Mibbo

Mean it, For better

Relay

Reliable and safe relay solutions
Exquisite industrial control technology

Intermediate relay/solid state relay

2023.03

Superb and reliable family products

Build the overall solution of control devices
Provide technical customization services

>>> Catalogue

RG22	-	2	D	024	L	N
General RG22 With Test Bar RG23		Poles	Coil Operation D:DC A:AC	Coil Voltage 024: 24V 220: 220V	L: With LED	None: General D: Built-in Diode C: Built-in RC Circuit

■ Feature

- New products with test bar
- Contact material: Ag;2 poles(7A)、4 poles(5A)
- Easy identify the AC or DC coil according to the indicator color
- Mechanical indicator as a standard feature. Easy to indicate the operation status.
- 12-110VDC、12-220VAC wide range control voltage
- Compliance to RoHS
- Using Push-In socket RL-□S. Save about 60% wiring manhour.

Model No.						
	AC	RG22-2A012L	RG22-2A024L	RG22-2A048L	RG22-2A110L	RG22-2A220L
		RG22-4A012L	RG22-4A024L	RG22-4A048L	RG22-4A110L	RG22-4A220L
	DC	RG22-2D012L	RG22-2D024L	RG22-2D048L	RG22-2D110L	–
		RG22-4D012L	RG22-4D024L	RG22-4D048L	RG22-4D110L	
	AC	RG23-2A012L	RG23-2A024L	RG23-2A048L	RG23-2A110L	RG23-2A220L
		RG23-2A012L	RG23-2A024L	RG23-2A048L	RG23-2A110L	RG23-2A220L
	DC	RG23-2D012L	RG23-2D024L	RG23-2D048L	RG23-2D110L	–
		RG23-4D012L	RG23-4D024L	RG23-4D048L	RG23-4D110L	

Specification

Coil (1)

Nominal Voltage		Rated Current(mA) 50Hz	Rated Current(mA) 60Hz	Coil Resistance (Ω)	Coil Inductance(H) OFF	Coil Inductance(H) ON	Operation(2) Voltage	Release(3) Voltage	Max. Voltage	Power Dissipation (VA, W)
AC	12	106.5	91	46	0.17	0.33	AC:≤80%, DC:≤80% (Rated Voltage)	AC:≥30%, DC:≥10% (Rated Voltage)	100%	About 0.9~1.1 60Hz
	24	53.8	46	180	0.69	1.3				
	48	25.7	21.1	788	3.22	5.66				
	100/110	11.7/12.9	10.0/11.0	3750	14.54	24.6				
	110/120	9.9/10.8	8.4/9.2	4430	19.2	32.1				
	200/220	6.2/6.8	5.3/5.8	12950	54.75	94.07				
	220/240	5.2/6.2	4.3/5.0	15920	83.5	136.4				
DC	6	151		39.8	0.17	0.33				
	12	75		636	0.73	1.37				
	24	37.7		636	3.2	5.72				
	48	18.8		2560	10.6	21				
	100/110	9.0/9.9		11100	45.6	86.2				

Notes:
1. The value in this table is measured at a coil temperature of 23°C with tolerances of +15%/−20% for the AC rated current and +15% for the DC coil resistance.
2. There is variation between products, but actual values are 80% max. The Relay will operate if 80% or higher of the rated voltage is applied. However, to achieve the specified characteristics, apply the rated voltage to the coil.
3. There is variation between products, but actual values are 30% minimum for AC and 10% minimum for DC. To ensure release, use a value that is lower than the specified value.

Contacts Data(1)

	2 poles			4 poles		
	Resistive Load		Inductive Load (cosθ=0.4, L/R=7ms)	Resistive Load		Inductive Load (cosθ=0.4, L/R=7ms)
Contact Material	Ag					
Rated Load	7A 250VAC/ 7A 30VDC	5A 220VAC/ 5A 24VDC	2A 220VAC/ 2A 24VDC	5A 250VAC/ 5A 30VDC	3A 220VAC/ 3A 24VDC	0.8A 220VAC/ 1.5A 24VDC
Electrical Endurance(2)	120,000	500,000		300,000	300,000	200,000
Mechanical Endurance(3)	≥50,000,000					
Rated Current	7A			5A		
Max. Contact Voltage	AC250V, DC125V					
Max. Contact Current	7A			5A		
Max. Switching Capacity	1750VA 210W		440VA 47W	1250VA 150W		176VA 36W
Min. Load (references)(4)	DC5V 1mA					

Notes:
1. The value in the table is based on the ambient temperature of + 2 3°C
2. Rated load operating frequency 2400 operation/h, at + 2 3°C ambient temperature and duty ratio is 33%
3. Rated load operating frequency 1800 operation/h, at + 2 3°C ambient temperature and duty ratio is 33%
4. These values are guides for the switchable limits for minute load levels, such as in electronic circuits. Actual characteristics may be different. These values will depend on the switching frequency, atmosphere, and expected reliability level. Confirm applicability in the actual system under actual application conditions.

Main Unit Data

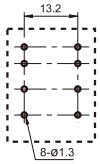
Contact Resistance(1)		≤100m
Operation Time(2)		≤20ms
Release Time(2)		≤20ms
Max. Operation Frequency	Mechanical	18000 operations/h
	Rated Load	2400 operations/h
Isulation Resistance(3)		≥1000mΩ (500VDC)
Dielectric Strength	Between Contacts of the same polarity	1000VAC 50/60Hz 1min
	Between Contacts of different polarity	2000VAC 50/60Hz 1min
	Between Coil and Contacts	2000VAC 50/60Hz 1min
Vibration Resistance	Destruction	10~55~10Hz Double Amplitude: 1.0mm
	Malfunction	10~55~10Hz Double Amplitude: 1.0mm
Shock Resistance	Destruction	1000m/s² (about 100g)
	Malfunction	200m/s² (about 20g)
Ambient Operating Temperature		-40℃~+70℃ (No Icing or Condensation)
Ambient Humidity		5%~85%RH
Weight		35g~

Notes: The value above is original value.
1. Measurement conditions: 1A at 5 VDC using the voltage drop method.
2. Measurement conditions: With rated operating power applied, not including contact bounce time.
3. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength measurement.

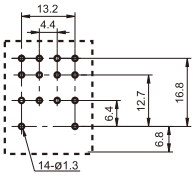
■Installation dimension, wiring diagram

Unit: mm

RG22-2D/2A□L
RG23-2D/2A□L

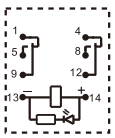


RG22-4D/4A□L
RG23-4D/4A□L

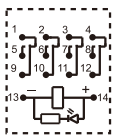


Installation dimension(bottom view)

RG22-2D/2A□L
RG23-2D/2A□L



RG22-4D/4A□L
RG23-4D/4A□L



note: AC control products with LED need not consider the polarity

Wiring Diagram(bottom view)

Note:
1. The Tolerance is +-0.2 when the dimension <1mm, =-0.3 when dimension between 1-5mm, and =-0.4 when the dimension >5mm
2. THe tolerance is =-0.1mm about the mounting hole

RG Series Socket

RL	-	G	08	S
Relay Socket		RG series socket	Relay Type: 08: For 2 poles 11: For 3 poles 14: For 4 poles	Socket type: E: without finger protection F: with finger protection U: U type N: N type S: Fast wiring

■ Feature

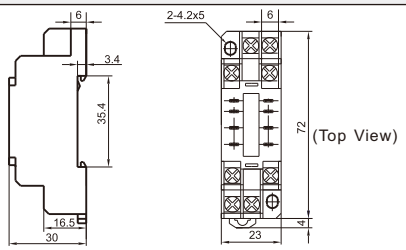
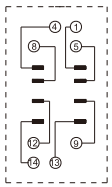
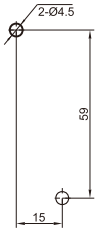
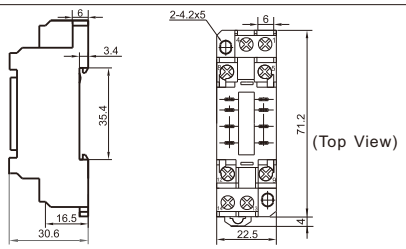
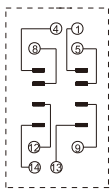
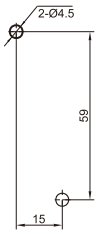
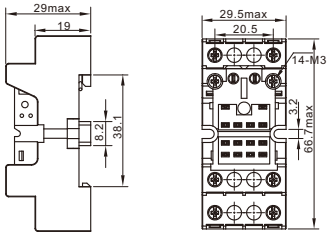
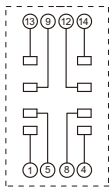
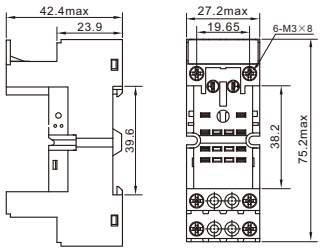
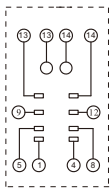
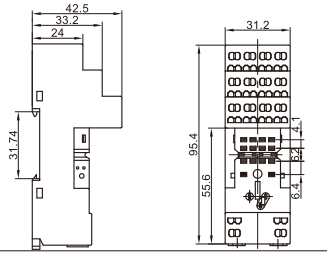
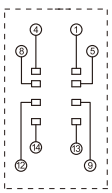
- Dielectric strength:2000VAC, insulation resistance : 1000MΩ
- Installation: Screw or Din-rail
- Finger protection (optional)
- Accessories: Clips/Marker/Function module
- Environment friendly(Rohs compliant)

■Characteristics

Type	Nominal Voltage	Nominal Current	Ambient Temperature	Dielectric Strength Min.	Screw Torque	Wire Strip Length
RL-G08E	300VAC	10A	-40℃~70℃	2000VAC	0. 8N. m	7mm
RL-G08F	300VAC	10A	-40℃~70℃	2000VAC	0. 8N. m	7mm
RL-G14E	300VAC	10A	-40℃~70℃	2000VAC	0. 8N. m	7mm
RL-G14F	300VAC	10A	-40℃~70℃	2000VAC	0. 8N. m	7mm

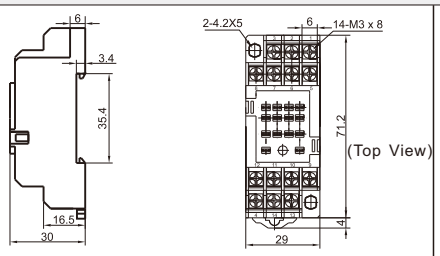
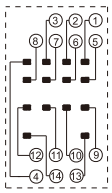
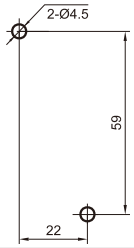
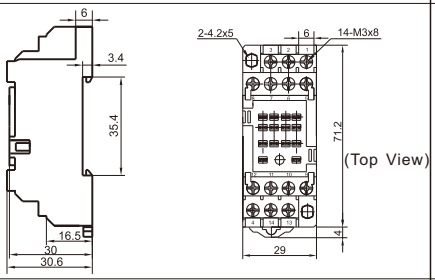
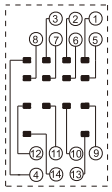
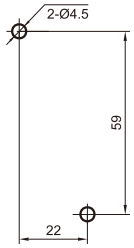
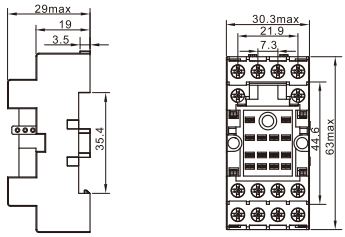
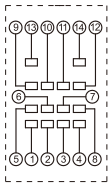
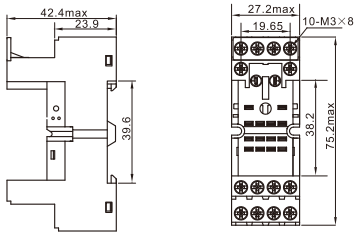
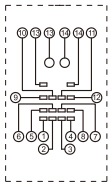
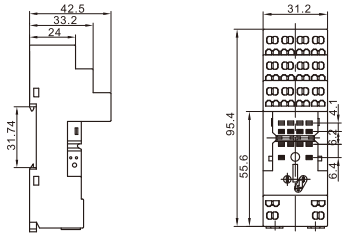
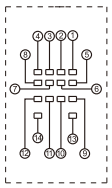
■ Outline Dimensions,Wiring Diagram and PC Board Layout

Unit:mm

Socket	Outline Dimensions	Wiring Diagram	PC Board Layout	Accessory Available
RL-G08E  Screw terminal Panel or Din-rail installation Without finger protection For 2 poles relay		 (Top View)		Metallic Retainer (be used in sets)
RL-G08F  Screw terminal Din-rail installation With finger protection For 2 poles relay		 (Top View)		Metallic Retainer (be used in sets)
RL-G08U  Screw terminal Din-rail installation With finger protection For 2 poles relay			–	Metallic Retainer (be used in sets)
RL-G08N  Screw terminal Din-rail installation With finger protection For 2 poles relay			–	Metallic Retainer (be used in sets)
RL-G08S  Tension terminal Din-rail installation For 2 poles relay			–	Metallic Retainer (be used in sets)

■Outline Dimensions,Wiring Diagram and PCBoard Layout

Unit:mm

Socket	Outline Dimensions	Wiring Diagram	PC Board Layout	Accessory Available
RL-G14E  Screw terminal Panel or Din-rail installation Without finger protection For 4 poles relay		 (Top View)		Metallic Retainer (be used in sets)
RL-G14F  Screw terminal Panel or Din-rail installation With finger protection For 4 poles relay		 (Top View)		Metallic Retainer (be used in sets)
RL-G14U  Screw terminal Din-rail installation With finger protection For 4 poles relay		 (Top View)	–	Metallic Retainer (be used in sets)
RL-G14N  Screw terminal Din-rail installation With finger protection For 4 poles relay		 (Top View)	–	Metallic Retainer (be used in sets)
RL-G14S  Tension terminal Din-rail installation For 4 poles relay			–	Metallic Retainer (be used in sets)
■Cross connector				Unit:mm

RLJ-GK(For RL-□□U、RL-□□N、RL-□□S)

Notices

1.Please choose suitable relay sockets according to the actual mounting environment,relay contact poles and terminal layout.If there is any query on selection.Please contact Mibbo for the technical service.
2.Sockets which can be mounted with markets is furnished with a market.As foe other related component,they should be selected separately.Please do give clear indication of the types of relay sockets and related component you choose while packing order.
3.The above is only an example of typical socket and related component type which is suitable to RG relay .If you have any special requirements,please contact us.
4.Main outline dimension(L.W.H)≥50mm,tolerance should be ±1mm,outline dimension ＞20mm and ＜50mm, tolerance should be±0.5mm, outline dimension ≤20mm, tolerance should be ±0.3mm.

RH Series High Power Relay

RH	-	1	D	024	L	G
High power relay		Contact arrangement 1: 1 pole 2: 2 poles	Coil Power D: DC A: AC	Coil Voltage DC:12VDC to110VDC AC:12VAC to 230 VAC	L:with LED	G:Gold plated contact Non:Silver plated contact

■ Feature

- Multiple switching capability (1C:15A、2C:10A type)
- Ag plated, gold plated contact available
- Built-in operating indicator
- 15.0kV dielectric strength (between coil and contacts)
- Lead-free,environmental friendly product(RoHS compliant)

Model No.						
	AC	RH-1A012L	RH-1A024L	RH-1A048L	RH-1A110L	RH-1A230L
		RH-2A012L	RH-2A024L	RH-2A048L	RH-2A110L	–
	DC	RH-1D012L	RH-1D024L	RH-1D048L	RH-1D110L	RH-1D230L
		RH-2D012L	RH-2D024L	RH-2D048L	RH-2D110L	–

Specification

Contact Data			
Contact Arrangement		1D、1A	2D、2A
Contact Resistance		≤100mΩ (1A 6VDC)	
Contact Material		Silver Plated(Gold Plated Available)	
Rated Load		15A 250VAC/30VDC	10A 250VAC/30VDC
Max Operating Voltage		250VAC/30VDC	
Max Operating Current		15A	10A
Max Operating Power		3750VA/450W	2500VA/300W
Mechanical Endurance		1×10^7 次	
Electrical Endurance		1D/1A:1×10^5ops(15A 250VAC/30VDC,Resistive load,Room temp,1s on 9s off) 2D/2A:1×10^5ops(10A 250VAC/30VDC,Resistive load,Room temp,1s on 9s off)	
Characteristics			
Insulation Resistance		500MΩ (500VDC)	
Dielectric Strength	Between Coil and Contacts	1500VAC 1min	
	Between Contacts of the same polarity	1000VAC 1min	
	Between Contacts of different polarity	1500VAC 1min	
Operation Time(At nomi.volt.)		≤25ms (DC control)	
Release Time (At nomi.volt.)		≤25ms (DC control)	
Temperature Rise(No-Load, At nomi.volt.)		≤60K	
Shock Resistance	Functional	98m/s²	
	Destructive	980m/s²	
Vibration Resistance		10Hz~55Hz 1mm Double Amplitude	
Humidity		5%~85%RH	
Ambient Temperature		-40℃~70℃	
Terminal		Plug in	
Unit Weight		About37g	
Construction		Dust proof	
COIL			
Coil Power		DC:about(0.9~1.1)W; AC:about(1.2~1.8)VA	

Coil Data 25℃

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Voltage[2] VDC	Coil Resistance Ω
12	≤9.6	≥1.2	13.2	160×(1±10%)
24	≤19.2	≥2.4	26.4	650×(1±10%)
48	≤38.4	≥4.8	52.8	2600×(1±15%)
110	≤88.0	≥11.0	121	11000×(1±15%)

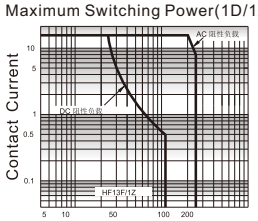
Coil Data 25℃

Nominal Voltage VAC	Pick-up Voltage VAC	Drop-out Voltage VAC	Max. Voltage[2] VAC	Coil Resistance Ω
12	≤9.6	≥3.6	13.2	46×(1±10%)
24	≤19.2	≥7.2	26.4	184×(1±10%)
48	≤38.4	≥14.4	52.8	735×(1±10%)
110	≤96.0	≥36.0	132	4550×(1±15%)
230	≤176.0	≥72.0	264	14400×(1±15%)

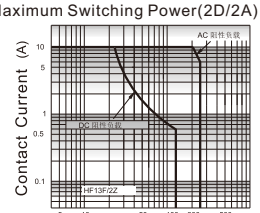
Notes:1) Under ambient temperature, applying more than 80% of rating voltage to coil,relays will take action accordingly.But in order to meet the stated product performance.please apply rated voltage to coil.
2) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.
3) The above values are all initial value.

Characteristic Curves

Maximum Switching Power(1D/1A)



Maximum Switching Power(2D/2A)

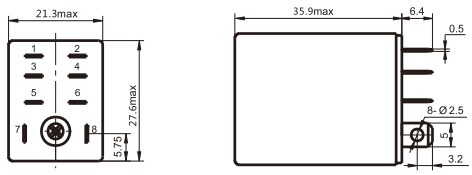


Outline Dimensions,Wiring Diagram and PC Board Layout

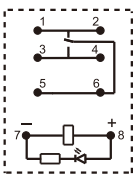
Unit: mm

RH-1D/1A□L

Outline Dimensions

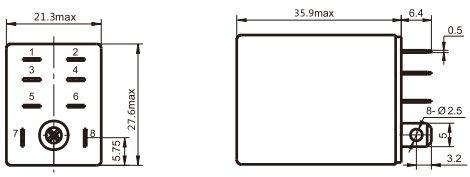


Wiring Diagram (Bottom View)
(With LED)

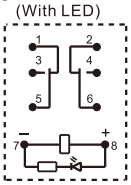


Remark: For AC parts with diode,the positive and negative pole markings on wiring diagram are not applicable.

RH-2D/2A□L

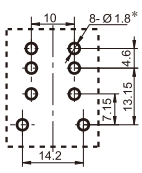


Wiring Diagram (Bottom View)
(With LED)



Remark: For AC parts with diods,the positive andnegative pole markings on wiring diagram are not applicable.

PC Board Layout (Bottom View)



*: Please adjust the site of this diameter according to the actual application

Remarks:(1) In case of no tolerance shown in outline dimension:outline dimension ≤1mm, tolerance should be ±0.2mm, outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm, outline dimension >5mm, tolerance should be ±0.4mm.
(2) The tolerance without indicating for PCB layout is always ±0.1mm.

RL	-	H	08	F
Relay socket		RH Series socket	Relay Type: 08: For 1 pole or 2 poles	Finger protection E: Without finger protection F: With finger protection

■ Feature

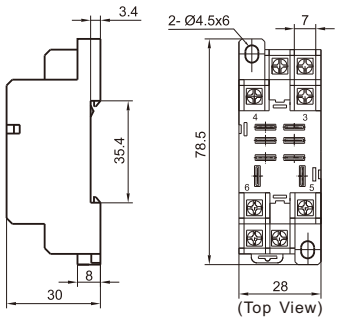
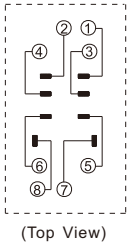
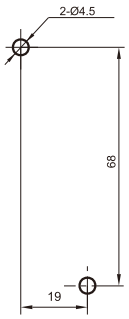
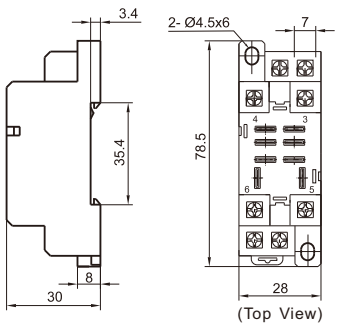
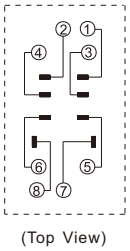
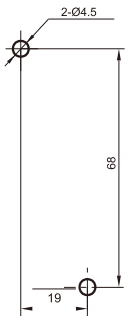
- The dielectric strength can reach 2000VAC and the insulation resitance is 1000mΩ
- Screw mounting ang DIN rail mounting
- With finger protection device
- Components available:Metallic Retainer
  Envronmental friendly products (RoHS compliant)

■ Characteristics

Type	Nominal Voltage	Nominal Current	Ambient Temperature	Dielectric Strength Min.	Screw Torque	Wire Strip Length
RL-H08E	300VAC	16A	-40℃~70℃	2000VAC	1.0N.m	7mm
RL-H08F	300VAC	16A	-40℃~70℃	2000VAC	1.0N.m	7mm

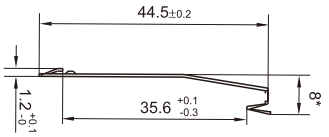
■ Outline Dimensions,Wiring Diagram and PC

Unit:mm

Socket	Outline Dimensions	Wiring Diagram	PC Board Layout	Accessory Available
RL-H08E  Screw terminal Din-rail or panel mounting With finger protection				Metallic Retainer
RL-H08F  Screw terminal Din-rail or panel mounting With finger protection				Metallic Retainer

■Dimension of Related Accessory（Availabl

Unit:mm



Remark:Retainer has to be used in sets,plesse pay special attention while placing the order.

Notices

1.Please choose suitable relay sockets according to the actual mounting environment,relay contact poles and terminal layout.If there is any query on selection.Please contact Mibbo for the technical service.
2.Sockets which can be mounted with markets is furnished with a market.As foe other related component,they should be selected separately.Please do give clear indication of the types of relay sockets and related component you choose while packing order.
3.The above is only an example of typical socket and related component type which is suitable to RG relay .If you have any special requirements,please contact us.
4.Main outline dimension(L.W.H)≥50mm,tolerance should be ±1mm,outline dimension ＞20mm and ＜50mm, tolerance should be±0.5mm, outline dimension ≤20mm, tolerance should be ±0.3mm.

RM32	-	1	D	024	L
Series: The Universal series is RM32 Lockout Series RM33		Contact: 1: Set of transformations 2: Two-group conversion	Control current: A: Communication D: direct current	Control voltage: 024:24VDC	Features :L with light

CE RoHS

Feature

- 1 group (12A) 2 groups (8A) convert contact type
- Thin type relay is only 13mm
- Contact-coil resistance voltage 5000V/8mm
- Low coil power consumption
- Suitable for environmental protection RoHS
- Combination with Push-In Plus socket RL-□S can shorten 60% of distribution hours

Model No.						
	AC	RM32-1A012L	RM32-1A024L	RM32-1A048L	RM32-1A110L	RM32-1A220L
		RM32-2A012L	RM32-2A024L	RM32-2A048L	RM32-2A110L	RM32-2A220L
	DC	RM32-1D012L	RM32-1D024L	RM32-1D048L	RM32-1D110L	RM32-1D220L
		RM32-2D012L	RM32-2D024L	RM32-2D048L	RM32-2D110L	RM32-2D220L
	AC	RM33-1A012L	RM33-1A024L	RM33-1A048L	RM33-1A110L	RM33-1A220L
		RM33-2A012L	RM33-2A024L	RM33-2A048L	RM33-2A110L	RM33-2A220L
	DC	RM33-1D012L	RM33-1D024L	RM33-1D048L	RM33-1D110L	RM33-1D220L
		RM33-2D012L	RM33-2D024L	RM33-2D048L	RM33-2D110L	RM33-2D220L

Specification

Coil (1)

Nominal Voltage		Rated Current(mA) 50Hz	Rated Current(mA) 60Hz	Coil Resistance (Ω)	Coil Inductance(H) OFF	Coil Inductance(H) ON	Operation (2) Voltage	Release (3) Voltage	Max. Voltage	Power Dissipation (VA, W)
AC	12	93	75	65	0.19	0.39	≤80% (Rated Voltage)	≤30% (Rated Voltage)	100%	~0.960Hz
	24	43.5	37.4	253	0.81	1.55				
	110	11	10.6	4655	13.34	26.84				
	220	5.5	5.3	20200	51.3	102.0				
DC	12	43.2		278	0.98	2.35	≤75% (Rated Voltage)	≤15% (Rated Voltage)	100%	~0.0.53Hz
	24	21.6		1113	3.60	8.25				
	48	11.4		4220	15.2	29.82				
	110	5.2		19096	67.2	93.2				

Notes:
1. The value in this table is measured at a coil temperature of 23°C with tolerances of +15%/−20% for the AC rated current and +15% for the DC coil resistance.
2. There is variation between products, but actual values are 80% max. The Relay will operate if 80% or higher of the rated voltage is applied. However, to achieve the specified characteristics, apply the rated voltage to the coil.
3. There is variation between products, but actual values are 30% minimum for AC and 10% minimum for DC. To ensure release, use a value that is lower than the specified value.

Contacts Data(1)

	1 poles		2 poles	
	Resistive Load	Inductive Load	Resistive Load	Inductive Load
Contact Material	AgNi 10			
Rated Load	AC250V 12A 24VDC 12A	AC250V 7.5A 24VDC 7.5A	AC250V 8A 24VDC 8A	AC250V 3A 24VDC 3A
Electrical Endurance(2)	≥1x10^5			
Mechanical Endurance(3)	≥1x10^7			
Rated Current	12A		8A	
Max. Contact Voltage	AC440, DC125V		AC380, DC125V	
Max. Contact Current	16A		10A	
Max. Switching Capacity	2500VA/300W	AC1, 875VA/DC150W	AC1, 250VA/DC150W	AC1, 500VA/DC90W
Min. Load (references) (4)	100mA at 5VDC		10mA at 5VDC	

Notes:
1. The value in the table is based on the ambient temperature of + 2 3°C
2. Rated load operating frequency 2400 operation/h, at + 2 3°C ambient temperature and duty ratio is 33%
3. Rated load operating frequency 1800 operation/h, at + 2 3°C ambient temperature and duty ratio is 33%
4. These values are guides for the switchable limits for minute load levels, such as in electronic circuits. Actual characteristics may be different. These values will depend on the switching frequency, atmosphere, and expected reliability level. Confirm applicability in the actual system under actual application conditions.

Main Unit Data

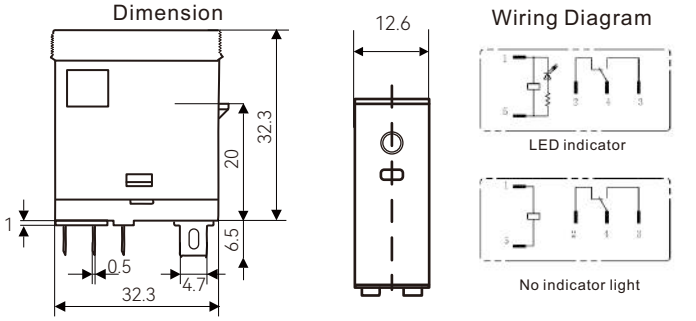
		1 poles	2 poles
Contact Resistance(1)		≤50mΩ (1A 6VDC)	
Operation Time(2)		≤20ms	
Release Time(2)		≤10ms	
Max. Operation Frequency	Mechanical	18000 operations/h	
	Rated Load	1800 operations/h	
Dielectric Strength	Between Contacts of the same polarity	1000VAC 50/60Hz 1min	
	Between Contacts of different polarity	3000VAC 50/60Hz 1min	
	Between Coil and Contacts	5000VAC 50/60Hz 1min	
Vibration Resistance	Destruction	10~55~10Hz Double Amplitude: 1.0mm	
	Malfunction	10~55~10Hz Double Amplitude: 1.0mm	
Shock Resistance	Destruction	1000m/s² (约100g)	
	Malfunction	200m/s² (约20g)	
Ambient Operating Temperature		-40℃~+70℃ (No Icing or Condensation)	
Ambient Humidity		5%~85%RH	
Weight		~20g	

Notes: The value above is original value
1. Measurement conditions: 1 A at 5 VDC using the voltage drop method.
2. Measurement conditions: With rated operating power applied, not including contact bounce time.
3. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength measurement.

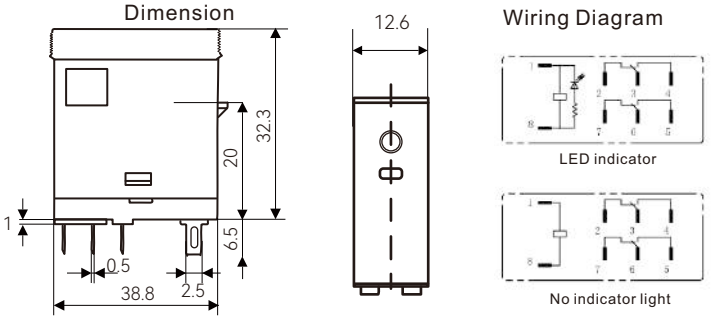
Installation dimension, wiring diagram

Unit:mm

RM32-1D/1A□



RM32-2D/2A□



RL	-	M	08	E
Relay socket		RM Series socket	Relay type 05: For 1 pole relay 08: For 2 poles relay	Protection: E: Without finger protection F: With finger protection U: Euro type terminals P: PCB installation

Feature

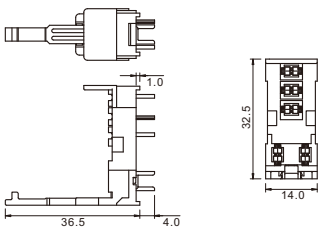
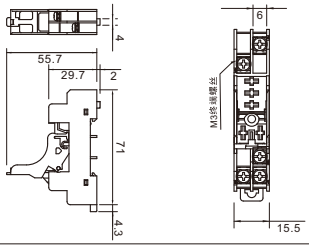
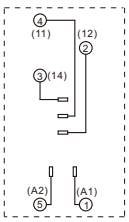
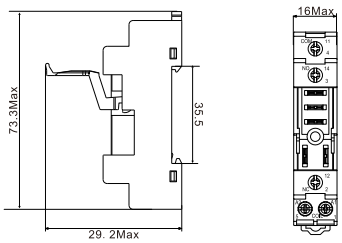
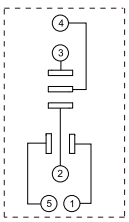
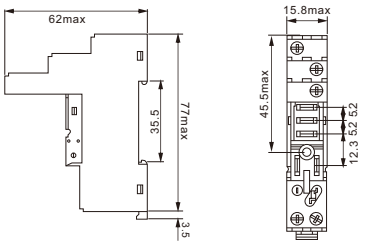
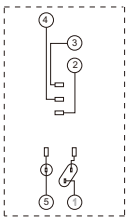
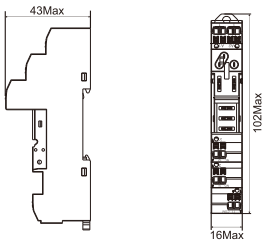
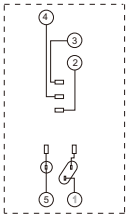
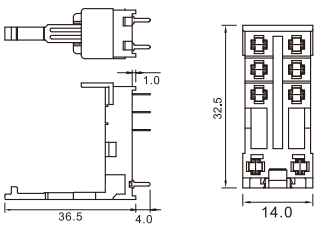
- Dielectric strength reaches 2500VAC and the insulation resistance is 1000MΩ
- Screw or Din rail installation optional
- Accessories: Plastic clip, Marker, Cross connector
- Environment friendly(Rohs Compliant)

Characteristics

Type	Nominal Voltage	Nominal Current	Ambient Temperature	Dielectric Strength Min.	Screw Torque	Wire Strip Length
RL-M□□	300VAC	16A	-45℃~85℃	2500VAC	1. 0N. m	7mm

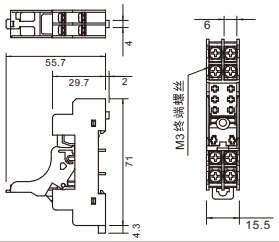
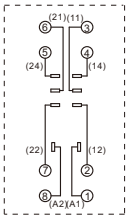
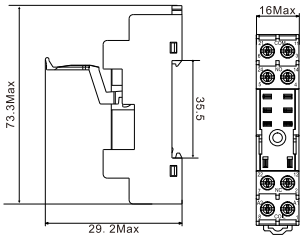
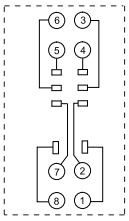
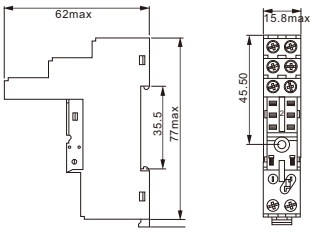
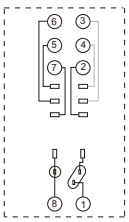
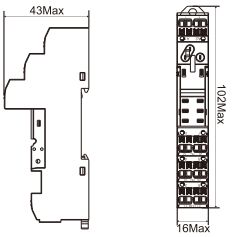
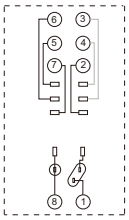
Outline Dimensions,Wiring Diagram and PC Board Layout

Unit:mm

Socket	Outline Dimensions	Wiring Diagram
RL-M05A  PCB installation For 1 pole relays		–
RL-M05E  Screw terminals Din rail installation For 1 pole relays		
RL-M05F  Screw terminals Din rail installation With finger protection For 1 pole relays		
RL-M05U  Screw terminals Din rail installation With finger protection For 1 pole relays		
RL-M05S  Tension terminals Din rail installation For 1 poles relays		
RL-M08A  PCB installation For 2 poles relays		–

■ Outline Dimensions,Wiring Diagram and PC Board Layout

Unit:mm

Socket	Outline Dimensions	Wiring Diagram
RL-M08E  Screw terminals Din rail installation For 2 poles relays		
RL-M08F  Screw terminals Din rail installation With finger protection For 2 poles relays		
RL-M08U  Screw terminals Din rail installation With finger protection For 2 poles relays		
RL-M08S  Tension terminals Din rail installation For 2 poles relays		

■ Socket accessories

■ Marker

Model: RLB-M1
For socket RL-M□U

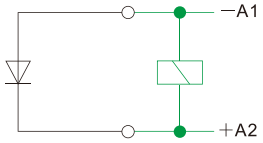
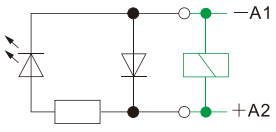
■ Cross connector

Model: RLJ-MK
For RL-M05F/RL-M05E/
RL-M08F/RL-M08E

RLJ-MK

■ Function Module

RD	-	M	024	L
Protection module		M: For RL-M□□ socket G: For RL-G□□ socket	Coil voltage 024:6-24VAC/DC 048:12-48VAC/DC 060:24-60VAC/DC 240:110-240VAC/DC	D: With Diode L: With LED DL: With Diode & LED

Type	Circuit Diagram	Description
RD-M024D		● Eliminate the reverse current by the diode module to protect the coil
RD-M024L		● Eliminate the reverse current by the diode module to protect the coil ● LED indicate the coil status

For more information, please contact business department.

RM03	-	1	D	024	G1
Series		Contact arrangement 1: 1 Pole 2: 2 Poles	Coil Power A: AC D: DC	Control voltage 024:24VDC	Coil Voltage

Feature

- Slim size(width:20mm)
- Dielectric strength:5kV/8mm
- Rated load:5A/10A
- Low coil consumption
- PCB mounted、well-sealed

Model No.						
	AC	RM03-1A012	RM03-1A024	RM03-1A048	RM03-1A110	RM03-1A220
		RM03-2A012	RM03-2A024	RM03-2A048	RM03-2A110	RM03-2A220
	DC	RM03-1D012	RM03-1D024	RM03-1D048	RM03-1D110	–
		RM03-2D012	RM03-2D024	RM03-2D048	RM03-2D110	–

Specification

Contact Data

Contact Material		AgSnO
Contact Arrangement	1D, 1A : 1Pole	2D, 2A : 2Pole
Contact Resistance		≤100mΩ (1A 6VDC)
Rated Current	10A	5A
Max Switching Current	12A	8A
Rated Voltage		250VAC/30VDC
Max Switching Power		2880VA/360W
Min Operation Current		10mA at 5VDC
Electrical Endurance	$1x10^5$ops (10A 250VAC/30ADC, Resistive load, Room temp, 1s on 1s off)	$1x10^5$ops (5A 250VAC/30ADC, Resistive load, Room temp, 1s on 1s off)
Mechanical Endurance		$1*10^7$

Characteristics

Operation Time At nomi.volt	≤20ms
Release Time At nomi.volt	≤10ms
Ambient Temperature	-40℃～85℃
Protection Level	5%～85%RH
Protection Level	IP67
Welding Temperature	260℃ MAX
Welding Time	5S MAX
Unit Weight	About 14g

Insulation Data

Dielectric Strength	Between Open Contacts	1000VAC 1Min
	Between Coil & Contact	5000VAC 1Min
Shock Resistance	Functional	98m/s
	Destructive	980m/s
Insulation Resistance		>100MΩ (500VDC)

Coil Data (23℃)

Nominal Voltage VAC	Coil Resistance Ω ±10%	Pick-up Voltage VAC	Max. Voltage VAC	Drop-out Voltage VAC	rated capacity (Mw)
12	270	9.6	15.6	0.6	540
24	1050	19.2	31.2	1.2	540
48	4250	38.4	62.4	2.4	540
60	6670	48.0	90.0	3.0	540
110	22400	88.0	143.0	5.5	540

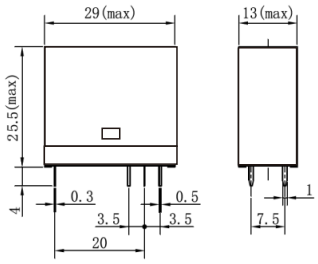
Notes:1) Under ambient temperature, applying more than 80% of rating voltage to coil,relays will take action accordingly.But in order to meet the stated product performance.please apply rated voltage to coil.
2) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.
3) The above values are all initial value.

Outline Dimensions, Wiring Diagram

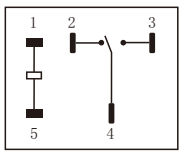
Unit: mm

RM03-1D/1A□

Dimensions

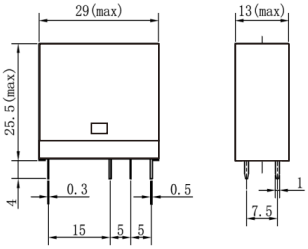


Wiring Diagram

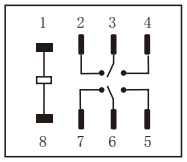


RM03-2D/2A□

Dimensions



Wiring Diagram



RM03 Series Socket

RL	-	M03	05	AA
Relay socket		RM03 Series socket	Relay type 05: For 1 pole relay 08: For 2 poles relay	Finger protection

Feature

- Dielectric strength reaches 2500VAC and the insulation resistance is 1000MΩ
- Screw or Din rail installation optional
- Accessories: Metallic clip
- Environment friendly(Rohs Compliant)

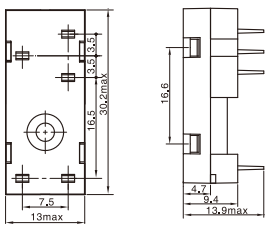
Characteristics

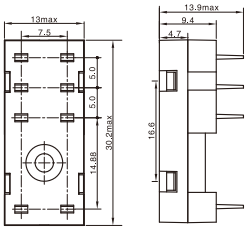
Type	Nominal Voltage	Nominal Current	Ambient Temperature	Dielectric Strength Min.
RL-M0305AA	300VAC	10A	-25~+85℃	1500VAC
RL-M0308AA	300VAC	10A	-25~+85℃	1500VAC

Outline Dimensions,Wiring Diagram and PC

Unit: mm

Socket	Outline Dimensions	Socket	Outline Dimensions
RL-M0305AA		RL-M0308AA	





Feature

- 1 Form NO and 1 Form C configurations
- 4.0kV dielectric strength (between coil and contacts)
- Operation time:8 ms max.
- Miniature in size,save space
- Screw mounting or Push-in Plug available

RN	-	U024	S
I/O Relay		Coil Voltage U012:AC/DC 12V U024:AC/DC 24V U048:AC/DC 48V U110:AC/DC 110V U220:AC/DC 220V	Socket Type E: Screw Terminal Connection S: Push-in Connection

Feature

- Sensitive response,High switching frequency,fast and accurate (Turn ON Max. 50μs,Turn OFF Max. 300μs)
- No operation noise, quiet and reliable
- Maintenance-free, long lifetime.
- Optoelectronic isolation,dielectric: 2500VAC
- Compliance to EMC, suitable for application in harsh environment.Application in the interface circuit with PLC

SAN	-	3	24D	024	S
I/O SSR		Rated Current 3：3A	Control Voltage 12D:DC12V 24D:DC24V	Load Voltage 24:DC24V 2Z:48-280VAC/	Socket Type E: Screw terminal connection S: Push-in Connection

Kits

Order Number		Specification	
Screw terminal	Push-in Connector	Control Voltage	Load(Resistive)
RN-U012E	RN-U012S	AC/DC:12V	6A 250VAC/30VDC
RN-U024E	RN-U024S	AC/DC:24V	
RN-U048E	RN-U048S	AC/DC:48V	
RN-U060E	RN-U060S	AC/DC:60V	
RN-U0110E	RN-U0110S	AC/DC:110V	
RN-U0220E	RN-U0220S	AC/DC:220V	

More technical information, please refer to data sheet of the products

Kits

Order Number		Specification		
Screw terminal	Push-in Connector	Load Current	Control Voltage	Load Voltage
SAN-312D24E	SAN-31224S	3A	DC12V	DC24V
SAN-324D24E	SAN-32424S	3A	DC24V	DC24V
SAN-212D2ZE	SAN-212D2ZS	2A	DC12V	AC:48-280V
SAN-224D2ZE	SAN-224D2ZS	2A	DC24V	AC:48-280V

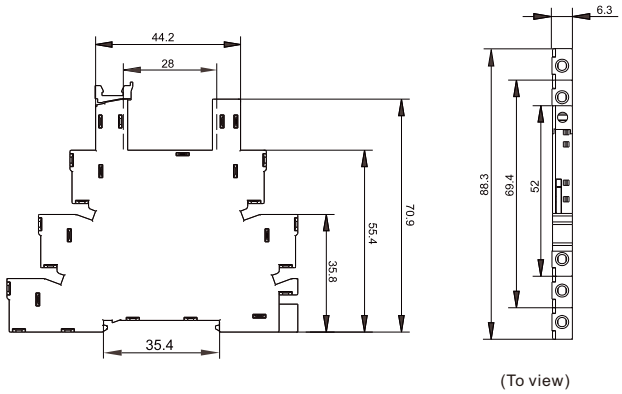
More technical information, please refer to data sheet of the products

Dimension & Wiring Diagram

Unit: mm

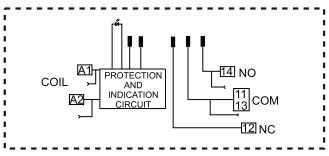
RL-N05E□ Series Screw Terminal

Dimension



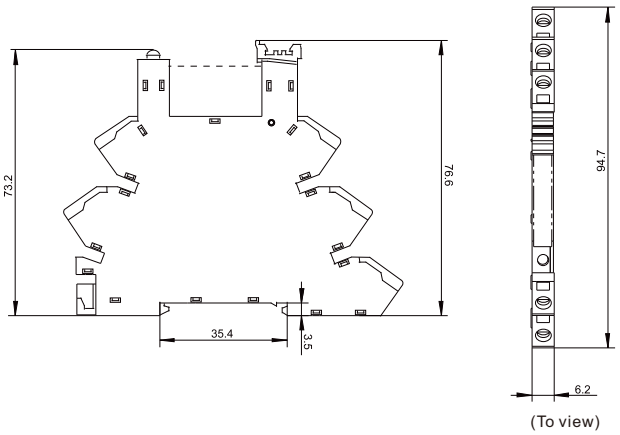
(To view)

Wiring Diagram



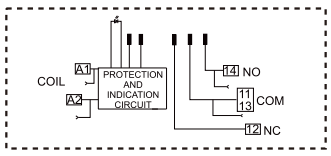
RL-N05S□ Series Push-in Connector

Dimension



(To view)

Wiring Diagram



■I/O Wiring adapter, Cross connector

RL-NR

I/O Wiring adapter

RLJ-NB

RLJ-NK

RLJ-NR

Cross connector

Feature

- 4 channel,8 channel single contact relay(5A)
- LED indicator for power on
- DC24V, NO
- Mechanical endurance: 2*10 ops
- Outline Dimensions: 68x 32 x 39mm

RN12	-	1	D	024	N	04
Relay Module Series		Contact 1: 1 pole per relay	Control Power D: DC	Control Voltage 024:24VDC	Control Input N:NPN	Numbers of Relay

Specification

Model	RN12-1D024N04	RN12-1D024N08
Input Control Type	NPN Input	
Number of Relays	4	8
Coil Voltage	DC 24V	
Contact Type	ON	
Max. Contact Operating Current	3A	
Electric Endurance of Contact	5x10^5 Operations Min.	
Mechanical Endurance of Contact	2x10^8 Operations Min. (1200 time per hour)	
Dimension	32*67.5*39mm	64*68*40mm
Installation	T35 Din-rail or M3 screw installation	
Humidity Range	5%~85%RH(No icing or condensation)	
Temperate Range	-10℃~+50℃	

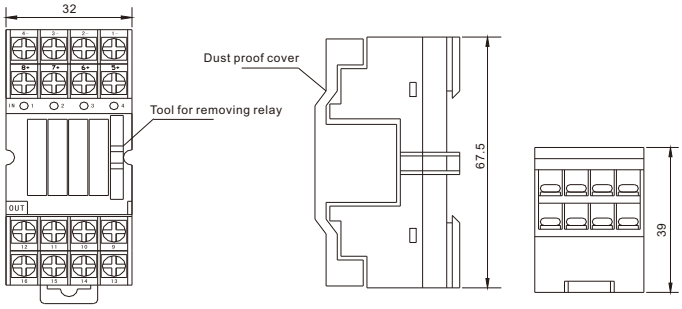
Notice:
1. Please confirm the type of load and the dimension before placing order
2. Please contact with Mibbo support engineer about the contact protection3.Please choose Mibbo cable when connecting to PLC.

Dimension & Wiring Diagram

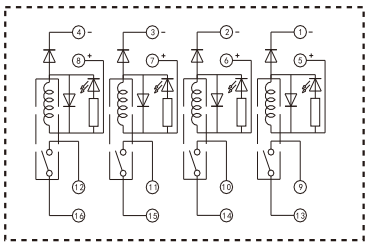
Unit: mm

RN12-1D024N04

Dimension



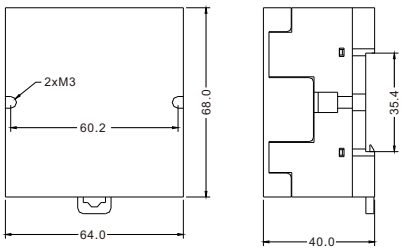
Wiring Diagram



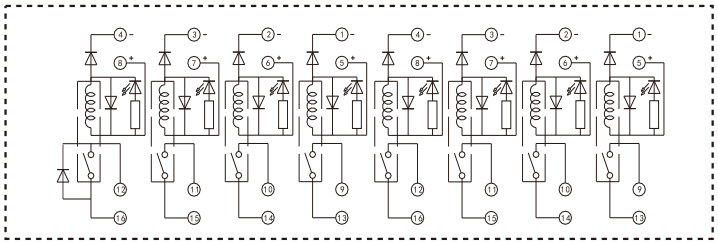
RN12-1D024N08

Unit: mm

Dimension



Wiring Diagram



Feature

- 4 channel single contact relay(5A)
- LED indicator for power on
- DC24V, NO
- Mechanical endurance: 5*10 ops
- Outline Dimensions(L*W*H): 83x 48 x 38mm

RN13	-	1	D	024	N	04
Relay Module Series		Contact 1: 1 pole per relay	Control Power D: DC	Control Voltage 024:24VDC	Control Input N:NPN	Numbers of Relay

Specification

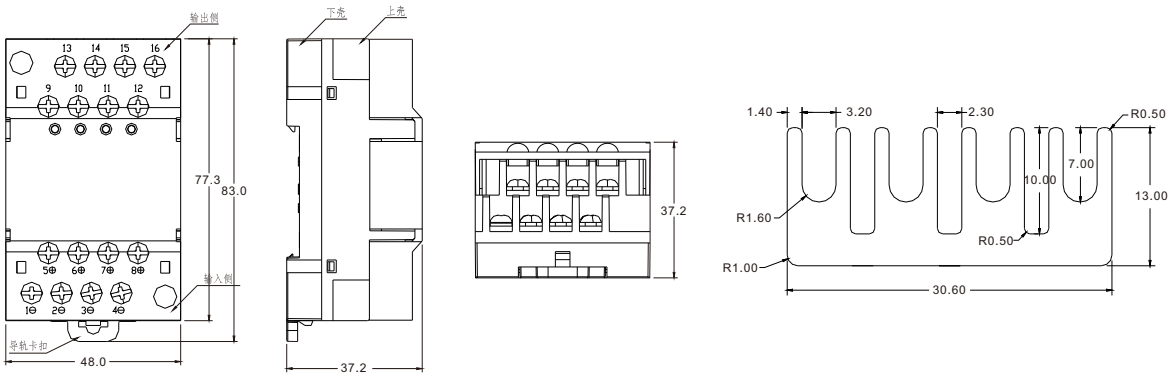
4 Channels Module	
Model	RN13-1D024N04
Input Control Type	NPN Input
No. of Relays	4
Coil Voltage	DC 24V
Contact Type	ON
Max. Contact Operating Current	5A
Electric Endurance of Contact	10x10^5 Operations Min.
Mechanical Endurance of Contact	5x10^8 Operations Min. (1200 time per hour)
Dimension	48*83*37. 2mm
Installation	T35 Din-rail
Humidity Range	5%~85%RH(No icing or condensation)
Temperate Range	-10℃~+50℃

Notice:
1. Please confirm the type of load and the dimension before placing order
2. Please contact with Mibbo support engineer about the contact protection3.Please choose Mibbo cable when connecting to PLC.

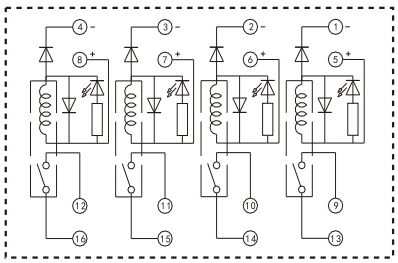
Dimension & Wiring Diagram

Unit: mm

Dimension



Wiring Diagram



Feature

- NPN/PNP bi-polar compatibility
- Simple pluggable design, easy to install and replace
- Quick-plug terminals, quick wiring, save time
- The number of relays can be selected according to customer needs
- With indicator light working status indication
- TS35 DIN fast assembly

RN22	-	1	D	08	S
Relay Module Series		Contact: 1:Set of transformations 2: Two-group conversion	Control voltage: D: 24Vdc A: 220Vac	Relay bit: 2:2PCS 4:4PCS 6:6PCS	Connection mode: E:Screw mounting S:Quick-plug terminal

Specification

Input coil parameter									
Set of transformations (DC24V)	RN22-1D02S	RN22-1D04S	RN22-1D06S	RN22-1D08S	RN22-1D10S	RN22-1D12S	RN22-1D16S	RN22-1D20S	RN22-1D24S
	RN22-1D02E	RN22-1D04E	RN22-1D06E	RN22-1D08E	RN22-1D10E	RN22-1D12E	RN22-1D16E	RN22-1D20E	RN22-1D24E
Two-group conversion (DC24V)	RN22-2D02S	RN22-2D04S	RN22-2D06S	RN22-2D08S	RN22-2D10S	RN22-2D12S	RN22-2D16S	RN22-2D20S	RN22-2D24S
	RN22-2D02E	RN22-2D04E	RN22-2D06E	RN22-2D08E	RN22-2D10E	RN22-2D12E	RN22-2D16E	RN22-2D20E	RN22-2D24E
Set of transformations (AC220V)	RN22-1A02S	RN22-1A04S	RN22-1A06S	RN22-1A08S	RN22-1A10S	RN22-1A12S	RN22-1A16S	RN22-1A20S	RN22-1A24S
	RN22-1A02E	RN22-1A04E	RN22-1A06E	RN22-1A08E	RN22-1A10E	RN22-1A12E	RN22-1A16E	RN22-1A20E	RN22-1A24E
Two-group conversion (AC220V)	RN22-2A02S	RN22-2A04S	RN22-2A06S	RN22-2A08S	RN22-2A10S	RN22-2A12S	RN22-2A16S	RN22-2A20S	RN22-2A24S
	RN22-2A02E	RN22-2A04E	RN22-2A06E	RN22-2A08E	RN22-2A10E	RN22-2A12E	RN22-2A16E	RN22-2A20E	RN22-2A24E

Input coil parameter		
Control power supply	DC24V	AC220V
Control mode	NPN/PNP compatibility	
Individual rated power consumption	~0.53W	~0.9VA
Operating voltage	≤Rated voltage75%	≤Rated voltage80%
Release voltage	≥Rated voltage10%	≥Rated voltage30%
Action time	≤20mS	
Release time	≤10mS	

Contact parameter		
Contact form	1poles	2poles
Contact resistance	≤100mΩ	
Contact material	AgNi10	
Contact load	12A 250Vac/30Vdc	8A 250Vac/30Vdc
Mechanical life	$1*10^7$	
Electrical life	$1*10^5$ (12A 250Vac/30Vdc, Resistive load, room temperature,1s on and 1s off)	$1*10^5$ (8A 250Vac/30Vdc, Resistive load, room temperature,1s on and 1s off)
Protection circuit	Varistor protection (Set of transformations)	--

Input coil parameter		
Maximum switching frequency	machinery	18000time/H
	Rated load	1800time/H
Insulation resistance		≥100MΩ (500Vdc)
Withstand voltage	Between the same pole contacts	1000VAC 50/60Hz 1min
	Between polar contacts	3000VAC 50/60Hz 1min
	Between coil and contact	3000VAC 50/60Hz 1min
vibration		10~55~10Hz Double amplitude: 1.0mm
impact		1000m/s
Service temperature range		-40℃~+70℃(ice-free)
Service humidity range		5%~85%RH(Condensation free)
Stripping length		8~9mm
Input terminal type		Quick-insert, screw and MIL linker are optional
Output terminal type		Quick-insert type and screw type are optional
Line diameter		0.2~1.5mm² /28~16AWG
Installation mode		Rail mounting

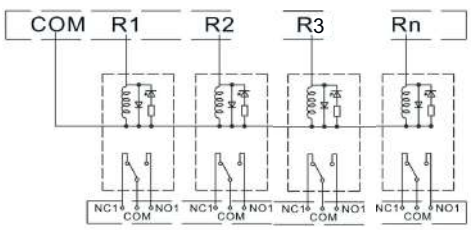
Note:
1. Please confirm the load type and size before ordering, and select the appropriate product.
2. For contact protection solutions, consult Mibbo technical engineers.

Dimensional drawing, wiring diagram

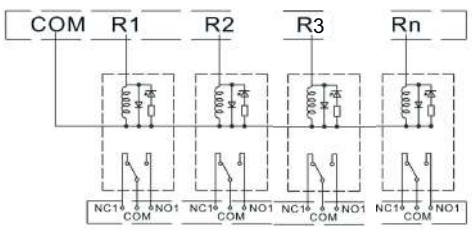
Unit: mm

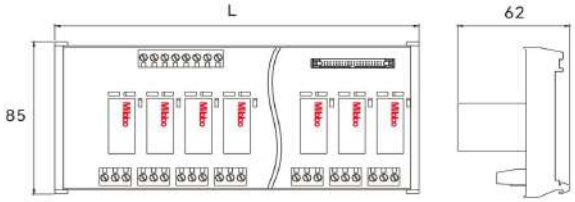
Circuit diagram

1poles



2poles





Relay bit	L width
2位	43.mm
4位	83mm
6位	117.5mm
8位	155,5mm
10位	191mm
12位	226mm
16位	298mm
20位	372mm

Feature

- 10A,25A,40A
- LED indicator for power on
- Load voltage: 38-480VAC
- With cover
- Dielectric strength 4000VACrms
- Good heat dissipation, copper base plate available
- CE\RoHS

Description

SSR solid state relay is widely used in various industries and suitable for resistive, inductive and capacitive load. Output voltage range: 38-480VAC, output current: 10A, 25A and 40A

Model Coding

SSR	–	10	D	A	H	C
SSR Series		Load Current 10:10Amps 25:25Amps 40:40Amps	Control Type D:DC Control 3-32VDC	Load Voltage A:AC Output	Load Voltage H:38-480VAC	Thermal Dissipation Non:Aluminium heat sink C:Copper heat sink (Available)

Model No.	SSR-10DAH□	SSR-25DAH□	SSR-40DAH□

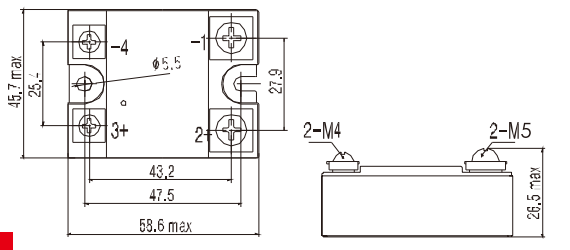
Specification

Input				
Control Voltage Range		3-32VDC		
Min.Turn-On Voltage		3VDC		
Min.Turn-Off Voltage		1VDC		
Max.Inout Current		25mA		
Output				
Rated Load Current		10A	25A	40A
Output Voltage Range		38 - 480 VAC		
Max.Turn-On Time	Zero cross	1/2AC Cycle + 1ms		
Max.Turn-Off Time		1/2AC Cycle + 1ms		
Max.Surge Current [@10ms]		135A	275A	400A
Max.I t for fusing [@10ms]		140A²S	275A²S	410A2S
Max.Transient Voltage		800Vpk		
Max. Off-state Leakage Current (at rated voltage)		5mA		
Max. On-state Voltage Drop.(at rated voltage)		1.6Vrms		
Min.Off-state Dv/dt		200 V/μs		
General				
Dielectric Strength		I/P-O/P: 4KVrms I/P-Base: 2.5KVrms O/P-Base: 2.5KVrms		
Operating Temperature		-30℃~+80℃		
Storage Temperature		-30℃~+100℃		
Weight		93g (SSR-□DAHC: 146g)		
Accessory(Optional)				
Din-rail mounting accessory		DIN-01		
Heat Transfer Pad		SH-D1		
Heat sink(optional)		SH-01		SH-03
Remark①		The ambient temperature and temperature rise need to be considered when using heat sink. If the temperature of heat sink is over 70℃, please use a larger heat sink or forced cooling with a fan		

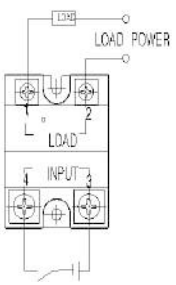
Applications

Suitable for Lenpure, Plastic Machinery, Incubator, Oil Filling Machine, Air Conditioning, Elevator, Lighting, Fountain Controller etc.

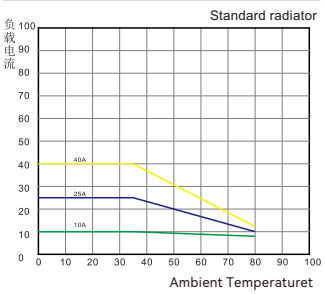
Mounting Dimension



Wiring Diagram



Characteristic Curves



认证号：E500695

Feature

- Load current:10A-90A
- Load voltage: 380VAC,480VAC,600VAC
- DC/AC input available
- Zero cross turn-on/Random turn-on available
- LED indicator for power on
- SCR output,high reliability
- Built-in RC、MOV and TVS protection available
- Dielectric strength 4000VACrms
- Good heat dissipation,DBC base plate available
- UL\CE\RoHS

Description

SA series solid state relays are widely used in various industries and suitable for resistive, inductive and capacitive load. Output voltage range: 48-440VAC, 48-530VAC, 48-660VAC. Output current: 10A, 25A, 40A, 50A, 75A and 90A.

Model Coding

SA – 25 D 3 Z M

SA	25	D	3	Z	M
SA Series	Load Current 10:10Amps 25:25Amps 40:40Amps 50:50Amps 75:75Amps 90:90Amps	Control Type D:DC Control 4-32VDC A:AC Control 90-280VAC	Load Voltage 3:48-440VAC 4:48-530VAC 6:48-660VAC	Zero cross function Z:Zero cross turn-on R:Random turn-on	Protection Non:without M:MOV protection T:TVS protection (Available)

Model No.						
	SA-10□3□□	SA-25□3□□	SA-40□3□□	SA-50□3□□	SA-75□3□□	SA-90□3□□
	SA-10□4□□	SA-25□4□□	SA-40□4□□	SA-50□4□□	SA-75□4□□	SA-90□4□□
	SA-10□6□□	SA-25□6□□	SA-40□6□□	SA-50□6□□	SA-75□6□□	SA-90□6□□

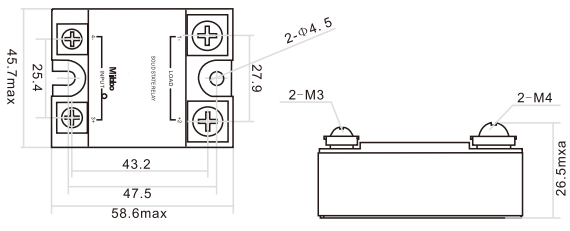
Specification

Input							
Control Voltage Range		4-32VDC					
Min.Turn-On Voltage		4VDC					
Min.Turn-Off Voltage		1VDC					
Max.Inout Current		25mA					
Output							
Rated Load Current		10A	25A	40A	50A	75A	90A
Output Voltage Range		SA-□A3：48-440VAC / SA-□A4：48-530VAC / SA-□A6：48-660VAC					
Max.Turn-On Time	Random	1ms					
	Zero cross	1/2AC Cycle+1ms					
Max.Turn-Off Time		1/2AC Cycle+1ms					
Max.Surge Current [@10ms]		150A	400A	440A	860A	1280A	1550A
Max.I t for fusing [@10ms]		350A²S	900A²S	970A²S	3698A²S	8192A²S	12012A²S
Max.Transient Voltage		SA-□A3：800Vpk \ SA-□A4：1200Vpk \ SA-□A6:1600Vpk					
Max. Off-state Leakage Current (at rated voltage)		5mA					
Max. On-state Voltage Drop.(at rated voltage)		1.6Vrms					
Min.Off-state Dv/dt		500 V/μs					
General							
Dielectric Strength		Input to output: 4KVrms Input to base: 4KVrms output to base: 2.5KVrms					
Operating Temperature		-30℃~+80℃					
Storage Temperature		-30℃~+100℃					
Weight		88g					
Accessory(Optional)							
Din-rail mounting accessory		DIN-01	DIN-01				
Heat Transfer Pad		SH-D1					
Protective Cover		SP-D11					
Heat sink(optional)		SH-01	SH-01	SH-03	SH-05	SH-07	SH-08
Remark①		The ambient temperature and temperature rise need to be considered when using heat sink. If the temperature of heat sink is over 70℃, please use a larger heat sink or forced cooling with a fan					

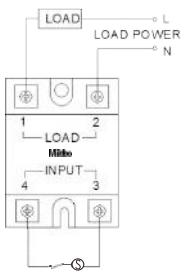
Applications

Suitable for Lenpure, Plastic Machinery, Incubator, Oil Filling Machine, Air Conditioning, Elevator, Lighting, Fountain Controller etc.

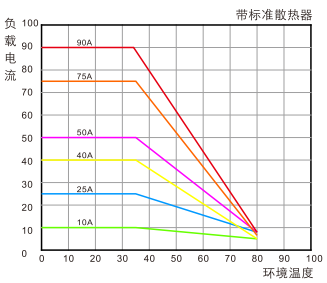
Mounting Dimension



Wiring Diagram



Characteristic Curves



Feature

- 10A,15A,25A
- LED indicator for power on
- Load voltage: 38-440VAC
- Triac output,Built-in RC protection
- With cover
- Dielectric strength 4000VACrms
- Small in size,save space
- CE\RoHS

Description

SAE series solid state relays are mini size and triac structure and widely used in various industries and suitable for resistive, inductive and capacitive load. Output voltage range: 48-440VAC. Output current: 10A, 15A, 25A.

Model Coding

SAE	–	10	D	3	R
SAE Series		Load Current 10:10Amps 15:15Amps 25:25Amps	Control Type D:DC Control 4-32VDC	Load Voltage 3:48-440VAC	Zero cross function Z:Zero cross turn-on R:Random turn-on

Model No.	SAE-10D3□	SAE-15D3□	SAE-25D3□

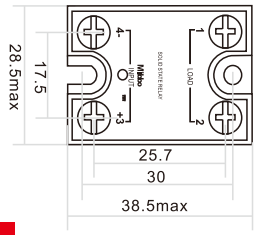
Specification

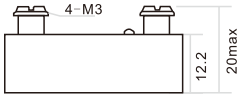
Input				
Control Voltage Range		4-32VDC		
Min.Turn-On Voltage		4VDC		
Min.Turn-Off Voltage		1VDC		
Max.Inout Current		25mA		
Output				
Rated Load Current		10A	15A	25A
Output Voltage Range		48-440VAC		
Max.Turn-On Time	Random	1ms		
	Zero cross	1/2AC Cycle + 1ms		
Max.Turn-Off Time		1/2AC Cycle + 1ms		
Max.surge current		100A	160A	250A
Max.Transient Voltage		800Vpk		
Max.Off-state Leakage Current (at rated voltage)		5mA		
Max. On-state Voltage Drop.(at rated voltage)		1.6Vrms		
Min.Off-state Dv/dt		200 V/ μs		
General				
Dielectric Strength		Input to output: 4KVrms Input to base: 4KVrms output to base: 2.5KVrms		
Operating Temperature		-30℃~+80℃		
Storage Temperature		-30℃~+100℃		
Weight		35g		
Accessory(Optional)				
Protective Cover		SP-D12		
Heat sink(optional)		SH-01		
Remark①		The ambient temperature and temperature rise need to be considered when using heat sink. If the temperature of heat sink is over 70℃, please use a larger heat sink or forced cooling with a fan		

Applications

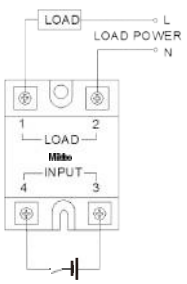
Suitable for Lenpure, Plastic Machinery, Incubator, Oil Filling Machine, Air Conditioning, Elevator, Lighting, Fountain Controller etc.

Mounting Dimension

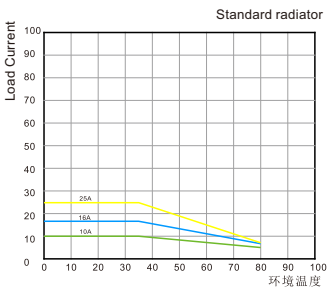




Wiring Diagram



Characteristic Curves



Feature

- Load current:7-80A
- DC control: 4-32VDC
- Load voltage: 50VDC,100VDC,400VDC,1200VDC
- LED indicator for power on
- Dielectric strength 4000VACrms
- CE\RoHS

Description

SD series solid state relays are panel mounted and DC output. Input voltage range: 4-32VDC. There is opto-electric isolation between the input and output and the dielectric strength is 4000VAC

Model Coding

SD – **25** **D** **50**

- **SD** — SD Series
- **25** — Load Current: 7:7Amps; 10:10Amps; 20:20Amps; 25:25Amps; 40:40Amps; 50:50Amps; 80:80Amps
- **D** — Control Type: D:DC Control 4-32VDC
- **50** — Load Voltage: 50:0-50VDC; 1H:0-100VDC; 4H:0-400VDC; 1K:10-1200VDC

Model No.							
SD-7D50	—	—	SD-25D50	—	SD-50D50	SD-80D50
—	SD-10D1H	SD-20D1H	—	SD-40D1H	—	SD-80D1H
SD-7D4H	—	SD-20D4H	—	—	—	—
—	—	—	SD-25D1K	—	SD-50D1K	—

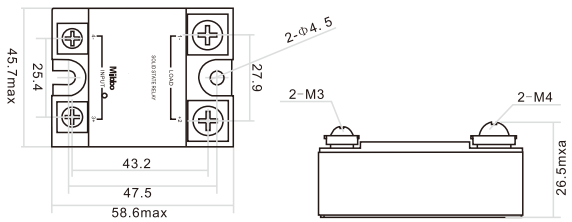
Specification

Input							
Control Voltage Range	4-32VDC						
Min.Turn-On Voltage	4DC						
Min.Turn-Off Voltage	1VDC						
Max.Inout Current	28 mA @32VDC						
Output							
Rated Load Current	7A	10A	20A	25A	40A	50A	80A
Output Voltage Range	SD-□D50:0-50VDC; SD-□D1H:0-100VDC;SD-□D4H:10-400VDC; SD-□D1K:10-1200VDC;						
Max.surge current(@10ms)	SD-25D50:75A; SD-50D50:125A; SD-20D1H:80A; SD-40D1H:120A; SD-80D1H:200A; SD-25D1K:75A; SD-50D1K: 100A						
Max.Turn-On Time	100 μs						
Max.Turn-Off Time	500 μs						
Max.Off-state Leakage Current (at rated voltage)	0.1mA						
Max. On-state Voltage Drop.(at rated voltage)	1.5VDC						
General							
Dielectric Strength	Input-output: 4KVrms Input-base: 4KVrms output-base: 2.5KVrms						
Operating Temperature	-30℃~+80℃						
Storage Temperature	-30℃~+100℃						
Weight	80g						
Accessory(Optional)							
Din-rail mounting accessory	DIN-01						
Heat Transfer Pad	SH-D1						
Protective Cover	SP-D11						
Heat sink(optional)	SH-01				SH-03	SH-05	SH-08
Remark①	The ambient temperature and temperature rise need to be considered when using heat sink. If the temperature of heat sink is over 70℃, please use a larger heat sink or forced cooling with a fan						

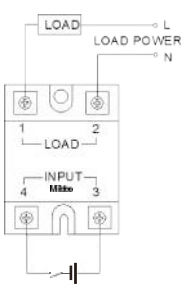
Applications

Dc heating, DC power supply, DC valve, DC motor, Solar Energy, etc.

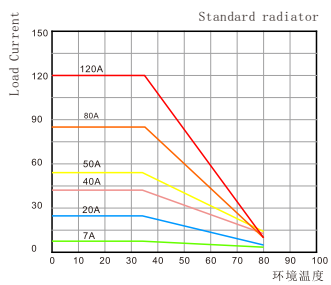
Mounting Dimension



Wiring Diagram



Characteristic Curves



Feature

- Load current: 25A,40A,60A
- Load voltage: 380VAC,480VAC
- Zero cross turn-on/Random turn-on available
- AC or DC input
- SCR output
- Built-in RC、MOV protection available
- Lost phase protection customizable
- CE\RoHS

Description

SAT is a three-phase AC output relay(Normally Open), offer (4~32)VDC/(90-280) VAC input voltage control,with outputs current at 25A,40A,60A, and (48~440)VAC, (48~530)VACoutput voltage. The output device is SCR,output.switching modes are divided into zero cross turn-on type and random turn-on type.

Model Coding

SAT	–	25	D	3	Z	M
SAT Series		Load Current 25:25Amps 40:40Amps 60:60Amps	Control Type D:DC Control 4-32VDC A:AC Control 90-280VAC	Load Voltage 3:48-440VAC 4:48-530VAC	Zero cross function Z:Zero cross turn-on R:Random turn-on	Protection Non:without M:MOV protection (Available)

Model No.							
		SAT-25D3□□	SAT-40D3□□	SAT-60D3□□	SAT-25A3□□	SAT-40A3□□	SAT-60A3□□
		SAT-25D4□□	SAT-40D4□□	SAT-60D4□□	SAT-25A4□□	SAT-40A4□□	SAT-60A4□□

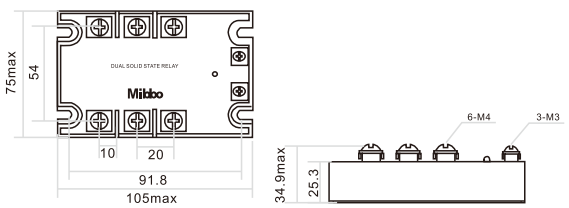
Specification

Input							
Control Voltage Range		4-32VDC			90-280VAC		
Min.Turn-On Voltage		4VDC			90VAC		
Min.Turn-Off Voltage		1VDC			10VAC		
Max.Inout Current		28 mA @32VDC			10 mA@280VAC		
Output							
Rated Load Current		25A	40A	60A	25A	40A	60A
Output Voltage Range		SAT-□D/A3：48-440VAC			SAT-□D/A4：48-530VAC		
Max.Transient Voltage		SAT-□D/A3:800Vpk			SAT-□D/A4：1200Vpk		
Max.Turn-On Time	Random	1ms			20ms		
	Zero cross	1/2AC Cycle + 1ms			20ms		
Max.Turn-Off Time		1/2AC Cycle + 1ms			40ms		
Max.Off-state Leakage Current (at rated voltage)		5mA			5mA		
Max. On-state Voltage Drop.(at rated voltage)		1.6Vrms			1.6Vrms		
Min.Off-state Dv/dt		500 V/μs			500 V/μs		
General							
Dielectric Strength		Input to output: 4KVrms Input to base: 2.5KVrms output to base: 2.5KVrms					
Operating Temperature		-30℃~+80℃					
Storage Temperature		-30℃~+100℃					
Weight		350g					
Accessory(Optional)							
Heat Transfer Pad		SH-D2					
Protective Cover		SP-D31					
Heat sink(optional)		SH-03	SH-07	SH-08	SH-03	SH-07	SH-08
Remark①		The ambient temperature and temperature rise need to be considered when using heat sink. If the temperature of heat sinkis over 70℃, please use a larger heat sink or forced cooling with a fan					

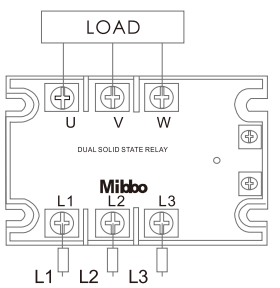
Applications

Three-phase Motor Control, Furnace Temperature Control System, Large Oven etc.

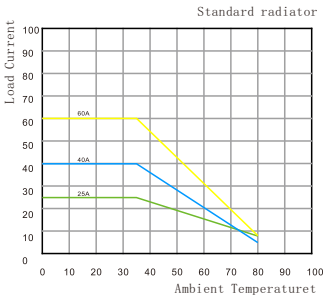
Mounting Dimension



Wiring Diagram



Characteristic Curves



Feature

- Load current: 25A,40A,60A
- Load voltage: 380VAC,480VAC
- Three phase two control or three phase three control type available
- DC control: 4-32VDC
- Built-in RC、MOV protection available
- CE\RoHS

Description

SAT series is 3-phase AC output solid state relay. SCR output. Zero cross or random turn-on available. Control voltage: 4-32VDC/90-280VAC. Output rated voltage: 48-440VAC/48-530VAC. Output rated current: 25A/40A/60A.

Model Coding

SAMS	–	25	D	3	F
SAMS Series		Load Current	Control Type D:DC Control 10-32VDC	Load Voltage 3:48-440VAC 4:48-530VAC	F:Three-phase and three control Non:Three-phase and two control (Available)

Model No.	SAMS-25D3□	SAMS-40D3□	SAMS-60D3□
	SAMS-25D4□	SAMS-40D4□	SAMS-60D4□

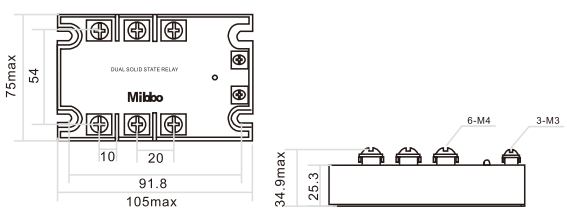
Specification

Input			
Control Voltage Range	10-32VDC		
Min.Turn-On Voltage	10VDC		
Min.Turn-Off Voltage	1VDC		
Max.Inout Current	35mA		
Min Toggle interval	80ms		
Output			
Rated Load Current	25A	40A	60A
Output Voltage Range	SAMS-□D3□:48-440VAC / SAMS-□D4□:48-530VAC		
Max.Transient Voltage	SAMS-□D3□:800Vpk / SAMS-□D4□:1200Vpk		
Min.Load Current	100mA		
Max.Turn-Off Time	1/2AC Cycle + 1ms		
Max.Surge Current(@10ms)	250A	400A	800A
Max.Off-state Leakage Current (at rated voltage)	5mA		
Max. On-state Voltage Drop.(at rated voltage)	1.6Vrms		
Min.Off-state Dv/dt	500V/μs		
General			
Dielectric Strength	Input-output: 4KVrms Input-base: 2.5KVrms output-base: 2.5KVrms		
Operating Temperature	-30℃~+80℃		
Storage Temperature	-30℃~+100 ℃		
Weight	340g		
Operating status indication	Green: forward Red:reversal		
Accessory(Optional)			
Heat Transfer Pad	SH-D2		
Protective Cover	SP-D31		
Heat sink(optional)	SH-03	SH-07	SH-08
Remark①	The ambient temperature and temperature rise need to be considered when using heat sink. If the temperature of heat sinkis over 70℃, please use a larger heat sink or forced cooling with a fan		

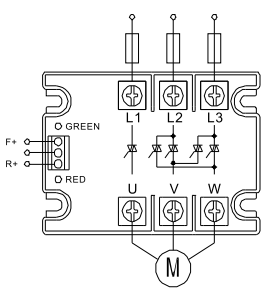
Applications

Three-phase moter reversing control,such as electric actuator control,the transformer has load regulating device,etc.

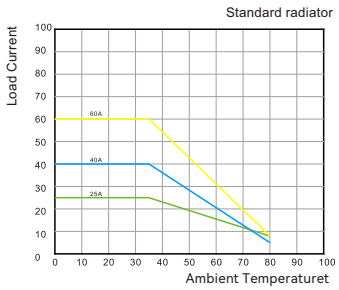
Mounting Dimension



Wiring Diagram



Characteristic Curves



Feature

- Load current: 10A,20A,30A,40A
- Load voltage: 220VAC,380VAC,480VAC
- DC or AC input
- LED indicator for power on
- SCR output,high reliability
- Built-in RC protection
- Dielectric strength 4000VACrms
- Din-rail mouting,assemble on industrial rail TS-35 / 7.5 or 15

Description

ST series are heat sink integrated solid state relays. TS-35/7.5/15 Din-rail mounting or screw panel mounting

Model Coding

ST	–	20	D	3	3	3
ST Series		Load Current	Control Type	Load Voltage	Zero cross function	Input Termination
		10:10Amps 20:20Amps 30:30Amps 40:40Amps	D:4-32VDC LA:90-140VAC HA:180-280VAC E:AC/DC24V	2:48-280VAC 3:48-440VAC 4:48-530VAC	Z:Zero cross turn-on R:Random turn-on	B:ScrewType S:SpringType

Model No.								
ST-10D2□□	ST-10D4□□	ST-10LA2□□	ST-10LA4□□	ST-10HA2□□	ST-10HA4□□	ST-10E2□□	ST-10E4□□
ST-20D2□□	ST-20D4□□	ST-20LA2□□	ST-20LA4□□	ST-20HA2□□	ST-20HA4□□	ST-20E2□□	ST-20E4□□
ST-30D2□□	ST-30D4□□	ST-30LA2□□	ST-30LA4□□	ST-30HA2□□	ST-30HA4□□	ST-30E2□□	ST-30E4□□
ST-40D2□□	ST-40D4□□	ST-40LA2□□	ST-40LA4□□	ST-40HA2□□	ST-40HA4□□	ST-40E2□□	ST-40E4□□
ST-10D3□□	ST-10D6□□	ST-10LA3□□	ST-10LA6□□	ST-10HA3□□	ST-10HA6□□	ST-10E3□□	ST-10E6□□
ST-20D3□□	ST-20D6□□	ST-20LA3□□	ST-20LA6□□	ST-20HA3□□	ST-20HA6□□	ST-20E3□□	ST-20E6□□
ST-30D3□□	ST-30D6□□	ST-30LA3□□	ST-30LA6□□	ST-30HA3□□	ST-30HA6□□	ST-30E3□□	ST-30E6□□
ST-40D3□□	ST-40D6□□	ST-40LA3□□	ST-40LA6□□	ST-40HA3□□	ST-40HA6□□	ST-40E3□□	ST-40E6□□

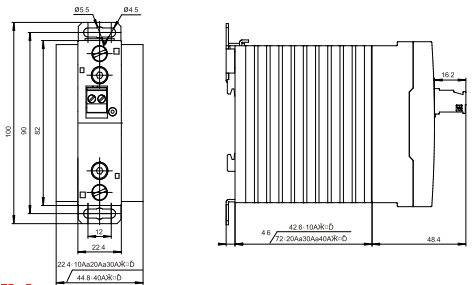
Specification

Input												
Control Voltage Range	4-32VDC				90-140VDC				180-280VDC				19.2-28.8VDC/VAC			
Min.Turn-On Voltage	4VDC				90VAC				180VAC				19.2VDC/VAC			
Min.Turn-Off Voltage	1VDC				10VAC				10VAC				2VDC/VAC			
Max.Inout Current	25 mA															
Output																
Rated Load Current	10A	20A	30A	40A	10A	20A	30A	40A	10A	20A	30A	40A				
Output Voltage Range	48-280VAC				48-440VAC				48-530VAC							
Max.Transient Voltage	600VPK				800VPK				1200VPK							
Max.Turn-On Time — Random	1ms(DC control)				400ms (AC control)											
Max.Turn-On Time — Zero cross	1/2AC Cycle + 1ms (DC control)															
Max.Turn-Off Time	1/2AC Cycle + 1ms (DC control)															
Max.Surge Current [@10ms]	160Apk	500Apk	700Apk	1000Apk	160Apk	500Apk	700Apk	1000Apk	160Apk	500Apk	700Apk	1000Apk				
Max.I t for fusing [@10ms]	128	1250	2450	5000	128	1250	2450	5000	128	1250	2450	5000				
Max.Off-state Leakage Current (at rated voltage)	5mA															
Max. On-state Voltage Drop.(at rated voltage)	1.7Vr.m.s															
Min.Off-state Dv/dt	500 V/μs															
General																
Dielectric Strength	Input to output: 4KVrms Input to base: 2.5KVrms output to base: 2.5KVrms															
Operating Temperature	-30℃~+80℃															
Storage Temperature	-30℃~+100℃															
Weight	约170g (10A) 约240g (20A、30A) 约400g (40A)															
Remark①	The ambient temperature and temperature rise need to be considered when using heat sink. If the temperature of heat sinkis over 70℃, please use a larger heat sink or forced cooling with a fan															

Applications

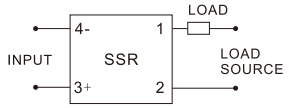
Plastic machinery, electric injection molding machines, packaging machines, various industrial heating occasions.

Mounting Dimension

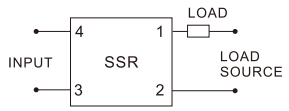


Wiring Diagram

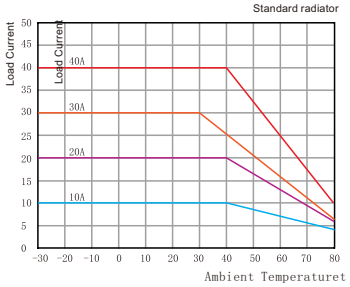
D type product



LA,HA and Etype product



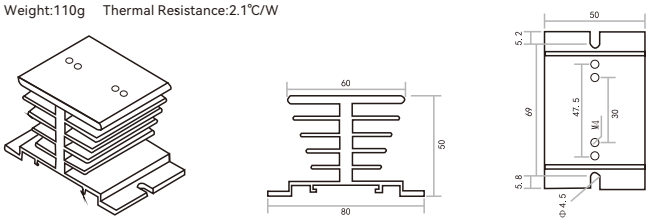
Characteristic Curves



Accessories

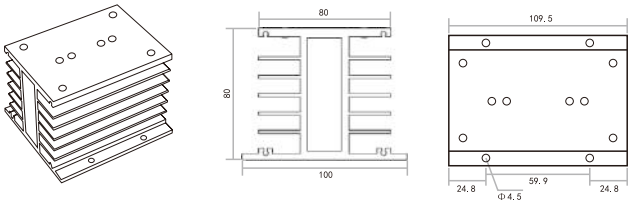
Model No.:SH-01

Weight:110g Thermal Resistance:2.1℃/W



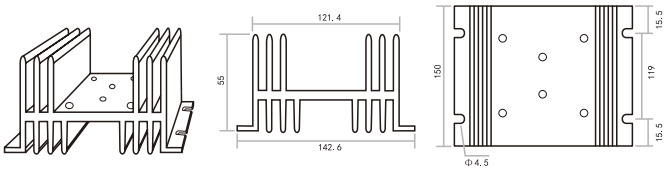
Model No.:SH-03

Weight:570g Thermal Resistance:0.9℃/W

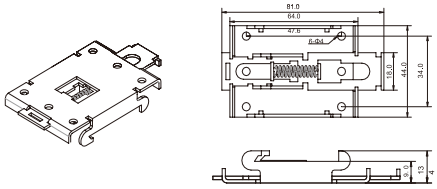


Model No.:SH-05

Weight:590g Thermal Resistance:0.6℃/W



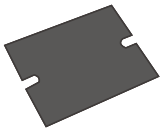
Model No.:DIN-01



Heat Transfer Pad

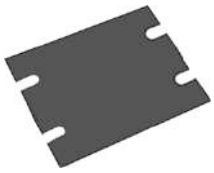
Model No.:SH-D1

Thermal Resistance:0.48℃/25W



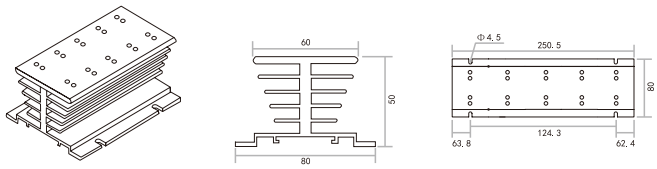
Model No.:SH-D2

Thermal Resistance:0.48℃/25W



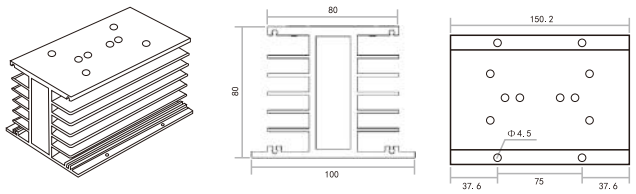
Model No.:SH-06

Weight:600g Thermal Resistance:0.8℃/W



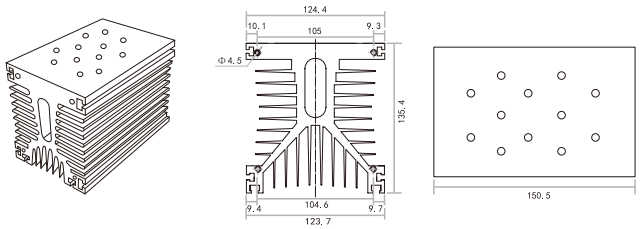
Model No.:SH-07

Weight:780g Thermal Resistance:0.45℃/W



Model No.:SH-08

Weight:2980g Thermal Resistance:0.3℃/W



PROTECTIVE COVER

Model No.:SP-D11	Model No.:SP-D12	Model No.:SP-D31
		

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