Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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Panasonic
ideas for life

COMPACT SIZE HIGH PRECISION POWER ON-DELAY TIMERS

PMH

RoHS compliance

Features

- Using a dedicated IC, the operation time variance is ±0.5%.
- Using the slide, time range switching is easy. Moreover, the scale numbers on the dial and time units can be switched automatically.

Button position / Type				
10M type	0.05S to 1.0S	0.5S to 10S	0.05M to 1.0M	0.5M to 10M
30M type	0.15S to 3.0S	1.5S to 30S	0.15M to 3.0M	1.5M to 30M
10H type	0.05M to 1.0M	0.5M to 10M	0.05H to 1.0H	0.5H to 10H
30H type	0.15M to 3.0M	1.5M to 30M	0.15H to 3.0H	1.5H to 30H

- **You can use for embedding if you use together with the appropriate flush type mounting frame designed for that purpose (sold separately).**
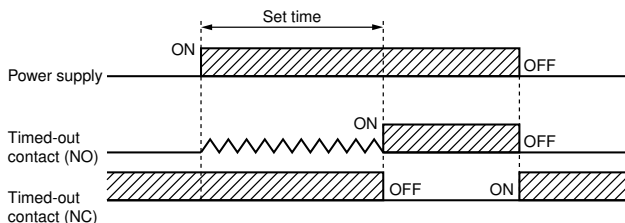
Time selectable

Product types

Product name	Operating voltage	10M type Part No.	30M type Part No.	10H type Part No.	30H type Part No.
PMH timer	100 to 120 V AC	PMH-10M-AC120V	PMH-30M-AC120V	PMH-10H-AC120V	PMH-30H-AC120V
	200 to 240 V AC	PMH-10M-AC220V	PMH-30M-AC220V	PMH-10H-AC220V	PMH-30H-AC220V
	12 V DC	PMH-10M-DC12V	PMH-30M-DC12V	PMH-10H-DC12V	PMH-30H-DC12V
	24 V DC	PMH-10M-DC24V	PMH-30M-DC24V	PMH-10H-DC24V	PMH-30H-DC24V
	48 V DC	PMH-10M-DC48V	PMH-30M-DC48V	PMH-10H-DC48V	PMH-30H-DC48V
	100 to 110 V DC	PMH-10M-DC100V	PMH-30M-DC100V	PMH-10H-DC100V	PMH-30H-DC100V

Notes: 1. 24 V AC type can also be ordered. Please inquire about pricing and any other details.
2. If embedding, please use the flush type mounting frame for that purpose.
3. Please order with a "9" at the end of the part number for UL and CSA certified products. Please inquire about pricing and any other details.

Time range

| Time range	Scale intervals
1.0	0.05
3.0	0.1
10	0.5
30	1

Operation mode

Specifications

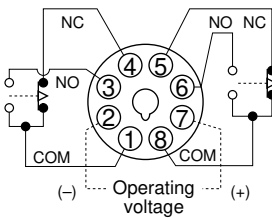| Type		PMH Timers	
		AC operating type	DC operating type
Rated operating voltage		100 to 120V, 200 to 240V (50/60Hz common)	12V, 24V, 48V, 100 to 110V
Rated power consumption		Max. 3VA	Max. 2W
Rated control capacity		7A 250V AC (resistive load)	
Operation mode		ON-delay	
Time accuracy	Operating time fluctuation & Power off time change error	[Except 1s range] Within ±0.5%* [1s range]: Within ±(0.5%+10ms) (power off time change at the range of 0.1 s to 1 h)	
	Voltage error	[Except 1s range] Within ±0.5%* [1s range]: Within ±(0.5%+10ms) (at the operating voltage changes between −20 to +10%)	
	Temperature error	Within ±5% (at 20°C 68°F ambient temp. at the range of −10 to +50°C +14 to +122°F)	
	Setting error	Within ±10% (Full-scale value)	
Output arrangement		Timed-out 2 Form C	
Contact resistance (Initial value)		Max. 50mΩ (By voltage drop 6V DC 1A)	
Expected life (min. operations)	Mechanical (constant)	Min. 5×10^7	
	Electrical (constant)	Min. 2×10^5 (at rated control capacity)	
Allowable operating voltage range		80 to 110% of rated operating voltage	
Insulation resistance (Initial value)		Min. 100MΩ Between input and output Between contact sets (at 500V DC) Between contacts	
Breakdown voltage (Initial value)		2000Vrms for 1min Between input and output 2000Vrms for 1min Between contact sets 1000Vrms for 1min Between contacts	
Power off time		Max. 0.1s	
Vibration resistance	Functional	10 to 55Hz: 1 cycle/min double amplitude of 0.5mm (10min on 3 axes)	
	Destructive	10 to 55Hz: 1 cycle/min double amplitude of 0.75mm (1h on 3 axes)	
Shock resistance	Functional	Min. 98m/s² (4 times on 3 axes)	
	Destructive	Min. 980m/s² (5 times on 3 axes)	
Ambient temperature		−10 to 50°C +14 to 122°F	
Ambient humidity		30 to 85% RH (at 20°C 68°F, non-condensing)	
Ripple factor		—	Full-wave rectified (Approx. 48%)

Dimensions (mm inch)

The CAD data of the products with a **CAD Data** mark can be downloaded from: http://panasonic-electric-works.net/ac

General tolerance: ±1.0 ±.039

CAD Data
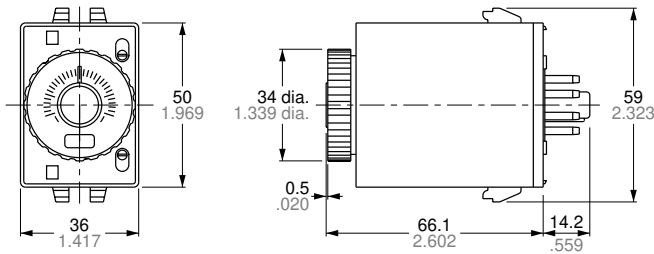
Terminal layouts and Wiring diagrams
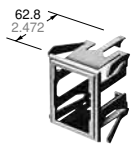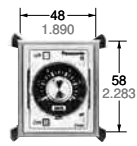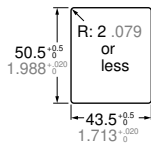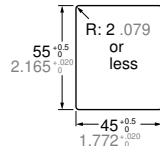

⚐ : Timed cut contact
⚐ : Instantaneous contact
Note: For the DC type, No. 2 terminal is (−).
*For installation parts, please refer to "PMH TIMER OPTIONS" on page 168.
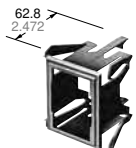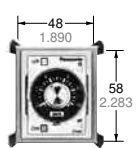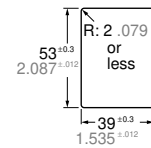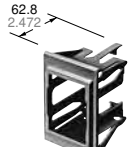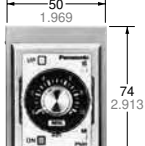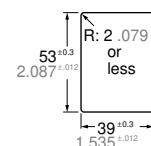
PMH TIMER OPTIONS

Flush Type
■ Flush type mounting frame

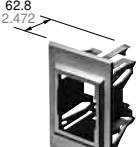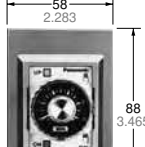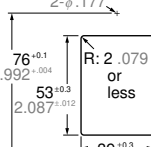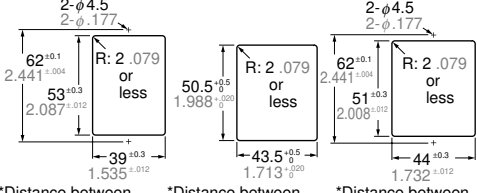| Appearance	Color	Model number	Front View (Installing onto control panel)	Mounting Hole Dimensions (Unit: mm inch)	
				Recommended Hole (For newly designed frame)	Applicable Mounting Hole (For installing in the old hole)
62.8 2.472	Gray	AT7851 N-TF-H-GR	48 1.890 / 58 2.283	$50.5^{+0.5}_{0}$ 1.988$^{+.020}_{0}$ / $43.5^{+0.5}_{0}$ 1.713$^{+.020}_{0}$ / R: 2 .079 or less	$55^{+0.5}_{0}$ 2.165$^{+.020}_{0}$ / $45^{+0.5}_{0}$ 1.772$^{+.020}_{0}$ / R: 2 .079 or less
	Black	AT7852 N-TF-H-B			
	Silver Gray	AT7853 N-TF-H-SG		*Distance between parallel drilled holes: 6.5 mm or more	*Distance between parallel drilled holes: 5 mm or more
62.8 2.472	Gray	AT7811 N-TF-K-GR	48 1.890 / 58 2.283	$53^{±0.3}$ 2.087$^{±.012}$ / $39^{±0.3}$ 1.535$^{±.012}$ / R: 2 .079 or less	
	Black	AT7812 N-TF-K-B			
	Silver Gray	AT7813 N-TF-K-SG		*Distance between parallel drilled holes: 11 mm or more	
62.8 2.472	Gray	AT7821 N-TF-YC-GR	50 1.969 / 74 2.913	$53^{±0.3}$ 2.087$^{±.012}$ / $39^{±0.3}$ 1.535$^{±.012}$ / R: 2 .079 or less	2-φ4.5 2-φ.177 / $62^{±0.1}$ 2.441$^{±.004}$ / $53^{±0.3}$ 2.087$^{±.012}$ / $39^{±0.3}$ 1.535$^{±.012}$ / R: 2 .079 or less 2-φ4.5 2-φ.177 / $50.5^{+0.5}_{0}$ 1.988$^{+.020}_{0}$ / $43.5^{+0.5}_{0}$ 1.713$^{+.020}_{0}$ / R: 2 .079 or less $62^{±0.1}$ 2.441$^{±.004}$ / $51^{±0.3}$ 2.008$^{±.012}$ / $44^{±0.3}$ 1.732$^{±.012}$ / R: 2 .079 or less
	Black	AT7822 N-TF-YC-B			
	Silver Gray	AT7823 N-TF-YC-SG		*Distance between parallel drilled holes: 13 mm or more	*Distance between parallel drilled holes: 13 mm or more *Distance between parallel drilled holes: 8.5 mm or more *Distance between parallel drilled holes: 8 mm or more
62.8 2.472	Gray	AT7831 N-TF-Y-GR	58 2.283 / 88 3.465	2-φ4.5 2-φ.177 / $76^{+0.1}_{+.004}$ 2.992 / $53^{±0.3}$ 2.087$^{±.012}$ / $39^{±0.3}$ 1.535$^{±.012}$ / R: 2 .079 or less	
				*Distance between parallel drilled holes: 21 mm or more	

Notes:
1. The thickness of all applicable panels ranges from 1.0 to 3.5 mm .039 to .138 inch.
2. * indicates the distance between the mounting holes which are parallel cut on the panel.

Installation

1. Insert the mounting frame surface into the panel from its front surface.
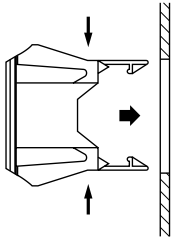
Note: The panel which is installed onto the flush type mounting frame for the timer cannot be inserted. (However, the installation order is not specified when the flush type mounting frame (type S) is used.)

2. After installing the panel, insert the timer to be used from the back of the panel.
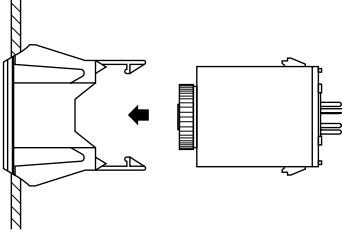
When an applicable timer comes in contact with the collar of the mounting frame, stop the timer by pressing the upper and lower hooks in the direction indicated by arrow. Use rear terminal socket (AT78041) or 8P cap (AD8-RC) for the connection wiring.

3. Hang the hooks on the timer base to secure the timer to the flush type mounting frame.

Arm Hook

8P cap

Arm Hook

Rear terminal socket
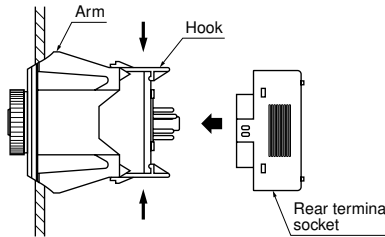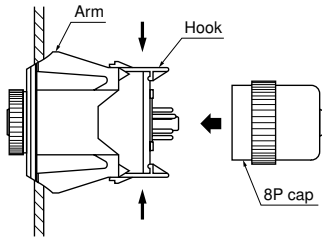
Removal

Remove the timer in the reverse order of installation.
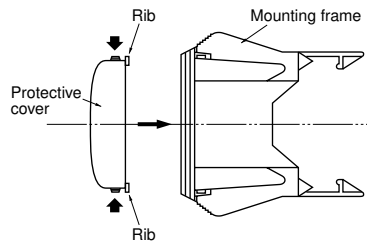

• **Compact timer protective cover**
Model number: N-TC

■ **Features**
1. The cover prevents the timer from operating improperly after setting the time. It also works as a compact dust cover.
2. The cover is applicable for all types of the fingertip flush type mounting frames for the compact timer.
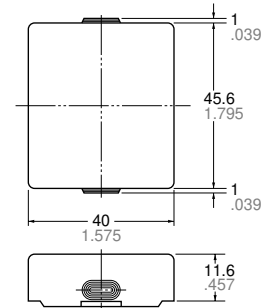
■ **Installation**

Rib
Mounting frame
Protective cover
Rib

Press the points on the protective cover (indicated by arrows) to bend the ribs, and hook the ribs inside the mounting frame window. The protective cover can be installed if the timer is inserted into the mounting frame.
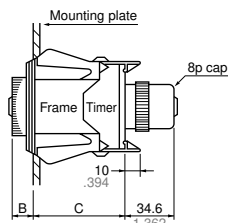
■ **Dimensions** (Unit: mm inch)
Tolerance: ±0.3 ±.012

1 .039
45.6 1.795
1 .039
40 1.575
11.6 .457

• **8P cap**   When a flush type mounting frame is used for the exposed type, 8P cap should be installed.

Model number: AD8-RC

34.6 1.362
31.5 dia. 1.240 dia.
30 dia. 1.181 dia.

Mounting plate
8p cap
Frame Timer
10 .394
B C 34.6 1.362

The dimensions B and C are shown in the table below.

(Unit: mm, inch)

Mounting frame to be used	Dimension B	Dimension C
Type H Type K	13.1	52.8
Type MHP Type MHP-M Type S	14.6	51.3

• **Rear terminal socket: M3.5**
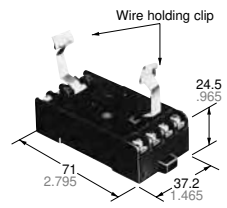Applicable for 8-pin type
Tolerance: ±1 ±.039

Model number: AT78041

21 .827
38 1.496
41 1.614
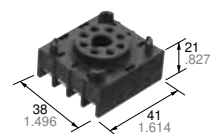
PMH TIMER OPTIONS

■ **Applicable for the exposed type plug-in and stand-up type timers (PMH)**
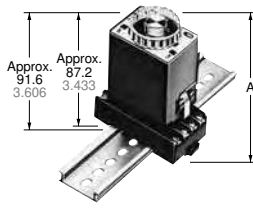
• **DIN terminal socket: M3.5**
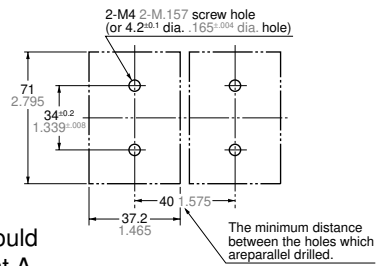
Tolerance: ±0.5 ±.020

Model number: AT8-RFD

Wire holding clip

24.5 .965

71 2.795

37.2 1.465

When installing the terminal socket:

All types of our compact size timers can beeasily installed on the DIN rail by using this terminal socket.

Approx. 91.6 3.606

Approx. 87.2 3.433

A

The height of the DIN rail should be added to the overall height A.

Mounting hole dimensions
Without DIN rails

2-M4 2-M.157 screw hole
(or 4.2±0.1 dia. .165±.004 dia. hole)

71 2.795

34±0.2 1.339±.008

37.2 1.465

40 1.575

The minimum distance between the holes which areparallel drilled.
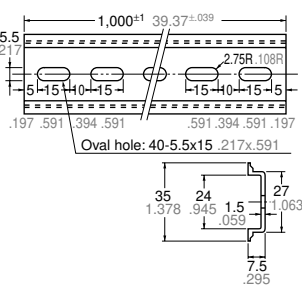
Wiring diagrams (TOP VIEW)
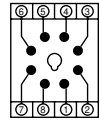
Note: Terminal number on the main body are identical to those on the terminal socket.

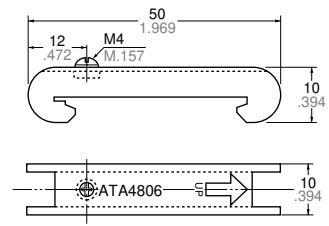• **Mounting rail (Applicable for DIN and IEC standards)**
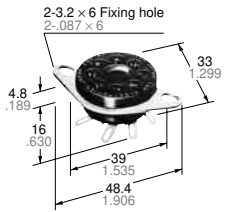Model number: AT8-DLA1

Length: 1 m 3.28 ft.
Aluminum

1,000±1 39.37±.039

5.5 .217

2.75R .108R

5 15 10 15 15 10 15 5
.197 .591 .394 .591 .591 .394 .591 .197

Oval hole: 40-5.5x15 .217x.591

35 1.378

24 .945

1.5 .059

27 1.063

7.5 .295

• **Fastening plate**
Model number: ATA4806

50 1.969

12 .472

M4 M.157

10 .394

ATA4806

10 .394

• **GT pipe socket**

Tolerance: ±0.5 ±.020

Model number: AW68102

2-3.2 × 6 Fixing hole
2-.087 × 6

33 1.299

4.8 .189

16 .630

39 1.535

48.4 1.906

Mounting hole dimensions

2-M3 2-M.118
screw hole
(or 3.5 dia. .138 dia. hole)

30 1.181 dia. hole

39 1.535
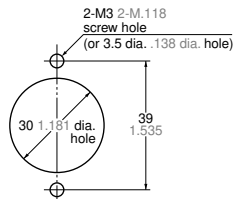
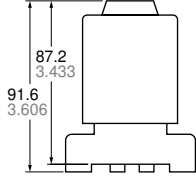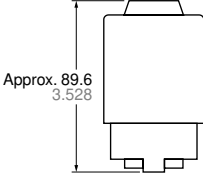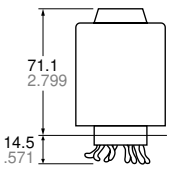**Pitch for installing the timer**
When installing the clips vertically, the pitch for the timer should be 79 mm 3.110 inch or more.

■ **Accessory**

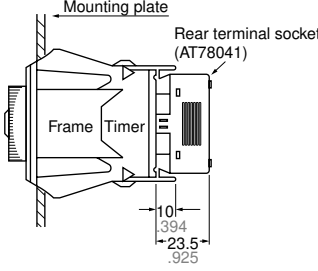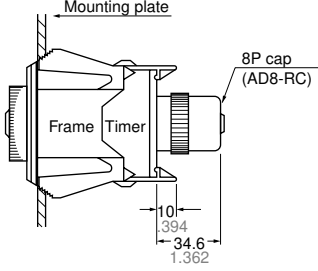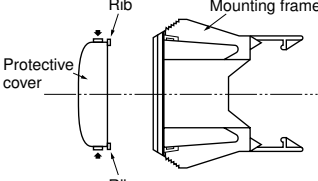## Used for the exposed type

(Unit: mm inch), General tolerance: ±1 ±.039

	• DIN terminal socket	• Timer rear terminal socket	• GT pipe socket
	87.2 3.433 / 91.6 3.606	Approx. 89.6 3.528	71.1 2.799 / 14.5 .571
Model number	AT8-RFD	AT78041	AW68102

For details, please refer to "PMH TIMER OPTIONS" on page 170.

Used for the flush type

Flush type mounting frame	• Compact timer rear terminal socket	• 8P cap	• Compact timer protective cover
	Mounting plate / Rear terminal socket (AT78041) / Frame Timer / 10 .394 / 23.5 .925	Mounting plate / 8P cap (AD8-RC) / Frame Timer / 10 .394 / 34.6 1.362	Rib / Mounting frame / Protective cover / Rib
Model number	AT78041	AD8-RC	N-TC

For details, please refer to "PMH TIMER OPTIONS" on page 168.

PRECAUTIONS IN USING PMH TIMERS

Precautions during usage

■ **In order to maintain the characteristics of PHM timer, do not remove the case.**

■ **Please use within an ambient temperature range of –10 to +50°C +14 to 122°F and in humidity no greater than 85% RH.**

■ **Prevent using PMH timer in such places where flammable or corrosive gas is generated, a lot of dust exists or considerable shock and vibration occur.**

■ **Since the main body cover is made of polycarbonate resin, prevent contact with organic solvents such as methyl alcohol, benzene and thinner, or string alkali materials such as ammonia and caustic soda.**

■ **Do not make direct solder connections to the round pins.**

■ **Carefully verify the terminal numbers when wiring the terminal socket and cap.**

■ **When rotating the knob, note that there are stoppers located just past the "0" side and the full scale side. Therefore, do not use unreasonable force.**

■ **Please use with a time setting that is no less than the minimum time limit. The minimum time limit is indicated on the dial by the ↳ mark.**

■ **The contacts will not operate if the needle is adjusted to the "0"position when the power is off.**

■ **Phase synchronization for AC load switching**
When timer output contact will be synchronized to the AC power phase, the electrical life may be compromised and locking (contact reset failure) may occur due to contact welding or contact transference. Therefore, please conduct tests using actual equipment.