508)	Operations @ Rated Current	(Resistive)	100,000	100,000	100,000	100,000	100,000
Mechanical Life	Unpowered		10,000,000	10,000,000	10,000,000	10,000,000	1,000,000
Operating Time (response time)		ms	20	20	20	20	30
Dielectric Strength	Between Coil and Contact	V(rms)	2000	1,500	1240	1240	2200
	Between Poles	V(rms)	2000	1,500	1240	1240	2200
	Between Contacts	V(rms)	1500	1500	500	500	1500
Environment							
Product Certifications	Standard Version		UL	UL,RoHS	UL,RoHS	UL,RoHS	UL
Ambient Air Temperature around the Device	Storage	°C	-40...+85	-40...+85	-40...+85	-40...+85	-40...+85
	Operational	°C	-40...+55	-40...+55	-40...+70	-40...+70	-40...+70
Vibration Resistance	Operational	g-n	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz
Shock Resistance		g-n	10	10	10	10	—
Degree of Protection			IP40	IP67	IP67	IP67	Open
Weight		grams	88	130	45	45	227 to 312

Contact Characteristics		Units	3TX7131		3TX7132		3TX7136	3TX7137
Number and Type of Contacts			DPST-NO	DPDT	DPDT	SPDT	SPDT	DPDT
Contact Material			Silver Alloy	Silver Alloy	Silver Alloy	Silver Alloy	Silver Alloy	Silver Alloy
Thermal (Carrying) Current	A		30	30 DPDT-NO	3 DPDT-NC	30 SPDT-NO	3 DPDT-NC	12
Maximum Switching Voltage	V		600	300	300	300	300	300
Switching Current at Voltage	Resistive		20A @300V	30A @277V	3A @277V	30A @277V	3A @277V	12A @240V
	Resistive		—	—	—	—	—	16A @120V
	Resistive		20A @ 28	20A @ 28	3A @ 28	10A @ 28	3A @ 28	12A @ 28
	HP		1/3 @ 120VAC	1 @ 120VAC	—	1 @ 120VAC	—	1/2 @ 120VAC
	HP		1/2 @ 600VAC	3 @ 240VAC	—	2 @ 240VAC	—	1/3 @ 240VAC
	Pilot Duty		—	—	—	—	—	B300
Minimum Switching Requirement	mA		500 @ 12VAC/DC	500 @ 12VAC/DC	500 @ 12VAC/DC	1000 @ 12VAC/5VDC	500 @ 12VAC/DC	100 @ 5VDC (.5W)
Coil Characteristics								
Voltage Range	AC	V	12...240	12...240	12...240	12...277	12...277	12...120
	DC	V	6...110	6...110	6...110	5...110	5...110	12...110
Operating Range	AC	%	85 to 120	85 to 120	85 to 120	85 to 120	85 to 120	85 to 110
	DC	%	75 to 120	75 to 120	75 to 120	75 to 120	75 to 120	80 to 110
Average Consumption	AC	VA	4	4	4	2.8	2.8	1.8
	DC	W	1.7	1.7	1.7	1	1	1.8
Drop-out Voltage Threshold	AC	%	10	10	10	10	10	15
	DC	%	10	10	10	10	10	10
Performance Characteristics								
Electrical Life (UL508)	Operations @ Rated Current	(Resistive)	100,000	100,000	100,000	100,000	100,000	100,000
Mechanical Life	Unpowered		5,000,000	5,000,000	5,000,000	10,000,000	10,000,000	10,000,000
Operating Time (response time)		ms	15	15	15	15	15	35
Dielectric Strength	Between Coil and Contact	V(rms)	4000	4000	4000	2500	2500	1500
	Between Poles	V(rms)	2000	2000	2000	1500	1500	500
	Between Contacts	V(rms)	1500	1500	1500	1500	1500	1500
Environment								
Product Certifications	Standard Version		UL	UL	UL	UL	UL	UL
Ambient Air Temperature around the Device	Storage	°C	-40...+85	-40...+85	-40...+85	-40...+85	-40...+85	-40...+85
	Operational	°C	-40...+55	-40...+55	-40...+55	-40...+55	-40...+55	-40...+70
Vibration Resistance	Operational	g-n	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz	3, 10 - 55 Hz
Shock Resistance		g-n	10	10	10	10	10	10
Degree of Protection			—	—	—	—	—	IP40
Weight		grams	86	86	86	33	33	110

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Overview

Contact arrangement - throws

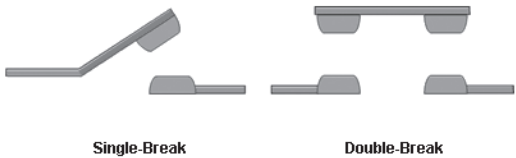


Throw is the number of different closed contact positions per pole. In other words a throw describes the total number of different circuits each pole controls.

The following abbreviations are used to indicate contact configurations:

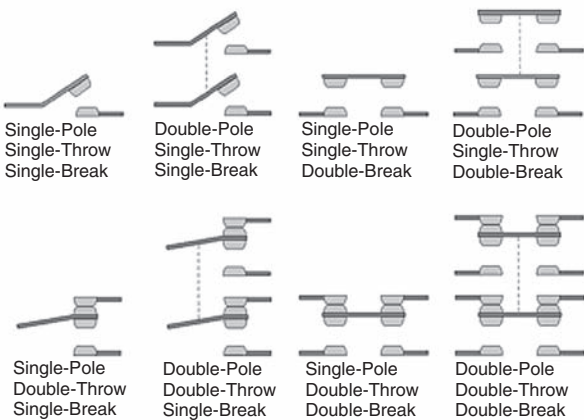
- SPST** Single-pole, single-throw
- SPDT** Single-pole, double-throw
- DPST** Double-pole, single-throw
- DPDT** Double-pole, double-throw

Contact arrangement - break



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

Contact arrangements overview

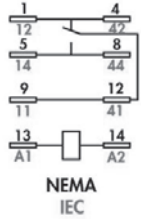


This illustration shows various contact arrangement types.

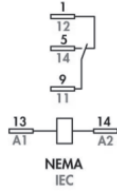
3TX71 plug-in relays

Circuit diagrams

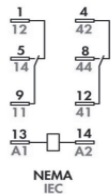
3TX7109 (SPDT)



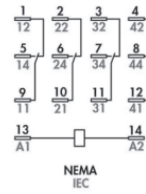
3TX7110
SPDT



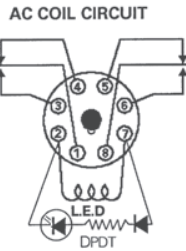
3TX7111
DPDT



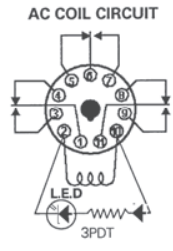
3TX7111
4PDT



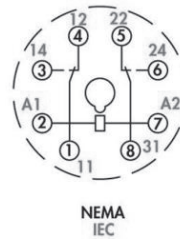
3TX7112
DPDT



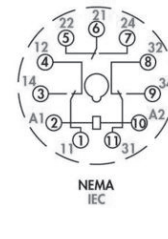
3TX7112
3PDT



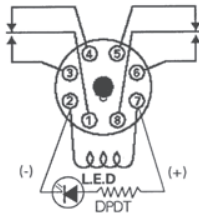
3TX7112-1L, -1D
DPDT



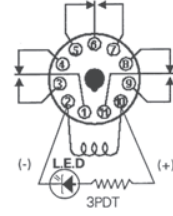
3TX7112-1N, -1F
3PDT



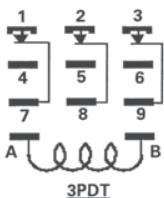
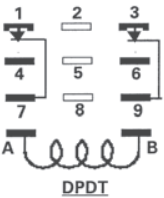
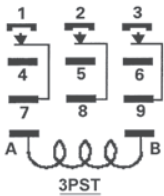
DC COIL CIRCUIT



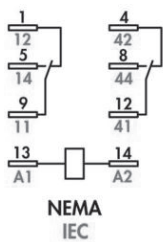
DC COIL CIRCUIT



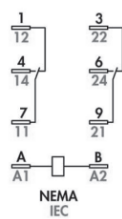
3TX7113
DPDT, 3PST, 3PDT



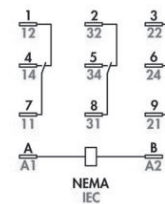
3TX7114
DPDT



3TX7115
DPDT



3TX7115
3PDT



SIRIUS RELAYS

3TX71 plug-in relays

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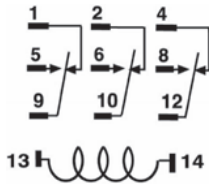
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11

Circuit diagrams

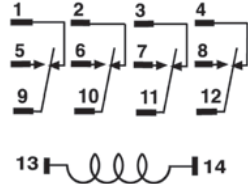
3TX7116

3PDT

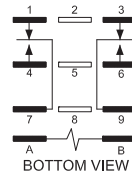


3TX7117

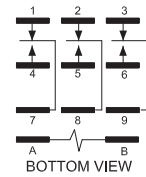
4PDT



3TX7119 (DPDT)

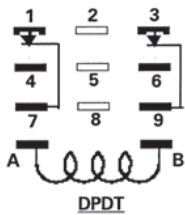


3TX7119 (3PDT)



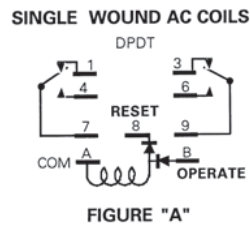
3TX7121

DPDT, 3PDT



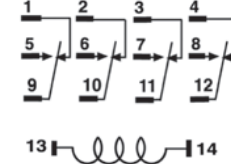
3TX7125

DPDT

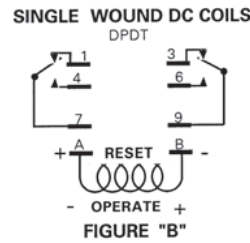
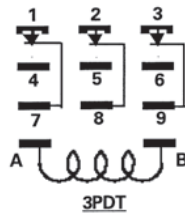
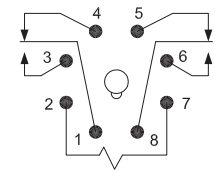


3TX7126/ 3TX7127

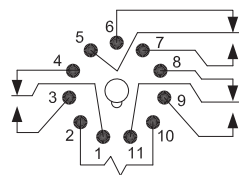
4PDT



3TX7127 (DPDT)



3TX7127 (3PDT)



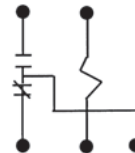
3TX7130

SPST-NO



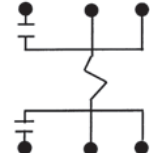
3TX7130

SPDT



3TX7130

DPST-NO



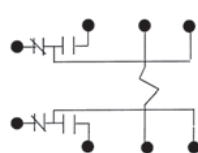
3TX7130

SPST-NC

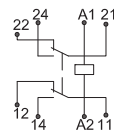


3TX7130

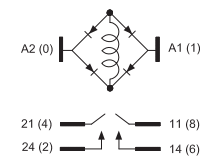
DPDT



3TX7130 (DPDT)



3TX7131 (DPST-NO) (AC)



Function Relays, Interfaces and Converters

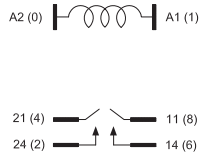
Coupling Relays and Interfaces

SIRIUS
RELAYS

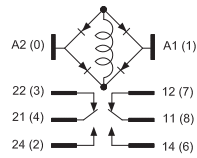
3TX71 plug-in relays

Circuit diagrams

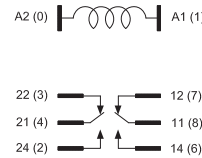
3TX7131 (DPST-NO) (DC)



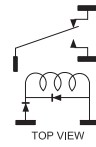
3TX7131 (DPDT) (AC)



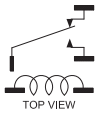
3TX7131 (DPDT) (DC)



3TX7132 (SPDT) (AC)



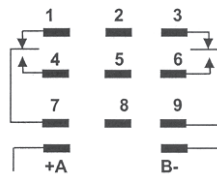
3TX7132 (SPDT) (DC)



3TX7136

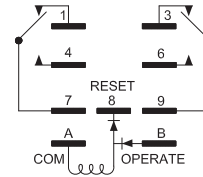
DPDT

WIRING DIAGRAM
VIEWED FROM PIN END

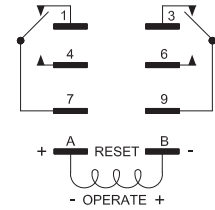


INPUT SIGNAL

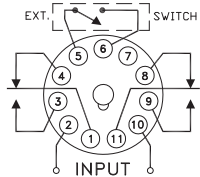
3TX7137 (DPDT) (AC)



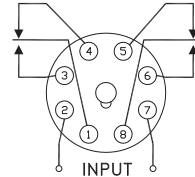
3TX7137 (DPDT) (DC)



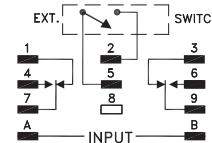
OFD-DFOB (DPDT)



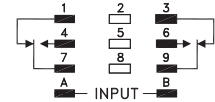
OND-DFOB (DPDT)



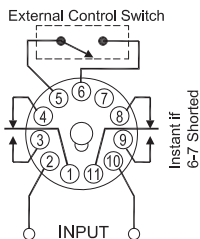
OFD-DFSB (DPDT)



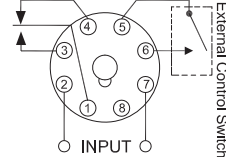
OND-DFSB (DPDT)



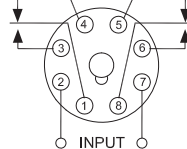
OFD-DFPR-00 (DPDT)



OND-DFPR-01 (SPDT)



OND-DFPR-02 (DPDT)



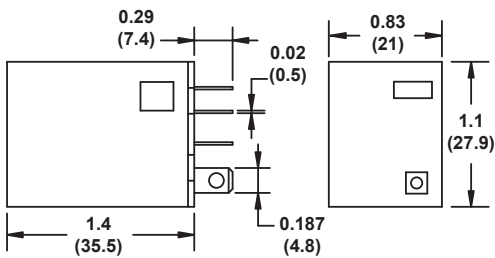
SIRIUS RELAYS

3TX71 plug-in relays

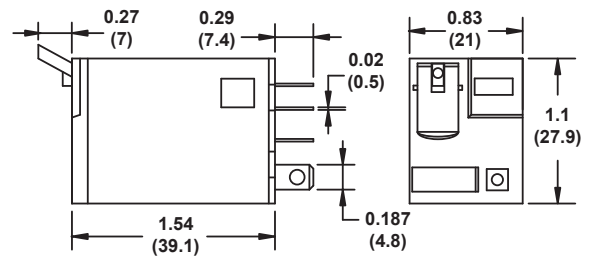
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Dimension drawings

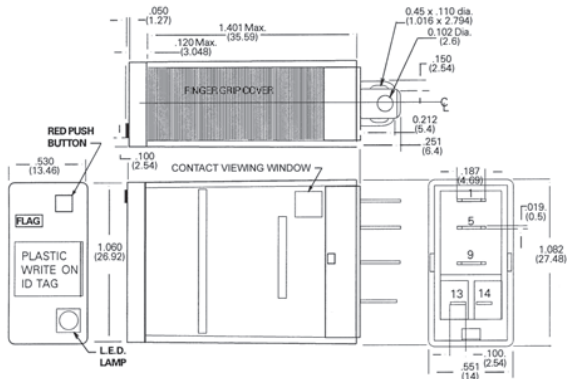
3TX7109 (SPDT) (clear cover)



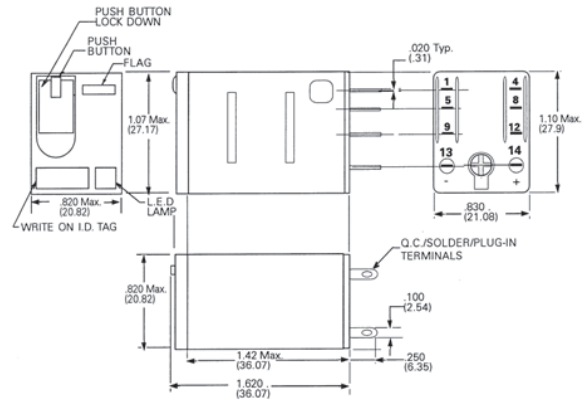
3TX7109 (SPDT) (full feature)



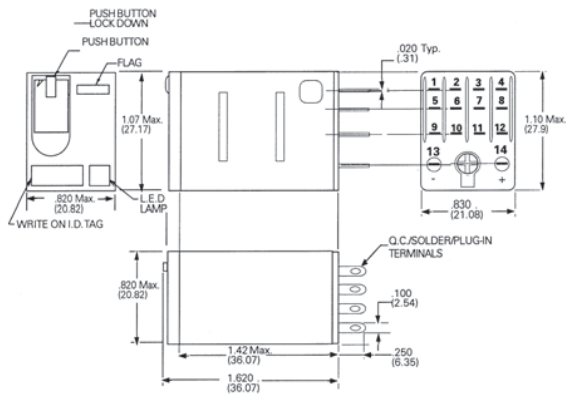
3TX7110 SPDT



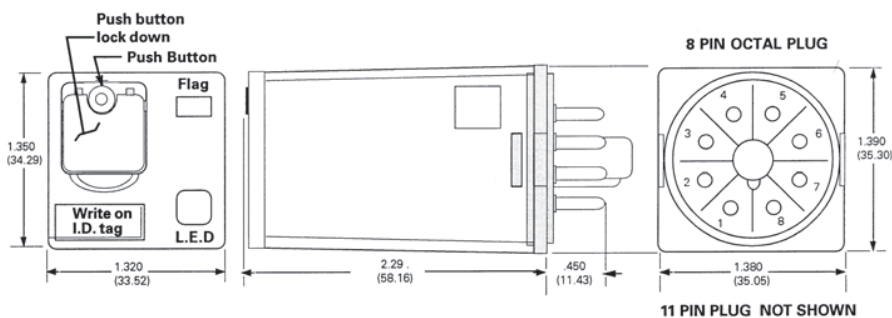
3TX7111 DPDT



3TX7111 4PDT



3TX7112 DPDT



Function Relays, Interfaces and Converters

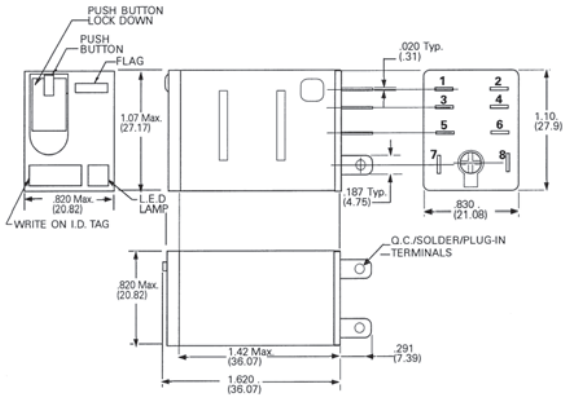
Coupling Relays and Interfaces

SIRIUS
RELAYS

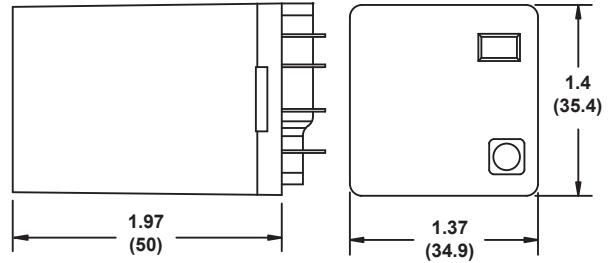
3TX71 plug-in relays

Dimension drawings

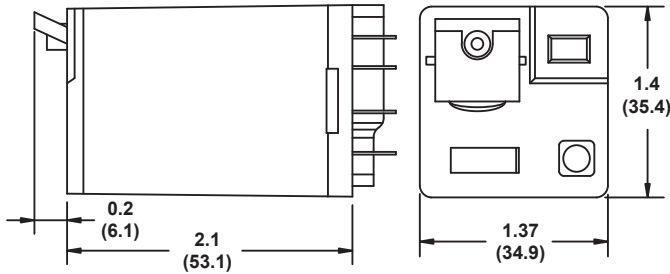
3TX7114 DPDT



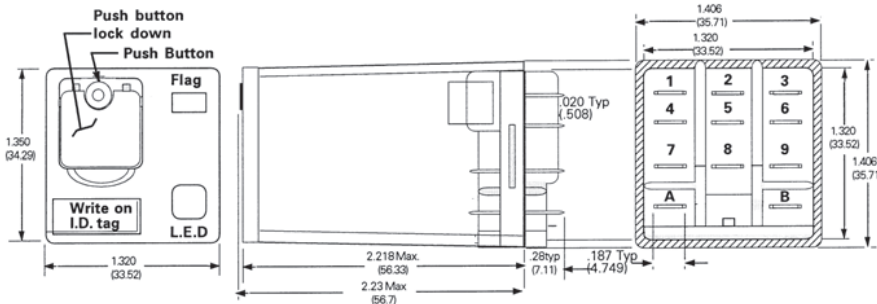
3TX7115 (DPDT) (clear cover)



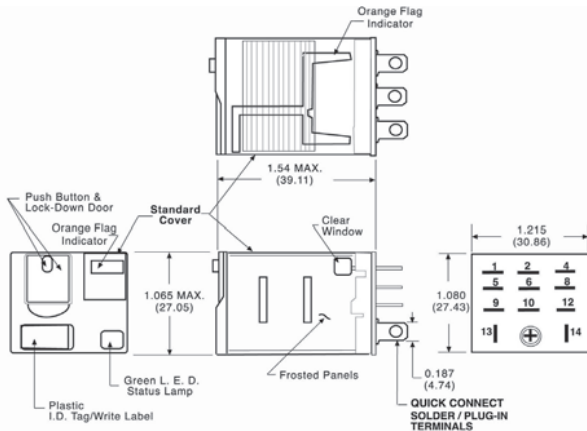
3TX7115 (DPDT) (full feature)



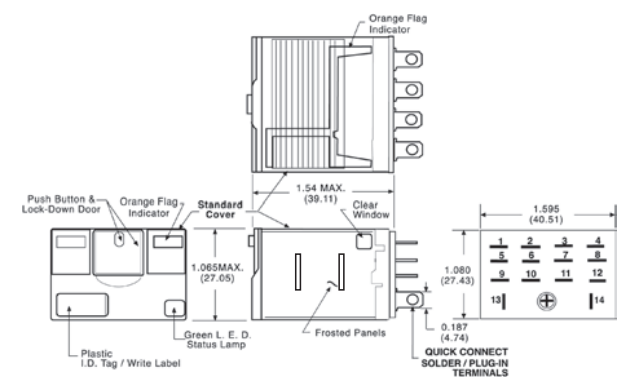
3TX7115 3PDT



3TX7116 3PDT



3TX7117 4PDT



SIRIUS RELAYS

3TX71 plug-in relays

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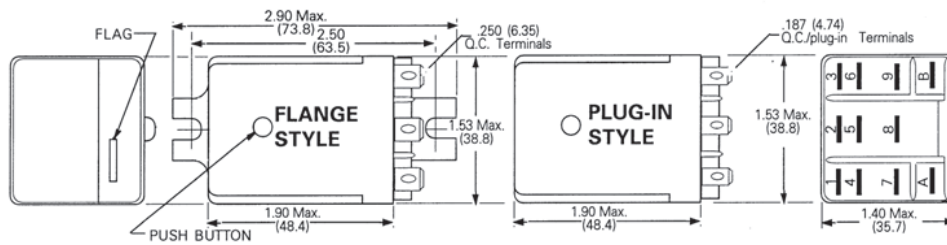
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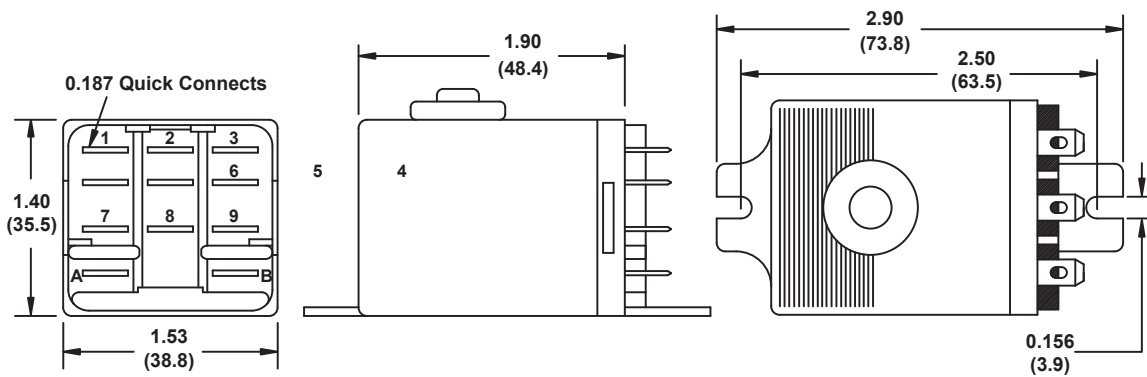
11

Dimension drawings

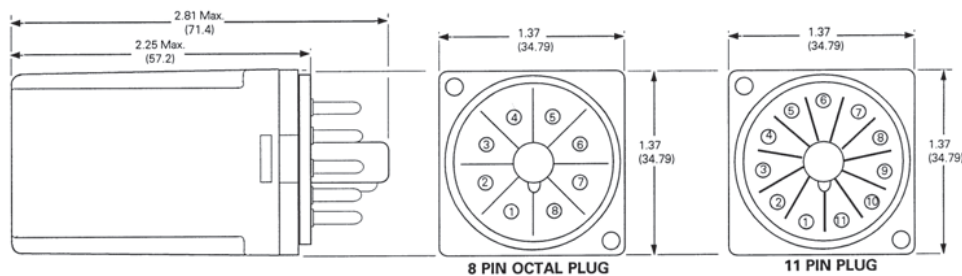
3TX7119 DPDT



3TX7119 (3PDT)

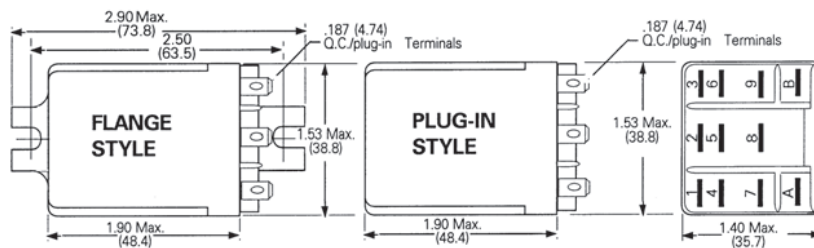


3TX7120



3TX7121/3TX7122

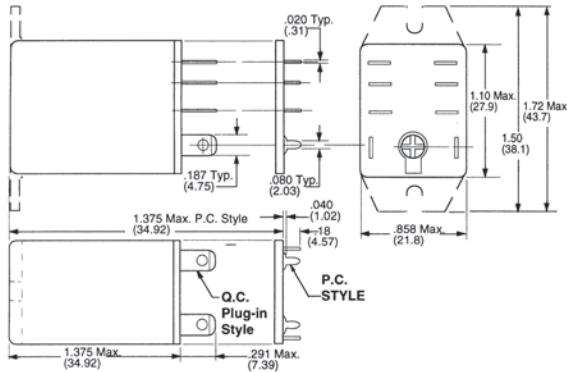
3TX7123



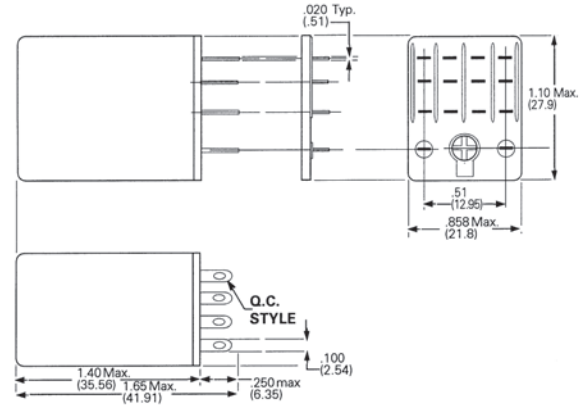
3TX71 plug-in relays

Dimension drawings

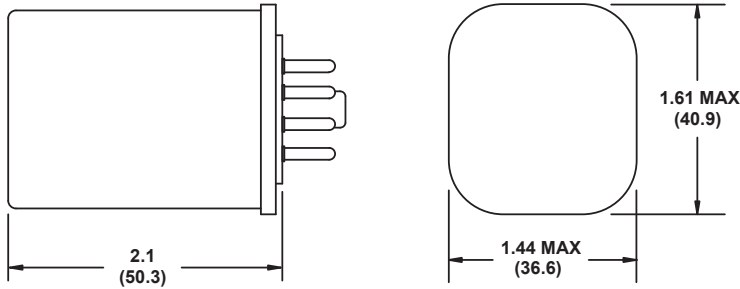
3TX7123



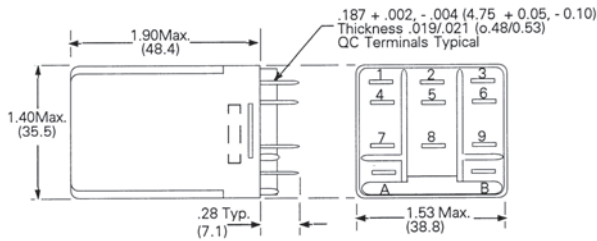
3TX7126



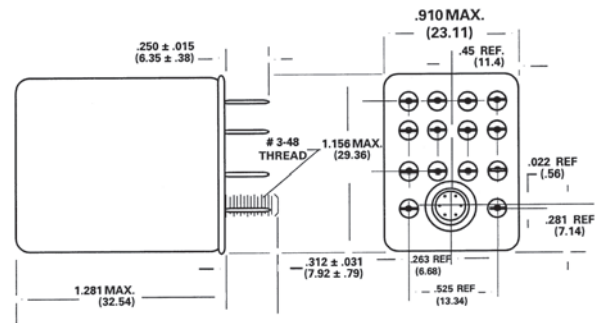
3TX7127 (DPDT)



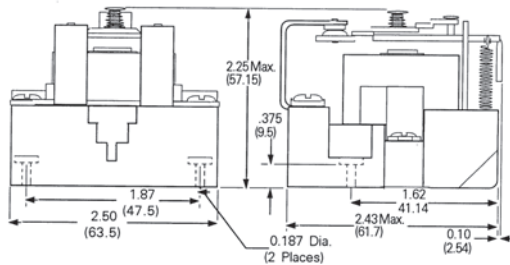
3TX7127 3PDT



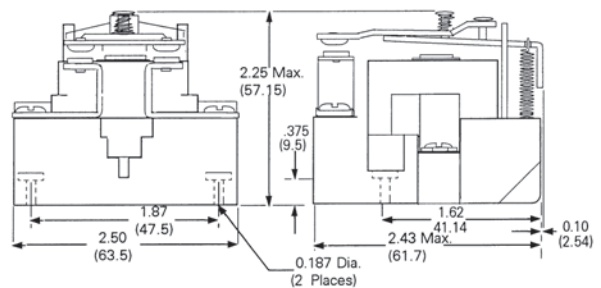
3TX7127 4PDT



3TX7130 SPST NC



3TX7130 SPST NO



SIRIUS RELAYS

3TX71 plug-in relays

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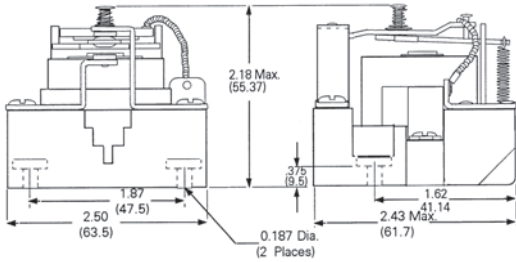
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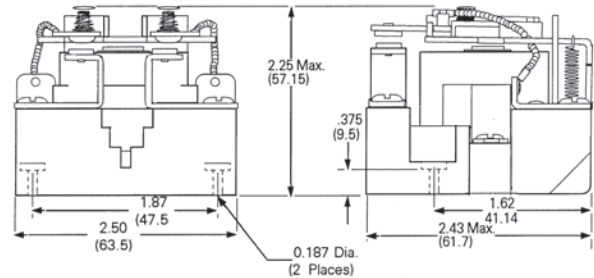
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Dimension drawings

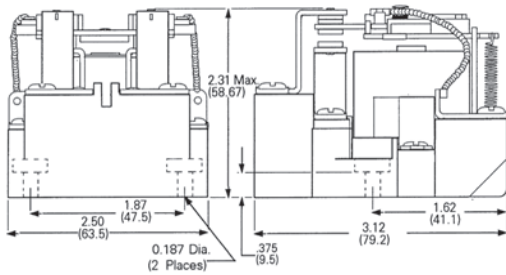
3TX7130 SPDT



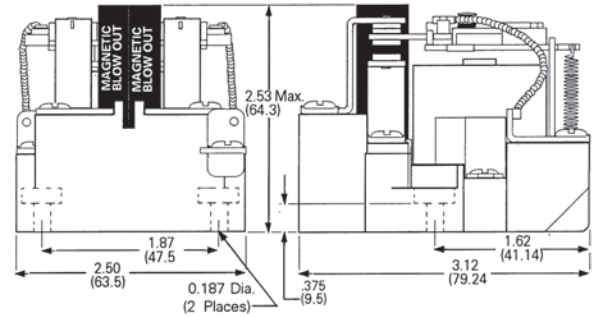
3TX7130 DPST NO



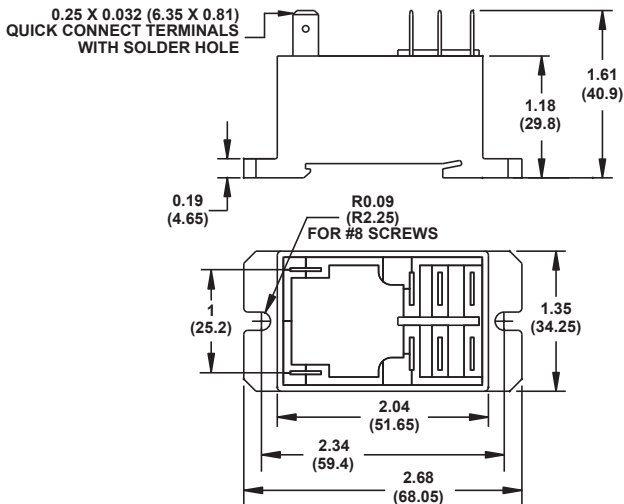
3TX7130 DPDT



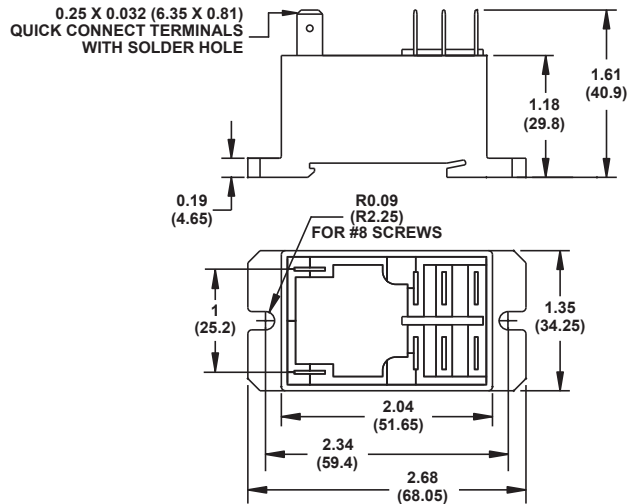
3TX7130 DPDT with magnetic
blowout



3TX7131 (DPST-NO)



3TX7131 (DPDT)



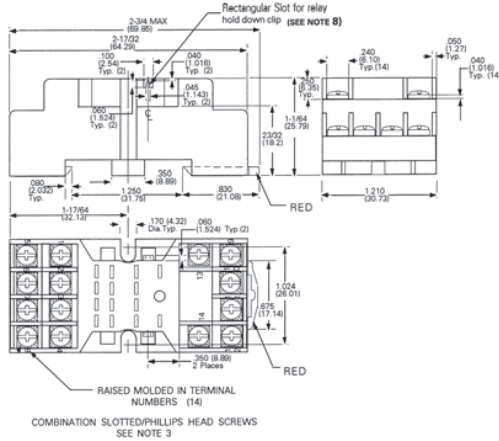
SIRIUS RELAYS

3TX71 plug-in relays

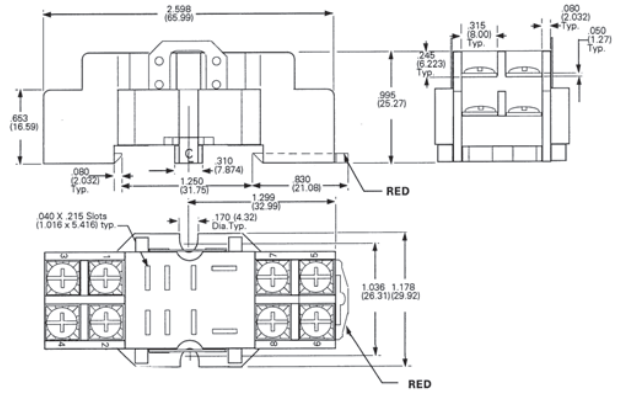
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Dimension drawings

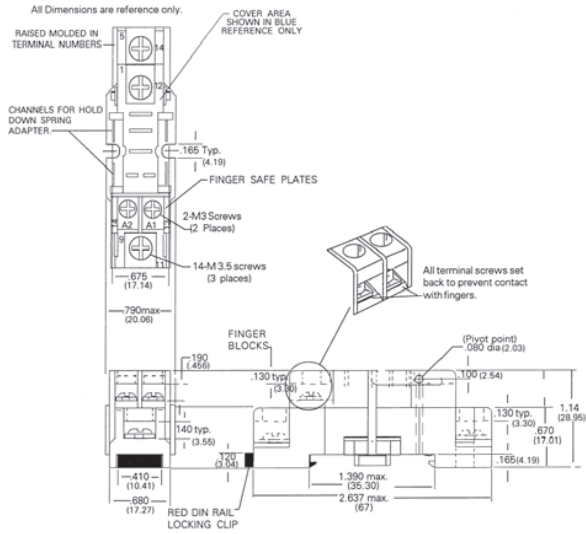
3TX7144-1E5



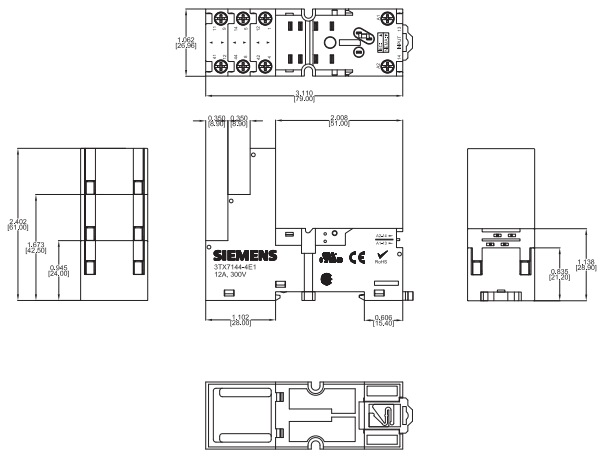
3TX7144-1E6



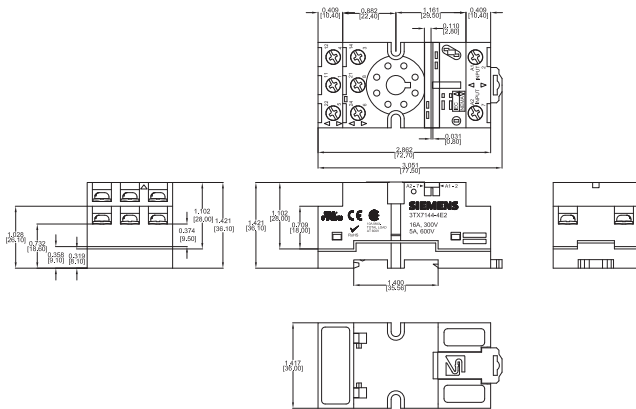
3TX7144-1E7



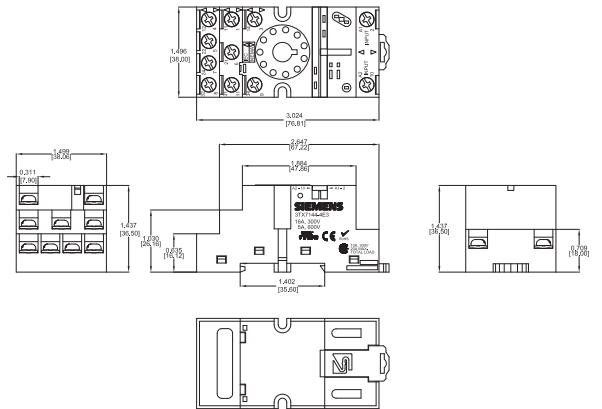
3TX7144-4E1



3TX7144-4E2



3TX7144-4E3



Function Relays, Interfaces and Converters

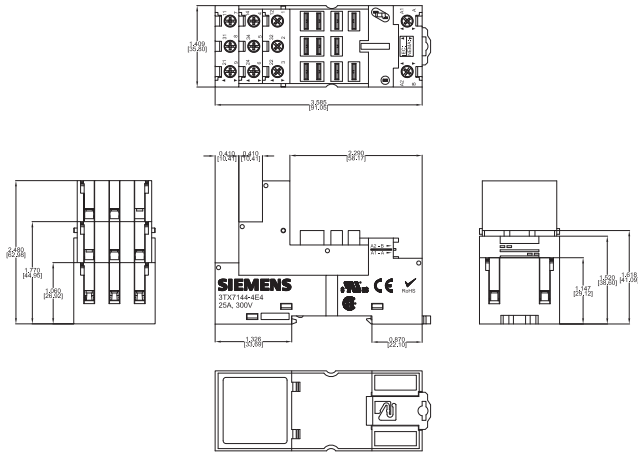
Coupling Relays and Interfaces

SIRIUS
RELAYS

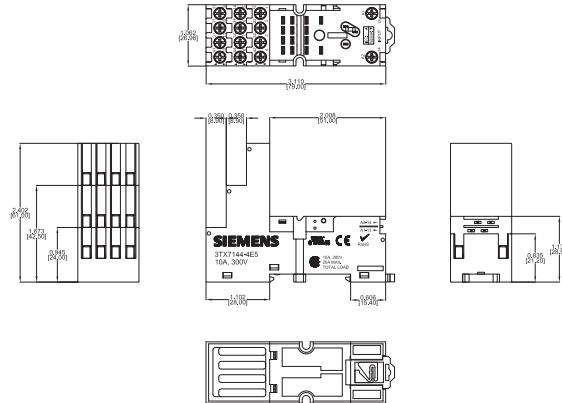
3TX71 plug-in relays

Dimension drawings

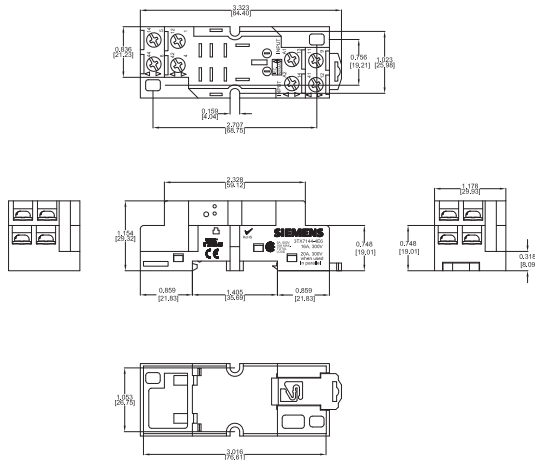
3TX7144-4E4



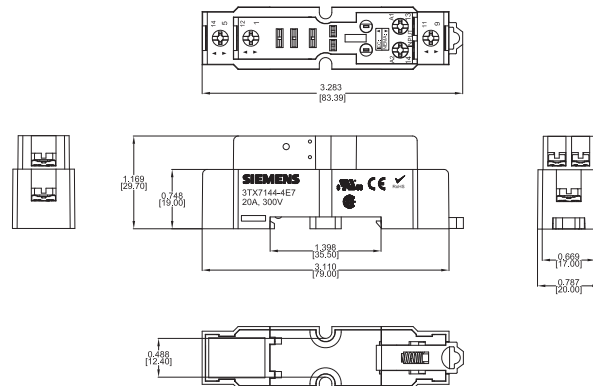
3TX7144-4E5



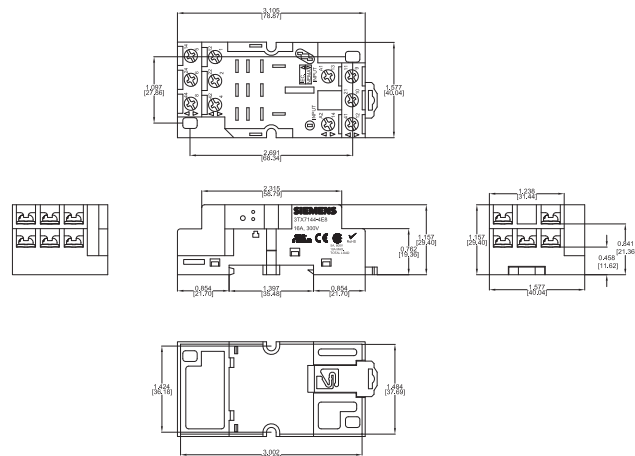
3TX7144-4E6



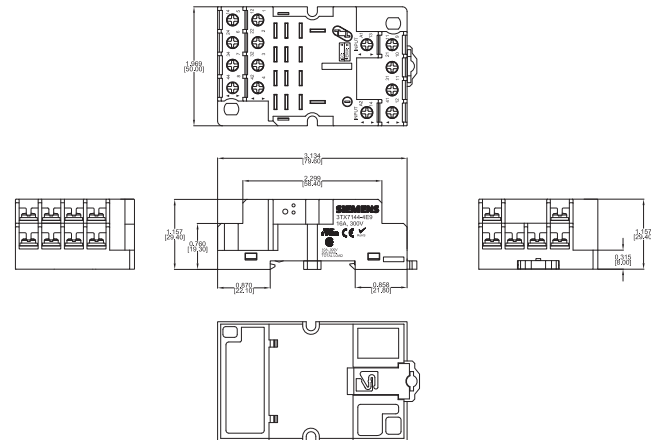
3TX7144-4E7



3TX7144-4E8

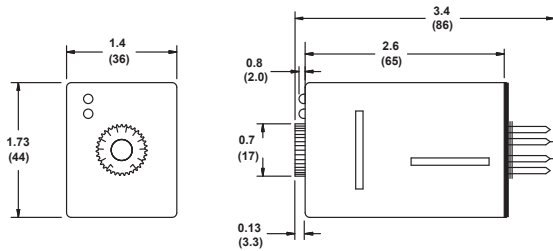


3TX7144-4E9

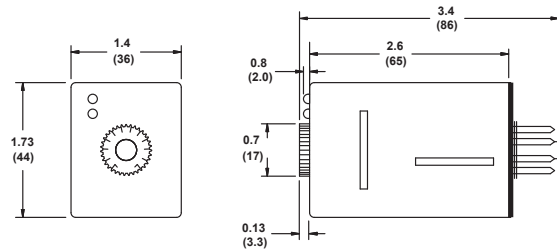


Dimension drawings

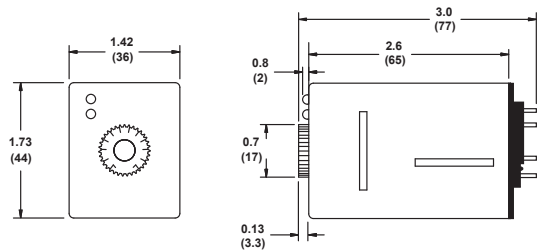
OFD-DFOB (DPDT)



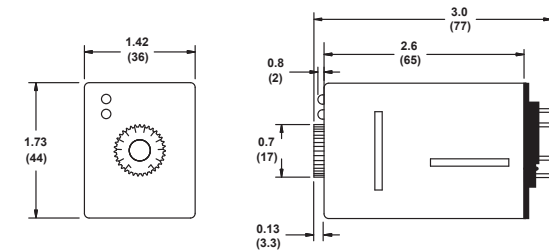
OND-DFOB (DPDT)



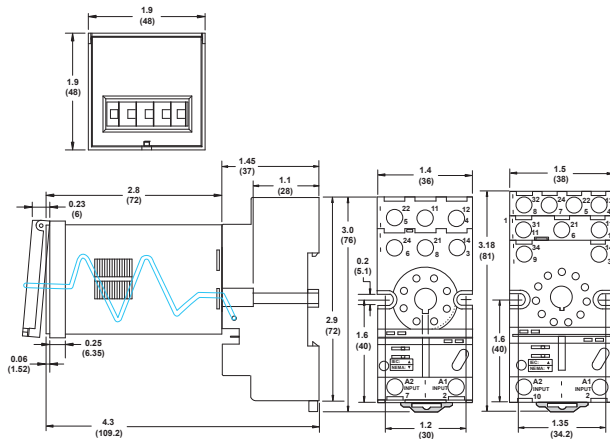
OFD-DFSB (DPDT)



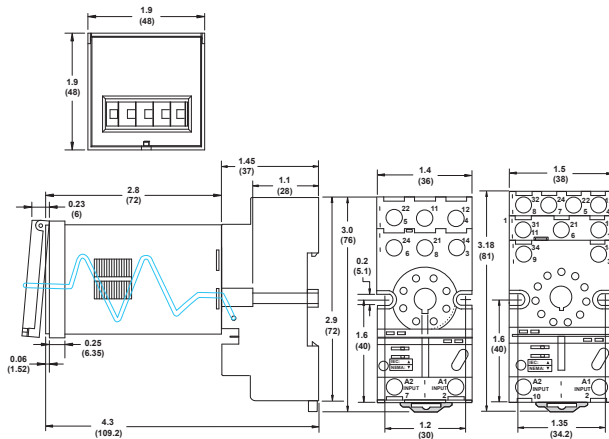
OND-DFSB (DPDT)



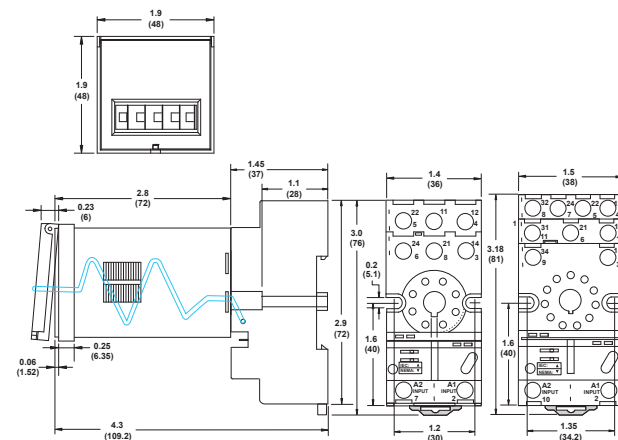
OFD-DFPR-00 (DPDT)



OND-DFPR-01 (SPDT)



OND-DFPR-02 (DPDT)



Function Relays, Interfaces and Converters

Coupling Relays and Interfaces

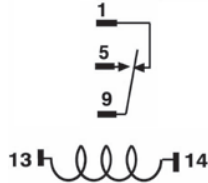
SIRIUS RELAYS

3TX71 plug-in relays

Circuit diagrams

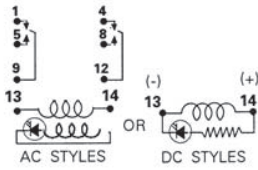
3TX7110

SPDT



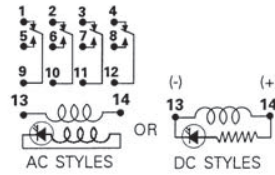
3TX7111

DPDT



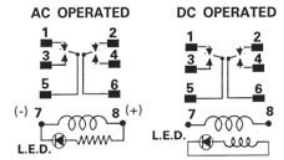
3TX7111

4PDT



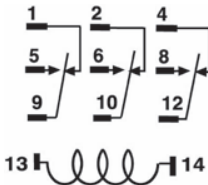
3TX7114

DPDT



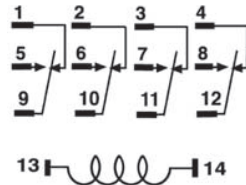
3TX7116

3PDT



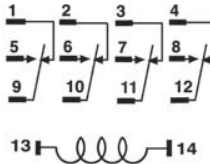
3TX7117

4PDT



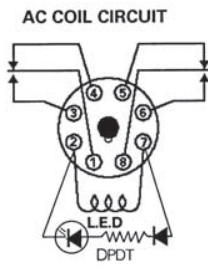
3TX7126/3TX7127

4PDT



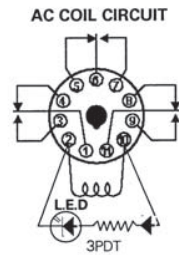
3TX7112

DPDT



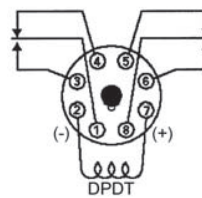
3TX7112

3PDT



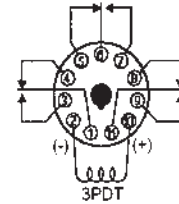
3TX7112-1L, -1D

DPDT

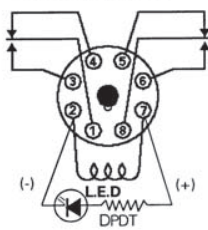


3TX7112-1N, -1F

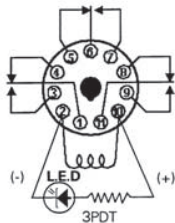
3PDT



DC COIL CIRCUIT



DC COIL CIRCUIT



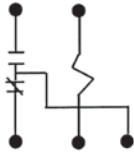
Bracketed values: Socket designations.
Without brackets: Contact/coil designations.

Circuit diagrams

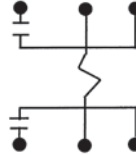
3TX7130
SPST-NO



3TX7130
SPDT



3TX7130
DPST-NO

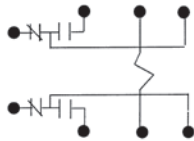


3TX7130
SPST-NC

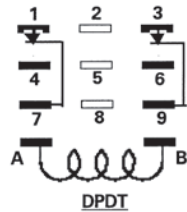


SPST-NC-DB

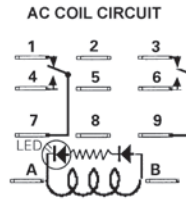
3TX7130
DPDT



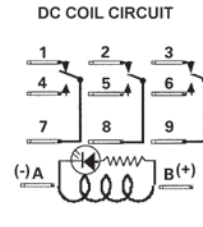
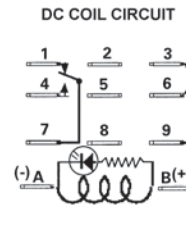
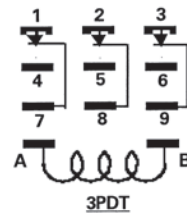
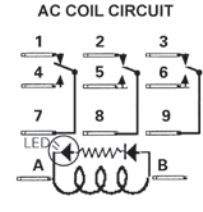
3TX7121
DPDT, 3PDT



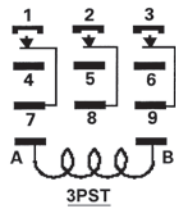
3TX7115
DPDT



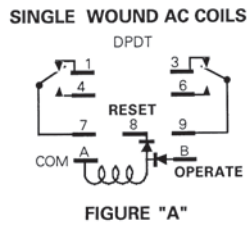
3TX7115
3PDT



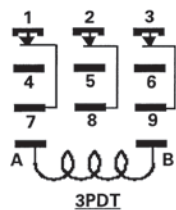
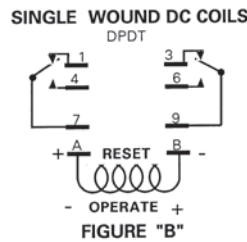
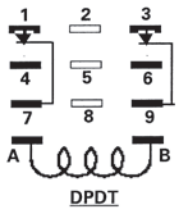
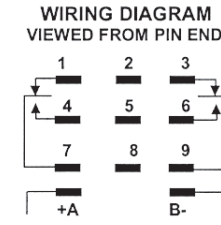
3TX7113
DPDT, 3PST, 3PDT



3TX7125
DPDT



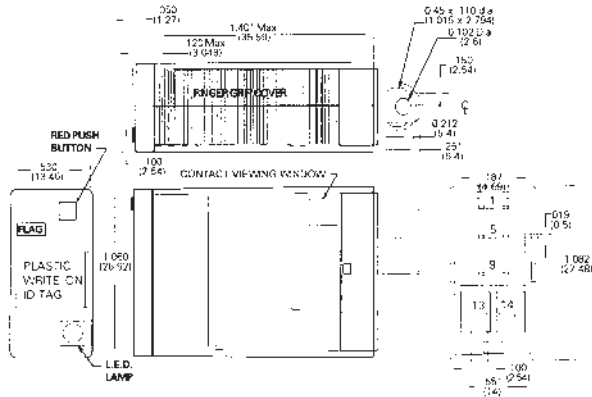
3TX7136
DPDT



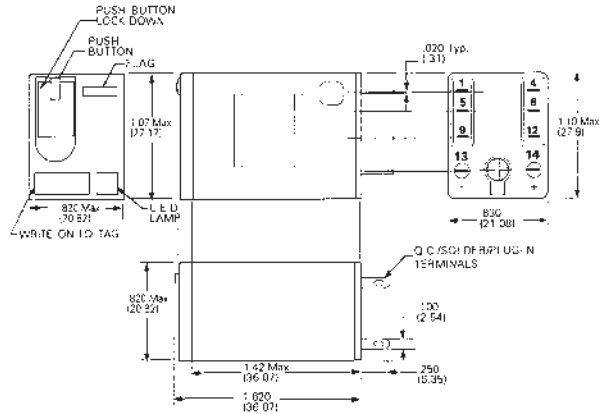
3TX71 plug-in relays

Dimension drawings

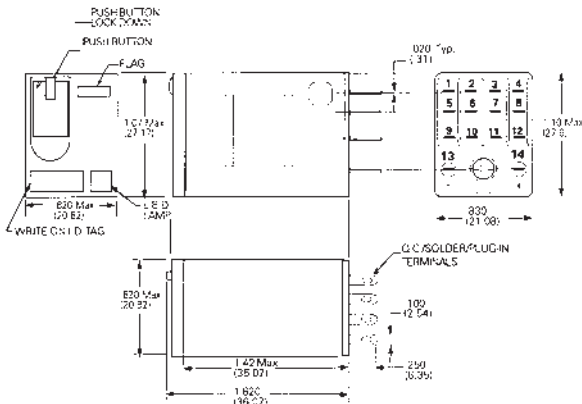
3TX7110



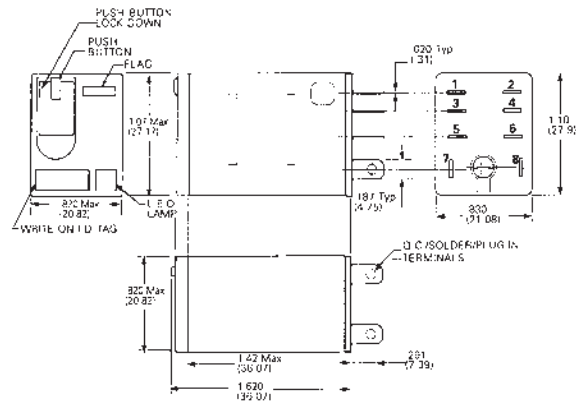
3TX7111 DPDT



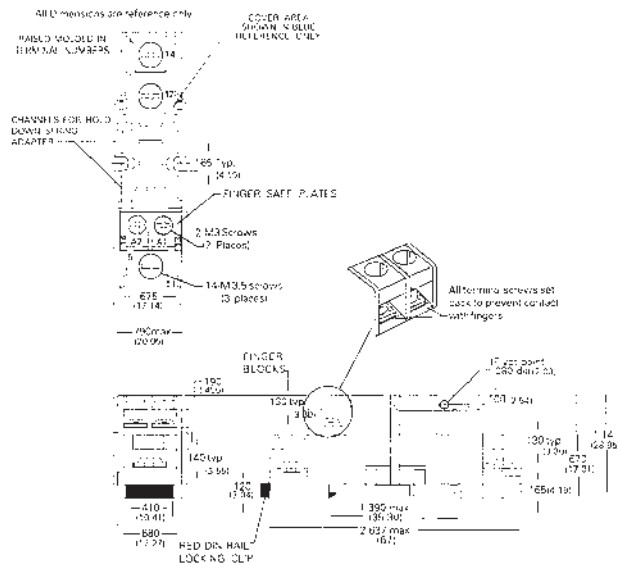
3TX7111 4PDT



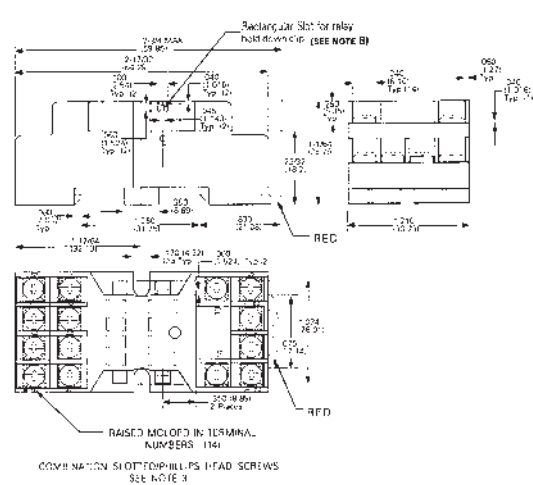
3TX7114



3TX7144-1E7



3TX7144-1E5



Function Relays, Interfaces and Converters

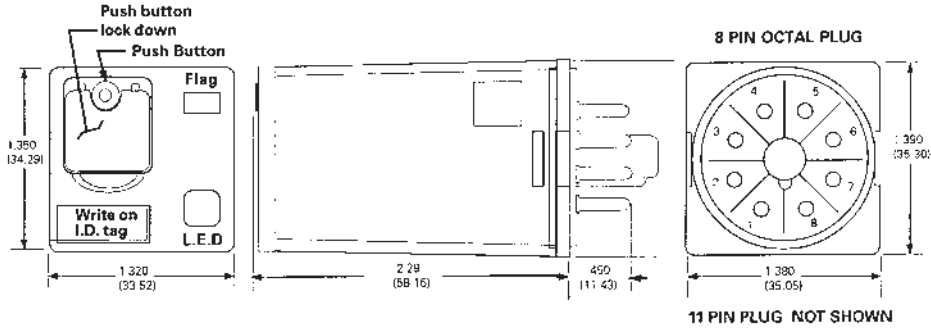
Coupling Relays and Interfaces

SIRIUS
RELAYS

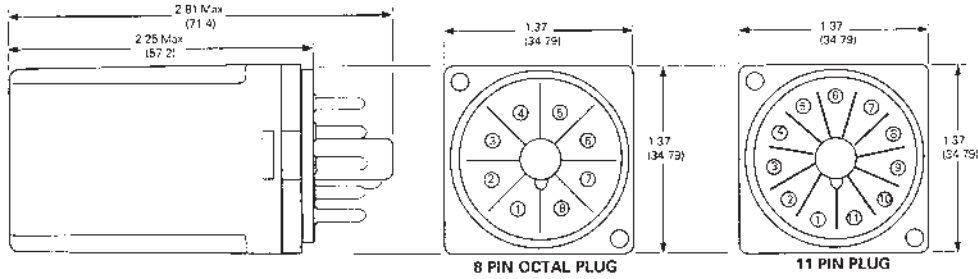
3TX71 plug-in relays

Dimension drawings

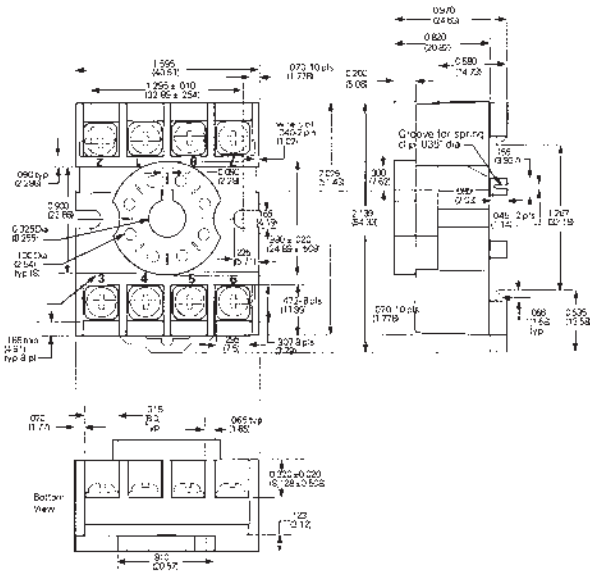
3TX7112



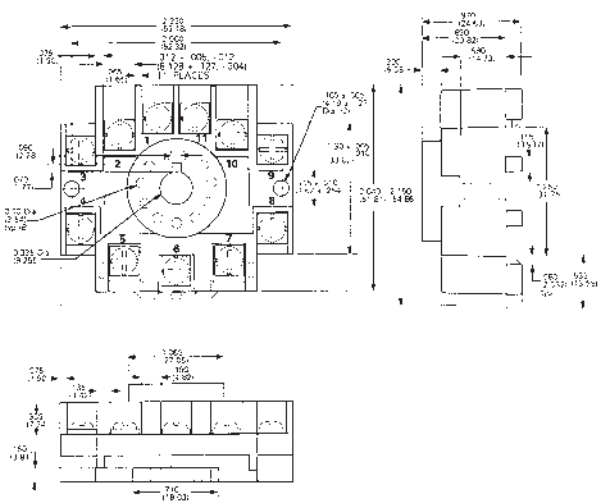
3TX7120



3TX7144-1E2

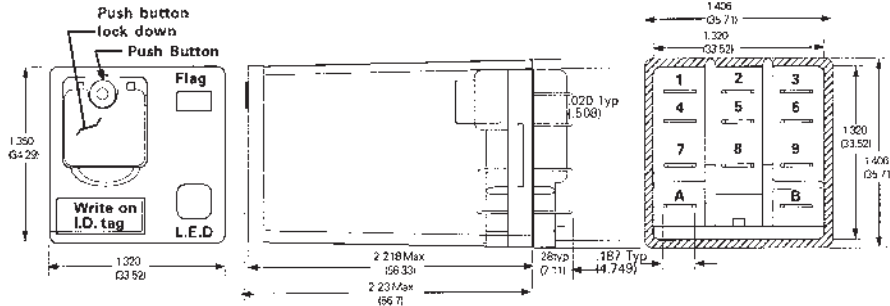


3TX7144-1E3

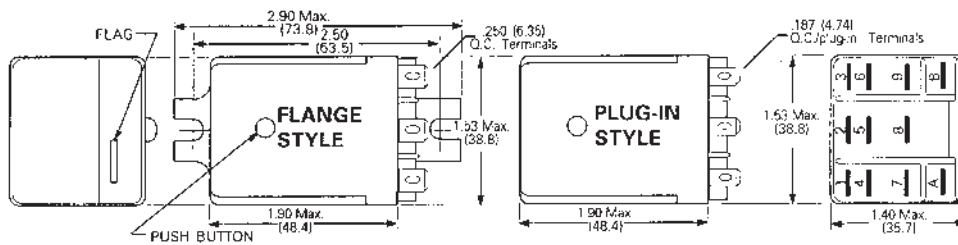


Dimension drawings

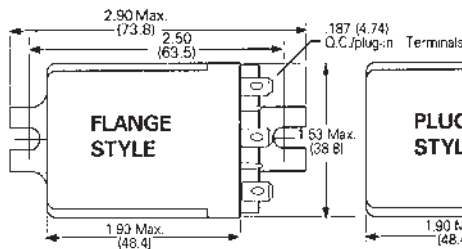
3TX7115



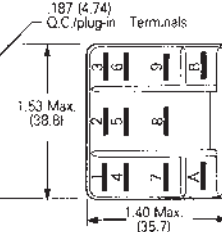
3TX7119



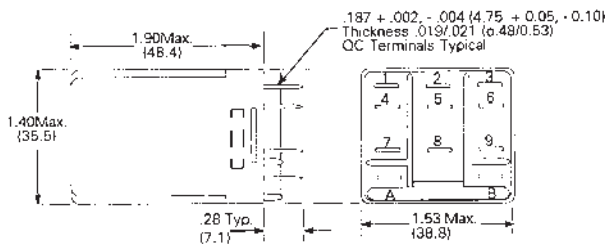
3TX7121/3TX7122



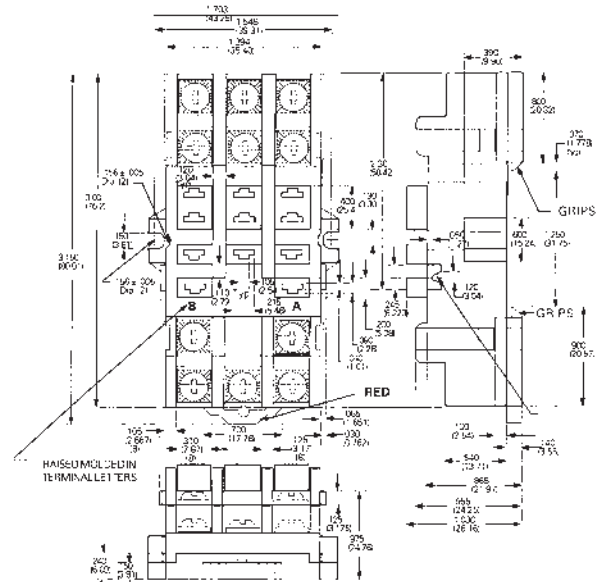
3TX7123



3TX7127



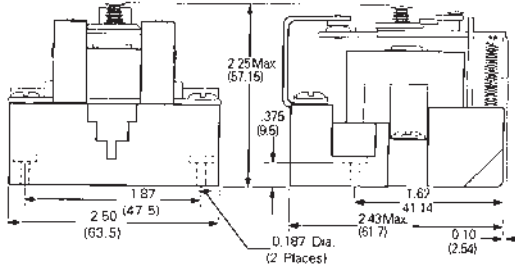
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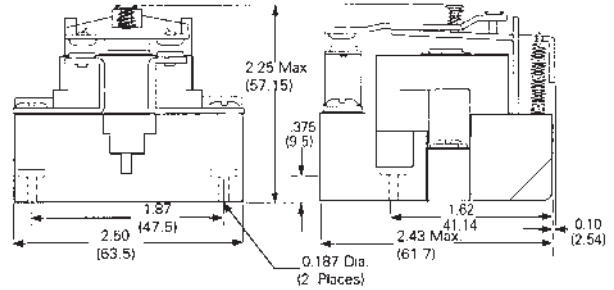
3TX71 plug-in relays

Dimension drawings

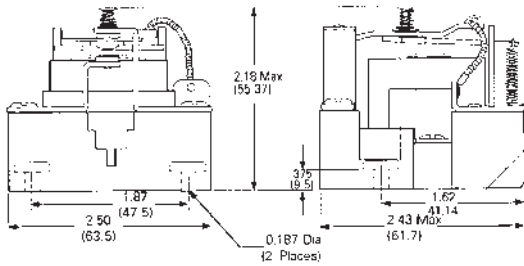
3TX7130 SPST NC



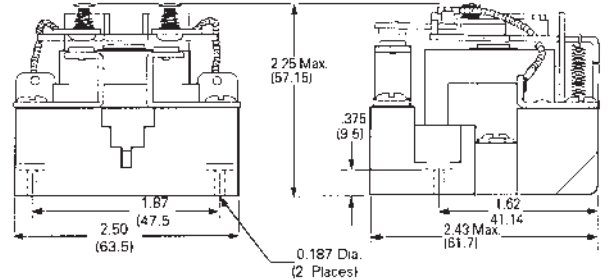
3TX7130 SPST NO



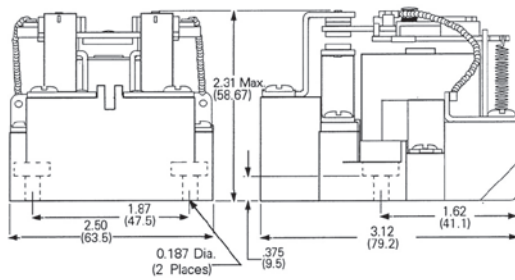
3TX7130 SPDT



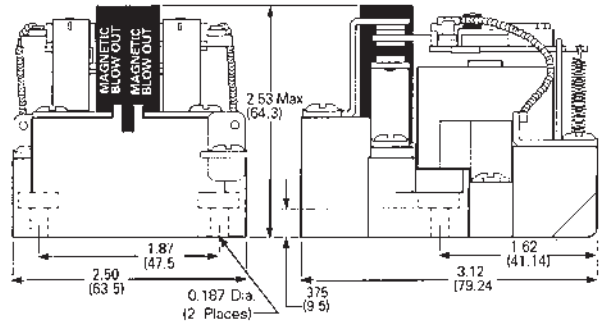
3TX7130 DPST NO



3TX7130 DPDT



3TX7130 DPDT with magnetic
blowout



3TX7136

