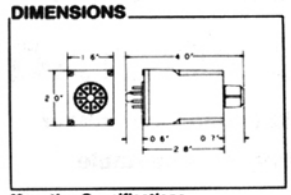
Analog & Digital Plug-in Timers

Analog Plug-In Timers

ICM's Analog Plug-In Timers provide heavy-duty 10 amp switching capability in standard 8 or 11-pin base configurations. A choice of five control methods are available featuring factory fixed or adjustable time delays covering .1–600 seconds. Analog Plug-in timers offer reliability and performance in a broad range of applications and are available in the following Modes of Operation: Delay on Make (featured), Delay on Break, Single Shot, Repeat Cycle, and Interval Delay.

DIMENSIONS



Mounting Specifications
- ☐ Mounting: Plug-in
- ☐ Termination: Standard 8 or 11 pin
- ☐ Weight: 5 ounces (142 grams)

FEATURES

- ☐ Heavy-duty 10 amp output contacts
- ☐ Built-in transient protection
- ☐ Fast Reset and Initiate times
- ☐ Reset during timing without false output
- ☐ ± 2% Repeat Accuracy

SPECIFICATIONS

Time Delay
- ☐ Type: Adjustment integral to the unit, factory fixed, field fixed by resistor selection, or remote adjustment
- ☐ Range: 0.1 to 600 seconds (consult factory for longer delays)
- ☐ Repeat Accuracy: ± 2% under fixed conditions
- ☐ Fixed Time Tolerance and Dial Setting Accuracy: ± 5%, ± 10%, or ± 20%
- ☐ Time Delay vs Temperature and Voltage: ± 5% maximum over the specified range of input voltage and temperature

Reset Time
- ☐ During and After Timing: 75 milliseconds
- ☐ May be reset during the timing period without false output

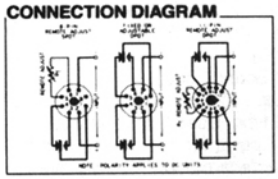
Input
- ☐ Nominal Voltage: 24 to 240 volts
- ☐ Tolerance: ± 15% of nominal
- ☐ Frequency: 50 or 60 Hz
- ☐ Maximum Allowable DC Ripple Voltage: 20% peak-to-peak
- ☐ Power Consumption: During timing 0.5 watts maximum, after timing 2.0 watts maximum

Output
- ☐ Type: Electromechanical relay
- ☐ Form: DPDT
- ☐ Rating Max: 10 AMP resistive @ 240 volts
- ☐ Life: Mechanical: 10,000,000 cycles, Full Load 1,000,000 cycles

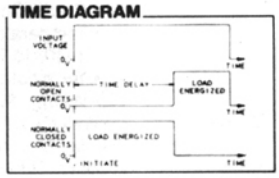
Protection
- ☐ Transient: ± 1,400 V for 100 microseconds
- ☐ Polarity: DC units are inverse voltage protected
- ☐ Dielectric Breakdown: 1,500 volts RMS minimum at 60 Hz between input and output terminals
- ☐ Insulation Resistance: 100 megohms minimum

Environmental Specifications
- ☐ Operating Temperature: – 40°C to + 65°C
- ☐ Storage Temperature: – 40°C to + 80°C

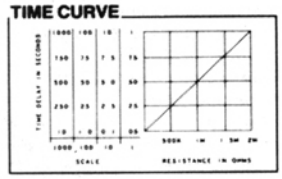
CONNECTION DIAGRAM



TIME DIAGRAM



TIME CURVE



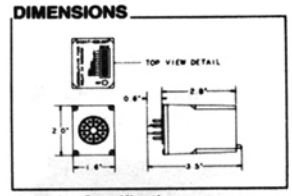
MODE OF OPERATION

The MDR time delay period initiates when power is applied to the input terminals. At the end of the delay period, the output contacts transfer. Reset is accomplished by removing the input power. The MDR may be reset any time during the time delay period without false output operations.

Digital Plug-In Timers

ICM's Digital Plug-In Timers incorporate a fast, accurate switch-settable method of adjustment in standard 8 or 11-pin base configurations. Utilizing stable C/MOS circuitry, these digital timers provide high-precision timing over a broad range of voltages and offer three time delay ranges covering .1–10,230 seconds. Easy to use, versatile and ideal for applications requiring highly accurate time delays, Digital Plug-in Timers are available in the following Modes of Operation: Delay on Make (featured), Delay on Break, Single Shot, Repeat Cycle and Interval Delay.

DIMENSIONS



Mounting Specifications
- ☐ Mounting: Plug-in
- ☐ Termination: Standard 8 or 11 pin
- ☐ Weight: 5 ounces (142 grams)

FEATURES

- ☐ C-MOS Digital circuitry for highly accurate time delays.
- ☐ Easy, Switch-settable time delays cover .1–10,230 sec.
- ☐ Heavy-duty 10 amp output contacts.
- ☐ LED indication during timing.
- ☐ Standard 8 or 11-pin base configurations.
- ☐ 0.5% Repeat Accuracy.

SPECIFICATIONS

Time Delay
- ☐ Type: Switch-settable
- ☐ Range: 3 ranges (see ordering information) from 0.1 sec to 10,230 sec
- ☐ Repeat accuracy: ± 0.5%
- ☐ Fixed Delay Accuracy: ± 5%
- ☐ Time Delay vs Voltage: ± 2%
- ☐ Time Delay vs Temperature: ± 2%

Reset Time
- ☐ During and After Timing: 75 milliseconds
- ☐ May be reset during the timing period without false output

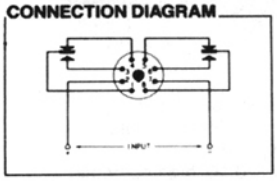
Input
- ☐ 24, 120, or 240 VAC or 12, 24 or 110 VDC
- ☐ Tolerance: ± 20%
- ☐ Frequency: 50 or 60 Hz
- ☐ Power Consumption: 2.5 Watts max

Output
- ☐ Type: Relay
- ☐ Form: SPDT, DPDT
- ☐ Rating: 10 amps resistive at 115 VAC, 1/6 HP at 115 VAC, 1/3 HP at 230 VAC
- ☐ Life: Mechanical 10,000,000 cycles; full load 1,000,000 cycles

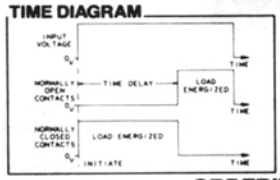
Protection
- ☐ Transient: 1400 Volts for 100 Microseconds
- ☐ Polarity: Reverse polarity protected
- ☐ Dielectric Breakdown: 1,500 V RMS min @ 60 Hz between input and output terminals
- ☐ Insulation Resistance: 100 Megohms min

Environmental Specifications
- ☐ Operating Temperature: – 40°C to + 85°C
- ☐ Storage Temperature: – 40°C to + 85°C

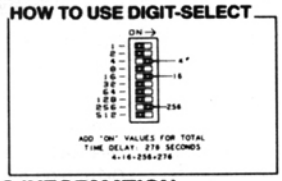
CONNECTION DIAGRAM



TIME DIAGRAM



HOW TO USE DIGIT-SELECT



MODE OF OPERATION

The TMDR time delay period initiates when power is applied to the input terminals. At the end of the delay period the output contacts transfer. Reset is accomplished by removing the input power. The TMDR may be reset any time during the time delay period without false output operations.

ORDERING INFORMATION

ANALOG PLUG-IN TIMERS
Sample Part Number

BDR	115A	2	1	X	120

Type
Delay On Make = MDR
Delay On Break = BDR
Interval Delay = IDR
Single Shot = SDR
*Repeat Cycle = FDR

Voltage Rating
24D = 24 VDC
28D = 28 VDC
110D = 110 VDC
24A = 24 VAC
115A = 115 VAC
230A = 230 VAC

Control Method
1 = Fixed
2 = Knob-adjustable
3 = Lock shaft on top (screw driver adjust)
4 = Remote with potentiometer & knob (SPST, octal)
5 = Remote without potentiometer (SPST, octal)
6 = Remote with potentiometer & knob (DPDT, 11-pin)
7 = Remote without potentiometer (DPDT, 11-pin)

Termination (Applies to Series BDR & SDR Only)
1 = 8-pin
2 = 11-pin

Time Delay Tolerance (Fixed or Adjustable)
X = ± 20%
Y = ± 10%
Z = ± 5%

Time Delay In Seconds
5 = 0.1–5
30 = 0.6–30
120 = 1.2–120
600 = 4.8–600

*Consult Relay Specialties for Repeat Cycle Series FDR & TFDR54 ordering information

DIGITAL PLUG-IN TIMERS
Sample Part Number

TBDR54	42	D	D8	S	A

Type
Delay On Make = TMDR54
Delay On Break = TBDR54
Interval Delay = TIDR54
Single Shot = TSDR54
*Repeat Cycle = TFDR54

Voltage Rating
22 = 24 VAC RMS
42 = 120 VAC RMS
52 = 240 VAC RMS
10 = 12 VDC
20 = 24–28 VDC
30 = 48 VDC
40 = 110 VDC

Control Method
D = Switch-settable

Time Delay Range (in seconds)
D7 = .1–102.3
D8 = 1–1,023
D9 = 10–10,230

Standard

Timing Sequence (Applies to Series TFDR54 Only)
A = OFF/ON
B = ON/OFF

Termination (Applies to Series TBDR54 & TBDR54 Only)
1 = 8-pin
2 = 11-pin