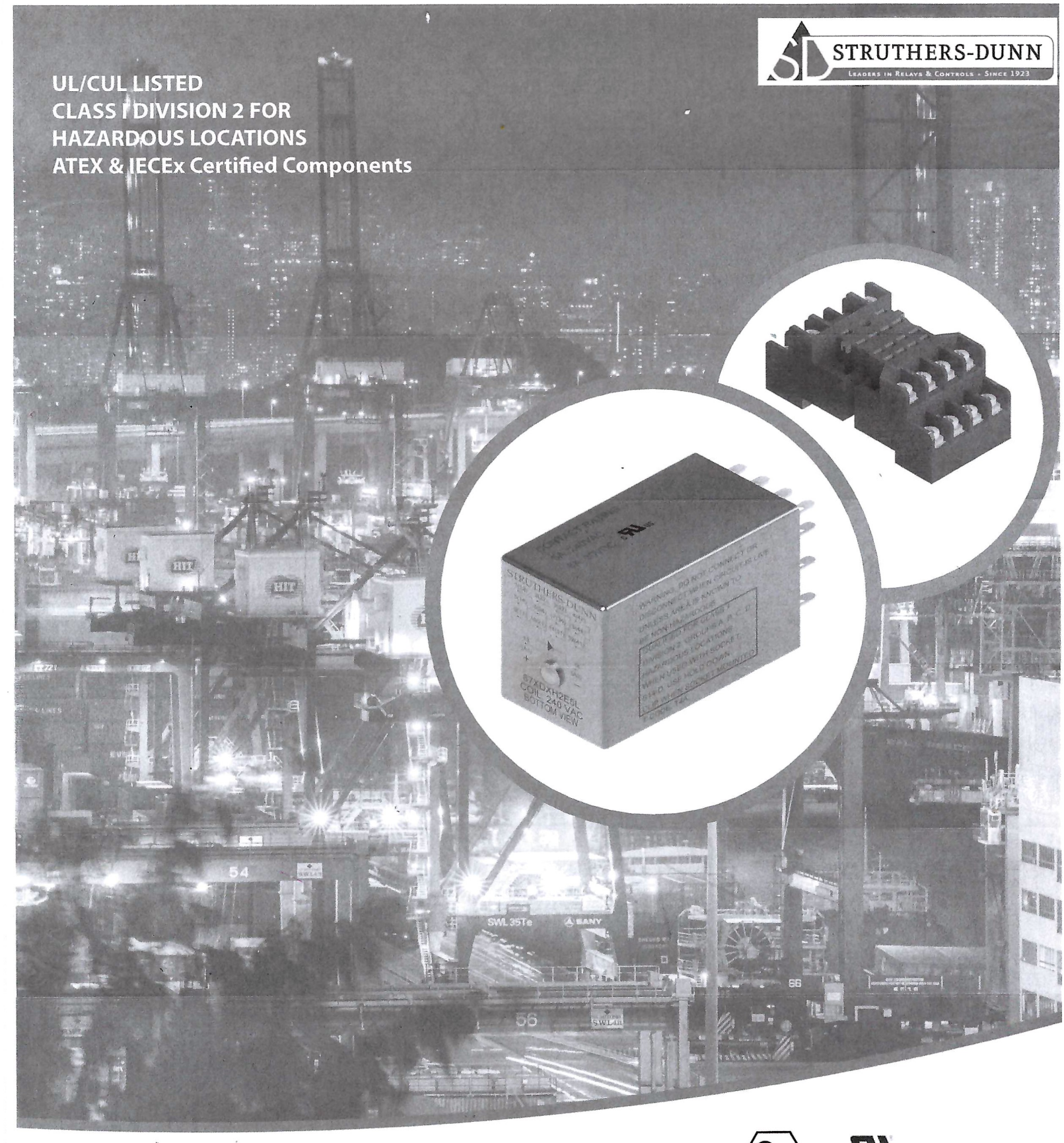
STRUTHERS-DUNN
LEADERS IN RELAYS & CONTROLS · SINCE 1923

UL/CUL LISTED
CLASS I DIVISION 2 FOR
HAZARDOUS LOCATIONS
ATEX & IECEx Certified Components



87H Series
Hermetically Sealed Relays

c US
File E 509225

c UL US
LISTED
UL Listed when
used with SD Sockets

Product Attributes

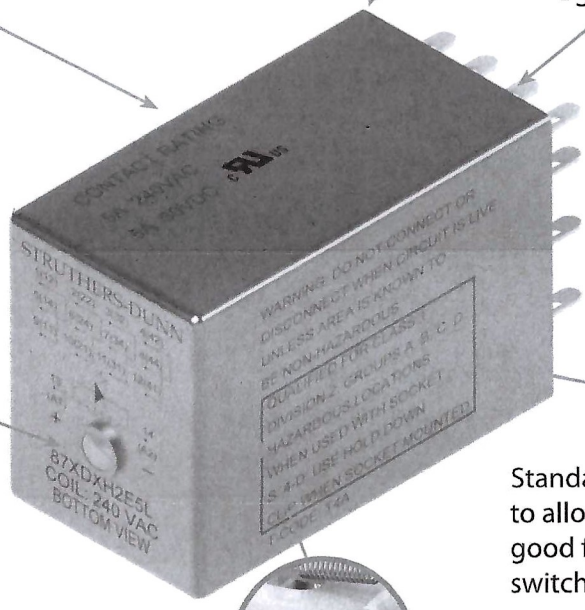
BENEFITS: Internal Solder-Lip allows relay to fit all modern Socket designs with high stacked terminals, logic design and even module compatible

Hermetically Sealed Construction

The inert, dry nitrogen environment mitigates corrosion and/or oxidation of the internal relay components including the contacts

Corrosion Resistant

- Cupronickel Cover
- Salt water Resistant



Contact Transfer LED Indicator



LED is not wired to coil like traditional relays, providing positive confirmation of contact transfer unlike legacy hermetically sealed relays. LED circuit is Universal Polarity.

Contacts



Standard Contact Rated 10mA-5A to allow single part-number that is good for both low and high level switching.

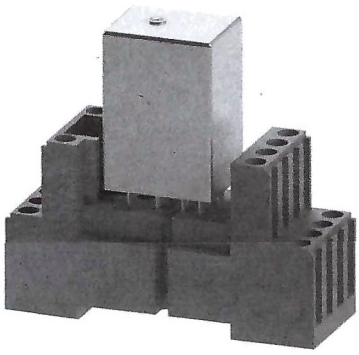


Coil

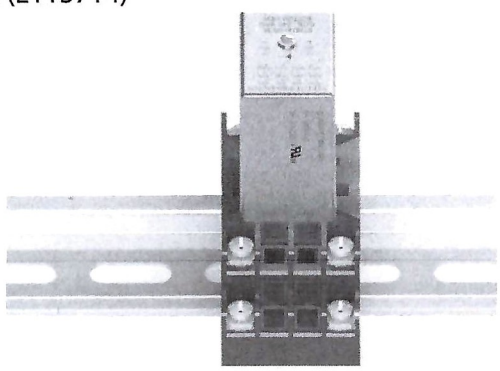
Coil Temperature Rating 155 °C (Class F)
Optional coil suppression diode (VDC coils only) that will protect your sensitive equipment from coil transient voltage.

Safety Certifications

UL/CUL Listed for ordinary locations (E52197) and Class I, Div 2 hazardous locations (E509225) with approved Struthers-Dunn sockets SK-ICE08-DS or SK-ICE14-DS (E340027) or approved ERSCE sockets ES15/2N or ES15/4N (E113714)



FEATURE: **Fits Legacy & Non Legacy Sockets**



GENERAL SPECIFICATIONS (@25 °C)

Input

Coil Voltage Range

Nominal Input Voltage	Nominal Coil Resistance, Ω at 25 °C	Nominal Input Voltage	Nominal Coil Resistance, Ω at 25 °C
6 VDC	40	6 VAC	10.5
12 VDC	160	12 VAC	41
24 VDC	650	24 VAC	180
36 VDC	1500	120 VAC	4550
48 VDC	2600	240 VAC	17260
72 VDC	5850		
110/125 VDC	12000		

Drop-out Voltage	10% of nominal VAC, 10% of nominal VDC
Average Consumption Coil	1.2 VA (AC) 0.9 W (DC)
Maximum Operating Voltage	110 % (AC/DC)
Maximum Pickup Voltage	80% of nominal (VDC) 85% nominal (VAC)

Contacts

Contact Configuration	DPDT/ 2 Form C, 4PDT/4 Form C
Component Type	Hermetically Sealed Relay
Mounting Type	Socket or Stud Mount

UL Switching Ratings

Amps/Power	Voltage	Cycles	Load
3A	240 VAC	50k	Resistive
5A	240 VAC	25k	Resistive
1/10 HP	120 VAC	6k	Motor
1/10 HP	240 VAC	100k	Motor
5A	30 VDC	100k	Resistive
1A	48 VDC	100k	Resistive
0.5 A	125 VDC	100k	Resistive
0.25 A	250 VDC	100k	Resistive

Minimum Switching Requirement	10 mA @ 5 VAC, 5 VDC
Thermal (Carrying) Current	5 Amps

Performance

Mechanical Life	5,000,000 cycles
Electrical Life, Operations at Rated Current	100,000 cycles
Operate Time (Max)	20ms (Excluding Bounce)
Release Time (Max)	15ms (Excluding Bounce)
Release Time for DC relays incorporating Coil Suppression Diode (Suffix "V")	20ms (Excluding Bounce)
Dielectric Strength (Between Parts of Opposite Polarity)	1560 Vrms
Dielectric Strength (Across Open Contacts)	500 Vrms

Environment

Ambient Temperature - Storage	-40 to +85 °C
Ambient Air Temperature around the device - Operation	-20 to +70 °C
Temperature Code for Hazardous Locations	T4: +70 °C (+158 °F)

Hazardous Locations Conformance/Approvals

Designation	Identification	Certificate/File reference
UL-USA CUL-Canada	Class I, Division 2, Groups A,B,C and D	E509225
ATEX (Suffix "E" Parts Only)	II 3 G Ex nC IIC Gc	UL 24 ATEX 3285U
IECEx (Suffix "E" Parts Only)	Ex nC IIC Gc	IECEx UL 24.0076U

Environmental Product Compliance

REACH free of SVHC	YES
Free of PFAS	YES
EU RoHS Directive	YES

Miscellaneous

Optional Contact Transfer Indicator-Code "L"	Green LED
Weight	45 grams
Component Type	Hermetically Sealed Relay
Mounting Type	8 or 14 Pin Socket Mount

Series 87 Ordering Code

87 XDX H 2 E 5 LV -24VDC

***Series Part Number**

***Contact Combination**
- XBX (DPDT) (2 FORM C)
- XDX (4 PDT) (4 FORM C)

***Hermetically Sealed**

***Stud Location**
- No Stud-2
- Terminal Side Only-3
- Narrow Side-4
- Top Side-5
- Wide Side-6

***Hazardous Locations Certifications**
- **E-UL/CUL,ATEX,IECEx
- **U-UL/CUL

***Contact Type**
- Standard 5 Amp Sliver/Tin Alloy Gold Flashed-5

Options
- LED Indicator-L
- Coil Suppression Diode-V (DC ONLY)
- For optional AC protection model see page 8

***Coil Voltage**-6, 12, 24, 120, 240 VAC
- 6, 12, 24, 36, 48, 72, 110/125 VDC
- Other Coil Voltages Available

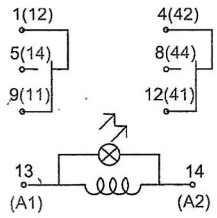
*=Required Selection

**= There is no difference in construction or performance between "E" and "U" suffix parts. The only difference is that "E" parts are IECEx/ATEX certified components and "U" parts are not.

Wiring Diagrams

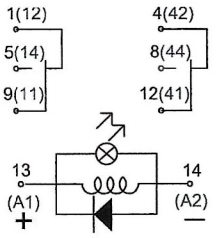
LED Versions

8 Pin XBX Socket without Diode



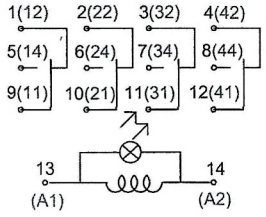
NEMA
IEC

8 Pin XBX Socket with Diode



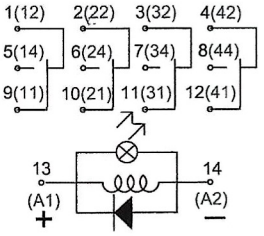
NEMA
IEC

14 Pin XDX Socket without Diode



NEMA
IEC

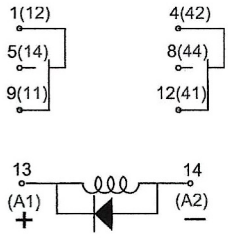
14 Pin XDX Socket with Diode



NEMA
IEC

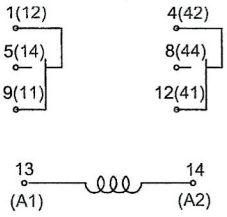
No LED Versions

8 Pin XBX Socket with Diode



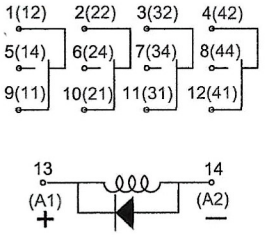
NEMA
IEC

8 Pin XBX Socket without Diode



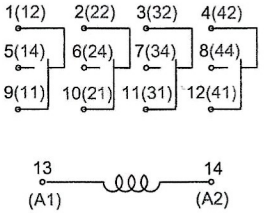
NEMA
IEC

14 Pin XDX Socket with Diode



NEMA
IEC

14 Pin XDX Socket without Diode

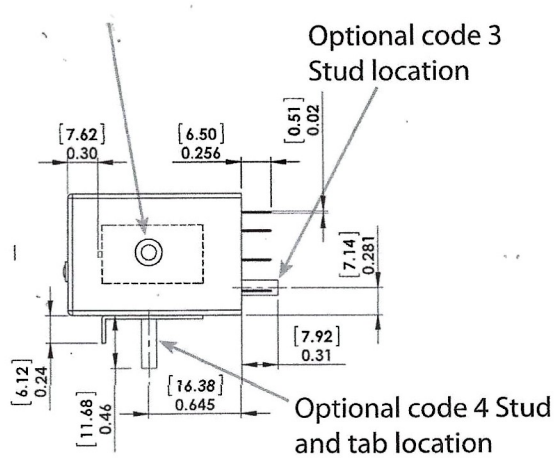


NEMA
IEC

87H Dimensions and Pin Location

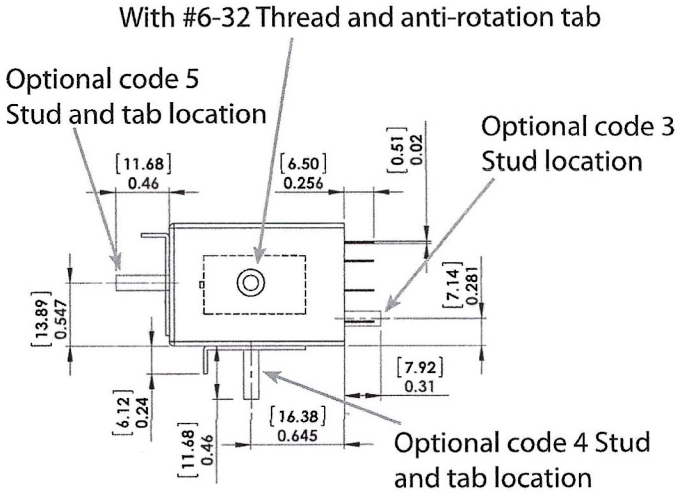
LED Version With Stud

Optional code 6 Mounting stud
With #6-32 Thread and anti-rotation tab



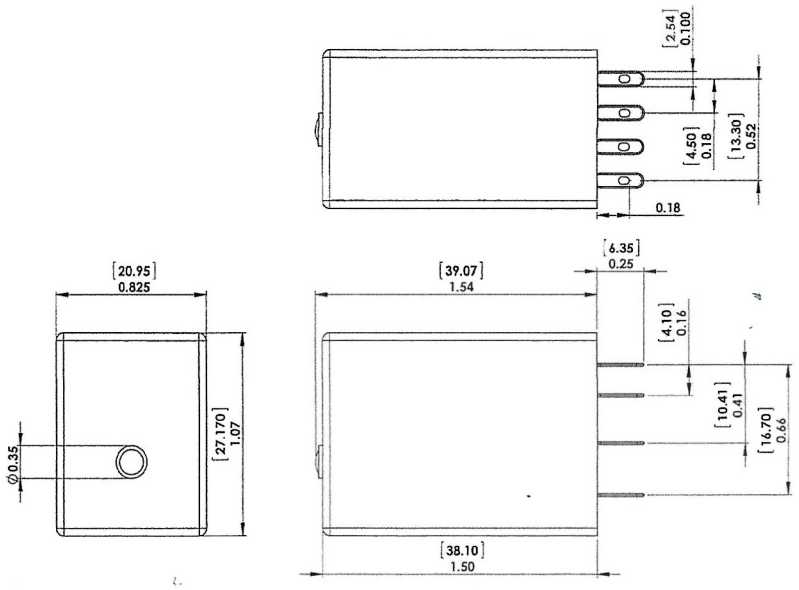
No LED Version With Stud

Optional code 6 Mounting stud
With #6-32 Thread and anti-rotation tab

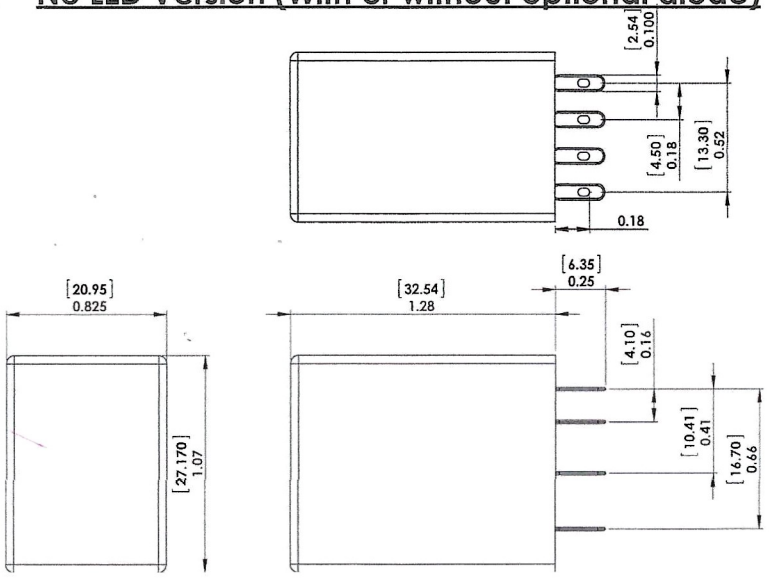


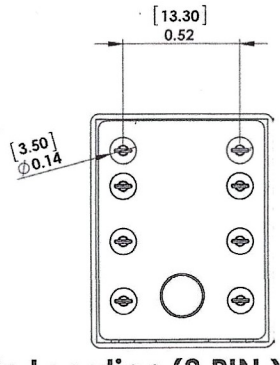
87H Dimensions and Pin Location (Continued)

LED Version (With or without optional diode)

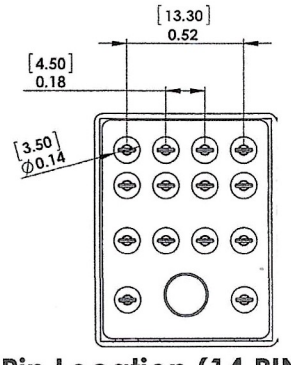


No LED Version (With or without optional diode)





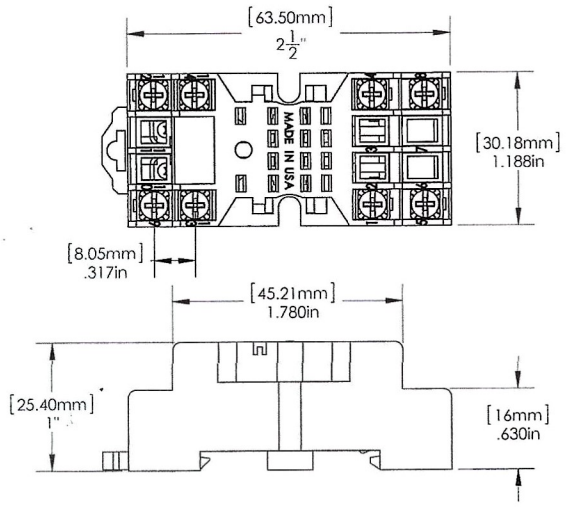
Pin Location (8 PIN XBX)



Pin Location (14 PIN XDX)

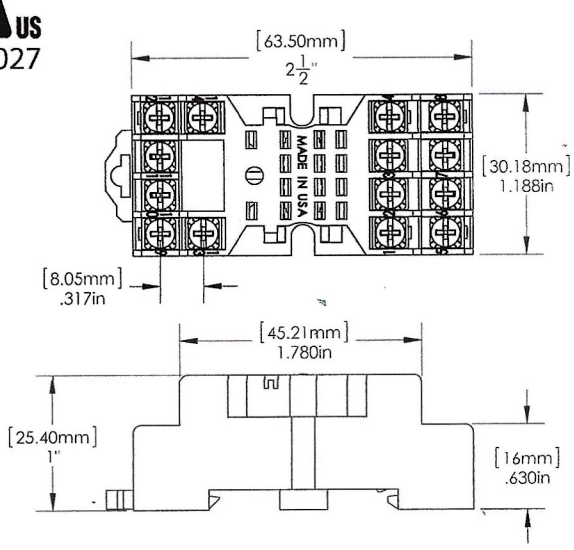
Socket Outline Dimensions

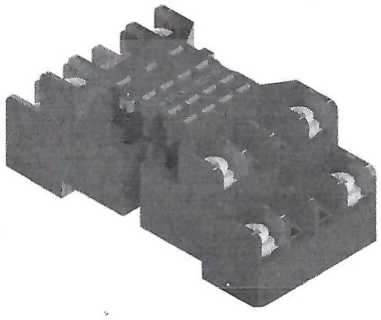
8 Pin Socket-SK-ICE08-DS

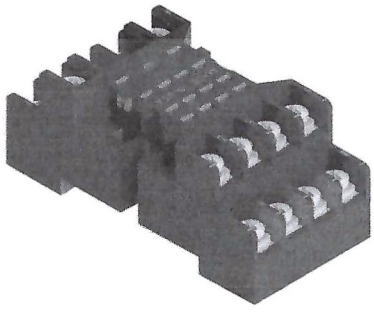


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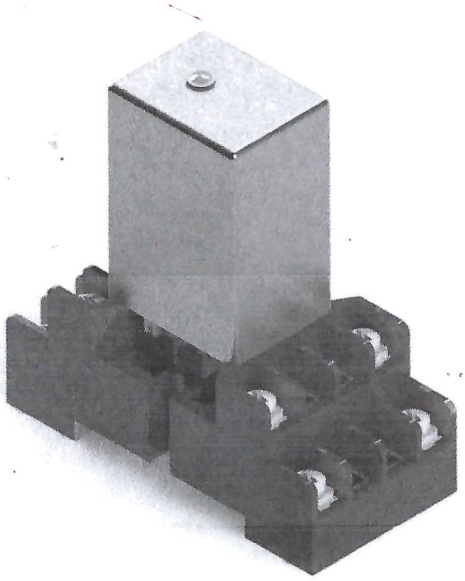
14 Pin Socket-SK-ICE14-DS

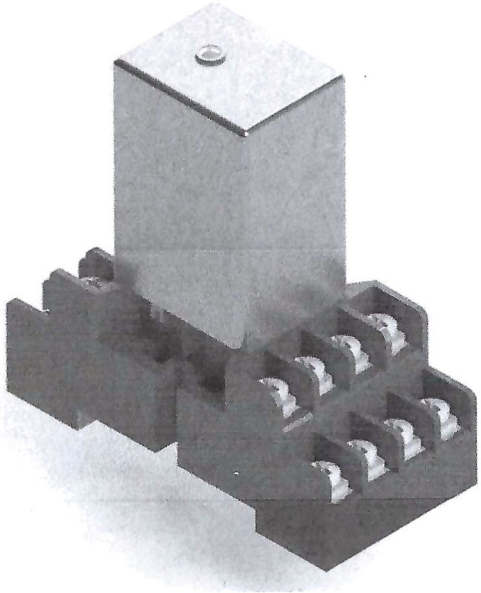






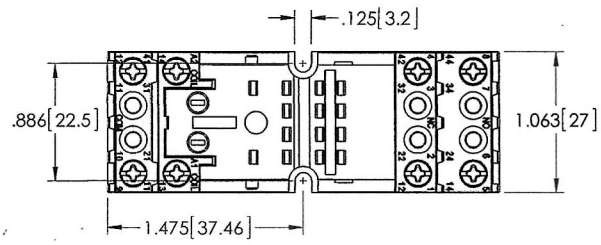
- Sockets fit standard 1mm thick, 35mm wide top hat style DIN rails.
- Optional hold-down clip CL-ICE87H-DS available.

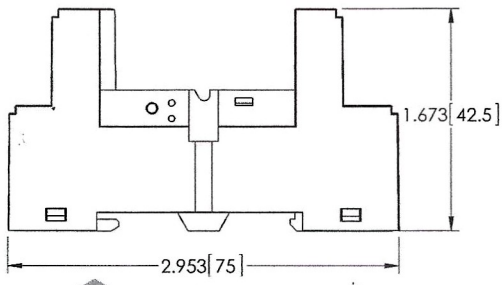


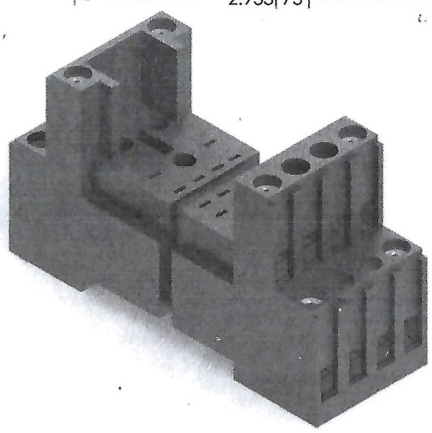


Elevator Terminal Socket - Outline Dimensions and Options

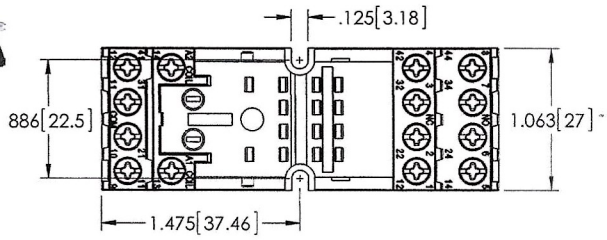
8 Pin Socket ES15/2N

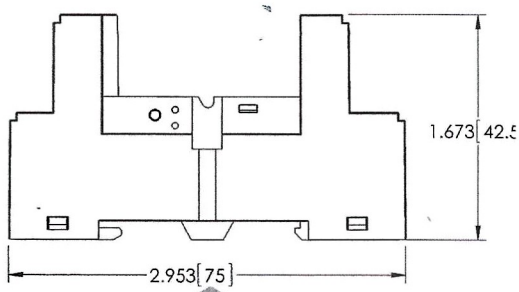


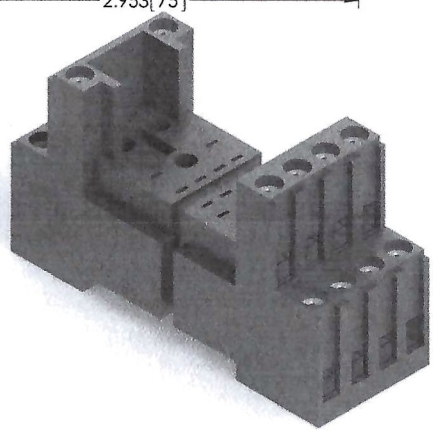




14 Pin Socket ES15/4N







52C



- ES15 Sockets fit standard 1mm thick, 35mm wide top hat style DIN rails.

Add-on Options:

- Hold-down clip CL-ICE87H-DS and RC circuit.
- RC Circuit part # 52C Plug-in module for 110-240 VAC
  (52C is for ordinary location use only)

