

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	Omron Corportion
Address	2-2-1, Nishi-Kusatsu, Kusatsu-shi, 525-0035, Japan
Place of Production	OMRON (SHANGHAI) CO.,LTD 789 JINJI Road, China(Shanghai)Pilot Free Trade Zone, Pudong New Area, Shanghai, 201206, China
Place of Production	PT. Omron Manufacturing of Indonesia Ejip Industrial Park, Plot 5C Cikarang Selatan, Bekasi, 17550, Indonesia
Place of Production	OMRON Corporation, Industrial Automation Company, Kusatsu Factory 2-2-1, Nishikusatsu, Kusatsu-shi, Shiga-ken, 525-0035, Japan
Type	Timer, Solid State
Description	Solid State Timer with Plug-in Socket, H3Y Series
Trade Name	(See Appendix for details)
Application	Marine and offshore applications for use in environmental categories ENV1 and ENV2 in the "General Power Distribution Zones" as defined in LR Type Approval System Test Specification No. 1-2021 where the Test Specification is satisfactory for the intended operation.

Type Approval Certificate

Specified Standard CSA std. C22.2 No. 14-13
ULstd. 508 17th Ed.

Ratings (See Appendix for details)

Additional Tests (See Appendix for details)

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Group Ltd of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: LR2161577TA and 99/10010(E10)

The Design Appraisal Document LR22339990TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Appendix

TRADE NAME

- Solid State Timer

H3Y-2,	H3Y-2-601,	H3Y-4,	
H3YN-2,	H3YN-21,	H3YN-4,	H3YN-41
H3BA-N,	H3BA-N8H,		
H3CA-8,	H3CA-8H,	H3CA-A,	H3CA-FA,
H3DE-M1,	H3DE-M2,	H3DE-S1,	H3DE-S2,
H3DK-M1,	H3DK-M1A,	H3DK-M2,	H3DK-M2A,
H3DK-S1,	H3DK-S1A,	H3DK-S2,	H3DK-S2A,
H3M,	H3M-H,		
H3DS-AL,	H3DS-ALC,	H3DS-ML,	H3DS-MLC,
H3DS-SL,	H3DS-SLC,	H3Y-2,	H3Y-4
H3YN-2,	H3YN-21,	H3YN-4,	H3YN-41

- Socket

PY08,	PY08-02,	PY08QN(2),	PY14,	PY14-02,	PY14QN(2),	
PYF08A,	PYF08A-N,	PYF14A,	PYF14A-N			
P2CF-08,	P2CF-08-E,	P2CF-11,	P2CF-11-E,	P3G-08,	P3GA-11,	
PF085A,	PL08,	PL11,	PY08,	PY08-02,	PY08QN(2),	PY14,
PY14-02,	PY14QN(2),	PYF08A,	PYF08A-N,	PYF14A,	PYF14A-N	

- Multifunctional timer

H3CR-A,	H3CR-A8,	H3CR-AP,	H3CR-AS,	H3CR-A8S,	H3CR-A8E
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- Twin timer

H3BF-N8,	H3CR-F,	H3CR-F8,	H3CR-FN,	H3CR-F8N,	H3DK-F,
H3DK-FA					

- Star-delta timer

H3BG-N8,	H3BG-N8H,	H3CR-G8L,	H3CR-G8EL,	H3DK-G,	H3DK-GA
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- Power off-delay timer

H3BH-N8,	H3CR-HRL,	H3CR-H8L,	H3CR-H8RL,		
H3DK-HBS,	H3DK-HCS,	H3DK-HDS,	H3DK-HBL,	H3DK-HCL,	H3DK-HDL

ADDITIONAL TEST

Low temperature test at -10°C for type;-

H3Y-2, H3YN-41,	H3Y-2-601, H3BA-N8H,	H3Y-4, H3BF-N8,	H3YN-2, H3BG-N8,	H3YN-21, H3BG-N8H,	H3YN-4, H3BH-N8,
H3BA-N, H3CA-8, H3DE-S1, H3DS-ML,	H3CA-8H, H3DE-S2, H3DS-MLC,	H3CA-A, H3M, H3DS-SL,	H3CA-FA, H3M-H, H3DS-SLC,	H3DE-M1, H3DS-AL, H3Y-2,	H3DE-M2, H3DS-ALC, H3Y-4,
H3YN-2, H3CR-AP, H3CR-FN, H3CR-H8RL	H3YN-21, H3CR-AS, H3CR-F8N,	H3YN-4, H3CR-A8S, H3CR-G8L,	H3YN-41, H3CR-A8E, H3CR-G8EL,	H3CR-A, H3CR-F, H3CR-HRL,	H3CR-A8, H3CR-F8, H3CR-H8L,

Low temperature test at -20°C for type :-

H3DK-M1, H3DK-S2, 3DK-HBS,	H3DK-M1A, H3DK-S2A, H3DK-HCS,	H3DK-M2, H3DK-F, H3DK-HDS,	H3DK-M2A, H3DK-FA, H3DK-HBL,	H3DK-S1, H3DK-G, H3DK-HCL,	H3DK-S1A, H3DK-GA, H3DK-HDL
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RATINGS

Solid state timer

Type	Description	Timing Range	Supply Voltage	Output
H3Y-2 H3Y-2-601	with DPDT contact delayed to operate	13 standard ranges from 0.5s to 3 hours	24 - 230V ac 100 - 120V ac 50/60 Hz,	250 V ac, 5A (resistive load)
H3Y-4	with 4PDT contact delayed to operate		12 - 110V dc	250 V ac, 3A (resistive load)
H3YN-2 H3YN-21	DPDT contacts with delayed operation	4 standard ranges from 1 s to 10 min. or from 1 min. to 10 h	24 V ac 100 - 120 V ac 200 - 230 V ac 50/60 Hz	250 V ac, 5A (resistive load)
H3YN-4 H3YN-41	4PDT contacts with delayed operation		12 V dc 24 V dc 48 V dc 100 - 110 V dc 125 V dc	250 V ac, 3A (resistive load)
H3BA-N	DPDT contact with delayed operation	24 selectable ranged from 0.65s to 300 hours	110V/220V ac 50/60Hz,	250V ac 5A (resistive load)
H3BA-N8H	SPDT contact with delayed and instantaneous operation		24V dc	

	or SPDT contact with delayed operation			
H3CA-8	DPDT (delayed to operate)	0.1 sec to 9,990 hours	24 – 240 ac 50/60Hz,	250V ac 3A (resistive load)
H3CA-8H	SPDT (delayed to operate and instantaneous)		12 – 110 dc	250V ac 2A (Power factor 0.4) 24 V dc 3A (resistive load) 24V ac 2A (Time Constant 0.007 sec)
H3CA-A H3CA-FA		0.1 sec to 9,990 hrs	24 - 240V ac 50/60 Hz, 12 - 240V dc	250V ac 3A (resistive load)
H3DE-M1	SPDT contact with delayed operation	0.1s to 120h	24 - 230V ac 50/60 Hz,	250Vac/30Vdc 5A, (resistive load)
H3DE-M2	DPDT contacts with delayed and instantaneous operation		24 - 230V dc	
H3DE-S1	SPDT contact with delayed operation			
H3DE-S2	DPDT contacts with delayed and instantaneous operation			
H3DK-M1	SPDT contact with delayed operation	0.1s to 1200h	24 - 240V ac 50/60 Hz, 24 - 240V dc	250Vac/30Vdc 5A, (resistive load)
H3DK-M2	DPDT contacts with delayed and instantaneous operation	0.1s to 1200h	24 - 240V ac 50/60 Hz, 24 - 240V dc	250Vac/30Vdc 5A, (resistive load)
H3DK-S1	SPDT contact with delayed operation	0.1s to 1200h	24 - 240V ac 50/60 Hz, 24 - 240V dc	250Vac/30Vdc 5A, (resistive load)
H3DK-S2	DPDT contacts with delayed and instantaneous operation	0.1s to 1200h	24 - 240V ac 50/60 Hz, 24 - 240V dc	250Vac/30Vdc 5A, (resistive load)
H3DK-M1A	SPDT contact with delayed operation	0.1s to 1200h	12 V dc	250Vac/30Vdc 5A, (resistive load)

H3DK-M2A	DPDT contacts with delayed and instantaneous operation	0.1s to 1200h	12 V dc	250Vac/30Vdc 5A, (resistive load)
H3DK-S1A	SPDT contact with delayed operation	0.1s to 1200h	12 V dc	250Vac/30Vdc 5A, (resistive load)
H3DK-S2A	DPDT contacts with delayed and instantaneous operation	0.1s to 1200h	12 V dc	250Vac/30Vdc 5A, (resistive load)
H3M	DPDT contact delayed to operate	4 time ranges 0.05 to 30 hours covered by 5 timer units.	24 - 240 V ac 50/60 Hz,	250V, 5A, a.c., (resistive load)
H3M-H	SPDT contact delayed and instantaneous contacts		12 - 110V dc	
H3DS-AL H3DS-ALC H3DS-ML H3DS-MLC H3DS-SL H3DS-SLC	SPDT contact with delayed operation	0.1 s to 120 h	24 - 230 V ac 50/60 Hz, 24 - 48 V dc	250Vac/30Vdc 5A (resistive load)
H3Y-2	with DPDT contact delayed to operate	13 standard ranges from 0.5s to 3 hours	24 - 230V ac 50/60 Hz,	250 V ac, 5A (resistive load)
H3Y-4	with 4PDT contact delayed to operate		12 - 110V dc	250 V ac, 3A (resistive load)
H3YN-2 H3YN-21	DPDT contacts with delayed operation	4 standard ranges from 1 s to 10 min. or from 1 min. to 10 h	24 V ac 100 - 120 V ac 200 - 230 V ac 50/60 Hz	250 V ac, 5A (resistive load)
H3YN-4 H3YN-41	4PDT contacts with delayed operation		12 V dc 24 V dc 48 V dc 100 - 110 V dc 125 V dc	250 V ac, 3A (resistive load)

Multifunctional timer

Type	Description	Timing Range	Supply Voltage	Output
H3CR-A H3CR-A8 H3CR-AP	DPDT contact with delayed operation	24 selectable ranges from 0.05 seconds to 300 hours or 0.1 seconds to 600 hours	24 - 48 V ac 100 - 240V ac 50/60 Hz, 100 - 125V dc 12 - 48 V dc	250Vac/30Vdc 5A, (resistive load)
H3CR-AS H3CR-A8S	Open collector (NPN)		24 - 48 V ac 50/60 Hz, 12 - 48 V dc	30 V dc, 100mA

H3CR-A8E	SPDT contacts with delayed and instantaneous operation		24 - 48 V ac 100 - 240 V ac 50/60 Hz, 100 - 125 V dc 24 - 48 V dc	250Vac/30Vdc 5A, (resistive load)
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Twin timer

Type	Description	Timing Range	Supply Voltage	Output
H3BF-N8	Flicker operation OFF start	24 selectable ranges from 0.05 s to 300 hrs	110V ac, 50/60Hz 220V ac, 50/60Hz	250Vac/30Vdc 5A (resistive load)
H3CR-F H3CR-F8	Flicker operation OFF start	24 selectable ranges from 0.05 s to 300 hrs	100 - 240V ac 50/60 Hz/ 100-125 V dc, 24-48 V ac 50/60 Hz/ 12-48 V dc,	250Vac/30Vdc 5A (resistive load)
H3CR-FN H3CR-F8N	Flicker operation ON start			
H3DK-F	Flicker operation OFF/ Flicker operation ON start	0.1s to 1200h	24 - 240V ac 50/60 Hz, 24 - 240V dc	250Vac/30Vdc 5A, (resistive load)
H3DK-FA	Flicker operation OFF/ Flicker operation ON start	0.1s to 1200h	12 V dc	250Vac/30Vdc 5A, (resistive load)

Star-delta timer

Type	Description	Timing Range	Supply Voltage	Output
H3BG-N8	SPST contact with delayed operation	Star-circuit operation time : 4 selectable ranges from 0.5 to 120 sec Star-delta circuit transfer time: 6 selectable ranges from 0.05 to 1.0 sec	110V ac, 50/60Hz 220V ac, 50/60Hz	250Vac/30Vdc 5A (resistive load)
H3BG-N8H	SPST contact with delayed and instantaneous operation			
H3CR-G8L	SPST contact with delayed operation	Star-circuit operation time : 4 selectable ranges from 0.5 to 120 sec	100 – 120 V ac 200 – 240 V ac 50/60 Hz,	250Vac/30Vdc 5A (resistive load)
H3CR-G8EL	SPST contact with delayed and instantaneous operation	Star-delta circuit transfer time:		

		6 selectable ranges from 0.05 to 1.0 sec		
H3DK-G	SPDT contacts with delayed operation	Star-circuit operation time : 2 selectable ranges from 1 to 120 sec	24 - 240V ac 50/60 Hz, 24 - 240V dc	250Vac/30Vdc 5A, (resistive load)
H3DK-GA		Star-delta circuit transfer time: 4 selectable ranges from 0.05 to 0.5 sec	12 V dc	

Power off-delay timer

Type	Description	Timing Range	Supply Voltage	Output
H3BH-N8	DPDT contacts with delayed operation	8 selectable ranges 0.05 to 12 sec or 0.05 to 12 min	110V ac, 50/60Hz 220V ac, 50/60Hz	250Vac/30Vdc 5A (resistive load)
H3CR-HRL H3CR-H8L H3CR-H8RL	DPDT contacts with delayed operation SPDT contacts with delayed operation	8 selectable ranges 0.05 to 12 sec or 0.05 to 12 min	24 V ac 100 – 120V ac 200 – 240V ac 50/60 Hz, 24 V dc 48 V dc 100 – 125V dc	250Vac/30Vdc 5A (resistive load)
H3DK-HBS H3DK-HBL	SPDT contacts with delayed operation	0.1 to 12 Sec. time range for S Series 1 to 120 Sec. time range for L Series	24 – 48V ac 50/60 Hz, 24 - 48 V dc	250Vac/30Vdc 5A, (resistive load)
H3DK-HCS H3DK-HCL	SPDT contacts with delayed operation	0.1 to 12 Sec. time range for S Series 1 to 120 Sec. time range for L Series	100 – 120V ac 50/60 Hz	250Vac/30Vdc 5A, (resistive load)
H3DK-HDS H3DK-HDL	SPDT contacts with delayed operation	0.1 to 12 Sec. time range for S Series 1 to 120 Sec. time range for L Series	200 – 240V ac 50/60 Hz	250Vac/30Vdc 5A, (resistive load)

Note ¹⁾: Type name may be followed by additional numbers, 300-999, and may be followed by additional alphabetical / numerical suffix(s).

Note ²⁾: Type H3Y-S, H3Y-2-C, H3Y-4-C and H3Y-2-301 are excluded from this type approval certification.

Note ³⁾: Type H3CR-H8L-T is excluded from this type approval certification.

- End of Appendix -