



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 10A isolated relay output contacts in either SPDT or DPDT. The TRDU replaces hundreds of part numbers, thereby, reducing your stock inventory requirements.

**Features:**

- Microcontroller ±0.1% repeat accuracy
  - Multifunction - 21 timing functions
  - Multirange - 0.1s - 1,705h in 8 ranges
  - Switch selectable modes, time delay, & ranges
  - AC & DC input voltages are available
  - Isolated, 10A, SPDT or DPDT output contacts
- Approvals:

**Auxiliary Products:**

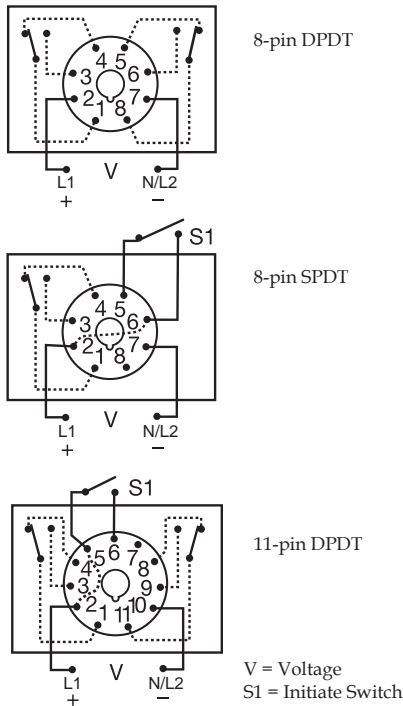
- **Panel mount kit:** P/N: BZ1
- **Hold-down clips (sold in pairs):** P/N: PSC8 (NDS-8) P/N: PSC11 (NDS-11)
- **11-pin socket:** P/N: NDS-11
- **Octal 8-pin socket:** P/N: NDS-8
- **DIN rail:** P/N: C103PM (AI)

**Available Models:**

TRDU120A1	TRDU230A2
TRDU120A2	TRDU24A1
TRDU120A3	TRDU24A2
TRDU12D1	TRDU24A3
TRDU12D3	

If desired part number is not listed, please call us to see if it is technically possible to build.

**Connection:**



**21 Functions:**

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

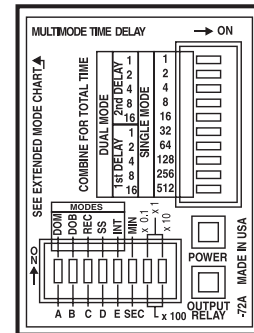
**Single Functions-**

- \* 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

For more information see: Appendix A, page 163-164 for function diagrams. Appendix B, page 165, Figure 5 for dimensional drawing.



**Order Table:**

<u>TRDU</u>	<u>X</u>	<u>X</u>
	<b>Input Voltage</b>	<b>Base Connection</b>
	-12D - 12VDC	-1 - 8-pin DPDT*
	-24A - 24VAC/DC	-2 - 8-pin SPDT
	-120A - 120VAC	-3 - 11-pin DPDT
	-230A - 230VAC	

\*Limited to 9 operating functions in 8-pin DPDT units

**Specifications**

Time Delay	Microcontroller
Type	Single Functions: 0.1s - 1,705h in 8 ranges
Range: Switch Selectable**	Dual Functions: 0.1s - 3,100m each in 8 ranges
Adjustments	Multiplier: 3 position DIP switches select 0.1, 1, 10, or 100 in s or m
Setting Accuracy	±1% or 50ms, whichever is greater
Repeat Accuracy	±0.1% or 20ms, whichever is greater
Timing Functions	Five switches are provided to set one of twenty-one single or dual functions
Reset Time	≤ 50ms
Initiate Time	120VAC: 75ms
Time Delay vs Temp. & Voltage	±1%
Indication	
Two LEDs indicate	1) Input voltage applied 2) Output relay status
Input Voltage	12VDC, 24VAC/DC, 120VAC, or 230VAC
Tolerance 12VDC & 24VAC/DC	-15% - 20%
120 & 230VAC	-20% - 10%
AC Line Frequency	50/60Hz
Power Consumption	24 to 230V ≤ 3W; 12VDC ≤ 2W

Output Type	Electromechanical relay
Form	SPDT or DPDT
Rating	10A resistive @ 120/240VAC & 28 VDC; 1/3 hp @ 120/240VAC
Life	Mechanical - 1 x 10 <sup>7</sup> ; Electrical - 1 x 10 <sup>6</sup>
<b>Protection</b>	
Isolation Voltage	≥ 1500V RMS input to output
Insulation Resistance	≥ 100 MΩ
Polarity	DC units are reverse polarity protected
<b>Mechanical</b>	
Mounting	Plug-in socket
Dimensions	3.1 x 2.39 x 1.78 in. (78.7 x 60.7 x 45.2 mm)
Termination	Octal 8-pin plug-in or magnal 11-pin plug-in
<b>Environmental</b>	
Operating / Storage Temperature	-20° to 65°C / -40° to 85°C
Weight	≅ 5.8 oz (164 g)

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