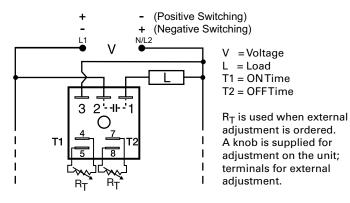


ESDR SERIES





Wiring Diagram



Accessories



P1004-95, P1004-95-X Versa-Pot

Panel mountable, industrial potentiometer recommended for remote time delay adjustment.



P1023-6 Mounting bracket

The 90° orientation of mounting slots makes installation/removal of modules quick and easy.



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.



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.

Description

The ESDR Series offers independent time adjustment of both delay periods. Adjustment options include fixed, onboard or external adjust. The ESDR is recommended for air drying, automatic oiling, life testing, chemical metering and automatic duty cycling. This series is designed for general purpose commercial and industrial applications where a small, cost effective, reliable, solid-state timer is required. The factory calibration for fixed time delays is < \pm 5%. The repeat accuracy, under stable conditions, is 0.1% of the selected time delay. This series is designed for input voltages of 12VDC to 230VAC in five ranges. Time delays of 0.1 seconds to 1000 minutes are available in six ranges. The output is rated 1A steady and 10A inrush. The modules are totally solid state and encapsulated to protect the electronic circuitry.

Operation (Recycling - ON Time First)

Upon application of input voltage, the output 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 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.

Operation (Recycling - OFF Time First)

Upon application of input voltage, the T2 OFF time begins. At the end of the OFF time, the output energizes and the T1 ON time begins. At the end of the ON time, the output de-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		
Microcontroller based	Repeat Accuracy + / -0.1%, Factory calibration + / - 5%		
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		
ON/OFF recycling with independent adjustment of both time periods	Separate on and off timing settings are knob adjustable for added flexibility		
Compact, low cost design measuring 2 in. (50.8mm) square	Allows flexiblility for OEM applications		

Ordering Information

See next page.

ESDR SERIES



Ordering Information

MODEL	INPUT VOLTAGE	ADJUSTMENT	T1 ON TIME	FIRST DELAY	T2 OFF TIME	SWITCHING MODE
ESDR120A0P	12VDC	Onboard	0.1 - 10s	On time	0.1 - 10s	Positive
ESDR120B3P	12VDC	Onboard	0.1 - 10s	Off time	0.1 - 10m	Positive
ESDR123B4P	12VDC	Onboard	0.1 - 10m	Off time	1 - 100m	Positive
ESDR125A5P	12VDC	Onboard	10 - 1000m	On time	10 - 1000m	Positive
ESDR221A2	24VAC	Onboard	1 - 100s	On time	10 - 1000s	n/a
ESDR320A0P	24VDC	Onboard	0.1 - 10s	On time	0.1 - 10s	Postitive
ESDR320A3P	24VDC	Onboard	0.1 - 10s	On time	0.1 - 10m	Positive
ESDR420A0	120VAC	Onboard	0.1 - 10s	On time	0.1 - 10s	n/a
ESDR420A1	120VAC	Onboard	0.1 - 10s	On time	1 - 100s	n/a
ESDR420A4	120VAC	Onboard	0.1 - 10s	On time	1 - 100m	n/a
ESDR420B1	120VAC	Onboard	0.1 - 10s	Off time	1 - 100s	n/a
ESDR420B4	120VAC	Onboard	0.1 - 10s	Off time	1 - 100m	n/a
ESDR421A1	120VAC	Onboard	1 - 100s	On time	1 - 100s	n/a
ESDR421A4	120VAC	Onboard	1 - 100s	On time	1 - 100m	n/a
ESDR423A3	120VAC	Onboard	0.1 - 10m	On time	0.1 - 10m	n/a
ESDR423A4	120VAC	Onboard	0.1 - 10m	On time	1 - 100m	n/a
ESDR424A1	120VAC	Onboard	1 - 100m	On time	1 - 100s	n/a
ESDR450A1	120VAC	External	0.1 - 10s	On time	1 - 100s	n/a

If you don't find the part you need, call us for a custom product 800-843-8848

External Resistance vs. Time Delay

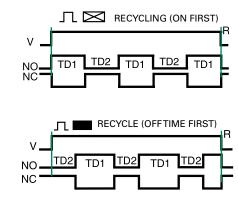


This chart applies to externally adjustable part numbers. The time delay is adjustable over the time delay range selected by varying the resistance across the R_T terminals; as the resistance increases the tie delay increases.

When selecting an external R_T add the tolerances of the timer and the R_T for the full time range adjustment.

 $\mbox{Examples:}\ 1\ to\ 50\ S\ adjustable\ time\ delay,\ select\ time\ delay\ range\ 1\ and\ a\ 50\ K\ ohn\ R_T.$ For 1 to 100 S use a 100 K ohn $R_T.$

Function Diagrams



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

ESDR SERIES



Specifications

Time Delay Range

Repeat Accuracy Tolerance (Factory Calibration) Time Delay vs Temp. & Voltage **Reset Time** Input Voltage Tolerance **Power Consumption** AC Line Frequency/DC Ripple Output Type **Maximum Load Current OFF State Leakage Current Voltage Drop**

0.1s - 1000m in 6 adjustable ranges or fixed ±0.1% or 20ms, whichever is greater

≤ ± 5% ≤ ±2% ≤ 150ms

12 or 24VDC; 24, 120, or 230VAC ±20% AC ≤ 2VA; DC ≤ 1W 50/60 Hz / ≤ 10%

Solid state 1A steady state , 10A inrush at 60°C AC \approx 5mA @ 230VAC; DC \approx 1mA AC \approx 2.5V @ 1A; DC \approx 1V @ 1A

Protection Circuitry

Dielectric Breakdown Insulation Resistance Polarity Mechanical Mounting Dimensions

Termination Operating/Storage Temperature Humidity Weight $\begin{array}{l} \mbox{Encapsulated} \\ \ge 2000V \mbox{ RMS terminals to mounting surface} \\ \ge 100 \mbox{ M}\Omega \\ \mbox{DC units are reverse polarity protected} \end{array}$

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

-40° to 75°C / -40° to 85°C 95% relative, non-condensing ≅ 2.4 oz (68 g)