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## TDUB SERIES

Delay-on-BreakTimer



## Wiring Diagram



Ordering Information

| MODEL | INPUT VOLTAGE RANGE | TIME RANGE |
| :--- | :--- | :--- |
| TDUB3000A | 24 to 120VAC | $1-1023 \mathrm{~s}$ |
| TDUB3002A | 12 to 24VDC | $1-1023 \mathrm{~s}$ |
| TDUBH3002A | 12 to 24VDC | $0.1-102.3 \mathrm{~m}$ |
| TDUBH3001A | 100 to 240VAC | $0.1-102.3 \mathrm{~m}$ |
| TDUBL3002A | 12 to 24VDC | $0.1-102.3 \mathrm{~s}$ |

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## Description

The TDUB Series combines digital timing circuitry with universal voltage operation. Voltages of 24 to 240 VAC and 12 to 24 VDC 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.

## Features \& Benefits

| FEATURES | BENEFITS |
| :--- | :--- |
| Dip Switch Timing <br> Adjustment | Provides setting accuracy of $+/-2 \%$ |
| User selectable <br> time delay | Timing settings are switch selectale $0.1 \mathrm{~s}-102.3 \mathrm{~m}$ <br> in three ranges for added flexibibity |
| 1A steady, 10A inrush <br> solid-state output | Provides 100 million operations in typical conditions. |
| Totally solid state <br> and encapsulated | No moving parts to arc and wear out over time and <br> encapsulated to protect against shock, vibration, <br> 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 . $(6.35 \mathrm{~mm}$ ) male quick connect terminals.


C103PM (AL) DIN Rail
35 mm aluminum DIN rail available in a 36 in. $(91.4 \mathrm{~cm}$ ) length.

## P1023-20 DIN Rail Adapter

Allows module to be mounted on a 35 mm DIN type rail with two \#10 screws.

Specifications

| Time Delay |  |
| :---: | :---: |
| Range* | 0.1-102.3s in 0.1s increments |
|  | 1-1023s in 1 s increments |
|  | $0.1-102.3 \mathrm{~m}$ in 0.1 m increments |
| Repeat Accuracy | $\pm 0.5 \%$ or 20 ms , whichever is greater |
| Setting Accuracy | $\leq \pm 2 \%$ or 20 ms , whichever is greater |
| Reset Time | $\leq 150 \mathrm{~ms}$ |
| Initiate Time | $\leq 20 \mathrm{~ms}$ |
| Time Delay vs. Temperature |  |
| \& Voltage | $\leq \pm 5 \%$ |
| Input |  |
| Voltage/Tolerance | 24 to 240VAC, 12 to 24VDC / $\pm 20 \%$ |
| AC Line Frequency/DC Ripple | $50 / 60 \mathrm{~Hz}$ / $\leq 10 \%$ |
| Power Consumption | $A C \leq 2 V A ; D C \leq 1 W$ |
| Output |  |
| Type | Solid state |
| Form | NO, closed before and during timing |
| Rating | 1A steady state, 10 A inrush at $60^{\circ} \mathrm{C}$ |
| Voltage Drop | $A C \cong 2.5 \mathrm{~V} @ 1 \mathrm{~A} ; \mathrm{DC} \cong 1 \mathrm{~V} @ 1 \mathrm{~A}$ |
| Off State Leakage Current | $A C \cong 5 \mathrm{~mA} @ 230 \mathrm{VAC} ; \mathrm{DC} \cong 1 \mathrm{~mA}$ |
| Protection |  |
| Circuitry | Encapsulated |
| Dielectric Breakdown | $\geq 2000 \mathrm{~V}$ RMS terminals to mounting surface |
| Insulation Resistance | $\geq 100 \mathrm{M} \Omega$ |
| Polarity | DC units are reverse polarity protected |
| Mechanical |  |
| Mounting | Surface mount with one \#10 (M5 x 0.8) screw |
| Dimensions | H $50.8 \mathrm{~mm}\left(2^{\prime \prime}\right)$; W $50.8 \mathrm{~mm}\left(2^{\prime \prime}\right)$; D $30.7 \mathrm{~mm}\left(1.21^{\prime \prime}\right)$ |
|  | D $30.7 \mathrm{~mm}\left(1.21^{\prime \prime}\right)$ |
| Termination | 0.25 in . ( 6.35 mm ) male quick connect terminals |
| Environmental |  |
| Operating/Storage |  |
| Temperature | $-40^{\circ}$ to $60^{\circ} \mathrm{C} /-40^{\circ}$ to $85^{\circ} \mathrm{C}$ |
| Humidity | 95\% relative, non-condensing |
| Weight | $\cong 2.402(68 \mathrm{~g})$ |

[^0]95\% relative, non-condensing
$\cong 2.4 \mathrm{oz}(68 \mathrm{~g})$

## Adjustment Switch Operation

Adjustment Switch Operation
TIME DELAY


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

## Function Diagram


$\mathrm{V}=$ Voltage
S1 = Initiate Switch
NO = Normally
Open Contact
NC = Normally
Closed Contact
TD = Time Delay
t = Incomplete
Time Delay
$\mathrm{R}=$ Reset
$-\boldsymbol{T}=\underset{\text { Undefined }}{\text { Time }}$

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[^0]:    *For CE approved applications, power must be removed from the unit when a switch position is changed.

