LUMEL LTR10 Multifunctional Timer Relay Instruction Manual

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LTR10 Multifunctional Timer Relay

General:

LTR10 time relay is specifically designed for controlling the time and incoming data and can be used in industry, residential,factory facilities.

Device’s Adjusting Buttons:

Function button (Fn): This button determines the functions. Please choose the desired function from the table. Max Time button ™: This button determines the maximum time desired. It is shown as a letter on the case and it has a maximum of 10 time value. The equivalent of the time- maximum time can be found in the table. Time Multiply Button(Xn): It allows you to reach at intermediate values by multiplying maximum values.It has 10 step multiplying value between 0.1 -1.0.

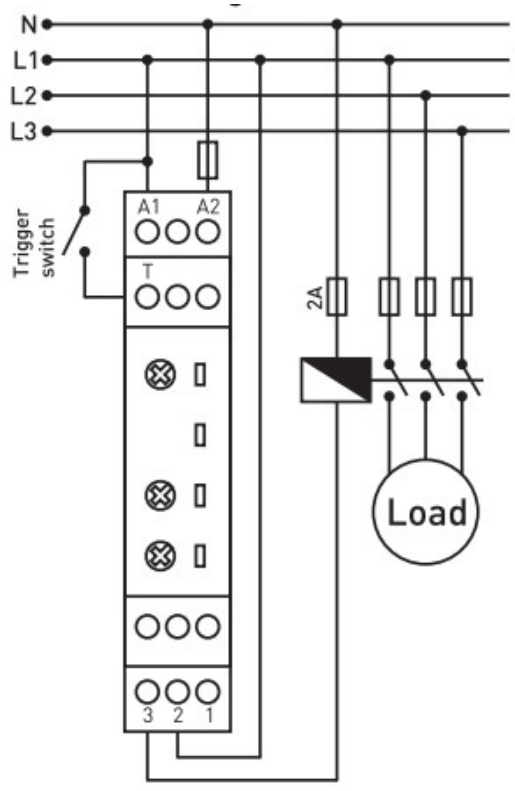
Usage of Device and Working Principle:

Please connect the device according to the diagram. Please define the function and time settings before energising the device. Time= Maximum time ™ x Time Scale Factor(Xn) Example: Lets say If the device is energised, it is desired that the relay becomes activated for 15 mins. and then should not be de-activated untill de-energised. Adjust the fn button to 2.Then adjust the MAX button (t) to 30 min (g) and the time scale factor button to 0,5 . (15 min = g(30 mini x 0.5) After the desired function and time is adjusted, the device can be energised accordingly.

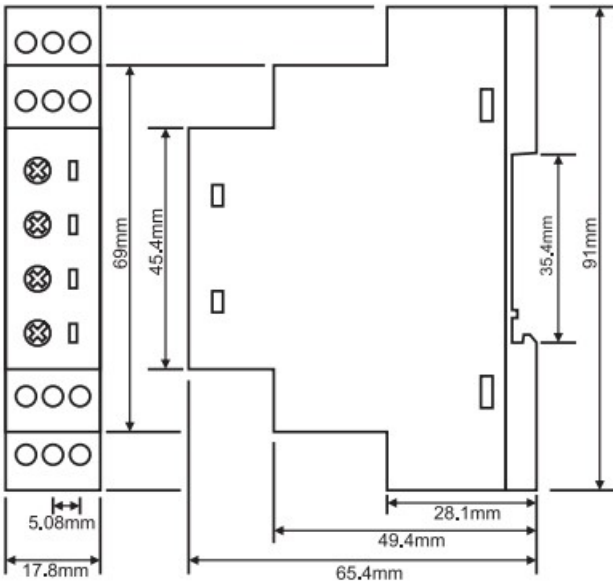
Tecnical Specifications:

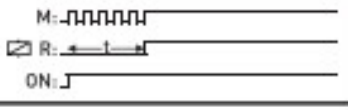
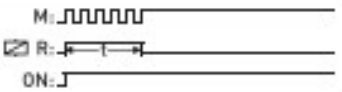
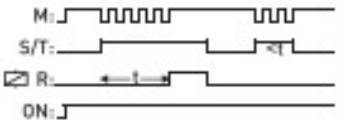
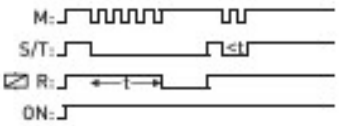
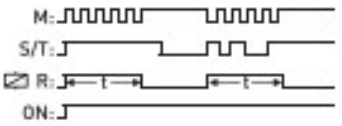
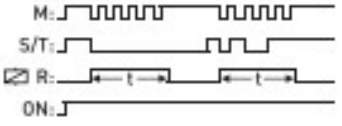
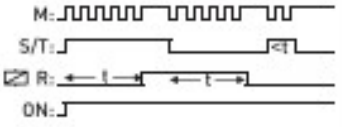
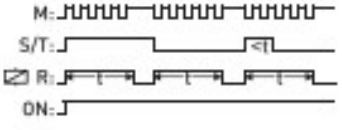
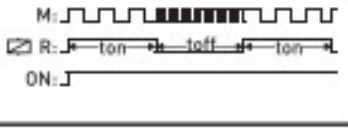
Operating Voltage(Un)	:	12V - 240V AC/DC
Operating Frequency	:	50/60 Hz.(AC)
Operating Power	:	<4VA
Operating Temperature	:	-20°C....+55°C
Time(t)	:	0.1sec. - 30hours
Display	:	Relay, T switch(S), status(M) and power(On) leds
Connection Type	:	Terminal connection
Weight	:	Max. <100gr.
Contact	:	5A/250V AC (resistive load)
Mounting	:	Assembled on the din rail.
Protection Class	:	IP20
Operating Altitude	:	<2000meter
Cable Diameter	:	0.22mm² - 1.5mm²
Standards	:	EN 61010-1, EN 61326-1
Insulation rated voltage	:	250V AC
Rated Surge Voltage	:	2000V 1,2 / 50 µs
Overvoltage Category	:	II
Insulation Pollution Degree	:	2
Dielectric Strength	:	Input/Output: 3000V AC Contact Clearence: 1000V AC Pole - Pole: 2000V AC

Connection diagram:



Dimensions:



FUNCTION	CHARACTERISTIC FUNCTION	DESCRIPTION
-1- ON Delay		When the energy reaches the relay , (in the de-energised state) it begins to count the adjusted time. While counting the time, the M led indicator blinks. After the time is up, the relay becomes energised and the M led will appear constantly . The device will keep this position until it is de-energised.
-2- OFF Delay		When the energy reaches the relay, (in energised state) it begins to count the adjusted time. While counting the time, the M led indicator blinks. After the time is up, the relay becomes de-energised and the M led appears constantly. The device keeps this position until it is de-energised.
-3- Control ON Delay		When the energy reaches device, if the T switch is energised then the relay begins to count the adjusted time in it's de-energised state. While counting the time, the M led blinks. After the time is up, the relay is energised and M Led appears constantly. In this state, the device is in stand by mode and waits to T switch be restarted. Device begins to count the time once T switch is restarts. If T switch is de-energised time becomes restarted and again waits until Tswitch to energised. If the T Switch is de-energised when the energy reaches, relay stands by for T switch to energised state.
-4- Control OFF Delay		If the T switch is energised when the device is energised the relay is energised state and the M led appear constant. In this mode device waits for T switch be de-energised.When T switch is de-energised time counting will start and the M led will blink. Once the time count has been completed the relay will be de-energised and the M led will appear constant. For device start counting time T switch must be energised and de-energised.While time counting if T switch energised time will reset and it will wait untill T switch be de-energised. When device is energised if T switch is de-energised time will not count and relay is de-energised.In this state T switch must be energised and de-energised.
-5- Single Shot Leading Edge with Control Input		When energy reaches to the device , If T switch is energised relay gets energised. It starts to count time and M led blinks. After time is up relay turns into de-energised mode and M led turns on constantly. To device to be able to re-count T switch must be reenergised and energised. While counting time , Changing position of T switch does not effect time counting. When device is energised if the T switch is de-energised Relay becomes de-energised and M led turns on.
-6- Single Shot Trailing Edge with Control Input		If the T switch is energised when energy reaches the device, the relay stands by de-energised state and the M led will appear constant. When the relay led T switch is de-energised the relay will be energised and start counting time. While counting time the M led will blink. If the position of the T switch is changed, then it will not effect the time counting. After the time is up the relay becomes de-energised and the M led appear constant. T switch needs to be reenergised so the device can begin counting time again. If the T switch is de-energised when the device is energised the relay stands by de-energised state and the M led will appear constant.
-7- ON delay and OFF Delay with Control		If the T switch is energised when the device is energised the relay will begin to count time in its de-energised state and the M led will blink. If the T switch is de-energised while counting time, Time counting will restart and the M led will appear constant.When the T switch is energised the device will begin counting time and the M led will blink.Once the time count has been completed the relay will be energised and the M led will appear constant. The device will wait for the off-delay.When the T switch is de-energised the device will begin counting and the M led will blink.If the T switch turns off while counting time, time counting will restart and the device will wait and M led will appear constant.When the T switch is de-energised the device will begin counting time and the M led will blink. After the time is up the relay will be de-energised and the M led will appear constant. The device will wait for the on-delay. If the T switch is de-energised when the device is energised the relay will be de-energised and the M led will turn on. For the device to begin to counting time the T switch needs to be energised.
-8- Pulse out-put with Control		If the T switch is energised when the device is energised the relay will begin to counting time in its energised state and the M led will blink. If the T switch is de-energised and energised while counting time it will not effect the time counting. After the time is up the relay becomes de-energised and the M led will appear constant.After the time is up , every time the T switch changes position it will begin counting time. If the T switch is de-energised when the device is energised the relay will be de-energised and the M Led will turn on. For the device to begin counting time this T switch needs to be energised.
-9- Equivalent timed flasher (t=ton=toff)		The relay begins to count ON time when it is energised and the M led will slowly blinks (1000msc). When the ON time is completed the relay will begin counting the OFF time in its de-energised state and M Led will blink rapidly(250msc). When the OFF time is completed the relay will begin counting ON time. Untill the device is de-energised it will continue in this way. ON time and OFF time is equivalent.
-10- Equivalent timed flasher with control (t=ton=toff)		If the T switch is energised when the device is energised the relay starts counting the ON time in an energised state and the M led will slowly blink(1000msc). When the ON time is completed the relay will begin counting the OFF time in its de-energised state and the M led will blink rapidly(250msc). When the off time is completed the relay will begin counting the ON time in its energised state. When the T switch is de-energised the relay stops counting time and restarts. In this state the relay becomes de-energised and the M led will appear constant.When the T switch is turned off the relay begins counting the ON time in its energised state. As long as the T switch is energised the device will work as a flasher. ON time and OFF time is equivalent. If the T switch is de-energised when energy reaches the device the relay in its de-energised state the device will be inactive and the M led will appear constant.T switch must be energised for the device to operate in flasher mode.

Not_1:

Function changes must be made when the device is in a de-energised state or wait at least 0,3 sec. before function changes in an energised state. Turn the energy of the device off and then turn it on again and apply. Otherwise the function change will not be recognized.

Not_2:

Sled: The led will appear when the T switch is on and dissapear when it is off.
Relay energised: 1 and 2 no contact ends open circiut, 2 and 3 no contact ends short-circuit.
Relay led appears.
Relay de-energised: 1 and 2 no contact ends short circuit, 2 and 3 no contact ends open-circuit.
Relay led dissapears.

(tm)	Description
a	0.1sec. - 1sec.(1sec.)
b	0.5sec. - 5sec.(5sec.)
c	1sec. - 10sec.(10sec.)
d	3sec. - 30sec.(30sec.)
e	6sec. - 60sec.(60sec.)
f	1min. - 10min.(10min.)
g	3min. - 30min.(30min.)
h	6min. - 60min.(60min.)
i	1h. - 10h.(10hours)
k	3h. - 30h.(30hours)

Maintenance:

Switch off the device and release from connections. Clean the trunk of device with a swab. Don't use any conductor or chemical might damage the device. make sure device works after cleaning.

Warnings:

Please use the device according to the manual.
Don·t use the device in wet.
Include a switch and circuit breaker in the assembly.
Put the switch and circuit breaker nearby the device, operator can reach easily.
Mark the switch and circuit breaker as releasing connection for device

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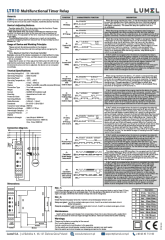	**LUMEL LTR10 Multifunctional Timer Relay** [pdf] Instruction Manual LTR10, Multifunctional Timer Relay, LTR10 Multifunctional Timer Relay, Timer Relay, Relay

References

- **Lumel | Automation devices and systems | SMT/THT assembly | Lumel**