

Selector Guide

CIT RELAY & SWITCH™
Division of Circuit Interruption Technology, Inc.

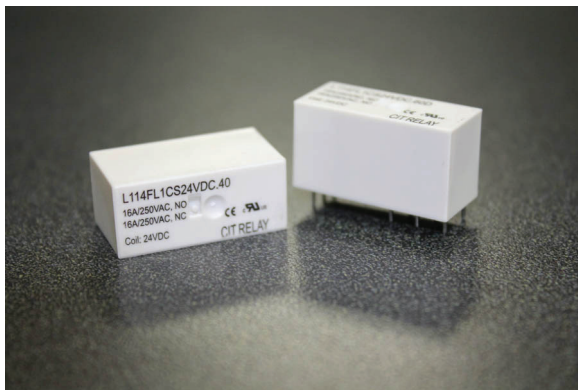


www.citrelay.com 763.535.2339

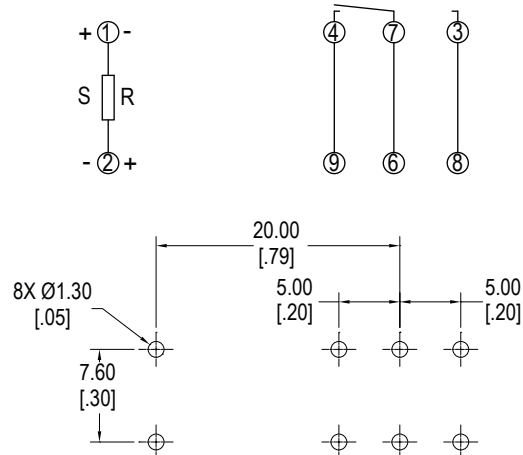
Latching Relays

CIT Relay & Switch now offers two latching relays - the L115F1 Series with switching capacity up to 50 amps and the L114 Series, with switching capacity up to 16 amps. Both series are UL/cUL approved and can withstand heavy contact load with strong shock and vibration resistance. The L115F1 Series is a single coil relay and the L114 is available in both single coil and double coil. The CIT Relay & Switch latching relays are UL F class rated standard and are ideal for energy smart applications.

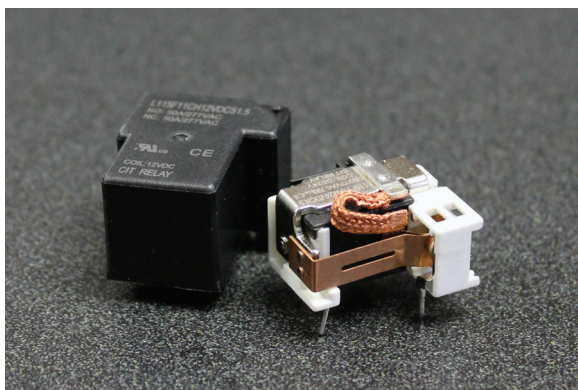
L114FL Series - 16 Amp



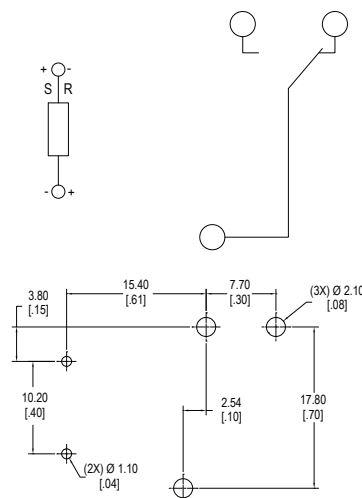
Schematic & PCB Layout



L115F1 Series - 50 Amp



Schematic & PCB Layout



*CIT Relay & Switch is your source for new technology.
Call today!*

NEW Product

Switch Product

Pages 2 ~ 6

Illuminated
Anti-Vandal
Pushbutton
Surface Mount
Panel Mount
Sealed
Right Angle
Tactile
Key
Toggle
Rocker
Circuit Breaker Switch
Slide
DIP
Micro Switch

Relay Product

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UL / cUL Recognized
Latching
Automotive
Sockets

Technical Data

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RoHS Compliance Declaration
REACH Statement
Contact Material Review
Temp & Insulation Class
Soldering Guidelines
CIT Test Lab
Warranty
Mission

Switch Product

Series Number	EH	CH	BH
Appearance			
Features	Pushbutton Switch • Stainless Steel Option • Small Size • IP65 • Panel Mount	Illuminated Pushbutton Switch • Vandal Proof, IP65 • Center Dot or Ring Illumination • 16mm, Panel Mount	Illuminated Pushbutton Switch • Vandal Proof, IP65 • Center Dot or Ring Illumination • Flush or Raised Actuator • 16mm or 19mm, Panel Mount
Poles	SPST NO	SPDT & DPDT	SPST
Function	Momentary	Latching & Momentary	Momentary
Contact Rating	up to 2A	up to 1A	up to 2A
Series Number	AH	DH	AS
Appearance			
Features	Illuminated Pushbutton Switch • Vandal Proof, IP65 • Center Dot or Ring Illumination • 19mm, Panel Mount	Illuminated Pushbutton Switch • Vandal Proof, IP65 • Center Dot or Ring Illumination • 22mm or 25mm, Panel Mount	Illuminated Indexing Switch • 45° & 90° Options • Bi-Color LED Option • IP65 Sealing Standard • 2 & 3 Position Available
Poles	SPST N.C. & N.O.	SPST NO & NC; DPST NO & NC	SPDT & DPDT
Function	Momentary	Latching & Momentary	Indexing
Contact Rating	up to 1A	up to 2A	up to 1A
Series Number	BT	RT	MH
Appearance			
Features	Illuminated Pushbutton Switch • Bi-Color LED Option • Multiple Caps with Laser Etching Option • 4 Frame Options	Illuminated Pushbutton Switch • Miniature Size • Bi-Color LED Option • Multiple Cap Styles	Illuminated Pushbutton Switch • Right Angle • Bi-Color LED Option • Available with or without Cap • Over-Travel & Positive Feel
Poles	DPDT	SPST	SPDT
Function	Latching & Momentary	Momentary	Momentary
Contact Rating	up to 100mA	up to .4VA max	up to .4VA max

Switch Product

Series Number	JS	JC	AD
Appearance			
Features	Illuminated Tactile Switch • 12mm x 12mm • 5 LED Color Choices • 7 Cap Styles	Illuminated Pushbutton Switch • Dual LED Option • 5 Color Options • Multiple Cap Options, Laser Etching • Panel Mount & PCB	Illuminated Pushbutton Switch • 2 Function Options • Multiple Actuator Options • Multiple LED Color Options • Multiple Lens and Diffuser Options
Poles	SPST	SPDT & DPDT	SPST NO
Function	Momentary	Latching & Momentary	Momentary
Contact Rating	up to 50mA	up to 500mA	up to 100mA
Series Number	LPH	ES	NL
Appearance			
Features	Illuminated Pushbutton Switch • Bi-Color LED Option • Multiple Finish Options • Laser Etching Option • Right Angle	Illuminated Pushbutton Switch • Bi-Color LED Option • Matte Finish • Round or Flat Actuator • IP67 Sealed Standard	Illuminated Tactile Switch • Ultra Sub-Miniature • Surface Mount • Dual LED • 2 Cap Options
Poles	DPDT & 4PDT	SPST NO & SPST NC	SPST
Function	Latching & Momentary	Momentary	Momentary
Contact Rating	up to 300mA	up to 125mA	up to 50mA
Series Number	CL1200	DG	TJ
Appearance			
Features	Illuminated Tactile Switch • Bi-Color LED Option • Multiple Cap Styles with 5 Colors • SMT & Right Angle Available	Illuminated Pushbutton Switch • Panel Mount • Bi-Color LED Option • Gold or Silver Contacts	Illuminated Tactile Switch • Process Sealed • SMD & Through-Hole • Vertical & Right Angle • Navigation Switch Configuration
Poles	SPST	SPST	SPST NO
Function	Momentary	Momentary	Momentary
Contact Rating	up to 50mA	Gold up to .4VA max/Silver up to 100mA	up to 50mA

Switch Product

Series Number	DS	JA	JH
Appearance			
Features	Illuminated Pushbutton Switch <ul style="list-style-type: none"> • PC Mount • Bi-Color LED Option • Available with or without Cap 	Illuminated Tactile Switch <ul style="list-style-type: none"> • Bi-Color LED Option • Multiple Lens Colors • 2 Actuation Force Options 	Illuminated Pushbutton Switch <ul style="list-style-type: none"> • Dual LED Option • 3 LED Color Options • 6 Cap Styles with 9 Color Options
Poles	SPST NO & DPST NO	SPST	SPDT
Function	Momentary	Momentary	Latching & Momentary
Contact Rating	up to 200mA	up to 50mA	up to 50mA
Series Number	SH	NC	CS
Appearance			
Features	Miniature Pushbutton Switch <ul style="list-style-type: none"> • Illuminated Option with Laser Etching Available • Bi-Color LED Option • Multiple Cap Styles 	Miniature Pushbutton Switch <ul style="list-style-type: none"> • Positive Snap Feel • 6 Cover Styles • 9 Cover Colors • Multiple Cap Styles 	Surface Mount Tactile Switch <ul style="list-style-type: none"> • Multiple Actuator Lengths • Multiple Actuation Forces • Vertical & Right Angle • Process Sealed Available
Poles	SPST	SPST	SPST
Function	Momentary	Momentary	Momentary
Contact Rating	up to 50mA	up to 25mA	up to 50mA
Series Number	CT, CR & ST	ANT & AST	BNT & BST
Appearance			
Features	Thru Hole Tactile Switch <ul style="list-style-type: none"> • Ammo Pack • Multiple Actuator Lengths • Multiple Actuation Forces • Process Sealed Available 	Miniature Toggle Switch  <ul style="list-style-type: none"> • Non-Sealed & Sealed Types • Flat Toggles with Anti-Rotation • Wide Variety of Terminals • Gold Contacts Available 	Sub-Miniature Toggle Switch  <ul style="list-style-type: none"> • Non-Sealed & Sealed Types • Wide Variety of Terminals • Numerous Actuator Lengths • Gold Contacts Available
Poles	SPST	SPDT ~ 4PDT	SPDT & DPDT
Function	Momentary	Multiple	Multiple
Contact Rating	up to 50mA	up to 5A	up to 3A

Switch Product

Series Number	ANR & ASR	BNR & BSR	ANP & ASP
Appearance			
Features	Miniature Rocker Switch  <ul style="list-style-type: none"> • Non-Sealed & Sealed Types • Up to 4 Poles with 6 Functions • Many Rocker & Paddle Styles • Gold Contacts Available 	Sub-Miniature Rocker Switch  <ul style="list-style-type: none"> • Non-Sealed & Sealed Types • Multiple Switch Functions • Many Rocker & Paddle Styles • Gold Contacts Available 	Miniature Pushbutton Switch  <ul style="list-style-type: none"> • Non-Sealed & Sealed Types • Wide Variety of Terminals • Panel Mount, Thru-Hole & PCB • Gold Contacts Available
Poles	SPDT ~ 4PDT	SPDT & DPDT	SPDT & DPDT
Function	Multiple	Multiple	Latching & Momentary
Contact Rating	up to 5A	up to 3A	up to 3A
Series Number	BNP & BSP	Sub-Mini SST & SSP	CITR2
Appearance			
Features	Sub-Miniature Pushbutton  <ul style="list-style-type: none"> • Non-Sealed & Sealed Types • Wide Variety of Terminals • Numerous Actuator Lengths • Gold Contacts Available 	Toggle & Pushbutton Switch  <ul style="list-style-type: none"> • Process Sealed • Surface Mount • Silver or Gold Plated Contacts 	Circuit Breaker Switch  <ul style="list-style-type: none"> • 2 ~ 20 Amp • Illuminated
Poles	SPST & SPDT	SPST & SPDT	SPST
Function	Momentary	Multiple	On-Off Circuit Breaker
Contact Rating	up to 3A	up to 3A	up to 20A
Series Number	RA	RC	RW
Appearance			
Features	Illuminated Rocker Switch  <ul style="list-style-type: none"> • Multi-Function • Illuminated • Numerous Actuator Markings • Right Angle Style Option 	Illuminated Rocker Switch  <ul style="list-style-type: none"> • Multi-Function • Illuminated • Numerous Actuator Markings • Right Angle Style Option 	Wide Rocker Switch  <ul style="list-style-type: none"> • Neon or Tungsten Lamp Illumination • Multiple Printing Styles • Multiple Color Options
Poles	SPST & SPDT	SPST & DPST	SPDT & DPDT
Function	Multiple	Multiple	Multiple
Contact Rating	up to 15A	up to 12A	up to 20A

Switch Product

Series Number	RR	DSA	DL
Appearance			
Features	Round Rocker Switch  <ul style="list-style-type: none"> • LED, Neon or Tungsten Lamp Illumination • Multiple Printing Styles • Multiple Color Options 	Double Action Key Switch <ul style="list-style-type: none"> • Single Action Available • Small Compact Design • Large Actuator Surface 	Horizontal Pushbutton Switch <ul style="list-style-type: none"> • Piggyback Style Available • Multiple Cap Styles • 2 ~ 10 Poles • Interlocked/Ganged Option
Poles	SPST & SPDT	SPST NO & SPDT	DPDT ~ 10PDT
Function	Multiple	Momentary Double Action	Latching & Momentary
Contact Rating	up to 15A	up to 30mA	up to 500mA
Series Number	RPH	MP	LP
Appearance			
Features	Horizontal Pushbutton Switch <ul style="list-style-type: none"> • PC Terminal or Snap-In PC • Panel Mount Chassis • 2 ~ 6 Poles 	Horizontal Pushbutton Switch <ul style="list-style-type: none"> • Solder Lug or PC Pin Terminal • Two Case Styles • PC or Panel Mount 	Miniature Pushbutton Switch <ul style="list-style-type: none"> • Numerous Cap Styles • PC Terminal or Snap-In PC • 2 ~ 4 Pole
Poles	DPDT, 4PDT & 6PDT	SPDT & DPDT	DPDT & 4PDT
Function	Latching & Momentary	Latching & Momentary	Latching & Momentary
Contact Rating	up to 100mA	up to 100mA	up to 100mA
Series Number	MS, 1000 & 1000A	DIP	SM3 & VM3
Appearance			
Features	Miniature & Sub-Miniature  <ul style="list-style-type: none"> • Standard & Right Angle • Multiple Actuator Lengths • Steel & Nylon Housings • Thru Hole, Surface Mount & Panel 	DIP Switch <ul style="list-style-type: none"> • Full & Low Profile Styles • Standard, Half Pitch, Piano & Right Angle • Thru Hole & Surface Mount 	Mini & Sub-Mini Snap Action  <ul style="list-style-type: none"> • 3 Actuation Force Options • Multiple Lever Options • Multiple Terminal Options • UL E222871
Poles	SPDT ~ 4P3T	SPST ~ 12PST	SPST N.C. & N.O.
Function	Multiple	On-Off	Momentary
Contact Rating	up to 5A	up to 25mA	up to 16A

Applications Include

- HVAC
- Electrical Motors
- Lighting
- Pump Controls
- Agricultural Equipment
- Battery Chargers
- Elevators
- And Much More

Contactors

Contact Data

Contact Arrangement	DPST-NO-DM (double make per pole) 3PST-NO-DM (double make per pole)
Contact Data	30 full load amp 60 full load amp per pole 600V max
Contact Material	AgCdO
Coil Voltage	24VAC @ 50/60Hz
Coil Resistance	18 Ohms & 2.4 Ohms
Maximum Pick-Up Voltage	18VAC
Maximum Drop-Out Voltage	6 ~ 15VAC
Minimum In-Rush VA @ 50HZ	31 watts & 138 watts
Minimum In-Rush VA @ 60Hz	28 watts & 130 watts
Maximum Coil Voltage	30VAC
Dielectric Strength	2200VAC
Insulation Class	UL Class B (130°C)
Operating Temperature	-40°C to 65°C
Weight	273g & 635g typically



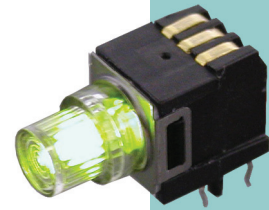
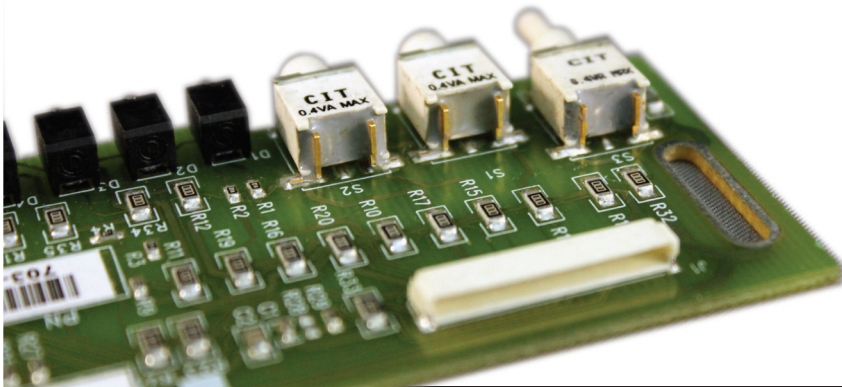
Contact CIT Sales for more information

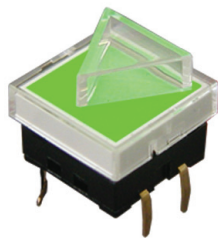
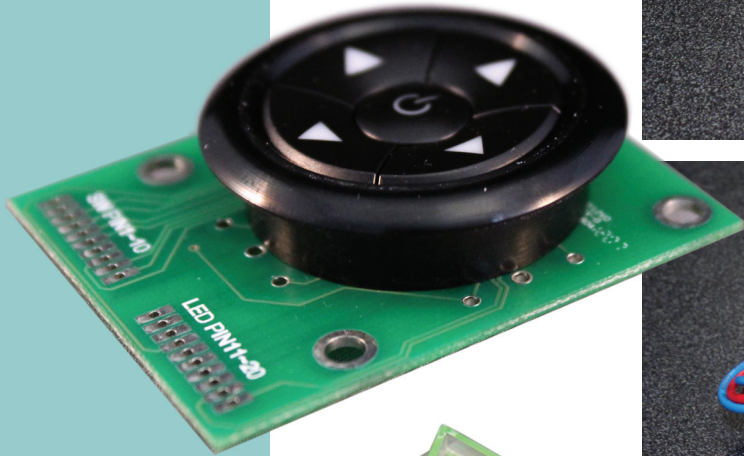
Custom

Our extensive line of relays and switches does not end with what you see in our catalog.

Every day we work with customers to create custom relay and switch solutions for their design needs.



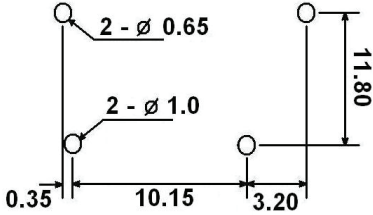
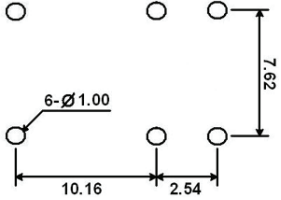
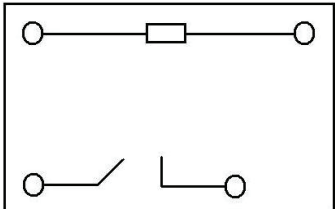
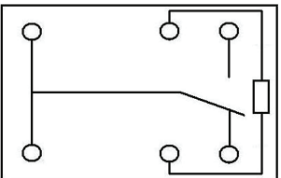
Your product deserves the personalized attention that CIT Relay & Switch offers.





CIT Relay & Switch
custom solutions
contact us at sales@citrelay.com

UL Recognized

Series Number	J099	J102	
Appearance			
Features	<ul style="list-style-type: none"> • High Sensivity • Light Weight • Switching Current up to 12A • PC Board Mounting 	<ul style="list-style-type: none"> • High Sensivity • Super Light Weight • Low Coil Power Consumption • PC Board Mounting • Ideal for High Density Mounting 	
Dimensions (L x W x H mm)	18.4 x 15.0 x 10.3	15.5 x 10.5 x 11.25	
Contact Arrangement	1A	1A, 1B, 1C	
Contact Material	AgSnO ₂	AgNi + Au, Ag + Au	
Contact Ratings	10A @ 277VAC, General Purpose, 100k cycles 10A @ 30VDC, General Purpose, 100k cycles 12A @ 125VAC, Resistive, 100k cycles	AgNi 3A & 5A @125VAC General Purpose 3A & 5A @ 30VDC Resistive Ag 1A & 3A @ 120VAC General Purose 1A & 3A @ 30VDC Resistive Pilot Duty 270VA, 120VAC	
Coil Voltage Options	12VDC	5 ~ 24VDC	
Coil Power Options	.45W	.20W, .36W & .45W	
Contact Resistance	< 50m Ω	< 50m Ω	
Insulation Resistance	100M Ω @ 500VDC	100M Ω @ 500VDC	
Electrical Life	100K cycles	100K cycles	
Mechanical Life	10M cycles	10M cycles	
Dielectric Strength	Contact to Contact Contact to Coil	1000V rms 2500V rms	500V rms 1250V rms
Operating Temperature	-40°C to 85°C	-40°C to 85°C	
Mounting Methods	PC Pin	PC Pin	
PC Board Layouts			
Schematics			
Agency Approvals	E197851	E197851	



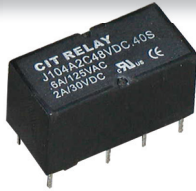
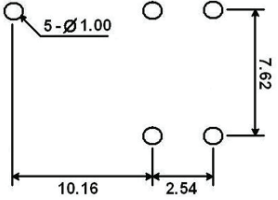
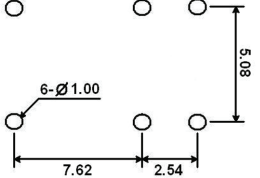
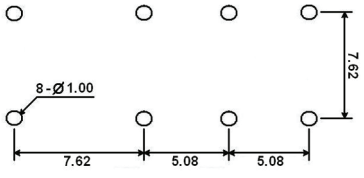
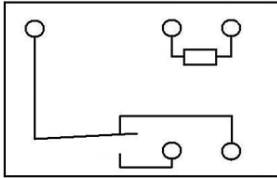
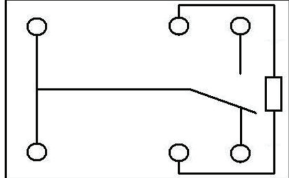
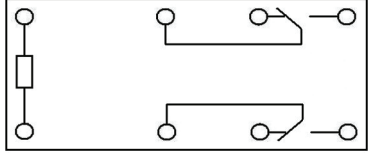
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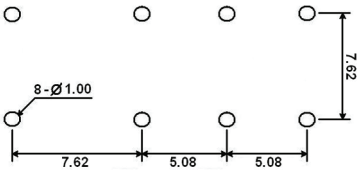
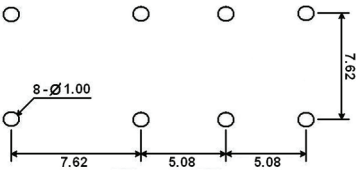
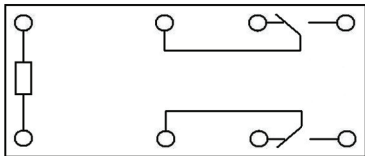
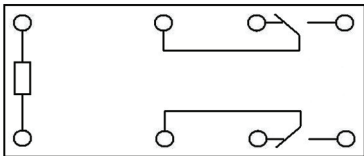
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J102K	J103	J104A
		
<ul style="list-style-type: none"> • 5 Pin Configuration • Super Light Weight • Low Coil Power Consumption • PC Board Mounting • Ideal for High Density Mounting 	<ul style="list-style-type: none"> • Low Coil Power Consumption • High Sensitivity • Conforms to FCC Part 68 • PC Board Mounting • Small Size, Light Weight 	<ul style="list-style-type: none"> • Bifurcated Contacts for High Reliability • High Sensitivity • Light Weight • Conforms to FCC Part 68 • PC Board Mounting
15.5 x 10.5 x 11.25	12.5 x 7.5 x 10.0	20.0 x 9.8 x 10.8
1A, 1B, 1C	1A, 1C	2C
AgNi + Au, Ag + Au	Ag + Au	AgNi + Au Clad
AgNi 3A & 5A @125VAC General Purpose 3A & 5A @ 30VDC Resistive	2A @ 120VAC Resistive 2A @ 24VDC Resistive	2A @ 30VDC Resistive 3A @ 30VDC N.O. Resistive .6A @ 125VAC Resistive
Ag 1A & 3A @ 120VAC General Purpose 1A & 3A @ 30VDC Resistive Pilot Duty 270VA, 120VAC		
5 ~ 24VDC	3 ~ 24VDC	3 ~ 48VDC
.20W, .36W & .45W	.15W & .20W	.40W & .55W
< 50m Ω	< 50m Ω	< 50m Ω
100M Ω @ 500VDC	100M Ω @ 500VDC	100M Ω @ 500VDC
100K cycles	100K cycles	500K cycles
10M cycles	5M cycles	100M cycles
500V rms 1250V rms	1000V rms 1500V rms	1000V rms 1500V rms
-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
PC Pin	PC Pin	PC Pin
		
		
E197851	E197851	E197851

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Series Number	J104B	J104C
Appearance		
Features	<ul style="list-style-type: none"> • Bifurcated Contacts for High Reliability • High Sensitivity • Light Weight • Conforms to FCC Part 68 • PC Board Mounting 	<ul style="list-style-type: none"> • Standard Contacts - Low Cost Version • High Sensitivity • Light Weight • Conforms to FCC Part 68 • PC Board Mounting
Dimensions (L x W x H mm)	20.0 x 9.8 x 10.8	21.0 x 9.8 x 10.8
Contact Arrangement	2C	2C
Contact Material	AgNi + Au Clad	Ag
Contact Ratings	2A @ 30VDC Resistive 3A @ 30VDC NO Resistive .6A @ 125VAC Resistive	1A @ 24VDC Resistive 1A @ 125VAC Resistive
Coil Voltage Options	3 ~ 48VDC	3 ~ 48VDC
Coil Power Options	.15W & .20W	.20W, .36W & .51W
Contact Resistance	< 50m Ω	< 50m Ω
Insulation Resistance	100M Ω @ 500VDC	100M Ω @ 500VDC
Electrical Life	500K cycles	500K cycles
Mechanical Life	100M cycles	100M cycles
Dielectric Strength	Contact to Contact Contact to Coil	1000V rms 1500V rms
Operating Temperature	-40°C to 85°C	-40°C to 85°C
Mounting Methods	PC Pin	PC Pin
PC Board Layouts		
Schematics		
Agency Approvals	E197851	E197851

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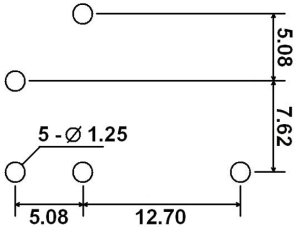
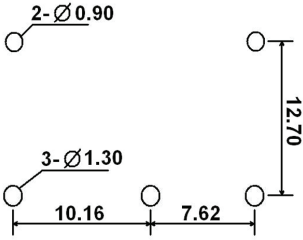
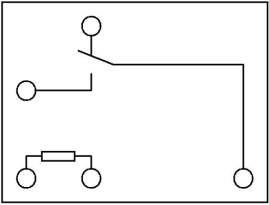
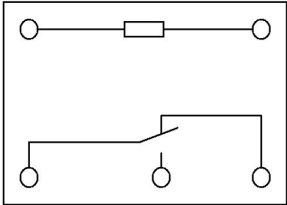
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UL Recognized

Series Number	J109F	J111
Appearance		
Features	<ul style="list-style-type: none"> • F Class Insulation Standard • Small Size, Light Weight • PC Board Mounting • UL / cUL Certified 	<ul style="list-style-type: none"> • Low Profile • Small Size, Light Weight • Coil Voltages up to 100VDC • UL / cUL Certified
Dimensions (L x W x H mm)	22.3 x 17.3 x 14.5	22.2 x 16.5 x 10.9
Contact Arrangement	1A, 1B, 1C	1A, 1C
Contact Material	AgSnO ₂	AgSnO ₂
Contact Ratings	10A Contact 6A @ 28VDC & 300VAC Resistive 10A @ 28VDC & 125VAC General Purpose 12A Contact 12A @ 28VDC & 125VAC General Purpose 1/3hp @ 120VAC & 240VAC	1A : 16A @ 250VAC Resistive 1C : 10A @ 250VAC Resistive
Coil Voltage Options	5 ~ 48VDC	5 ~ 24VDC
Coil Power Options	.36W, .45W, .50W & .80W	.20W & .45W
Contact Resistance	< 50m Ω	< 50m Ω
Insulation Resistance	100M Ω @ 500VDC	100M Ω @ 500VDC
Electrical Life	100K cycles	100K cycles
Mechanical Life	10M cycles	10M cycles
Dielectric Strength	Contact to Contact 1000V rms Contact to Coil 2500V rms	750V rms 1500V rms
Operating Temperature	-55°C to 125°C	-40°C to 85°C
Mounting Methods	PC Pin	PC Pin
PC Board Layouts		
Schematics		
Agency Approvals	E197851	E197852

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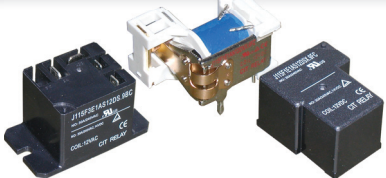

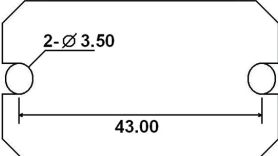
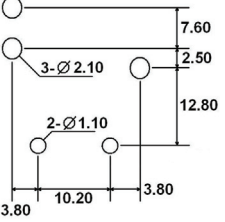
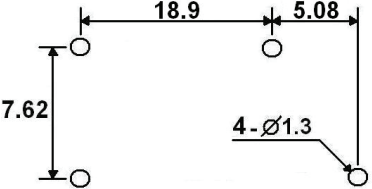
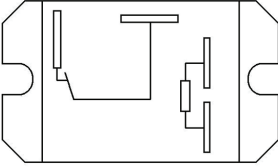
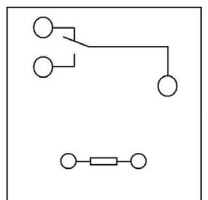
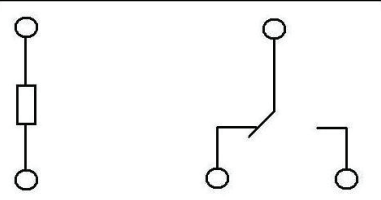
UL Recognized

Series Number	J115F1	J115F2
Appearance		
Features	<ul style="list-style-type: none"> • F Class Insulation Standard • Small Size, Light Weight • Heavy Contact Load • Strong Shock & Vibration Resistance • UL / cUL & TÜV Certified 	<ul style="list-style-type: none"> • F Class Insulation Standard • Small Size, Light Weight • Heavy Contact Load • Strong Shock & Vibration Resistance • UL / cUL & TÜV Certified
Dimensions (L x W x H mm)	31.7 x 26.9 x 20.3	31.9 x 26.8 x 28.1
Contact Arrangement	1A, 1B, 1C	1A, 1B, 1C
Contact Material	AgSnO ₂ , AgSnO ₂ In ₂ O ₃	AgSnO ₂ , AgSnO ₂ In ₂ O ₃
Contact Ratings	<p>NO : 40A @ 240VAC Resistive; 20A @ 240VAC Resistive, 250k cycles 30A @ 277VAC General Purpose; 25A @ 277VAC Resistive, 100k cycles; 5A @ 280VAC Ballast; 2hp @ 250VAC</p> <p>NC : 30A @ 240VAC Resistive; 20A @ 240VAC General Purpose; 20A @ 277VAC General Purpose; 30A @ 30VDC Resistive; 5A @ 280VAC Ballast; 1 1/2hp @ 250VAC</p>	<p>NO : 40A @ 240VAC Resistive; 20A @ 240VAC Resistive, 250k cycles 30A @ 277VAC General Purpose; 25A @ 277VAC Resistive, 100k cycles; 5A @ 280VAC Ballast; 2hp @ 250VAC</p> <p>NC : 30A @ 240VAC Resistive; 20A @ 240VAC General Purpose; 20A @ 277VAC General Purpose; 30A @ 30VDC Resistive; 5A @ 280VAC Ballast; 1 1/2hp @ 250VAC</p>
Coil Voltage Options	5 ~ 110VDC & 12 ~ 277VAC	5 ~ 110VDC & 12 ~ 277VAC
Coil Power Options	DC : .60W & .90W AC : 2VA	DC : .60W & .90W AC : 2VA
Contact Resistance	< 30m Ω	< 30m Ω
Insulation Resistance	1000M Ω @ 500VDC	1000M Ω @ 500VDC
Electrical Life	100K cycles	100K cycles
Mechanical Life	10M cycles	10M cycles
Dielectric Strength	<p>Contact to Contact 1500V rms Contact to Coil 4000V rms & 2500V rms</p>	<p>Contact to Contact 1500V rms Contact to Coil 2500V rms</p>
Operating Temperature	-55°C to 125°C	-55°C to 125°C
Mounting Methods	PC Pin	PC Pin
PC Board Layouts		
Schematics		
Agency Approvals	UL E197852 / TÜV	UL E197852 / TÜV

Dimensions shown in mm. Dimensions are shown for reference purposes only.

Specifications and availability subject to change without notice.

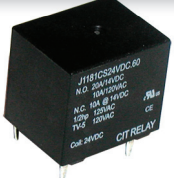

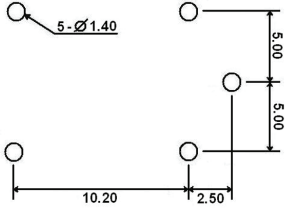
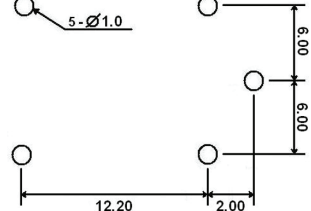
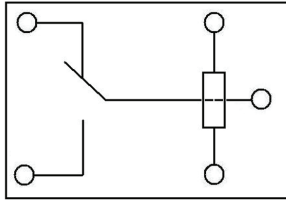
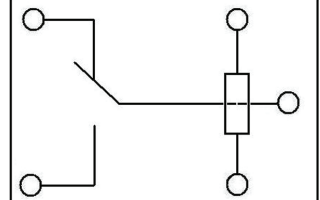
UL Recognized

J115F3	J115F_E	J117F
		
<ul style="list-style-type: none"> • F Class Insulation Standard • Small Size, Light Weight • Heavy Contact Load • Strong Shock & Vibration Resistance • UL / cUL & TÜV Certified 	<ul style="list-style-type: none"> • 30A Economical Version • Small Size, Light Weight • Low Coil Power Consumption • Strong Shock & Vibration Resistance • UL / cUL & TÜV Certified 	<ul style="list-style-type: none"> • F Class Insulation Standard • Low Profile : 12.3mm • Narrow Width • High Dielectric Strength • Creepage > 8mm Between Coil and Contacts
32.4 (50.0) x 26.8 x 28.1	21.5 x 15.8 x 16.5	28.5 x 10.1 x 12.3
1A, 1B, 1C	1A, 1B, 1C	1A, 1C
AgSnO ₂ , AgSnO ₂ In ₂ O ₃	AgSnO ₂ , AgCdO	AgSnO ₂
NO : 40A @ 240VAC Resistive; 20A @ 240VAC Resistive, 250k cycles 30A @ 277VAC General Purpose; 25A @ 277VAC Resistive, 100k cycles; 5A @ 280VAC Ballast; 2hp @ 250VAC	TÜV NO : 30A @ 240VAC; 14VDC NC : 20A @ 240VAC; 14VDC	8A @ 250VAC 8A @ 30VDC 100K Cycles @ 70°C Ambient
NC : 30A @ 240VAC Resistive; 20A @ 240VAC General Purpose; 20A @ 277VAC General Purpose; 30A @ 30VDC Resistive; 5A @ 280VAC Ballast; 1 1/2hp @ 250VAC	UL Rating NO : 30A @ 240VAC Resistive NC : 20A @ 240VAC Resistive	
5 ~ 110VDC & 12 ~ 277VAC	5 ~ 110VDC	9 ~ 24VDC
DC : .60W & .90W AC : 2VA	.60W & .90W	.22W
< 30m Ω	< 30m Ω	< 50m Ω
1000M Ω @ 500VDC	100M Ω @ 500VDC	100M Ω @ 500VDC
100K cycles	100K cycles	100K cycles
10M cycles	10M cycles	10M cycles
1500V rms 2500V rms	1500V rms 2500V rms & 4000V rms	1000V rms 5000V rms
-55°C to 125°C	-55°C to 125°C	-55°C to 125°C
Panel Mount	PC Pin, Panel Mount	PC Pin
		
		
UL E197852 / TÜV	UL E197852 / TÜV	E197851

Specifications and availability subject to change without notice.

Dimensions shown in mm. Dimensions are shown for reference purposes only.

UL Recognized

Series Number	J118	J123F
Appearance		
Features	<ul style="list-style-type: none"> • Low Coil Power Consumption • Small Size, Light Weight • PC Board Mounting • Wide Range of Applications 	<ul style="list-style-type: none"> • F Class Insulation Standard • Small Size, Light Weight • Capable of Handling 1000W Lamp Loads • Designed to Withstand High In-Rush
Dimensions (L x W x H mm)	15.5 x 12.2 x 13.8	19.5 x 16.1 x 17.1
Contact Arrangement	1A, 1B, 1C	1A, 1C
Contact Material	AgSnO ₂	AgSnO ₂ In ₂ O ₃
Contact Ratings	NO : 10A @ 120VAC Resistive 20A @ 14VDC Resistive NC : 10A @ 14VDC Resistive 1/2hp @ 125VAC TV-5 @ 120VAC	20A @ 125VAC 16A @ 277VAC 10A @ 250VAC General Purpose, 20k, 85°C 1hp @ 125/250 NO 1/2hp @ 125/250 NC TV-8 @ 120VAC
Coil Voltage Options	6 ~ 24VDC	5 ~ 24VDC
Coil Power Options	.60W & .80W	.36W & .45W
Contact Resistance	< 50m Ω	< 50m Ω
Insulation Resistance	100M Ω @ 500VDC	100M Ω @ 500VDC
Electrical Life	100K cycles	100K cycles
Mechanical Life	10M cycles	10M cycles
Dielectric Strength	Contact to Contact 500V rms Contact to Coil 500V rms	1500V rms 2500V rms
Operating Temperature	-40°C to 85°C	-55°C to 125°C
Mounting Methods	PC Pin	PC Pin
PC Board Layouts		
Schematics		
Agency Approvals	E197852	E197852

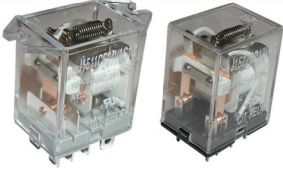

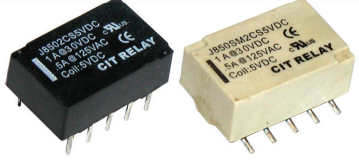
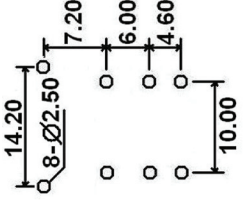
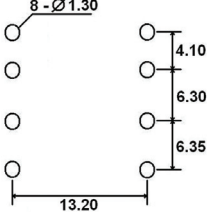
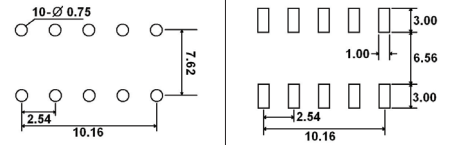
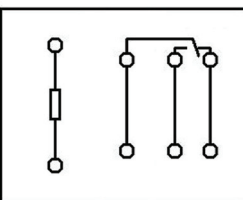
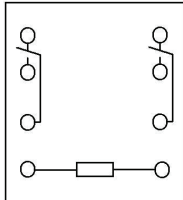
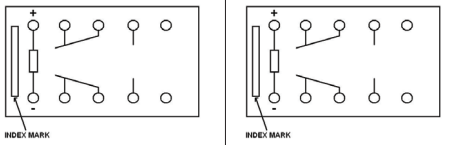
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Specifications and availability subject to change without notice.


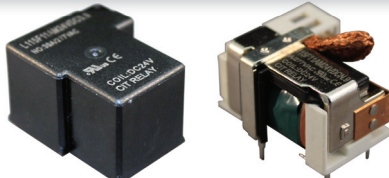
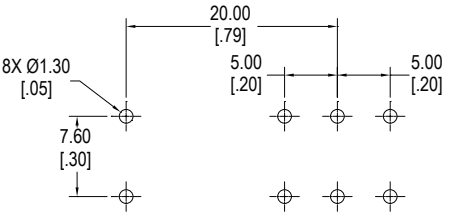
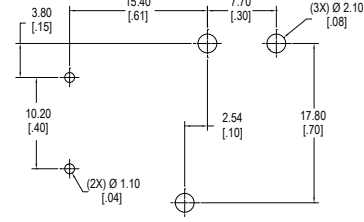
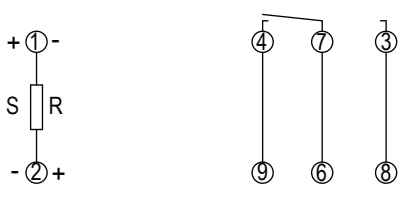
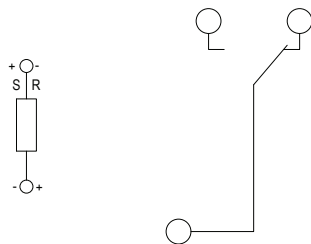
UL Recognized

Specifications and availability subject to change without notice.

Dimensions shown in mm. Dimensions are shown for reference purposes only.

J151		J152		J850 / J850SM	
					
<ul style="list-style-type: none"> Switching Capacity up to 20A Low Coil Power Consumption High Contact Load Strong Resistance to Shock & Vibration 		<ul style="list-style-type: none"> Switching Capacity up to 10A Low Coil Power Consumption High Contact Load Strong Resistance to Shock & Vibration 		<ul style="list-style-type: none"> Monostable Conforms to FCC Part 68 Ultra Low Profile : 4.90mm Height UL / cUL Certified 	
21.6, 30.6, 40.6 x 27.6 x 35.0		27.0 x 21.0 x 35.0		14.0 x 9.0 x 4.9	
1A, 2A, 3A, 4A, 1B, 2B, 3B, 4B, 1C, 2C, 3C, 4C		2A, 3A, 4A, 2B, 3B, 4B, 2C, 3C, 4C		2C	
AgCdO		AgCdO		AgPd Stationary Contact, Au Plated	
1 Pole 20A @ 277VAC General 20A @ 28VDC General	2, 3 & 4 Pole 12A @ 250VAC General 12A @ 28VDC General 10A @ 277VAC General 1/2hp @ 125VAC	2 & 3 Pole 10A @ 220VAC General 10A @ 28VDC General	4 Pole 5A @ 220VAC General 5A @ 28VDC General	1A @ 30VDC Resistive .5A @ 125VAC Resistive	
12 ~ 220VDC & 12 ~ 240VAC		12 ~ 110VDC & 12 ~ 220VAC		3 ~ 24VDC	
DC : .9W, 1.4W & 1.5W & AC : 1.2W, 2W & 2.5W		DC : .90W & AC : 1.2W		.14W & .20W	
< 50m Ω		< 50m Ω		< 50m Ω	
100M Ω @ 500VDC		100M Ω @ 500VDC		100M Ω @ 500VDC	
100K cycles		100K, 200K or 500K cycles		200K cycles	
10M or 20M cycles		10M or 20M cycles		100M cycles	
1500V rms 1500V rms		1500V rms 1500V rms		1000V rms 1000V rms	
-40°C to 85°C		-40°C to 85°C		-40°C to 85°C	
PC Pin, Solder Lug		PC Pin, Solder Lug		PC Pin	
					
					
E197852		E197851		E197851	

Latching Relays

Series Number	L114FL	L115F1
Appearance		
Features	<ul style="list-style-type: none"> • Single Coil or Double Coil Latching • Creepage Distance 8.4mm • Heavy Contact Load • Strong Shock & Vibration Resistance • UL / cUL Certified 	<ul style="list-style-type: none"> • Single Coil Latching • UL F Class Rated Standard • Heavy Contact Load • Strong Shock & Vibration Resistance • UL / cUL Certified
Dimensions (L x W x H mm)	29.24 x 13.15 x 15.7	26.9 x 31.7 x 20.3
Contact Arrangement	1A, 1C	1A, 1B, 1C
Contact Material	AgSnO ₂ , AgSnO ₂ In ₂ O	AgSnO ₂ , AgSnO ₂ In ₂ O
Contact Ratings	NO : 16A @ 240VAC Resistive; 50k cycles; 85°C ambient NC : 16A @ 240VAC Resistive; 50k cycles; 85°C ambient	NO : 30A @ 277VAC Resistive; 6k cycles; 25°C ambient 40A @ 277VAC Resistive; 6k cycles; 25°C ambient 50A @ 277VAC Resistive; 6k cycles; 25°C ambient NC : 30A @ 277VAC Resistive; 6k cycles; 25°C ambient 40A @ 277VAC Resistive; 6k cycles; 25°C ambient 50A @ 277VAC Resistive; 6k cycles; 25°C ambient
Coil Voltage Options	3 ~ 24VDC	5 ~ 48VDC
Coil Power Options	.40W & .60W	.90W & 1.50W
Contact Resistance	< 50m Ω	< 50m Ω
Insulation Resistance	1000 Ω @ 500VDC	100M Ω @ 500VDC
Electrical Life	50K cycles	50K cycles
Mechanical Life	500M cycles	1M cycles
Dielectric Strength	Contact to Contact Contact to Coil	Contact to Contact Contact to Coil
Operating Temperature	-40°C to 85°C	-55°C to 125°C
Mounting Methods	PC Pin	PC Pin
PC Board Layouts		
Schematics		
Agency Approvals	E197851	E197852




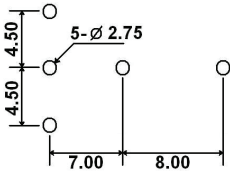
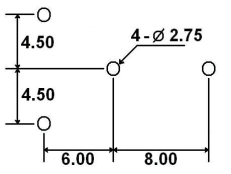
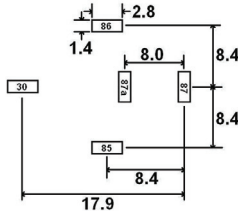
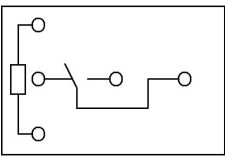
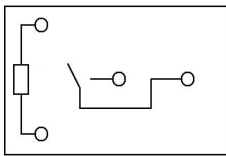
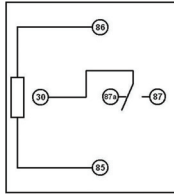
Dimensions shown in mm. Dimensions are shown for reference purposes only.

Specifications and availability subject to change without notice.



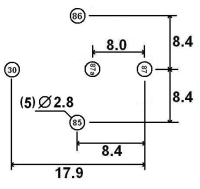
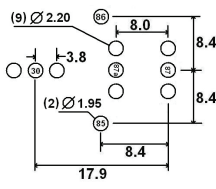
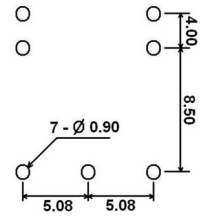
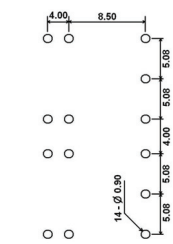
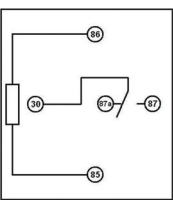
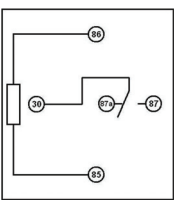
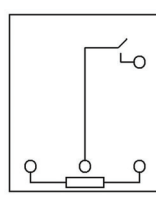
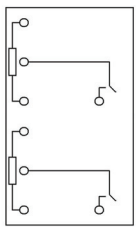
Automotive

Specifications and availability subject to change without notice.

Dimensions shown in mm. Dimensions are shown for reference purposes only.

A1	A1M	A2
		
<ul style="list-style-type: none"> • Switching Capacity up to 25A • Suitable for Automobile & Lamp Accessories • PCB Pin & Quick Connect Mounting 	<ul style="list-style-type: none"> • Switching Capacity up to 20A • PCB Pin & Quick Connect Mounting • Suitable for Automobile & Lamp Accessories 	<ul style="list-style-type: none"> • Large Switching Capacity up to 40A • PCB Pin & Quick Connect Mounting • Suitable for Automotive & Lamp Accessories • Two Style Mounting Flange Available
22.8 x 15.3 x 25.8	20.0 x 15.2 x 22.0	26.0 x 26.0 x 24.5 (39.5)
1A, 1C	1A, 1B	1A, 1B, 1C, 1U
AgSnO ₂	AgSnO ₂	AgSnO ₂
1A : 25A @ 14VDC 1C : 20A @ 14VDC	1A : 20A @ 14VDC 1B : 15A @ 14VDC	1A : 40A @ 14VDC 1B : 30A @ 14VDC 1C : 40A @ 14VDC NC 1C : 30A @ 14VDC NC 1U : 2x20A @ 14VDC
6 ~ 48VDC	12VDC & 24VDC	6VDC, 12VDC, 24VDC & 48VDC
1.2W & 1.5W	1.16W	1.6W & 1.9W
< 50m Ω	< 50m Ω	< 30m Ω
100M Ω @ 500VDC	100M Ω @ 500VDC	100M Ω @ 500VDC
100K cycles	100K cycles	100K cycles
10M cycles	10M cycles	10M cycles
1500V rms 2500V rms	1000V rms 1500V rms	500V rms 750V rms
-40°C to 85°C	-40°C to 85°C	-40°C to 125°C
PC Pin, Quick Connect	Quick Connect	PC Pin, Quick Connect
		
		
		1C

Automotive

Series Number	A3		A4	
Appearance				
Features	<ul style="list-style-type: none"> • Large Switch Capacity up to 80A • PCB Pin & Quick Connect Mounting • Suitable for Automotive & Lamp Accessories • QS-9000, ISO-9002 Certified Manufacturing 		<ul style="list-style-type: none"> • Low Coil Power Consumption • Switching Current up to 20A • Dual Relay Available • Suitable for Household Appliances & Automotive Applications 	
Dimensions (L x W x H mm)	28.5 x 28.5 x 26.5 (40.0)		16.9 x 14.5 (29.7) x 19.5	
Contact Arrangement	1A, 1B, 1C, 1U		1A, 1C, 1U, 1W, 2A, 2C, 2U, 2W	
Contact Material	AgSnO ₂ In ₂ O ₃		AgSnO ₂	
Contact Ratings	Standard 1A : 60A @ 14VDC 1B : 40A @ 14VDC 1C : 60A @ 14VDC NO 1C : 40A @ 14VDC NC 1U : 2x25A @ 14VDC	Heavy Duty 1A : 80A @ 14VDC 1B : 70A @ 14VDC 1C : 80A @ 14VDC NO 1C : 70A @ 14VDC NC 1U : 2x25A @ 14VDC	1A, 1C, 2A, 2C : 10A @ 120VAC 1A, 1C, 2A, 2C : 10A @ 28VDC 1A, 1C, 2A, 2C : 20A @ 14VDC 1U, 1W, 2U, 2W : 2x10A @ 120VAC 1U, 1W, 2U, 2W : 2x10A @ 28VDC 1U, 1W, 2U, 2W : 2x20A @ 14VDC	
Coil Voltage Options	6VDC, 12VDC, 24VDC & 48VDC		5 ~ 24VDC	
Coil Power Options	1.8W		1.0W	
Contact Resistance	< 30m Ω		< 30m Ω	
Insulation Resistance	100M Ω @ 500VDC		100M Ω @ 500VDC	
Electrical Life	100K cycles		100K cycles	
Mechanical Life	10M cycles		10M cycles	
Dielectric Strength	Contact to Contact Contact to Coil	500V rms 500V rms	750V rms 1500V rms	
Operating Temperature	-40°C to 125°C		-40°C to 85°C	
Mounting Methods	PC Pin, Quick Connect		PC Pin	
PC Board Layouts				
Schematics				
	1C Standard	1C Heavy Duty	1A	2A

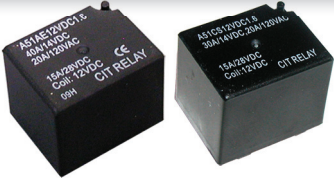


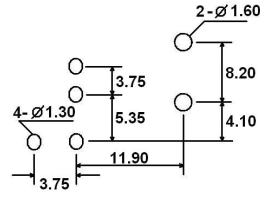
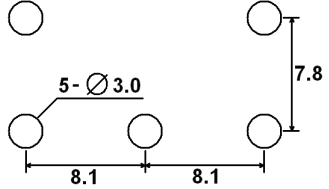
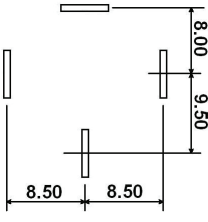
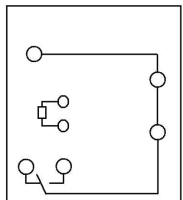
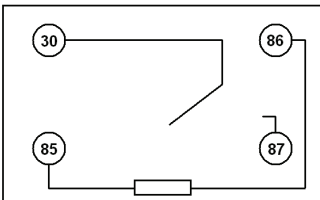
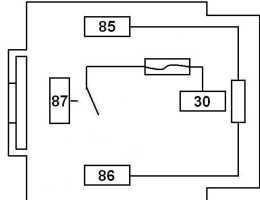
Dimensions shown in mm. Dimensions are shown for reference purposes only.

Specifications and availability subject to change without notice.


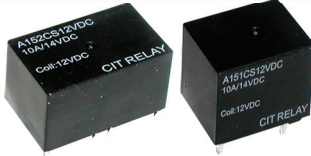
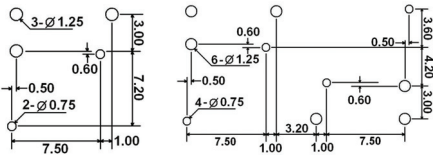
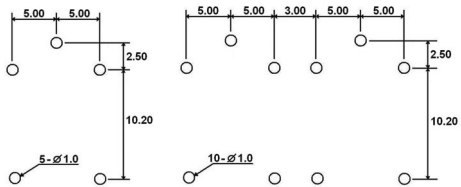
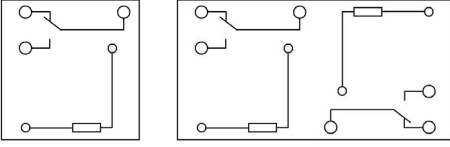
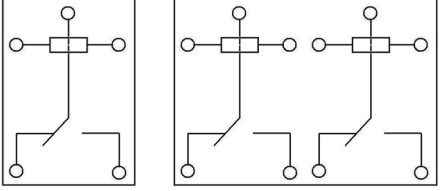
Automotive

Specifications and availability subject to change without notice.

Dimensions shown in mm. Dimensions are shown for reference purposes only.

A5	A6	A9
		
<ul style="list-style-type: none"> • Switching Capacity up to 40A • Small Size, Light Weight • Suitable for Automotive & Lamp Accessories • Two Footprint Styles Available 	<ul style="list-style-type: none"> • Low Coil Power Consumption • Small Size, Light Weight • Switching Current up to 30A • Suitable for Household Appliances and Automotive Applications 	<ul style="list-style-type: none"> • Switching Capacity up to 40A • Accomodates Standard Sized Automotive Fuse • Insert Mounting Footprint • Metal Mounting Tab
25.8 x 20.5 x 20.8	22.5 x 15.0 x 25.2	35.5 x 25.5 x 21.0
1A, 1B, 1C	1A, 1C	1A
AgSnO ₂	AgSnO ₂	AgSnO ₂
1A : 40A @ 14VDC 20A @ 120VAC 15A @ 28VDC 1B : 30A @ 14VDC 20A @ 120VAC 15A @ 28VDC	1A : 30A @ 14VDC 1C : 30A @ 14VDC NO 1C : 20A @ 14VDC NC	40A @ 14VDC
6 ~ 24VDC	12 ~ 24VDC	6 ~ 24VDC
1.6W & 1.9W	.9W & 1.3W	1.8W
< 50m Ω	< 50m Ω	< 50m Ω
100M Ω @ 500VDC	100M Ω @ 500VDC	100M Ω @ 500VDC
100K cycles	100K cycles	100K cycles
10M cycles	10M cycles	10M cycles
750V rms 500V rms	500V rms 500V rms	500V rms 750V rms
-40°C to 85°C	-40°C to 85°C	-40°C to 105°C
Quick Connect	PC Pin	Socket
		
		

Automotive

Series Number	A10	A15
Appearance		
Features	<ul style="list-style-type: none"> • Switching Capacity up to 30A • Dual Relay Available • Withstands High Temperature • PC Pin Mounting • Ultra Light Weight - 4g 	<ul style="list-style-type: none"> • Switching Capacity up to 20A • Small Size, Light Weight • Dual Relay Available • Suitable for Automotive & Lamp Accessories
Dimensions (L x W x H mm)	12.0 (23.8) x 12.9 x 9.9	15.5 x 12.5 (25.5) x 13.7
Contact Arrangement	1A, 1C, 2A, 2C	1C, 1U, 2C, 2U
Contact Material	AgSnO ₂	AgSnO ₂
Contact Ratings	1A : 25A, 30A @ 14VDC 1C : 25A, 30A @ 14VDC NO 1C : 20A, 25A @ 14VDC NC 2A : 25A, 30A @ 14VDC 2C : 25A, 30A @ 14VDC NO 2C : 20A, 25A @ 14VDC NC	20A @ 14VDC
Coil Voltage Options	5 ~ 24VDC	12VDC
Coil Power Options	.55W	.70W
Contact Resistance	< 30m Ω	< 50m Ω
Insulation Resistance	100M Ω @ 500VDC	100M Ω @ 500VDC
Electrical Life	100K cycles	100K cycles
Mechanical Life	10M cycles	10M cycles
Dielectric Strength	Contact to Contact Contact to Coil 500V rms 500V rms	500V rms 500V rms
Operating Temperature	-40°C to 105°C	-40°C to 85°C
Mounting Methods	PC Pin	PC Pin
PC Board Layouts		
Schematics	 <p style="text-align: center;">1C 2C</p>	 <p style="text-align: center;">1C 2C</p>

Dimensions shown in mm. Dimensions are shown for reference purposes only.

Specifications and availability subject to change without notice.

Automotive

A16



- Small Size, Light Weight
- 25A Switching Capacity
- F Class Insulation Standard
- QS-9000, ISA-9002 Certified Manufacturing

14.5 x 7.7 x 13.7

1C

AgSnO₂In₂O₃

25A @ 14VDC

12VDC

.64W & .80W

< 50m Ω

100M Ω @ 500VDC

100K cycles

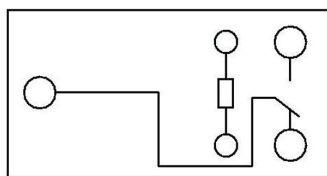
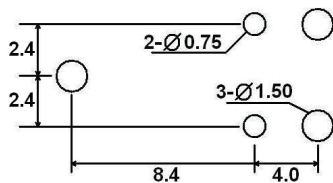
10M cycles

1000V rms

1500V rms

-40°C to 105°C

PC Pin



A17



- Switching Capacity up to 20A
- Small Size and Light Weight
- Suitable for Automotive & Lamp Accessories

16.5 x 15.5 x 24.3

1A

AgSnO₂

20A @ 14VDC NO

12VDC

.96W

< 50m Ω

100M Ω @ 500VDC

100K cycles

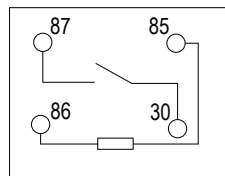
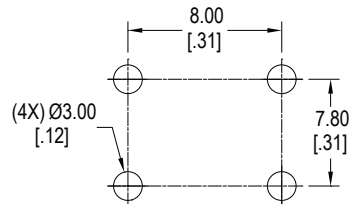
10M cycles

500V rms

750V rms

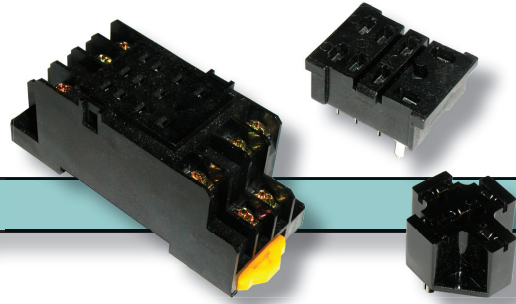
-40°C to 85°C

PC Pin



Specifications and availability subject to change without notice.

Dimensions shown in mm. Dimensions are shown for reference purposes only.



Features

- Used with J114FL/J114AF, J151, J152, A2 & A9 relays
- Snap-In, PC Pin and Screw Terminal Types
- Secure fit for relay
- Easy installation of relay onto PC Board
- Hold down clips also available

Ordering Information

UL Recognized sockets are shaded

	A2 / A9	J114FL / J114AF / L114FL	J151 2C	J151 3C	J151 4C	J152 2C	J152 3C	J152 4C
Panel Mount / Wire Assembly	HD-1001 HD-1002		PT08			PY08	PY11	PY14
PC Pin	HD-1003	P2R05P P2R08P	PT08-0	PT11A		PY08-02	PY11-02	PY14-02
DIN Rail Mountable		P2F08S	PTF08A	PTF11A	PTF14A	PYF08A	PYF11A	PYF14A
DIN Rail Mountable Finger Safe		P2F08N	PTF08A-E			PYF08A-E	PYF11A-E	PYF14A-E

Dimensions shown in mm. Dimensions are shown for reference purposes only.

Specifications and availability subject to change without notice.

Technical Data

RoHS Compliance Declaration & REACH Statement

RoHS Certificate of Compliance

Restriction of the use of certain Hazardous Substances (RoHS)

CIT Relay & Switch declares its products are in compliance with RoHS Directive EU 2011/65/EU and its amendment directives.

The following restricted or banned substances are not used in the manufacture of this product:

Circuit Interruption Technology, Inc. dba CIT Relay & Switch herewith confirms that not any of the following restricted or banned substances are used in the manufacture of parts and devices of its switch products:

- Cadmium**
- Lead*
- Mercury
- Hexavalent Chromium
- Polyvinyl Chloride (PVC)
- Polybrominated Biphenyls (PBB)
- Polybrominated Diphenyl Ethers (PBDE)
- Decabromodiphenyl ether (DecaDBE)

This declaration conforms to the following Regulations, Directives and Rules:

- EU 76/769/EEC
- EU 2000/53/EC
- EU 2002/95/EC and its amendment directives
- EU 2011/65/EU and its amendment directives

*Lead : Exemption 6c - Copper alloy containing up to 4% Lead by weight

**Cadmium : Exception 8b - Cadmium and its compounds in electrical contacts (Silver Cadmium Oxide, AgCdO, contacts)

CIT Relay & Switch EU REACH Statement

Per the European Union (EU) regulation 1907/2006 of 18 December 2006, Registration, Evaluation, Authorization and Restriction of Chemicals also known as REACH, CIT Relay & Switch is considered a provider of "articles." All of our products are assemblies/components, not raw materials.

Per the last updated list (Dec. 16, 2013) of the REACH Regulation per ECHA (European Chemical Agency), CIT "articles" does not contain any of the 151 candidates SVHC (Substance of Very High Concern) above 0.1% weight by weight (w/w)

The total sum of all our assemblies/components in our "articles" imported into the EU is less than one metric ton per year (Ref. Title II, Chapter 1, Article 7). Given these conditions our current products are exempt from REACH pre-registration and later registration activities.

Technical Data

Contact Material Review

Contact Material	Chemical Composition	Typical Loads Recommended	Advantages	Disadvantages	Notes
Gold	Au	Dry Circuit < 0.4VA	No corrosion forms Low electrical noise	Poor resistance to metal transfer with loads greater than 1/2A	Gold clad is often used to block the polymer buildup. Where gold plating is used CIT recommends 15 micro inch over a nickle base or standard silver rivet. All CIT relay contacts can be gold plated
Silver Paladium	AgPd	1 milliamp @ 1 Volt min, 5A maximum	Resistant to sulfidation Resistant to oxidation Good contact wear Good resistance to metal transfer Low electrical noise level Life expectancy of 10 times that of fine silver	Expensive Low electrical conductivity Poly buildup in dry circuit condition Contacts should be bifurcated to ensure make	Has yet to prove cost effective.
Fine Silver	Ag	10 milliamp @5 Volt min, 10A maximum	High electrical conductivity High thermal conductivity Resistant to oxidation	Sulfidation easily forms Easily welds at higher current levels High electrical noise	
Silver Nickel	AgNi10	10 milliamp @5 Volt min, 40A maximum	Good contact wear Good resistance to welding	Higher contact resistance	90% Silver, 10% Nickel
Silver Cadmium Oxide	AgCdO	10 milliamp @5 Volt min, 40A maximum	Good contact wear Good resistance to welding Superior resistance to metal loss & transfer	Environmental concerns Higher contact resistance Sulfidation easily forms	Relay manufacturers are phasing out this material due to RoHS requirements
Silver Tin Oxide	AgSnO ₂	100 milliamp @5 Volt min, 50A maximum	High Thermal conductivity Excellent resistance to welding	High contact resistance Low electrical conductivity Sulfidation easily forms	CIT standardizaed contact of choice
Silver Tin Oxide Iidium Oxide	AgSnO ₂ In ₂ O ₂	100 milliamp @5 Volt min, 50A maximum	High thermal conductivity Excellent resistance to welding Used with very high inrush loads High melting point	High contact resistance Low electrical conductivity Contact wear Solfidation easily forms	CIT contact for very severe inrush loads

Temperature & Insulation Class

A variety of applications call for relays which can run at higher temperatures typically caused by high ambient temperatures and/or high contact switching current, which can lead to field failure.

CIT Relay & Switch offers its J107F, J109F, J114AF, J114FL, J115F, J117F and J123F styles with the higher UL class F (155°C) rating as standard; these relays are often used in high temperature applications including HVAC, industrial, spa & pool, automotive and appliance controls. Selection of the correct insulating system UL Class A, B or F is essential because it separates the coil (control side of the relay) from the switching side (contacts) of the relay. Maximum ambient temperatures in the application should be considered to determine the correct UL temperature class selection. UL designed specific test proceedures to insure that field breakdown does not occur from agin and heating and has assigned the ratings in the table below to approve and describe relays falling into specific catagories. CIT Relay & Switch product has been tested by UL and its temperature class ratings are included in its UL documentation and catalog specifications. The "Hot Spot" temperature noted in the table relates directly to coil temperature which is a result of the self-heating temperature. At normal room and office temperatures most coils will not exceed 130°C under full contact load and continuous operation. In higher ambient temperatures it is possible that temperatures will exceed this level in which case the UL F class 155°C relay may be the best solution. For extreme temperatures exceeding 155°C, contact CIT Relay & Switch for solutions up to 180°C.

Maximum Hot Spot Temperatures of Insulating Systems**

System Class*	C°
A	105
B	130
F	155

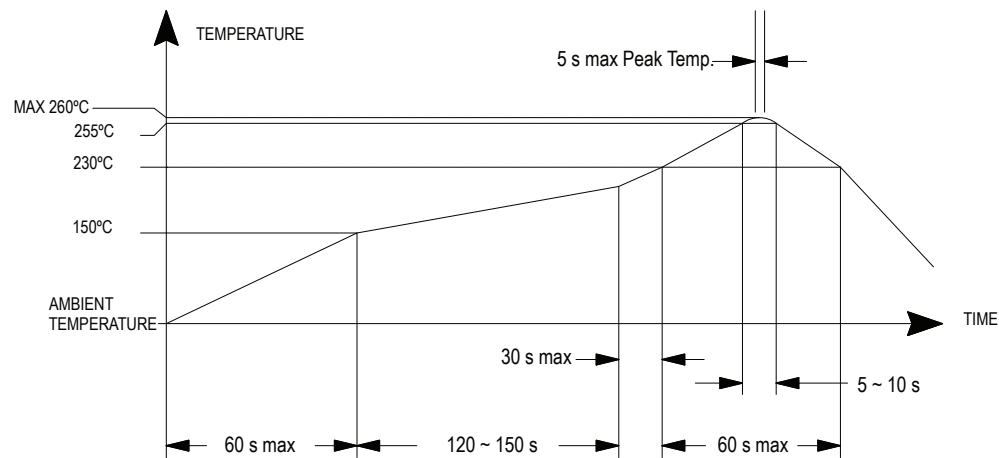
*Figures derived from UL document 1446

** Insulation System - Defined as the combination of insulating materials used in the relay coil inclusive of magnet wire coating and the outer wrapping of the relay coil

Technical Data

Soldering Guidelines

Guidelines for Soldering



Guidelines for Wave Soldering

CIT Relay & Switch recommends using a no-clean flux during any wave soldering process. The terminal area on most CIT product is epoxy sealed, thus reducing the incidence of flux wicking into the inner cavity via the terminals. Most switch covers, actuators and bushings are not sealed and care should be taken to ensure that the product is not immersed or sprayed with flux during the soldering process. Good venting is required during the wave soldering process. Flux vapors can enter unsealed portions of the product and condense inside of the cavity contaminating the contact area. If a cleaning process is required, care should be taken to ensure that the product is not immersed or sprayed with any fluids or solutions. Generally sealed components withstand these issues.* A cooling period between the flow soldering process and board washing with enhance the outcome.

Preheat Temperature & Time

Circumferential temperature of the PC board not to exceed 100°C (212°F) for 45 seconds

Soldering Temperature & Time

Solder bath temperature not to exceed 260°C (482°F) for 5 seconds

Guidelines for Hand Soldering

CIT Relay & Switch recommends using a no-clean flux during any hand soldering process. The terminal area on most CIT product is epoxy sealed, thus preventing flux from wicking into the inner switch cavity via the terminals. The contact path on all insert-molded parts from the inner switch cavity to the tip of each terminal is irregular in shape to prevent flux migration. However, the covers, actuators and bushings are not sealed and care should be taken to ensure that the product is not immersed or sprayed with flux during the soldering process. Good venting is required during the wave soldering process. Flux vapors can enter unsealed portions and condense inside of the cavity contaminating the contact area. If a cleaning process is required, care should be taken to ensure that the component is not immersed or sprayed with any fluids or solutions

Hand Soldering Temperature & Time

Recommended soldering irons not to exceed 50W. Solder and iron should contact terminals for maximum of 5 seconds.

* Prior to pre-tinning terminals, flux is applied. Afterwards the terminals are washed prior to the final process of cover installation and epoxy seal application. Epoxy will not adhere to terminal areas in the rare instance where flux remains present after the wash/cleaning process.

Test Lab

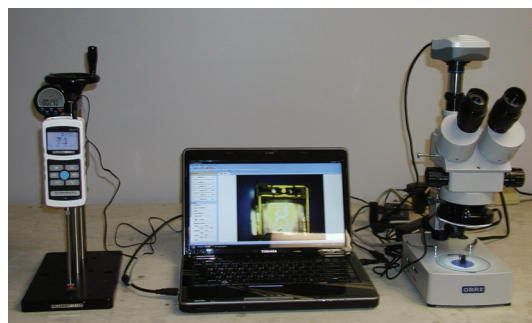
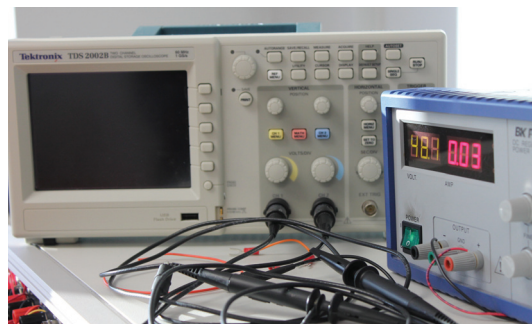
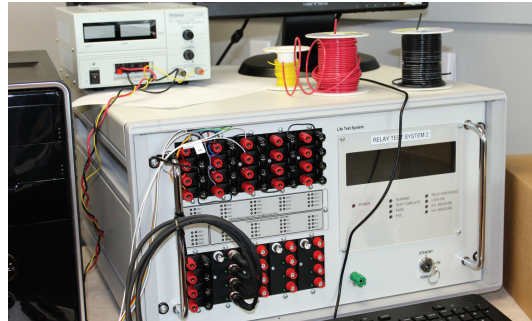
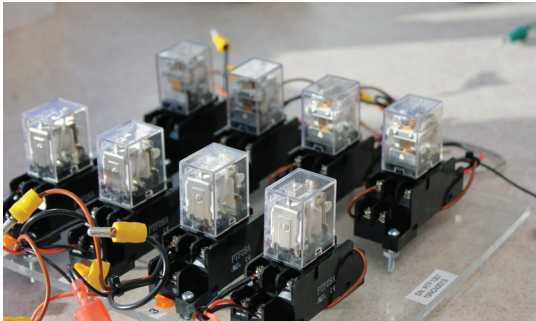
CIT Relay & Switch has become the premier test lab for failure analysis and material testing, helping our customers solve their toughest problems.

Our aim is to establish long-lasting relationships with our customers by providing comprehensive technical expertise using our state-of-the-art test lab. Providing accurate, concise solutions, we give our customers the best explanation about why their components perform the way they do.

For information about our product testing capabilities please contact CIT Relay & Switch.



Test Lab Equipment



General Information

Warranty

Buyer accepts that Seller's warranty prevails on orders confirmed by Seller. Seller warrants its products to be free from defects in materials and workmanship at the time of shipment under normal use and service in accordance with Seller's specifications or drawings for a period of one (1) year after date of shipment by Seller. Seller's obligations with respect to warranty claims are limited to only repair, replacement or refund of the purchase price actually paid for the product, after return of the product. This warranty does not extend to any product sold by Seller that has been subjected to misuse, neglect, accident, improper installation, a use in violation of instructions furnished by Seller, or that has been soldered or altered during assembly and is not capable of being tested by Seller. The foregoing warranty supersedes and replaces any and all warranties, whether oral, written, express, implied or statutory. Implied warranties of fitness for a particular purpose and merchantability are specifically excluded and shall not apply. Buyer agrees that Seller is not liable for any special, incidental or consequential damages including, but not limited to, damages resulting from loss of profit or revenue, recall costs, claims for service interruptions or failure to supply, downtime, testing, installation or removal costs, costs of substitute products, property damage, personal injury, death or legal expenses. Seller's products are not designed, manufactured or intended for critical use in end products, which include, but are not limited to, nuclear facilities applications, human medical, including implantable devices, or life support or critical care systems. Seller is not liable, in whole or in part, for any claims or damages arising from such use.

Mission

CIT RELAY & SWITCH with ISO9001, ISO1400, TS16949 manufacturing facility certifications featuring RoHS2 2011/65/EU compliance is the fastest growing switch and relay manufacturer in North America with a continuing mission to provide quality, low cost product to the US and Canadian market. We are committed to exceed our customer expectations; quality, service and cost to dock.

CIT primary focus is on engineering design, IQC, extensive validation testing, correlated customer relay life test featuring Wieble curve documentation at the CIT Technology Laboratory, bonded stock inventory, UL, cUL, TÜV certification, raw material control, IPC continuity control and review.

The CIT IQC Test Lab in coordination with the CIT Technology Laboratory insures documented reliability. Incoming products are fully tested including X-Ray plating validation of contact material, continuity, resistance, dielectric strength, solderability and other parameters. CIT maintains warehousing in Hong Kong and Minnesota to meet customer on-time delivery and freight cost requirement. Bonded stock, consignment and other specialty logistical support programs have been developed to insure maximum customer satisfaction.

CIT Relay & Switch manufacturing include automated and semi-automated production lines. We are continuing manufacturing process improvements emphasizing upgrades in our automation to offset continuing labor cost increases and labor shortages in China.

CIT customer base includes some of the largest Fortune Five Hundred Companies in North America including Appliance, Security, HVAC, On & Off Road Automotive, Computer and Telecommunication.

CIT Technical Engineering support is readily available. Application Support is moments away. Technical expertise on plastics, metallurgy, contact material recommendation, inrush protection, molding, process issues, sealing issues, vibration, temperature withstanding, gram force, silicone phenomena, dry circuit application issues, epoxy to contact adherence and many more questions can be asked and answered by email or phone. We're here to help!



CIT Relay & Switch
www.citrelay.com
contact us at sales@citrelay.com

CIT Relay & Switch manufactures a broad array of RoHS compliant electromechanical automotive, telecom, security, industrial and HVAC relays and switches. Our focus on rapid response customer service and quality, combined with cost effective manufacturing, makes us the favorite choice for new design as well as second sourcing. CIT offers its burgeoning customer base a flexible "can do" approach to relay and custom switch design.

CIT Relay & Switch manufacturing incorporates ISO14001, ISO9001, cUL and TÜV certification. Backed by thousands of workers dedicated to providing quick turn-around production of quality, cost effective electromechanical relay and switch solutions.

Our test center capabilities include relay life testing to customer supplied specifications for resistive load, inductive lamp load and horse power. The CIT Test Center rapid turn-around Root Cause Failure Analysis Program provides our customers immediate detailed insight.

We thank you for giving CIT Relay & Switch the opportunity to demonstrate why so many are joining our growing list of satisfied customers, customers who have come to rely on the service and quality provided by CIT Relay & Switch.

CIT RELAY & SWITCH™
Division of Circuit Interruption Technology, Inc.



sales@citrelay.com
www.citrelay.com

Phone : 763.535.2339 Fax : 763.535.2194
14680 James Road, Rogers, Minnesota 55374 USA

www.citrelay.com 763.535.2339