TDUB SERIES

Delay-on-Break Timer

Description

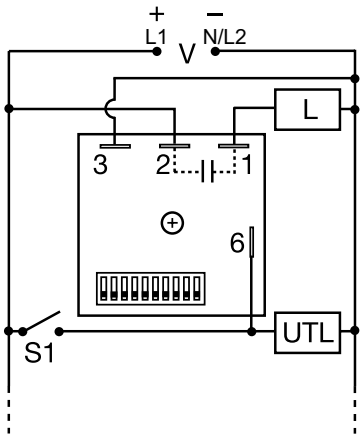
The TDUB Series combines digital timing circuitry with universal voltage operation. Voltages of 24 to 240VAC and 12 to 24VDC are available in three ranges. The TDUB Series offers DIP switch selectable time delays ranging from 0.1 seconds to 102.3 minutes in three ranges. Its 1A rated output, ability to operate on multiple voltages, and wide range of switch selectable time delays make the TDUB Series an excellent choice for process control systems and OEM equipment.

Operation (Delay-on-Break)

Input voltage must be applied before and during timing. Upon closure of the initiate switch, the output energizes. The time delay begins when the initiate switch is opened (trailing edge triggered). The output remains energized during timing. At the end of the time delay, the output de-energizes. The output will energize if the initiate switch is closed when input voltage is applied.

Reset: Reclosing the initiate switch during timing resets the time delay. Loss of input voltage resets the time delay and output.

Wiring Diagram



V = Voltage
UTL = Optional Untimed Load
S1 = Initiate Switch
L = Timed Load

Features & Benefits

FEATURES	BENEFITS
Dip Switch Timing Adjustment	Provides setting accuracy of +/-2%
User selectable time delay	Timing settings are switch selectable 0.1s - 102.3m in three ranges for added flexibility
1A steady, 10A inrush solid-state output	Provides 100 million operations in typical conditions.
Totally solid state and encapsulated	No moving parts to arc and wear out over time and encapsulated to protect against shock, vibration, and humidity.

Accessories

P1015-13 (AWG 10/12), **P1015-64** (AWG 14/16), **P1015-14** (AWG 18/22) **Female Quick Connect**
These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.

P1015-18 Quick Connect to Screw Adapter
Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.

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

P1023-20 DIN Rail Adapter
Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

Ordering Information

MODEL	INPUT VOLTAGE RANGE	TIME RANGE
TDUB3000A	24 to 120VAC	1-1023s
TDUB3002A	12 to 24VDC	1-1023s
TDUBH3002A	12 to 24VDC	0.1-102.3m
TDUBH3001A	100 to 240VAC	0.1-102.3m
TDUBL3002A	12 to 24VDC	0.1-102.3s

Littelfuse
Expertise Applied | Answers Delivered

TDUB SERIES

Specifications

Time Delay

Range*	0.1 - 102.3s in 0.1s increments 1 - 1023s in 1s increments 0.1 - 102.3m in 0.1m increments
Repeat Accuracy	±0.5% or 20ms, whichever is greater
Setting Accuracy	≤ ±2% or 20ms, whichever is greater
Reset Time	≤ 150ms
Initiate Time	≤ 20ms
Time Delay vs. Temperature & Voltage	≤ ±5%

Input

Voltage/Tolerance	24 to 240VAC, 12 to 24VDC /±20%
AC Line Frequency/DC Ripple	50/60 Hz / ≤ 10%
Power Consumption	AC ≤ 2VA; DC ≤ 1W

Output

Type	Solid state
Form	NO, closed before and during timing
Rating	1A steady state, 10A inrush at 60°C
Voltage Drop	AC ≅ 2.5V @ 1A; DC ≅ 1V @ 1A
Off State Leakage Current	AC ≅ 5mA @ 230VAC; DC ≅ 1mA

Protection

Circuitry	Encapsulated
Dielectric Breakdown	≥ 2000V RMS terminals to mounting surface
Insulation Resistance	≥ 100 MΩ
Polarity	DC units are reverse polarity protected

Mechanical

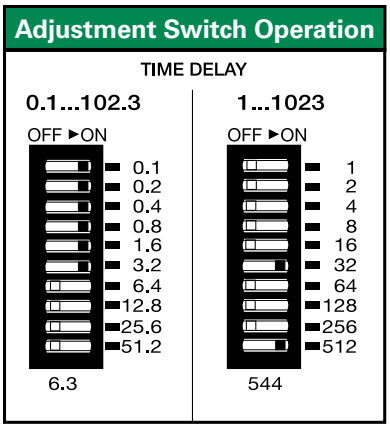
Mounting	Surface mount with one #10 (M5 x 0.8) screw
Dimensions	**H** 50.8 mm (2"); **W** 50.8 mm (2"); **D** 30.7 mm (1.21")
Termination	0.25 in. (6.35 mm) male quick connect terminals

Environmental

Operating/Storage Temperature	-40° to 60°C /-40° to 85°C
Humidity	95% relative, non-condensing
Weight	≅ 2.4 oz (68 g)

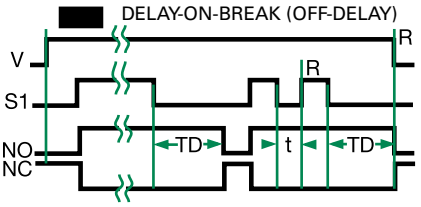
*For CE approved applications, power must be removed from the unit when a switch position is changed.

Adjustment Switch Operation



Add the value of switches in the ON position for the total time delay.

Function Diagram



V = Voltage
S1 = Initiate Switch
NO = Normally Open Contact
NC = Normally Closed Contact
TD = Time Delay
t = Incomplete Time Delay
R = Reset
—⟋— = Undefined Time