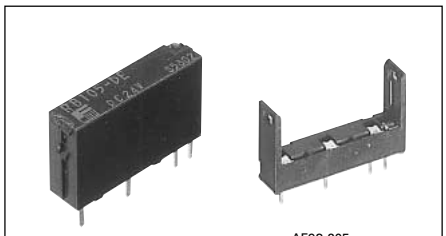
DC operated slim type card relays
Rated thermal currrent 5 Amps.

■ Description

The RB104 and 105 relays are designed for printed circuit board use.
These relays are extremely thin (5mm) and so, can be densely mounted on PC boards. As a result, PC board size and cost can be greatly reduced.
Employing of bifurcated contacts ensure high contact reliability, allowing the RB104,105 relays to be used in low-level circuits.
Coil voltages are available in ranges from 4.5V to 24V DC.

■ Features

- Thin, miniature size and light weight
  The mounting space on the PC board can be reduced.
- UL, CSA and TÜV approved
- Low power consumption
  They can be operated by means of non-polarity magnet.
- SIL terminal arrangement
  SIL (Single-side In-Line lead) package allows the relays to be mounted easily on PC board.
- Fluxtight construction
- Immersion cleanable



RB105 AF95-567 AF93-205 **Socket TP04**

■ Ordering information

Specify the following:
1. Type number

■ Type number nomenenclature

RB 10 4-DE

- **Operating coil voltage**
  DC: 4.5 V DC
  DY: 5V DC
  DA: 6V DC
  DD: 9V DC
  DB: 12V DC
  DE: 24V DC
- **Watt loss**
  4: 120mW
  5: 200mW
- **Contact arrengement**
  10: 1NO
- **Basic type**

■ Types and ratings

Type	Ordering code	Power consumption	Rated voltage	Pick-up voltage	Thermal current	Make and break current (res.load)
RB104	RB104-■	120mW	4.5, 5, 6 9, 12 24V DC	70% of rated voltage or less	5A	5A at 250V AC 5A at 30V DC
RB105	RB105-■	200mW				

Note: Enter the coil voltage code in the ■ mark as follow
4.5V DC: DC, 5V DC: DY, 6V DC: DA, 9V DC: DD, 12V DC: DB, 24V DC: DE

■ Specifications

Operating time		10ms or less at rated voltage
Release time		5ms or less at rated voltage
Dielectric strength		750V AC rms. 1 min. between open contacts 2,000V AC rms. 1 min. between contact and coil
Stray electrostatic capacity		Approx. 1.4pF between contact and coil
Impulse		4,500V or more 1.2 × 50μs between contact and coil
Insulation resistance		100MΩ at 500V DC megger
Electrical durability	AC	100,000 operations at 220V AC 2A, inductive load 130,000 operations at 220V AC 3A, resistive load
	DC	150,000 operations at 24V DC 1A, inductive load 100,000 operations at 24V DC 5A, resistive load
Mechanical durability		20 million operations
Ambient temperature		–40°C to +70°C(no icing)

■ Approvals

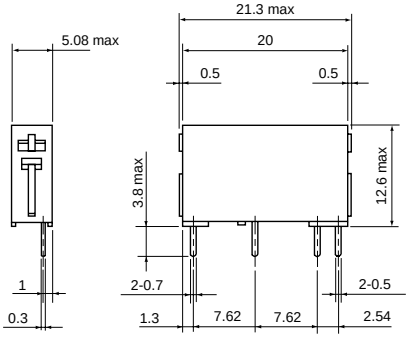
- UL, CSA and TÜV
  UL file No. E44592
  CSA file No. LR20479
  TÜV license No. R9551729

● **Ratings**

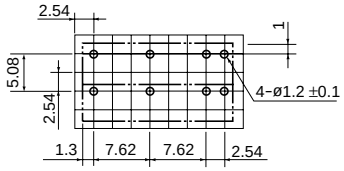
Voltage	Resistive load	Inductive load
120V AC	–	1A
240V AC	5A	–
30V DC	5A	2A (15ms)
120V DC	0.5A	0.2A (15ms)

■ Dimensions, mm

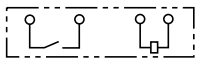
RB104,105



PC board drilling (View from back side)

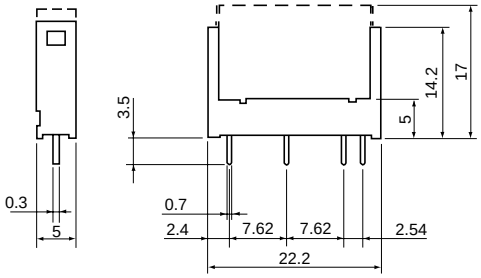


Internal wiring diagram

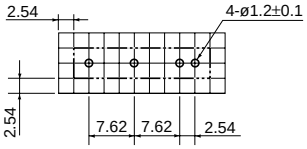


Mass: 3g

Socket TP04



PC board drilling (View from back side)



Relays–and–terminal module RS type

Relays-and-terminal module RS4□, 6N

A very compact, space-saving terminal module containing four or six relays with one NO contact.

■ Features

- The RS series relays-and-terminal module consists of four or six plug-in relays (RB105, 1NO contact or RB011, 1NC contact) and a terminal module with screw terminals. This relays-and-terminal module is ideal for interfacing electronic control devices (such as PLCs or photoelectric sensors) with output devices (such as solenoid valves and magnetic contactors).
- The use of ultra-small, high-sensitive relays has realized a compact size of 34mm wide and 69mm long, including screw terminals (RS4N type).
- Input terminals are located in the upper part and output terminals in the lower part of the module to separate them from each other, thereby making wiring easy.
- The terminal module uses RB105 or RB101 card relays. For replacement, please specify the card relay type and coil voltage.
- Built-in coil-surge suppression diodes and operation indicator LEDs simplify circuit design and maintenance.
- The module is quickly-mountable on a DIN 35mm rail.
- The RS4N module includes two standard accessory jumper plates, which are convenient for common wiring of terminals.

RS4N

KKD06-058

■ Type number nomenclature

RS 4N-DE P

- **Connector side polarity (For RS6N type only)**
  - NPN type (+common): Blank
  - PNP type (-common): P
- **Rated voltage**
  - DC: 4.5V DC
  - DY: 5V DC
  - DA: 6V DC
  - DD: 9V DC
  - DB: 12V DC
  - DE: 24V DC
- **Output contact**
  - 4N: 4NO
  - 41: 3NO+1NC
  - 42: 2NO+2NC
  - 6N: 6NO
- **Relay and terminal**

■ Specifications

Type	RS4N, RS41, RS42, RS6N, RS6NP	
Contact	1NO	1NC
Contact resistance Contact material	30mΩ or less (before use) Silver alloy (Au-plated)	
Min. operating voltage and current	0.1V DC, 1mA	1V DC, 1mA
Rated thermal current	5A	
Max. make/break current	250V AC, 5A 30V DC, 5A	250V AC, 1A 30V DC, 1A
Operating time Release time Insulation resistance Dielectric strength: Between contact and coil Between contacts of same pole Between contacts of different pole Between coils of different pole	10ms. or less at rated voltage 10ms. or less at rated voltage 100MΩ (at 500V DC megger) 2000V AC 1 minute 750V AC 1 minute 2000V AC 1 minute 500V AC 1 minute	
Vibration: Malfunction durability Mechanical durability	10 to 55Hz, 1mm double amplitude 10 to 55Hz, 1.5mm double amplitude	
Shock: Malfunction durability Mechanical durability	100m/s^2 1000m/s^2	
Durability: Mechanical Electrical	20 million operations *See page 03/17*	
Ambient temperature	–25 to +55°C (no icing)	

■ Operating coil of card relays

Relay	Coil voltage	Pick-up voltage	Drop-out voltage	Power consumption	Coil resistance
RB105 (1NO)	4.5V DC 5V DC 6V DC 9V DC 12V DC 24V DC	70% or less of rated coil voltage	5% or more of rated coil voltage	200mW	100Ω 125Ω 180Ω 405Ω 720Ω 2880Ω
RB011 (1NC)	4.5V DC 5V DC 6V DC 9V DC 12V DC 24V DC			360mW	56Ω 70Ω 100Ω 225Ω 400Ω 1600Ω

■ Relay remover

To remove a relay from the terminal module, use the type TY3 relay remover sold separately. Pull the relay in a direction perpendicular to the terminal module surface.
Incorrectly removing or mounting a relay may damage the relay pins and pin jacks of the module.

TY3(RZ3A)

AF93-206

■ Ordering information

Specify the following:
1. Type number

■ Electrical durability

● NO output contact

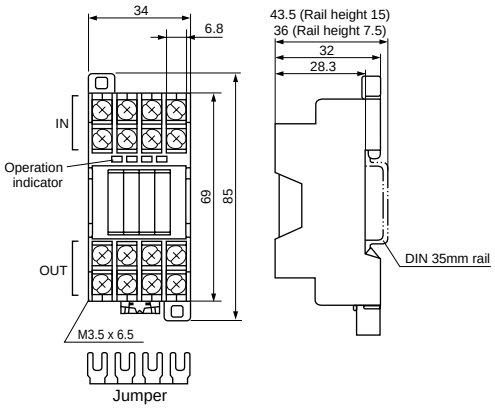
Voltage	Make current (A)	Break current (A)	Operations
220V AC (inductive load)	20 (cos ø = 0.7)	2 (cos ø = 0.3–0.4)	100,000
220V AC (resistive load)	3 (cos ø = 1.0)	3 (cos ø = 1.0)	130,000
24V DC (inductive load)	1 (T= 15ms)	1 (T= 15ms)	150,000
24V DC (resistive load)	5 (T= 1ms or less)	5 (T= 1ms or less)	100,000

● NC output contact

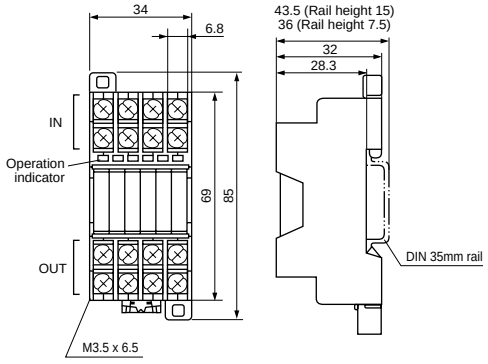
Voltage	Make current (A)	Break current (A)	Operations
220V AC (resistive load)	1 (cos ø = 1)	1 (cos ø = 1)	100,000
24V DC (resistive load)	1 (L/R= 0ms)	1 (L/R= 0ms)	120,000

■ Dimensions, mm

● RS4N, RS41, RS42 (RS4A, RS4D)

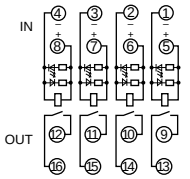


● RS6N, RS6N-P (RS6A, RS6D)

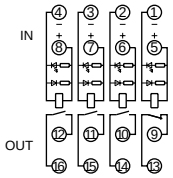


■ Wiring diagrams

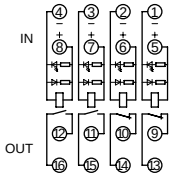
● RS4N (4NO)



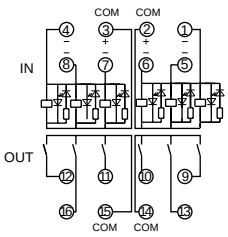
● RS41 (3NO+1NC)



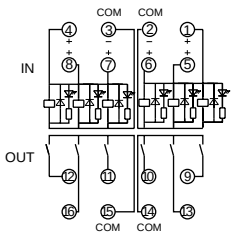
● RS42 (2NO+2NC)



● RS6N (6NO)

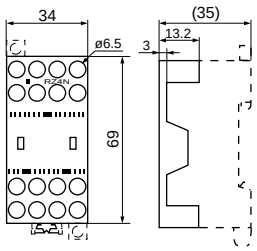


● RS6N-P (6NO)



■ Finger protection cover

● RZ4N

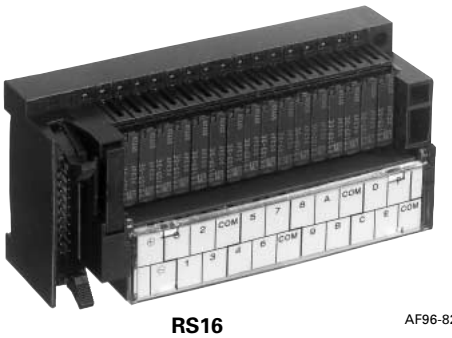


See page 03/23.

Relays–and–terminal module RS type

Relays-and-terminal module RS16

16-point relays-and-terminal module with the smallest width in its class



RS16 AF96-82

■ Features

- Most compact in its class
  Outside dimensions are 110mm (W), 52mm (D), and 37mm (H). The width is the smallest in this class.
- Push-to-set (quick-connect) terminals for easy wire connection
  A unique terminal structure enables quick and easy crimp terminal connections without removal of screws. (No more lost screws)
- Clear LEDs indicate relay output status.
  Each relay has an LED to indicate its ON/OFF status.
- A surge suppressing diode is provided for each relay coil.
- Terminal cover with label for marking device Nos.
- Built-in relay remover
- DIN rail quick mount and panel-surface mount using screws

■ Type number nomenclature

RS 16 E - DE 04 P

Relays and terminal

No. of poles
16: 16-pole

Input/output
E: DC input
Blank: Relay output

Rated voltage
DY: 5V DC
DE: 24V DC

Connector maker
04: Hirose Electric Co., Ltd.

Connector side polarity
Blank: NPN type (+common)
P: PNP type (-common)

■ Ordering information

Specify the following:
1. Type number

■ Types

Type	Input/output	No. of poles	Rated voltage	Connector side polarity
RS16-□04	Output	16(1NO×16)	5V DC	NPN type (+common)
RS16-□04P			24V DC	PNP type (-common)
RS16E-□04	Input			NPN type (+common)

Note: Enter the rated voltage code in the □ mark as follow. 5V DC: DY, 24V DC: DE

■ Ratings

● Operating coil

Rated voltage	Rated operational current (mA)	Coil resistance (Ω)	Pick-up voltage	Drop-out voltage	Power consumption (W)
24V DC	8.3	2,880±10%	70% or less	10% or more	0.2/1NO contact
5V DC	40	125±10%	of coil rated voltage	of coil rated voltage	3.2/16NO contacts

Note: An LED flows approx. 1mA. To calculate the power requirements, calculate the total coil and LED currents of all relays installed in the terminal module.

● Contact

Terminal relay type		RS16 (output)	RS16E (input)
Rated current	220V AC (Res. load)	2A	–
	220V AC (Ind. load)	2A	–
	24V DC (Res. load)	2A	1A
	24V DC (Ind. load)	2A	1A
Rated thermal current*		2A	1A
Electrical durability (operations)		200,000 at 200V AC, 2A 300,000 at 24V DC, 2A	
Mechanical durability (operations)		20,000,000	

Note * The contact current rating of the RB105 relay used in this module is 5A. The thermal current rating of this terminal module, however, is 2A or 1A due to limitations of the terminal module (RS16) rating.

■ Performance data

Operating time		10ms or less
Release time		10ms or less
Vibration	Malfunctions durability	10–55Hz 1mm double amplitude
	Mechanical durability	10–55Hz 1mm double amplitude
Operating ambient temperature		-25–55°C(no icing)
Operating ambient humidity		35-85%RH
Terminal screw size		M3
Tightening torque		0.5–0.7N • m
Mounting		Rail mounting (screw mounting also available)
Applicable crimp terminal		R1.25–3 (Max. 6mm wide)
Applicable wire size		Max. ϕ1.4
LED color	Operation indication	Red
	Power source indication	Green
Coil surge suppressor		Diode
Insulation resistance (before use)		100MΩ (500V DC megger)
Dielectric strength	Between contact and coil	2000V AC, 1 minutes
	Between open contacts	750V AC, 1 minutes
	Between contacts of opposite polarity	2000V AC, 1 minutes
Mass		200g

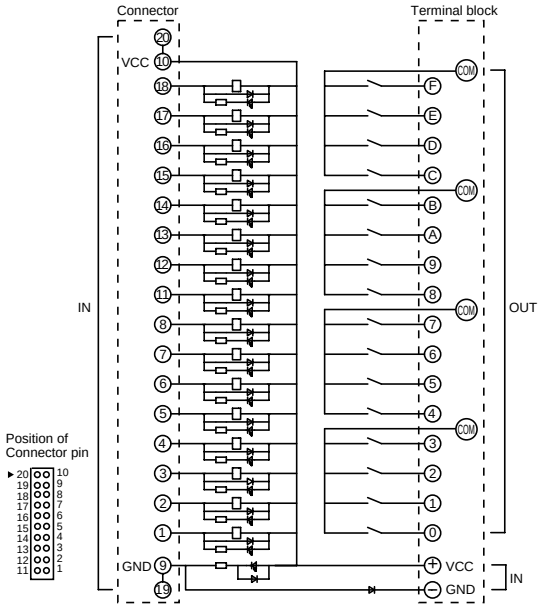
■ Cable types

Type		Cable length	Type (Ordering code)
Cable with applicable crimp terminal (ring)		1,000mm	RS910B1-0104
		2,000mm	RS910B1-0204
		3,000mm	RS910B1-0304
Cable with connectors (1:2)	FUJI ELECTRIC FA PLC	1,000mm	RS910F2-0104
		2,000mm	RS910F2-0204
		3,000mm	RS910F2-0304
	Mitsubishi electric Corp. PLC	1,000mm	RS910M2-0104
		2,000mm	RS910M2-0204
		3,000mm	RS910M2-0304
	OMRON PLC	1,000mm	RS910T2-0104
		2,000mm	RS910T2-0204
		3,000mm	RS910T2-0304
Cable with connectors (1:1)	Multicore cable	1,000mm	AUX014-201(LP914-201)
		2,000mm	AUX014-202(LP914-202)
		3,000mm	AUX014-203(LP914-203)
	Flat cable	1,000mm	AUX024-201(LP924-201)
		2,000mm	AUX024-202(LP924-202)
		3,000mm	AUX024-203(LP924-203)

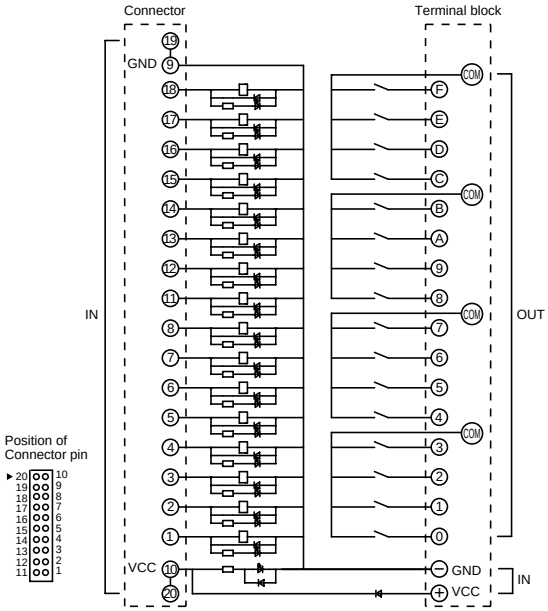
Note: The ordering codes of the cables with connectors (1:1) differ from the type.
The ordering codes are in parentheses.

■ Wiring diagrams

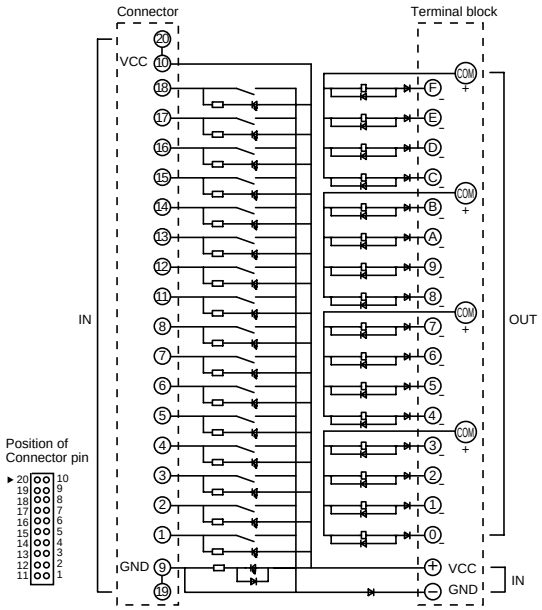
● RS16-DE04 (Output, NPN type)



● RS16-DE04P (Output, PNP type)

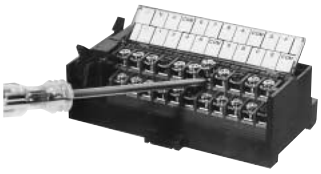


● RS16E-DE04 (Input, NPN type)



■ How to use a push-to-set terminal (Quick-connect terminal)

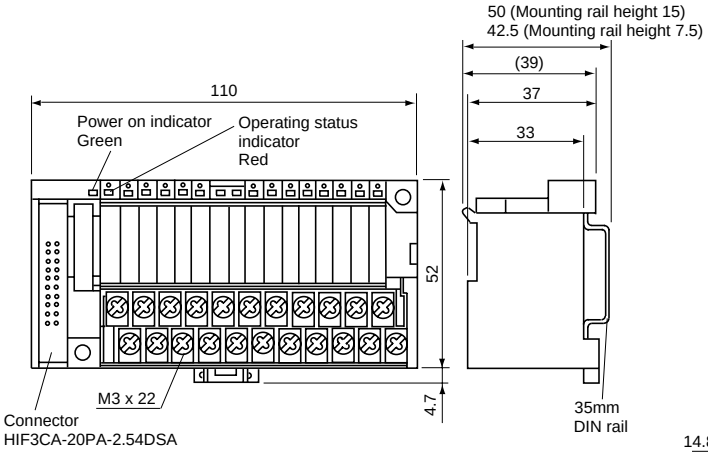
Lift the screw head up with a screw driver tip.

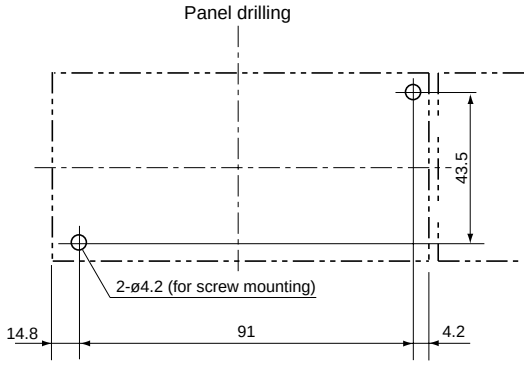


Insert the crimp terminal of the wire into the slot under the screw.

Use a screwdriver to tighten the screw.

■ Dimensions, mm



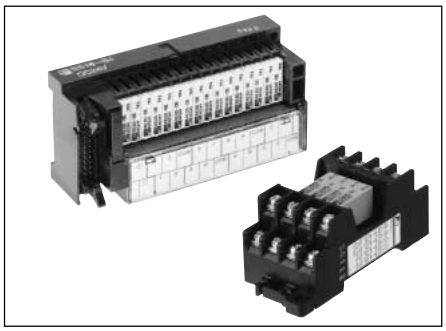


Relays–and–terminal module
RS type

Relays-and-terminal module with SSR output

■ Features

- SSR output (AC and DC)
  Provided with a miniature SSR with the same dimensions as the RB-series miniature card relay resulting in a longer service life and making it ideal for highly frequent switching.
- Slim 34-mm body
  Slim 34-mm design for all models up to 16-pole models allowing significant space savings within the panel.
- Both surface mounting and DIN rail mounting are possible
- Provided with operation indicators
- Easy relay maintenance with special socket (type TP04)
- RZ4N finger protector also available. (Sold separately.)



■ Type number nomenclature

RS 4 A - DE

- **Rated voltage**
  DY: 5V DC
  DB: 12V DC
  DE: 24V DC
- **Output**
  A: SSR (AC output)
  D: SSR (DC output)
- **No. of poles**
  4: 4-pole
  6: 6-pole
  16: 16-pole
- **Relays and terminal**

■ Types

Type (Ordering code)	Replace the □mark by the rated voltage (code)	Output
RS4A-□	5V DC: DY, 12V DC: DB	SSR (AC output)
RS4D-□	24V DC: DE	SSR (DC output)
RS6A-□		SSR (AC output)
RS6D-□		SSR (DC output)
RS16A-□		SSR (AC output)
RS16D-□		SSR (DC output)

■ Ordering information

Specify the following:
1. Type number

■ Specifications

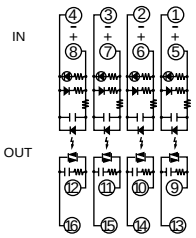
Type		RS4A, RS6A	RS16A	RS4D, RS6D	RS16D
		DC input-AC output		DC input-DC output	
Main circuit (output)	Rated insulation voltage	250V		250V	
	Rated voltage Vn	100–240V AC		24V DC	
	Operating voltage range	70–250V AC		16.8–26.4V DC	
	Rated frequency	50/60Hz		-	
	Rated thermal current	0.3A	0.15A	0.3A	0.15A
	Leakage current at OFF state (max)	1mA or less		0.1mA or less	
	Minimum load current	20mA		1mA	
	Voltage drop at ON state (max)	1.6V or less		1V or less	
	Zero-cross function	–		–	
	Surge-on current	15A (20ms, 1 shot)		3A (10ms, 1 shot)	
Control circuit (input)	Isolation method	Phototriac		Photocoupler	
	Rated voltage Vn	5V DC / 12V DC / 24V DC		5V DC / 12V DC / 24V DC	
	Operating voltage range	3.5–5.5V DC / 8.4–13.2V DC / 16.8–26.4V DC		3.5–5.5V DC / 8.4–13.2V DC / 16.8–26.4V DC	
	Pick-up voltage	70%Vn or less		70%Vn or less	
	Drop-out voltage	10%Vn or more		10%Vn or more	
	Input impedance	Approx.390Ω / Approx.1kΩ / Approx.2.7kΩ		Approx.390Ω / Approx.1kΩ / Approx.2.7kΩ	
General specification	Ambient temperature (operate)	-25 – +55˚C (no icing)		-25 – +55˚C (no icing)	
	Ambient temperature (storage)	-25 – +80˚C (no condensation)		-25 – +80˚C (no condensation)	
	Relative humidity	35 – 85%RH		35 – 85%RH	
	Dielectric strength	Between input and output terminals 2000V AC 1 min.		Between input and output terminals 2000V AC 1 min.	
	Insulation resistance	Over 100MΩ at 500V DC megger		Over 100MΩ at 500V DC megger	
	Operating time	1ms or less		1ms or less	
	Release time	1/2 cycle +1ms or less		1ms or less	
	Vibration resistance	10 – 55Hz, 1.5mm double amplitude	1mm	10 – 55Hz, 1.5mm double amplitude	1mm
	Shock resistance	100m/s²		100m/s²	
	Mass	Approx. 64g	Approx. 200g	Approx. 64g	Approx. 200g

■ Dimensions, mm

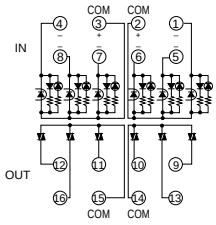
- **RS4A, 4D**
  Same as RS4N
  See page 03/17
- **RS6A, 6D**
  Same as RS6N
  See page 03/17
- **RS16A, 16D**
  Same as RS16
  See page 03/21

■ Wiring diagrams

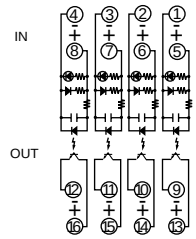
- **RS4A**



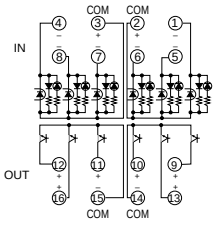
- **RS6A**



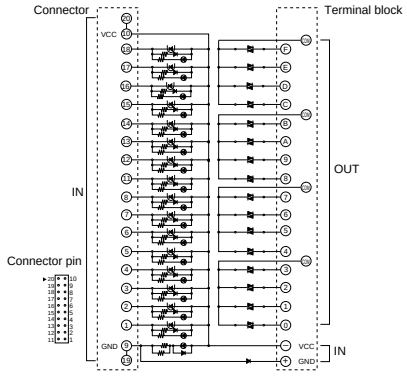
- **RS4D**



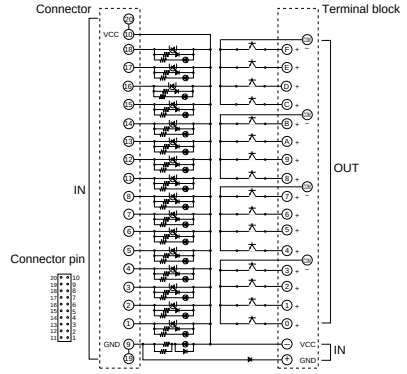
- **RS6D**



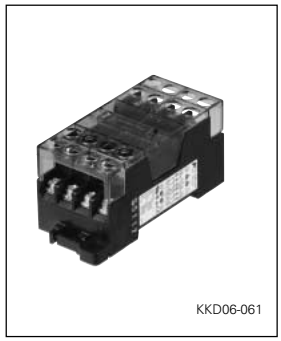
- **RS16A**



- **RS16D**



RZ finger protection cover for RS series relays-and-terminal module



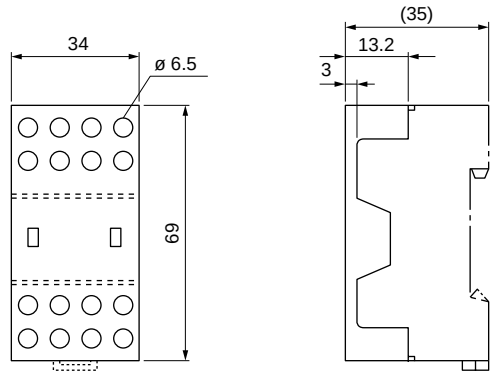
■ Features

- Ensures safety and prevent dust
  This cover prevent persons from touching, by mistake, live conductor parts of the terminal module and receiving an electric shock. The cover also protect relays from dust.
- Hold the relay remover
  The cover surface has two holes to hold the type TY3 relay remover. When the remover is not being used, it can be attached to the cover so that it is not lost.
- The cover is quick-mount
  The cover can be quickly mounted on or removed from the TP04 socket used with RS series relays-and-terminal module.
- The cover can be mounted at any time
  The cover can be mounted on or removed from the socket at any time before or after wiring the terminals.
- Crimp terminal is also available
  It is possible to use a crimp terminal as well as terminal jumper for wiring.

■ Type

Type	Used with
RZ4N	RS4N, 4-pole relays-and-terminal module RS6N, 6-pole relays-and-terminal module

■ Dimensions, mm



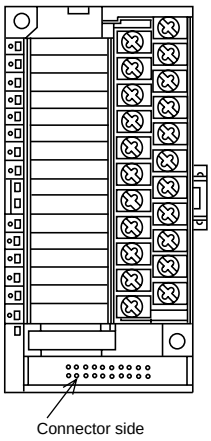
Mass: Approx. 3.2g

■ Notes on use

● Mounting direction

This product can be mounted in any direction. However, to mount the product in a direction which each relay is horizontal, it is recommended that the product will be mounted so that the cable connector is positioned at the bottom. This position ensures the optimal vibration resistance of the relay.

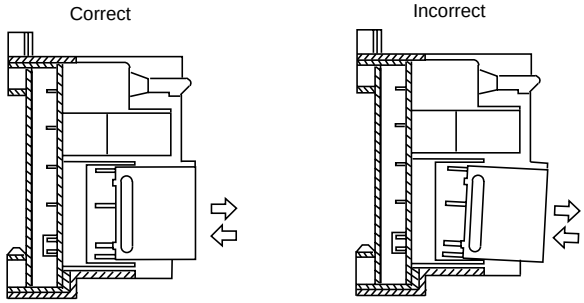
Use optional end clamps (TS-XT) as needed to prevent the relays-and-terminal module from failing off and to ensure correct positioning of the relays.



● Installing and removing a relay

Installing a relay: While holding the relay perpendicular to the socket, insert the relay into the socket as shown below. Incorrect insertion may bend the relay terminals or damage the socket.

Removing a relay: Use the accessory remover to remove the relay from the socket.



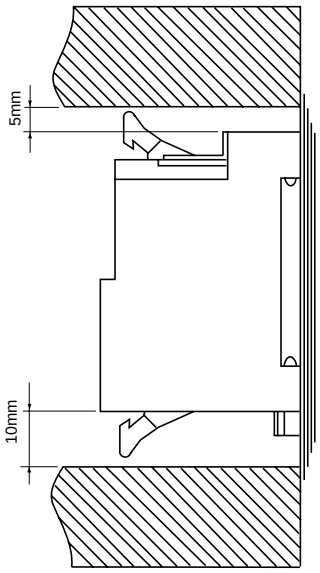
● Component relay

This product uses the RB105 series of card relays as components. When replacing a relay, use a relay of the same type with the same voltage rating as that of the original.

● Make spaces between nearby devices

When mounting this product on a panel, be sure there is adequate space between the product and nearby devices and cable ducts, as shown in the figure at right.

This space enables operation of the connector-ejecting levers.



● Applicable cable connectors

Use Fuji Electric's connectors for cable connections (optional). Use of any other connector may damage the module connector or cause faulty connections.

Miniature control relays

■ Description

The HH52, 53 and 54 are a series of miniature general purpose relays specially designed for users demanding small size, sturdy construction and high electrical capacity. Mechanisms are furnished in polycarbonate dust-proof enclosures and are recommended for a multitude of electrical control applications for their reliability and compact size. Continuous duty coils, either AC or DC are available for voltages up to 240V AC or 120V DC. Contacts can be supplied in 2PDT, 3PDT, 4PDT arrangements. Continuous current ratings are 3, 5 and 7 Amps. Many terminal types are available for solder, plug-in or printed circuit board mounting.

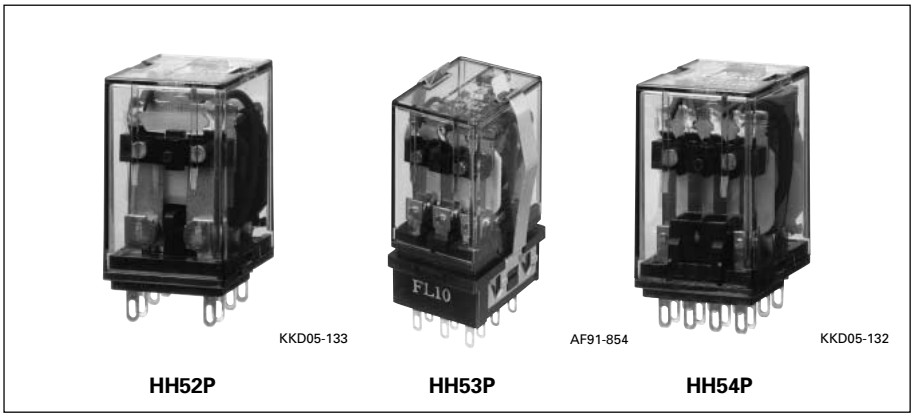
■ Features

- 3, 5 and 7 Amp. contacts
- 2PDT, 3PDT and 4PDT
- Reliable operation, long service life
- High dielectric strength
- Solder, PC board, wire wrap and screw terminal socket
- AC or DC coils
- Barriered contacts for opposite polarity available
- Dust proof enclosures
- Approved by UL, CSA and TÜV
  UL recognized File No:
  E42419, E90265 (Socket)
  CSA: LR 20479
  TÜV:
  License No. R9251339 (HH52)
  R9251340 (HH53)
  R9251341 (HH54)
  T9251612 (TP58, 511, 514)
  T9251425 (RZ, FX)

■ General information

● Contacts

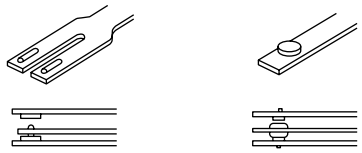
Miniature relays can be supplied with contacts that meet most electrical and mechanical contact requirements. The standard HH52, 53 and 54 series are of the single contact type as illustrated. The HH52W (2PDT) and HH54W (4PDT) relays are supplied with bifurcated contacts. These bifurcated contacts are with good conducting characteristics and are recommended where limited control power is available.
The dielectric strength is 1000 volts rms 50/60Hz (between open contacts) which makes them more than adequate for power circuit use.



HH52P **HH53P** **HH54P**

Contact arrangement are as follows:

Type	Contact arrangement	Rated thermal current
HH52U	2PDT	7 Amps
HH52, 52W	2PDT	5 Amps
HH53	3PDT	5 Amps
HH54U	4PDT	5 Amps
HH54, 54W	4PDT	3 Amps



Bifurcated contact **Single contact**

● Coils

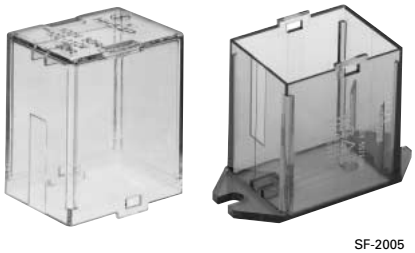
Coils are available with nominal voltages within the following ranges.

Coil voltage	Power consumption
6 to 120V DC	Approx. 0.9W
6 to 240V AC (50/60Hz)	Approx. 1.0VA (60Hz)

Special purpose relays can be supplied with diode for surge suppression, for operating display devices such as LED's, and magnetically held type.

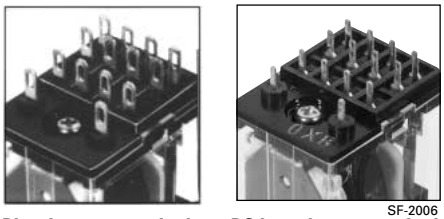
● Enclosures

All miniature relays are enclosed in sturdy heat-resistant polycarbonate covers providing protection against dust and dirt.



Standard **Flange mounting**

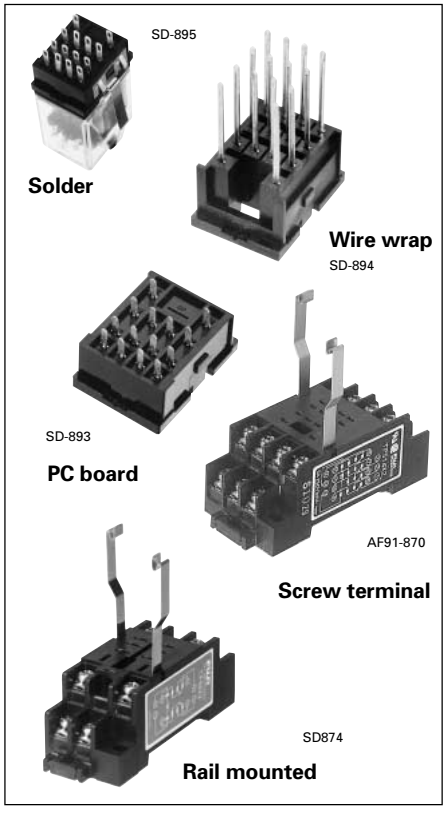
● Terminals



Plug-in type terminal **PC board type terminal**

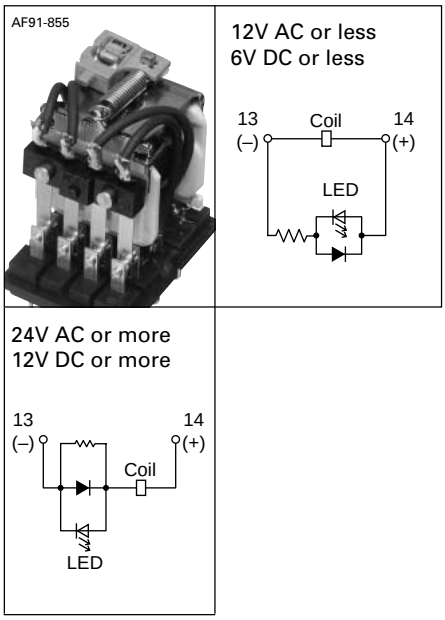
● Sockets

There is almost infinite choise of sockets. They can be adapted to all types of wiring including solder type, standard screw terminals, wire wrap and printed circuit.
Sockets for rail mounting use are also available.

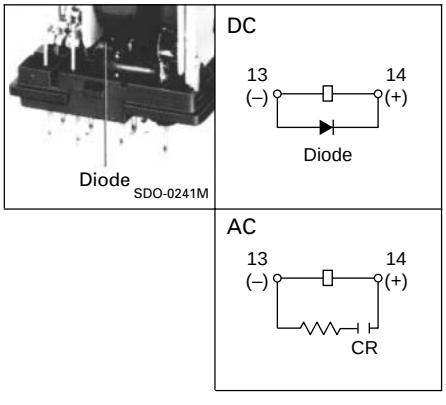


■ Versions

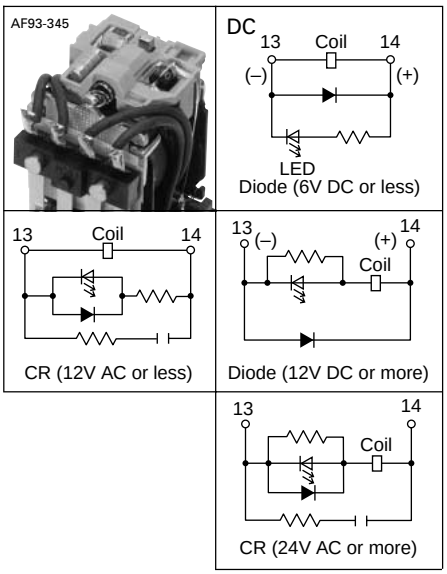
Operating status indicator
All relays can be supplied on request with a visual indicating signal–a light emitting diode (LED).
LED's are fitted to relays with nominal operating voltages up to 240 volts.
The LED emits highly visible red light for AC and green light for DC when power is applied to the relay coil, an extremely useful signal when trouble shooting either equipment or a system.



Surge suppression
We can also supply relays with a diode (or CR) for surge suppression. The highly efficient diode (or CR) is connected in parallel with the coil in order to suppress the surge generated within the coil. Consequently this coil can be used in electric circuits which include highly sensitive relays or transistors, etc. without interfering with their operation, so increasing the dependability of the equipment.



With operation indicator and surge suppression device
This type has a built-in operation indicator and suge suppressor.

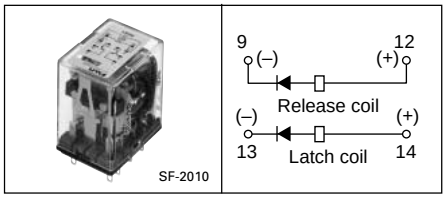


With extra pick-up operating coil
This type is recommended for use in poor power supply environments.
Pick-up voltage: 65% of rated voltage (at 20°C)
Drop-out voltage: 10% of rated voltage (at 20°C)
Mechanical durability: 10 million operations
Other specifications are the same as those of the basic model.

High capacity type
This type is suitable for switching a load like solenoid . The current rating of the contacts is 7A for HH52PU and 5A for HH54PU. Other specifications are the same as those of the basic model.

With Au-plated Ag contact
Type HH □-J has gold-plated contacts. (Note: Models with bifurcated contacts and 4PDT high-capacity models are provided with gold-plated contacts as standard, even if their type number has no J.)

Dual coil magnetically held
One coil firmly holds the contacts in one position, the second coil releases them.
This relay has a good memory stability because it will maintain the ON condition during loss of power. It operates on a momentary pulse to either coil. The relay saves space as well as power, since a single unit occupies half the space of a mechanically interlocking latching relay of the same rating.
Voltages: 6V–110V AC, 6V–48V DC



■ Ordering code system

● Relay

R M 2C P W R F-AH
① ② ③④ ⑤ ⑥ ⑦⑧ ⑨⑩

① Product category

Code	Description
R	Control relay

② Series category

Code	Description
M	Miniature control relay (HH52 to HH54)
P	Miniature power relay (HH62 to HH64)
C	General purpose relay (HH22 to HH24)

③④ Contact arrangement

Code ③	Code ④	Contact arrangement
2	C	2PDT
3	C	3PDT
4	C	4PDT
3	M	1NO+1NC+SPDT
4	M	2NO+1NC+SPDT
4	2	2PDT with extra pick-up coil

⑤ Mounting

Code	Mounting
P	Plug-in mounting
B	PC board mounting
S	Flange mounting

⑥ Contact form

Code	Form
Blank	Single
W	Bifurcated
U	High capacity (HH52, 54)
J	Single (Au-plated)

⑦ Version

Code	Description
Blank	Standard
R	Magnetically held

⑧ Accessory

Code	Description
Blank	Not provided
F	With surge suppression diode (DC)
G	With LED indicator and surge suppression diode (DC)
L	With LED indicator
C	With surge suppression (CR)
A	With LED indicator and surge suppression CR (AC)

⑨⑩ Operating coil

Code ⑨	Code ⑩	Coil voltage
A	A	6V AC 50/60Hz
A	B	12V AC 50/60Hz
A	E	24V AC 50/60Hz
A	F	48V AC 50/60Hz
A	1	100–110V AC 50/60Hz
A	H	110–120V AC 50/60Hz
A	2	200–220V AC 50/60Hz
A	M	220–240V AC 50/60Hz
D	A	6V DC
D	B	12V DC
D	E	24V DC
D	F	48V DC
D	1	100–110V DC

● Socket

R X 58 X2-CR ZT
① ② ③④ ⑤⑥ ⑦⑧ ⑨⑩

① Product category

Code	Description
R	Control relay

② Series category

Code	Description
X	Socket

③④ Application

Code ③	Code ④	Type
5	8	TP58 (For HH52P)
5	1	TP511 (For HH53P)
5	4	TP514 (For HH54P)
6	8	TP68 (For HH62P)
6	1	TP611 (For HH63P)
6	4	TP614 (For HH64P)
8	G	8GB (For HH22P)
3	8	TP38 (For HH22P)
1	G	11GB (For HH23P)
3	1	TP311 (For HH23P)

⑤⑥ Mounting and wiring

Code ⑤	Code ⑥	Description
Blank		Soldering
B	1	PC board
R	2	Wire wrap
S	0	Surface mounting screw terminal (M3.5) For HH22, 23, 24
		Rail mounting screw terminal (M3.5)
X	0	For HH22, 23, 24
X	2	For HH52, 53, 54, HH62, 63, 64
		Rail mounting screw terminal (M3)
X	1	For HH52, 53, 54

⑦⑧ Socket with surge suppression device

Code ⑦	Code ⑧	Description
C	R	Provided with CR circuit
C	1	Provided with 100V Z-trap (diode)
C	2	Provided with 200V Z-trap (diode)

⑨⑩ Approvals

Code ⑨	Code ⑩	Standards
Z	U	UL
Z	S	UL/CSA
Z	T	TÜV
Z	L	Lloyd

■ Versions

Relay

Classification		Contact form and arrangement	Mounting Plug-in Type	Ordering code	PC board Type	Ordering code	Flange Type	Ordering code
Standard	Without LED	Single 2PDT	**HH52P**	RM2CP-■	**HH52B**	RM2CB-■	**HH52S**	RM2CS-■
		3PDT	**HH53P**	RM3CP-■	**HH53B**	RM3CB-■	**HH53S**	RM3CS-■
		4PDT	**HH54P**	RM4CP-■	**HH54B**	RM4CB-■	**HH54S**	RM4CS-■
		Bifurcated 2PDT	**HH52PW**	RM2CPW-■	**HH52BW**	RM2CBW-■	**HH52SW**	RM2CSW-■
		4PDT	**HH54PW**	RM4CPW-■	**HH54BW**	RM4CBW-■	**HH54SW**	RM4CSW-■
	With LED	Single 2PDT	**HH52P-L**	RM2CPL-■	**HH52B-L**	RM2CBL-■		
		3PDT	**HH53P-L**	RM3CPL-■	**HH53B-L**	RM3CBL-■		
		4PDT	**HH54P-L**	RM4CPL-■	**HH54B-L**	RM4CBL-■		
		Bifurcated 2PDT	**HH52PW-L**	RM2CPWL-■	**HH52BW-L**	RM2CBWL-■		
		4PDT	**HH54PW-L**	RM4CPWL-■	**HH54BW-L**	RM4CBWL-■		
	With surge suppression diode	Single 2PDT	**HH52P-F**	RM2CPF-■	**HH52B-F**	RM2CBF-■	**HH52S-F**	RM2CSF-■
		3PDT	**HH53P-F**	RM3CPF-■	**HH53B-F**	RM3CBF-■	**HH53S-F**	RM3CSF-■
		4PDT	**HH54P-F**	RM4CPF-■	**HH54B-F**	RM4CBF-■	**HH54S-F**	RM4CSF-■
		Bifurcated 2PDT	**HH52PW-F**	RM2CPWF-■	**HH52BW-F**	RM2CBWF-■	**HH52SW-F**	RM2CSWF-■
		4PDT	**HH54PW-F**	RM4CPWF-■	**HH54BW-F**	RM4CBWF-■	**HH54SW-F**	RM4CSWF-■
	With surge suppression diode and LED	Single 2PDT	**HH52P-FL**	RM2CPG-■	**HH52B-FL**	RM2CBG-■		
		3PDT	**HH53P-FL**	RM3CPG-■	**HH53B-FL**	RM3CBG-■		
		4PDT	**HH54P-FL**	RM4CPG-■	**HH54B-FL**	RM4CBG-■		
		Bifurcated 2PDT	**HH52PW-FL**	RM2CPWG-■	**HH52BW-FL**	RM2CBWG-■		
		4PDT	**HH54PW-FL**	RM4CPWG-■	**HH54BW-FL**	RM4CBWG-■		
	With surge suppression CR	Single 2PDT	**HH52P-CR**	RM2CPC-■	**HH52B-CR**	RM2CBC-■	**HH52S-CR**	RM2CSC-■
		3PDT	**HH53P-CR**	RM3CPC-■	**HH53B-CR**	RM3CBC-■	**HH53S-CR**	RM3CSC-■
		4PDT	**HH54P-CR**	RM4CPC-■	**HH54B-CR**	RM4CBC-■	**HH54S-CR**	RM4CSC-■
		Bifurcated 2PDT	**HH52PW-CR**	RM2CPWC-■	**HH52BW-CR**	RM2CBWC-■	**HH52SW-CR**	RM2CSWC-■
		4PDT	**HH54PW-CR**	RM4CPWC-■	**HH54BW-CR**	RM4CBWC-■	**HH54SW-CR**	RM4CSWC-■
	With surge suppression CR and LED	Single 2PDT	**HH52P-CRL**	RM2CPA-■	**HH52B-CRL**	RM2CBA-■		
		3PDT	**HH53P-CRL**	RM3CPA-■	**HH53B-CRL**	RM3CBA-■		
		4PDT	**HH54P-CRL**	RM4CPA-■	**HH54B-CRL**	RM4CBA-■		
		Bifurcated 2PDT	**HH52PW-CRL**	RM2CPWA-■	**HH52BW-CRL**	RM2CBWA-■		
		4PDT	**HH54PW-CRL**	RM4CPWA-■	**HH54BW-CRL**	RM4CBWA-■		
	Magnetically held	Single 2PDT	**HH52P-R**	RM2CPR-■	**HH52B-R**	RM2CBR-■	**HH52S-R**	RM2CSR-■
		Bifurcated 2PDT	**HH52PW-R**	RM2CPWR-■	**HH52BW-R**	RM2CBWR-■	**HH52SW-R**	RM2CSWR-■
High capacity	Without LED	Single 2PDT	**HH52PU**	RM2CPU-■	**HH52BU**	RM2CBU-■	**HH52SU**	RM2CSU-■
		4PDT	**HH54PU**	RM4CPU-■	**HH54BU**	RM4CBU-■	**HH54SU**	RM4CSU-■
	With LED	Single 2PDT	**HH52PU-L**	RM2CPUL-■	**HH52BU-L**	RM2CBUL-■		
		4PDT	**HH54PU-L**	RM4CPUL-■	**HH54BU-L**	RM4CBUL-■		
	With surge suppression diode	Single 2PDT	**HH52PU-F**	RM2CPUF-■	**HH52BU-F**	RM2CBUF-■	**HH52SU-F**	RM2CSUF-■
		4PDT	**HH54PU-F**	RM4CPUF-■	**HH54BU-F**	RM4CBUF-■	**HH54SU-F**	RM4CSUF-■
	With surge suppression diode and LED	Single 2PDT	**HH52PU-FL**	RM2CPUG-■	**HH52BU-FL**	RM2CBUG-■		
		4PDT	**HH54PU-FL**	RM4CPUG-■	**HH54BU-FL**	RM4CBUG-■		
	With surge suppression CR	Single 2PDT	**HH52PU-CR**	RM2CPUC-■	**HH52BU-CR**	RM2CBUC-■	**HH52SU-CR**	RM2CSUC-■
		4PDT	**HH54PU-CR**	RM4CPUC-■	**HH54BU-CR**	RM4CBUC-■	**HH54SU-CR**	RM4CSUC-■
	With surge suppression CR and LED	Single 2PDT	**HH52PU-CRL**	RM2CPUA-■	**HH52BU-CRL**	RM2CBUA-■		
		4PDT	**HH54PU-CRL**	RM4CPUA-■	**HH54BU-CRL**	RM4CBUA-■		

Notes: 1. UL, CSA, and TÜV approved.
2. Bifurcated contacts are all gold-plated silver contacts.
3. Enter the coil voltage code in the ■ mark.
4. For types with single contact other than high-capacity types, types with gold-plated silver contact are available on request. To order these types, add J to the ordering code. Refer to the ordering code system.
Example: RM2CPJ-■ (with gold-plated silver contact)
RM2CP-■ (with silver contact: standard)

Classification		Contact form and arrangement	Mounting Plug-in Type	Ordering code	PC board Type	Ordering code	Flange Type	Ordering code
With extra pick-up coil	Without LED	Single 2PDT	**HH54-2P**	RM42P-■	**HH54-2B**	RM42B-■	**HH54-2S**	RM42S-■
		Bifurcated 2PDT	**HH54-2PW**	RM42PW-■	**HH54-2BW**	RM42BW-■	**HH54-2SW**	RM42SW-■
	With LED	Single 2PDT	**HH54-2P-L**	RM42PL-■	**HH54-2B-L**	RM42BL-■		
		Bifurcated 2PDT	**HH54-2PW-L**	RM42PWL-■	**HH54-2BW-L**	RM42BWL-■		
	With surge suppression diode	Single 2PDT	**HH54-2P-F**	RM42PF-■	**HH54-2B-F**	RM42BF-■	**HH54-2S-F**	RM42SF-■
		Bifurcated 2PDT	**HH54-2PW-F**	RM42PWF-■	**HH54-2BW-F**	RM42BWF-■	**HH54-2SW-F**	RM42SWF-■
	With surge suppression diode and LED	Single 2PDT	**HH54-2P-FL**	RM42PG-■	**HH54-2B-FL**	RM42BG-■		
		Bifurcated 2PDT	**HH54-2PW-FL**	RM42PWG-■	**HH54-2BW-FL**	RM42BWG-■		
	With surge suppression CR	Single 2PDT	**HH54-2P-CR**	RM42PC-■	**HH54-2B-CR**	RM42BC-■	**HH54-2S-CR**	RM42SC-■
		Bifurcated 2PDT	**HH54-2PW-CR**	RM42PWC-■	**HH54-2BW-CR**	RM42BWC-■	**HH54-2SW-CR**	RM42SWC-■
	With surge suppression CR and LED	Single 2PDT	**HH54-2P-CRL**	RM42PA-■	**HH54-2B-CRL**	RM42BA-■		
		Bifurcated 2PDT	**HH54-2PW-CRL**	RM42PWA-■	**HH54-2BW-CRL**	RM42BWA-■		

Notes: • Bifurcated contacts are all gold-plated silver contacts.
• Enter the coil voltage code in the ■ mark.
• For types with single contact other than high-capacity types, types with gold-plated silver contact are available on request. To order these types, add J to the ordering code. Refer to the ordering code system.
Example: RM2CPJ-■ (with gold-plated silver contact)
RM2CP-■ (with silver contact: standard)

■ Sockets

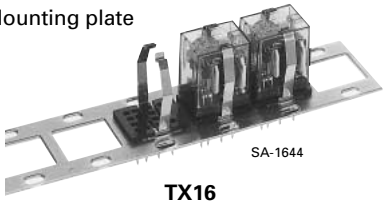
Description	Standard *			With surge suppression device							Used with
				CR circuit		100V Z-trap		200V Z-trap			
	Type	Ordering code	Mass (g)	Type	Ordering code	Type	Ordering code	Type	Ordering code	Mass (g)	
Soldering	**TP58**	RX58	9	–	–	–	–	–	–		HH52P
	TP511	RX51	10	–	–	–	–	–	–		HH53P
	TP514	RX54	10	–	–	–	–	–	–		HH54P
PC board	**TP58B**	RX58B1	9	–	–	–	–	–	–		HH52P
	TP511B	RX51B1	9.5	–	–	–	–	–	–		HH53P
	TP514B	RX54B1	9.5	–	–	–	–	–	–		HH54P
Wire wrap	**TP58R2**	RX58R2	10.5	–	–	–	–	–	–		HH52P
	TP511R2	RX51R2	11.5	–	–	–	–	–	–		HH53P
	TP514R2	RX54R2	12.5	–	–	–	–	–	–		HH54P
Rail mounting screw terminal M3.5	**TP58X2**	RX58X2	49	TP58X2-CR	RX58X2-CR	TP58X2-Z/100	RX58X2-C1	TP58X2-Z/200	RX58X2-C2	49	HH52P
	TP511X2	RX51X2	50	TP511X2-CR	RX51X2-CR	TP511X2-Z/100	RX51X2-C1	TP511X2-Z/200	RX51X2-C2	50	HH53P
	TP514X2	RX54X2	62	TP514X2-CR	RX54X2-CR	TP514X2-Z/100	RX54X2-C1	TP514X2-Z/200	RX54X2-C2	62	HH54P
Rail mounting screw terminal M3.0	**TP58X1**	RX58X1	32	TP58X1-CR	RX58X1-CR	–	–	–	–	32	HH52P
	–	–	–	–	–	–	–	–	–	–	–
	TP514X1	RX54X1	49	TP514X1-CR	RX54X1-CR	–	–	–	–	49	HH54P

Note: *UL, CSA and TÜV approved

■ Mounting plates and rails

Type	Ordering code	Socket capacity* (Max.)
TX01	RZ01	1 pc.
TX16	RZ16	16 pcs.
TX19	RZ19	19 pcs.
TX18C	RZ18C	18 pcs.
TX36C1	RZ36C1	36 pcs.

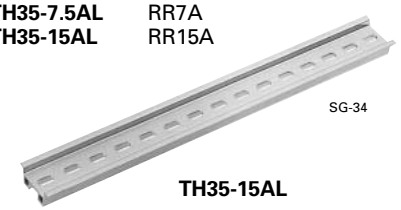
Mounting plate



TX16

Mounting rail 900mm

TH35-7.5	RR7F
TH35-7.5AL	RR7A
TH35-15AL	RR15A



TH35-15AL

Minimum ordering quantity: 10 pcs. (1 pack)

Notes: Plates will accept both soldering terminal and wire wrap terminal sockets.
* No. of relays to be mounted directly.

■ Type number nomenclature

Relays

HH 5 4 P □ - □ □ AC110V50Hz

Basic type

Contact arrangement
2: 2PDT
3: 3PDT
4: 4PDT
4-2: 2PDT
(with extra pick-up coil)

Mounting method
P: Plug-in
B: Printed circuit board
S: Flange

Contact form

Blank:	Single
W:	Bifurcated
U:	High capacity

Coil voltage

Versions

Blank:	Standard
F:	With surge suppression device (DC)
CR:	With surge suppression divice (AC)
R:	Magnetically held
L:	With indicator (LED)
FL:	With surge suppression device and indicator (DC)
CRL:	With surge suppression device and indicator (AC)

Contact material

Blank:	Ag
J:	Au-plated Ag

Sockets

TP 5 14 □

Basic type

No. of blades
8: 8-blade (For 2PDT contacts)
11: 11-blade (For 3PDT contacts)
14: 14-blade (For 4PDT contacts)

Mounting and wiring

Blank:	For soldering
B:	For printed circuit board
R2:	For wire wrap
X2:	For rail mounting (M3.5)
X1:	For rail mounting (M3)

■ Ordering information

Specify the following:
1. Ordering code or type number
2. Coil voltage
3. Socket type number

■ Specifications

Basic type		HH52 HH53	HH54	HH52U	HH54U	HH52W	HH54W
Contact form		Single				Bifurcated	
Rated thermal current (A)		5	3	7	5	5	3
Rated insulation voltage		250V					
Pick–up voltage (at 20˚ C)	AC DC	80% of rated voltage 75% of rated voltage					
Drop–out voltage (at 20˚ C)	AC DC	30% of rated voltage 10% of rated voltage					
Max. power supply voltage		110% of rated voltage					
Operating temperature		–55 to +70˚C, no icing (–25 to +60˚C for with operating indicator)					
Dielectric strength		2000V AC rms, 1 minute between coil and contact 2000V AC rms, 1 minute between poles 1000V AC rms, 1 minute between open contacts 2000V AC rms, 1 minute between socket terminals					
Insulation resistance		100MΩ (500V DC megger)					
Operating time		20ms or less					
Vibration		Mechanical and malfunction durability: 10 to 55Hz, 1mm double amplitude					
Shock		Malfunction durability: 200m/s^2 Mechanical durability: 1000m/s^2					
Durability	Mechanical	AC ratings: 50 million operations DC ratings: 100 million operations					
Contact resistance (before use)		50mΩ max.					
Mass		Approx. 33g					

Notes: HH52PW, 54PW, HH54PU: Au–plated Ag contact as standard
HH52P, 53P, 54P: Ag contact as standard

■ Coil characteristics

• AC coil

Order voltage code	Rated voltage (V)	Rated current (mA) 50Hz	Rated current (mA) 60Hz	Coil resistance (Ω)	Coil color	Power consumption (VA) 50Hz	Power consumption (VA) 60Hz
AC6	6	200	167	10	Clear	1.2	1.0
AC12	12	100	83	46	Clear		
AC24	24	50	42	187	Clear		
AC48	48	25	21	746	Clear		
AC100	100/110	12/12.7	10/10.9	3680	Green	1.2/1.4	1.0/1.2
AC110	110/120	10.9/11.7	9.1/10	4320	Clear		
AC200	200/220	6/6.4	5/5.5	13400	Yellow		
AC220	220/240	5.5/5.8	4.5/5	17200	Clear		

Note: Other voltages up to 240V AC are also available, contact FUJI.

• DC coil

Order voltage code	Voltage (V)	Rated current (mA)	Coil resistance (Ω)	Coil color	Power consumption (W)
DC6	6	150	40	Clear	0.9
DC12	12	75	160	Black	
DC24	24	37	650	Grape	
DC48	48	18.5	2600	Red	
DC100	100/110	9.1/10	11000	Blue	

Note: Other voltages up to 130V DC are also available on request, contact FUJI.

■ Operating current and electrical durability

Voltage	Make Current (A)	Power factor or time constant	Break Current (A)	Power factor or time constant	Electrical life ($\times 10^3$ operations)				
					HH52U	HH52, HH53	HH54 HH54U	HH52W	HH54W
200V AC Ind. load	10 5 3	Cosϕ = 0.7	1 0.5 0.3	Cosϕ = 0.3 to 0.4	1000 2000 3500	400 1000 1700	80 200 330	150 400 660	– – 80
100V AC Ind. load	10 5 3	Cosϕ = 0.7	1 0.5 0.3	Cosϕ = 0.3 to 0.4	1500 3300 6000	700 1500 2800	130 280 500	260 560 1000	– 70 120
200V AC Res. load	3 1	Cosϕ = 1	3 1	Cosϕ = 1	1200 4000	600 2000	150 500	300 1000	– 130
100V AC Res. load	3 1	Cosϕ = 1	3 1	Cosϕ = 1	1700 6000	1000 3400	250 900	500 1800	60 120
24V DC Ind. load	1 0.2	T=15msec.	1 0.2	T=15msec.	1000 8400	500 4000	150 1200	300 2400	– 400
24V DC Res. load	3 1	T=0msec.	3 1	T=0msec.	1000 4500	400 1600	100 400	200 800	– 100

■ Ratings (UL and CSA)

Basic type	Voltage	Single-phase* motor (HP)	Resistive load (A)	Inductive load (A)	Remarks (polarity)
HH52P, 52B 52S **HH53P, 53B 53S**	120V AC 240V AC 30V DC 120V DC	1/6 1/4 – –	5 5 5 0.3	1.5 – 2(15ms) 0.2(15ms)	Same polarity between adjacent contacts for inductive load Opposite polarity for others
HH54P, 54B, 54S	120V AC 240V AC 30V DC 120V DC	1/10 1/4 – –	3 3 3 0.3	1 – 2(15ms) 0.2(15ms)	Same polarity between adjacent contacts for inductive load Opposite polarity for others
HH52PU, 52BU, 52SU	120V AC 240V AC 30V DC 120V DC	1/4 3/4 – –	7 7 7 0.3	1.5 – 2(15ms) 0.2(15ms)	Same polarity between adjacent contacts for inductive load Opposite polarity for others
HH54PU, 54BU, 54SU	120V AC 240V AC 30V DC 120V DC	1/8 1/4 – –	5 5 5 0.3	1 – 2(15ms) 0.2(15ms)	Same polarity between adjacent contacts for inductive load Opposite polarity for others
HH52PW, 52BW, 52SW	120V AC 240V AC 30V DC 120V DC	1/6 1/4 – –	5 5 5 0.3	1.5 – 2(15ms) 0.2(15ms)	Same polarity between adjacent contacts for inductive load Opposite polarity for others
HH54PW, 54BW, 54SW	120V AC 240V AC 30V DC 120V DC	– – – –	3 3 3 0.2	1 – 2(15ms) 0.2(15ms)	Same polarity between adjacent contacts for inductive load Opposite polarity for others

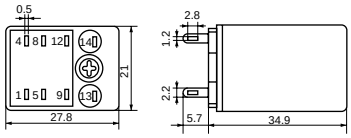
Note: *UL and CSA approvals only.

■ Dimensions, mm/Relays

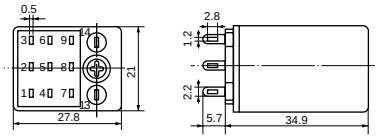
Plug-in


KKD05-132

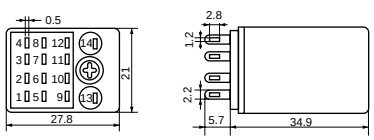
HH52P



HH53P



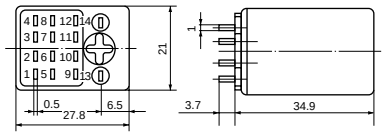
HH54P



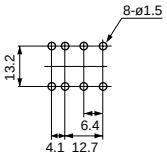
P.C. board

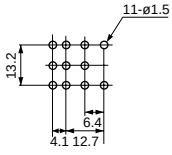

KKD05-134

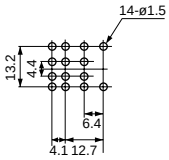
HH52B, 53B*, 54B*



PC board drilling


HH52B


HH53B

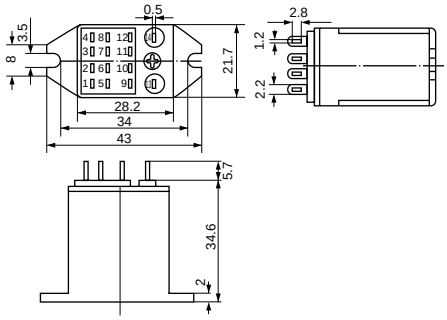

HH54B

* Number of terminals are different from HH52B.

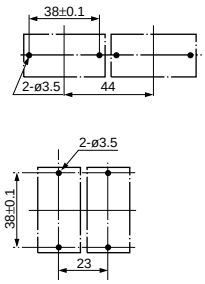
Flange


KKD05-140

HH52S, 53S*, 54S*



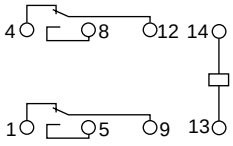
Panel drilling



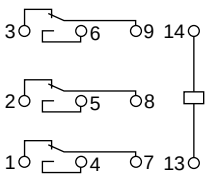
* Number of terminals are different from HH52S.

■ Wiring diagrams

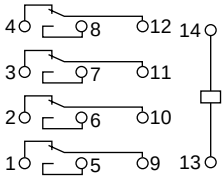
HH52, HH54-2



HH53



HH54

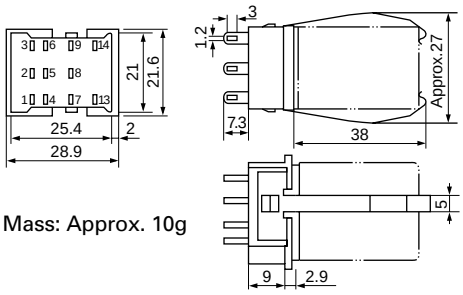


■ Dimensions, mm/Sockets

Soldering

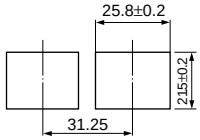

AF91-876

TP511

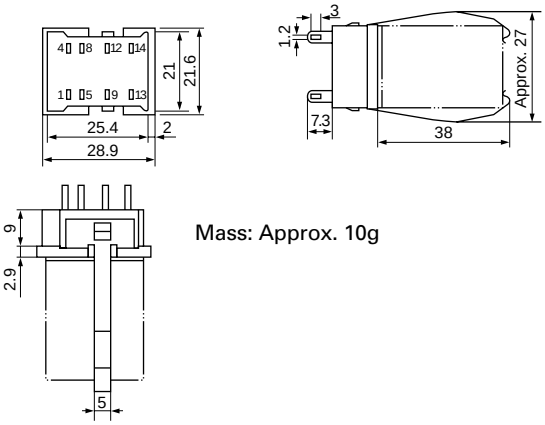


Mass: Approx. 10g

Panel cutting

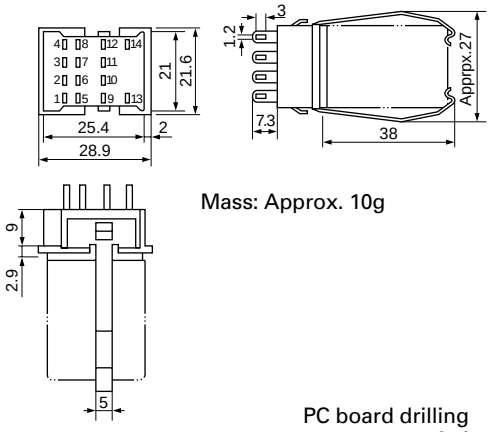


TP58



Mass: Approx. 10g

TP514

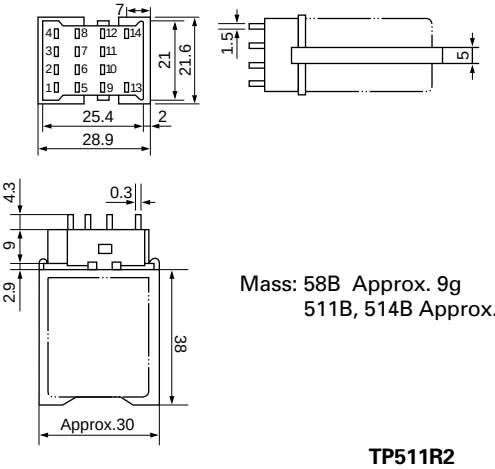


Mass: Approx. 10g

P.C. board

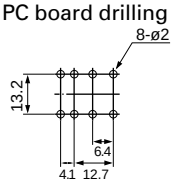

AF91-877

TP58B, TP511B, TP514B

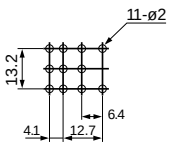


Mass: 58B Approx. 9g
511B, 514B Approx. 9.5g

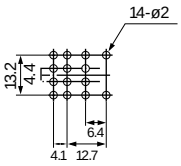
PC board drilling



TP58B

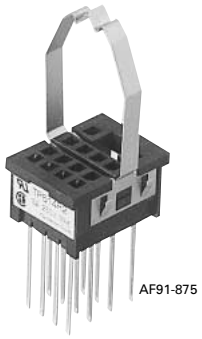


TP511B

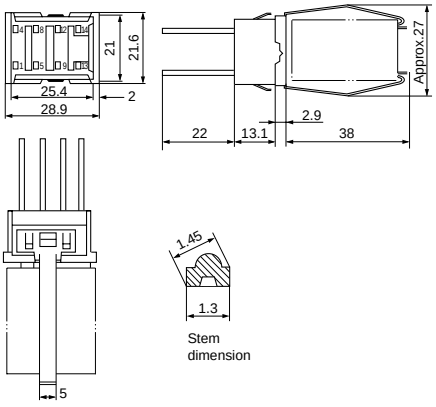


TP514B

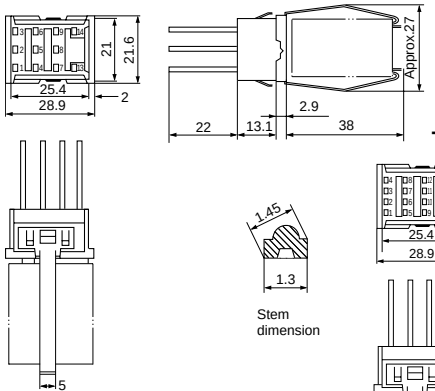
Wire-wrap


AF91-875

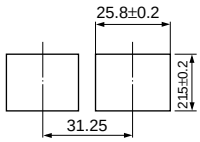
TP58R2



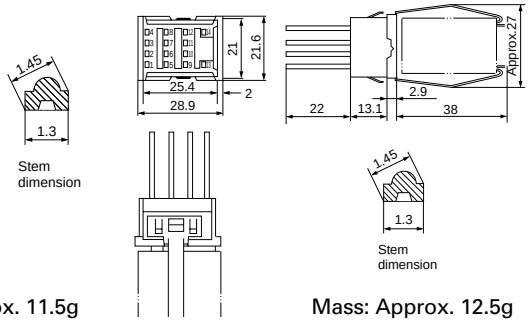
TP511R2



Panel cutting



TP514R2



Mass: Approx. 10.5g

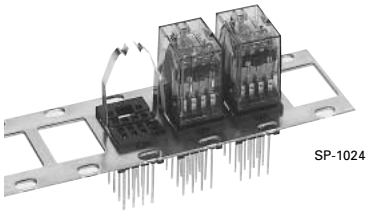
Mass: Approx. 11.5g

Mass: Approx. 12.5g

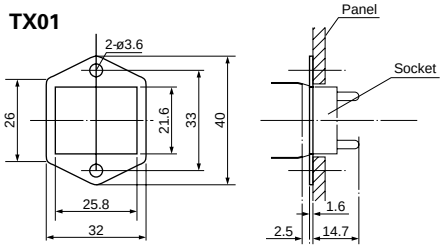
Mounting plates

FUJI can supply very convenient mounting plates which can accept either 1, 16, 18, 19, or 36 panel mounting miniature relays.

These mounting plates use plug-in relays with sockets, which are held in position by "snap-in" clips.



TX01

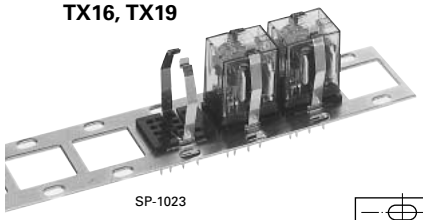


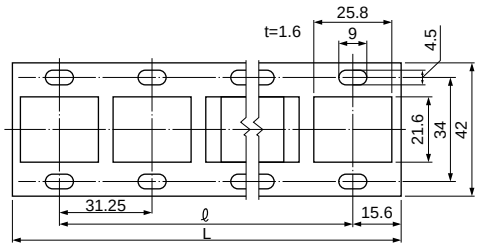
Mass: Approx. 5.8g

Panel cutting

Description	Type TX16	TX19
Hole	16	19
L distance	500	594
ℓ distance	468.7	562.5

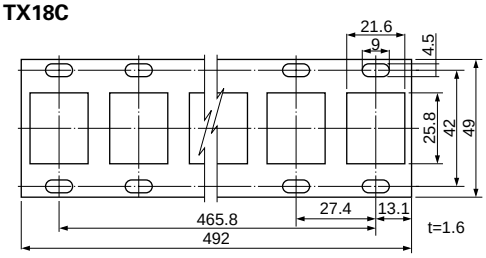
TX16, TX19





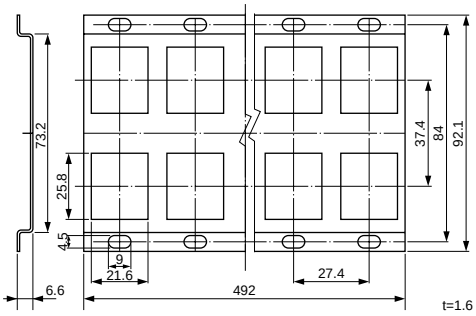
Mass: TX16 Approx. 130g
TX19 Approx. 160g

TX18C



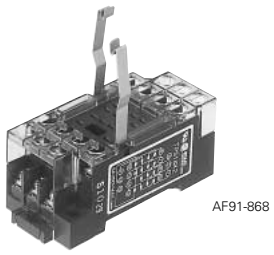
Mass: Approx. 155g

TX36C1



Mass: Approx. 325g

- **Finger protection covers**
- Quick-mounting type cover
  The cover can be quickly mounted on or removed from the TP series socket used with HH series control relay, even if sockets are mounted side-by-side.
- Mountable any time
  The cover can be mounted on or removed from the socket at any time before or after wiring the terminals.



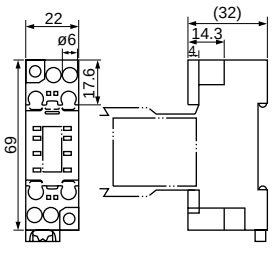
FX14X2

■ Types

Type	Used with
RZ52X1	TP58X1 Socket for HH52P miniature control relay
RZ54X1	TP514X1 Socket for HH54P miniature control relay
FX14X2	TP58X2 socket for HH52P miniature control relay TP514X2 socket for HH54P miniature control relay

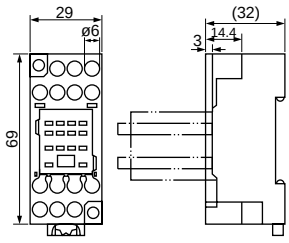
■ Dimensions, mm

RZ52X1



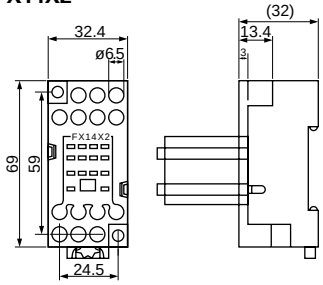
Mass: Approx. 2g

RZ54X1



Mass: Approx. 2.5g

FX14X2



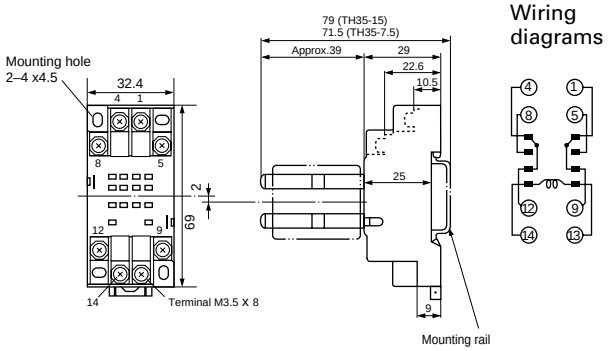
Mass: Approx. 2.7g

■ Dimensions, mm

Sockets for rail mounting

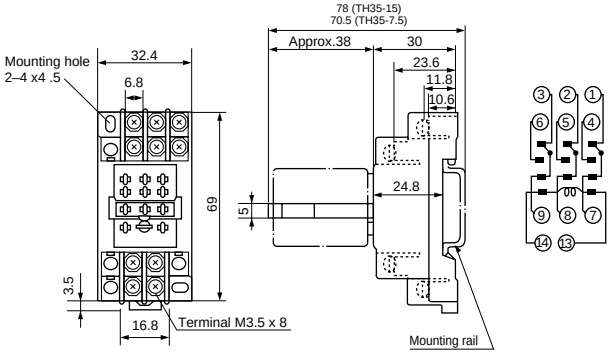
● Screw terminal M3.5

TP58X2 (for HH52P)



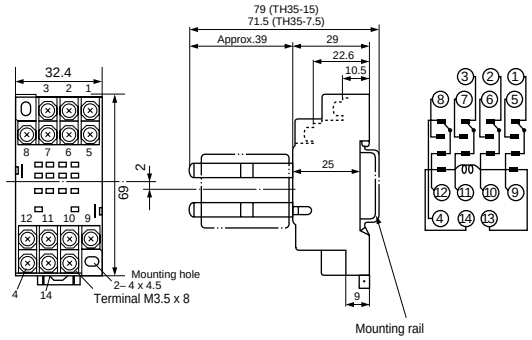
Mass: 49g

TP511X2 (for HH53P)



Mass: 50g

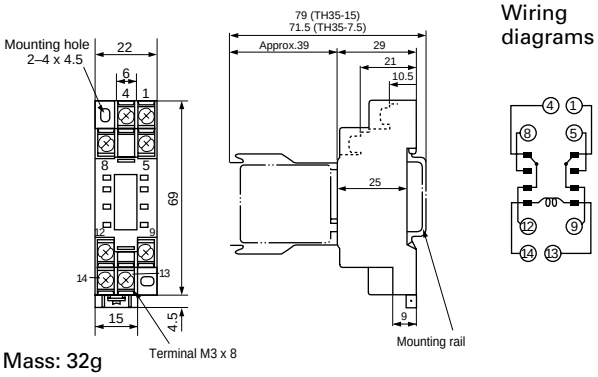
TP514X2 (for HH54P)



Mass: 62g

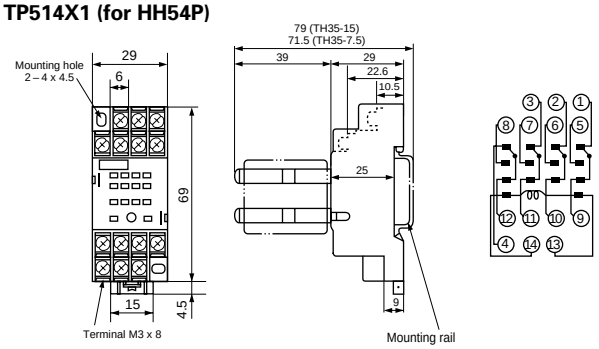
● Screw terminal M3

TP58X1 (for HH52P)



Mass: 32g

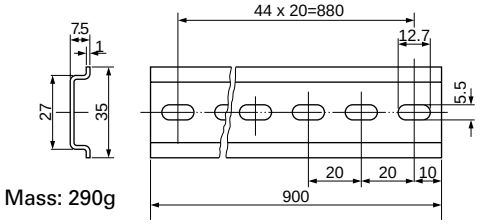
TP514X1 (for HH54P)



Mass: 49g

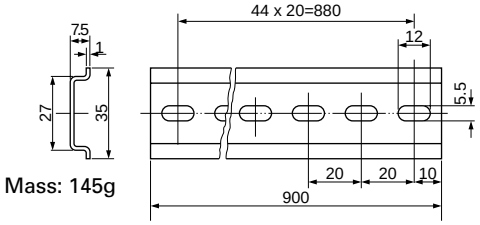
● Mounting rails

TH35-7.5



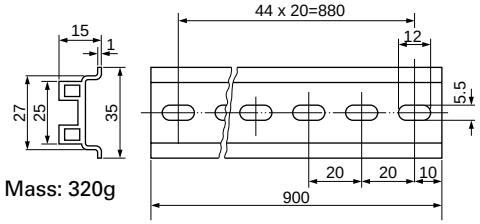
Mass: 290g

TH35-7.5AL



Mass: 145g

TH35-15AL

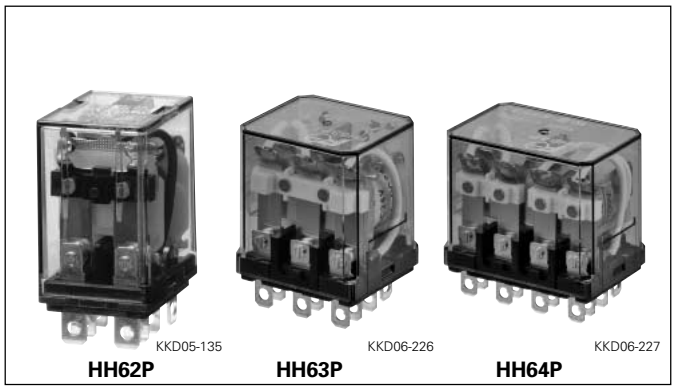


Mass: 320g

Compact, lightweight, and economical power relay with a high contact rating HH62, 63, 64

■ Features

- High contact rating
  Although compact and lightweight, this power relay has a contact rating of 10A. This relay is ideal for many kinds of electrical control equipment.
- High dielectric strength
  Though very compact, this relay has a dielectric strength of 2,000V AC for 1 minute.
- Easy socket mounting
  The input and output terminal arrangement makes the relay easy to mount on a control panel and easy to maintain and checks.
- Easy-to-identify coil voltages
  Different coil voltages are shown by different insulating tape colors. The coil voltages can be seen at a glance.



● **UL recognized, CSA and TÜV approved**

UL file No.
HH62: E42419
HH63: E142976
HH64: E142975

TÜV license No.
HH62: R9251342
TP68: T9150891

CSA file No.
HH62: LR20479
HH63, 64: LR35144

Relays

Classification		Contact form and arrangement		Mounting Plug-in Type	Ordering code	PC board Type	Ordering code	Frange Type	Ordering code
Standard	Without LED	Single	2PDT	**HH62P**	RP2CP-■	**HH62B**	RP2CB-■	**HH62S**	RP2CS-■
			3PDT	**HH63P**	RP3CP-■				
			4PDT	**HH64P**	RP4CP-■				
		Bifurcated	2PDT	**HH62PW**	RP2CPW-■	**HH62BW**	RP2CBW-■	**HH62SW**	RP2CSW-■
	With LED	Single	2PDT	**HH62P-L**	RP2CPL-■	**HH62B-L**	RP2CBL-■		
			3PDT	**HH63P-L**	RP3CPL-■				
			4PDT	**HH64P-L**	RP4CPL-■				
		Bifurcated	2PDT	**HH62PW-L**	RP2CPWL-■	**HH62BW-L**	RP2CBWL-■		
With surge suppress-ion device	Without LED	Single	2PDT	**HH62P-F**	RP2CPF-■	**HH62B-F**	RP2CBF-■	**HH62S-F**	RP2CSF-■
		Single	2PDT	**HH62P-CR**	RP2CPC-■	**HH62B-CR**	RP2CBC-■		
		Bifurcated	2PDT	**HH62PW-F**	RP2CPWF-■	**HH62BW-F**	RP2CBWF-■	**HH62SW-F**	RP2CSWF-■
		Bifurcated	2PDT	**HH62PW-CR**	RP2CPWC-■	**HH62BW-CR**	RP2CBWC-■		
	With LED	Single	2PDT	**HH62P-FL**	RP2CPG-■	**HH62B-FL**	RP2CBG-■		
		Single	2PDT	**HH62P-CRL**	RP2CPA-■	**HH62B-CRL**	RP2CBA-■		
		Bifurcated	2PDT	**HH62PW-FL**	RP2CPWG-■	**HH62BW-FL**	RP2CBWG-■		
		Bifurcated	2PDT	**HH62PW-CRL**	RP2CPWA-■	**HH62BW-CRL**	RP2CBWA-■		

Notes: • Enter the coil voltage code in the ■ mark. • UL, CSA and TÜV approved.

■ Specifications

Rated insulation voltage		250V
Pick-up voltage (at 20°C)	AC DC	80% of rated voltage HH62: 75% of rated voltage HH63, 64: 80% of rated voltage
Drop-out voltage (at 20°C)	AC DC	30% of rated voltage 10% of rated voltage
Max. power supply voltage		110% of rated voltage
Operating temperature		HH62: –55 to +70°C, no icing (–25 to +50°C for with operating indicator) HH63, 64 : –25 to +40°C, no icing (up to +55°C at 4A or less)
Dielectric strength		2000V AC rms., 1 minute between coil and contact 2000V AC rms., 1 minute between poles 1000V AC rms., 1 minute between open contacts 2000V AC rms., 1 minute between socket terminals
Insulation resistance		100MΩ (500V DC megger)
Operating time		HH62: 20ms or less HH63, 64: 25ms or less
Vibration		Mechanical and malfunction durability: 10 to 55Hz, 1mm double amplitude
Shock		Malfunction durability HH62: 200m/s², HH63, 64: 100m/s² Mechanical durability 1000m/s²
Durability	Mechanical Electrical	50 million operations (with bifurcated contact: 20 million operations) See "Electrical durability curve"
Contact resistance Contact material		50mΩ max. before use Silver-alloy

■ Coil characteristics

● AC coil

Type	Rated voltage (V AC)	Coil voltage code	Exciting current (mA) 50Hz	Exciting current (mA) 60Hz	Coil color	Power consumption (VA) 50Hz	Power consumption (VA) 60Hz
HH62	6	**AA**	200	167	Clear	1.2	1
	12	**AB**	100	83			
	24	**AE**	50	42			
	48	**AF**	25	21			
	100/110	**A1**	12/12.7	10/10.9	Green	1.2/1.4	1/1.2
	110/120	**AH**	10.9/11.7	9.1/10	Clear		
	200/220	**A2**	6/6.4	5/5.5	Yellow		
	220/240	**AM**	5.5/5.8	4.5/5	Clear		
HH63	100	**A1**	20	17	Green	2	1.7
	200	**A2**	9.8	8.5	Yellow		
HH64	100	**A1**	24	20	Green	2.5	2
	200	**A2**	11.8	10	Yellow		

● DC coil

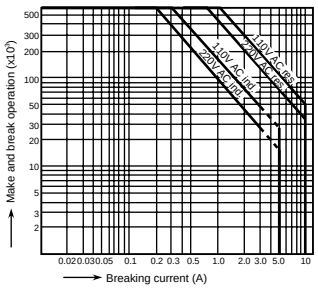
Type	Coil voltage code	Rated voltage (V DC)	Exciting current (mA)	Coil resistance (Ω)	Coil color	Power consumption (W)
HH62	**DA**	6	150	40	Clear	0.9
	DB	12	75	160	Black	
	DE	24	37	650	Reddish brown	
	DF	48	18.5	2600	Red	
	D1	100/110	9.1/10	11000	Blue	
HH63	**DE**	24	60	400	Reddish brown	1.5
HH64	**DE**	24	62	388	Reddish brown	1.5

Note: Other voltages up to 240V AC/130V DC are available on request, contact FUJI.

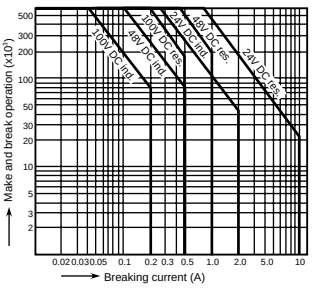
■ Electrical durability

● HH62

AC Voltage

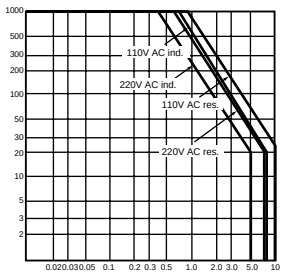


DC Voltage

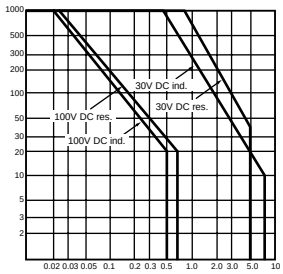


● HH63, 64

AC Voltage



DC Voltage



Sockets

Description	Type	Ordering code	Mass (g)	Used with
Soldering	**TP68**	RX68	10	HH62
PC board	**TP68B**	RX68B1	9.5	
Wire wrap	**TP68R**	RX68R2	11	
Rail mounting, screw terminal	**TP68X2**	RX68X2	46	HH62
	TP611X2	RX61X2	60	HH63
	TP614X2	RX64X2	76	HH64
Finger protection cover	**RZ62X2**	RZ62X2	2.4	TP68X2
	RZ64X2	RZ64X2	3.5	TP614X2

Mounting rails, 900mm long

Description	Type	Ordering code	Mass (g)	Socket
7.5mm high, Steel	**TH35-7.5**	RR7F	290	TP68X2, TP611X2 or TP614X2
7.5mm high, Aluminium	**TH35-7.5AL**	RR7A	145	
15mm high, Aluminium	**TH35-15AL**	RR15A	320	

■ Ordering information

Specify the following:
1. Ordering code or type number
2. Accessory (socket, mounting rail)

■ Type number nomenclature

Relays

HH6 2 P □ – □□ AC110V 50Hz

Coil rated voltage
AC: 6 to 240V AC
DC: 6 to 130V DC

Versions
Blank: Standard
F: With surge suppression device (DC)
L: With indicator (LED)
FL: With surge suppression device and indicator (DC)
CR: With surge suppression device (AC)
CRL: With surge suppressioin device and indicator (AC)

Contact material
Blank: Ag-alloy
J: Au-plated Ag-alloy

Contact form
Blank: Single
W: Bifurcated

Mounting
P: Plug-in
B: Printed circuit board
S: Flange

Contact arrangeament
2: 2PDT 3: 3PDT
4: 4PDT

Basic type

■ Contact ratings (UL, CSA and TÜV)

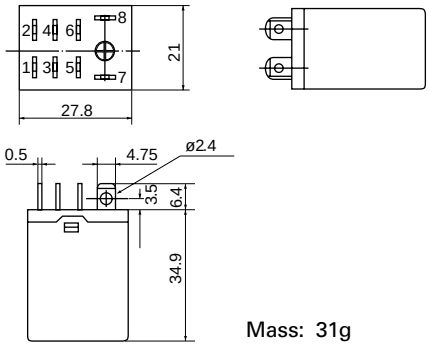
Basic type	Voltage	Single-phase motor (HP)*	Continuous current (A)	Resistive load (A)	Inductive load (A)	Remarks (polarity)
HH62P **(HH62PW)**	120V AC 240V AC 30V DC 120V DC	1/3 (1/6) 1 (1/4) – –	10 (7) 10 (7) 10 (7) 10 (7)	10 (5) 10 (5) 8 (5) 0.3 (0.3)	1.5 – 2(15ms) 0.2(15ms)	Opposite polarity
HH63P* **HH64P***	120V AC 240V AC 30V DC 120V DC	1/6 1/3 – –	10 10 10 10	10 10 8 0.3	1.5 – 2(15ms) 0.2(15ms)	Opposite polarity

Note: *UL and CSA approvals only ( ): HH62PW

■ Dimensions, mm

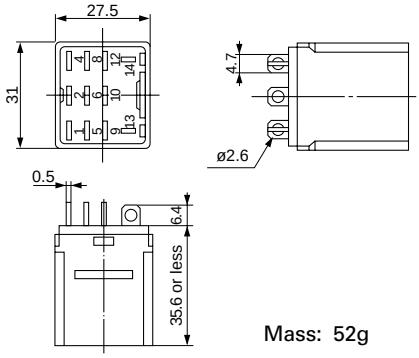
Relays

HH62P



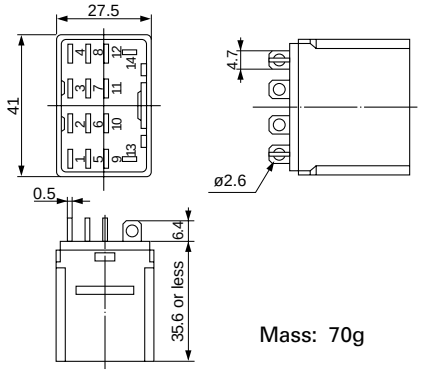
Mass: 31g

HH63P



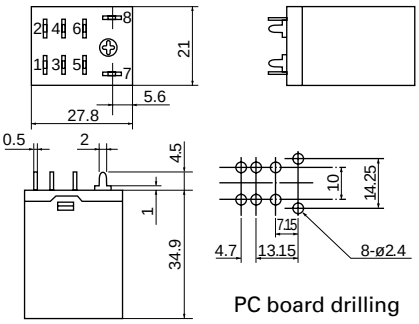
Mass: 52g

HH64P



Mass: 70g

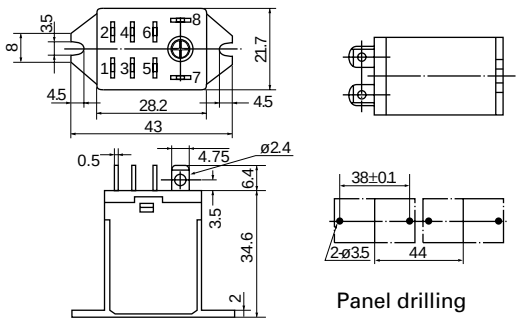
HH62B



PC board drilling

Mass: 30g

HH62S

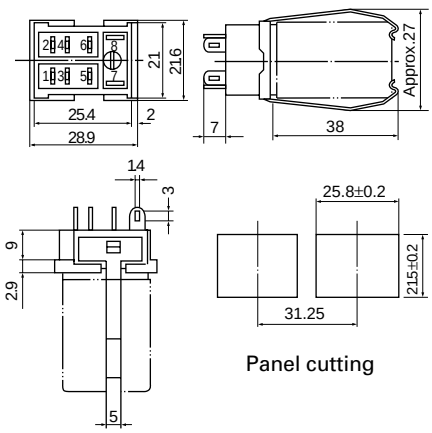


Panel drilling

Mass: 33g

Sockets

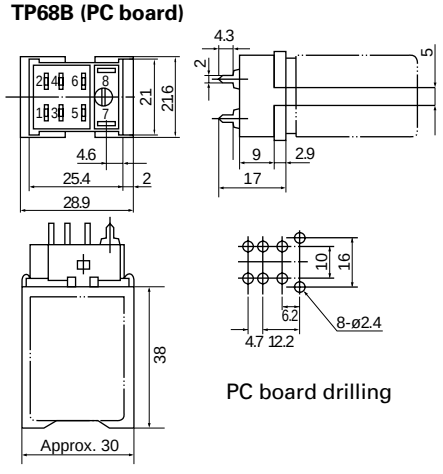
TP68 (Soldering)



Panel cutting

Mass: 10g

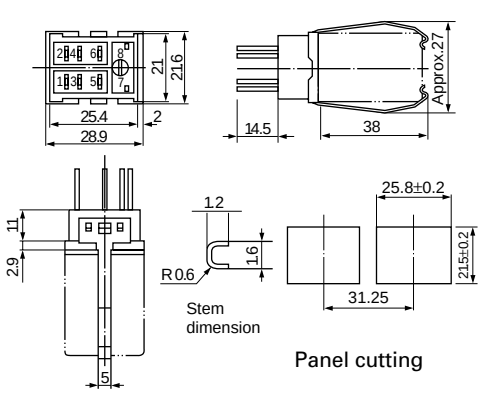
TP68B (PC board)



PC board drilling

Mass: 9.5g

TP68R (Wire wrap)



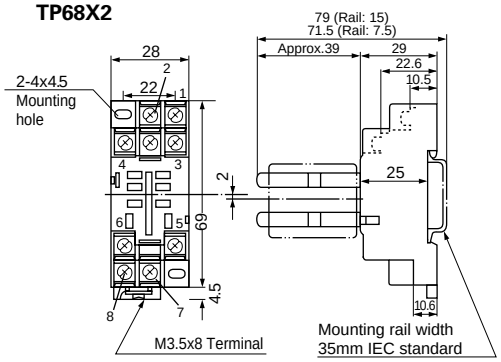
Panel cutting

Mass: 11g

■ Dimensions, mm

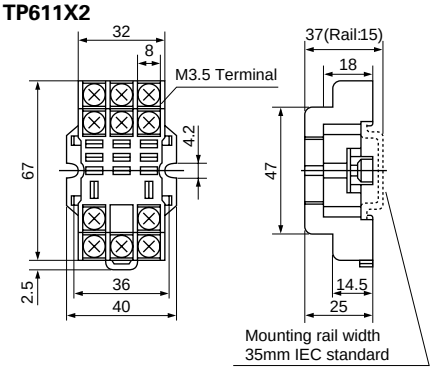
Sockets

TP68X2



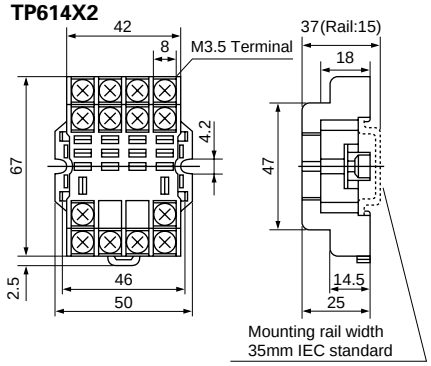
Mass: 46g

TP611X2



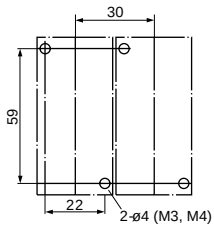
Mass: 60g

TP614X2

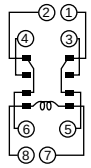


Mass: 76g

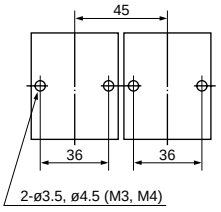
Panel drilling



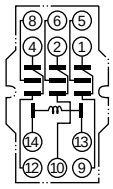
Wiring diagram



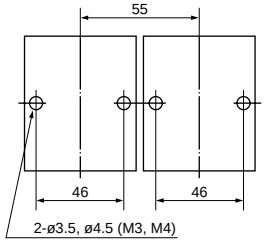
Panel drilling



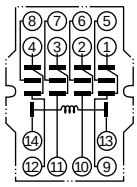
Wiring diagram



Panel drilling

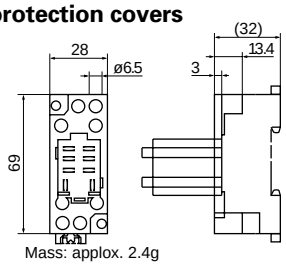


Wiring diagram



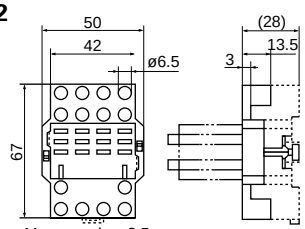
Finger protection covers

RZ62X2



Mass: applox. 2.4g

RZ64X2

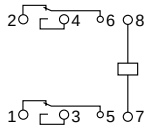


Mass: applox. 3.5g

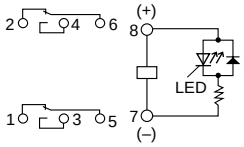
Type	Used with
RZ62X2	TP68X2 Socket for HH62P power relay
RZ64X2	TP614X2 Socket for HH62P power relay

■ Wiring diagrams

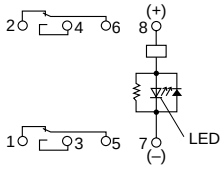
• HH62□ (standard)



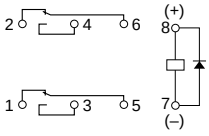
• HH62□-L (with indicator)
Coil : 6V, 12V AC, 6V DC



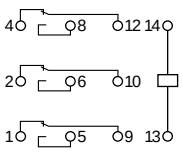
Coil : 24V to 240V AC, 12 to 120V DC



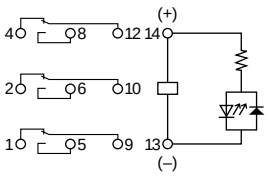
• HH62□-F (with surge suppressor)



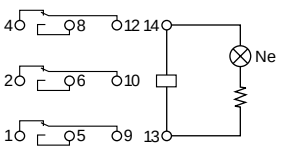
• HH63P (standard)



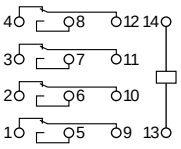
• HH63P-L (with indicator)
Coil : 24V DC



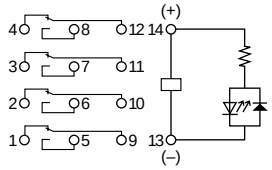
Coil : 100, 200V AC



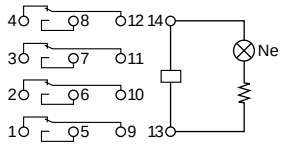
• HH64P (standard)



• HH64P-L (with indicator)
Coil : 24V DC



Coil: 100, 200V AC



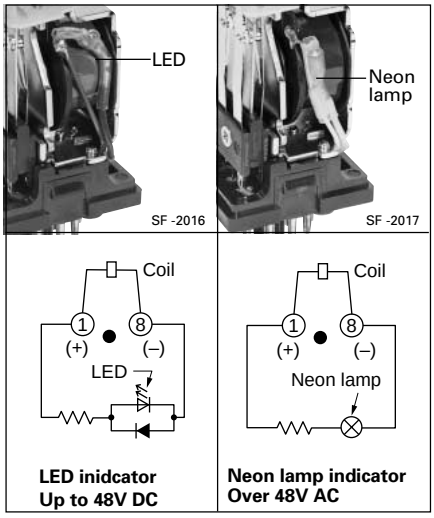
General purpose relays HH22, 23, 24

■ Description

These high quality general purpose relays are suitable for multi-pole switching and, although economically priced, are dependable and sturdily constructed. They are available with coil voltages 24–130V DC and 24–240V AC with continuous current ratings of either 4 or 6 Amps. Standard contact buttons are silver. Contact arrangements are 2PDT, 3PDT and SPDT+2NO+1NC. Relays are enclosed in a polycarbonate dust cover with octal type 8 or 11 pin plugs.

■ Versions

Operating status indicator

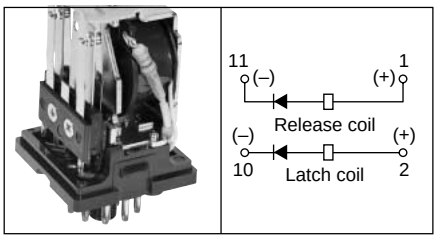


LED inidcator Up to 48V DC

Neon lamp indicator Over 48V AC

These relays can be supplied with a visual operating indicator which greatly simplifies troubleshooting in all types of electrical control equipment.

Dual coil magnetically held



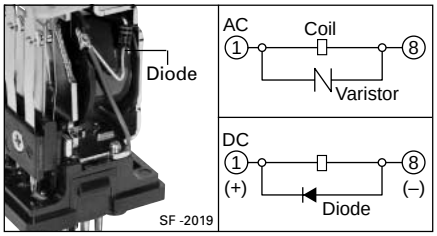
A momentary pulse to one of two coils results in the contacts being firmly held in one of two positions without further flow of current.

This gives this class of relays a good memory stability since it will retain a permanent latch position despite a loss of power.

Coil ratings are 24–220V AC and 24–110V DC.

HH22PN (2PDT) | **HH23PN (3PDT) with socket** | **HH24PN (SPDT+2NO+1NC)**

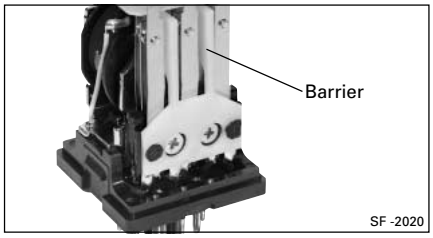
Surge suppression



We can supply the relays with surge suppression device.

These relays can be applied for AC and DC operation.

Arc-barrier



The HH23PN-B is provided with arc-barriers which gives it protection from excessive loads.
It can safely be used on polarized circuits and even small motor loads.

■ Type number nomenclature

H H 2 3 P N - □ J B L AC110V 50Hz

Basic type

Contact arrangement
2 : 2PDT
3 : 3PDT
4 : SPDT+2NO+1NC

Mounting method
P: Plug-in

Contact form
N : Single
W : Bifurcated

Wiring
Blank : Wiring A (Standard)
T : Wiring B
K : Wiring C
(See page 03/44.)

Coil voltage
AC: 24 to 240V AC
DC: 24 to 130V DC

Indicators
Blank : Without indicator
L : With indicator (neon-lamp or LED)

Versions
B : With arc-barrier
F : With surge suppression device
BF : With arc barrier and surge suppression device
R : Magnetically held type
RB : Magnetically held type with arc barrier

Contact
Blank : Ag (standard)
J : Au-plated Ag

Note: HH24PN type and relays with bifurcated contacts cannot be provided with arc barrier.

■ Ordering information

Specify the following:
1. Ordering code or type number

■ Versions (Plug–in mounting)

Relays

Classification		Contact form and arrangement		Wiring diagram A		Wiring diagram B		Wiring diagram C	
				Type	Ordering code	Type	Ordering code	Type	Ordering code
Standard	Without LED	Single	2PDT	**HH22PN**	RC2CP-■	**HH22PN-T**	RC2CPT-■	**HH22PN-K**	
			3PDT	**HH23PN**	RC3CP-■	**HH23PN-T**	RC3CPT-■	**HH23PN-K**	RC3CPK-■
			2NO+1NC+SPDT	**HH24PN**	RC4MP-■	–		–	
		Bifurcated	2PDT	**HH22PW**	RC2CPW-■	**HH22PW-T**	RC2CPWT-■	**HH22PW-K**	
			3PDT	**HH23PW**	RC3CPW-■	**HH23PW-T**	RC3CPWT-■	**HH23PW-K**	RC3CPWK-■
			2NO+1NC+SPDT	**HH24PW**	RC4MPW-■	–		–	
	With LED	Single	2PDT	**HH22PN-L**	RC2CPL-■	**HH22PN-TL**	RC2CPTL-■	**HH22PN-KL**	
			3PDT	**HH23PN-L**	RC3CPL-■	**HH23PN-TL**	RC3CPTL-■	**HH23PN-KL**	RC3CPKL-■
			2NO+1NC+SPDT	**HH24PN-L**	RC4MPL-■	–		–	
		Bifurcated	2PDT	**HH22PW-L**	RC2CPWL-■	**HH22PW-TL**	RC2CPWTL-■	**HH22PW-KL**	
			3PDT	**HH23PW-L**	RC3CPWL-■	**HH23PW-TL**	RC3CPWTL-■	**HH23PW-KL**	RC3CPWKL-■
			2NO+1NC+SPDT	**HH24PW-L**	RC4MPWL-■	–		–	
With surge suppression device	Without LED	Single	2PDT	**HH22PN-F**	RC2CPF-■	**HH22PN-TF**	RC2CPTF-■	**HH22PN-KF**	
			3PDT	**HH23PN-F**	RC3CPF-■	**HH23PN-TF**	RC3CPTF-■	**HH23PN-KF**	RC3CPKF-■
			2NO+1NC+SPDT	**HH24PN-F**	RC4MPF-■	–		–	
		Bifurcated	2PDT	**HH22PW-F**	RC2CPWF-■	**HH22PW-TF**	RC2CPWTF-■	**HH22PW-KF**	
			3PDT	**HH23PW-F**	RC3CPWF-■	**HH23PW-TF**	RC3CPWTF-■	**HH23PW-KF**	RC3CPWKF-■
			2NO+1NC+SPDT	**HH24PW-F**	RC4MPWF-■	–		–	
	With LED	Single	2PDT	**HH22PN-FL**	RC2CPG-■	**HH22PN-TFL**	RC2CPTG-■	**HH22PN-KFL**	
			3PDT	**HH23PN-FL**	RC3CPG-■	**HH23PN-TFL**	RC3CPTG-■	**HH23PN-KFL**	RC3CPKG-■
			2NO+1NC+SPDT	**HH24PN-FL**	RC4MPG-■	–		–	
		Bifurcated	2PDT	**HH22PW-FL**	RC2CPWG-■	**HH22PW-TFL**	RC2CPWTG-■	**HH22PW-KFL**	
			3PDT	**HH23PW-FL**	RC3CPWG-■	**HH23PW-TFL**	RC3CPWTG-■	**HH23PW-KFL**	RC3CPWKG-■
			2NO+1NC+SPDT	**HH24PW-FL**	RC4MPWG-■	–		–	
With arc barrier	Without LED	Single	2PDT	(**HH22PN**	RC2CP-■)	(**HH22PN-T**	RC2CPT-■)	(**HH22PN-K**	
			3PDT	**HH23PN-B**	RC3CPB-■	**HH23PN-TB**	RC3CPBT-■	**HH23PN-KB**	RC3CPBK-■
		Bifurcated	2PDT	(**HH22PW**	RC2CPW-■)	(**HH22PW-T**	RC2CPWT-■)	(**HH22PW-K**	
	With LED	Single	2PDT	(**HH22PN-L**	RC2CPL-■)	(**HH22PN-TL**	RC2CPTL-■)	(**HH22PN-KL**	
			3PDT	**HH23PN-BL**	RC3CPBL-■	**HH23PN-TBL**	RC3CPBTL-■	**HH23PN-KBL**	RC3CPBKL-■
		Bifurcated	2PDT	(**HH22PW-L**	RC2CPWL-■)	(**HH22PW-TL**	RC2CPWTL-■)	(**HH22PW-KL**	
With arc barrier and surge suppression device	Without LED	Single	2PDT	(**HH22PN-F**	RC2CPF-■)	(**HH22PN-TF**	RC2CPTF-■)	(**HH22PN-KF**	
			3PDT	**HH23PN-BF**	RC3CPBF-■	**HH23PN-TBF**	RC3CPBTF-■	**HH23PN-KBF**	RC3CPBKF-■
		Bifurcated	2PDT	(**HH22PW-F**	RC2CPWF-■)	(**HH22PW-TF**	RC2CPWTF-■)	(**HH22PW-KF**	
	With LED	Single	2PDT	(**HH22PN-FL**	RC2CPG-■)	(**HH22PN-TFL**	RC2CPTG-■)	(**HH22PN-KFL**	
			3PDT	**HH23PN-BFL**	RC3CPBG-■	**HH23PN-TBFL**	RC3CPBTG-■	**HH23PN-KBFL**	RC3CPBKG-■
		Bifurcated	2PDT	(**HH22PW-FL**	RC2CPWG-■)	(**HH22PW-TFL**	RC2CPWTG-■)	(**HH22PW-KFL**	
Magnetically held	Without LED	Single	2PDT	**HH22PN-R**	RC2CPR-■	–		–	
			1NO+1NC+SPDT	**HH23PN-R**	RC3MPR-■	–		–	
		Bifurcated	2PDT	**HH22PW-R**	RC2CPWR-■	–		–	
			1NO+1NC+SPDT	**HH23PW-R**	RC3MPWR-■	–		–	
Magnetically held with arc barrier	Without LED	Single	2PDT	(**HH22PN-R**	RC2CPR-■)	–		–	
			1NO+1NC+SPDT	**HH23PN-RB**	RC3MPRB-■	–		–	
		Bifurcated	2PDT	(**HH22PW-R**	RC2CPWR-■)	–		–	

Notes: • Enter the coil voltage code in the ■ mark.
• Although the type in parenthesis denotes a relay having no arc barriers, it has good insulation performance equal to the relay with arc barriers, as it has enough insulation distance between contacts.

Sockets

Description		Type	Ordering code	Used with
Soldering	8-pin	**8GB**	RX8G	HH22P
	11-pin	**11GB**	RX1G	HH23P, 24P
Surface mounting screw terminal	8-pin	**TP38S**	RX38S0	HH22P
	11-pin	**TP311S**	RX31S0	HH23P, 24P
Rail mounting, screw terminal	8-pin	**TP38X**	RX38X0	HH22P
	11-pin	**TP311X**	RX31X0	HH23P, 24P
Hold-down Spring		**FX1B**	RZ1B	Front connection
		FX1C	RZ1C	Rear connection

■ Operating current and electrical durability

Voltage	Current (A) Make	Current (A) Break	Electrical durability (×10³ operations) HH22PN, 23PN, 24PN HH22PW, 23PW	Electrical durability (×10³ operations) HH24PW
200V AC Ind. load	15 *1	3 *2	200	100
	10	1	600	300
	3	0.3	2400	1200
200V AC Res. load	3	3	800	400
	1	1	3000	1500
24V DC Ind. load	1 *3	1 *3	600	300
	0.3	0.3	3000	1500
100V DC Res. load	0.5	0.5	1000	500
	0.1	0.1	5000	4000
24V DC Res. load	3	3	600	300
	0.5	0.5	5000	3000

Note: Power factor: *1 cosϕ=0.7 *2 cosϕ=0.3 to 0.4
Time constant: *3 T=15ms

■ Specifications

Basic type		HH22P	HH23P	HH24P
Rated thermal current (A)		6	6	4
Rated insulation voltage		250V		
Pick–up voltage (at 20°C)	AC DC	80% of rated voltage 75% of rated voltage		
Drop–out voltage (at 20°C)	AC DC	30% of rated voltage 10% of rated voltage		
Max. power supply voltage	AC DC	110% of rated voltage 130% of rated voltage		
Operating temperature		–20 to +40°C, avoid icing		
Dielectric strength		2000V AC rms.,1minute between coil and contact 2000V AC rms.,1minute between poles 1500V AC rms.,1minute between open contacts 2000V AC rms.,1minute between socket terminals		
Insulation resistance		100MΩ (500V DC megger)		
Operating time		20ms or less		
Vibration		Mechanical and malfunction durability: 10 to 55Hz, 0.75mm double amplitude		
Shock		Malfunction durability: 60m/s² Mechanical durability: 500m/s²		
Durability	Mechanical Electrical	50 million operations *See page 03/42*		
Contact resistance Contact material		50mΩ max. before use Silver–alloy		

■ Coil characteristics

• AC coil

Rated voltage (V)	Coil voltage code	Rated current (mA) 50Hz	Rated current (mA) 60Hz	Coil resistance (Ω)	Coil color	Power consumption (VA) 50Hz	Power consumption (VA) 60Hz
24	**AE**	137	125	53	Clear	3.3	3
48	**AF**	69	63	230	Clear		
100	**A1**	33	30	900	Green		
200	**A2**	16	15	3960	Yellow		
220	**AM**	15	13	4520	Clear		

Note: Other voltages between 24V and 240V AC are available.

• DC coil

Rated voltage (V)	Code voltage code	Rated current (mA)	Coil resistance (Ω)	Coil color	Power consumption (W)
24	**DE**	67	360	Reddish brown	1.6
48	**DF**	33	1460	Red	
100	**D1**	16	6260	Blue	
110	**DH**	16	7570	Clear	

Note: Other voltages between 24V and 130V DC are available.

■ UL and CSA approved

UL file No. E42419
CSA file No. LR20479

● Relays

Contact		Wiring	Type	Ordering code
2PDT	Single	A	**HH22PN-UL**	RC2CP-■ZU
		C	**HH22PN-K-UL**	RC2CPK-■ZU
	Bifurcated	A	**HH22PW-UL**	RC2CPW-■ZU
		C	**HH22PW-K-UL**	RC2CPWK-■ZU
3PDT	Single	A	**HH23PN-UL**	RC3CP-■ZU
	Single	B	**HH23PN-T-UL**	RC3CPT-■ZU
	Single	C	**HH23PN-K-UL**	RC3CPK-■ZU
	Bifurcated	A	**HH23PW-UL**	RC3CPW-■ZU
	Bifurcated	B	**HH23PW-T-UL**	RC3CPWT-■ZU
	Bifurcated	C	**HH23PW-K-UL**	RC3CPWK-■ZU

Note: Enter the coil voltage code in the ■ mark.

● Ratings

Type	Contact ratings Voltage	Single–phase motor (HP)	Resistive load (A)	Inductive load (A)
HH22P□-UL	120V AC	1/4	6	2
HH22P□-T-UL	240V AC	1/2	6	–
HH23P□-UL	30V DC	–	6	3 (15ms)
HH23P□-T-UL	120V DC	–	0.5	0.3 (15ms)
HH23P□-K-UL				

Note: ( ) : Time constant

● Socket

Type	Ordering code	Used with
8GB-UL	RX8G-ZU	HH22P

Type	Ordering code	Used with
11GB-UL	RX1G-ZU	HH23P

General purpose relays
HH22, 23, 24

■ Lloyd approved

Type	Ordering code	Voltage	Contact Arrangement	Form	Continuous current (A)	Approved No.
HH22PN	RX2CP-■ZL	6 to 220V AC 50/60Hz 6 to 110V DC	2PDT	Single	6	YKA052811
HH23PN	RX3CP-■ZL		3PDT			
HH24PN	RX4MP-■ZL		2NO+1NC+SPDT		4	
HH22PN–T	RX2CPT-■ZL		2PDT		6	
HH23PN–T	RX3CPT-■ZL		3PDT			
HH22PW	RX2CPW-■ZL		2PDT	Bifurcated	6	
HH23PW	RX3CPW-■ZL		3PDT			
HH24PW	RX4MPW-■ZL		2NO+1NC+SPDT		4	
HH22PW–T	RX2CPWT-■ZL		2PDT		6	
HH23PW–T	RX3CPWT-■ZL		3PDT			

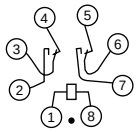
Note: Enter the coil voltage code in the ■ mark.

■ Internal wirings

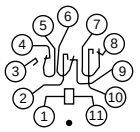
● Standard

Wiring A

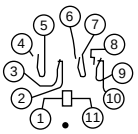
HH22PN
HH22PW



HH23PN
HH23PW

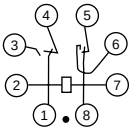


HH24PN
HH24PW

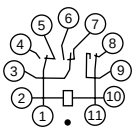


Wiring B

HH22PN–T
HH22PW–T

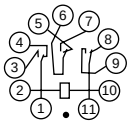


HH23PN–T
HH23PW–T



Wiring C

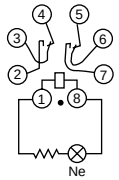
HH23PN–K
HH23PW–K



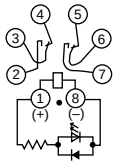
● With operation indicator

HH22PN–L
HH22PW–L

100, 200V

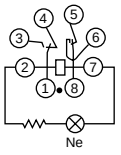


24, 48V*

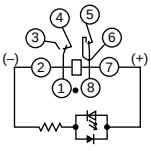


HH22PN–TL
HH22PW–TL

100, 200V

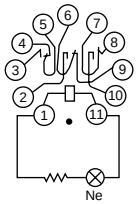


24, 48V*

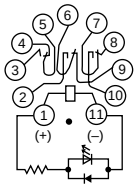


HH23PN–L
HH23PW–L

100, 200V

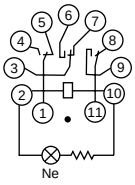


24, 48V*

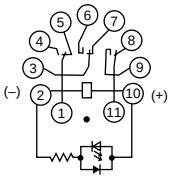


HH23PN–TL
HH23PW–TL

100, 200V



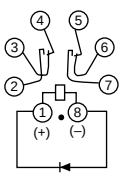
24, 48V*



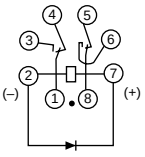
*Be careful that DC coil terminals have polarity

● With surge suppression device (DC coil)

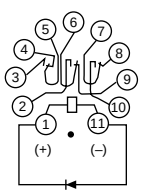
HH22PN–F
HH22PW–F



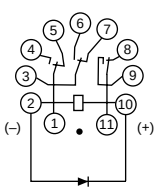
HH22PN–TF
HH22PW–TF



HH23PN–F
HH23PW–F

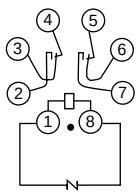


HH23PN–TF
HH23PW–TF

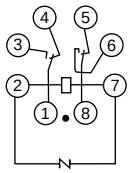


● With surge suppression device (AC coil)

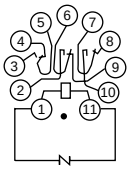
HH22PN–F
HH22PW–F



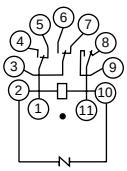
HH22PN–TF
HH22PW–TF



HH23PN–F
HH23PW–F

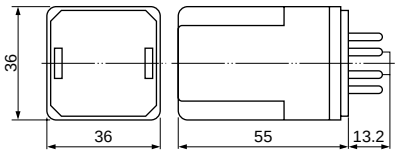


HH23PN–TF
HH23PW–TF



■ Dimensions, mm

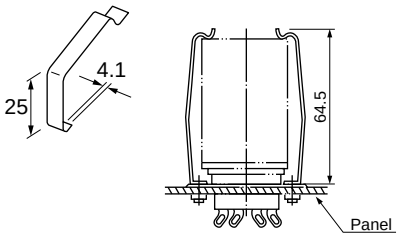
- **Relays**



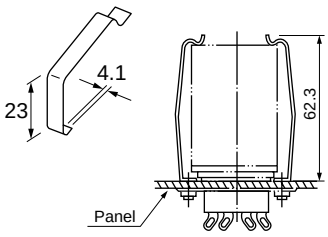
Mass: Approx. 100g

- **Hold-down spring**

FX1B



FX1C



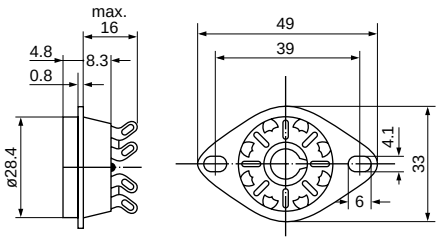
03

■ Dimensions, mm

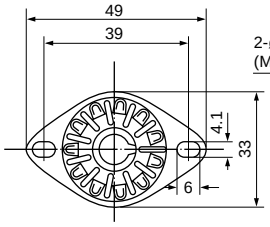
- **Sockets**

Soldering/8GB, 11GB

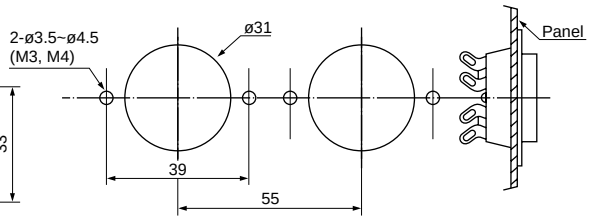
8GB



11GB

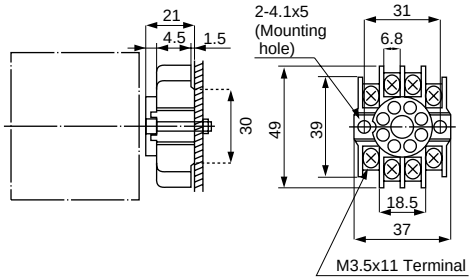


Panel cutting

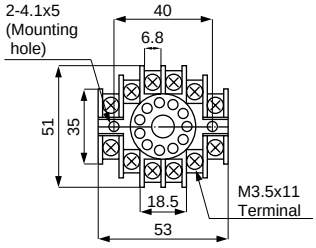


Screw terminal/TP38S, TP311S

TP38S

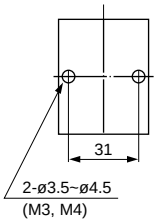


TP311S

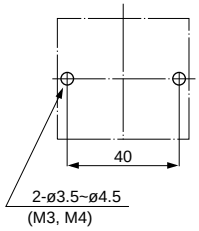


Panel drilling

TP38S

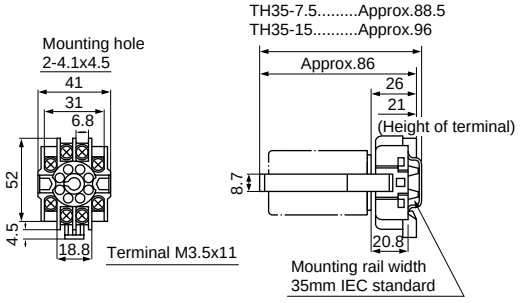


TP311S

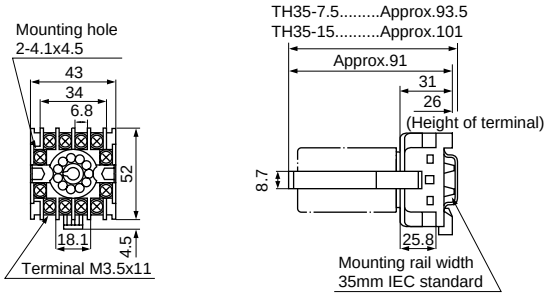


Screw terminal/Rail mounting

TP38X



TP311X



Mass (Approx.)

8-pin		11-pin	
8GB	12.5g	11GB	13g
TP38S	33g	TP311S	46g
TP38X	45g	TP311X	59g