

RoHS Directive compatibility information http://www.nais-e.com/

Product types

DIN48 SIZE MULTI-RANGE ANALOG TIMER



UL File No.: E122222 CSA File No.: LR39291



Features 1. 100-240V AC free-voltage input, 48-125V DC type available

- 2. Short body 62.5mm 2.461 inch (screw terminal type)
- 3. Front panel of IP65 type is protected against water-splash and dust
- 4. Built-in Screw terminals
- Screw terminal type is used for easy wiring and reducing additional cost for accessories.
- 5. 0 setting instantaneous output operation
- 6. Multiple time ranges 1 s to 500 h (Max.)
- 7. 8 different operation modes: (PM4H-A)
- 8. Compliant with UL/CSA, CE and LLOYD

Туре	Operation mode	Contact arrangement	Time range	Protective construction	Rated operating voltage	Terminal type	Part number
					100 10 0401/ 10	11 pins	PM4HA-H-AC240VW
					100 to 240V AC	Screw terminal	PM4HA-H-AC240VS
						11 pins	PM4HA-H-DC125VW
					48 to 125V DC	Screw terminal	PM4HA-H-DC125VS
				IP65	24V AC/DC	11 pins	PM4HA-H-24VW
	8 operation modes	Relay Timed-out 2 Form C				Screw terminal	PM4HA-H-24VSW
	Pulse ON-delay Pulse Flicker					11 pins	PM4HA-H-DC12VW
	Pulse ON-flicker					Screw terminal	PM4HA-H-DC12VSV
PM4H-A	Differential ON/OFF-delay (1) (2)					11 pins	PM4HA-H-AC240V
	Signal OFF-delay	2 FOILI C			100 to 240V AC	Screw terminal	PM4HA-H-AC240VS
	Pulse One-shot Pulse One-cycle					11 pins	PM4HA-H-DC125V
				1850	48 to 125V DC	Screw terminal	PM4HA-H-DC125VS
				IP50		11 pins	PM4HA-H-24V
					24V AC/DC	Screw terminal	PM4HA-H-24VS
						11 pins	PM4HA-H-DC12V
					12V DC	Screw terminal	PM4HA-H-DC12VS
						8 pins	PM4HS-H-AC240VW
					100 to 240V AC	Screw terminal	PM4HS-H-AC240VS
						8 pins	PM4HS-H-DC125VV
					48 to 125V DC	Screw terminal	PM4HS-H-DC125VS
				IP65		8 pins	PM4HS-H-24VW
					24V AC/DC	Screw terminal	PM4HS-H-24VSW
						8 pins	PM4HS-H-DC12VW
		Relay Timed-out 2 Form C	16 selectable		12V DC	Screw terminal	PM4HS-H-DC12VSV
PM4H-S	Power ON-delay		ranges 1s to 500h		100 to 240V AC 48 to 125V DC 24V AC/DC	8 pins	PM4HS-H-AC240V
						Screw terminal	PM4HS-H-AC240VS
						8 pins	PM4HS-H-DC125V
						Screw terminal	PM4HS-H-DC125VS
				IP50		8 pins	PM4HS-H-24V
						Screw terminal	PM4HS-H-24VS
					12V DC	8 pins	PM4HS-H-DC12V
						Screw terminal	PM4HS-H-DC12VS
				IP65 100 to 240V AC 48 to 125V DC 24V AC/DC		8 pins	PM4HM-H-AC240VV
					100 to 240V AC	Screw terminal	PM4HM-H-AC240VS
						8 pins	PM4HM-H-DC125VV
					48 to 125V DC	Screw terminal	PM4HM-H-DC125VS
					24V AC/DC 12V DC	8 pins	PM4HM-H-24VW
	5 operation modes					Screw terminal	PM4HM-H-24VSW
	(With instantaneous contact)	Relay				8 pins	PM4HM-H-DC12VW
	Power ON-delay	Timed-out				Screw terminal	PM4HM-H-DC12VSV
РМ4Н-М	Power Flicker	1 Form C				8 pins	PM4HM-H-AC240V
	Power ON-flicker Bower One shot	Instantaneous		IP50	100 to 240V AC	Screw terminal	PM4HM-H-AC240VS
	Power One-shotPower One-cycle	1 Form C				8 pins	PM4HM-H-DC125V
					48 to 125V DC	Screw terminal	PM4HM-H-DC125VS
						8 pins	PM4HM-H-24V
					24V AC/DC	Screw terminal	PM4HM-H-24VS
					12V DC	8 pins	PM4HM-H-DC12V
						Screw terminal	PM4HM-H-DC12V PM4HM-H-DC12VS
							1.00-1203

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Time range

Scale	Time unit	sec	min	hrs	10h
1		0.1s to 1s	0.1 min to 1 min	0.1h to 1h	1.0h to 10h
5	Control	0.5s to 5s	0.5 min to 5 min	0.5h to 5h	5h to 50h
10	time range	1.0s to 10s	1.0 min to 10 min	1.0h to 10h	10h to 100h
50		5s to 50s	5 min to 50 min	5h to 50h	50h to 500h

PM4H-A/PM4H-S/PM4H-M All types of PM4H timer have multi-time range. 16 time ranges are selectable. 1s to 500h (Max. range) is controlled.

Note: 0 setting is for instantaneous output operation.

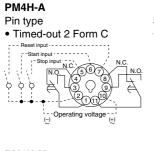
Specifications

Item		Туре	PM4H-A	PM4H-S	PM4H-M		
Rated operating voltage		100 to 240V AC, 48 to 125V DC, 12V DC, 24V AC/DC					
	Rated frequency	-	50/60Hz common (AC operating type)				
	Rated power consum	ption	Approx. 10VA (100 to 240V AC) Approx. 2.5VA (24V AC) Approx. 1.5W (12V DC, 24V DC, 48 to 125V DC)				
	Rated control capacity		5A 250V AC (resistive load)				
Rating	Operating mode		Pulse ON-delay Pulse Flicker Pulse ON-Flicker Differential ON/OFF-delay (1) (2) Signal OFF-delay Pulse One-shot Pulse One-cycle	Power ON-delay	Power ON-delay Power Flicker Power ON-flicker Power One-shot Power One-cycle (with instantaneous contact)		
	Time range		1s to 500h (Max.) 16 time ranges switchable				
	Operating time fluctu	ation	±0.3% (power off time change at the range of 0.1s to 1h)				
Time accuracy	Setting error		±5% (Full-scale value)				
Note:)	Voltage error		$\pm 0.5\%$ (at the operating voltage changes between 85 to 110%)				
	Temperature error		$\pm 2\%$ (at 20°C ambient temp. at the range of -10 to +50°C +14 to +122°F)				
0	Contact arrangement		Timed-out 2 Form C		Timed-out 1 Form C Instantaneous 1 Form C		
Contact	Contact resistance (Initial value)		Max. 100m Ω (at 1A 6V DC)				
	Contact material		Silver alloy		Au flash on Silver alloy		
Life	Mechanical (contact)		2×10 ⁷				
Lile	Electrical (contact)		10 ⁵ (at rated control capacity)				
	Allowable operating voltage range		85 to 110% of rated operating voltage (at 20°C coil temp.)				
	Insulation resistance (Initial value)		Min. 100MΩ Min. 100MΩ Min. 100MΩ Between input and output Between contacts of different poles Between contacts of same pole (At 500V DC)				
Electrical function	Breakdown voltage (Initial value)		2,000Vrms for 1 min Between live and dead metal parts 2,000Vrms for 1 min Between input and output 2,000Vrms for 1 min Between contacts of different poles 1,000Vrms for 1 min Between contacts of same pole				
	Min. power off time			100ms			
	Max. temperature rise			131°F	65°C 149°F		
	Vibration resistance	Functional	,	cle/min double amplitude of 0.25mm (1	/		
Mechanical		Destructive	10 to 55Hz: 1 cycle/min double amplitude of 0.375mm (1h on 3 axes)				
function	Shock resistance	Functional	Min. 98m/s ² (4 times on 3 axes)				
	Destructive		Min. 980m/s ² (5 times on 3 axes)				
	Ambient temperature		-10 to +50°C +14 to +122°F				
Operating	Ambient humidity		30 to 85%RH (at 20°C 68°F, non-condensing)				
condition	Atmospheric pressure		860 to 1,060hPa				
	Ripple factor (DC type)		20%				
	Protective construction		IP65 on front panel (using rubber gasket ATC18002) <only for="" ip65="" type=""></only>				
Others	Weight		100g 3.527 oz (Pin type)				
			110g 3.880 oz (Screw terminal type)				

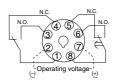
Note: 1) Unless otherwise specified, the measurement conditions at the maximum scale time standard are specified to be the rated operating voltage (within 5% ripple factor for DC), 20°C 68°F ambient temperature, and 1s power off time.

2) For the 1s range, the tolerance for each specification becomes ± 10 ms.

Terminal layouts and Wiring diagrams



- PM4H-M
- Pin type • Timed-out 1 Form C
- Instantaneous 1 Form C

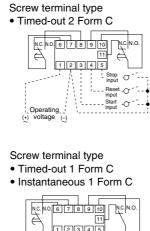


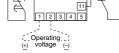
Parts name PM4H-S

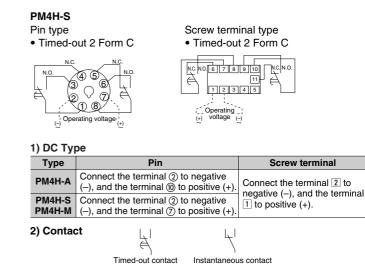
(1 s to 500 h)

1s 5s 10s 50s

1h 5h 10h 50h







3) Voltage should not be applied to the various inputs (reset, start, and stop) of the PM4H-A multi-range timer. These inputs should be input without voltage.

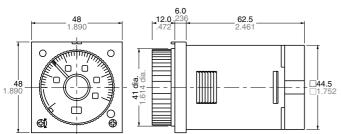
PM4H-A PM4H-M Power indicator LED Output indicator LED Operation mode selector Selectable from Hand 5 operation modes Time indicator window ON : Power ON-delay Set dial FL : Power flicker FO : Power ON-flicker Time unit indicator Operation mode indicator OS : Power One-shot OC : Power One-cycle Time range selector Operation mode selector Selectable from 8 operation modes 16 time settings selectable ON : Pulse ON-delay : Pulse Flicker FL 1min 5min 10min 50min Instantaneous output area FO : Pulse ON-flicker OF1 : Differential ON/OFF-delay (1) When the hand is in this area, 10h 50h 100h 500h SF : Signal OFF-delay instantaneous operation starts. OS : Pulse One-shot OF2 : Differential ON/OFF-delay (2) OC : Pulse One-cycle

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Dimensions

mm inch Tolerance: $\pm 0.5 \pm .020$

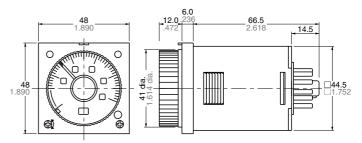
• PM4H-Screw terminal type (Flush mount)



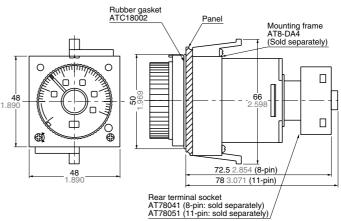
• Panel mount dimensions (with mounting frame) Screw terminal type

Rubber gasket ATC 18002 (attached) Panel Mounting frame AT8-DA4 (attached) **ر** 0 òió **□44.5** □1.752 50 Г ф О đ ĕ Ľ L **48** 1.890 **61.5** 2.421 .039

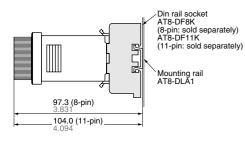
Pin type (Flush mount/Surface mount)



Pin type



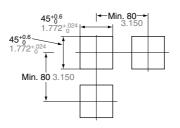
• Surface mount dimensions Pin type



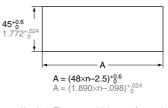
• Panel cut out dimensions

Standard cut out dimensions are shown below.

Use mounting frame (AT8-DA4) and rubber gasket (ATC18002).



Adjacent mounting



 Note) 1. The proper thickness of mounting panel is between 1 to 5mm.
 Adjacent mount is less water-resistant.

Operation mode PM4H-A

(★ LED lighting ☆ LED flickering

PM4H-A (T: Setting time ti, tz, ta, ta <				
Operation type	Explanation	Time chart		
Pulse ON-delay	 If using a time-limit start when the power is turned on, and a reset when the power is turned off, pins (2) to (6) (screw-tightening pins (2) and (3)) should be shorted ahead of time. Turn the operation mode selector switch to the (10) position. If pins (2) to (6) (screw-tightening pins (2) and (3)) are shorted (the start input is turned on) with the power supply on, the output will go on after the set time has elapsed. If the power supply is turned off, or pins (2) to (7) (screw-tightening pins (2) to (4)) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins (2) to (5) (screw-tightening pins (2) to (5)) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. 	Power supply ON OFF ON OFF Start @-@ ON OFF ON ON OFF Reset @-@ ON OFF ON ON OFF Stop @-@ ON OFF ON OFF ON OFF Time out (N.O. contact)		
Pulse Flicker (FL)	 If using a time-limit start when the power is turned on, and a reset when the power is turned off, pins (2) to (6) (screw-tightening pins [2] and (3)) should be shorted ahead of time. Turn the operation mode selector switch to the (1) position. When pins (2) to (6) (screw-tightening pins [2] and (3)) are shorted (the start input is turned on) with the power supply on, the limited time interval begins, and the output goes on after the set time has elapsed. After the output has gone on, it goes off when the set time has elapsed, and this process is subsequently repeated. If the power supply is turned off, or pins (2) to (7) (screw-tightening pins [2] to (4)) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins (2) to (5) (screw-tightening pins [2] to (5)) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. 	ON OFF ON OFF Start @ ON OFF ON OFF Start @ ON OFF ON OFF Reset @ ON OFF ON OFF Stop @ ON OFF ON OFF Time out (N.O. contact) OFF OFF ON OFF OP. LED * * * * * POWER LED * * * A *		
Pulse ON-flicker F0	 If using a time-limit start when the power is turned on, and a reset when the power is turned off, pins (2) to (6) (screw-tightening pins (2) and (3)) should be shorted ahead of time. Turn the operation mode selector switch to the (6) position. When pins (2) to (6) (screw-tightening pins (2) and (3)) are shorted (the start input is turned on) with the power supply on, the output goes on, and after the set time has elapsed, it goes off. This process is subsequently repeated. If the power supply is turned off, or pins (2) to (2) (screw-tightening pins (2) to (4)) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins (2) to (5) (screw-tightening pins (2) to (5)) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. 	ON OFF Power supply ON OFF Start O OFF Reset O OFF Stop O OFF ON OFF OFF ON OFF OFF Time out (N.O. contact) OFF OFF POWER LED * *		
Differential ON/OFF-delay (1)	 Turn the operation mode selector switch to the (F) position. When pins (2) to (6) (screw-tightening pins (2) and (3)) are shorted (the start input is turned on) with the power supply on, the output goes on, and after the set time has elapsed, it goes off. Also, when pins (2) to (6) are released (the start input goes off), the output goes on, and after the set time has elapsed, it goes off. If the status of pins (2) to (6) (screw-tightening pins (2) and (3)) changes during the time-limit interval (the start input goes from on to off, or from off to on), the time-limit interval is restarted from the point at which the change took place. If the power supply is turned off, or pins (2) to (7) (screw-tightening pins (2) to (4) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins (2) to (5) (screw-tightening pins (2) to (5)) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. 	ON OFF Power supply ON Start O Note: Image: Comparison of the supply		
Signal OFF-delay	 Turn the operation mode selector switch to the (5) position. When pins (2) to (6) (screw-tightening pins [2] and (3)) are shorted (the start input is turned on) with the power supply on, the output goes on, and when pins (2) to (6) (screw-tightening pins (2) and (3)) are released (the start input is turned off), the time limit interval begins. After the set time has elapsed, the output goes off. If start input is entered at any point during the time limit interval is reset. Note) During time-limited operation, the time-limited operation is stopped while the pins (2) to (5) (screw-tightening pins (2) to (5)) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. 	Power supply ON OFF ON OFF Start @-@ 0		

Note: Keep 0.1s or more for power off time.

Keep 0.05s or more for start, stop, reset input time.

Operation type	Explanation	Time chart
Pulse One-shot	 If using a time-limit start when the power is turned on, and a reset when the power is turned off, pins ② to ③ (screw-tightening pins 2 and 3) should be shorted ahead of time. Turn the operation mode selector switch to the ⑤ position. When pins ② to ⑥ (screw-tightening pins 2 and 3) are shorted (the start input is turned on) with the power supply on, the output goes on for the set time limit interval. If the power supply is turned off, or pins ② to ⑦ (screw-tightening pins 2 to ④) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins ② to ⑤ (screw-tightening pins 2 to ⑤) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. 	ON OFF Start ©-@ ON OFF Start ©-@ ON OFF Reset ©-@ ON OFF Stop ©-@ ON OFF Time out (N.O. contact) ON OFF I OP. LED * * * POWER LED * * A
Differential ON/OFF-delay (2) 0F2	 Turn the operation mode selector switch to the provided position. When pins (2) to (6) (screw-tightening pins (2) and (3)) are shorted (the start input is turned on) with the power supply on, the time limit interval begins, and after the set time interval has elapsed, the output goes on. Also, when pins (2) to (6) are released (the start input goes off), the time limit interval begins, and after it has elapsed, the output goes off. If the status of pins (2) to (6) (screw-tightening pins (2) and (3)) changes during the time-limit interval (the start input goes from on to off, or from off to on), the time limit interval is restarted from the point at which the change took place. If the power supply is turned off, or pins (2) to (7) (screw-tightening pins (2) to (4)) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins (2) to (5) (screw-tightening pins (2) to (5)) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. 	Power supply Power supply Start @-@ ON OFF ON OFF Reset @-@ ON OFF Stop @-@ ON OFF Stop @-@ ON OFF Time out (N.O. contact) OP. LED POWER LED * * * A * * * * * * * * * * * * * * *
Pulse One-cycle	 If using a time-limit start when the power is turned on, and a reset when the power is turned off, pins (a) to (a) (screw-tightening pins (a) and (a)) should be shorted ahead of time. Turn the operation mode selector switch to the (b) position. When pins (a) to (c) (screw-tightening pins (a) are shorted (the start input is turned on) with the power supply on, the output goes on after the set time limit interval has elapsed. After it has gone on, it goes off after one pulse (approximately 0.8 seconds). If the power supply is turned off, or pins (a) to (c) (screw-tightening pins (a)) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins (a) to (c) (screw-tightening pins (c)) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. 	Power supply ON ON OFF OFF OFF Start © O OFF O OFF OFF OFF Reset ©

Note: Keep 0.1s or more for power off time.

Keep 0.05s or more for start, stop, reset input time.

PM4H-S

PM4H-S			
Operation type	Explanation	Time chart	
Power ON-delay	Time limit contact relay When the power supply is turned on, the output goes on after the set time interval has elapsed. When the power supply is turned off, a reset is carried out.	Power supply OFF Time out (N.O. contact) T OP. LED * POWER LED *	

PM4H-M

Operation type	Explanation	Time chart
Power ON-delay ON Power Flicker FL Power ON-flicker F0 Power One-shot OS Power One-cycle OC	Turn the operation mode selector switch to display the various opera- tions. When the power supply is turned on, the time limit interval begins, and operation is carried out. When the power supply is turned off, a reset is carried out.	Power ON-delay Power supply Time out (N.O. contact) Instantaneous contact (N.O. contact) OP. LED POWER LED

Note: Keep 0.1s or more for power off time. PM4H-M timers do not have each input which is start, reset and stop.

PM4H SERIES MODES AND TIME SETTING

Operation method Operation mode setting [PM4H-A type]

8 operation modes are selectable with operation mode selector.

Turn the operation mode selector with screw driver.

Operation mode is shown up through the window above the mode selector. The marks are (M), (E), (O), (O), (S), (S), (C), (C). Turn the mode selector to the mark until you can check by clicking sound.

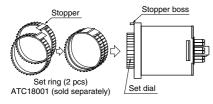
Confirm the mode selector position if it is correct.

If the position is not stable, the timer might mis-operate.

2. How to use "Set ring" [PM4H series common] 1) Fixed time setting 2) Tim

Set the desired time and put 2 set rings together.

Insert the rings into stopper to fix the time.





2) Time range setting [PM4H series common]

16 time ranges are selectable between 1s to 500h.

Turn the time range selector with the screw driver.

Clockwise turning increases the time range, and Counter-clockwise turning decrease the time range.

Confirm the range selector position if it is correct.

If the position is not stable, the timer might mis-operate.

3) Time setting [common]

To set the time, turn the set dial to a desired time within the range. Instantaneous output will be on when the dial is set to "0".

When the instantaneous output is used, the dial should be set under "0" range. (Instantaneous output area)

When power supply is on, the time range, setting time and operation mode cannot be changed.

Turn off the power supply or a reset signal is applied to set the new operation mode.

If the position is not stable, the timer might mis-operate.



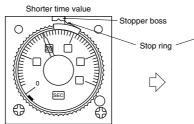
2) Time range setting

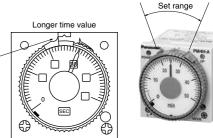
Example: Time range 20s to 30s.

 Shorter time value setting Set the dial to 20s.
 Place the stop ring at the right side of stopper.

② Longer time value setting Set the dial to 30s.

Place the stop ring at the left side of stopper.





Note) The stoppers for the lower limit setting set ring and the upper limit setting set ring face the opposite directions.

Applicable standard (PM4H series common)

Safety standard	EN61812-1	Pollution Degree 2/Overvoltage Category III
	(EMI)EN61000-6-4	
	Radiation interference electric field strength	EN55011 Group1 ClassA
	Noise terminal voltage	EN55011 Group1 ClassA
	(EMS)EN61000-6-2	
	Static discharge immunity	EN61000-4-2 4 kV contact
		8 kV air
	RF electromagnetic field immunity	EN61000-4-3 10 V/m AM modulation (80 MHz to 1 GHz)
		10 V/m pulse modulation (895 MHz to 905 MHz)
EMC	EFT/B immunity	EN61000-4-4 2 kV (power supply line)
		1 kV (signal line)
	Surge immunity	EN61000-4-5 1 kV (power line)
	Conductivity noise immunity	EN61000-4-6 10 V/m AM modulation (0.15 MHz to 80 MHz)
	Power frequency magnetic field immunity	EN61000-4-8 30 A/m (50 Hz)
	Voltage dip/Instantaneous stop/Voltage fluctuation immunity	EN61000-4-11 10 ms, 30% (rated voltage)
		100 ms, 60% (rated voltage)
		1,000 ms, 60% (rated voltage)
		5,000 ms, 95% (rated voltage)

X-ON Electronics

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 H3AMNSCAC100240
 H3AM-NSR-B AC100-240
 H3CA-8 DC12
 H3CR-A8-302 DC24
 H3CR-F AC24-48/DC12-48
 H3CR-G8EL

 AC200-240
 H5AN-4D DC12-24
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 H5S-YB4-X
 H3CR-A-301 AC100-240/DC100-125
 H3CR-AS AC24-48/DC12-48

 H3DK-GE AC240-440
 H3RN-2 AC24
 H3RN-21 AC24
 H3CR-H8RL AC/DC24 M
 H3CR-H8RL AC100-120 S
 H3CR-G8EL-31 AC100-120

 H3CR-H8RL AC100-120 M
 H3CR-HRL AC100-120 M
 H3CR-A8-301 AC24-48/DC12-48
 H3AM-NSR-C AC100-240
 H3CR-H8RL

 AC/DC24 S
 H7AN-2D DC12-24
 H5CN-XANS DC12-48
 H3CA-8 DC110
 H7AN-W4DM DC12-24
 H7AN-4D DC12-24

 24
 H7AN-RT6M AC100-240
 H3CA-8H AC200/220/240
 MTR17-BA-U240-116
 PM4HSDM-S-AC240VS
 PM4HSDM-S-AC240VSW
 PO

 405
 600DT-CU
 H3Y-2-B DC24 30S
 H3Y-2-B DC24 1S
 PM4HF8-M-DC24V
 PM4HS-H-DC12VSW
 H3Y-2-B AC100-120 10S
 H3Y-2-B

 AC100-120 30S
 H3C-R H3CR-A8-301 24-48AC/12-48DC
 PM4HS-H-DC12VSW
 H3Y-2-B AC100-120 10S
 H3Y-2-B