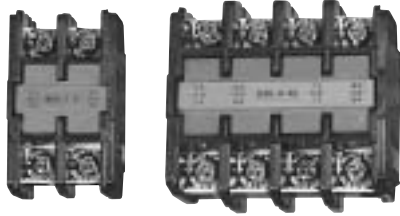


# OPTIONS FOR MAGNETIC CONTACTOR AND STARTER



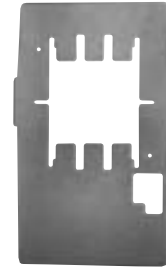
HAU-2 • 4



HAU-BL



HL-B



TC-4



SA-

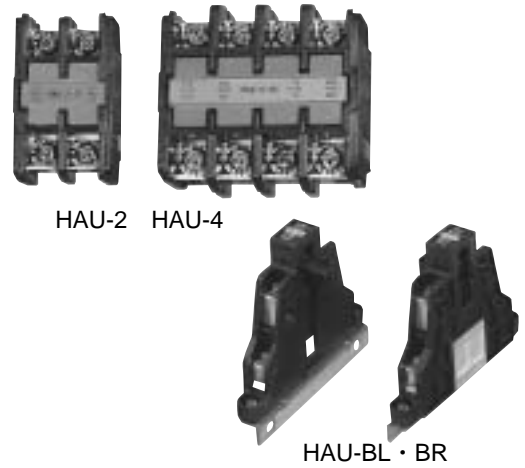
A variety of options are available for the PAK Series.  
Select the options needed for specific application.

Auxiliary contact unit ( HAU ) .....	Page 76
No-loss latch unit ( HL ) .....	Page 77
Terminal cover and terminal.....	Page 78
protective cover ( TC,C )	
Coil surge absorption unit ( SA ) .....	Page 83
DIN rail adapter ( D ) .....	Page 85

Ratings and specifications

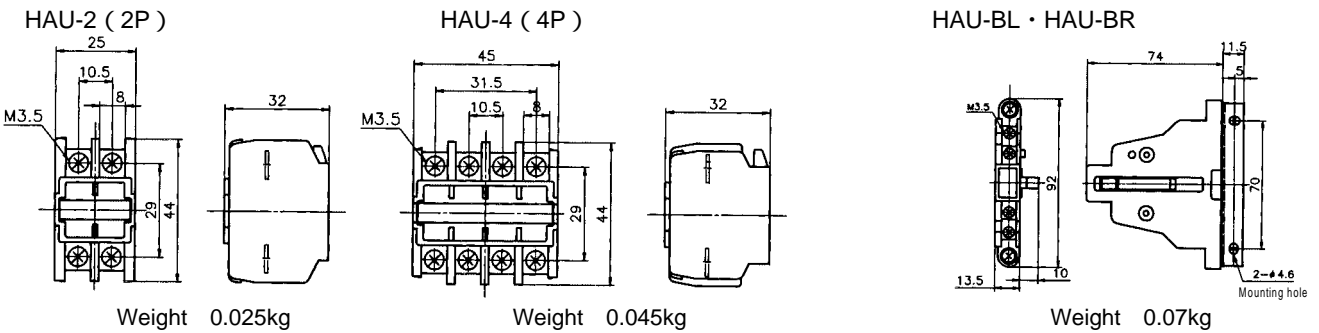
Item \ Model		HAU-2	HAU-4	HAU-BL	HAU-BR
Applicable magnetic contactor		PAK11J ~ 80H		PAK-100H ~ 220H	
Rated thermal current		10A			
Rated operational current	AC-15	AC100-110V	10A		
		AC200-220V	6A		
		AC380-440V	3A		
		AC500-550V	3A		
	DC-13	DC48V	2A		
		DC100-110V	1A		
DC200-220V		0.25A			
Performance	Mechanical life	5 million operations.			
	Electrical life	1 million operations.			

• Auxiliary contacts can be added as needed.

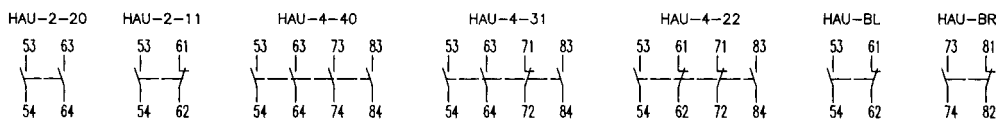


Notes . ① Minimum operating voltage and current 24V 10mA  
 ② HAU-BL is mounted on left side of contactor, and HAU-BR on right side. Both must be mounted on the same contactor.

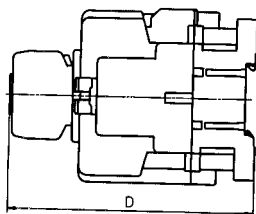
Dimensions



Contact configuration

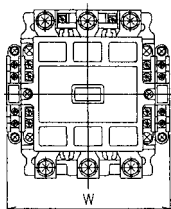


Unit mounting dimensions



(in mm)

Model	PAK-11J	PAK-12J	PAK-20J	PAK-21J	PAK-26J	PAK-35J	PAK-50H	PAK-65H	PAK-80H
Dimension D	103.5		107		124.5		140.5		



(in mm)

Model	PAK-100H	PAK-125H	PAK-150H	PAK-220H
Dimensions W	131		152	

Note . HAU-BL and BR must be mounted on left and right, respectively, at the same time.

Ratings and specifications

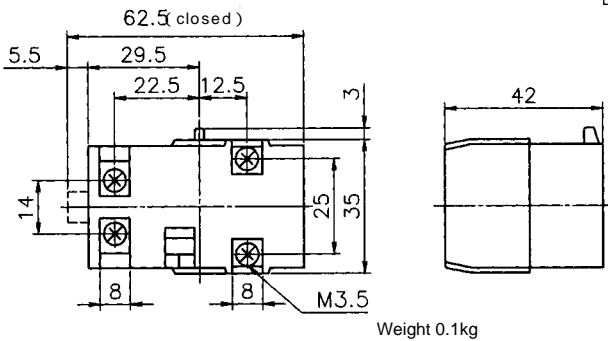
Item	Model	HL-B
Applicable magnetic contactor		PAK-50 ~ 80H
Operating coil rating ( TC coil ) 5s rating		100-110V 50 / 60HZ
		200-220V 50 / 60HZ

Adding a no-loss latch unit makes it possible to use the contactor as a mechanical-latching type magnetic starter.

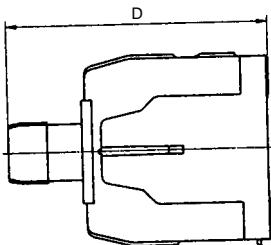


HL-B

Dimensions



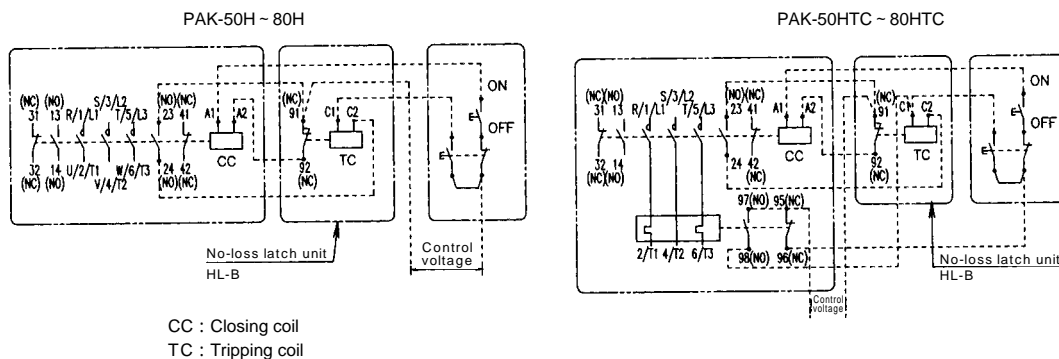
Unit mounting dimensions



	( in mm )		
Model	PAK-50H	PAK-65H	PAK-80H
Dimension D	150.5		

Connection diagram

The diagram shows the connection when the push button has been used. For automatic operation setting, please contact us for information. Togami's PBP-2M push button should be used.



## Features

- Prevents terminal exposure and enhances safety.
- Terminal covers conforming to DIN57106/VDE0106Teil100 standards for protection against live part.



PAK-6JGTC with terminal covers.

## Application

Refer to pages 79 to 81.

## Mounting method

- Mount in accordance with the Instruction Manual (incorporated with the product )

## Application

Application		Terminal cover name	Composition	
			Protected area	Quantity
Magnetic contactor	PAK-6JC	C-21	Main, auxiliary and coil terminals	1
	PAK-11J	C-11	Main and auxiliary terminals	2( one each line, load )
	PAK-12J		Coil terminals	1
	PAK-20J	C-12	Main and auxiliary terminals	2( one each line, load )
			Coil terminals	1
	PAK-21J	C-13	Main and auxiliary terminals	2( one each line, load )
			Coil terminals	1
	PAK-26J PAK-35J	C-14	Main terminals	2( one each line, load )
			Auxiliary terminals	2( one each left, right )
			Coil terminals	1
Magnetic starter	PAK-6JTC	C-21	Main, auxiliary and coil terminals	1
	PAK-6JGTC	TC-22	Main terminals	1
	PAK-6JT-3C		Auxiliary terminals	1
	PAK-11,12JTC	C-11	Main and auxiliary terminals	2( one each line, load )
			Coil terminals	1
	PAK-11,12JGTC PAK-11,12JT-3C	TC-22	Main terminals	1
			Auxiliary terminals	1
			Main and auxiliary terminals	2( one each line, load )
	PAK-20JTC	C-12	Coil terminals	1
			TC-22	Main terminals
	PAK-20JGTC PAK-20JT-3C	TC-22		Auxiliary terminals
			PAK-21JTC	C-13
	PAK-21JGTC PAK-21JT-3C	TC-22		
			Main terminals	1
			Auxiliary terminals	1
	PAK-26,35JTC PAK-26,35JGTC PAK-26,35JT-3C	C-14	Main terminals	2( one each line, load )
			Auxiliary terminals	2( one each left, right )
			Coil terminals	1
		TC-25	Main terminals	1
	Auxiliary terminals		1	

Notes. ①In case of magnetic starter, please order both the cover for magnetic contactor (C-type) and the cover for thermal overload relay(TC-type).  
②Terminal cover is packed in each model type.

## Application

Application		Terminal cover name	Coposition	
			Protected area	Quantity
Reversible magnetic contactor	RSK-11J	C-10R	Main and auxiliary terminals	4( M1,M2 one each line, load )
			Coil terminals	2( M1,M2one each )
	RSK-12J	C-11R	Main and auxiliary terminals	4( M1,M2 one each line, load )
			Coil terminals	2( M1,M2one each )
			Mechanical interlock	1
	RSK-20J	C-12R	Main and auxiliary terminals	4( M1,M2 one each line, load )
			Coil terminals	2( M1,M2one each )
			Mechanical interlock	1
	RSK-21J	C-13R	Main and auxiliary terminals	4( M1,M2 one each line, load )
			Coil terminals	2( M1,M2one each )
			Mechanical interlock	1
	RSK-26J RSK-35J	C-14R	Main terminals	4( M1,M2 one each line, load )
Auxiliary terminals			4( M1,M2one each )	
Coil terminals			2( M1,M2one each )	
Mechanical interlock			1	
Reversible magnetic starter	RSK-11JTC RSK-11JGTC RSK-11JT-3C	C-10R	Main and auxiliary terminals	4( M1,M2 one each line, load )
			Coil terminals	2( M1,M2one each )
		TC-22	Main terminals	1
			Auxiliary terminals	1
	RSK-12JTC RSK-12JGTC RSK-12JT-3C	C-11R	Main and auxiliary terminals	4( M1,M2 one each line, load )
			Coil terminals	2( M1,M2one each )
			Mechanical interlock	1
		TC-22	Main terminals	1
			Auxiliary terminals	1
	RSK-20JTC RSK-20JGTC RSK-20JT-3C	C-12R	Main and auxiliary terminals	4( M1,M2 one each line, load )
			Coil terminals	2( M1,M2one each )
			Mechanical interlock	1
		TC-22	Main terminals	1
			Auxiliary terminals	1
	RSK-21JTC RSK-21JGTC RSK-21JT-3C	C-13R	Main and auxiliary terminals	4( M1,M2 one each line, load )
			Coil terminals	2( M1,M2one each )
			Mechanical interlock	1
		TC-22	Main terminals	1
Auxiliary terminals			1	
RSK-26,35JTC RSK-26,35JGTC RSK-26,35JT-3C	C-14R	Main terminals	4( M1,M2 one each line, load )	
		Auxiliary terminals	4( M1,M2one each )	
		Coil terminals	2( M1,M2one each )	
		Mechanical interlock	1	
	TC-25	Main terminals	1	
		Auxiliary terminals	1	
Auxiliary contact unit	HAU-2	C-31	Terminals	1
	HAU-4	C-32	Terminals	1

Notes. ①In case of magnetic starter, please order both the cover for magnetic contactor (C-type) and the cover for thermal overload relay(TC-type).  
②Terminal cover is packed in each model type.

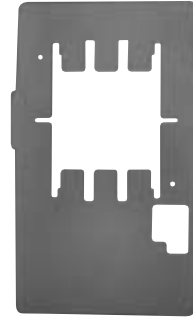
## Application

Application		Terminal cover name	Composition	
			Protected area	Quantity
Magnetic relay	PAK-8JS (4P)	C-11	Auxiliary terminals	2( one each line, load )
			Coil terminals	1
	PAK-8JS (6P)	C-11	Main unit auxiliary terminals	2( one each line, load )
			Main unit coil terminals	1
	PAK-8JS (8P)	C-31	HAU terminals	1
			C-11	Main unit auxiliary terminals
C-32		Main unit coil terminals		1
Thermal overload relay	TJ-18JA TJ-18 GTJ-18JA GTJ-18 TJ-18JA-3 TJ-18-3	TC-22	Main terminal	1
			Auxiliary terminals	1
	TJ-35 GTJ-35 GTJ-35-3	TC-25	Main terminal	1
			Auxiliary terminals	1

- Notes . ①For magnetic starters, order for both magnetic contactor and thermal overload relay.  
 ②6P and 8P magnetic relays, order for both magnetic relay and auxiliary contact unit HAU.  
 ③Terminal covers are shipped in bags, per each one model.  
 ④There is not terminal cover applicable to TJ-18N.

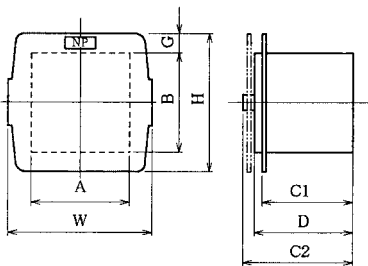
Features

- The safety at the maintenance inspection is increased
- Color : Transparent

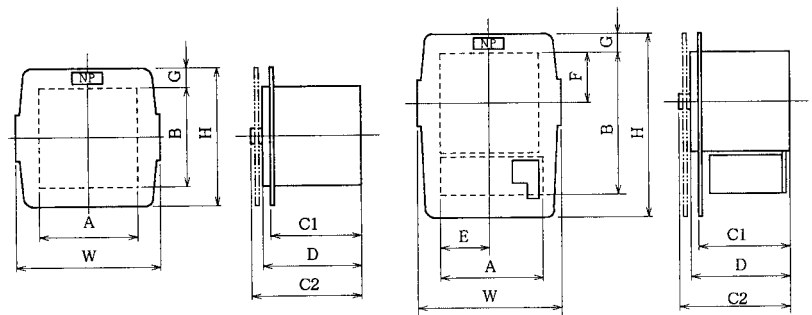


Application and size

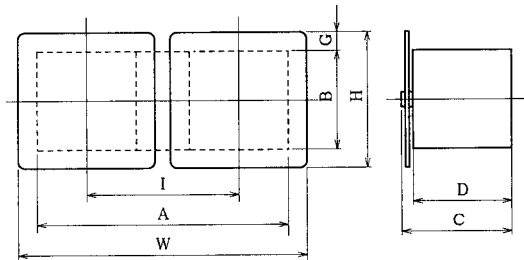
Non-reversing magnetic contactor ( C-4 to -9 )



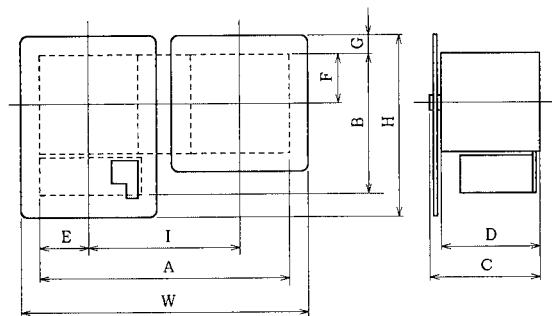
Non-reversing magnetic starter ( TC-4 to -9 )



Reversing magnetic contactor ( C-4R to -8R )



Reversing magnetic starter ( TC-4R to -8R )



Model		Applicable contactor and starter	Dimensions ( mm )											
			Terminal cover		Reference dimensions									
			W	H	D	A	B	C1	C2	E	F	G	I	
Magnetic contactor	Non reversing	C-4	PAK-50 ~ 80H	130	160	113.5	100	110	100	—	—	—	25	—
		C-5	PAK-100 ~ 125H	130	200	140	104	150	—	148	—	—	20	—
		C-6	PAK-150H	155	250	156.5	125	156	—	166	—	—	47	—
			PAK-220H					177					36.5	
	C-8	PAK-300 ~ 400H	171	330	200	187	240	—	205	81.5	120	45	—	
	Reversing	C-9	PAK-600H	310	460	232	284	316	—	235	130	158	72	—
			PAK-800H					380				190	40	
		C-4R	RSK-50 ~ 80H	222	150	123.5	224	147	—	135	—	—	1.5	112
C-5R		RSK-100 ~ 125H	261	200	150	270	160	—	158	—	—	15	131	
C-6R	RSK-150H	311	250	166.5	305	156	—	176	—	—	47	156		
	RSK-220H					177					36.5			
C-8R	RSK-300 ~ 400H	359	330	219	385	300	—	224	91	150	45	188		
Magnetic starter	Non reversing	TC-4	PAK-50 ~ 80HTC	130	210	113.5	107.5	160	100	—	50	55	25	—
		TC-5	PAK-100 ~ 125HTC	130	270	140	112	225.5	—	148	52	80	20	—
		TC-6	PAK-150HTC	155	320	156.5	125	231.5	—	166	62.5	78	47	—
			PAK-220HTC		360	157	142	287.5			71	88.5	36.5	
		TC-8	PAK-300 ~ 400HT	171	430	200	187	330	—	205	81.5	120	45	—
		TC-9	PAK-600HT	310	580	232	284	432	—	235	130	158	72	—
	Reversing	TC-4R	RSK-50 ~ 80HTC	222	205	123.5	224	188.5	—	135	50	83.5	—	112
		TC-5R	RSK-100 ~ 125HTC	261	270	150	270	232.5	—	158	52	85	15	131
		TC-6R	RSK-150HTC	311	320	166.5	305	250.5	—	176	62.5	97	28	156
			RSK-220HTC		360	167	308	71			109	16		
		TC-7R	RSK-220HTC	311	360	167	308	308	—	176	71	109	16	156
		TC-8R	RSK-300 ~ 400HT	171	580	219	385	360	—	224	91	150	45	188



The surge voltage generated from a coil is decreased for electronic circuit protection.



**Feature**

- It is easily attached by fitting together with the coil terminal.
- Since it can contain to the lower space of the coil terminal, the fitting space is few.
- Since resin is filled up, high insulation performance and high reliability.

**Rating and specification**

Model	Rated voltage	Specification		Suppressed surge voltage
		Surge absorption element	Constant	
SA-22	AC/DC 100-250V	CR	C=0.22 μ F R=120	700V
SA-32				
SA-42				
SA-24	AC 380-440V	Varistor	Varistorvoltage 910V	910V
SA-34				
SA-44				

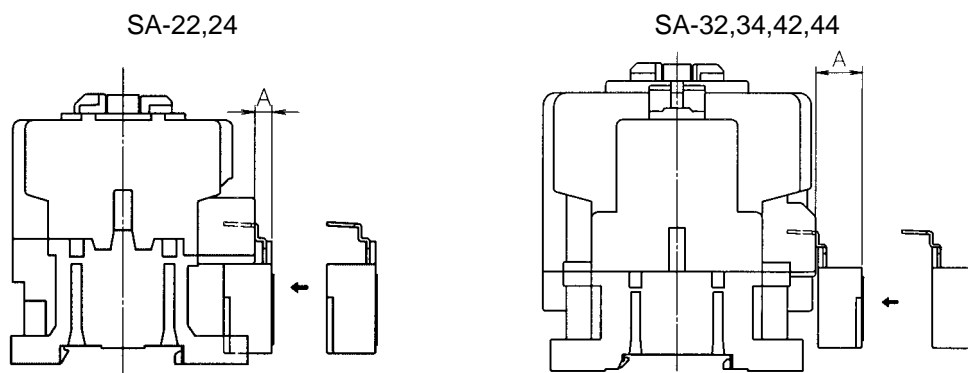
Suppressed surge voltage shows the maximum value, and is not the guaranteed value.

**Application • Selection**

Model	Rated voltage ( Application coil voltage )	Model
SA-22	AC/DC 100-250V	PAK-8JS, PAK-11J, 12J, 20J, 21J RSK-11J, 12J, 20J, 21J
SA-24	AC 380-440V	
SA-32	AC/DC 100-250V	PAK-26J, 35J RSK-26J, 35J
SA-34	AC 380-440V	
SA-42	AC/DC 100-250V	PAK-50H, 65H, 80H, 100H, 125H, 150H, 220H RSK-50H, 65H, 80H, 100H, 125H, 150H, 220H
SA-44	AC 380-440V	

PAK-300H ~ 800H, RSK-300H and 400H incorporate the surge absorption function.

**Mounting method**



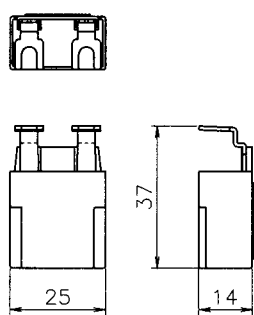
Dimension A shows after fitting to the magnetic contactor.(reference)

( mm )

SA-22,24	SA-32,34	SA-42,44
5	19	19:PAK-50H, 65H, 80H RSK-50H, 65H, 80H 14:PAK-100H, 125H, 150H, 220H RSK-100H, 125H, 150H, 220H

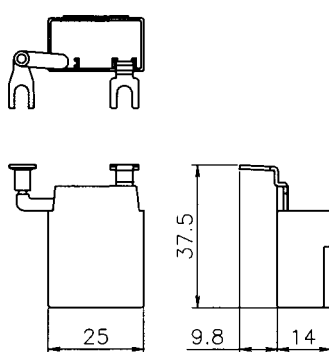
**Dimensions**

SA-22,24



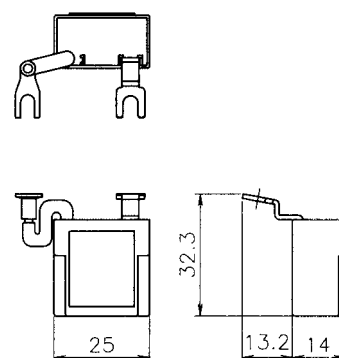
Weight 0.015kg

SA-32,34



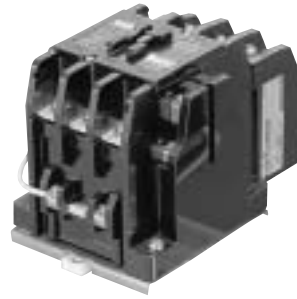
Weight 0.015kg

SA-42,44



Weight 0.015kg

Assembling process of switch boards can be reduced remarkably by using DIN Rail Adapter. One-touch mounting to 35mm DIN Rail can be done with this adapter.



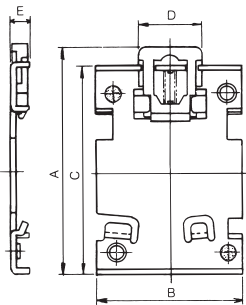
Specifications and application

- Material : Steel plate
- Application

Application for magnetic starters

Model	Application models
D-5A	PAK-50H,65H,80H

Dimensions

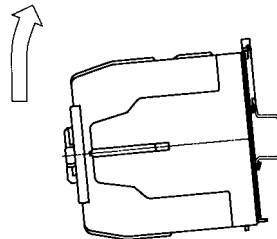


(in mm)

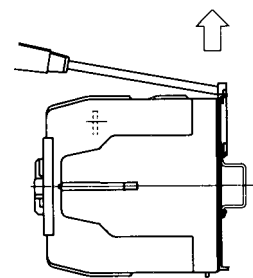
Model	Dimensions				
	A	B	C	D	E
D-5A	112.6	100	107.2	23	5.6

Mounting and removal

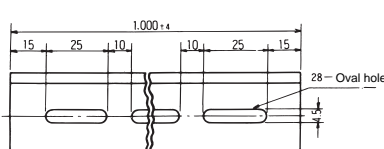
Push slightly to the arrow direction until a click sound.



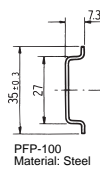
Insert a driver into a hole of the adapter and wrench open slightly as illustrated.



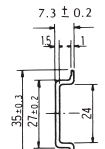
DIN rail



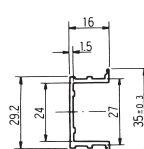
Note: The PFP-100N2 rails have six oval holes from each end, measuring 4.5 x 25mm.



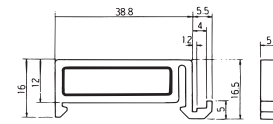
PFP-100  
Material: Steel



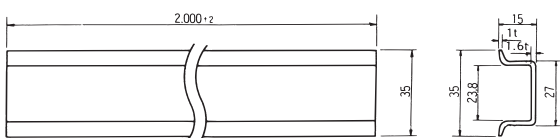
PFP-100N  
Material: Aluminum



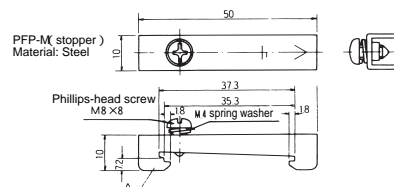
PFP-100N2  
Material: Aluminum



PFP-S ( spacer )  
Material: Resin



AMI-DE200  
Material: Steel



PFP-M ( stopper )  
Material: Steel