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# ERD3425A




## Description

Econo-Timers are a combination of digital electronics and a reliable electromechanical relay. DPDT relay output for relay logic circuits, and isolation of input to output voltages. Cost effective for OEM applications, such as duty cycling, drying, washing, signaling, and flashing.

### Operation (Recycling - ON Time First)

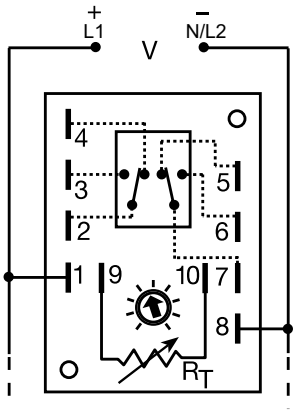
Upon application of input voltage, the output relay energizes and the T1 ON time begins. At the end of the ON time, the output de-energizes and the T2 OFF time begins. At the end of the OFF time, the output relay energizes and the cycle repeats as long as input voltage is applied.

**Reset:** Removing input voltage resets the output and time delays, and returns the sequence to the first delay.

## Features & Benefits

| FEATURES | BENEFITS |
|---|---|
| **Digital integrated circuitry** | Repeat Accuracy + / - 0.5%, Factory calibration + / - 10% |
| **Isolated, 10A, DPDT output contacts** | Allows control of loads for AC or DC voltages |
| **Encapsulated** | Protects against shock, vibration, and humidity |

## Wiring Diagram




A knob, or terminals 9 &10 are only included on adjustable units.

Relay contacts are isolated.

$R_T$ is used when external adjustment is ordered.

## Accessories



**P1004-16, P1004-16-X Versa-Pot**
Panel mountable, industrial potentiometer recommended for remote time delay adjustment.



**P0700-7 Versa-Knob**
Designed for 0.25 in (6.35 mm) shaft of Versa-Pot. Semi-gloss industrial black finish.



**P1015-64** (AWG 14/16)
**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.

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## Selection Guides

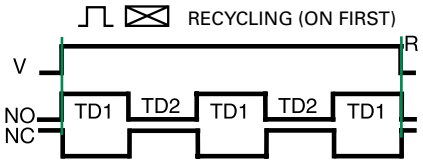
| $R_T$ Selection Chart | | | | | | |
|---|---|---|---|---|---|---|
| Desired Time Delay* Seconds | | | | | | $R_T$ |
| 1 | 2 | 3 | 4 | 5 | 6 | Megohm |
| 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.6 | 0.0 |
| 0.19 | 0.6 | 1 | 1.7 | 3 | 6 | 0.1 |
| 0.28 | 1.1 | 2 | 3.2 | 6 | 12 | 0.2 |
| 0.37 | 1.6 | 3 | 4.7 | 9 | 18 | 0.3 |
| 0.46 | 2.1 | 4 | 6.2 | 12 | 24 | 0.4 |
| 0.55 | 2.6 | 5 | 7.7 | 15 | 30 | 0.5 |
| 0.64 | 3.0 | 6 | 9.2 | 18 | 36 | 0.6 |
| 0.73 | 3.5 | 7 | 10.7 | 21 | 42 | 0.7 |
| 0.82 | 4.0 | 8 | 12.2 | 24 | 48 | 0.8 |
| 0.91 | 4.5 | 9 | 13.7 | 27 | 54 | 0.9 |
| 1.0 | 5.0 | 10 | 15 | 30 | 60 | 1.0 |

* When selecting an external $R_T$ add at least 20% for tolerance of unit and the $R_T$.

| $R_T$ Selection Chart | | | | | |
|---|---|---|---|---|---|
| Desired Time Delay* Minutes | | | | | $R_T$ |
| 7 | 8 | 9 | 10 | 11 | Megohm |
| 0.1 | 0.1 | 0.2 | 1 | 10 | 0.0 |
| 0.6 | 1 | 1.7 | 10 | 50 | 0.1 |
| 1.1 | 2 | 3.2 | 20 | 100 | 0.2 |
| 1.6 | 3 | 4.7 | 30 | 150 | 0.3 |
| 2.1 | 4 | 6.2 | 40 | 200 | 0.4 |
| 2.6 | 5 | 7.7 | 50 | 250 | 0.5 |
| 3.0 | 6 | 9.2 | 60 | 300 | 0.6 |
| 3.5 | 7 | 10.7 | 70 | 350 | 0.7 |
| 4.0 | 8 | 12.2 | 80 | 400 | 0.8 |
| 4.5 | 9 | 13.7 | 90 | 450 | 0.9 |
| 5.0 | 10 | 15 | 100 | 500 | 1.0 |

* When selecting an external $R_T$ add at least 20% for tolerance of unit and the $R_T$.

## Function Diagram




V = Voltage
NO = Normally Open Contact
NC = Normally Closed Contact
TD1, TD2 = Time Delay
R = Reset

## Specifications

### Time Delay

| | |
|---|---|
| **Type** | Digital integrated circuitry |
| **Range** | 0.1s - 500m in 11 adjustable ranges<br>0.1s - 1000m fixed |
| **Adjustment** | Knob, external adjust, or fixed |
| **Repeat Accuracy** | ±0.5% |
| **Tolerance (Factory Calibration)** | ≤ ±10% |
| **Reset Time** | ≤ 150ms |
| **Time Delay vs Temp. & Voltage** | ≤ ±2% |

### Input

| | |
|---|---|
| **Voltage** | 12, 24, or 120VDC; 24, 120, or 230VAC |
| **Tolerance** | |
| **12VDC & 24VDC/AC** | -15% - 20% |
| **120VAC/DC & 230VAC** | -20% - 10% |
| **AC Line Frequency** | 50/60 Hz |

### Output

| | |
|---|---|
| **Type** | Isolated relay contacts |
| **Form** | DPDT |
| **Rating** | 10A resistive @ 120/240VAC & 28VDC;<br>1/3 hp @ 120/240VAC |
| **Life** | Mechanical - 1 x $10^7$; Electrical - 1 x $10^6$ |

### Protection

| | |
|---|---|
| **Isolation Voltage** | ≥ 1500V RMS input to output |
| **Insulation Resistance** | ≥ 100 MΩ |
| **Polarity** | DC units are reverse polarity protected |

### Mechanical

| | |
|---|---|
| **Mounting** | Surface mount with two #6 (M3.5 x 0.6) screws |
| **Dimensions** | **H** 88.9 mm (3.5"); **W** 63.5 mm (2.5");<br>**D** 43.2 mm (1.7") |
| **Termination** | 0.25 in. (6.35 mm) male quick connect terminals |

### Environmental

| | |
|---|---|
| **Operating/Storage Temperature** | -40° to 65°C / -40° to 85°C |
| **Weight** | ≅ 5.7 oz (162 g) |

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