Time Delay Relays
DELAY-ON-MAKE

TDM / TDMH / TDML Series
Delay-on-Make Timer

Description

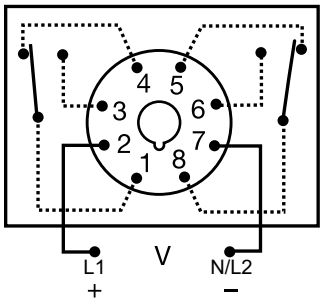
The TDM/TDMH/TDML series is a delay-on-make timer that combines accurate digital circuitry with isolated, DPDT relay contacts in an industry standard 8-pin plug-in package. DIP switch adjustment allows precise selection of the time delay over the full time delay range. The TDM/TDMH/TDML series is the product of choice for custom control panel and OEM designers.

Operation (Delay-on-Make)

Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output relay energizes and remains energized until input voltage is removed.

Reset: Removing input voltage resets the time delay and output.

Wiring Diagram



Relay contacts are isolated.

Features & Benefits

FEATURES	BENEFITS
Wide delay range (0.1 s to 2.8 h)	User selectable via DIP switches for fine tuning to individual applications.
Microcontroller based	Repeat Accuracy +/- 0.1 %
Dip switch adjustment	Provides first time setting accuracy of +/- 2 %
Setting accuracy +/- 2 %	Provides flexibility for use in most applications
LED indication	Provides visual indication of time delay status
Isolated 8 A, DPDT output contacts	Allows control of loads with independent voltage sources

Ordering Information

MODEL	INPUT VOLTAGE	DELAY RANGE
TDM120AL	120 V ac	1–1023 s in 1 s increments
TDM12DL	12 V dc	1–1023 s in 1 s increments
TDM230AL	230 V ac	1–1023 s in 1 s increments
TDM24AL	24 V ac	1–1023 s in 1 s increments
TDM24DL	24 V dc/28 V dc	1–1023 s in 1 s increments
TDMH120AL	120 V ac	10 –10230 s in 10 s increments
TDMH24AL	24 V ac	10 –10230 s in 10 s increments
TDML110DL	110 V dc	0.1 –102.3 s in 0.1 s increments
TDML120AL	120 V ac	0.1 –102.3 s in 0.1 s increments
TDML12DL	12 V dc	0.1 –102.3 s in 0.1 s increments
TDML24DL	24 V dc/28 V dc	0.1 –102.3 s in 0.1 s increments

Accessories

OT08PC 8-pin Octal Socket for UL listing*
8-pin 35 mm DIN-rail or surface mount. Rated at 10 A @ 600 V ac. Surface mounted with two #6 screws or snaps onto a 35 mm DIN rail.

P1011-6 Octal Socket for UL listing*
8-pin surface mount socket with binder head screw terminals. Rated 10 A @ 600 V ac.

C103PM (AL) DIN Rail
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.

Specifications

Time Delay

Type	Digital integrated circuitry
Range	0.1–102.3 s in 0.1 s increments 1–1023 s in 1 s increments 10–10,230 s in 10 s increments
Repeat Accuracy	±0.1 %
Setting Accuracy	±2 %
Reset Time	≤ 150 ms
Time Delay vs. Temperature & Voltage	±5 %
Indicator	LED glows during timing; relay is de-energized

Input

Voltage	12, 24, or 110 V dc; 24, 120, or 230 V ac
Tolerance	
12 V dc & 24 Vdc/ac	-15 %–20 %
110 V ac/dc to 230 V ac	-20 %–10 %
Ac Line Frequency	50/60 Hz
Power Consumption	≤ 3.25W

Output

Type	Electromechanical relay
Form	DPDT
Rating	8 A resistive @ 120/240 V ac; 1/3 hp @ 120/240 V ac
Life	Mechanical - 1 x10^7; Electrical - 1 x 10^6

Protection

Polarity	Dc units are reverse polarity protected
Isolation Voltage	≥ 1500 V RMS input to output

Mechanical

Mounting	Plug-in socket
Dimensions	**H** 44.45 mm (1.75"); **W** 60.33 mm (2.38"); **D** (with socket) 104.78 mm (4.13")
Termination	Octal 8-pin plug-in

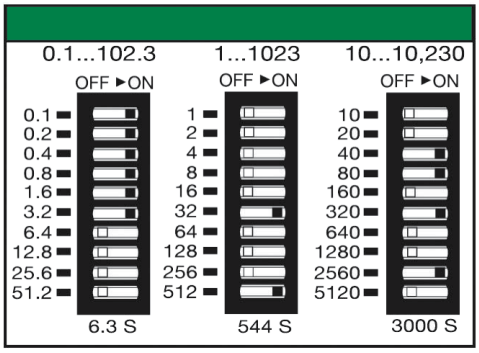
Environmental

Operating/Storage Temperature	-20 °C to 65 °C / -30 °C to 85 °C
Weight	≅ 4 oz (113 g)
Safety Marks	
UL (socket required)*	UL 508 (E57310)

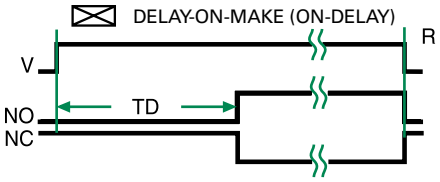
*UL Listed when used with Part Number OT08-PC or RB08-PC manufactured by Custom Connector Corp.

Note: Manufacturer's recommended screw terminal torque for the OT Series sockets is 12 in-lbs.

Binary Switch Operation



Function Diagram



V = Voltage
NO = Normally Open Contact
NC = Normally Closed Contact
TD = Time Delay
R = Reset
⌇ = Undefined Time