

Multifunction TRDU Series Time Delay Relay

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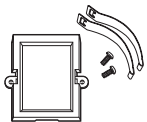


10 YEAR WARRANTY

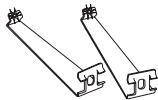
- Microcontroller +/-0.1% Repeat Accuracy
- Multifunction – 21 Timing Functions
- Multirange – 0.1 s ... 1,705 h in 8 Ranges
- Switch Selectable Modes, Time Delay, & Ranges
- AC and DC Input Voltages are Available
- 10 A, Isolated SPDT or DPDT Output Contacts

Approvals:

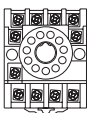
Accessories



Panel mount kit
P/N: **BZ1**



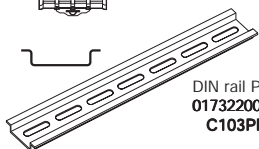
Hold down clips
P/Ns:
PSC8 (NDS-8)
PSC11 (NDS-11)



11 pin socket
P/N: **NDS-11**



Octal
8 pin socket
P/N: **NDS-8**



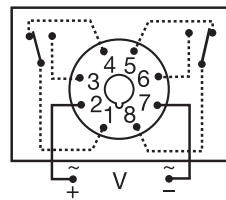
DIN rail P/Ns:
017322005 (Steel)
C103PM (Al)

See accessory pages for specifications.

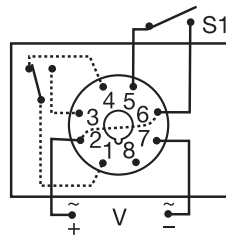
Description

The TRDU Series is a versatile universal time delay relay with 21 selectable single and dual functions. The dual functions replace up to three timers required to accomplish the same function. Both the function and the timing range are selectable with switches located on the face of the unit. Two LED's indicate input voltage and output status. This device offers full 10 A isolated relay output contacts in either SPDT or DPDT. The TRDU replaces hundreds of part numbers, thereby, reducing your stock inventory requirements.

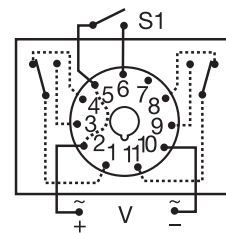
Connection



8 Pin DPDT



8 Pin SPDT



11 Pin DPDT

V = Voltage S1 = Initiate Switch

Relay contacts are isolated. Dashed lines are internal connections.

21 Functions

Five switches are provided to set one of 10 single or 11 dual modes of operation.

Single Functions-

- * Delay on Make
- Delay on Break
- * Recycle (ON Time First, Equal Recycle Delays)
- Single Shot
- * Interval
- Trailing Edge Single Shot
- Inverted Single Shot
- Inverted Delay on Break
- Accumulative Delay on Make
- Retriggerable Single Shot (Motion Detector)

Dual Functions -

- Delay on Make/Delay on Break
- * Delay on Make/Recycle
- (ON Time First, Equal Recycle Delays)
- * Delay on Make/Interval
- Delay on Make/Single Shot
- * Interval/Recycle
- (ON Time First, Equal Recycle Delays)
- Delay on Break/Recycle
- (ON Time First, Equal Recycle Delays)
- Single Shot/Recycle
- (ON Time First, Equal Recycle Delays)
- * Recycle - Both Times Adjust. (ON Time First)
- * Recycle - Both Times Adjust. (OFF Time First)
- * Interval/Delay on Make
- Accumulative Delay on Make/Interval

*9 Functions in 8 PIN DPDT UNITS

Ordering Table

TRDU
Series

X

Input

- 12D** - 12 V DC
- 24A** - 24 V AC/DC
- 120A** - 120 V AC
- 230A** - 230 V AC

X

Base Connection

- 1** - 8 pin DPDT *
- 2** - 8 pin SPDT
- 3** - 11 pin DPDT

*Limited to Nine Operating Functions

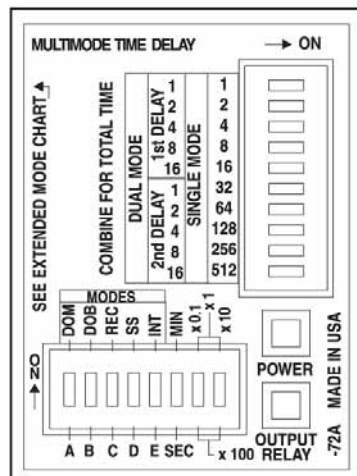
Example P/N: **TRDU120A2**

Multifunction TRDU Series Time Delay Relay

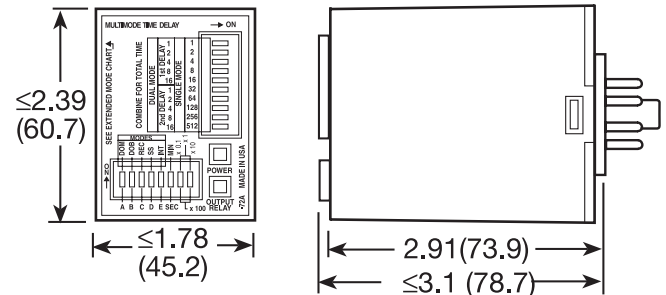
Technical Data

Time Delay Type Range: Switch Selectable** Adjustments Setting Accuracy Repeat Accuracy Timing Functions Reset Time Initiate Time Time Delay vs. Temp. & Voltage	Microcontroller Single Functions: 0.1 s ... 1,705 h in 8 ranges Dual Functions: 0.1 s ... 3,100 m each in 8 ranges Three switches are provided to set secs/mins & multipliers of x0.1, x1, x10, or x100 +/-1% or 50 ms, whichever is greater +/-0.1% or 20 ms, whichever is greater Five switches are provided to set one of twenty-one single or dual functions ≤ 50 ms 120 V AC: 75 ms +/-1%
Indication Two LED's indicate	1) Input voltage applied; 2) Output relay status
Input Voltage Tolerance 12 V DC & 24 V DC/AC 120 & 230 V AC Frequency Power Consumption	12 V DC, 24 V AC/DC, 120 V AC, or 230 V AC -15% ... +20% -20% ... +10% 50 ... 60 Hz 24 ... 230 V ≤ 3 W; 12 V DC ≤ 2 W
Output Type Form Rating Life	Electromechanical relay SPDT or DPDT 10 A resistive at 120/240 V AC & 28 V DC; 1/3 hp at 120/240 V AC Mechanical – 1 x 10 ⁷ ; Electrical – 1 x 10 ⁶
Protection Isolation Voltage Insulation Resistance Polarity	≥ 1500 V RMS input to output ≥ 100 MΩ DC units are reverse polarity protected
Mechanical Mounting Package Termination	Plug-in socket 3.1 x 2.39 x 1.78 in. (78.7 x 60.7 x 45.2 mm) Octal plug (8 Pin) or Magnal plug (11 Pin)
Environmental Operating Temperature Storage Temperature Weight	-20°C ... +65°C -40°C ... +85°C ≅ 5.8 oz (164 g)

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



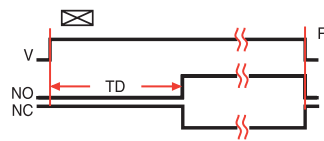
Mechanical View



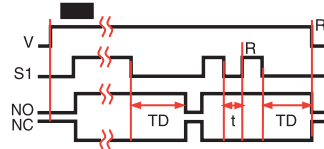
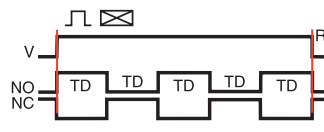
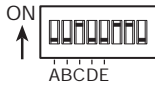
Inches (Millimeters)

Single Functions

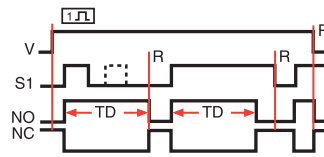
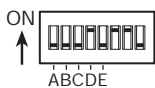
* Delay On Make



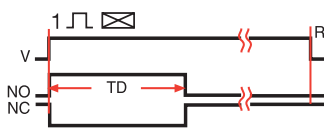
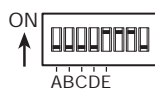
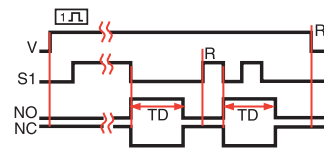
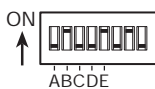
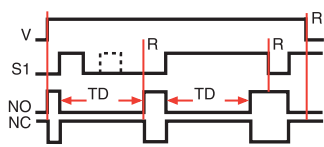
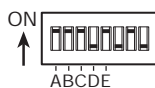
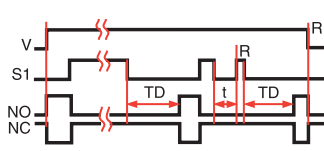
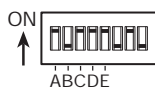
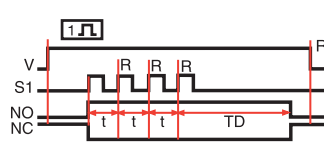
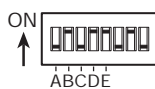
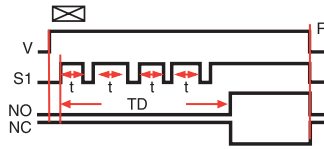
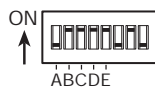
Delay On Break

* Recycle
(ON Time First, Equal Delays)

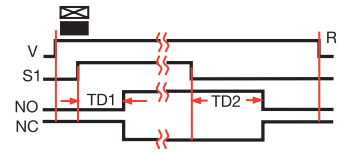
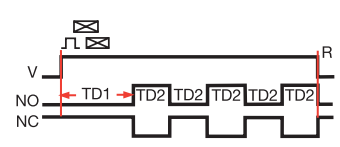
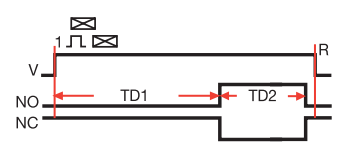
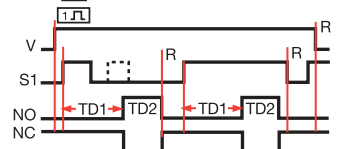
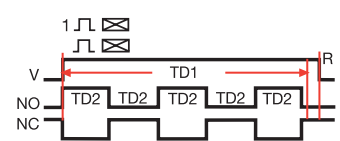
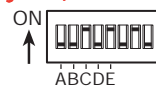
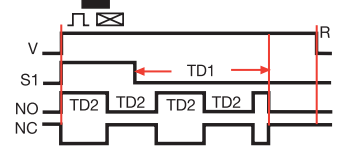
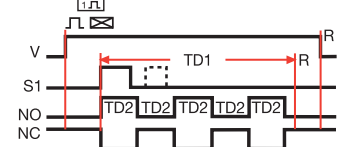
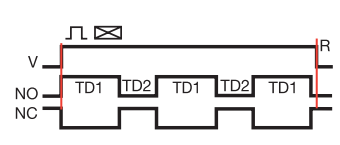
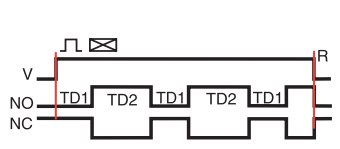
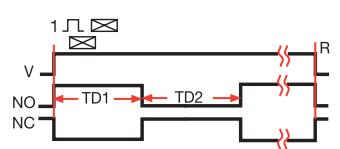
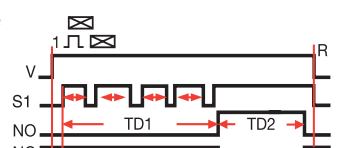
Single Shot



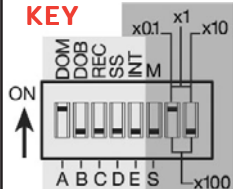
* Interval

Trailing Edge
Single ShotInverted
Single ShotInverted
Delay On BreakRetriggerable
Single ShotAccumulative
Delay On Make

Dual Functions

Delay On Make
Delay On Break* Delay On Make
Recycle (ON Time First)* Delay On Make
IntervalDelay On Make
Single Shot* Interval
Recycle (ON Time First)Delay On Break
Recycle (ON Time First)Single Shot
Recycle (ON Time First)* Recycle (ON Time First)
Both Times Adjustable* Recycle (OFF Time First)
Both Times Adjustable* Interval
Delay On MakeAccumulative Delay on Make
Interval

KEY



V=Voltage, R=Reset, S1=Initiate Switch, NO=Normally Open Contact, NC=Normally Closed Contact, TD, TD1, TD2=Complete Time Delay, t=Partial Time Delay, DOM=Delay On Make, DOB=Delay On Break, REC=Recycle, SS=Single Shot, INT=Interval, M=Minutes, S=Seconds, — = Undefined time
5 Switches for Function Selection
3 Switches for Time Delay Range

NOTE: The time delay range is the same for both functions when dual functions are selected.

* 9 Functions included in the 8 pin DPDT models