

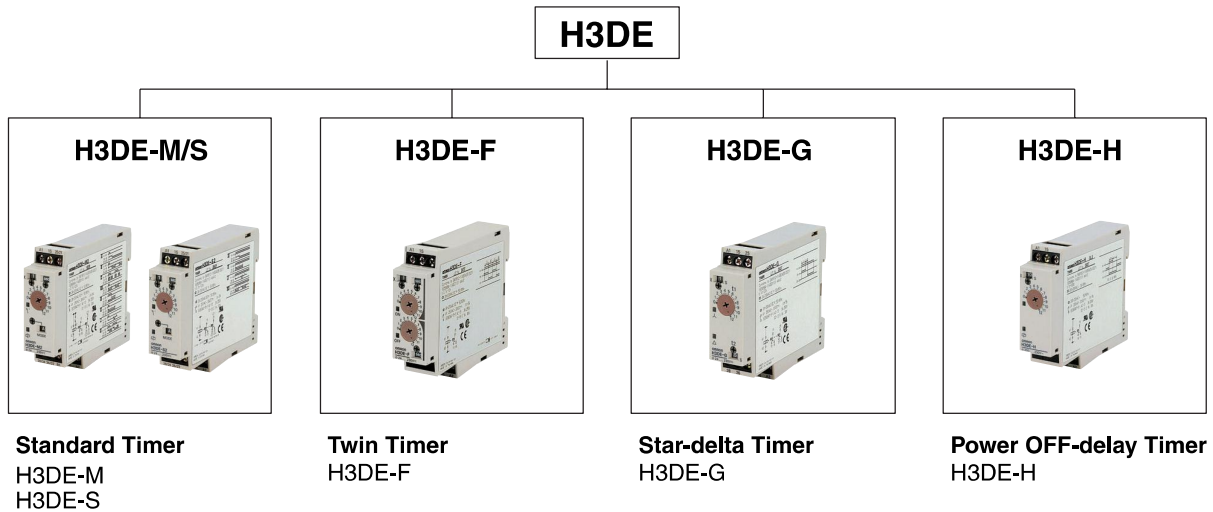
# Solid-state Timer H3DE

CSM\_H3DE\_DS\_E\_3\_1

## DIN Track Mounted, Standard 22.5-mm Width Timer Range

- A wide AC/DC power supply range (24 to 230 VAC/DC) reduces the number of timer models kept in stock. (except for H3DE-H)
- 12-VDC model available for a specific application. (H3DE-M2)
- Nameplate provided for easy timer identification and management.
- Terminal clamp left open when delivered.
- Finger protection terminal block to meet VDE0106/P100.
- Enables easy sequence checks through instantaneous outputs for a zero set value at any time range.
- Incorporates environment-friendly, cadmium-free contacts. (except for H3DE-H)
- High immunity to inverter noise.
- Approved by UL and CSA.
- Conforms to EN61812-1 and IEC60664-1 4 kV/2 for Low Voltage, and EMC Directives.

## ■ Broad Line-up of H3DE Series



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# Solid-state Multi-functional Timer H3DE-M/-S

- Eight operating modes (H3DE-M) and four operating modes (H3DE-S) cover a wide range of applications.
- Programmable contact enables the building of a self-holding relay circuit (-□2 models).
- A wide time setting range of 0.10 s to 120 h.



## Model Number Structure

### Model Number Legend

H3DE -      
           1      2

1. M: Multi-function type  
   S: Standard type
2. 2: DPDT  
   1: SPDT

## Ordering Information

### List of Models

Supply voltage	Control output	Model	
		Multi-function type	Standard type
12 VDC	Contact output: DPDT (time-limit output SPDT and switchable SPDT (time-limit ↔ instantaneous))	H3DE-M2 (see note)	--
24 to 230 VAC/DC	Contact output: DPDT (time-limit output SPDT and switchable SPDT (time-limit ↔ instantaneous))	H3DE-M2 (see note)	H3DE-S2
	Contact output: SPDT (time-limit output SPDT)	H3DE-M1	H3DE-S1

**Note:** Specify both the model number and supply voltage when ordering H3DE-M2.  
 Example: H3DE-M2 24 to 230 VAC/DC

└── Supply voltage

### Accessories (Order Separately)

Mounting Track	50 cm (l) x 7.3 mm (t)	PFP-50N
	1 m (l) x 7.3 mm (t)	PFP-100N
	1 m (l) x 16 mm (t)	PFP-100N2
End Plate	PFP-M	
Spacer	PFP-S	

# Specifications

## ■ General

Item	H3DE-M2	H3DE-M1	H3DE-S2	H3DE-S1
Operating mode	A: ON-delay (Signal or Power) B: Flicker OFF start (Signal or Power) B2: Flicker ON start (Signal or Power) C: Signal ON/OFF-delay D: Signal OFF-delay E: Interval (Signal or Power) G: Signal ON/OFF-delay J: One-shot (Signal or Power)		A: ON-delay B2: Flicker ON start E: Interval J: One-shot	
Terminal block	Clamps two 2.5 mm <sup>2</sup> max. bar terminals without sleeves.			
Terminal screw tightening torque	0.98 N·m max. {approx. 10 kgf·cm max.}			
Input type	Voltage input		---	
Output type	Relay: DPDT	Relay: SPDT	Relay: DPDT	Relay: SPDT
Mounting method	DIN track mounting (see note)			
Attachment	Nameplate			
Approved standards	UL508, CSA 22.2 No.14 Conforms to EN61812-1, IEC60664-1 4 kV/2, VDE0106/P100 Output category according to IEC60947-5-1 (AC-13; 250 V 5A/AC-15; 250 V 3 A/DC-13; 30 V 0.1 A)			

Note: Can be mounted to 35-mm DIN track with a plate thickness of 1 to 2.5 mm.

## ■ Time Ranges

Time scale display	Time unit display			
	sec	min	hrs	10 h
x 0.1	0.1 to 1.2 s	0.1 to 1.2 min	0.1 to 1.2 h	1 to 12 h
x 1	1 to 12 s	1 to 12 min	1 to 12 h	10 to 120 h

Note: When the main dial is set to "0" for all settings, the output will operate instantaneously.

## ■ Ratings

Rated supply voltage (see notes 1 and 2)	24 to 230 VAC/DC (50/60 Hz) 12 VDC (H3DE-M2 model only)		
Operating voltage range	85% to 110% of rated supply voltage		
Power reset	Minimum power-off time: 0.1 s		
Reset voltage	2.4 VAC/DC max.		
Power consumption (see note 3)	H3DE-M1	AC: approx. 4.3 VA (2.2 W) at 230 VAC DC: approx. 0.7 W at 24 VDC	
	H3DE-M2	AC: approx. 4.8 VA (2.4 W) at 230 VAC DC: approx. 1.0 W at 24 VDC	
	H3DE-S1	AC: approx. 2.7 VA (1.6 W) at 230 VAC DC: approx. 0.7 W at 24 VDC	
	H3DE-S2	AC: approx. 3.2 VA (1.9 W) at 230 VAC DC: approx. 1.0 W at 24 VDC	
Voltage input	Max. permissible capacitance between input lines (terminals B1 and A2): 2000 pF Load connectable in parallel with inputs (terminals B1 and A2) H-level: 20.4 to 253 VAC/DC L-level: 0 to 2.4 VAC/DC		
Control output	Contact output: 5 A at 250 VAC with resistive load ( $\cos\phi = 1$ ) 5 A at 30 VDC with resistive load ( $\cos\phi = 1$ )		
Ambient temperature	Operating: -10°C to 55°C (with no icing) Storage: -25°C to 65°C (with no icing)		
Ambient humidity	Operating: 35% to 85%		

Note: 1. DC ripple rate: 20% max.

2. Since an inrush current of 0.25 A will occur when using the power supply voltage at 24 VDC, pay careful attention when turning on or off the power supply to the Timer with a solid-state output such as a sensor.

3. The power consumption is for mode A after the Timer counts the time-up time and for the AC input at 50 Hz. The power consumption of the H3DE-M□ includes the input circuit with the B1 and A1 terminals short-circuited.

## ■ Characteristics

<b>Accuracy of operating time</b>	±1% max. of FS (±1% ±10 ms max. at 1.2-s range) (see note 1)	
<b>Setting error</b>	±10% ±50 ms max. of FS (see note 1)	
<b>Signal input time</b>	50 ms min. (see note 1)	
<b>Influence of voltage</b>	±0.5% max. of FS (±0.5% ±10 ms max. at 1.2-s range)	
<b>Influence of temperature</b>	±2% max. of FS (±2% ±10 ms max. at 1.2-s range)	
<b>Insulation resistance</b>	100 MΩ min. at 500 VDC	
<b>Dielectric strength</b>	Between current-carrying metal parts and exposed non-current-carrying metal parts: 2,000 VAC for 1 min. Between control output terminals and operating circuit: 2,000 VAC for 1 min. Between contacts of different polarities: 2,000 VAC for 1 min. Between contacts not located next to each other: 1,000 VAC for 1 min.	
<b>Vibration resistance</b>	Malfunction: 0.5-mm single amplitude at 10 to 55 Hz Destruction: 0.75-mm single amplitude at 10 to 55 Hz	
<b>Shock resistance</b>	Malfunction: 100 m/s <sup>2</sup> Destruction: 1,000 m/s <sup>2</sup>	
<b>Contact material</b>	AGNi+gold plating (Use the G6RN-1 at 12 VDC.)	
<b>Impulse withstand voltage</b>	3 kV (between power terminals) 4.5 kV (between current-carrying metal parts and exposed non-current-carrying metal parts)	
<b>Noise immunity</b>	Square-wave noise generated by noise simulator (pulse width: 100 ns/1 μs, 1-ns rise) ±1.5 kV	
<b>Static immunity</b>	Malfunction: 4 kV Destruction: 8 kV	
<b>Life expectancy</b>	Mechanical: 10 million operations min. (under no load at 1,800 operations/h) Electrical: 100,000 operations min. (5 A at 250 VAC, resistive load at 360 operations/h) (see note 2)	
<b>EMC</b>	(EMI)	EN61812-1
	Emission Enclosure:	EN55011 Group 1 class B
	Emission AC Mains:	EN55011 Group 1 class B
	Harmonic Current:	EN61000-3-2
	Voltage Fluctuation and Flickering:	EN61000-3-3
	(EMS)	EN61812-1
	Immunity ESD:	EN61000-4-2: 6 kV contact discharge (level 3) 8 kV air discharge (level 3)
	Immunity RF-interference from AM Radio Waves:	EN61000-4-3: 10 V/m (80 MHz to 1 GHz) (level 3)
	Immunity Burst:	EN61000-4-4: 2 kV power port and output port (level 3) 1 kV control port with capacitive clamp (level 3)
	Immunity Surge:	EN61000-4-5: 2 kV common mode (level 3) 1 kV differential mode (level 3)
<b>Degree of protection</b>	IP30 (Terminal block: IP20)	
<b>Weight</b>	120 g	

**Note 1.** With the H3DE-M□, if the voltage exceeds 26.4 VAC/DC, the following hold at signal OFF for C, D, and G modes:

Accuracy of operating time: ±1% ±50 ms max. at 1.2-s range

Setting error: ±10% ±100/-50 ms max.

Signal input time: 100 ms min.

**2.** For reference: A maximum current of 0.15 A can be switched at 125 VDC (cosφ=1).

A maximum current of 0.1 A can be switched if L/R is 7 ms.

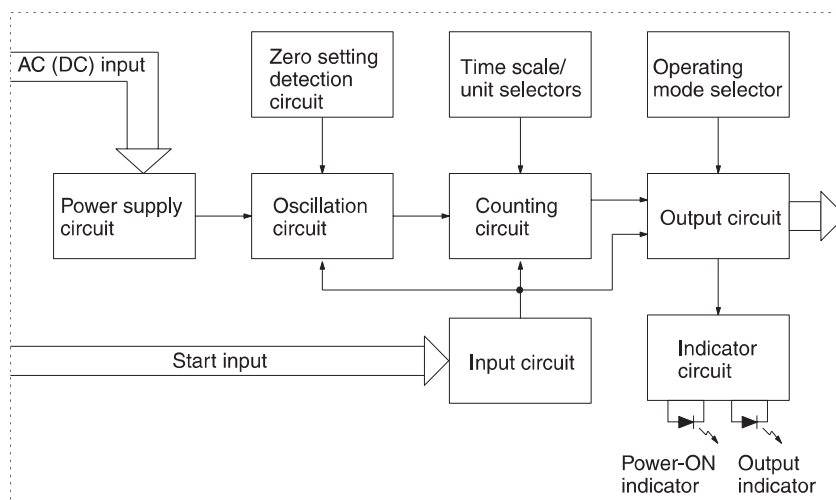
In both cases, a life of 100,000 operations can be expected.

The minimum applicable load is 10 mA at 5 VDC (failure level: P).

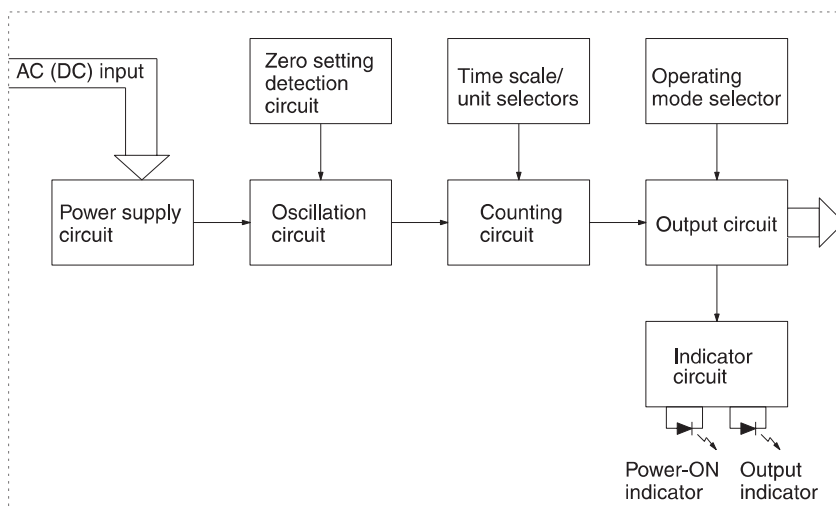
# Connections

## ■ Block Diagram

H3DE-M1/-M2



H3DE-S1/-S2

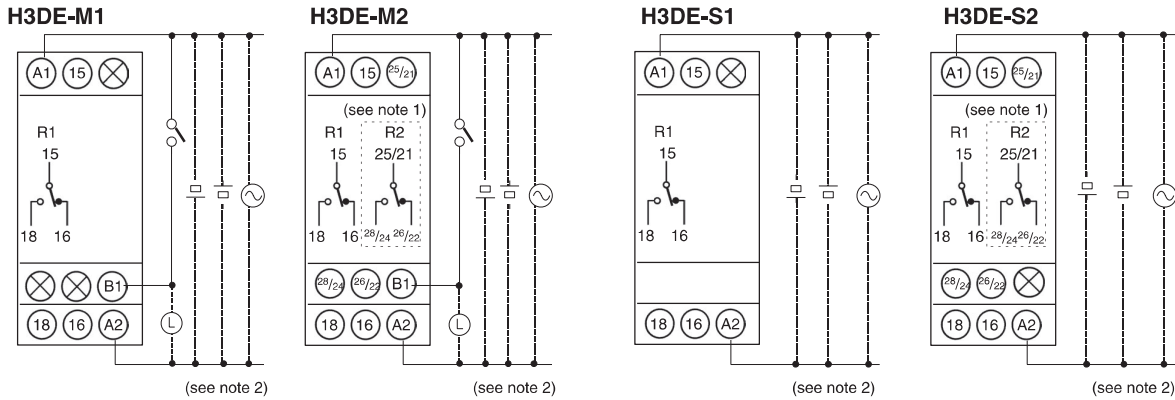


## ■ I/O Functions

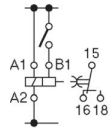
Item		H3DE-M1/-M2	H3DE-S1/-S2
<b>Input</b>	<b>Start</b>	Starts operation.	No input is available.
<b>Output</b>	<b>Control output</b>	Outputs are turned ON according to designated output mode when preset value is reached. (See note.)	Outputs are turned ON according to designated output mode when preset value is reached. (see note.)

**Note:** When the output type selector switch on the bottom of the Timer is set to the instantaneous side, the relay R2 (terminal numbers 21/25, 22/26, and 24/28) becomes an instantaneous contact and turns ON/OFF in synchronization with the changes in the power supply.

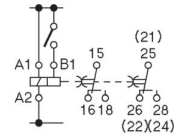
## Terminal Arrangement



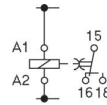
(DIN notation)



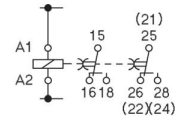
(DIN notation)




(DIN notation)



(DIN notation)



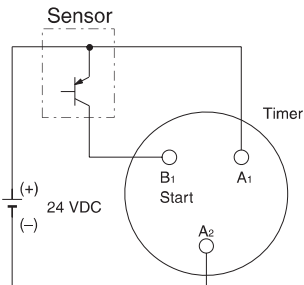
- Note: 1.** The relay R2 can be set to either instantaneous or time-limit contact using the switch located on the bottom of the Timer.  
**2.** DC supply voltage does not require the designation of polarity.  
**3.** The contact symbol for the H3DE is indicated with  because it offers multiple operating modes and is different from the delayed contact for conventional timers.

## Input Connections

The inputs of the H3DE-M1/-M2 are voltage (voltage imposition or open) inputs.

### No-contact Input

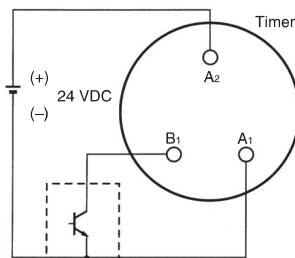
(Connection to PNP output sensor.)



Operates with PNP transistor ON

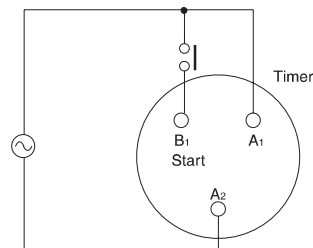
### No-contact Input

(Connection to NPN output sensor.)



Operates with NPN transistor ON

### Contact Input



Operates with relay ON

### Voltage Input Signal Levels

No-contact input	1. Transistor ON Residual voltage: 1 V max. (Voltage between terminals B <sub>1</sub> and A <sub>2</sub> must be more than the rated "H-level" voltage (20.4 VDC min.).)
	2. Transistor OFF Leakage current: 0.01 mA max. (Voltage between terminals B <sub>1</sub> and A <sub>2</sub> must be less than the rated "L-level" voltage (2.4 VDC max.).)
Contact input	Use contacts that can adequately switch 0.1 mA at each voltage to be imposed. (When the contacts are ON or OFF, voltage between terminals B <sub>1</sub> and A <sub>2</sub> must be within the following ranges: When contacts are ON: 20.4 to 253 VAC/DC When contacts are OFF: 0 to 2.4 VAC/DC

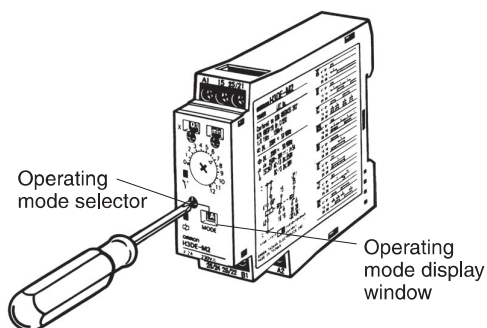
# Operation

## ■ Basic Operation

### Setting of Selector

The selectors can be turned clockwise and counterclockwise to select the desired time unit, time scale, or operating mode.

Each selector has a snap mechanism that secures the selector at a given position. Set the selector at a position at which it is secured. Do not set it midway between two securing positions or a malfunction could result from improper setting.

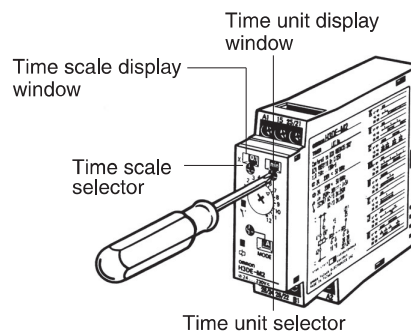


### Selection of Operating Mode

The H3DE-M/-S can be set to any one of the operating modes A to J. Turn the operating mode selector with a screwdriver until the desired operating mode (A, B, C, B2, D, E, J, or G for the H3DE-M and A, E, J, or B2 for the H3DE-S) appears in the operating mode display window located below the selector.

### Selection of Time Unit and Time Scale

The desired time unit (s, m, h, or 10h) can be displayed in the time unit display window above the time setting dial by turning the time unit selector located at the upper right corner of the front panel. Time scale (0.1 or 1) is selected with the time scale selector at the upper left corner of the front panel, it appears in the time scale display window above the selector.



## ■ Timing Chart

- Note:**
1. The minimum power reset time is 0.1 s and the minimum signal input time is 0.05 s.
  2. The letter "t" in the timing charts stands for the set time and "t-a" means that the period is less than the time set.
  3. There is no start input with H3DE-S□ models. Operation starts when the power is turned ON.
  4. There is no instantaneous output with H3DE-M1/-S1 models.

Operating mode	Timing chart	
<b>A: ON-delay</b>	<p>Power (A<sub>1</sub> and A<sub>2</sub>)</p> <p>Start (B<sub>1</sub> and A<sub>2</sub>) (see note)</p> <p>Time-limit contacts: NC 15 and 16 (25 and 26)</p> <p>Time-limit contacts: NO (output indicator) 15 and 18 (25 and 28)</p> <p>Instantaneous contacts: NC 25 and 26</p> <p>Instantaneous contacts: NO 25 and 28</p> <p>Power indicator</p>	<p><b>Basic operation</b></p> <p>* For power-on operation, impose voltage to the Start input. The Timer starts operating at the moment the power is turned on.</p> <p>** Start input is invalid while the Timer is in operation.</p>
<b>B: Flicker OFF start</b>	<p>Power (A<sub>1</sub> and A<sub>2</sub>)</p> <p>Start (B<sub>1</sub> and A<sub>2</sub>) (see note)</p> <p>Output relay: NC 15 and 16 (25 and 26)</p> <p>Output relay: NO (output indicator) 15 and 18 (25 and 28)</p> <p>Instantaneous contacts: NC 25 and 26</p> <p>Instantaneous contacts: NO 25 and 28</p> <p>Power indicator</p>	<p><b>Basic operation</b></p> <p>* For power-on operation, impose voltage to the Start input. The Timer starts operating at the moment the power is turned on.</p> <p>** Start input is invalid while the Timer is in operation.</p>
<b>B2: Flicker ON start</b>	<p>Power (A<sub>1</sub> and A<sub>2</sub>)</p> <p>Start (B<sub>1</sub> and A<sub>2</sub>) (see note)</p> <p>Output relay: NC 15 and 16 (25 and 26)</p> <p>Output relay: NO (output indicator) 15 and 18 (25 and 28)</p> <p>Instantaneous contacts: NC 25 and 26</p> <p>Instantaneous contacts: NO 25 and 28</p> <p>Power indicator</p>	<p><b>Basic operation</b></p> <p>* For power-on operation, impose voltage to the Start input. The Timer starts operating at the moment the power is turned on.</p> <p>** Start input is invalid while the Timer is in operation.</p>
<b>C: Signal ON/OFF-delay</b>	<p>Power (A<sub>1</sub> and A<sub>2</sub>)</p> <p>Start (B<sub>1</sub> and A<sub>2</sub>) (see note)</p> <p>Output relay: NC 15 and 16 (25 and 26)</p> <p>Output relay: NO (output indicator) 15 and 18 (25 and 28)</p> <p>Instantaneous contacts: NC 25 and 26</p> <p>Instantaneous contacts: NO 25 and 28</p> <p>Power indicator</p>	<p><b>Basic operation</b></p> <p>* Start input is valid and retriggerable while the Timer is in operation.</p>

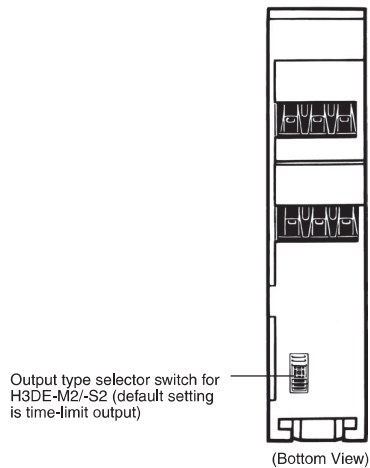
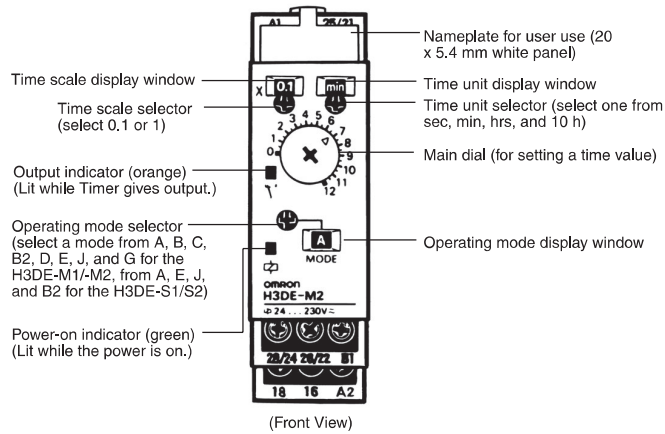
**Note:** The start input of the H3DE-M1 or H3DE-M2 model is activated by applying a voltage to B1 and A2 terminals. The voltage can be applied by turning on the contact between B1 and A1 (Refer to *Terminal Arrangement* on page 6)



Operating mode	Timing chart	
<b>D: Signal OFF-delay</b>		<p><b>Basic operation</b></p> <p>* Start input is valid and retriggerable while the Timer is in operation.</p>
<b>E: Interval</b>		<p><b>Basic operation</b></p> <p>* For power-on operation, impose voltage to the Start input. The Timer starts operating at the moment the power is turned on. ** Start input is valid and retriggerable while the Timer is in operation.</p>
<b>G: Signal ON/OFF-delay</b>		<p><b>Basic operation</b></p> <p>* Start input is valid and retriggerable while the Timer is in operation.</p>
<b>J: One-shot output (ON delay)</b>		<p><b>Basic operation</b></p> <p>* For power-on operation, impose voltage to the Start input. The Timer starts operating at the moment the power is turned on. ** Start input is valid and retriggerable while the Timer is in operation.</p>

**Note:** The start input of the H3DE-M1 or H3DE-M2 model is activated by applying a voltage to B1 and A2 terminals. The voltage can be applied by turning on the contact between B1 and A1 (Refer to *Terminal Arrangement* on page 6).

## Nomenclature



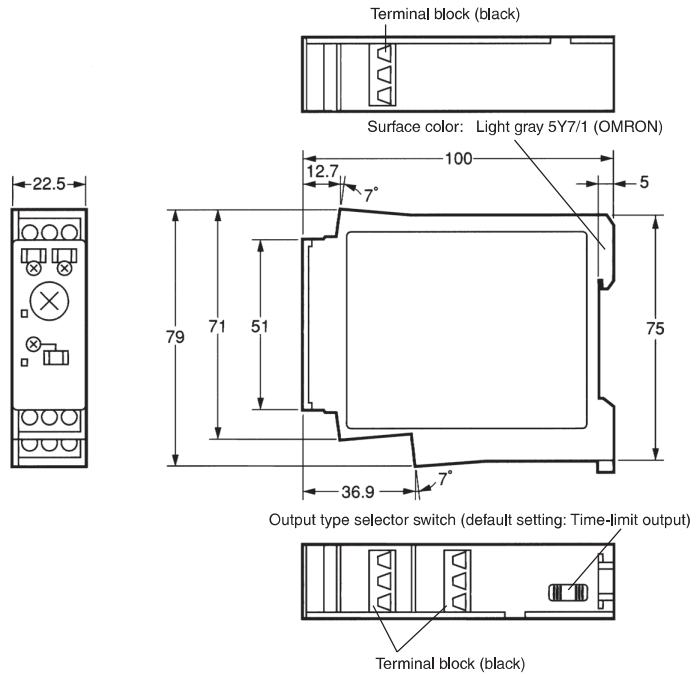
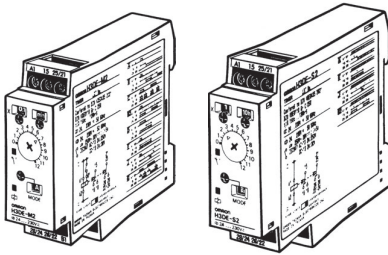
Output Type Selector Switch Settings

Setting	Output type
	Time-limit output (terminal numbers 25, 26 and 28) (default setting)
	Instantaneous output (terminal numbers 21, 22 and 24)

# Dimensions

**Note:** All units are in millimeters unless otherwise indicated.

H3DE-M/-S



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.  
 To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

# Solid-state Twin Timer H3DE-F

- Operates in flicker-OFF or flicker-ON start mode with one Unit.
- Independent ON- and OFF-time settings.  
Combinations of long ON- or OFF-time and short OFF- or ON-time setting are possible.
- Long time range from 0.1 s to 12 h for both ON and OFF time settings.



## Model Number Structure

### Model Number Legend

H3DE -   
1

1. F: Twin timers

## Ordering Information

### List of Models

Operating mode	Supply voltage	Model
Flicker-OFF/Flicker-ON start	24 to 230 VAC/VDC	H3DE-F

### Accessories (Order Separately)

Mounting Track	50 cm (l) x 7.3 mm (t)	PFP-50N
	1 m (l) x 7.3 mm (t)	PFP-100N
	1 m (l) x 16 mm (t)	PFP-100N2
End Plate	PFP-M	
Spacer	PFP-S	

# Specifications

## ■ General

Item	H3DE-F
Operating mode	Flicker-OFF/Flicker-ON start
Operating/Reset method	Time-limit operation/Time-limit reset or self-reset
Terminal block	Clamps two 2.5 mm <sup>2</sup> max. bar terminals without sleeves
Terminal screw tightening torque	0.98 N·m max. {approx. 10 kgf·cm max.}
Output type	Relay: SPDT
Mounting method	DIN track mounting (see note)
Attachment	Nameplate
Approved standards	UL508, CSA 22.2 No.14 Conforms to EN61812-1, IEC60664-1 4 kV/2, VDE0106/P 100 Output category according to IEC60947-5-1 (AC-13; 250 V 5A/AC-15; 250 V 3 A/DC-13; 30 V 0.1 A)

**Note:** Can be mounted to 35-mm DIN track with a plate thickness of 1 to 2.5 mm.

## ■ Time Ranges

Time scale display (see note 1)	Time unit display			
	sec	10 s	min	hrs
x 0.1	0.1 to 1.2 s	1 to 12 s	0.1 to 1.2 min	0.1 to 1.2 h
x 1	1 to 12 s	10 to 120 s	1 to 12 min	1 to 12 h

**Note: 1.** Time scale display is applied commonly for ON and OFF time.

**2.** When the main dial is set to "0" for all settings, the output will operate instantaneously.

## ■ Ratings

Rated supply voltage (see note)	24 to 230 VAC/VDC (50/60 Hz)
Operating voltage range	85% to 110% of rated supply voltage
Power reset	Minimum power-off time: 0.1 s
Reset voltage	2.4 VAC/DC max.
Power consumption	AC: Approx. 3.1 VA (1.8 W) at 230 VAC DC: Approx. 0.8 W at 24 VDC
Control output	Contact output: 5 A at 250 VAC with resistive load ( $\cos\phi = 1$ ) 5 A at 30 VDC with resistive load ( $\cos\phi = 1$ )
Ambient temperature	Operating: -10°C to 55°C (with no icing) Storage: -25°C to 65°C (with no icing)
Ambient humidity	Operating: 35% to 85%

**Note:** DC ripple rate: 20% max.

## ■ Characteristics

<b>Accuracy of operating time</b>	±1% max. of FS (±1% ±10 ms max. at 1,2-s range)
<b>Setting error</b>	±10% ± 0,05 s max. of FS
<b>Influence of voltage</b>	±0,5% max. of FS (±0,5% ±10 ms max. at 1,2-s range)
<b>Influence of temperature</b>	±2% max. of FS (±2% ± 10 ms max. at 1,2-s range)
<b>Insulation resistance</b>	100 MΩ min. at 500 VDC
<b>Dielectric strength</b>	Between current-carrying metal parts and exposed non-current-carrying metal parts: 2,000 VAC (50/60 Hz) for 1 min. Between control output terminals and operating circuit: 2,000 VAC (50/60 Hz) for 1 min. Between contacts not located next to each other: 1,000 VAC (50/60 Hz) for 1 min.
<b>Impulse withstand voltage</b>	3 kV (between power supply terminals) 4,5 kV (between current-carrying metal parts and exposed non-current-carrying metal parts)
<b>Noise immunity</b>	Square-wave noise generated by noise simulator (pulse width: 100 ns/1 μs, 1-ns rise) ±1,5 V
<b>Static immunity</b>	Malfunction: 4 kV Destruction: 8 kV
<b>Vibration resistance</b>	Malfunction: 0,5-mm single amplitude at 10 to 55 Hz Destruction: 0,75-mm single amplitude at 10 to 55 Hz
<b>Shock resistance</b>	Malfunction: 100 m/s <sup>2</sup> Destruction: 1,000 m/s <sup>2</sup>
<b>Life expectancy</b>	Mechanical: 10 million operations min. (under no load at 1,800 operations/h) Electrical: 100,000 operations min. (5 A at 250 VAC, resistive load at 360 operations/h)
<b>EMC</b>	(EMI) Emission Enclosure: EN61812-1 EN55011 Group 1 class B Emission AC Mains: EN55011 Group 1 class B Harmonic Current: EN61000-3-2 Voltage Fluctuation and Flickering: EN61000-3-3 (EMS) Immunity ESD: EN61812-1 EN61000-4-2: 6 kV contact discharge (level 3) 8 kV air discharge (level 3) Immunity RF-interference from AM Radio Waves: EN61000-4-3: 10 V/m (80 MHz to 1 GHz) (level 3) Immunity Burst: EN61000-4-4: 2 kV power port and output port (level 3) 1 kV control port with capacitive clamp (level 3) Immunity Surge: EN61000-4-5: 2 kV common mode (level 3) 1 kV differential mode (level 3)
<b>Degree of protection</b>	IP30 (IP20 for terminal block)
<b>Weight</b>	Approx. 110 g

**Note:** For reference:

A maximum current of 0,15 A can be switched at 125 VDC (cosφ=1).

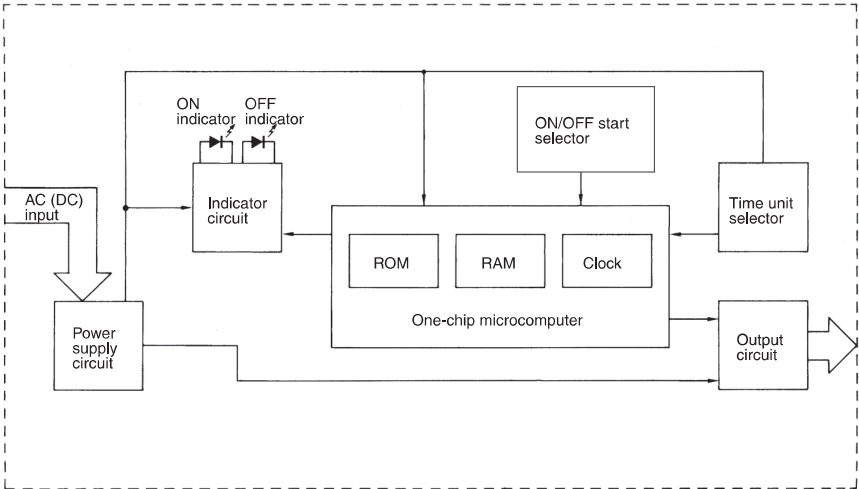
A maximum current of 0,1 A can be switched if L/R is 7 ms.

In both cases, a life of 100,000 operations can be expected.

The minimum applicable load is 10 mA at 5 VDC (failure level: P).

# Connections

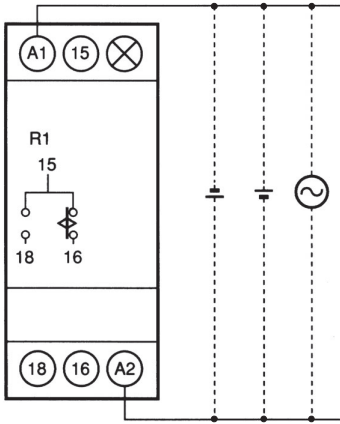
## ■ Block Diagram



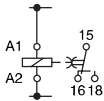
## ■ I/O Function

<b>Inputs</b>	--	
<b>Outputs</b>	<b>Control output</b>	Outputs are turned ON/OFF according to the time set by the ON-and OFF-time setting dial.

## ■ Terminal Arrangement



(DIN notation)



**Note:** DC supply voltage does not require the designation of polarity.

# Operation

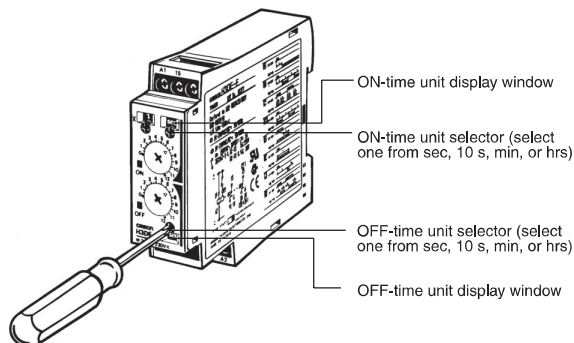
## Basic Operation

### Time Unit Selection

The time unit display window for output ON is located on the upper-right side of the front panel above the corresponding time unit selector.

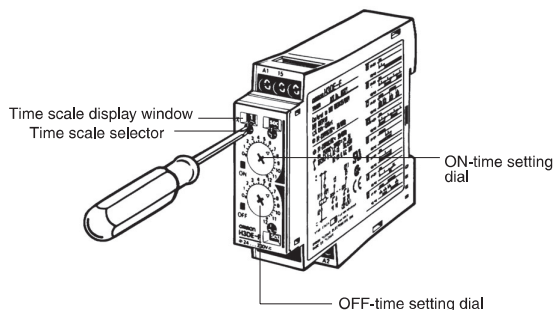
The time unit display window for output OFF is located on the lower-right side of the front panel below the corresponding time unit selector.

According to the setting of each time unit selector, "sec" for seconds, "10s" for 10 seconds, "min" for minutes, or "hrs" for hours will appear in the corresponding time unit display window.



### Time Scale Selection

The time scale selector on the upper-left side of the front panel can be set to 0.1 or 1 as a magnification coefficient.



### Time Setting

Use the ON/OFF-time setting dial to set the ON/OFF time.

## Timing Charts

Operating mode	Timing chart	
Flicker-OFF start	<p>Power (A<sub>1</sub> and A<sub>2</sub>)</p> <p>Output relay: NO 15 and 18 (ON indicator)</p> <p>Output relay: NC 15 and 16</p> <p>OFF indicator</p>	<p>t<sub>ON</sub>: ON set time t<sub>OFF</sub>: OFF set time</p>
Flicker-ON start	<p>Power (A<sub>1</sub> and A<sub>2</sub>)</p> <p>Output relay: NO 15 and 18 (ON indicator)</p> <p>Output relay: NC 15 and 16</p> <p>OFF indicator</p>	<p>t<sub>ON</sub>: ON set time t<sub>OFF</sub>: OFF set time</p>

**Note 1.** The reset time requires a minimum of 0.1 s.

**2.** When power is supplied in flicker-ON start mode, the OFF indicator lights momentarily. This, however, has no effect on the performance of the Timer.