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ERDM SERIES

Description

The ERDM Series is a combination of digital electronics and a reliable electromechanical relay. These devices offer a DPDT relay output for relay logic circuits, and isolation of input to output voltages. Cost effective for OEM applications, such as random starting, sequencing ON, switch de-bouncing, anti-short cycling, and other common delay-on-make applications.

Operation (Delay-on-Make)

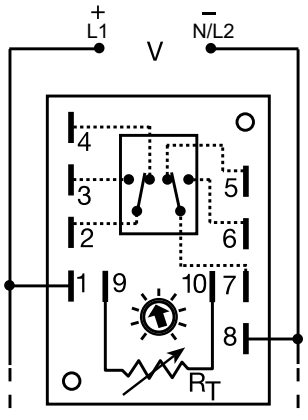
Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output energizes and remains energized until input voltage is removed.

Reset: Removing input voltage resets the time delay and output.

Features & Benefits

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

Wiring Diagram



V = Voltage

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

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.

Ordering Information

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY	MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY
ERDM123	12VDC	Onboard knob	0.1 - 10s	ERDM422	120VAC	Onboard knob	0.1 - 5s
ERDM126	12VDC	Onboard knob	0.6 - 60s	ERDM423	120VAC	Onboard knob	0.1 - 10s
ERDM128	12VDC	Onboard knob	0.1 - 10m	ERDM425	120VAC	Onboard knob	0.3 - 30s
ERDM222	24VAC	Onboard knob	0.1 - 5s	ERDM427	120VAC	Onboard knob	0.1 - 5m
ERDM4130S	120VAC	Fixed	30s	ERDM429	120VAC	Onboard knob	0.2 - 15m
ERDM4210	120VAC	Onboard knob	1 - 100m				

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Specifications

Time Delay

Type	Digital integrated circuitry
Range	0.1s - 500m in 11 adjustable ranges or 0.1s - 1000m fixed
Adjustment	Fixed, onboard or external adjust
Repeat Accuracy	±0.5%
Tolerance (Factory Calibration)	≤ ±10%
Recycle 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; 1/3 hp @ 120/240VAC
Life	Mechanical - 1 x 10^7; Full Load - 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”); **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)

Selection Guides

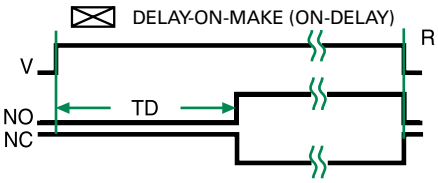
R_T Selection Chart						
Desired Time Delay* Seconds						R_T
1	2	3	4	5	6	Megohm
0.1	0.1	0.1	0.2	0.3	0.6	0.0
0.19	0.6	1	1.7	3	6	0.1
0.28	1.1	2	3.2	6	12	0.2
0.37	1.6	3	4.7	9	18	0.3
0.46	2.1	4	6.2	12	24	0.4
0.55	2.6	5	7.7	15	30	0.5
0.64	3.0	6	9.2	18	36	0.6
0.73	3.5	7	10.7	21	42	0.7
0.82	4.0	8	12.2	24	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
TD = Time Delay
R = Reset
= Undefined Time

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