

Solid-state Power OFF-delay Timers H3CR-H

DIN 48 × 48-mm Power OFF-delay Timer



- Long power OFF-delay times;
S-series: up to 12 seconds,
M-series: up to 12 minutes.
- Models with forced-reset input are available.
- 11-pin and 8-pin models are available.



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Model Number Structure

Model Number Legend

Note: This model number legend includes combinations that are not available. Before ordering, please check the *List of Models* on page 42 for availability.

H3CR - H □ □ L □ □
 1 2 3 4 5 6

Note: Specify the model number, supply voltage, and time range (S or M) when ordering.

1. Classification

H: Power OFF-delay timer

2. Configuration

None: 11-pin socket

8: 8-pin socket

3. Input

None: Without reset input

R: With reset input

4. Dimensions

L: Long-body model

5. Supply Voltage

100-120AC: 100 to 120 VAC

200-240AC: 200 to 240 VAC

24AC/DC: 24VAC/DC

48DC: 48 VDC

100-125DC: 100 to 125 VDC

6. Time Range

S: 0.05 to 12 s

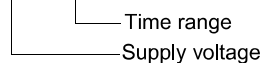
M: 0.05 to 12 min

List of Models

Input	Output	Supply voltage	S-series		M-series		
			11-pin models	8-pin models	11-pin models	8-pin models	
Without reset input	DPDT	100 to 120 VAC	---	H3CR-H8L 100-120AC S	---	H3CR-H8L 100-120AC M	
		200 to 240 VAC	---	H3CR-H8L 200-240AC S	---	H3CR-H8L 200-240AC M	
		24 VAC/DC	---	H3CR-H8L 24AC/DC S	---	H3CR-H8L 24AC/DC M	
		48 VDC	---	H3CR-H8L 48DC S	---	H3CR-H8L 48DC M	
		100 to 125 VDC	---	H3CR-H8L 100-125DC S	---	H3CR-H8L 100-125DC M	
With reset input	DPDT	100 to 120 VAC	H3CR-H8L 100-120AC S	---	H3CR-H8L 100-120AC M	---	
		200 to 240 VAC	H3CR-H8L 200-240AC S	---	H3CR-H8L 200-240AC M	---	
		24 VAC/DC	H3CR-H8L 24AC/DC S	---	H3CR-H8L 24AC/DC M	---	
		48 VDC	H3CR-H8L 48DC S	---	H3CR-H8L 48DC M	---	
		100 to 125 VDC	H3CR-H8L 100-125DC S	---	H3CR-H8L 100-125DC M	---	
	SPDT	100 to 120 VAC	---	H3CR-H8RL 100-120AC S	---	H3CR-H8RL 100-120AC M	---
		200 to 240 VAC	---	H3CR-H8RL 200-240AC S	---	H3CR-H8RL 200-240AC M	---
		24 VAC/DC	---	H3CR-H8RL 24AC/DC S	---	H3CR-H8RL 24AC/DC M	---
		48 VDC	---	H3CR-H8RL 48DC S	---	H3CR-H8RL 48DC M	---
		100 to 125 VDC	---	H3CR-H8RL 100-125DC S	---	H3CR-H8RL 100-125DC M	---

Note: Specify the model number, supply voltage, and time range (S or M) when ordering.

Example: H3CR-H8L 100-120AC S



H3CR-H

■ Accessories (Order Separately)

Adapter, Protective Cover and Hold-down Clip

Name/specifications		Models
Flush Mounting Adapters		Y92F-30
		Y92F-70 *1
		Y92F-71 *1
Protective Cover		Y92A-48B *2
Hold-down Clips	For PF085A Socket	Y92H-2
	For PL08 or PL11 Sockets	Y92H-1

Note: Refer to Operation (Common) datasheet for details.

*1. The Y92A-48B Protective Cover and the Y92F-70/-71 Flush Mounting Adapter cannot be used at the same time.

*2. The Y92F-48B Protective Cover is made from hard plastic. Remove the Protective Cover to change the set value.

Sockets

Timer Pin	Round Sockets		
	Connection	Terminal	Models
11-pin	Front Connecting	DIN track mounting	P2CF-11
		DIN track mounting (Finger-safe type)	P2CF-11-E
		Back Connecting	Screw terminal
	Back Connecting	Solder terminal	PL11
		Wrapping terminal	PL11-Q
		PCB terminal	PLE11-0
8-pin	Front Connecting	DIN track mounting	P2CF-08
		DIN track mounting (Finger-safe type)	P2CF-08-E
		DIN track mounting	PF085A
		Back Connecting	Screw terminal
	Back Connecting	Solder terminal	PL08
		Wrapping terminal	PL08-Q
		PCB terminal	PLE08-0

Note: 1. The P2CF-□□-E has a finger-protection structure. Round crimp terminals cannot be used. Use forked crimp terminals.
 2. The P3GA-11 and P3G-08 Socket can be used together with the Y92A-48G Terminal Cover to implement finger protection.
 3. For details, refer to your OMRON website.

Terminal Cover

Application	Model	Remarks
For back connecting socket	Y92A-48G	For P3G-08 and P3GA-11

Note: For details, refer to your OMRON website.

Specifications

■ General

Item	H3CR-H8L	H3CR-H8RL	H3CR-H8L
Operating/Reset method	Instantaneous operation/Time-limit reset	Instantaneous operation/Time-limit reset	Forced reset
Pin type	8-pin		11-pin
Input type	---	No-voltage input	
Output type	Relay output (DPDT)	Relay output (SPDT)	Relay output (DPDT)
Mounting method	DIN track mounting, surface mounting, and flush mounting		
Approved standards	UL508, CSA C22.2 No.14, NK, Lloyds, CCC Conforms to EN61812-1 and IEC60664-1 (VDE0110) 4kV/2. Output category according to EN60947-5-1.		

Note: For details, refer to your OMRON website.

■ Time Ranges

Scale number (max.)	Time unit	S-series	M-series
		s (sec)	min (min)
0.6	Set time range	0.05 to 0.6	
1.2		0.12 to 1.2	
6		0.6 to 6	
12		1.2 to 12	
Min. power ON time		0.1 s min.	2 s min.
Time-up operation repeat period		3 s min.	
Forced-reset repeat period		3 s min.	

Note: 1. If the above minimum power ON time is not secured, the H3CR may not operate. Be sure to secure the above minimum power ON time.
 2. Do not use the Timer with a repeat period of less than 3 s. Doing so may result in abnormal heating or burning. Refer to *Safety Precautions (H3CR-H)* on page 50 for details.

■ Ratings

Rated supply voltage (See notes 1 and 2.)	100 to 120 VAC (50/60 Hz), 200 to 240 VAC (50/60 Hz), 24 VAC/VDC (50/60 Hz), 48 VDC, 100 to 125 VDC
Operating voltage range	85% to 110% of rated supply voltage
No-voltage input (See note 3.)	ON-impedance: 1 kΩ max. ON residual voltage: 1 V max. OFF impedance: 500 kΩ min.
Power consumption	100 to 120 VAC: approx. 0.23 VA (0.22 W) at 120 VAC 200 to 240 VAC: approx. 0.35 VA (0.3 W) at 240 VAC 24 VAC/DC: approx. 0.17 VA (0.15 W) at 24 VAC approx. 1.0 W at 24 VDC 48 VDC: approx. 0.18 W at 48 VDC 100 to 125 VDC: approx. 0.5 W at 125 VDC
Control outputs	Contact output: 5 A at 250 VAC/30 VDC, resistive load ($\cos\phi = 1$) The minimum applicable load is 10mA at 5VDC (P reference value). Contact materials : Ag-alloy

- 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 your OMRON website for details.
 3. For contact input, use contacts which can adequately switch 1 mA at 5 V.

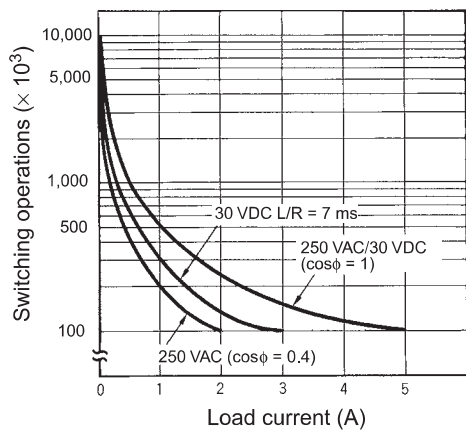
■ Characteristics

Accuracy of operating time	±0.2% FS max. (±0.2% FS ±10 ms max. in ranges of 0.6 and 1.2 s)
Setting error	±5% FS ±50 ms max.
Operation start voltage	30% max. of rated voltage
Influence of voltage	±0.2% FS max. (±0.2% FS ±10 ms max. in ranges of 0.6 and 1.2 s)
Influence of temperature	±1% FS max. (±1% FS ±10 ms max. in ranges of 0.6 and 1.2 s)
Insulation resistance	100 MΩ min. (at 500 VDC)
Dielectric strength	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)
Impulse withstand voltage	5 kV (between power terminals) for 100 to 120 VAC, 200 to 240 VAC, 100 to 125 VDC; 1 kV for 24 VAC/DC, 48 VDC 5 kV (between current-carrying terminal and exposed non-current-carrying metal parts) for 100 to 120 VAC, 200 to 240 VAC, 100 to 125 VDC; 1.5 kV for 24 VAC/DC, 48 VDC
Noise immunity	±1.5 kV (between power terminals) and ±600 V (between input terminals), square-wave noise by noise simulator (pulse width: 100 ns/1 μs, 1-ns rise); ±1 kV (between power terminals) for 48 VDC
Static immunity	Malfunction: 8 kV, Destruction: 15 kV
Vibration resistance	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
Shock resistance	Destruction: 980 m/s ² three times each in six directions Malfunction: 98 m/s ² three times each in six directions
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%
Life expectancy	Mechanical: 10 million operations min. (under no load at 1,200 operations/h) Electrical: 100,000 operations min. (5 A at 250 VAC, resistive load at 1,200 operations/h) (See note)
EMC	(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 Immunity RF-interferenc: IEC61000-4-3 Immunity Burst: IEC61000-4-4 Immunity Surge: IEC61000-4-5 Immunity Conducted Disturbance: IEC61000-4-6 Immunity Voltage Dip/Interruption: IEC61000-4-11
Case color	Light Gray (Munsell 5Y7/1)
Degree of protection	IP40 (panel surface)
Weight	Approx. 120 g

Note: Refer to the *Life-test Curve(Reference)*.

H3CR-H

Life-test Curve(Reference)



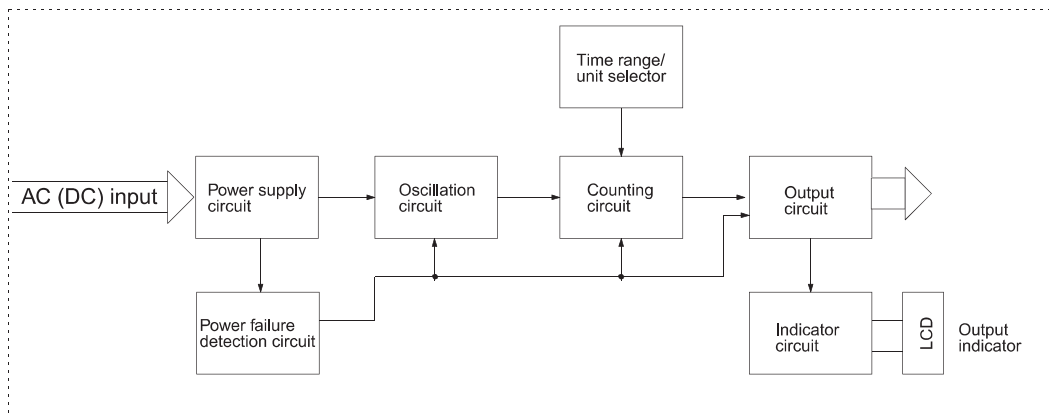
Reference: A maximum current of 0.15 A can be switched at 125 VDC ($\cos\phi = 1$) and a maximum current of 0.1A can be switched at 125V DC and L/R = 7ms. In both cases, a life of 100,000 operations can be expected.

The minimum applicable load is 10 mA at 5 VDC for H3CR-H8L/-HRL and 100 mA at 5 VDC for H3CR-H8RL (failure level: P).

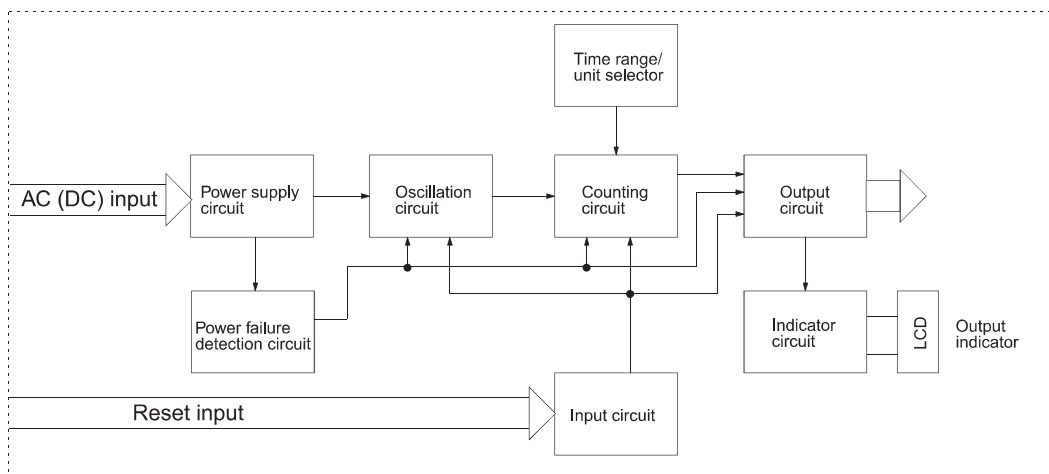
Connections

Block Diagrams

Without Reset Input (H3CR-H8L)



With Reset Input (H3CR-H8RL/-HRL)



I/O Functions

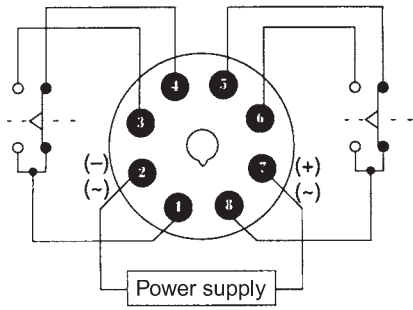
Inputs	Reset	Turns off the control output and resets the elapsed time.
Outputs	Control output	Operates instantaneously when the power is turned on and time-limit resets when the set time is up after the power is turned off.

Terminal Arrangement

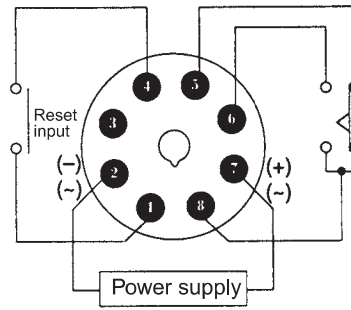
Note: DC models, including 24 VAC/DC models, have polarity.

8-pin Models

Without Reset Input (H3CR-H8L)



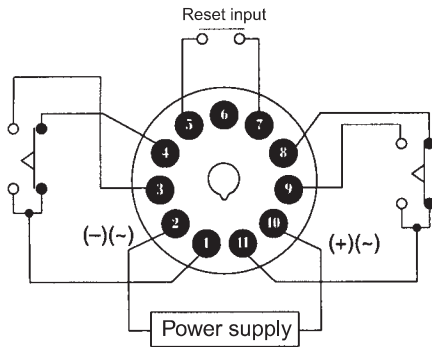
With Reset Input (H3CR-H8RL)



Note: Leave terminal 3 open. Do not use them as relay terminals.

11-pin Model

With Reset Input (H3CR-HRL)



Note: Leave terminal 6 open. Do not use them as relay terminals.

Operation

■ Timing Chart

t: Set time

Rt: Minimum power ON time (S-series: 0.1 s min.; M-series: 2 s min.)

If the power ON time is less than this value, the Timer may not operate (i.e., output may not turn ON).

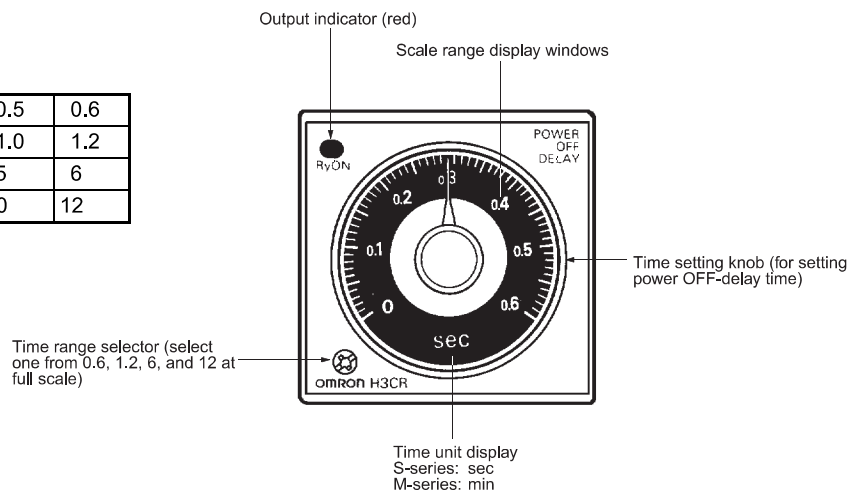
Model	Timing chart
H3CR-H8L	
H3CR-H8RL	
H3CR-HRL	

Note: If the power is turned ON until the set time is up, the timer will be retriggered.

Nomenclature

Scale range display windows changes as below by turning the Time range selector clockwise.

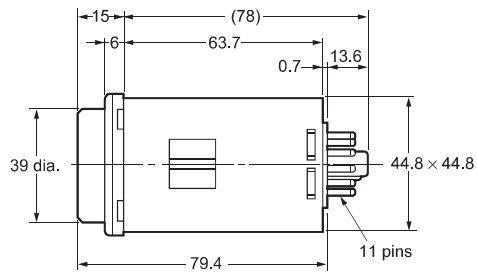
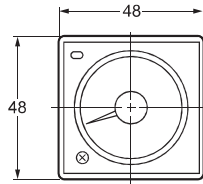
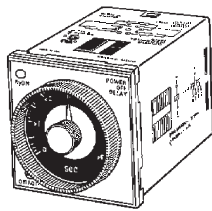
0	0.1	0.2	0.3	0.4	0.5	0.6
0	0.2	0.4	0.6	0.8	1.0	1.2
0	1	2	3	4	5	6
0	2	4	6	8	10	12



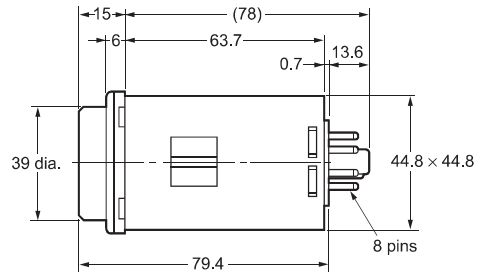
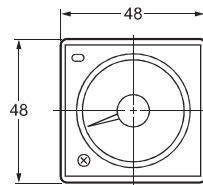
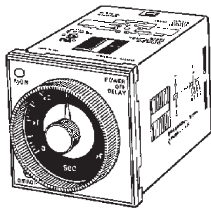
Dimensions

Note: All units are in millimeters unless otherwise indicated.

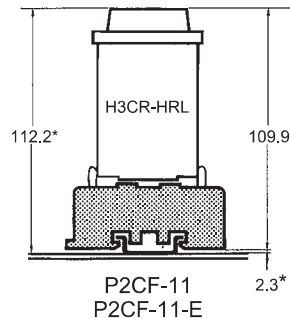
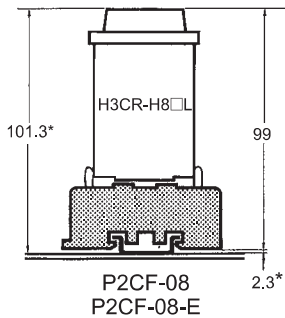
H3CR-H8L H3CR-H8RL



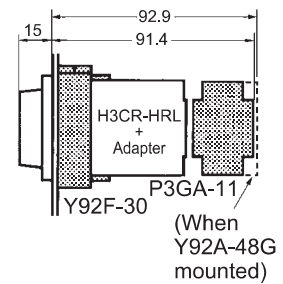
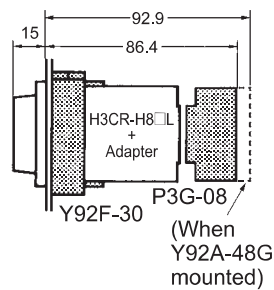
H3CR-HRL



Dimensions with Front Connecting Socket P2CF-08-□/ P2CF-11-□



Dimensions with Back Connecting Socket P3G-08/P3GA-11



Note: There are no restrictions to the mounting direction.
* These dimensions vary with the kind of DIN track (reference value).

H3CR-H

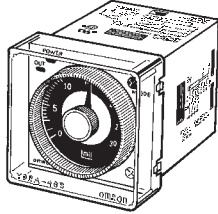
■ Accessories (Order Separately)

Protective Cover

Y92A-48B

To use the Protective Cover with a flush mounting, use the Y92F-30 flush mounting adaptor.

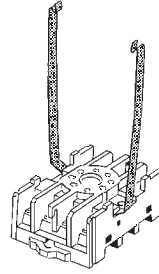
This Protective Cover cannot be used together with the Y92F-70/-71 flush mounting adaptor or the panel cover.



Hold-down Clip

Y92H-2

The Y92H-2 Hold-down Clip is attached to the PF085A socket.



Y92H-1

Y92H-1 Hold-down Clip is attached with screws together with the PL08.



NO: TI-049
DATE: March 2014

PRODUCT: H3CR Timers
TYPE: Modification Notice

H3CR Timers Modified with More Timing Modes and Timing Units; New Supply Voltage Ranges Simplify Stocking

Effective date: April 2013

Reasons for modification: Streamline product offering to make timers easier to stock with fewer part numbers. Expanded timing modes and units were added to meet users' needs and keep H3CR competitive in the marketplace.



Affected Parts

Part number	Part number
H3CR-A AC100-240/DC100-125 300H	H3CR-H8L AC200/220/240 12M
H3CR-A AC24-48/DC12-48 300H	H3CR-H8L DC100-125 12M
H3CR-A-301 AC100-240/DC100-125 600H	H3CR-H8L DC48 12M
H3CR-A-301 AC24-48/DC12-48 600H	H3CR-H8L AC/DC24 12S
H3CR-A8 AC100-240/DC100-125 300H	H3CR-H8L AC100/110/120 12S
H3CR-A8 AC24-48/DC12-48 300H	H3CR-H8L AC200/220/240 12S
H3CR-A8-301 AC100-240/DC100-125 600H	H3CR-H8L DC100-125 12S
H3CR-A8-301 AC24-48/DC12-48 600H	H3CR-H8L DC48 12S
H3CR-A8-31 DC100 300H	H3CR-H8RL AC/DC24 12M
H3CR-A8E AC100-240/DC100-125 300H	H3CR-H8RL AC100/110/120 12M
H3CR-A8E AC24-48/DC24-48 300H	H3CR-H8RL AC200/220/240 12M
H3CR-A8S AC24-48/DC12-48 300H	H3CR-H8RL DC100-125 12M
H3CR-AP AC100-240/DC100-125 300H	H3CR-H8RL AC/DC24 12S
H3CR-AP AC24-48/DC12-48 300H	H3CR-H8RL AC100/110/120 12S
H3CR-AS AC24-48/DC12-48 300H	H3CR-H8RL AC200/220/240 12S
H3CR-F AC/DC24	H3CR-H8RL DC100-125 12S
H3CR-F AC100-240	H3CR-H8RL DC48 12S
H3CR-F8 AC/DC24	H3CR-H8RL DC48 M
H3CR-F8 AC100-240	H3CR-H8RL AC/DC24 12M
H3CR-F8N AC/DC24	H3CR-H8RL AC100/110/120 12M
H3CR-F8N AC100-240	H3CR-H8RL AC200/220/240 12M
H3CR-FN AC/DC24	H3CR-H8RL DC100-125 12M
H3CR-FN AC100-240	H3CR-H8RL AC/DC24 12S
H3CR-G8EL AC100/110/120	H3CR-H8RL AC100/110/120 12S
H3CR-G8EL AC200/220/240	H3CR-H8RL AC200/220/240 12S
H3CR-G8L AC100/110/120	H3CR-H8RL DC100-125 12S
H3CR-G8L AC200/220/240	H3CR-H8RL DC48 12S
H3CR-H8L AC/DC24 12M	H3CR-H8RL DC48 M
H3CR-H8L AC100/110/120 12M	


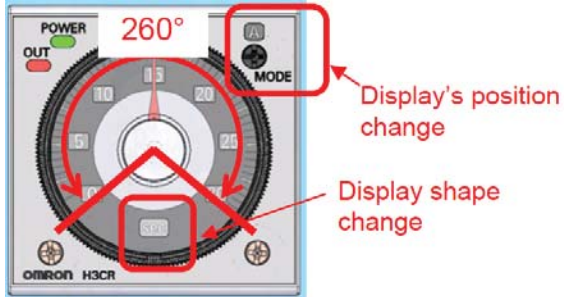
See the following pages for details about the changes.

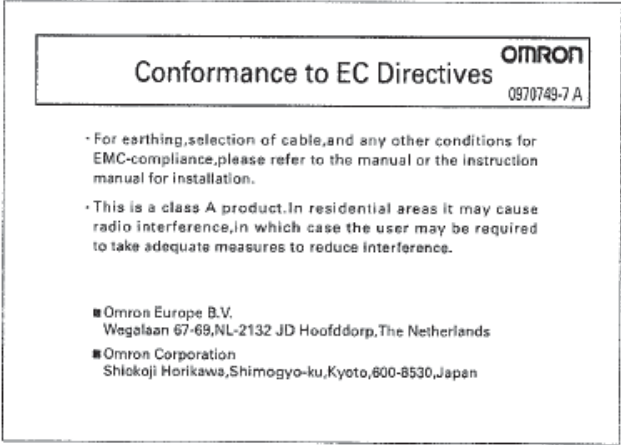
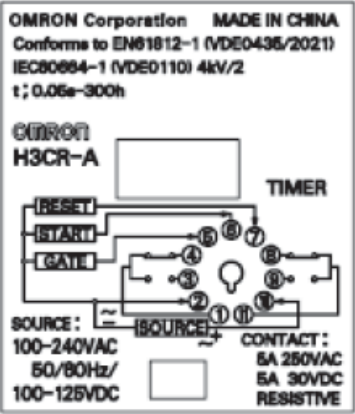
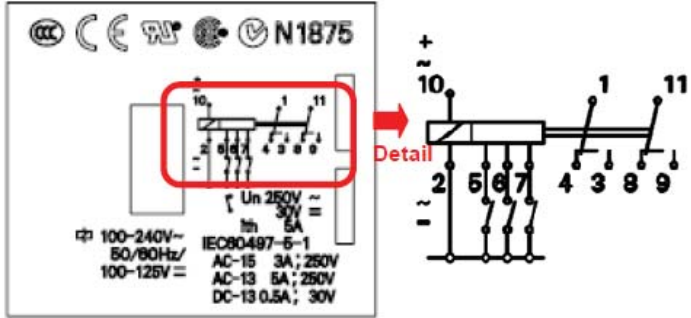
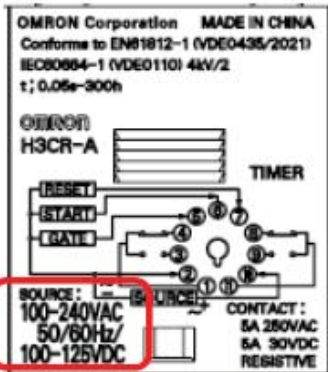
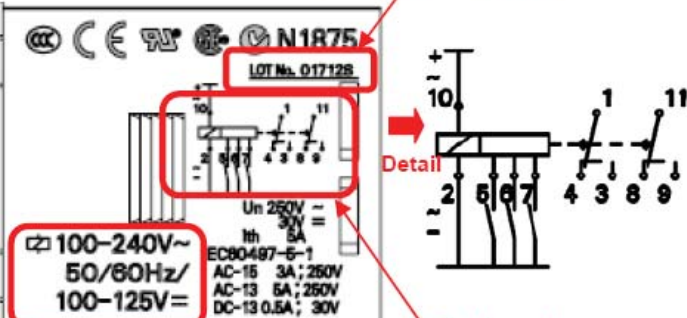
Changes



Before the change	After the change								
<p>Operating mode Applicable model: H3CR-A, AP, AS 6 mode</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Operating mode</th> </tr> </thead> <tbody> <tr> <td>6 mode</td> <td>A: ON-delay B: Flicker OFF start B2: Flicker ON start C: Signal ON/OFF-delay D: Signal OFF-delay E: Interval</td> </tr> </tbody> </table>	Type	Operating mode	6 mode	A: ON-delay B: Flicker OFF start B2: Flicker ON start C: Signal ON/OFF-delay D: Signal OFF-delay E: Interval	<p>Operating mode Applicable model: H3CR-A, AP, AS 8 mode</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Operating mode</th> </tr> </thead> <tbody> <tr> <td>8 mode</td> <td>A: ON-delay B: Flicker OFF start B2: Flicker ON start C: Signal ON/OFF-delay D: Signal OFF-delay E: Interval G: Signal ON/OFF-delay J: One-shot</td> </tr> </tbody> </table>	Type	Operating mode	8 mode	A: ON-delay B: Flicker OFF start B2: Flicker ON start C: Signal ON/OFF-delay D: Signal OFF-delay E: Interval G: Signal ON/OFF-delay J: One-shot
Type	Operating mode								
6 mode	A: ON-delay B: Flicker OFF start B2: Flicker ON start C: Signal ON/OFF-delay D: Signal OFF-delay E: Interval								
Type	Operating mode								
8 mode	A: ON-delay B: Flicker OFF start B2: Flicker ON start C: Signal ON/OFF-delay D: Signal OFF-delay E: Interval G: Signal ON/OFF-delay J: One-shot								
<p>Operating mode selection sequence Applicable model: H3CR-A, AP, AS 6 mode A→B→B2→C→D→E→(A→B ...) (clockwise : 6 selectors)</p>	<p>Operating mode selection sequence Applicable model: H3CR-A, AP, AS 8 mode A→B→B2→C→D→E→G→J→(A→B ...) (clockwise : 8 selectors)</p>								

Before the change	After the change								
<p>Operating mode Applicable model: H3CR-A8, A8S, A8E 4 mode</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Operating mode</th> </tr> </thead> <tbody> <tr> <td>4 mode</td> <td>A: ON-delay (power supply start) B2: Flicker ON start (power supply start) E: Interval (power supply start) J: One-shot (power supply start)</td> </tr> </tbody> </table>	Type	Operating mode	4 mode	A: ON-delay (power supply start) B2: Flicker ON start (power supply start) E: Interval (power supply start) J: One-shot (power supply start)	<p>Operating mode Applicable model: H3CR-A8, A8S, A8E 5 mode</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Operating mode</th> </tr> </thead> <tbody> <tr> <td>5 mode</td> <td>A: ON-delay (power supply start) B2: Flicker ON start (power supply start) E: Interval (power supply start) J: One-shot (power supply start) B: Flicker OFF start (power supply start)</td> </tr> </tbody> </table>	Type	Operating mode	5 mode	A: ON-delay (power supply start) B2: Flicker ON start (power supply start) E: Interval (power supply start) J: One-shot (power supply start) B: Flicker OFF start (power supply start)
Type	Operating mode								
4 mode	A: ON-delay (power supply start) B2: Flicker ON start (power supply start) E: Interval (power supply start) J: One-shot (power supply start)								
Type	Operating mode								
5 mode	A: ON-delay (power supply start) B2: Flicker ON start (power supply start) E: Interval (power supply start) J: One-shot (power supply start) B: Flicker OFF start (power supply start)								
<p>Operating mode selection sequence Applicable model: H3CR-A8, A8S, A8E 6 mode A→B2→E→J→A→E→(A→B2 ...) (clockwise : 6 selectors)</p>	<p>Operating mode selection sequence Applicable model: H3CR-A8, A8S, A8E 8 mode A→B2→E→J→B→A→B2→E→(A→B2 ...) (clockwise : 8 selectors)</p>								

Before the change	After the change																																																										
<p>Time Unit Applicable model: H3CR-A, AP, AS, A8, A8S, A8E</p> <table border="1"> <thead> <tr> <th colspan="2">Time unit</th> <th>sec</th> <th>min</th> <th>hrs</th> <th>×10h</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Full scale setting</td> <td>1.2</td> <td rowspan="2">0.05~1.2</td> <td colspan="2">0.12~1.2</td> <td>1.2~12</td> </tr> <tr> <td>3</td> <td colspan="2">0.3~3</td> <td>3~30</td> </tr> <tr> <td>12</td> <td colspan="2">1.2~12</td> <td>12~120</td> </tr> <tr> <td>30</td> <td colspan="2">3~30</td> <td>30~300</td> </tr> </tbody> </table>	Time unit		sec	min	hrs	×10h	Full scale setting	1.2	0.05~1.2	0.12~1.2		1.2~12	3	0.3~3		3~30	12	1.2~12		12~120	30	3~30		30~300	<p>Time Unit Applicable model: H3CR-A, AP, AS, A8, A8S, A8E</p> <table border="1"> <thead> <tr> <th colspan="2">Time unit</th> <th>sec</th> <th>×10s</th> <th>min</th> <th>×10m</th> <th>hrs</th> <th>×10h</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Full scale setting</td> <td rowspan="4">Set time</td> <td>1.2</td> <td rowspan="2">1.2~12</td> <td>0.12</td> <td rowspan="2">1.2~12</td> <td>0.12~1.2</td> <td>1.2~12</td> </tr> <tr> <td>3</td> <td>0.3~3</td> <td>3~30</td> <td>0.3~3</td> <td>3~30</td> </tr> <tr> <td>12</td> <td>1.2~12</td> <td>1.2~12</td> <td>1.2~12</td> <td>1.2~12</td> <td>12~120</td> </tr> <tr> <td>30</td> <td>3~30</td> <td>30~300</td> <td>3~30</td> <td>30~300</td> <td>3~30</td> <td>30~300</td> </tr> </tbody> </table>	Time unit		sec	×10s	min	×10m	hrs	×10h	Full scale setting	Set time	1.2	1.2~12	0.12	1.2~12	0.12~1.2	1.2~12	3	0.3~3	3~30	0.3~3	3~30	12	1.2~12	1.2~12	1.2~12	1.2~12	12~120	30	3~30	30~300	3~30	30~300	3~30	30~300
Time unit		sec	min	hrs	×10h																																																						
Full scale setting	1.2	0.05~1.2	0.12~1.2		1.2~12																																																						
	3		0.3~3		3~30																																																						
	12	1.2~12		12~120																																																							
	30	3~30		30~300																																																							
Time unit		sec	×10s	min	×10m	hrs	×10h																																																				
Full scale setting	Set time	1.2	1.2~12	0.12	1.2~12	0.12~1.2	1.2~12																																																				
		3		0.3~3		3~30	0.3~3	3~30																																																			
		12	1.2~12	1.2~12	1.2~12	1.2~12	12~120																																																				
		30	3~30	30~300	3~30	30~300	3~30	30~300																																																			

Before the change	After the change																																																														
<p>Time Unit Applicable model: H3CR-A-301, H3CR-A8-301</p> <table border="1" data-bbox="110 205 755 567"> <thead> <tr> <th colspan="2">Time unit</th> <th>sec</th> <th>min</th> <th>hrs</th> <th>×10h</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Full scale setting</td> <td>2.4</td> <td rowspan="2">Set time 0.1~2.4</td> <td colspan="2">0.24~2.4</td> <td>2.4~24</td> </tr> <tr> <td>6</td> <td colspan="2">0.6~6</td> <td>6~60</td> </tr> <tr> <td>24</td> <td colspan="2">2.4~24</td> <td>24~240</td> </tr> <tr> <td>60</td> <td colspan="2">6~60</td> <td>60~600</td> </tr> </tbody> </table>	Time unit		sec	min	hrs	×10h	Full scale setting	2.4	Set time 0.1~2.4	0.24~2.4		2.4~24	6	0.6~6		6~60	24	2.4~24		24~240	60	6~60		60~600	<p>Time Unit Applicable model: H3CR-A-301 H3CR-A8-301</p> <table border="1" data-bbox="831 205 1490 583"> <thead> <tr> <th colspan="2">Time unit</th> <th>sec</th> <th>×10s</th> <th>min</th> <th>×10m</th> <th>hrs</th> <th>×10h</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Full scale setting</td> <td>2.4</td> <td rowspan="2">Set time 0.1~2.4</td> <td>2.4~24</td> <td>0.24~2.4</td> <td>2.4~24</td> <td>0.24~2.4</td> <td>2.4~24</td> </tr> <tr> <td>6</td> <td>6~60</td> <td>0.6~6</td> <td>6~60</td> <td>0.6~6</td> <td>6~60</td> </tr> <tr> <td>24</td> <td>24~240</td> <td>2.4~24</td> <td>2.4~24</td> <td>2.4~24</td> <td>2.4~24</td> </tr> <tr> <td>60</td> <td>60~600</td> <td>6~60</td> <td>6~60</td> <td>60~600</td> <td>6~60</td> <td>60~600</td> </tr> </tbody> </table>	Time unit		sec	×10s	min	×10m	hrs	×10h	Full scale setting	2.4	Set time 0.1~2.4	2.4~24	0.24~2.4	2.4~24	0.24~2.4	2.4~24	6	6~60	0.6~6	6~60	0.6~6	6~60	24	24~240	2.4~24	2.4~24	2.4~24	2.4~24	60	60~600	6~60	6~60	60~600	6~60	60~600			
Time unit		sec	min	hrs	×10h																																																										
Full scale setting	2.4	Set time 0.1~2.4	0.24~2.4		2.4~24																																																										
	6		0.6~6		6~60																																																										
	24	2.4~24		24~240																																																											
	60	6~60		60~600																																																											
Time unit		sec	×10s	min	×10m	hrs	×10h																																																								
Full scale setting	2.4	Set time 0.1~2.4	2.4~24	0.24~2.4	2.4~24	0.24~2.4	2.4~24																																																								
	6		6~60	0.6~6	6~60	0.6~6	6~60																																																								
	24	24~240	2.4~24	2.4~24	2.4~24	2.4~24																																																									
	60	60~600	6~60	6~60	60~600	6~60	60~600																																																								
<p>Applicable model: H3CR-F(8), F(8)N</p> <table border="1" data-bbox="110 667 755 1033"> <thead> <tr> <th colspan="2">Time unit</th> <th>sec</th> <th>10s</th> <th>min</th> <th>hrs</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Full scale setting</td> <td>1.2</td> <td rowspan="2">Set time 0.05~1.2</td> <td>1.2~12</td> <td colspan="2">0.12~1.2</td> </tr> <tr> <td>3</td> <td>3~30</td> <td colspan="2">0.3~3</td> </tr> <tr> <td>12</td> <td>1.2~12</td> <td>12~120</td> <td colspan="2">1.2~12</td> </tr> <tr> <td>30</td> <td>3~30</td> <td>30~300</td> <td colspan="2">3~30</td> </tr> </tbody> </table>	Time unit		sec	10s	min	hrs	Full scale setting	1.2	Set time 0.05~1.2	1.2~12	0.12~1.2		3	3~30	0.3~3		12	1.2~12	12~120	1.2~12		30	3~30	30~300	3~30		<p>Applicable model: H3CR-F(8), F(8)N</p> <table border="1" data-bbox="831 655 1490 1033"> <thead> <tr> <th colspan="2">Time unit</th> <th>sec</th> <th>×10s</th> <th>min</th> <th>×10m</th> <th>hrs</th> <th>×10h</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Full scale setting</td> <td>1.2</td> <td rowspan="2">Set time 0.05~1.2</td> <td>1.2~12</td> <td>0.12~1.2</td> <td>1.2~12</td> <td>0.12~1.2</td> <td>1.2~12</td> </tr> <tr> <td>3</td> <td>3~30</td> <td>0.3~3</td> <td>3~30</td> <td>0.3~3</td> <td>3~30</td> </tr> <tr> <td>12</td> <td>1.2~12</td> <td>12~120</td> <td>1.2~12</td> <td>12~120</td> <td>1.2~12</td> <td>12~120</td> </tr> <tr> <td>30</td> <td>3~30</td> <td>30~300</td> <td>3~30</td> <td>30~300</td> <td>3~30</td> <td>30~300</td> </tr> </tbody> </table>	Time unit		sec	×10s	min	×10m	hrs	×10h	Full scale setting	1.2	Set time 0.05~1.2	1.2~12	0.12~1.2	1.2~12	0.12~1.2	1.2~12	3	3~30	0.3~3	3~30	0.3~3	3~30	12	1.2~12	12~120	1.2~12	12~120	1.2~12	12~120	30	3~30	30~300	3~30	30~300	3~30	30~300
Time unit		sec	10s	min	hrs																																																										
Full scale setting	1.2	Set time 0.05~1.2	1.2~12	0.12~1.2																																																											
	3		3~30	0.3~3																																																											
	12	1.2~12	12~120	1.2~12																																																											
	30	3~30	30~300	3~30																																																											
Time unit		sec	×10s	min	×10m	hrs	×10h																																																								
Full scale setting	1.2	Set time 0.05~1.2	1.2~12	0.12~1.2	1.2~12	0.12~1.2	1.2~12																																																								
	3		3~30	0.3~3	3~30	0.3~3	3~30																																																								
	12	1.2~12	12~120	1.2~12	12~120	1.2~12	12~120																																																								
	30	3~30	30~300	3~30	30~300	3~30	30~300																																																								
<p>Supply voltage Applicable model: H3CR-F(8), F(8)N 4 types AC100-240V AC/DC24V DC12V DC48-125V</p>	<p>Supply voltage Applicable model: H3CR-F(8), F(8)N 2 types AC100-240V/DC100-125V AC24-48V/DC12-48V</p>																																																														
<p>Star-delta transfer time Applicable model: H3CR-G8EL, G8L 4 mode 0.05s, 0.1s, 0.25s, 0.5s (seconds)</p>	<p>Star-delta transfer time Applicable model: H3CR-G8EL, G8L 6 mode 0.05s, 0.1s, 0.25s, 0.5s, 0.75s, 1.0s (seconds)</p>																																																														
<p>Full scale setting angle and display window Full scale setting angle : All model Operating mode display window : H3CR-A Time unit selector display window : H3CR-A, H3CR-F Star – delta transfer time display window : H3CR-G</p> 	<p>Full scale setting angle and display window Full scale setting angle : All model Operating mode display window : H3CR-A Time unit selector display window : H3CR-A, H3CR-F Star – delta transfer time display window : H3CR-G</p> 																																																														

Before the change	After the change
<p>Inrush current Applicable model: H3CR-F(8), F(8)N(DC12V, AC/DC24V) 0.85A (AC/DC24V type: When AC26.4V) 0.6A (AC/DC24V type: When DC26.4V) 0.052A (DC12V type: When DC13.2V)</p>	<p>Inrush current Applicable model: H3CR-F(8), F(8)N(DC12V, AC/DC24V) 0.83A (When AC26.4V) 0.57A (When DC26.4V) 0.285A (When DC13.2V)</p>
<p>“Conformance to EC directive” sheet Applicable model: All model Including in packing case</p> 	<p>“Conformance to EC directive” sheet Applicable model: All model Not Including in packing case It will be including in instruction manual.</p>
<p>Case Label Applicable model: All models</p>  	<p>Case Label Applicable model: All models</p>  <p>Letter size change</p> <p>Lot No. position and printing method change (From back to side) (Stamp to Laser marking)</p>  <p>Design change</p> <p>Letter size change</p>

Before the change	After the change
<p>Case Label Lot number : Production year Last 1 digits in the year □□□□□□ ①②③④⑤⑥ ①② . . . Production day 01~31 ③ Production month 1~9, X, Y, Z X=10, Y=11, Z=12 ④ Production year Last 1 digits in the year ⑤ Production factory abbreviation ⑥ Production line code</p>	<p>Case Label Lot number : Production year Last 2 digits in the year □□□□□□ ①②③④⑤⑥ ①② . . . Production day 01~31 ③ Production month 1~9, X, Y, Z X=10, Y=11, Z=12 ④⑤ . . . Production year Last 2 digits in the year ⑥ Production factory abbreviation</p>
<p>Packing case label Applicable model: All models</p>  <p>Lot number : Production year Last 1 digits in the year □□□□□□ ①②③④⑤ ①② . . . Production day 01~31 ③ Production month 1~9, X, Y, Z X=10, Y=11, Z=12 ④ Production year Last 1 digits in the year ⑤ Production factory abbreviation</p>	<p>Packing case label Applicable model: All models Revision code "N" add.</p>  <p>Lot number : Production year Last 2 digits in the year □□□□□□ ①②③④⑤⑥ ①② . . . Production day 01~31 ③ Production month 1~9, X, Y, Z X=10, Y=11, Z=12 ④⑤ . . . Production year Last 2 digits in the year ⑥ Production factory abbreviation</p>

Specifications in this product news are as of the issue date and are subject to change without notice. Only main changes in specifications are described in this document. Please be sure to read the relevant catalogs, datasheets, product specifications, instructions, and manuals for precautions and necessary information when using products.