New Product

OMRON

Solid-state Timers
H3DT

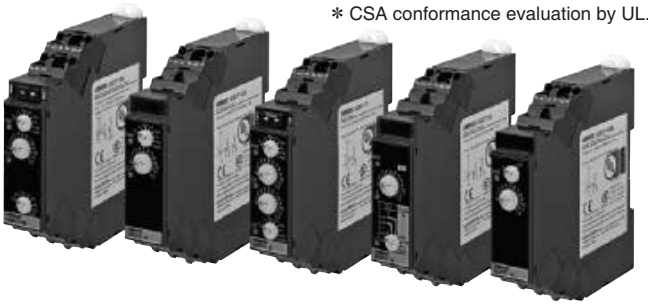
DIN 17.5-mm-wide Slim Timers with Push-in Plus Technology for In-panel Applications

- Helps save space and reduces work in control panels.
- Slim Timers (17.5-mm width) with two sets of contacts: One of the slimmest Timers worldwide. *1
- Reduces power consumption (active power) by up to 60% to help reduce heat generation in control panels. *2
- Certified for maritime standards (LR/DNV GL). *3
- RoHS compliant

***1.** According to OMRON investigation in October 2015.
***2.** Based on OMRON comparison (excluding the H3DT-H).
***3.** Certification is pending for DNV GL.

CE UL CERTIFIED * LR

* CSA conformance evaluation by UL.



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

Model Number Structure

The Entire H3DT Series

H3DT Series

H3DT-N/-L Multi-range, Multi-mode Timers P.2

■Standard Eight-mode Timers
H3DT-N
● Operating Modes
A2: ON Delay (Power ON Delay)
B3: Flicker OFF Start (Power ON Start)
B4: Flicker ON Start (Power ON Start)
D: Signal OFF Delay
E2: Interval (Power ON Start)
E3: Signal OFF Interval
F2: Cumulative (ON Delay)
F3: Cumulative (Interval)

■Expansion Eight-mode Timers
H3DT-L
● Operating Modes
A: ON Delay (Signal ON Delay)
B: Flicker OFF Start (Signal Start)
B2: Flicker ON Start (Signal Start)
C: Signal ON/OFF Delay
E: Interval (Signal Start)
G: Signal ON/OFF Delay
J: One-shot Output (Signal Start)
J2: One-shot Output (Power ON Start)

H3DT-A Power ON-delay Timers P.12

● Operating Modes
Power ON-delay Timer

H3DT-F Twin Timers P.17

● Operating Modes
Flicker-OFF Start/
Flicker-ON Start

H3DT-G Star-delta Timers P.21

● Operating Modes
Star-delta Timer

H3DT-H Power OFF-delay Timers P.25

● Operating Modes
Power OFF-delay Timer

Model Number Legend

H3DT-□□□□
1 2 3 4

1. Type

Symbol	Meaning
N	Standard Eight-mode Timer
L	Expansion Eight-mode Timer
A	Power ON-delay Timer
F	Twin Timer
G	Star-delta Timer
H	Power OFF-delay Timer

2. Control Output *

Symbol	Meaning
1	SPDT
2	DPDT

* N-, L- and A-type models only.

3. Supply Voltage

Symbol	Meaning
Blank	24 to 240 VAC/DC
B *	24 to 48 VAC/DC
C *	100 to 120 VAC
D *	200 to 240 VAC

* H-type models only.

4. Time Ranges *

Symbol	Meaning
S	0.1 to 1.2 s or 1 to 12 s
L	1 to 12 s or 10 to 120 s

* H-type models only.

Multi-range, Multi-mode Timer
H3DT-N/H3DT-L

- Multiple time ranges and operating modes let you cover a wide range of applications.
- The time-limit DPDT output contacts can be changed to time-limit SPDT and instantaneous SPDT output contacts using a switch.
- Sequence checks are easily performed by setting an instantaneous output to 0.
- Start signal control for some operating modes.

CE UL* LR

* CSA conformance evaluation by UL.

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

Ordering Information

List of Models

Supply voltage	Control output		H3DT-N/H3DT-L	
			Standard Eight-mode Timer	Expansion Eight-mode Timer
24 to 240 VAC/DC	Contact output, DPDT (time-limit DPDT, or time-limit SPDT + instantaneous SPDT) Changed using a switch.	Model	H3DT-N2	H3DT-L2
	Contact output, SPDT (time-limit SPDT)		H3DT-N1	H3DT-L1

Model Structure

Model	Operating modes	Terminal block	Input type	Output type	Mounting method	Safety standards
H3DT-N2	A2: ON Delay (Power ON Delay) B3: Flicker OFF Start (Power ON Start) B4: Flicker ON Start (Power ON Start) D: Signal OFF Delay E2: Interval (Power ON Start) E3: Signal OFF Interval F2: Cumulative (ON Delay) F3: Cumulative (Interval)	10 terminals	Voltage input	Relay, DPDT	DIN Track mounting	cULus (UL 508 CSA C22.2 No.14) CCC LR DNV GL * EN 61812-1 IEC 60664-1 4 kV/2
H3DT-N1		8 terminals		Relay, SPDT		
H3DT-L2	A: ON Delay (Signal ON Delay) B: Flicker OFF Start (Signal Start) B2: Flicker ON Start (Signal Start) C: Signal ON/OFF Delay E: Interval (Signal Start) G: Signal ON/OFF Delay J: One-shot Output (Signal Start) J2: One-shot Output (Power ON Start)	10 terminals		Relay, DPDT		
H3DT-L1		8 terminals		Relay, SPDT		

* Certification is pending for DNV GL.

Specifications

Time Ranges

Time range setting	0.1 s	1 s	10 s	1 min	10 min	1 h	10 h	100 h
Set time range	0.1 to 1.2 s	1 to 12 s	10 to 120 s	1 to 12 min	10 to 120 min	1 to 12 h	10 to 120 h	100 to 1,200 h
Scale numbers	12							

Ratings

Power supply voltage *1		24 to 240 VAC/DC, 50/60 Hz *2
Allowable voltage fluctuation range		85% to 110% of rated voltage
Power reset		Minimum power-OFF time: 0.1 s
Reset voltage		10% of rated voltage
Voltage input		24 to 240 VAC/DC High level: 20.4 to 264 VAC/DC, Low level: 0 to 2.4 VAC/DC
***3 Power consumption**	**H3DT-N2/-L2**	At 240 VAC: 2.3 VA max., at 240 VDC: 1.0 W max., at 24 VDC: 0.3 W max.
	H3DT-N1/-L1	At 240 VAC: 2.0 VA max., at 240 VDC: 0.9 W max., at 24 VDC: 0.3 W max.
Rated Insulation Voltage		250 VAC
Control output		Contact output: 5 A at 250 VAC with resistive load ($\cos\phi$ = 1), 5 A at 30 VDC with resistive load *5, 0.15 A max. at 125 VDC with resistive load, 0.1A max. at 125 VDC with L/R of 7 ms. The minimum applicable load is 10 mA at 5 VDC (P reference value). Contact materials : Ag-alloy + Gold plating (Recommended fuse: BLN5 (Littelfuse) or 0216005MXEP)
Ambient operating temperature		−20 to 60°C (with no icing)
Storage temperature		−40 to 70°C (with no icing)
Surrounding air operating humidity		25% to 85%

***1.** When using a 24-VDC power supply voltage, there will be an inrush current of approximately 0.5 A. Allow for this inrush current when turning ON and OFF the power supply to the Timer with device with a solid-state output, such as a sensor.
***2.** DC ripple: 20% max.
***3.** The power consumption is for after the Timer times out in mode F2 for the H3DT-N and mode A for the H3DT-L.
The maximum power consumption is given, including the current consumed by the input circuit.