

# Solid-state Twin Timers

# H3CR-F

## DIN 48 × 48-mm Twin Timers

- Wide power supply ranges of 100 to 240 VAC and 48 to 125 VDC respectively.
- ON- and OFF-times can be set independently and so combinations of long ON- or OFF-time and short OFF- or ON-time settings are possible.
- Fourteen time ranges from 0.05 s to 30 h or from 1.2 s to 300 h depending on the model to be used.
- Models with a flicker ON start or flicker OFF start are available.
- Easy sequence checks through instantaneous outputs for a zero set value at any time range.
- Length, when panel-mounted with a Socket, of 80 mm or less.
- 11-pin and 8-pin models are available.



## Model Number Structure

### Model Number Legend

H3CR - F     -    

1   2   3   4   5

#### 1. Classification

F: Twin timers

#### 2. Configuration

None: 11-pin socket

8: 8-pin socket

#### 3. Twin Timer Mode

None: Flicker OFF start

N: Flicker ON start

#### 4. Time Range

None: 0.05 s to 30 h models

300: 1.2 s to 300 h models

#### 5. Supply Voltage

100-240AC: 100 to 240 VAC

24AC/DC: 24 VAC/VDC

12DC: 12 VDC

48-125DC: 48 to 125 VDC

## Ordering Information

### List of Models

Operating modes	Supply voltage	0.05 s to 30 h models		1.2 s to 300 h models	
		11-pin models	8-pin models	11-pin models	8-pin models
Flicker OFF start	100 to 240 VAC	H3CR-F 100-240AC	H3CR-F8 100-240AC	H3CR-F-300 100-240AC	H3CR-F8-300 100-240AC
	24 VAC/DC	H3CR-F 24AC/DC	H3CR-F8 24AC/DC	H3CR-F-300 24AC/DC	H3CR-F8-300 24AC/DC
	12 VDC	H3CR-F 12DC	H3CR-F8 12DC	H3CR-F-300 12DC	H3CR-F8-300 12DC
	48 to 125 VDC	H3CR-F 48-125DC	H3CR-F8 48-125DC	H3CR-F-300 48-125DC	H3CR-F8-300 48-125DC
Flicker ON start	100 to 240 VAC	H3CR-FN 100-240AC	H3CR-F8N 100-240AC	H3CR-FN-300 100-240AC	H3CR-F8N-300 100-240AC
	24 VAC/DC	H3CR-FN 24AC/DC	H3CR-F8N 24AC/DC	H3CR-FN-300 24AC/DC	H3CR-F8N-300 24AC/DC
	12 VDC	H3CR-FN 12DC	H3CR-F8N 12DC	H3CR-FN-300 12DC	H3CR-F8N-300 12DC
	48 to 125 VDC	H3CR-FN 48-125DC	H3CR-F8N 48-125DC	H3CR-FN-300 48-125DC	H3CR-F8N-300 48-125DC

**Note:** Specify both the model number and supply voltage when ordering.

Example: H3CR-F 100-240AC

Supply voltage

## ■ Accessories (Order Separately)

Name/specifications		Models
Flush Mounting Adapter		Y92F-30
		Y92F-73
		Y92F-74
Mounting Track	50 cm (l) × 7.3 mm (t)	PFP-50N
	1 m (l) × 7.3 mm (t)	PFP-100N
	1 m (l) × 16 mm (t)	PFP-100N2
End Plate		PFP-M
Spacer		PFP-S
Protective Cover		Y92A-48B
Track Mounting/ Front Connecting Socket	8-pin	P2CF-08
	8-pin, finger safe type	P2CF-08-E
	11-pin	P2CF-11
	11-pin, finger safe type	P2CF-11-E
Back Connecting Socket	8-pin	P3G-08
	8-pin, finger safe type	P3G-08 with Y92A-48G (See note 1)
	11-pin	P3GA-11
	11-pin, finger safe type	P3GA-11 with Y92A-48G (See note 1)
Hold-down Clip (See note 2)	For PL08 and PL11 Sockets	Y92H-7
	For PF085A Socket	Y92H-8

**Note:** 1. Y92A-48G is a finger safe terminal cover which is attached to the P3G-08 or P3GA-11 Socket.

2. Hold-down Clips are sold in sets of two.

## Specifications

### ■ General

Item	H3CR-F	H3CR-F8	H3CR-FN	H3CR-F8N
Operating mode	Flicker OFF start		Flicker ON start	
Pin type	11-pin	8-pin	11-pin	8-pin
Operating/Reset method	Time-limit operation/Time-limit reset or self-reset			
Output type	Relay output (DPDT)			
Mounting method	DIN track mounting, surface mounting, and flush mounting			
Approved standards	UL508, CSA C22.2 No.14, NK, Lloyds Conforms to EN61812-1 and IEC60664-1 (VDE0110) 4kV/2. Output category according to EN60947-5-1.			

### ■ Time Ranges

#### 0.05 s to 30 h Models

Time unit	s (sec)	×10 s (10 sec)	min (min)	h (hrs)
Setting	1.2	0.05 to 1.2	1.2 to 12	0.12 to 1.2
	3	0.3 to 3	3 to 30	0.3 to 3
	12	1.2 to 12	12 to 120	1.2 to 12
	30	3 to 30	30 to 300	3 to 30

**Note:** Instantaneous output is available at any time range. To obtain instantaneous output, set to below 0.

#### 1.2 s to 300 h Models

Time unit	×10 s (10 sec)	×10 min (10 min)	h (hrs)	×10 h (10 hrs)
Setting	1.2	1.2 to 12	1.2 to 12	0.12 to 1.2
	3	3 to 30	3 to 30	0.3 to 3
	12	12 to 120	12 to 120	1.2 to 12
	30	30 to 300	30 to 300	3 to 30

**Note:** Instantaneous output is available at any time range. To obtain instantaneous output, set to below 0.

## ■ Ratings

<b>Rated supply voltage (See notes 1, 2, and 3.)</b>	100 to 240 VAC (50/60 Hz), 12 VDC, 24 VAC/DC (50/60 Hz), 48 to 125 VDC
<b>Operating voltage range</b>	85% to 110% of rated supply voltage; 90% to 110% with 12-VDC models
<b>Power reset</b>	Minimum power-opening time: 0.1 s
<b>Power consumption</b>	100 to 240 VAC: approx. 10 VA (2.1 W) at 240 VAC 24 VAC/VDC: approx. 2 VA (1.7 W) at 24 VAC approx. 1 W at 24 VDC 48 to 125 VDC: approx. 1.5 W at 125 VDC 12 VDC: approx. 1 W at 12 VDC
<b>Control outputs</b>	Contact output: 5 A at 250 VAC/30 VDC, resistive load ( $\cos\phi = 1$ )

- Note:** 1. A power supply with a ripple of 20% max. (single-phase power supply with full-wave rectification) can be used with each DC Model.  
2. Do not use an inverter output as the power supply. Refer to *Safety Precautions for All Timers* for details.  
3. Refer to *Safety Precautions for All Timers* when using the Timer together with a 2-wire AC proximity sensor.

## ■ Characteristics

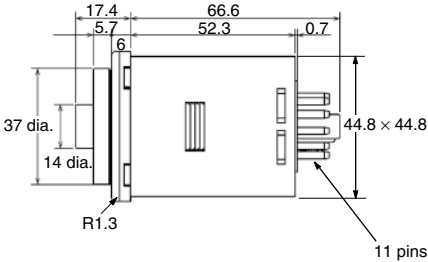
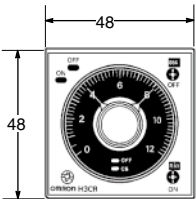
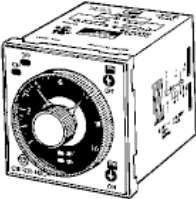
<b>Accuracy of operating time</b>	±0.2% FS max. (±0.2% FS ±10 ms max. in ranges of 1.2 and 3 s)	
<b>Setting error</b>	±5% FS ±50 ms max.	
<b>Reset time</b>	0.1 s max.	
<b>Reset voltage</b>	10% max. of rated voltage	
<b>Influence of voltage</b>	±0.2% FS max. (±0.2% FS ±10 ms max. in ranges of 1.2 and 3 s)	
<b>Influence of temperature</b>	±1% FS max. (±1% FS ±10 ms max. in ranges of 1.2 and 3s)	
<b>Insulation resistance</b>	100 MΩ min. (at 500 VDC)	
<b>Dielectric strength</b>	2,000 VAC, 50/60 Hz for 1 min (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 of different polarities) 1,000 VAC, 50/60 Hz for 1 min (between contacts not located next to each other)	
<b>Impulse withstand voltage</b>	3 kV (between power terminals) for 100 to 240 VAC, 48 to 125 VDC 1 kV for 12 VDC, 24 VAC/DC 4.5 kV (between current-carrying terminal and exposed non-current-carrying metal parts) for 100 to 240 VAC, 48 to 125 VDC 1.5 kV for 12 VDC, 24 VAC/DC	
<b>Noise immunity</b>	±1.5 kV (between power terminals), square-wave noise by noise simulator (pulse width: 100 ns/1 μs, 1-ns rise) ±400 V for 12 VDC	
<b>Static immunity</b>	Malfunction: 8 kV Destruction: 15 kV	
<b>Vibration resistance</b>	Destruction: 10 to 55 Hz with 0.75-mm single amplitude for 2 hrs each in three directions Malfunction: 10 to 55 Hz with 0.5-mm single amplitude for 10 min each in three directions	
<b>Shock resistance</b>	Destruction: 980 m/s <sup>2</sup> three times each in six directions Malfunction: 98 m/s <sup>2</sup> three times each in six directions	
<b>Ambient temperature</b>	Operating: -10°C to 55°C (with no icing) Storage: -25°C to 65°C (with no icing)	
<b>Ambient humidity</b>	Operating: 35% to 85%	
<b>Life expectancy</b>	Mechanical: 20 million operations min. (under no load at 1,800 operations/h) Electrical: 100,000 operations min. (5 A at 250 VAC, resistive load at 1,800 operations/h) (See note)	
<b>EMC</b>	(EMI)	EN61812-1
	Emission Enclosure:	EN55011 Group 1 class A
	Emission AC Mains:	EN55011 Group 1 class A
	(EMS)	EN61812-1
	Immunity ESD:	IEC61000-4-2: 6 kV contact discharge (level 3) 8 kV air discharge (level 3)
	Immunity RF-interference from AM Radio Waves:	IEC61000-4-3: 10 V/m (80 MHz to 1 GHz) (level 3)
	Immunity RF-interference from Pulse-modulated Radio Waves:	IEC61000-4-3: 10 V/m (900±5 MHz) (level 3)
	Immunity Conducted Disturbance:	IEC61000-4-6: 10 V (0.15 to 80 MHz) (level 3)
	Immunity Burst:	IEC61000-4-4: 2 kV power-line (level 3) 2 kV I/O signal-line (level 4)
	Immunity Surge:	IEC61000-4-5: 1 kV line to line (level 3) 2 kV line to ground (level 3)
<b>Case color</b>	Light Gray (Munsell 5Y7/1)	
<b>Degree of protection</b>	IP40 (panel surface)	
<b>Weight</b>	Approx. 100 g	

**Note:** Refer to the *Life-test Curve*.

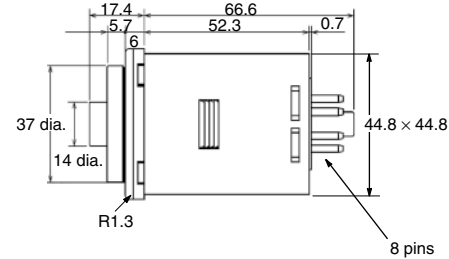
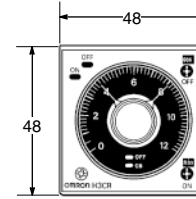
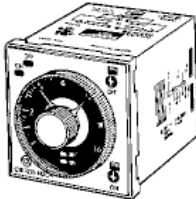
# Dimensions

Note: All units are in millimeters unless otherwise indicated.

H3CR-F  
H3CR-FN  
H3CR-F-300  
H3CR-FN-300

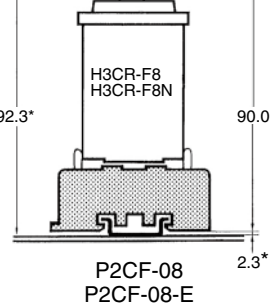
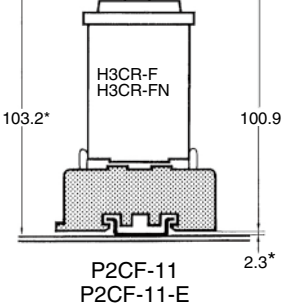


H3CR-F8  
H3CR-F8N  
H3CR-F8-300  
H3CR-F8N-300



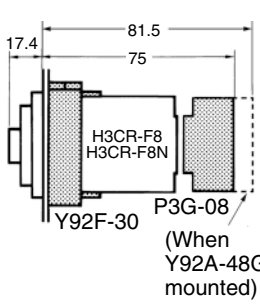
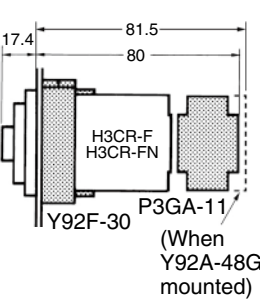
### Dimensions with Front Connecting Socket

P2CF-08-□/P2CF-11-□



### Dimensions with Back Connecting Socket

P3G-08/P3GA-11



\*These dimensions vary with the kind of DIN track (reference value).