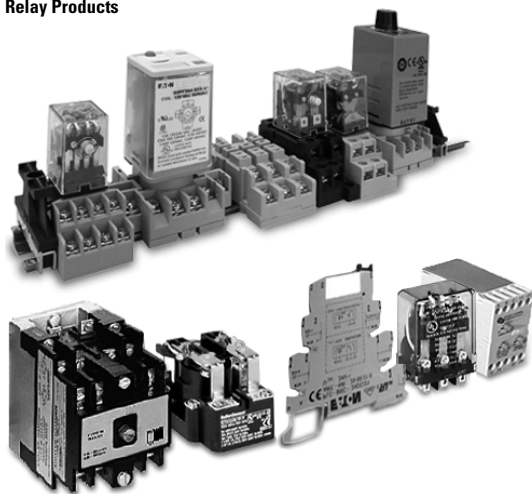


Relay Products

3



Contents

Description

Page

Terminal Block Relays	V7-T3-3
Programmable Relays	V7-T3-19
General Purpose Plug-In Relays	V7-T3-49
General Purpose Type AA Relays	V7-T3-118
Solid-State Relays	V7-T3-122
Machine Tool Relays	V7-T3-141
Timing Relays	V7-T3-167
Alternating Relays	V7-T3-188
Safety Relays	V7-T3-193

Control Relays and Timers Comparison

Selection Guide by Catalog Number Prefix

Relays	Type	Mounting	Contacts	Maximum Amperage (AC)	RU	UL	CSA	CE	Page Number
9575H3	General purpose	Panel mount	Fixed	40 A	—	■	■	■	V7-T3-119
AR/ARD	Machine tool	Panel mount	Convertible	10 A	—	■	■	—	V7-T3-154
BF/BFD	Machine tool	Panel mount	Fixed	10 A	■	—	■	—	V7-T3-148
D2RF	Full featured plug-in	DIN rail / panel mount	Fixed	10 A	■	—	■	■	V7-T3-59
D2RR	Standard plug-in	DIN rail / panel mount / flange	Fixed	10 A	■	—	■	■	V7-T3-59
D3RF	Full featured plug-in	DIN rail / panel mount	Fixed	16 A	■	—	■	■	V7-T3-69
D3RR	Standard plug-in	DIN rail / panel mount	Fixed	16 A	■	—	■	■	V7-T3-69
D4PR	Standard plug-in	DIN rail / panel mount	Fixed	10 A	■	—	■	■	V7-T3-77
D5RF	Full featured plug-in	DIN rail / panel mount	Fixed	16 A	■	—	■	■	V7-T3-82
D5RR	Standard plug-in	DIN rail / panel mount / PC board	Fixed	16 A	■	—	■	■	V7-T3-82
D7PF	Full featured plug-in	DIN rail / panel mount	Fixed	20 A	■	—	■	■	V7-T3-91
D7PR	Standard plug-in	DIN rail / panel mount / flange	Fixed	20 A	■	—	■	■	V7-T3-91
D8PR	Standard plug-in	DIN rail / panel mount / flange	Fixed	30 A	■	—	■	■	V7-T3-104
D9PR	Standard plug-in	Panel mounting	Fixed	25 A	■	—	■	—	V7-T3-109
D15	Machine tool	DIN rail / panel mount	Fixed	10 A	—	■	■	■	V7-T3-143
D26	Machine tool	Panel or channel mount	Convertible	10 A	—	■	■	—	V7-T3-159
D85	Alternating relays	DIN rail / panel mount	Fixed	10 A	■	■	—	■	V7-T3-189
D1RF	Full featured plug-in	DIN rail / panel mount	Fixed	20 A	■	—	■	■	V7-T3-54
D1RR	Standard plug-in	DIN rail / panel mount	Fixed	20 A	■	—	■	■	V7-T3-54
easyRelay	Programmable relay	DIN rail	Fixed	8 A	—	■	■	■	V7-T3-23
TMR5	Timing relay (non-programmable)	DIN rail / panel mount	Fixed	10 A	■	■	—	■	V7-T3-180
TMR6	Timing relay (non-programmable)	DIN rail / panel mount	Fixed	10 A	■	■	—	■	V7-T3-184
TR	Timing relay (programmable)	DIN rail / panel mount	Fixed	10 A	—	■	■	—	V7-T3-177
Universal TR	Timing relay (programmable)	DIN rail	Fixed	8 A	—	■	■	■	V7-T3-173
XR	Terminal block relay	DIN rail	Fixed	6 A, 10 A	■	—	—	■	V7-T3-5

TMR5 Series



TMR5 Series

Product Description

The TMR5 Series Time Delay Relays are designed for a broad range of OEM applications. The TMR5 Series offers non-programmable plug-in style timers with a variety of functions available. Each unit offers a single function and single input voltage, and operates over a defined time delay range. Units with fixed time delays are also available. Eaton also offers customization capabilities for these timers—remote adjustments, special pin configurations, and more. Contact us to discuss your specific application and design of a custom timer.

Features

- Single timing range for each unit
- Ranges available from 0.02 sec to 24 hours
- Wide variety of functions available
- Plugs into standard 8- or 11-pin socket
- 10 A DPDT output contacts
- Can be easily customized to meet your needs

Contents

Description

Description	Page
Universal TR Series	V7-T3-172
TR Series	V7-T3-176
TMR5 Series	
Catalog Number Selection	V7-T3-180
Product Selection	V7-T3-180
Accessories	V7-T3-180
Technical Data and Specifications	V7-T3-181
Wiring Diagrams	V7-T3-181
Dimensions	V7-T3-182
TMR6 Series	V7-T3-183
TMRP Series	V7-T3-185

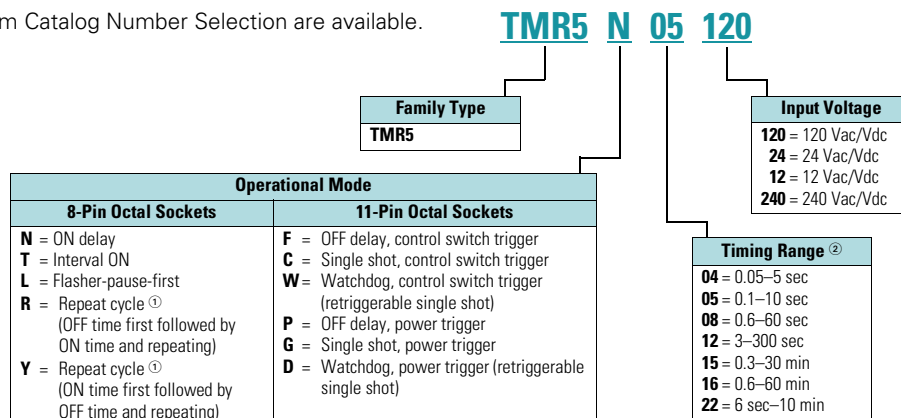
Standards and Certifications

- cRUus
- UL listed (with Eaton socket)
- RoHS compliant
- CE marked



Catalog Number Selection

All configurations from Catalog Number Selection are available.



Product Selection

TMR5 Time Delay Relays

Input Voltage	Socket	Timing Range	Catalog Number
ON Delay			
120 Vac/Vdc	8-pin	0.1–10 sec	TMR5N05120
		0.6–60 sec	TMR5N08120
24 Vac/Vdc		0.1–10 sec	TMR5N0524
		0.6–60 sec	TMR5N0824
OFF Delay, Control Switch Trigger			
120 Vac/Vdc	11-pin	0.1–10 sec	TMR5F05120
		0.6–60 sec	TMR5F08120
24 Vac/Vdc		0.1–10 sec	TMR5F0524
		0.6–60 sec	TMR5F0824
Interval ON			
120 Vac/Vdc	8-pin	0.1–10 sec	TMR5T05120
		0.6–60 sec	TMR5T08120
24 Vac/Vdc		0.1–10 sec	TMR5T0524
		0.6–60 sec	TMR5T0824
Single Shot, Control Switch Trigger			
120 Vac/Vdc	11-pin	0.1–10 sec	TMR5C05120
		0.6–60 sec	TMR5C08120
24 Vac/Vdc		0.1–10 sec	TMR5C0524
		0.6–60 sec	TMR5C0824
Repeat Cycle (OFF Time First Followed by ON Time and Repeating)			
120 Vac/Vdc	8-pin	0.1–10 sec	TMR5R05120
		0.6–60 sec	TMR5R08120
24 Vac/Vdc		0.1–10 sec	TMR5R0524
		0.6–60 sec	TMR5R0824
Repeat Cycle (ON Time First Followed by OFF Time and Repeating)			
120 Vac/Vdc	8-pin	0.1–10 sec	TMR5Y05120
		0.6–60 sec	TMR5Y08120
24 Vac/Vdc		0.1–10 sec	TMR5Y0524
		0.6–60 sec	TMR5Y0824

Accessories

Accessories for Use with TMR5 Time Delay Relays

Description	Standard Pack	Catalog Number
8-pin socket	10	D3PA2
11-pin socket	10	D3PA3-A2
Hold-down spring	10	D65CHDS

Notes

- ① Indicates DUAL knob unit. All dual knob units can have independently selectable and adjustable ON and OFF times. If different ON and OFF times are desired, add two codes for time ranges in the part number. The first code listed indicates the first timing range of the unit (OFF time for R, ON time for Y) and the second code indicates the second timing range (ON time for R, OFF Time for Y).
- ② Fixed time delay settings are available for orders of 50 pieces or more. Contact EatonCare for additional information at 877-ETN-CARE (386-2273).

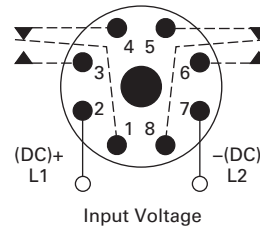
Technical Data and Specifications

TMR5 Time Delay Relays

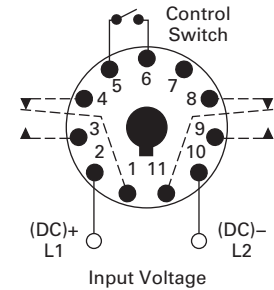
Description	Specification
Voltage tolerance	
AC operation	+10/–15% of nominal at 50/60 Hz
DC operation	+10/–15% of nominal
Load burden	2 VA
Setting accuracy	
Maximum setting (adjustable)	+5%, –0%
Minimum setting (adjustable)	+0%, –50%
Fixed time delay	
< 2 seconds	+1%
0.1–2 seconds	±5%
Repeat accuracy (constant voltage and temperature)	
> 2 seconds delay	±0.1%
0.1–2 seconds delay	±2%
Reset time	
ON Delay/interval/repeat cycle	0.1 second
OFF Delay/single shot/watchdog	0.04 second
Startup time (time from when power is applied until unit is timing)	
120 and 240 V units	0.05 second
12, 24 and 48 V units	0.08 second
Maintain function time (time unit continues to time after power is removed)	0.01 second
Temperature	
12–120 V input voltage	–18 to 150 °F (–28 to 65 °C)
240 V input voltage	–18 to 122 °F (–28 to 50 °C)
Insulation voltage	2000 V
Output contacts	DPDT 10 A @ 240 Vac/30 Vdc, 1/2 hp @ 120/240 Vac (NO contacts) 1/3 hp @ 120/240 Vac (NC contacts) B300 and R300; AC-15 and DC-13
Life	
Mechanical	10,000,000 operations
Full load	100,000 operations

Wiring Diagrams

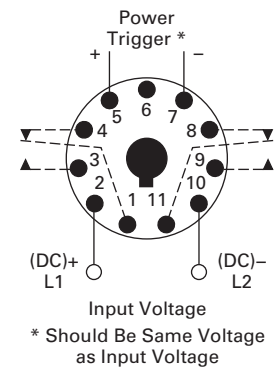
Wiring for 8-Pin Units



Wiring for 11-Pin Control Switch Trigger Units



Wiring for 11-Pin Power Trigger Units



3.8

Control Relays and Timers

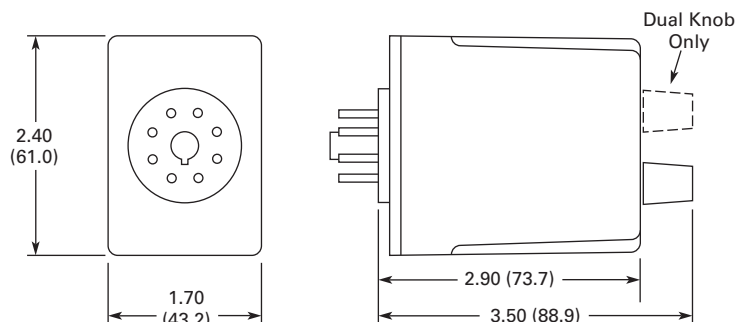
Timing Relays

Dimensions

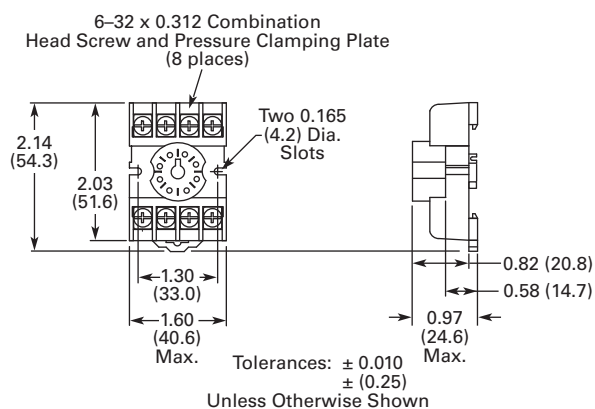
Approximate Dimensions in Inches (mm)

TMR5

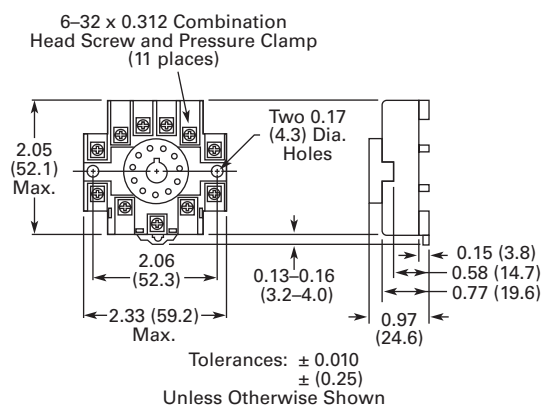
3



D3PA2 Socket



D3PA3 Socket



TMR6 Series



TMR6 Series

Product Description

Most electronic time delay relays with an OFF delay function require input voltage to be applied continuously in order to operate correctly. However, there are many applications where this is not possible—keeping a relay energized for some amount of time after input voltage has been removed. Eaton's TMR6 true OFF delay product provides this function even when input voltage is removed. It duplicates the operation of the older OFF delay pneumatic time delay relays.

Features

- Provides OFF delay function without requiring input voltage during OFF time delay
- Duplicates operation of pneumatic OFF delay timers
- Each unit has eight timing ranges built in, covering 0.05 seconds to 30 minutes
- Selecting a range is easy using a rotary switch (no math is required or DIP switches to set)
- Uses industry-standard 8-pin octal socket
- 10 A DPDT output contacts

Timing Ranges

Select one of the eight timing ranges using the selector knob, and then adjust the time within that range for an accurate delay setting.

Timing Ranges

Dial Setting	Timing Range
A	0.05–5 sec.
B	0.1–10 sec.
C	0.3–30 sec.
D	0.6–60 sec.
E	1.8–180 sec.
F	3–300 sec.
G	0.1–10 min.
H	0.3–30 min

Contents

Description

Description	Page
Universal TR Series	V7-T3-172
TR Series	V7-T3-176
TMR5 Series	V7-T3-179
TMR6 Series	
Catalog Number Selection	V7-T3-184
Product Selection	V7-T3-184
Accessories	V7-T3-184
Technical Data and Specifications	V7-T3-184
Wiring Diagram	V7-T3-184
Dimensions	V7-T3-184
TMRP Series	V7-T3-185

Operation

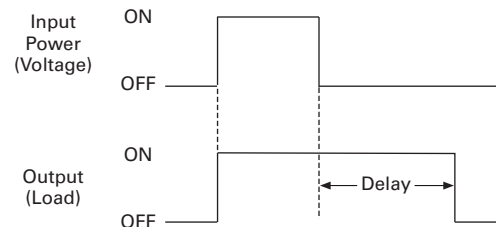
True OFF Delay

Upon application of input voltage, the relay is energized. When the input voltage is removed, the preset time begins. At the end of the preset time, the relay is de-energized.

Voltage must be applied for a minimum of 0.1 second to assure proper operation.

Any application of the input voltage during the preset time will keep the relay energized and reset the time delay. No external trigger switch is required.

True OFF Delay



Standards and Certifications

- cRUus
- UL listed (with Eaton socket)
- RoHS compliant
- CE marked

cRUus



RoHS COMPLIANT

