

NO: TI-063 PRODUCT: H3AM Analog Timer
 DATE: February 2018 TYPE: Discontinuation Notice

H3AM Analog Timer will be discontinued February 2020



Discontinuation Date: February 2020

Note: Date is subject to change based on raw materials and components availability at the factory.

Overview Summary

Product Discontinuation	Recommended Replacement
Analog Timer MODEL H3AM-NS-□	Digital Timer MODEL H5CX-L8E-N + MODEL P3G-08 (SOCKET) OR Solid-state Timer MODEL H3CR-A8E + MODEL P3G-08 (SOCKET)
Analog Timer MODEL H3AM-NSR-□	Digital Timer MODEL H5CX-L8-N + MODEL P3G-08 (SOCKET) OR Solid-state Timer MODEL H3CR-A + MODEL P3G-11 (SOCKET)

Cautions on Applying Replacements

- Model H3AM is Motor timer operating by the motor drive. There is no recommended replacement taking the motor drive method. The recommended replacement is Solid-state timer and Digital timer and the output status during the power interruption may differ.
- The recommended replacement does not have the elapsed-time display with moving pointer.
- In the case of Model H3CR, it is predictable to a certain extent because flashing of the operating and energizing indicator (in green) becomes faster when the remaining time becomes less than 10 % of the setting time.
- In the case of Model H5CX, the elapsed time and the setting time in digit are displayed simultaneously.
- There are differences between Model H3AM series and the recommended replacement in dimensions, shapes, and method and dimensions for mounting.
- Reset input of Model H3AM-NSR-□ is equivalent to the one of Model H5CX-L8-N/H3CR-A.
- However, Model H5CX-L8-N/H3CR-A is destructed if the same power source as well as H3AM-NSR-□ is added directly at the reset terminal of Model H5CX-L8-N/H3CR-A because the reset input of Model H5CX-L8-N/H3CR-A is no-voltage input. It is necessary to convert for the input at the no-voltage level through a relay etc.
- Model H3CR-A does not have the specification on holding operation in power interruption. The model is reset during the power interruption and does not hold the elapsed-time value.
- The number of output contacts and the specification between Model H3AM and the recommended replacement differ in some cases.

Please be sure to read the details described from the next page.

Affected Parts

Product discontinuation	Recommended replacement
Model H3AM-NS-A	Model H5CX-L8E-N
	Model H3CR-A8E AC100-240/DC100-125
Model H3AM-NS-B	Model H5CX-L8E-N
	Model H3CR-A8E AC100-240/DC100-125
Model H3AM-NS-C	Model H5CX-L8E-N
	Model H3CR-A8E AC100-240/DC100-125
Model H3AM-NSR-A	Model H5CX-L8-N
	Model H3CR-A AC100-240/DC100-125
Model H3AM-NSR-B	Model H5CX-L8-N
	Model H3CR-A AC100-240/DC100-125
Model H3AM-NSR-C	Model H5CX-L8-N
	Model H3CR-A AC100-240/DC100-125
Model H3AM-NS-A-300	Model H5CX-L8E-N
	Model H3CR-A8E AC100-240/DC100-125
Model H3AM-NS-B-300	Model H5CX-L8E-N
	Model H3CR-A8E AC100-240/DC100-125
Model H3AM-NS-C-300	Model H5CX-L8E-N
	Model H3CR-A8E AC100-240/DC100-125
Model H3AM-NSR-A-300	Model H5CX-L8-N
	Model H3CR-A AC100-240/DC100-125
Model H3AM-NSR-B-300	Model H5CX-L8-N
	Model H3CR-A AC100-240/DC100-125
Model H3AM-NSR-C-300	Model H5CX-L8-N
	Model H3CR-A AC100-240/DC100-125

Socket for wiring is necessary for the recommended replacement

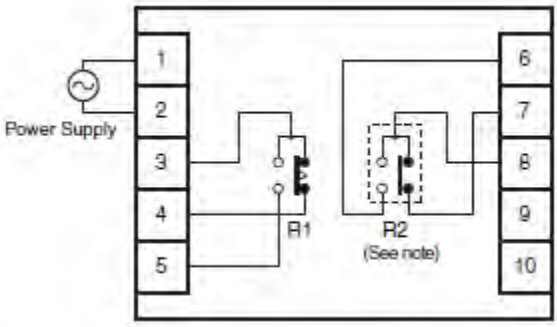

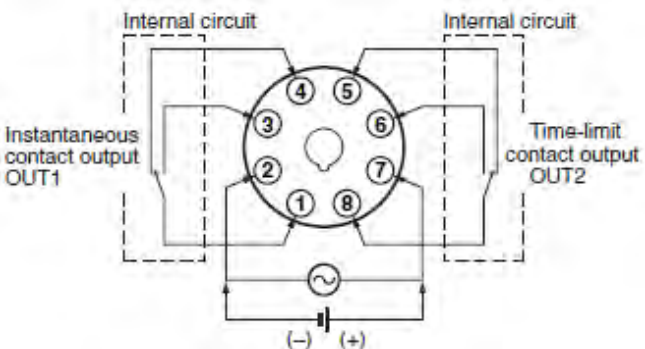
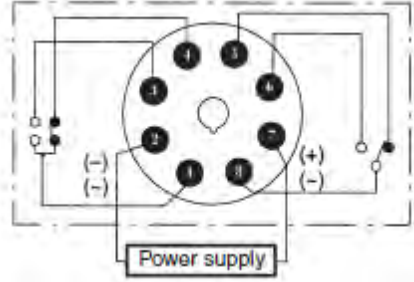
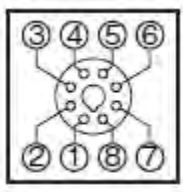
Recommended Replacement	Compatible socket
Model H5CX-L8E-N	Model P3G-08
Model H3CR-A8E AC100-240/DC100-125	
Model H5CX-L8-N	
Model H3CR-A AC100-240/DC100-125	Model P3GA-11

Detail of differences

Body Color

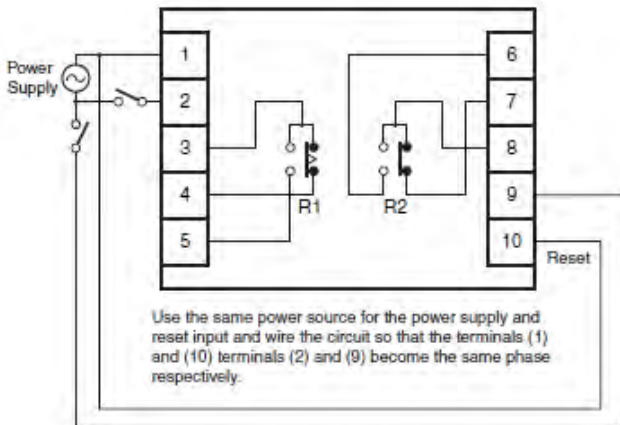
Product discontinuation Model H3AM-NS-□/Model H3AM-NSR-□	Recommendable replacement Model H5CX-L8E-N/Model H5CX-L8 or Model H3CR-A8E/Model H3CR-A
Black (Munsell N1.5) 	Model H5CX-L8E-N/Model H5CX-L8-N Black (Munsell N1.5) 
	Model H3CR-A8E/Model H3CR-A Light gray (Munsell 5Y7/1) 

Wire connection

<p align="center">Product discontinuation Model H3AM-NS-□</p>	<p align="center">Recommended replacement Model H5CX-L8E-N / Model H3CR-A8E</p>
<p>Model H3AM-NS-□</p>  <p>* 2. Contact symbol is shown as  because it is possible to change relay R2 between time-limit contact and instantaneous contact.</p> <p>Please check with Instantaneous or Time-limit Output Selector on the bottom surface of the body. (■ Refer to the operation method)</p>	<p>Model H5CX-L8E-N (Octal-pin arrangement)</p>  <p>Recommended socket Model P3G-08 (sold separately) is needed.</p> <p>Model H3CR-A8E (Octal-pin arrangement)</p>  <p>Recommended socket Model P3G-08 (sold separately) is needed.</p> <p>Pin arrangement for Model P3G-08</p> 

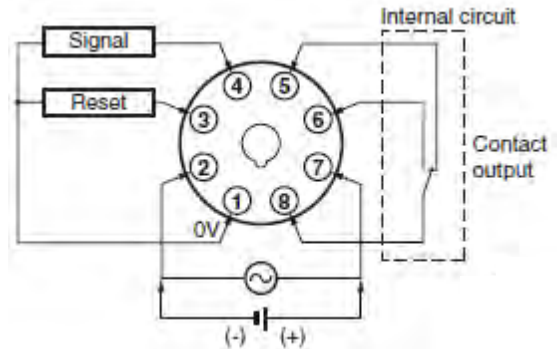
Product discontinuation
Model H3AM-NSR-□

Model H3AM-NSR-□



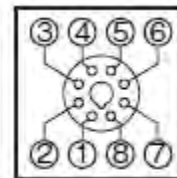
Recommendable replacement
Model H5CX-L8-N / Model H3CR-A

Model H5CX-L8-N
(Octal-pin arrangement)



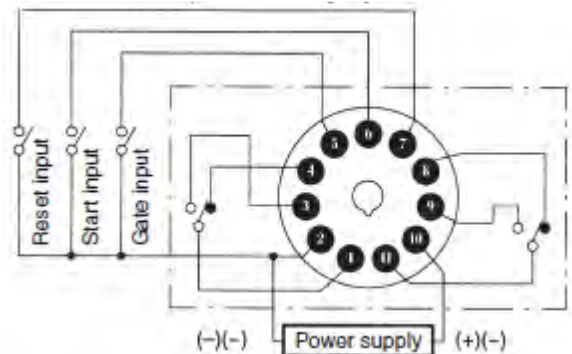
Recommended socket Model P3G-08 (sold separately) is needed.

Pin arrangement for Model P3G-08



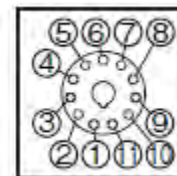
NOTE : Model H5CX-L8-N is destructed if the same power source as well as H3AM-NSR-□ is added directly at the reset terminal of Model H5CX-L8-N because the reset input of Model H5CX-L8-N is no-voltage input. It is necessary to convert for the input at the no-voltage level through a relay etc.

Model H3CR-A
(Octal-pin arrangement)



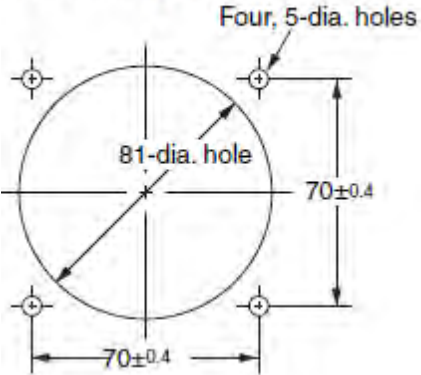
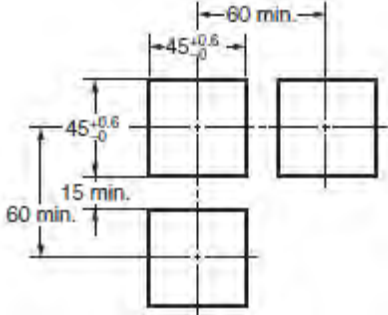
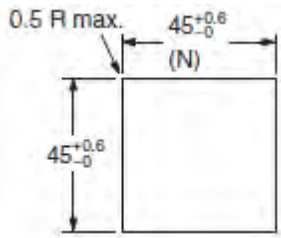
Recommended socket Model P3G-08 (sold separately) is needed.

Pin arrangement for Model P3G-08



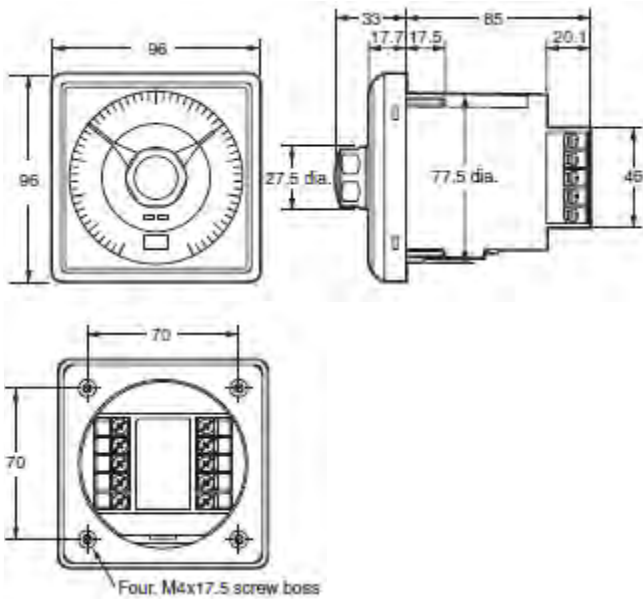
NOTE : Model H3CR-A is destructed if the same power source as well as H3AM-NSR-□ is added directly at the reset terminal of Model H3CR-A because the reset input of Model H3CR-A is no-voltage input. It is necessary to convert for the input at the no-voltage level through a relay etc.

Mounting dimensions

<p>Product discontinuation Model H3AM-NS-□/Model H3AM-NSR-□</p>	<p>Recommendable replacement Model H5CX-L8E-N/Model H5CX-L8-N or Model H3CR-A8E/Model H3CR-A</p>
<p>Mounting Holes</p>  <p>Diagram showing a circular mounting hole with a diameter of 81. The hole is centered on a square area with side length 70±0.4. There are four 5-dia. holes arranged in a square pattern around the center. The distance from the center of the 81-dia. hole to the center of each 5-dia. hole is 70±0.4.</p>	<p>Model H5CX-L8E-N/Model H5CX-L8-N (Processing diagram in the case of newly designing) (According to DIN43700)</p>  <p>Diagram showing a rectangular mounting hole with a width of 45^{+0.6}₋₀ and a height of 60 min. The hole is centered on a square area with side length 60 min. There are four 5-dia. holes arranged in a square pattern around the center. The distance from the center of the 45^{+0.6}₋₀ hole to the center of each 5-dia. hole is 45^{+0.6}₋₀.</p> <p>※Please contact to Customer service when the replacement of product is necessary.</p>
	<p>Model H3CR-A8E/Model H3CR-A (Processing diagram in the case of newly designing) (According to DIN43700)</p>  <p>Diagram showing a rectangular mounting hole with a width of 45^{+0.6}₋₀ and a height of 45^{+0.6}₋₀. The hole is centered on a square area with side length 45^{+0.6}₋₀. There are four 5-dia. holes arranged in a square pattern around the center. The distance from the center of the 45^{+0.6}₋₀ hole to the center of each 5-dia. hole is 45^{+0.6}₋₀. The chamfer is 0.5 R max.</p> <p>※Please contact to Customer service when the replacement of product is necessary.</p>

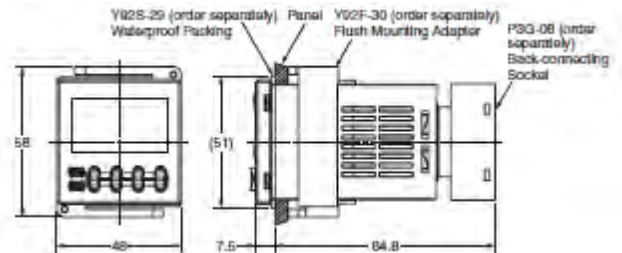
Dimensions

Product discontinuation
Model H3AM-NS-□/Model H3AM-NSR-□

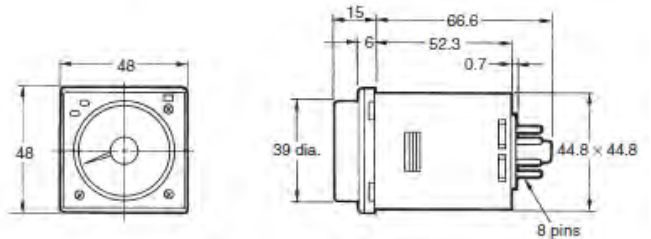


Recommendable replacement
Model H5CX-L8E-N/Model H5CX-L8-N
or
Model H3CR-A8E/Model H3CR-A

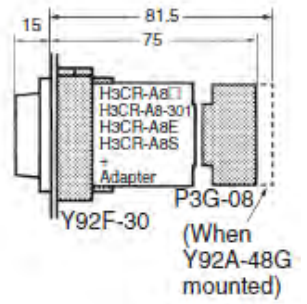
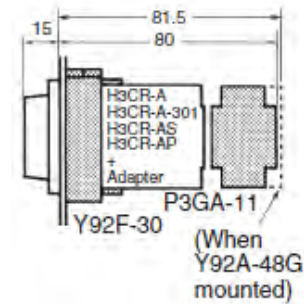
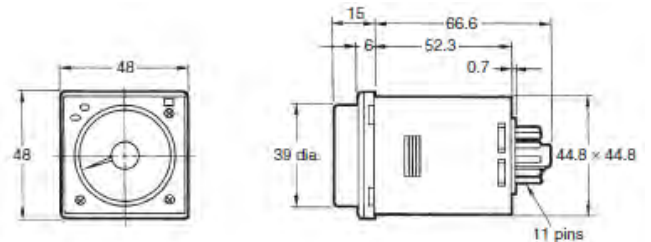
Model H5CX-L8E-N/Model H5CX-L8-N



Model H3CR-A8E



Model H3CR-A



Following adaptors and sockets (All are separately sold.) are needed for mounting the bracket.

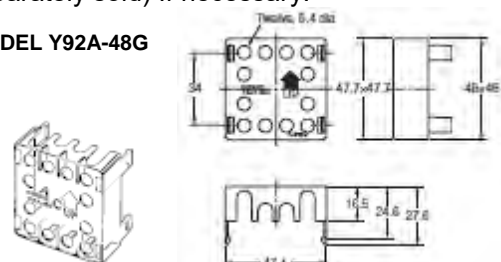
Adaptor Model Y92F-30 (H5CX-L8E-N/H5CX-L8-N/H3CR-A8E/H3CR-A)

Socket Model P3G-08 (H5CX-L8E-N/H5CX-L8-N/H3CR-A8E)

Model P3GA-11 (H3CR-A)

※Please use terminal cover Model Y92A-48G (separately sold) if necessary.

MODEL Y92A-48G



Characteristics

Item	Product discontinuation Model H3AM-NS-□	Recommendable replacement Model H5CX-L8E-N /Model H3CR-A8E
Operating mode	Power On-delay	Model H5CX-L8E-N A-2: Power On-delay Model H3CR-A8E A : On-delay (Power-ON start)
Output method	Contact output (Time-limit contact 2c or Time-limit contact 1c+ Instantaneous contact 1c) Switchable	Model H5CX-L8E-N Contact output (Time-limit contact 1c+ Instantaneous contact 1c) Model H3CR-A8E Contact output (Time-limit contact 1c+ Instantaneous contact 1c) ※Please use Model H3CR-A8 in the case that the output of Time-limit contact 2c is necessary.
Time range	<p>Model H3AM-NS-A 30 s (0.5s min.) 3 min (0.05min min.) 30 min (0.5min min.) 3h (0.05h min.), 30h (0.5h min.)</p> <p>Model H3AM-NS-B 60 s (1s min.) 6 min (0.1min min.) 60 min (1min min.) 6h (0.1h min.), 60h (1h min.)</p> <p>Model H3AM-NS-C 12s (0.2s min.), 120s (2s min.) 12 min (0.2min min.) 120 min (2min min.) 12h (0.2h min.)</p>	<p>Model H5CX-L8E-N 9.999 s (0.001s min.) 99.99 s (0.01s min.) 999.9 s (0.1s min.) 9999 s (1s min.) 99min59s (1s min.) 999.9 min (0.1min min.) 9999 min (1min min.) 99h59min (1min min.) 999.9h (0.1h min.) 9999h (1h min.) ※Please select the optimum range for the setting. (Refer to [Operation methods])</p> <p>Model H3CR-A8E 1.2 s (0.05s min.), 12 s (1.2s min.), 120 s (12s min.) 1.2 min (0.12min min.) 12 min (1.2min min.) 120 min (12min min.) 1.2h (0.12h min.), 12h (1.2h min.) 3s (0.3s min.), 30s (3s min.) 300 s (30s min.) 3 min (0.3min min.) 30 min (3min min.) 300 min (30min min.) 3h (0.3h min.), 30 h (3h min.) 300h (30 h min.) ※Please select the optimum range for the setting. (Refer to [Operation methods])</p>

Item	Product discontinuation Model H3AM-NSR-□	Recommendable replacement Model H5CX-L8-N /Model H3CR-A
Operating mode	Power On-delay	Model H5CX-L8-N A-3: Power On-delay (II) Holding operation for power supply Model H3CR-A A : On-delay (Power-ON start ※) ※Please turn on the start input before inputting the power supply (Refer to [Operating ratings])
Input method	Reset input H level : 85-264VAC L level : 0-10VAC	Model H5CX-L8-N Reset input (No-voltage input) ON Impedance : 1kΩ max. ON residual voltage : 3V max. OFF Impedance : 100kΩ max. ※Please input the reset input used for H3AM after converting it through relays to meet the above conditions. Model H3CR-A Reset input (No-voltage input) ON Impedance : 1kΩ max. ON residual voltage : 1V max. OFF Impedance : 100kΩ min. ※Please input the reset input used for H3AM after converting it through relays to meet the above conditions.
Output method	Contact output (Time-limit contact 1c + Reset Instantaneous contact 1c) Reset Instantaneous contact is the output contact that is synchronized with reset input.	Model H5CX-L8-N Contact output (Time-limit contact 1c) ※There is no reset instantaneous contact. Please add replay separately if necessary. Model H3CR-A Contact output (Time-limit contact 2c) ※There is no reset instantaneous contact. Please add replay separately if necessary.
Time range	Model H3AM-NSR-A 30s (0.5s min.) 3min (0.05min min.), 30min (0.5min min.) 3h (0.05h min.), 30 h (0.5h min.) Model H3AM-NSR-B 60s (1s min.), 6 min (0.1min min.), 60 min (1min min.) 6h (0.1h min.), 60h (1h min.) Model H3AM-NSR-C 12s (0.2s min.), 120s (2s min.) 12 min (0.2min min.), 120 min (2min min.)	Model H5CX-L8-N 9.999s (0.001s min.) 99.99s (0.01s min.) 999.9s (0.1s min.) 9999s (1s min.) 99min59s (1s min.) 999.9min (0.1min min.) 9999min (1min min.) 99h59min (1min min.) 999.9h (0.1h min.) 9999h (1h min.) ※Please select the optimum range for the setting.

Item	Product discontinuation Model H3AM-NSR-□	Recommendable replacement Model H5CX-L8-N /Model H3CR-A
	12h (0.2h min.)	(Refer to [Operation methods]) Model H3CR-A 1.2s (0.05s min.), 12s (1.2s min.) 120 s (12s min.) 1.2 min (0.12min min.) 12 min (1.2min min.) 120 min (12min min.) 1.2h (0.12h min.), 12 h (1.2h min.) 3s (0.3s min.), 30s (3s min.) 300s (30s min.) 3 min (0.3min min.) 30 min (3min min.) 300 min (30min min.) 3h (0.3h min.), 30 h (3h min.), 300 h (30h min.) ※Please select the optimum range for the setting. (Refer to [Operation methods])

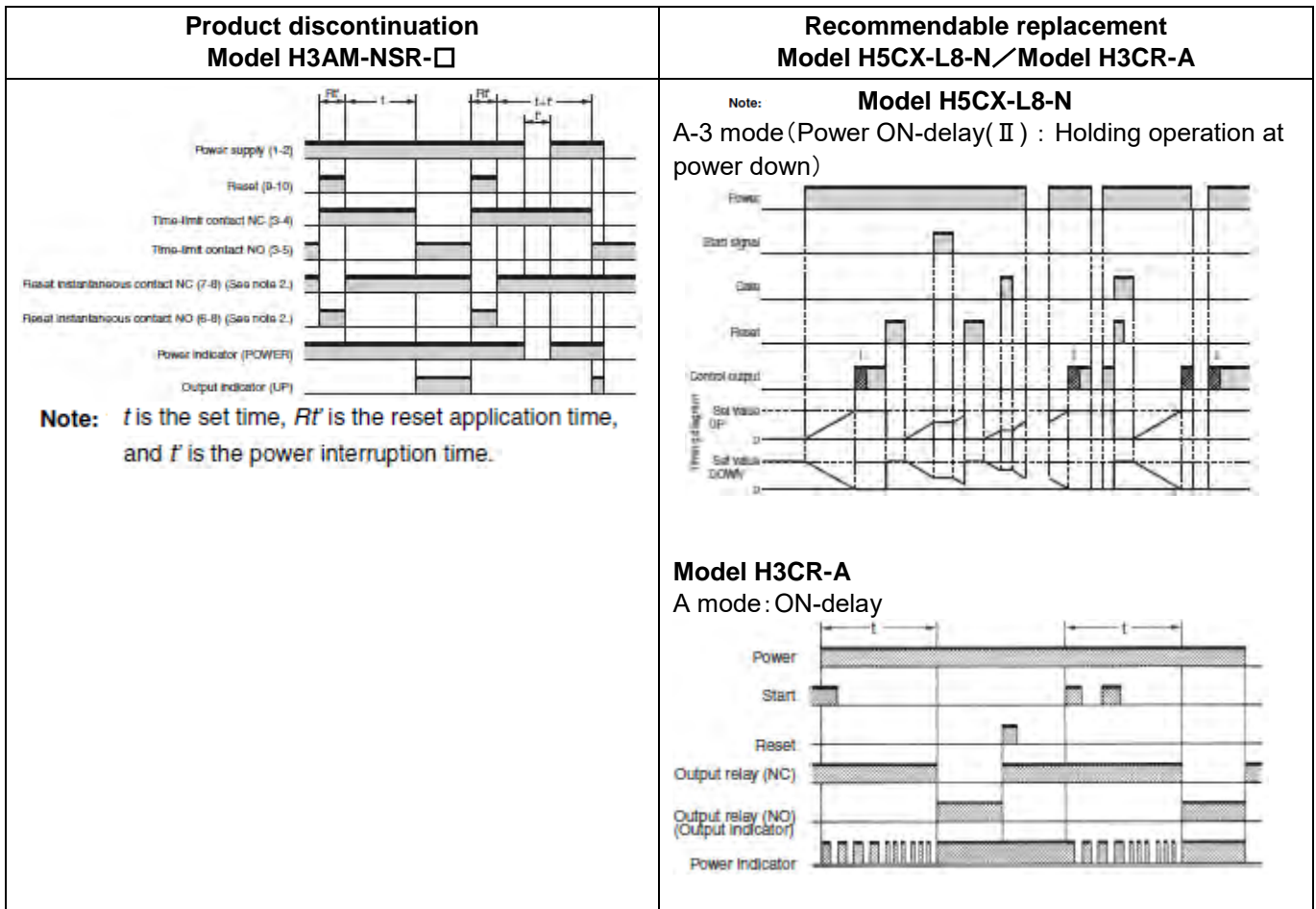
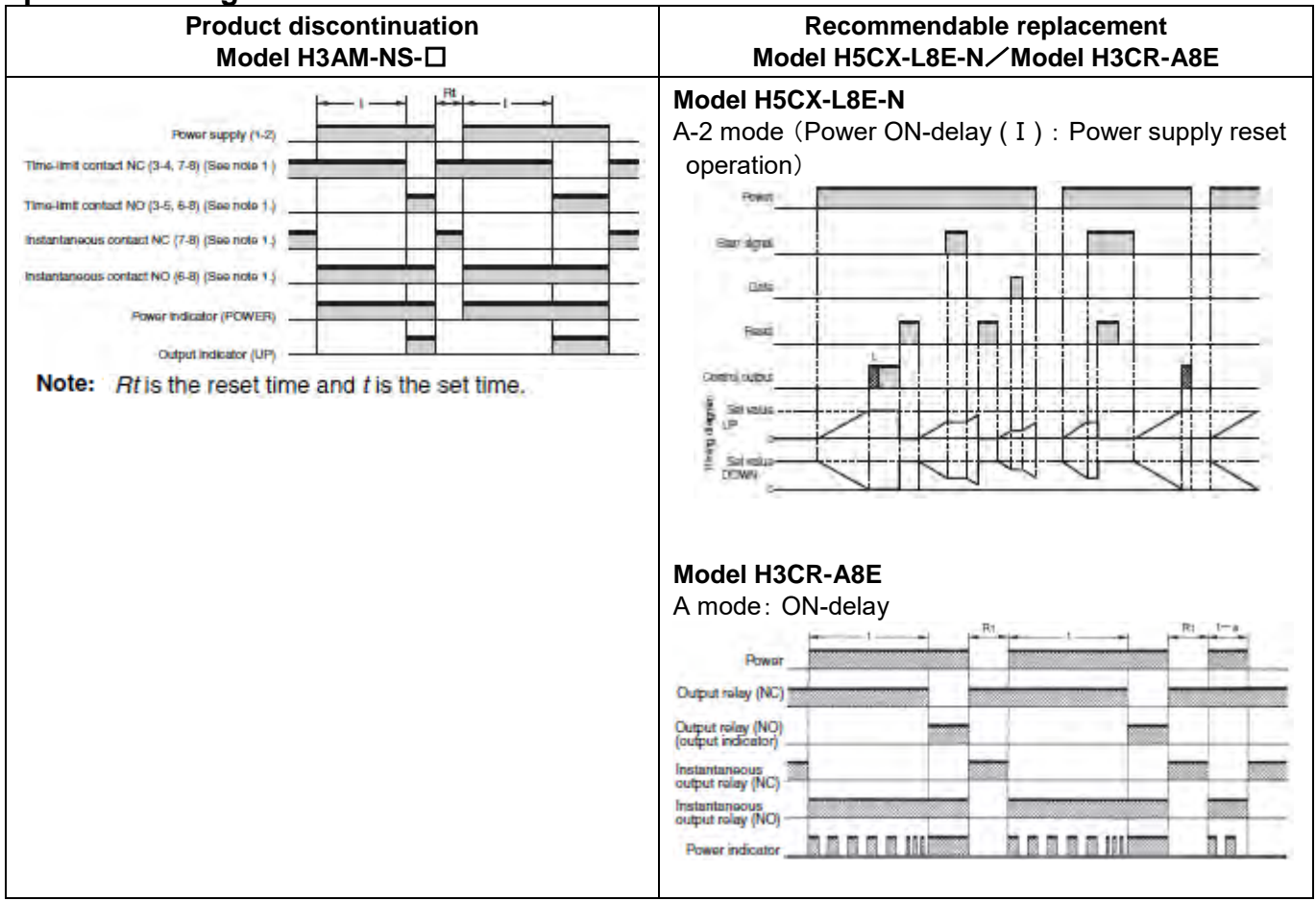
Rating/Characteristics

Item	Product discontinuation Model H3AM-NS-□ /Model H3AM-NSR-□	Recommendable replacement Model H5CX-L8E-N/Model H5CX-L8-N Model H3CR-A8E/Model H3CR-A
Rated supply voltage	100 to 240VAC 50/60Hz	Model H5CX-L8E-N/Model H5CX-L8-N 100 to 240VAC 50/60Hz Model H3CR-A8E 100 to 240VAC 50/60Hz / 100 to 125VDC Model H3CR-A 100 to 240VAC 50/60Hz / 100 to 125VDC
Allowable voltage range	85 to 110% of rated supply voltage	Model H5CX-L8E-N/Model H5CX-L8-N 85 to 110% of rated supply voltage Model H3CR-A8E/Model H3CR-A 85 to 110% of rated supply voltage
Power consumption	Approx. 9VA (Approx. 5W)	Model H5CX-L8E-N/Model H5CX-L8-N Approx. 6.2VA (100 to 240 VAC) Model H3CR-A8E When at 240VAC, 60Hz Relay ON/OFF: Approx. 2VA (0.9W) Model H3CR-A When at 240VAC, 60Hz Relay ON: Approx. 2VA (1.6W) Relay OFF: Approx. 1.3VA (1.1W)
Power reset	Model H3AM-NS-□ Minimum power-opening time 0.5s	Model H5CX-L8E-N/Model H5CX-L8-N Minimum power-opening time 0.5s Model H3CR-A8E/Model H3CR-A Minimum power-opening time 0.1s

Item	Product discontinuation Model H3AM-NS-□ /Model H3AM-NSR-□	Recommendable replacement Model H5CX-L8E-N/Model H5CX-L8-N Model H3CR-A8E/Model H3CR-A
Signal reset	Model H3AM-NSR-□ Minimum input signal width 0.5s	Model H5CX-L8E-N/Model H5CX-L8-N Minimum input signal width 1ms/20ms (Switchable) Model H3CR-A8E/Model H3CR-A Minimum input signal width 0.05s
Control output	Relay in Model H3AM-NS (R1),(R2) Relay in Model H3AM-NSR(R2) Contact output: 5A at 250VAC Resistive load (cos φ = 1) Minimum applicable load: 10 mA at 5 VDC (failure level: P, reference value) Relay in Model H3AM-NSR(R1) Contact output: 5A at 250VAC Resistive load (cos φ = 1) Minimum applicable load: 100 mA at 5VDC (failure level: P, reference value)	Model H5CX-L8E-N/Model H5CX-L8-N 5A at 250VAC/30VDC Resistive load (cos φ = 1) Minimum applicable load: 10mA at 5VDC (failure level: P, reference value) Model H3CR-A8E/Model H3CR-A Contact output: 5A at 250VAC/30VDC 0.15A at 125VDC Resistive load (cos φ = 1) Minimum applicable load: 10 mA at 5VDC (failure level: P, reference value)
Operating temperature range	-10 to 55°C (without icing)	Model H5CX-L8E-N/Model H5CX-L8-N -10 to 55°C (with side by side mounting: -10 to 50°C) (without icing or condensation) Model H3CR-A8E/Model H3CR-A -10 to 55°C (without icing)
Storage temperature	-25 to 65°C (without icing)	Model H5CX-L8E-N/Model H5CX-L8-N -25 to 70°C (without icing or condensation) Model H3CR-A8E/Model H3CR-A -25 to 65°C (without icing)
Ambient humidity	35 to 85%	Model H5CX-L8E-N/Model H5CX-L8-N 25 to 85% Model H3CR-A8E/Model H3CR-A 35 to 85%
Accuracy of operating time	±0.7% FS max.	Model H5CX-L8E-N/Model H5CX-L8-N ±0.01%±0.05s max. (Power-ON start) Model H3CR-A8E/Model H3CR-A ±0.2%max. (±0.2%±10ms max. for the range of 1.2s and 3s)
Setting error	±2% FS max.	Model H5CX-L8E-N/Model H5CX-L8-N ±0.01%±0.05s max. (Power-ON start) Model H3CR-A8E/Model H3CR-A ±5% FS ±50ms max.
Influence of voltage	±1% FS max.	Model H5CX-L8E-N/Model H5CX-L8-N ±0.01%±0.05s max. (Power-ON start) Model H3CR-A8E/Model H3CR-A ±0.2%max. (±0.2%±10ms max. for the range of 1.2s and 3s)
Influence of temperature	±2% FS max.	Model H5CX-L8E-N/Model H5CX-L8-N ±0.01%±0.05s max. (Power-ON start) Model H3CR-A8E/Model H3CR-A ±1% max. (±1%±10ms max. for the range of 1.2s and 3s)

Item	Product discontinuation Model H3AM-NS-□ /Model H3AM-NSR-□	Recommendable replacement Model H5CX-L8E-N/Model H5CX-L8-N Model H3CR-A8E/Model H3CR-A
Life expectancy	Mechanical: 5,000,000 times min. (under no load) Electrical: 100,000 times min. (5A at 250VAC, resistive load)	Model H5CX-L8E-N/Model H5CX-L8-N Mechanical: 10,000,000 times min. (under no load) Electrical: 100,000 times min. (5A at 250VAC, resistive load) Model H3CR-A8E/Model H3CR-A Mechanical: 20,000,000 times min. (under no load) Electrical: 100,000 times min. (5A at 250VAC, resistive load)
Enclosure rating	IP65 (front panel only) ※Model Y92S-35 is necessary to ensure IP65 waterproofing between the Timer and installation panel.	Model H5CX-L8E-N/Model H5CX-L8-N IP66 (front panel only) ※Model Y92S-35 is necessary to ensure IP65 waterproofing between the Timer and installation panel. (Refer to [Dimensions]) Model H3CR-A8E/Model H3CR-A IP40 (front panel only)
Weight	Approx. 350g	Model H5CX-L8E-N/Model H5CX-L8-N Approx. 115g Model H3CR-A8E/Model H3CR-A Approx. 90g
Approved standards	UL508, CSA C22.2 No.14 Conforms to EN61812-1, IEC60664-1 4kV/2	Model H5CX-L8E-N/Model H5CX-L8-N UL508/CSA C22.2 No.14 (Approved as cURus) Conforms to EN61812-1, CCC Model H3CR-A8E/Model H3CR-A UL508, CSA C22.2 No.14 Conforms to EN61812-1, IEC60664-1 4kV/2 NK, LR, CCC

Operation ratings

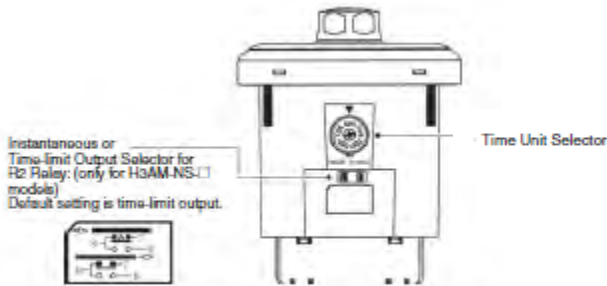


Operation methods

Product discontinuation Model H3AM-NS-□ / Model H3AM-NSR-□



Note: The scale goes up to "3" with the H3AM-□-A and up to "6" with the H3AM-□-B.



Applicable Time Unit

Model	Full scale on dial	Applicable time unit					
		s	10 s	min	10 min	h	10 h
H3AM-□□□-A	3	No	Yes	Yes	Yes	Yes	Yes
H3AM-□□□-B	6	No	Yes	Yes	Yes	Yes	Yes
H3AM-□□□-C	12	Yes	Yes	Yes	Yes	Yes	No

Recommendable replacement Model H5CX-L8E-N / Model H5CX-L8-N Model H3CR-A8E / Model H3CR-A

Model H5CX-L8E-N / Model H5CX-L8-N

Display Section

1. Key Protect Indicator (orange)
2. Control Output Indicator (orange)
3. Reset Indicator (orange)
4. Present Value Display (Main display) (Character height: 12 mm, 16.7")
*Characters on models with screw terminals (H3CR-A) can be switched between red, green, and orange.
5. Time Unit Indicators (Color is same as present value display) (If the time range is 0 min, 0 h, 5.0 h, or 0 h 0 min, these indicators flash to indicate timing operation.)
6. Set Value Display (sub-display) (Character height: 8 mm, green)
7. Set Value 1, 2 Indicator (green)

Character Size for Present Value Display:

Character Size for Set Value Display:

Operation Key

8. Mode Key (Change mode and setting item)
9. Reset Key (Reset present value and output)
10. Up Keys 1 to 4
11. Down Keys 1 to 4

Switches

12. Key-protect Switch (Default setting: ON (locked))
13. DIP Switch (Note: There is no DIP switch on the H3CR-L8E.)

Model H3CR-A8E / Model H3CR-A

Labels for the control panel:

- Power indicator (green) (Flashes when Timer operates, if what Timer stops operating)
- Output indicator (orange) (L when output)
- Operating mode display window
- Operating mode selector (Select a mode from: A, B, B2, C, D, E, G, and J (H3CR-A, -AP and -AS) A, B, B2, E and J (H3CR-AS, -ABS, and -ABE))
- Scale range display windows
- Time unit display window
- Time range selector (select one from 1, 2, 3, 12, and 30 at full scale; with the H3CR-A(-)301, select from 2, 4, 6, 24, or 60 at full scale.)
- Time setting knob (set time)
- Time unit selector (select one from sec, 10s, min, 10m, hrs, and 10h)

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

0	0.2	0.4	0.6	0.8	1.0	1.2
0	0.5	1	1.5	2	2.5	3
0	2	4	6	8	10	12
0	5	10	15	20	25	30

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