# TR timing relays



Eaton's Universal TR Series timers are a versatile and cost-competitive family of timing relays. The compact IEC-style housing installs easily onto a standard DIN rail, and the direct-wire design eliminates the need for additional sockets and accessories. Each timer has multiple user-selectable timing functions and timing ranges, and a universal input voltage of either 12 or 24 volts to 240 volts AC or DC, depending on the model.

#### **Reducing your inventory costs**

With up to seven selectable timing functions and seven selectable time ranges from 50 milliseconds to 100 hours, you can meet the needs of almost any application with just one or two stock items. Do you need 24 Vdc control in some cases and 120 Vac control in others? You are covered with the Universal TR Series timer, as it has a universal, self-selecting control voltage input range from either 12 or 24 volts (depending on model) to 240 volts AC or DC. Are you tired of buying minimum quantities of sockets and accessories for your plug-in timing relays? The direct wire design of the Universal TR Series gives you everything youneed in a single item.

#### **Reducing your labor costs**

During initial installation, the large terminals on the Universal TR Series make wiring quick and easy. The offset design even allows easy access to the bottom terminals when the top wires are installed. The easy-toread set point markings improve the accuracy of setup, thereby reducing your startup time. Are you spending too much time troubleshooting and replacing timers? The dual LED indicators on the Universal TR Series use multiple modes to signal input power, relay state and timing status. The Universal TR Series also features a high-quality design with twice the relay life of many competitors.











#### **Specifications**

### **Universal TR Timing Relays**

Specification	TRL04	TRL07	TRL27	TRW27
Functions Time range	8, 9, 10, 14 0.05 sec to 100 hours	8, 9, 10, 11, 12, 13, 14 0.05 sec to 100 hours	8, 9, 10, 11, 12, 13, 14 0.05 sec to 100 hours	1, 2, 3, 4, 5, 6, 7 0.05 sec to 100 hours
Input Supply voltage Duty cycle	24 to 240 Vac/dc 100%	24 to 240 Vac/dc 100%	12 to 240 Vac/dc 100%	12 to 240 Vac/dc 100%
Output Contact configuration Rated voltage Switching capacity Mechanical life Electrical life	SPDT (one changeover contact) 250 Vac 2000 VA (8A/250V) 20 x 10^6 operations 2 x 10^5 operations at 1000 VA load, resistive	SPDT (one changeover contact) 250 Vac 2000 VA (8A/250V) 20 x 10^6 operations 2 x 10^5 operations at 1000 VA load, resistive	DPDT (two changeover contacts) 250 Vac 2000 VA (8A/250V) 20 x 10^6 operations 2 x 10^5 operations at 1000 VA load, resistive	DPDT (two changeover contacts) 250 Vac 2000 VA (8A/250V) 20 x 10^6 operations 2 x 10^5 operations at 1000 VA load, resistive
Accuracy Base accuracy Adjustment accuracy Repetition accuracy	±1% of maximum scale value <5% of maximum scale value <0.5% or ±5 ms	±1% of maximum scale value <5% of maximum scale value <0.5% or ±5 ms	±1% of maximum scale value <5% of maximum scale value <0.5% or ±5 ms	±1% of maximum scale value <5% of maximum scale value <0.5% or ±5 ms
Physical Ambient temperature	−25 to +55°C	−25 to +55°C	−25 to +55°C	−25 to +55°C

Timer Function Descriptions						
Function #1— Input Power (U) Function #8— Input Power (U)						
Asymmetrical LED U/t*  Flasher, Output LED**  ON Delay, Power LED U/t*  Triggered (F)  Output LED**						
Pauce First (In)						
Output Relay (R) t1 t2 t1 Output Relay (R) t <t< td=""><td></td></t<>						
Function #2— Input Power (U) Input Power (U) Input Power (U) Input Power (U)						
Asymmetrical LED U/t* Single Shot Leading LED U/t*						
Flasher, Output LED**  Edge Voltage Output LED**						
Pulse First (li) Output Relay (R) t1 t2 t1 t2 t1 Controlled (Wu) Output Relay (R) t d						
Function #3— Input Power (U) Input Power (U) Input Power (U)						
ON Delay and LED U/t* LED U/t* LED U/t*						
OFF Delay with Trigger Signal (S) OFF Delay (R) Trigger Signal (S)						
Control Contact (ER) Output LED**						
Output Relay (R) t1 t2 <t1 (r)<="" output="" relay="" td=""><td></td></t1>						
Function #4— Input Power (U) Function #11— Input Power (U)						
ON Delay and Single LED U/t* Single Shot LED LIft*						
Shot Leading Edge Output LED**						
Voltage Controlled Output Relay (R) t1 t2 Control Input (Ws) Output LED**						
Output Relay (R) t						
Function #5— Input Power (U)						
ON Delay and Single LED U/t* Function #12— Input Power (U)						
Shot Leading Edge Trigger Signal (S) Single Shot Trailing LED LIft*						
Control Contact Output LED**    Edge with Control Trigger Signal (S)   Image: Signal (						
(EWs) Output Relay (R) t1 t2 Input (Wa) Output LED**						
Outout Relay (R)						
Function #6— Input Power (U) Input Power (U)						
Single Shot Leading LED U/t* and Single Shot Trigger Signal (S)						
Trigger Signal (S)  ON Delay Control						
Control Contact Signal Start, Trigger Signal (S)						
(WsWa)						
(Es) Output Relay (R) t						
Function #/— Input Power (U)						
Pulse Sequence LED U/t* Monitoring (Wt) Tringer Signal (S)  Function #14— Input Power (U)						
Irigger Signal (5)						
Output LED** Output Relay (R)  1						



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