

# **Industrial Automation Catalog Section - U906**

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## **Selection Guides**

### **General Purpose Relays**

- RH Series
- RM Series
- RY Series

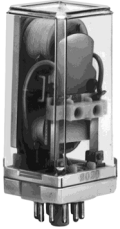


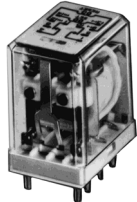
## Selection Guides

### General Purpose Relays

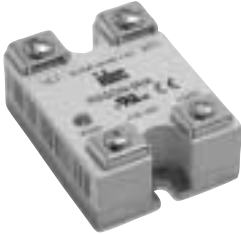
	RU Series	RR Series	RH Series	RM Series	RY Series	
<b>Appearance</b>						
<b>Page</b>	E-3	E-6	E-10	E-16	E-19	
<b>Contact Configuration</b>	2, 4 Form C	1, 2, 3 Form C	1, 2, 3, 4 Form C	2 Form C	2, 4 Form C	
<b>Contact Rating (resistive)</b>	DPDT: 10A, 30V DC 10A, 250V AC 4PDT: 6A, 30V DC 6A, 250V AC	10A, 30V DC 10A, 120V, 240V AC 1/3HP, 240V AC 1/4HP, 120V AC	10A, 30V DC 10A, 120V, 240V AC 1/3HP, 240V AC 1/6HP, 120V AC	5A, 30V DC 5A, 120V AC, 240V AC	DPDT: 3A, 30V DC; 3A, 120V AC, 240V AC 4PDT: 5A, 30V DC; 5A, 120V AC, 240V AC	
<b>Contact Material</b>	DPDT	AuSn0In (silver tin oxide indium)	Silver	Silver	Standard	Silver, gold-plated
	4PDT	AuAg/Ag (gold-silver alloy on silver)			Bifurcated	Silver-palladium alloy (Ag-PD Alloy)

E

### General Purpose Latching Relays

	RR2KP Series	RH2L Series	RY2KS Series	RY2L Series
<b>Appearance</b>				
<b>Page</b>	E-23	E-26	E-29	E-32
<b>Contact Configuration</b>	2 Form C	2 Form C	2 Form C	2 Form C
<b>Contact Rating (resistive)</b>	10A, 30V DC 10A, 120V AC	10A, 30V DC 7.5A, 240V AC 10A, 120V AC	3A, 30V DC 3A, 120V AC	3A, 30V DC 3A, 120V AC 3A, 240V AC
<b>Contact Material</b>	Silver	Silver-cadmium oxide	Silver, gold-plated	Silver, gold-flashed

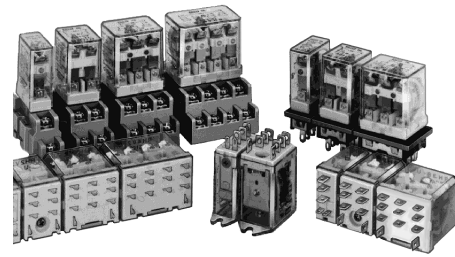
### Solid State Relays

	RSS Series
<b>Appearance</b>	
<b>Page</b>	E-35
<b>Contact Configuration</b>	1 Form A (SPST-NO)
<b>Contact Rating</b>	10, 25, 50, 75, 90A 48V AC to 660V AC Output Ratings
<b>Output</b>	Dual SCR (zero crossing)

## RH Series — General Purpose Midget Relays

Key features of the RH series include:

- Compact midget size saves space
- High switching capacity (10A)
- Choice of blade or PCB style terminals
- Relay options include indicator light, check button, and top mounting bracket
- DIN rail, surface, panel, and PCB type sockets available for a wide range of mounting applications



<b>Contact Material</b>	Silver cadmium oxide
<b>Contact Resistance</b>	50mΩ maximum (initial value)
<b>Minimum Applicable Load</b>	24V DC/30mA, 5V DC/100mA (reference value)
<b>Operating Time</b>	SPDT (RH1), DPDT (RH2): 20ms maximum 3PDT (RH3), 4PDT (RH4): 25ms maximum
<b>Release Time</b>	SPDT (RH1), DPDT (RH2): 20ms maximum 3PDT (RH3), 4PDT (RH4): 25ms maximum
<b>Maximum Continuous Applied Voltage (AC/DC) at 20°C</b>	110% of the rated voltage
<b>Minimum Operating Voltage (AC/DC) at 20°C</b>	80% of the rated voltage
<b>Drop-Out Voltage (AC)</b>	30% or more of the rated voltage
<b>Drop-Out Voltage (DC)</b>	10% or more of the rated voltage
<b>Power Consumption</b>	<b>SPDT (RH1):</b> DC: 0.8W AC: 1.1VA (50Hz), 1VA (60Hz) <b>DPDT (RH2):</b> DC: 0.9W AC: 1.4VA (50Hz), 1.2VA (60Hz) <b>3PDT (RH3):</b> DC: 1.5W AC: 2VA (50Hz), 1.7VA (60Hz) <b>4PDT (RH4):</b> DC: 1.5W AC: 2.5VA (50Hz), 2VA (60Hz)
<b>Insulation Resistance</b>	100MΩ min (measured with a 500V DC megger)
<b>Dielectric Strength</b>	<b>SPDT (RH1)</b> Between live and dead parts: 2,000V AC, 1 minute; Between contact circuit and operating coil: 2,000V AC, 1 minute; Between contacts of the same pole: 1,000V AC, 1 minute <b>DPDT (RH2), 3PDT (RH3), 4PDT (RH4)</b> Between live and dead parts: 2,000V AC, 1 minute; Between contact circuit and operating coil: 2,000V AC, 1 minute; Between contact circuits: 2,000V AC, 1 minute; Between contacts of the same pole: 1,000V AC, 1 minute
<b>Frequency Response</b>	1,800 operations/hour
<b>Temperature Rise</b>	Coil: 85°C maximum Contact: 65°C maximum
<b>Vibration Resistance</b>	0 to 6G (55Hz maximum)
<b>Shock Resistance</b>	SPDT/DPDT: 200N (approximately 20G) 3PDT/4PDT: 100N (approximately 10G)
<b>Life Expectancy</b>	Electrical: over 500,000 operations at 120V AC, 10A; (over 200,000 operations at 120V AC, 10A for SPDT [RH1], 3PDT [RH3], 4PDT [RH4]) Mechanical: 50,000,000 operations
<b>Operating Temperature</b>	-30 to +70°C
<b>Weight</b>	SPDT: 24g, DPDT: 37g (approximately) 3PDT: 50g, 4PDT: 74g (approximately)



UL Recognized  
Files No. E67770  
E59804



CSA Certified  
File No. LR35144



File No. BL95111332319



### Ordering Information

Order standard voltages for fastest delivery. Allow extra delivery time for non-standard voltages.

**Basic Part No.**

RH2B-U

**Coil Voltage:**

AC110-120V

**Part Numbers**

**Part Numbers: RH Series with Options**

Termination	Contact Configuration	Basic Part No.	Indicator Light	Check Button	Indicator Light and Check Button	Top Bracket
B (blade)	SPDT	RH1B-U	RH1B-L*	—	—	RH1B-UT
	DPDT	RH2B-U	RH2B-UL	RH2B-UC	RH2B-ULC	RH2B-UT
	3PDT	RH3B-U	RH3B-UL	RH3B-UC	RH3B-ULC	RH3B-UT
	4PDT	RH4B-U	RH4B-UL	RH4B-UC	RH4B-ULC	RH4B-UT
V2 (PCB 0.078" [2mm] wide)	SPDT	RH1V2-U	RH1V2-L*	—	—	—
	DPDT	RH2V2-U	RH2V2-UL	RH2V2-UC	RH2V2-ULC	—
	3PDT	RH3V2-U	RH3V2-UL	RH3V2-UC	RH3V2-ULC	—
	4PDT	RH4V2-U	RH4V2-UL	RH4V2-UC	RH4V2-ULC	—



\* RH1B(V2)-L is not UL recognized.

**Ratings**

**Coil Ratings**

Rated Voltage	Rated Current ±15% at 20°C								Coil Resistance ±15% at 20°C				
	60Hz				50Hz				SPDT	DPDT	3PDT	4PDT	
	SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT					
AC	6V	150mA	200mA	280mA	330mA	170mA	238mA	330mA	387mA	18.8Ω	9.4Ω	6.0Ω	5.4Ω
	12V	75mA	100mA	140mA	165mA	86mA	118mA	165mA	196mA	76.8Ω	39.3Ω	25.3Ω	21.2Ω
	24V	37mA	50mA	70mA	83mA	42mA	59.7mA	81mA	98mA	300Ω	153Ω	103Ω	84.5Ω
	120V*	7.5mA	11mA	14.2mA	16.5mA	8.6mA	12.9mA	16.4mA	19.5mA	7,680Ω	4,170Ω	2770Ω	2220Ω
	240V†	3.2mA	5.5mA	7.1mA	8.3mA	3.7mA	6.5mA	8.2mA	9.8mA	3,1200Ω	15,210Ω	12,100Ω	9120Ω
DC		SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT
	6V	128mA	150mA	240mA	250mA	47Ω	40Ω	25Ω	24Ω				
	12V	64mA	75mA	120mA	125mA	188Ω	160Ω	100Ω	96Ω				
	24V	32mA	36.9mA	60mA	62mA	750Ω	650Ω	400Ω	388Ω				
	48V	18mA	18.5mA	30mA	31mA	2,660Ω	2,600Ω	1,600Ω	1550Ω				
110V‡	8mA	9.1mA	12.8mA	15mA	13,800Ω	12,100Ω	8,600Ω	7,340Ω					



\* For RH2 relays = 110/120V AC.

† For RH2 relays = 220/240V AC.

‡ For RH2 relays = 100/110V DC.

Rated Voltage	Coil Inrush				Coil Inductance								
	SPDT	DPDT	3PDT	4PDT	Energizing				De-Energizing				
					SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT	
AC	6V	250mA	340mA	520mA	620mA	0.09H	0.08H	0.05H	0.05H	0.06H	0.04H	0.03H	0.02H
	12V	120mA	170mA	260mA	310mA	0.037H	0.30H	0.22H	0.18H	0.22H	0.16H	0.12H	0.10H
	24V	56mA	85mA	130mA	165mA	1.5H	1.2H	0.9H	0.73H	0.9H	0.63H	0.5H	0.36H
	120V*	12mA	16mA	26mA	33mA	37H	33H	21H	18H	22H	15H	12H	9H
	240V†	7mA	8mA	12mA	16mA	130H	130H	84H	73H	77H	62H	47H	36H
DC		SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT
	6V												
	12V												
	24V	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	48V												
110V‡													



\* For RH2 relays = 110/120V AC.

† For RH2 relays = 220/240V AC.

‡ For RH2 relays = 100/110V DC.

## Ratings con't

### Contact Ratings

Voltage	Rating	Resistive				Inductive				Motor Load			
		SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	
28V DC	UL	10A	10A	10A	10A	7.5A	—	—	7.5A	—	—	—	
	UL	10A	10A	10A	—	7A	7A	—	—	—	—	—	
30V DC	CSA				10A		10A						10A
		Nominal											
110V DC	Nominal	0.5A	0.5A	0.5A	0.5A	0.3A	0.3A	0.3A	0.3A	—	—	—	
120V AC	UL	10A	10A	10A	10A	7.5A	—	—	7.5A	1/6	1/6	1/6	
	CSA					7.5A	7.5A	7.5A		—	—	—	
	Nominal					7A	7.5A	7.5A		—	—	—	
240V AC	UL	10A	10A	—	7.5A	7A	7A	*	5A	1/3	1/3	1/3	
	CSA			7A	7.5A	7.5A	7A	7A		7A	—	—	—
	Nominal			7A	7.5A	7.5A	4.5A	5A		5A	5A	—	—



- \* 6.5A/pole, 20A total.
- Inductive load  $\cos \phi = 0.3$ ,  $L/R = 7ms$ .

E

## Applicable Sockets

### Part Numbers: Sockets

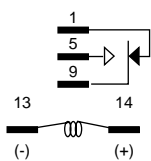
Relay	Standard DIN Rail Mount	Finger-Safe DIN Rail Mount	Surface Mount	Panel Mount	PCB Mount
RH1B	SH1B-05	SH1B-05C	—	SH1B-51	SH1B-62
RH2B	SH2B-05	SH2B-05C	SH2B-02	SH2B-51	SH2B-62
RH3B	SH3B-05	SH3B-05C	—	SH3B-51	SH3B-62
RH4B	SH4B-05	SH4B-05C	—	SH4B-51	SH4B-62

Spring & Clips (optional)	
Part Number	Use With
SY2S-02F1 SFA-101 SFA-202	SH1B-05, 05C
SY4S-51F1 SFA-301 SFA-302	SH1B-51, 62
SY4S-02F1 SFA-101 SFA-202	SH2B-05, 05C
SY4S-51F1 SFA-301 SFA-302	SH2B-51, 62
SH3B-05F1 SFA-101, -202	SH3B-05, 05C
SY4S-51F1 SFA-301 SFA-302	SH3B-51, 62
SH4B-02F1 SFA-101, -202	SH4B-05, 05C
SY4S-51F1 SFA-301 SFA-302	SH4B-51, 62

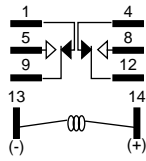


See Section F for details on sockets. All DIN rail mount sockets shown above can be mounted using DIN rail BNDN1000.

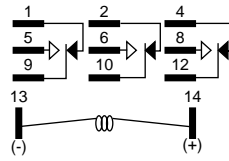
## Internal Circuits



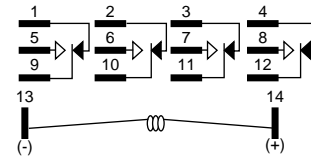
RH1



RH2



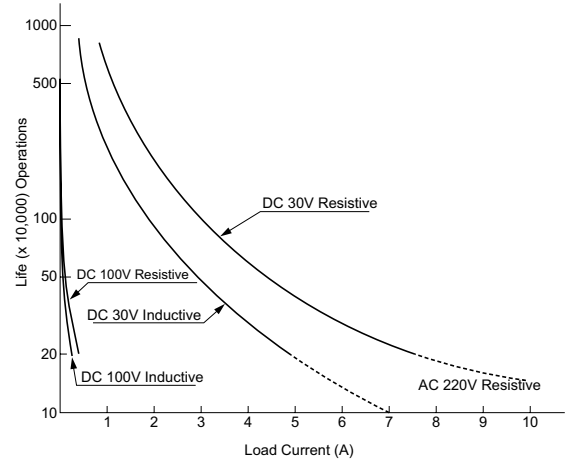
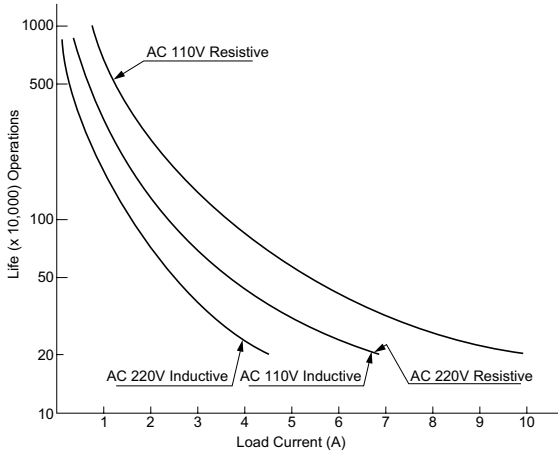
RH3



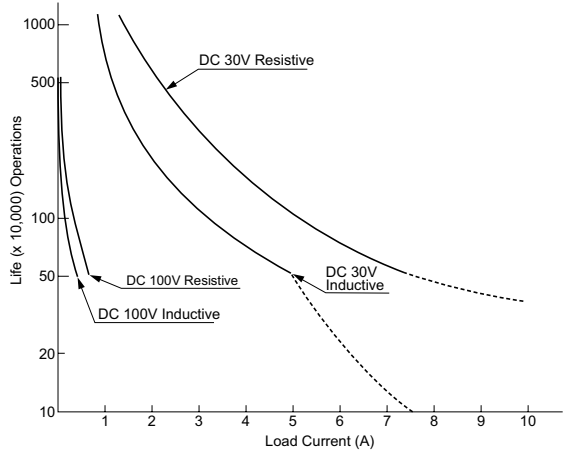
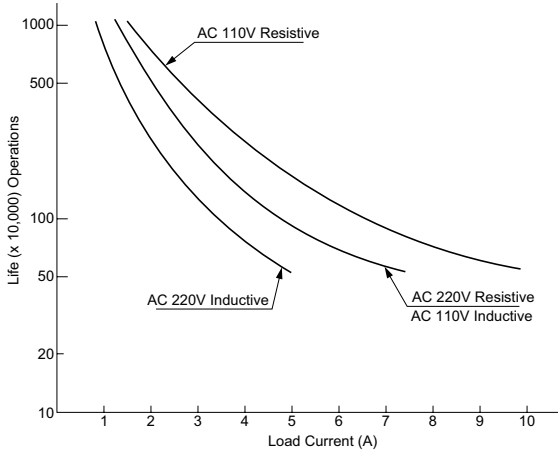
RH4

**Electrical Life Curves**

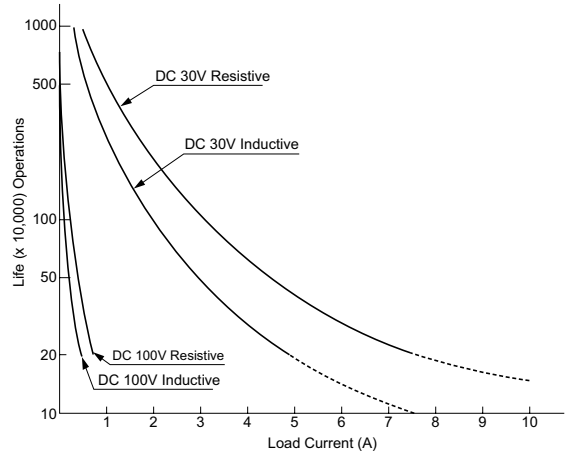
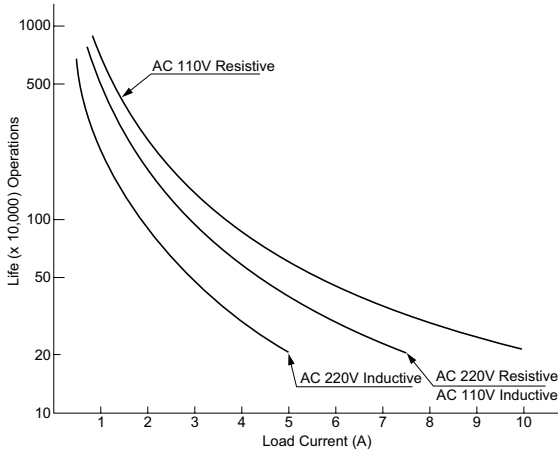
**RH1**



**RH2**



**RH3 and 4**

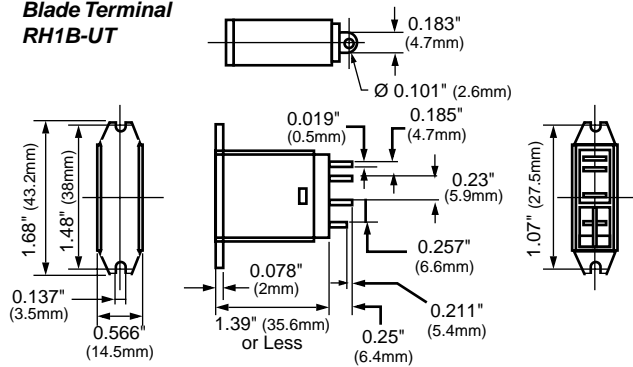


## Dimensions

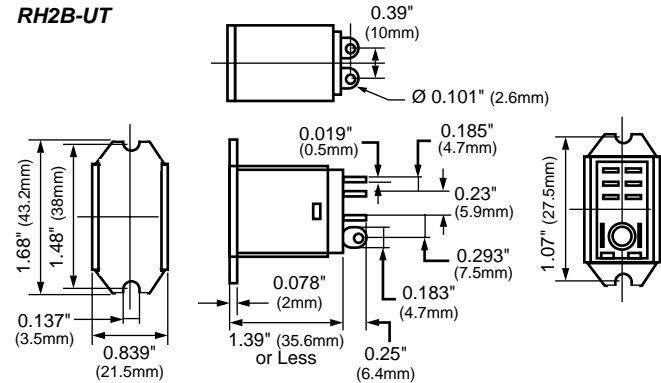
### Top Bracket Mounting

#### Blade Terminal

#### RH1B-UT



#### RH2B-UT

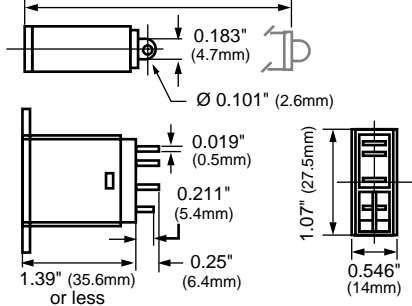


### Plug-in

#### Blade Terminal

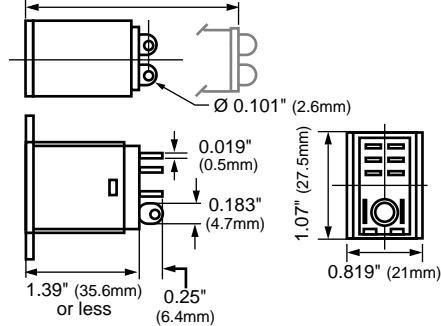
#### RH1B

Total length from panel surface including socket:  
**SH1B-05:** 2.40" (61.5mm) maximum; **SH1B-51:** 1.54" (39mm) maximum  
 Total length from panel surface including hold-down spring:  
**SH1B-05:** 2.48" (63.5mm) maximum; **SH1B-51:** 1.62" (41.6mm) maximum



#### RH2B

Total length from panel surface including socket:  
**SH2B-05:** 2.40" (61.5mm) maximum; **SH2B-51:** 1.54" (39.6mm)  
 Total length from panel surface including hold-down spring:  
**SH2B-05:** 2.48" (63.5mm) maximum; **SH2B-51:** 1.62" (41.6mm)

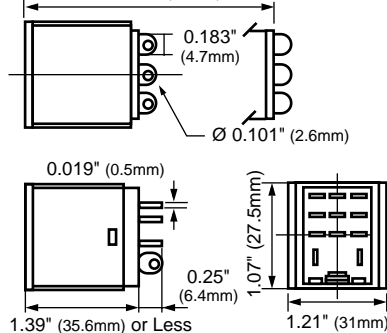


### Plug-in

#### Blade Terminal

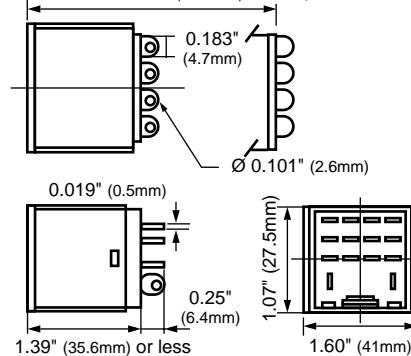
#### RH3B

Total length from panel surface including socket:  
**SH3B-05:** 2.57" (66mm) maximum  
 Total length from panel surface including hold-down spring:  
**SH3B-05:** 2.65" (68mm) maximum



#### RH4B

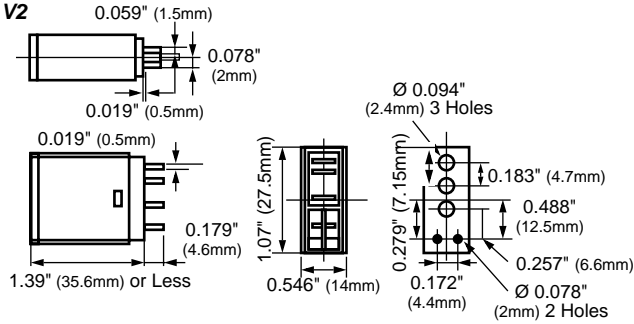
Total length from panel surface including socket:  
**SH4B-05:** 2.40" (61.5mm) or less; **SH4B-51:** 1.54" (39.6mm)  
 Total length from panel surface including hold-down spring:  
**SH4B-05:** 2.48" (63.5mm) or less; **SH4B-51:** 1.62" (41.6mm)



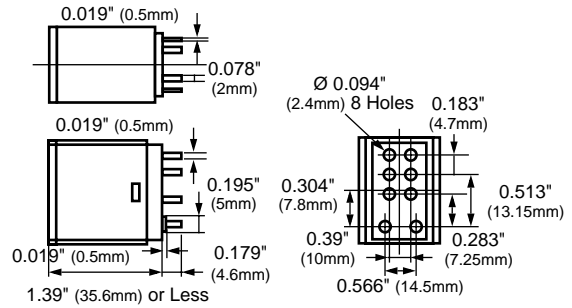
**Dimensions**

**PCB Terminal**

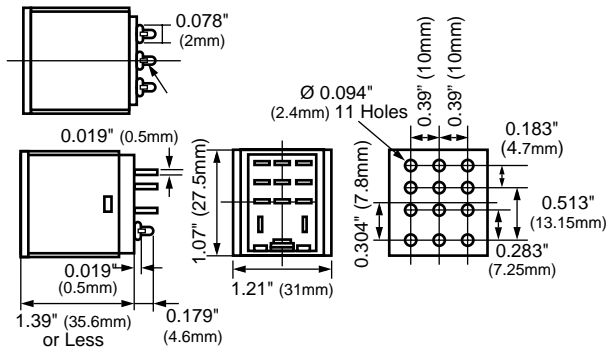
**RH1V2**



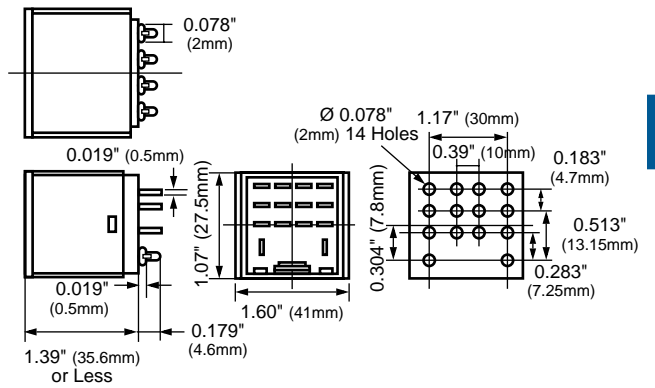
**RH2V2**



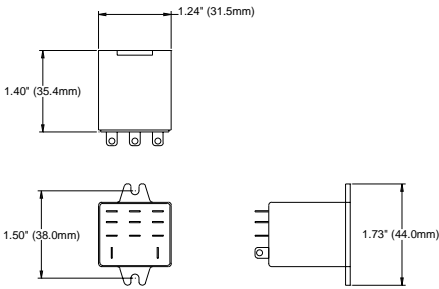
**RH3V2**



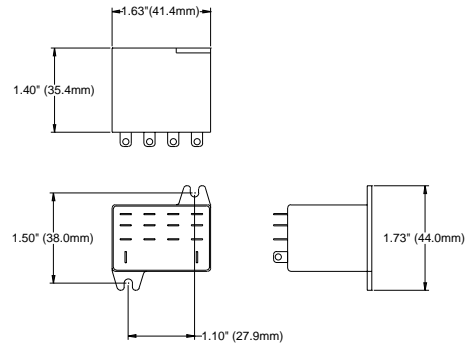
**RH4V2**



**RH3B-UT**



**RH4B-UT**

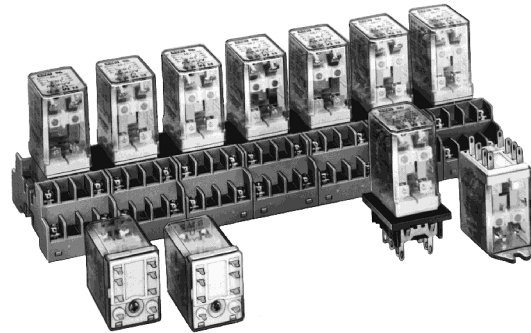




## RM Series — General Purpose Miniature Relays

Key features of the RM series include:

- Compact miniature size saves space
- High reliability and long service life
- Choice of plug-in/solder or PCB type terminals
- Options include models with indicator light, check button, and top mount bracket
- DIN rail, surface, panel, and PCB type sockets available for a wide range of mounting applications



<b>Specifications</b>	<b>Contact Material</b>	Silver
	<b>Contact Resistance</b>	30mΩ maximum (initial value)
	<b>Minimum Applicable Load</b>	24V DC/10mA, 5V DC/20mA (reference value)
	<b>Operating Time</b>	20ms maximum
	<b>Release Time</b>	20ms maximum
	<b>Maximum Continuous Applied Voltage (AC/DC) at 20°C</b>	110% of the rated voltage
	<b>Minimum Operating Voltage (AC/DC) at 20°C</b>	80% of the rated voltage
	<b>Drop-Out Voltage (AC)</b>	30% or more of the rated voltage
	<b>Drop-Out Voltage (DC)</b>	10% or more of the rated voltage
	<b>Power Consumption</b>	AC: Approximately 1.2VA (60Hz); 1.4VA (50Hz) DC: Approximately 0.9W
	<b>Insulation Resistance</b>	100MΩ minimum (measured with 500V DC megger)
	<b>Dielectric Strength</b>	Between live and dead parts: 2,000V AC, 1 minute Between contact circuit and operating coil: 2,000V AC, 1 minute Between contact circuits: 2,000V AC, 1 minute (1,000V between NO-NC contacts)
	<b>Frequency Response</b>	1,800 operations/hour
	<b>Temperature Rise</b>	Coil: 85°C maximum Contact: 65°C maximum
	<b>Vibration Resistance</b>	0 to 6G (55Hz maximum)
	<b>Shock Resistance</b>	200N (approximately 20G)
	<b>Life Expectancy</b>	Electrical: over 500,000 operations (240V AC, 5A) Mechanical: over 50,000,000 operations
	<b>Operating Temperature</b>	-30 to +70°C
<b>Weight</b>	35g (approximately)	



UL Recognized  
Files No. E59804



File No. BL951113332319



CSA Certified  
File No. LR35144

### Ordering Information

Order standard voltages for fastest delivery. Allow extra delivery time for non-standard voltages.

**Basic Part No.**                      **Coil Voltage:**  
RM2S-U                      -                      AC110-120V

**Part Numbers**

**Part Numbers: RM Series with Options**

Termination	Contact Configuration	Part No.	Indicator Light	Check Button	Indicator Light and Check Button	Top Bracket
S: Solder/ plug-in	DPDT	RM2S-U	RM2S-UL	RM2S-UC	RM2S-ULC	RM2S-UT
V: PCB, 0.031" (0.8mm) wide	DPDT	RM2V-U	RM2V-UL	RM2V-UC	RM2V-ULC	—

**Ratings**

**Coil Ratings**

Rated Voltage (V)		Rated Current ±15% at 20°C		
		60Hz	50Hz	Coil Resistance ±10% at 20°C
AC	6	200mA	240mA	9.4Ω
	12	100mA	121mA	39.3Ω
	24	50mA	60.5mA	153Ω
	120*	11mA	13.1mA	4170Ω
	240 †	5.5mA	6.6mA	15210Ω
DC	6	150mA		40Ω
	12	75mA		160Ω
	24	36.9mA		650Ω
	48	18.5mA		2600Ω
	110‡	9.1mA		12100Ω



\* For RM2 relays = 110/120V AC.  
 † For RM2 relays = 220/240V AC.  
 ‡ For RM2 relays = 100/110V DC.

**Contact Ratings**

Voltage	Resistive			Inductive		
	Nominal	UL	CSA	Nominal	UL	CSA
30V DC	5A	5A	5A	2.5A	—	2.5A
110V DC	0.4A	0.4A	—	0.4A	—	0.4A
120V AC	5A	5A	5A	2.5A	2.5A	2.5A
240V AC	5A	5A	5A	2A	2A	2A

**Applicable Sockets**

**Part Numbers: Sockets**

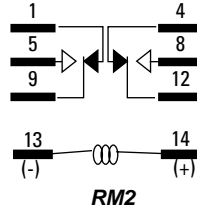
Relay	Standard DIN Rail Mount	Finger-Safe DIN Rail Mount	Panel Mount	PC Mount	Spring (optional)
RM2S	SM25-05 SY4S-05	SM25-05C SY4S-05C	SY4S-51	SY4S-61 SY4S-62	SY4S-51F1 SFA-101 SFA-202 SFA-302 SFA-301



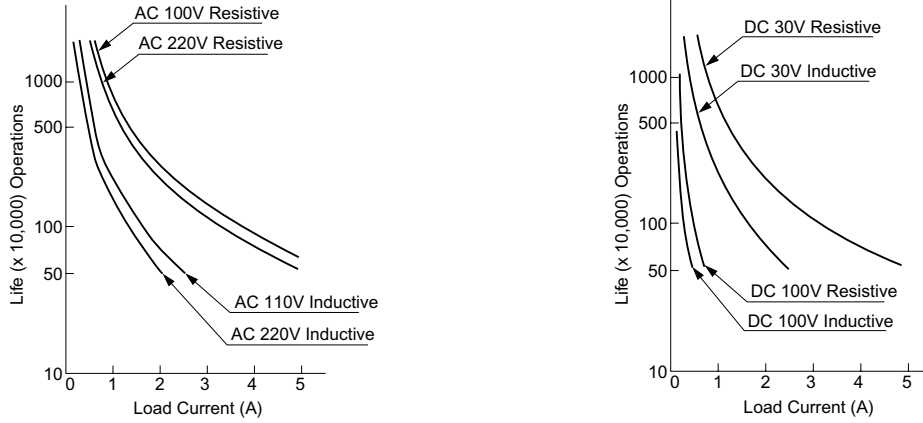
See Section F for details on sockets. All DIN rail mount sockets shown above can be mounted using DIN rail BNDN1000.



Internal Circuit



Electrical Life Curves

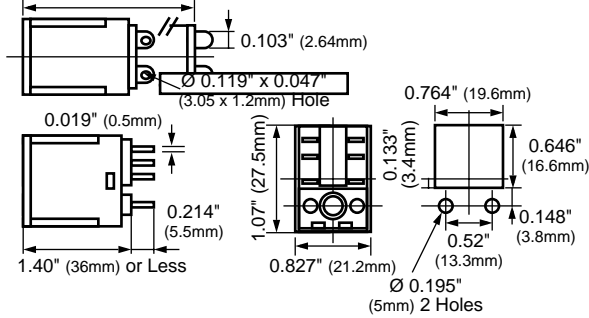


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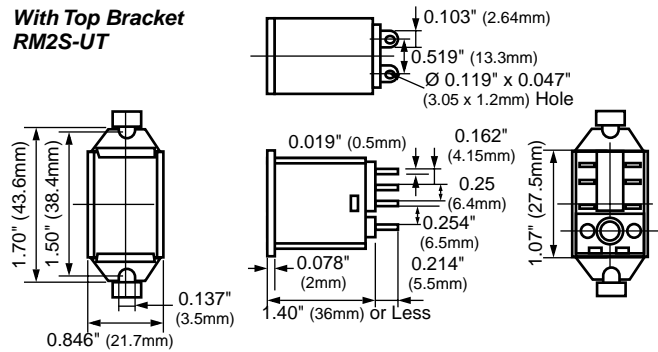
Dimensions

**Solder Terminal Plug-in RM2S**

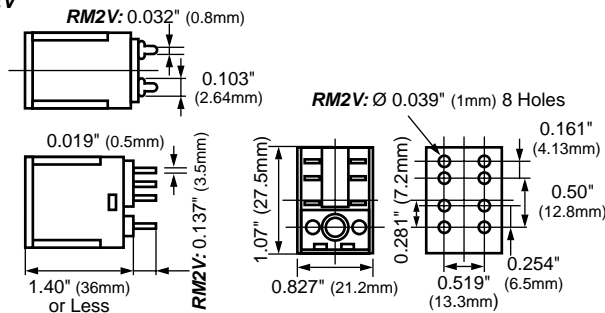
Total length from panel surface including socket:  
**SH2S-02**: 2.40" (61.6mm) maximum; **SH2S-51**: 1.56" (40mm)  
 Total length from panel surface including hold-down spring:  
**SH2S-02**: 2.48" (63.6mm) maximum; **SH2S-51**: 1.64" (42mm)



**With Top Bracket RM2S-UT**



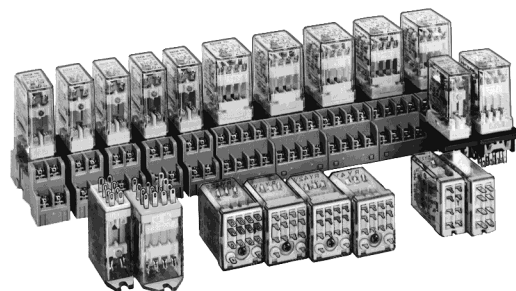
**PCB Terminal RM2S, RM2V**



**RY Series — General Purpose Miniature Relays**

Key features of the RY series include:

- Compact miniature size saves space
- 2PDT and 4PDT models, available with bifurcated crossbar contacts, ensure reliable low-current switching for dry circuit applications
- Choice of plug-in/solder or PCB type terminals
- Options include check button for test operation and indicator lights on 4PDT models
- DIN rail, surface, panel, and PCB type sockets available for a wide range of mounting applications



<b>Specifications</b>	<b>Contact Material</b>	RY2, RY4: Silver (Ag), gold-plated RY22, RY42: Ag-Pd alloy
	<b>Contact Resistance</b>	RY2, RY4: 50mΩ maximum RY22, RY42: 100mΩ maximum
	<b>Minimum Applicable Load</b>	DPDT/4PDT: 5V DC, 10mA/24V DC, 5mA (reference value) Bifurcated contacts: DPDT/4PDT: 1V DC, 100μA (reference value)
	<b>Operating Time</b>	20ms maximum
	<b>Release Time</b>	20ms maximum
	<b>Maximum Continuous Applied Voltage (AC/DC) at 20°C</b>	110% of the rated voltage
	<b>Minimum Operating Voltage (AC/DC) at 20°C</b>	80% of the rated voltage
	<b>Drop-Out Voltage (AC)</b>	30% or more of the rated voltage
	<b>Drop-Out Voltage (DC)</b>	10% or more of the rated voltage
	<b>Power Consumption</b>	<b>RY2, RY22:</b> DC: approximately 0.8W AC: approximately 1.1VA (50Hz), 1VA (60Hz) <b>RY4, RY42:</b> DC: approximately 0.9W AC: approximately 1.4VA (50Hz), 1.2VA (60Hz)
	<b>Insulation Resistance</b>	100MΩ minimum (measured with 500V DC megger)
	<b>Dielectric Strength</b>	<b>DPDT:</b> Between live and dead parts: 1,500V AC, 1 minute; Between contact and coil: 1,500V AC, 1 minute; Between contacts of different poles: 1,500V AC, 1 minute; Between contacts of the same pole: 1,000V AC, 1 minute <b>4PDT:</b> Between live and dead parts: 2,000V AC, 1 minute; Between contact and coil: 2,000V AC, 1 minute; Between contacts of different poles: 2,000V AC, 1 minute; Between contacts of the same pole: 1,000V AC, 1 minute
	<b>Frequency Response</b>	1,800 operations/hour
	<b>Temperature Rise</b>	Coil: 85°C maximum Contact: 65°C maximum
	<b>Vibration Resistance</b>	0 to 6G (55Hz maximum)
	<b>Shock Resistance</b>	RY2, RY22: 100N (approximately 10G) RY4, RY42: 200N (approximately 20G)
<b>Life Expectancy</b>	<b>RY2, RY4:</b> Electrical: over 200,000 operations (120V, 3A) Mechanical: over 50,000,000 operations <b>RY22, RY42:</b> Electrical: over 200,000 operations (120V AC, 1A) Mechanical: over 50,000,000 operations	
<b>Operating Temperature</b>	-30 to +70°C	
<b>Weight</b>	DPDT: 23g; 4PDT: 34g (approximately)	



UL Recognized  
Files No. E59804



File No. BL951113332319



CSA Certified  
File No. LR35144

**Ordering Information**

Order standard voltages for fastest delivery. Allow extra delivery time for non-standard voltages.

**Basic Part No.**                      **Coil Voltage:**  
RY4S-U                      -                      AC110-120V

## Part Numbers

### Part Numbers: RY Series with Options

Termination	Contact Configuration	Basic Part No.	Indicator Light	Check Button	Indicator Light and Check Button	Top Bracket
S Solder/plug-in	DPDT	RY2S-U	RY2S-L*	—	—	RY2S-UT
	DPDT (bifurcated contacts)	RY22S-U	RY22S-L*	—	—	RY22S-UT
	4PDT	RY4S-U	RY4S-UL	RY4S-UC	RY4S-ULC	RY4S-UT
	4PDT (bifurcated contacts)	RY42S-U	RY42S-UL	RY42S-UC	RY42S-ULC	RY42S-UT
V PCB 0.031" (0.8mm) wide	DPDT	RY2V-U	RY2V-L*	—	—	—
	DPDT (bifurcated contacts)	RY22V-U	RY22V-L*	—	—	—
	4PDT	RY4V-U	RY4V-UL	RY4V-UC	RY4V-ULC	—
	4PDT (bifurcated contacts)	RY42V-U	RY42V-UL	RY42V-UC	RY42V-ULC	—

\* RY2S-L, RY22-L, RY2V-L, and RY22V-L are not UL recognized or CSA certified.



E

## Ratings

### Coil Ratings

Rated Voltage (V)	Rated Current ±15% at 20°C				Coil Resistance ±10% at 20°C		Coil Inrush (60Hz)		Coil Inductance				
	60Hz		50Hz						Energizing		De-Energizing		
	DPDT	4PDT	DPDT	4PDT	DPDT	4PDT	DPDT	4PDT	DPDT	4PDT	DPDT	4PDT	
AC	6V	150mA	200mA	170mA	240mA	18.8Ω	9.4Ω	250mA	340mA	0.09H	0.08H	0.06H	0.04H
	12V	75mA	100mA	86mA	121mA	76.8Ω	39.3Ω	120mA	170mA	0.37H	0.30H	0.22H	0.16H
	24V	37mA	50mA	42mA	60.5mA	300Ω	153Ω	56mA	85mA	1.5H	1.2H	.9H	0.63H
	120V*	7.5mA	11mA	8.6mA	13.1mA	7,680Ω	4,170Ω	12mA	16mA	37H	33H	22H	15H
	240V †	3.2mA	5.5mA	3.7mA	6.6mA	31,200Ω	15,210Ω	7mA	8mA	130H	130H	77H	62H
DC		DPDT	4PDT	DPDT	4PDT					N/A			
	6V	128mA	150mA	47Ω	40Ω								
	12V	64mA	75mA	188Ω	160Ω								
	24V	32mA	36.9mA	750Ω	650Ω								
	48V	18mA	18.5mA	2,660Ω	2,600Ω								
	110V‡	—	9.1mA	—	12,100Ω								

For RY4/RY42 relays = AC110/120V AC.

For RY4/RY42 relays = 220/240V AC.

For RY4/RY42 relays = 100/110V DC.

### Contact Ratings (gold plated)

Voltage	Contact	Resistive		Inductive	
		UL	CSA	UL	CSA
30V DC	DPDT	3A	3A	3A	1.5A
	4PDT	5A	5A	5A	1.5A
100V DC	DPDT	0.2A	—	0.2A	0.2A
	4PDT	0.2A	—	0.2A	0.2A
120V AC	DPDT	3A	3A	1.5A	1.5A
	4PDT	5A	5A	5A	5A
240V AC	DPDT	3A	3A	0.8A	0.8A
	4PDT	5A	5A	5A	5A

### Contact Ratings (bifurcated)

Voltage	Resistive UL/CSA	Inductive UL/CSA
30V DC	1A	0.5A
120V AC	1A	0.5A
240V AC	0.8A	0.4A

**Applicable Sockets**

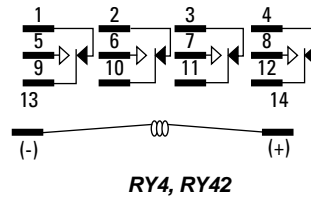
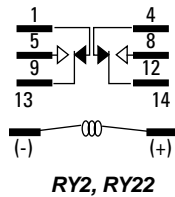
**Part Numbers: Sockets**

Relay	Standard DIN Rail Mount	Finger-Safe DIN Rail Mount	Panel Mount	PC Mount	Spring (optional)	
					Part Number	Use With
RY2S RY22S	SY2S-05	SY2S-05C	SY2S-51	SY2S-61	SY2S-02F1 SFA-101 SFA-202	SY2S-05, -05C
					SFA-301 SFA-302 SY4S-51F1	SY2S-51, -61
RY4S RY42S	SY4S-05	SY4S-05C	SY4S-51	SY4S-61 SY4S-62	SY4S-02F1 SFA-101 SFA-202	SY2S-05, -05C
					SFA-301 SFA-302 SY4S-51F1	SY4S-51, -61



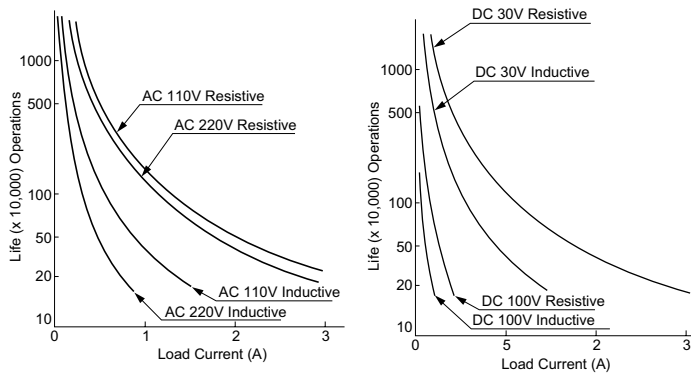
See Section F for details on sockets. All DIN rail mount sockets shown above can be mounted using DIN rail BNDN1000.

**Internal Circuits**

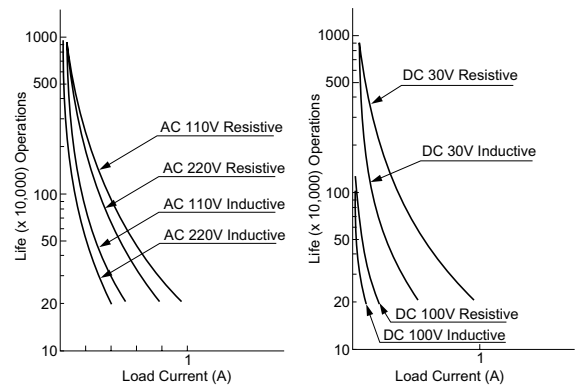


**Electrical Life Curves**

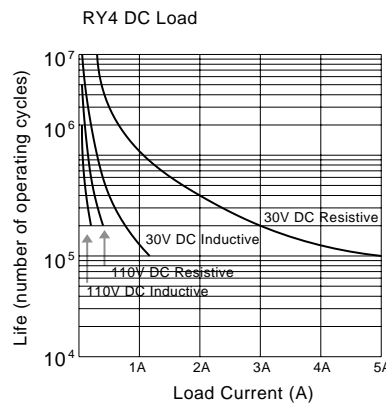
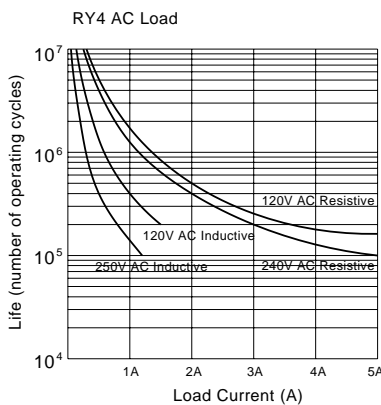
**RY2**



**Bifurated Contacts RY42, RY22**



**RY4**



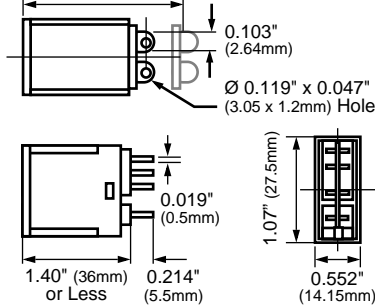
## Dimensions

### Solder Terminal

#### Plug-in

**RY2S**  
**RY22S**

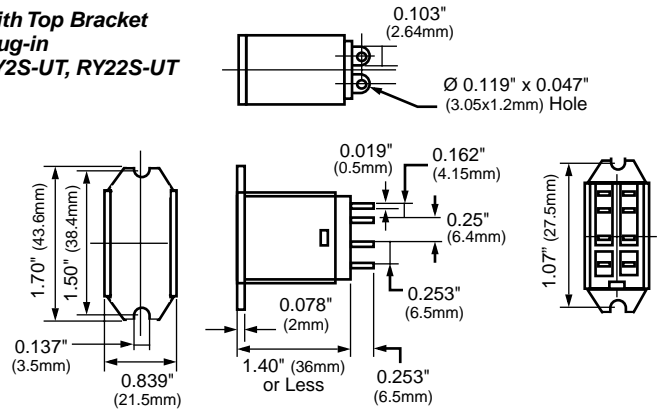
Total length from panel surface including socket:  
**SY2S-02**: 2.40" (61.6mm) maximum; **SY2S-51**: 1.56" (40mm)  
Total length from panel surface including hold-down spring:  
**SY2S-02**: 2.48" (63.6mm) maximum; **SY2S-51**: 1.64" (42mm)



### With Top Bracket

#### Plug-in

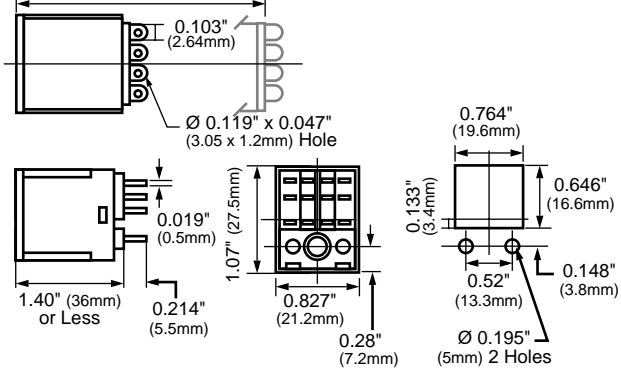
**RY2S-UT, RY22S-UT**



### RY4S

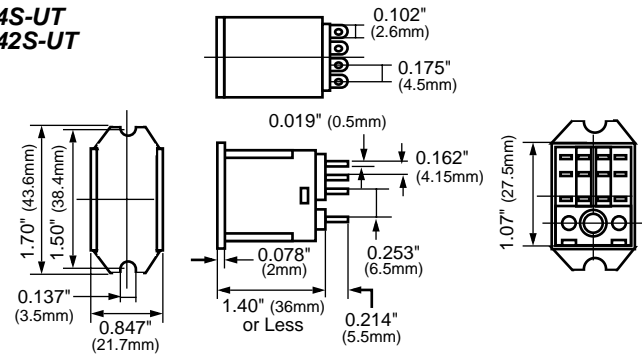
**RY42S**

Total length from panel surface including socket:  
**SY4S-02**: 2.40" (61.6mm) maximum; **SY4S-51**: 1.56" (40mm)  
Total length from surface including hold-down spring:  
**SY4S-02**: 2.48" (63.6mm) maximum; **SY4S-51**: 1.64" (42mm)



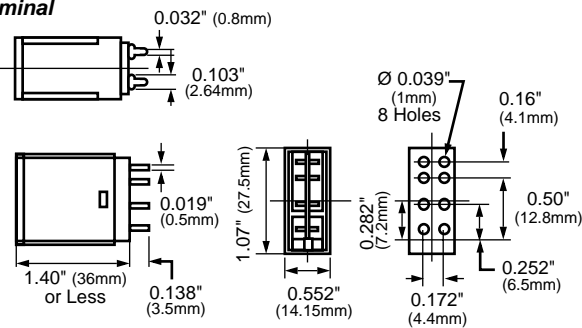
### RY4S-UT

**RY42S-UT**



### PCB Terminal

**RY2V**  
**RY22V**



### PCB Terminal

**RY4V, RY42V**

