



# Klemsan®

## 270001 LC3

### Liquid Level Controller

#### General

Order Number	270 001
Casing Width (mm)	36
Connections	Screw Terminal
Functions	LC
Type of Output	Relay
Adjustment of Timing-1 & Timing-2	—
Lux Adjustment Rate	—
Sensitivity Adjusement Rate	5 - 100 KΩ
Supply Frequency	35-70 Hz
Trigger Input Voltage	—
Recovery Time	Maks. 100ms
Protection Class	IP20
Weight (g)	82
Mounting Type	Panel & Rail
Schematics	280 610
Dimensions	—

#### Auxiliary Contacts

Type	1 C/O (SPDT)
Max. Ratings - AC (for NO side)	5A/250V; 1250VA
Max. Ratings - DC (for NO side)	5A/30VDC; 150W
Mechanical Lifetime	≥ 10 <sup>7</sup> operations
Electrical Lifetime Operations (for NO side)	5x10 <sup>4</sup> (5A@250VAC) 1x 10 <sup>5</sup> (5A@30VDC)

#### Time Range

Timing-1	1s => 1s
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	Timing-2	—
Supply Voltage	DC	—
	AC	150-500VAC
Ambient Conditions	Operating Temperature	-20 to + 60°C
	Storing Temperature	-40°C +75°C
	Relative Humidity (No Condensation)	Maks. 95%
Power Consumption	DC	—
	AC	<7VA
EMC-EMI	55011/A1, 61000-4-2, 61000-4-3/A1, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-8, 61000-4-11	✓
Liquid Level Electrode	Definition	Liquid Level Probe for LC3
	Order Number	280610
	Packing Units	1

### Liquid Level Electrode (Probe)



● SE-1-Liquid Level  
Electrode (Probe)

Avrupa standartlarına uygunluk belgesi - CE Certificate

### Order Info

└── 270001      Liquid Level Controller

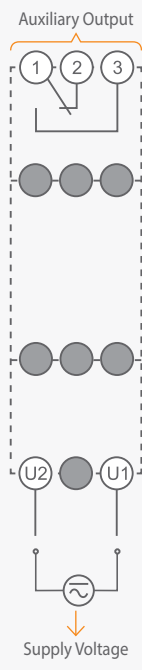
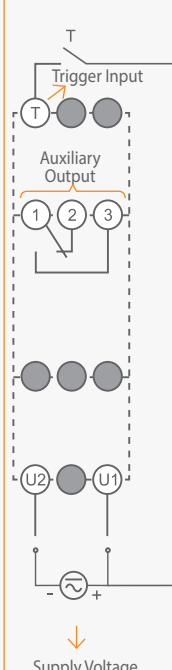
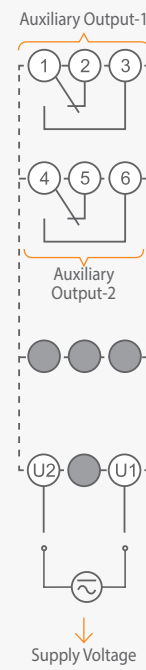
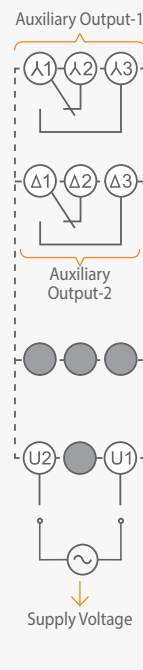
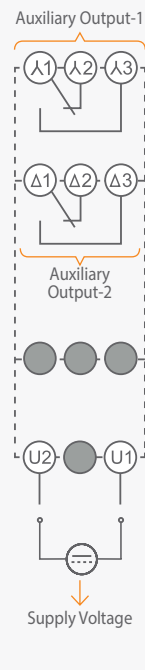
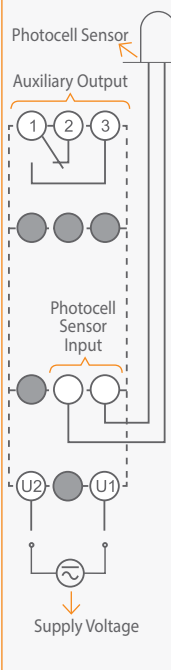
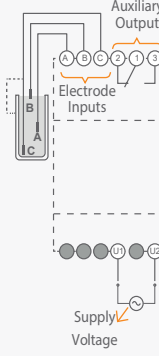
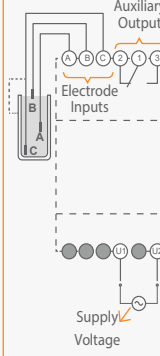
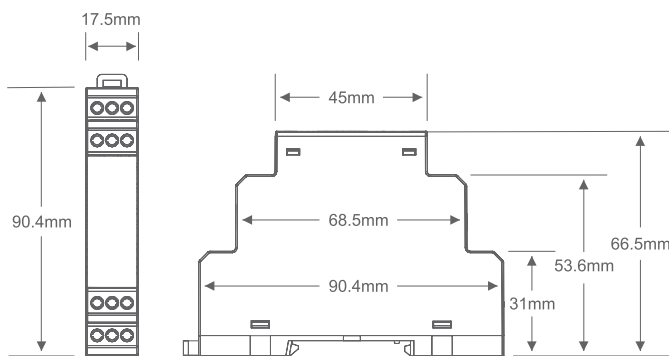
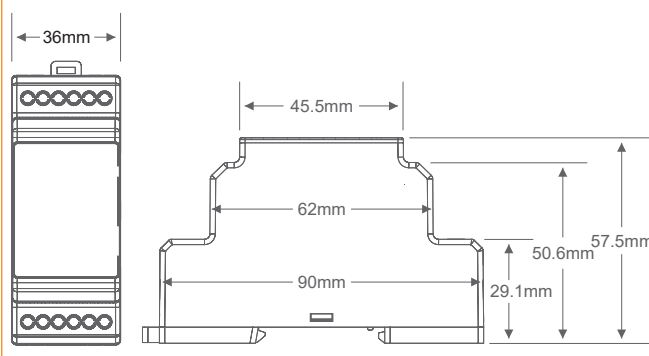


Type	T1-30S	T1-60S	T1-60S2	T1-100S	T1-XS	T1-FLASH	T1-M4
Timing Function	Single-functional	Single-functional	Single-functional	Single-functional	Single-functional	Single-functional	Multifunctional
Definiton	On delay timer	On delay timer	2C/O On delay timer	On delay timer	On delay timer	Off flasher timer	Multimode timer
Order Number	270 363	270350	270 352	270359	270357	270351	270355
Casing Width(mm)	17,5	17.5	17,5	17.5	17.5	17.5	17.5
Connections	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Functions	ND	ND	ND	ND	XS	Foff	ND, FD, Fon, Foff
Type of Output	Relay	Relay	Relay	Relay	Relay	Relay	Relay
Auxiliary contacts	Type	1 C/O (SPDT)	1 C/O (SPDT)	2 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)
	Max ratings-AC (for NO side)	10A/250V; 1250 VA	5A/250V; 1250 VA	10A/250V; 1250 VA	5A/250V; 1250 VA	5A/250V; 1250 VA	5A/250V; 1250 VA
	Max ratings-DC (for NO side)	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W
	Mechanical life time	≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations
	Electrical life time operations (for NO side)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)
Adjustment of Timing-1 & Timing-2		-	-	-	-	independent	independent
Time Range	Timing-1	1sec=>30sec	1sec=>60sec	1sec=>60sec	1sec=>100sec	1sec=>2559sec	0.1sec=>10days
	Timing-2	-	-	-	-	-	0.1sec=>10days
Lux adjustment range		-	-	-	-	-	-
Sensitivity adjustment range		-	-	-	-	-	-
Supply Voltage	DC	24-300 VDC	24-300 VDC	24-300 VDC	24VDC	24-300 VDC	24-300 VDC
	AC	24-300 VAC	24-300 VAC	24-300 VAC	24VAC or 180-265 VAC	24-300 VAC	24-300 VAC
Supply Frequency		35-70 Hz	35-70 Hz	35-70 Hz	35-70 Hz	35-70 Hz	35-70 Hz
Trigger Input Voltage		-	-	-	-	-	-
Permissible ambient temperature	During operation	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
	During storage	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Relative Humidity		Max. 95% no condensation	Max. 95% no condensation	Max. 95% no condensation	Max. 95% no condensation	Max. 95% no condensation	Max. 95% no condensation
Recovery time		Max. 100msec	Max. 100msec	Max. 100msec	Max. 100msec	Max. 100msec	Max. 100msec
Degree of protection		IP20	IP20	IP20	IP20	IP20	IP20

T1-M5	T1-K	T1-LR	SD1	SD1-24	PH1-20L	LC3	LC3-T
Multifunctional	Multifunctional	Single-functional	Single-functional	Single-functional	Single-functional	Single-functional	Single-functional
Multimode timer	Multimode timer with trigger input	Left-right timer	Star-delta timer	Star-delta timer	Photocell relay with an external photocell sensor	Liquid level controller	Liquid level controller
270353	270354	270356	270358	270362	270050	270001	270 002
17.5	17.5	17.5	17.5	17.5	17.5	36	36
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
ND, FD, NFD, Fon, Foff	a, b, c, d, e, f, g, h, i, k	LR	SD	SD	PHL	LC	LC
Relay	Relay	Two Relays	Two Relays	Relay	Relay	Relay	Relay
1 C/O (SPDT)	1 C/O (SPDT)	2 x C/O	2 x C/O	2 x C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)
5A/250V; 1250 VA	5A/250V; 1250 VA	5A/250V; 1250 VA	5A/250V; 1250 VA	10A/250V; 1250 VA	5A/250V; 1250 VA	5A/250V; 1250 VA	10A/250V; 1250 VA
5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W
≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations	≥ 10 <sup>7</sup> operations
5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)	5x10 <sup>4</sup> (5A@250VAC) 1x10 <sup>4</sup> (5A@30VDC)
dependent	-	independent	independent	independent	independent	-	-
0.1sec=>10days	0.1sec=>10days	0.1sec=>10days	1sec=>30sec	1sec=>30sec	1sec=>45sec	0.1sec=>1sec	-
0.1sec=>10days	-	0.1sec=>10days	20msec=>500msec	20msec=>500msec	20msec1sec=>45sec	-	-
-	-	-	-	-	1-20Lux	-	-
-	-	-	-	-	-	5-100kΩ	2.5 .. 50KΩ
24-300 VDC	24-300 VDC	24-300 VDC	-	24-300 VDC	24-300 VDC	-	-
24-300 VAC	24-300 VAC	24-300 VAC	150-500 VAC	24-300 VAC	24-300 VAC	150-500 VAC	185 .. 265V AC
35-70 Hz	35-70 Hz	35-70 Hz	35-70 Hz	35-70 Hz	35-70 Hz	35-70 Hz	50-60Hz
-	24-300 VAC/DC	-	-	-	-	-	-
-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Max. 95% no condensation	Max. 95% no condensation	Max. 95% no condensation	Max. 95% no condensation	Max. 95% no condensation	Max. 95% no condensation	Max. 95% no condensation	Max. 95% no condensation
Max. 100msec	Max. 100msec	Max. 100msec	Max. 100msec	Max. 100msec	Max. 100msec	Max. 100msec	Max. 100msec
IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20



Type		T1-30S	T1-60S	T1-60S2	T1-100S	T1-XS	T1-FLASH	T1-M4
Power consumption	DC	<2W	<1.25W	<2W	<1W	<1.25W	<1.25W	<1.25W
	AC	<3,5VA	<2.5VA	<3,5VA	<13VA	<2.5VA	<2.5VA	<2.5VA
Weight(gr)		66	57	66	57	62	60	60
Permissible mounting position		any	any	any	any	any	any	any
Accessories	Definiton	-	-	-	-	-	-	-
	Order Number	-	-	-	-	-	-	-
	Packaging unit	-	-	-	-	-	-	-
Schematics								
Dimensional Drawings								

T1-M5	T1-K	T1-LR	SD1	SD1-24	PH1-20L	LC3	LC3-T
<1.25W	<1.25W	<1.25W	<1.25W	<1.25W	<1.25W	-	-
<2.5VA	<2.5VA	<2.5VA	<2.5VA	<2.5VA	<2.5VA	<7VA	<7VA
60	66	70	70	70	63	82	82
any	any	any	any	any	any	any	any
-	-	-	-	-	-	Liquid Level probe for LC3	Liquid Level probe for LC3
-	-	-	-	-	-	280610	280610
-	-	-	-	-	-	1 pc.	1 pc.
							
							



					
Type		Z1-60S	Z1-100S	Z1-XS	Z1-FLASH
Timing Function		Single-functional	Single-functional	Single-functional	Single-functional
Def initon		On delay timer	On delay timer	On delay timer	Off flasher timer
Order Number		270 370	270 379	270 377	270 371
Casing Width(mm)		17,5	17,5	17,5	17,5
Connections		Screw terminal	Screw terminal	Screw terminal	Screw terminal
Functions		ND	ND	XS	Foff
Type of Output		Relay	Relay	Relay	Relay
Auxiliary contacts	Type	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)
	Max ratings-AC	10A/250V; 1250 VA	10A/250V; 1250 VA	10A/250V; 1250 VA	10A/250V; 1250 VA
	Max ratings-DC	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W
	Mechanical life	≥ 10^7	≥ 10^7	≥ 10^7	≥ 10^7
	Electrical life	5×10^4(5A@250VAC) 1×10^5(5A@30VDC)	5×10^4(5A@250VAC) 1×10^5(5A@30VDC)	5×10^4(5A@250VAC) 1×10^5(5A@30VDC)	5×10^4(5A@250VAC) 1×10^5(5A@30VDC)
Adjustment of Timing-1 & Timing-2		-	-	-	independent
Time Range	Timing-1	1sec=>60sec	1sec=>100sec	1sec=>2559sec	0.1sec=>10days
	Timing-2	-	-	-	0.1sec=>10days
Lux adjustment range		-	-	-	-
Sensitivity adjustment range		-	-	-	-
Supply Voltage	DC	12VDC	24VDC	12VDC	12VDC
	AC	12VAC or 180..265V AC	24VAC or 180..265V AC	12VAC or 180..265V AC	12VAC or 180..265V AC
Supply Frequency		50-60Hz	50-60Hz	50-60Hz	50-60Hz
Trigger Input Voltage		-	-	-	-
Permissible Ambient Temperature	During Operation	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
	During Storage	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Relative Humidity		Max.95% (no conden-sation)	Max.95% (no conden-sation)	Max.95% (no conden-sation)	Max.95% (no conden-sation)
Recovery time		Max. 100msec	Max. 100msec	Max. 100msec	Max. 100msec
Degree of protection		IP20	IP20	IP20	IP20
Power consumption	DC	<1.25W	<1.25W	<1.25W	<1.25W
	AC	<2.5VA	<2.5VA	<2.5VA	<2.5VA
Weight(gr)		60	60	60	60

				
Z1-M4	Z1-M5	Z1-K	Z1-LR	ZD1
Multifunctional	Multifunctional	Multifunctional	Multifunctional	Single-functional
Multimode timer	Multimode timer	Multimode timer with trigger input	Left-right timer	Star-delta timer
270 375	270 373	270 374	270 376	270 378
17,5	17,5	17,5	17,5	17,5
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
ND,FD,Fon,Foff	ND,FD,NFD,Fon,Foff	a,b,c,d,e,f,g,h,i,k	LR	SD
Relay	Relay	Relay	Relay	Relay
1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	2 x C/O (SPDT)	2 x C/O (SPDT)
10A/250V; 1250 VA	10A/250V; 1250 VA	10A/250V; 1250 VA	10A/250V; 1250 VA	10A/250V; 1250 VA
5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W
≥ 10^7	≥ 10^7	≥ 10^7	≥ 10^7	≥ 10^7
5×10^4(5A@250VAC) 1×10^5(5A@30VDC)	5×10^4(5A@250VAC) 1×10^5(5A@30VDC)	5×10^4(5A@250VAC) 1×10^5(5A@30VDC)	5×10^4(5A@250VAC) 1×10^5(5A@30VDC)	5×10^4(5A@250VAC) 1×10^5(5A@30VDC)
independent	independent	independent	independent	independent
0.1sec=>10days	0.1sec=>10days	0.1sec=>10days	0.1sec=>10days	1sec=>30sec
0.1sec=>10days	0.1sec=>10days	-	0.1sec=>10days	20msec=>500msec
-	-	-	-	-
-	-	-	-	-
12VDC	12VDC	12VDC	12VDC	12VDC
12VAC or 180..265V AC	12VAC or 180..265V AC	12VAC or 180..265V AC	12VAC or 180..265V AC	12VAC or 180..265V AC
50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz
-	-	12VAC/DC veya 180..265V AC	-	-
-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Max.95% (no condensa-tion)	Max.95% (no condensa-tion)	Max.95% (no condensa-tion)	Max.95% (no condensa-tion)	Max.95% (no condensa-tion)
Max. 100msec	Max. 100msec	Max. 100msec	Max. 100msec	Max. 100msec
IP20	IP20	IP20	IP20	IP20
<1.25W	<1.25W	<1.25W	<1.25W	<1.25W
<2.5VA	<2.5VA	<2.5VA	<2.5VA	<2.5VA
60	60	60	60	60

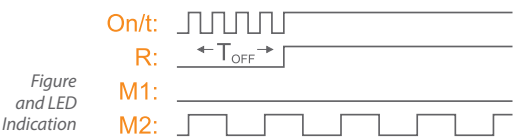


Type	Z1-60S	Z1-100S	Z1-XS	Z1-FLASH	Z1-M4	Z1-M5	Z1-K	Z1-LR	ZD1
Permissible mounting position	any	any	any	any	any	any	any	any	any
Schematics									
Dimensional Drawings									



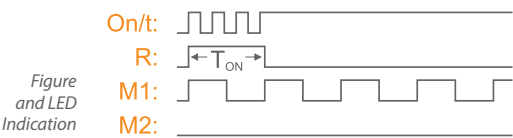


a & ND functions / On delay operation



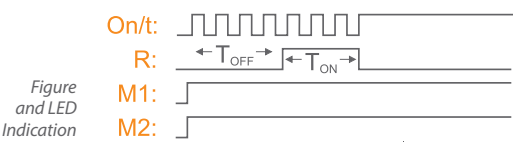
The output relay is initially de-energized and energized after an adjustable time delay,  $t_{off}$ .

b & FD functions / Off delay operation



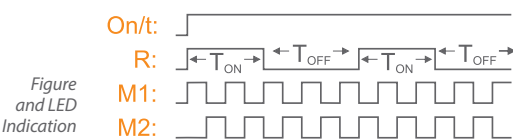
The output relay is initially energized and de-energized after an adjustable time delay,  $t_{on}$ .

NFD function / On-Off delay operation



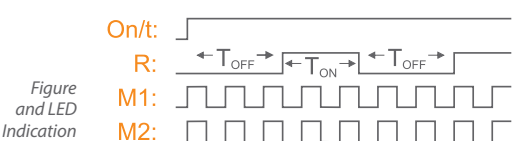
The output relay is initially de-energized and energized after an adjustable time delay,  $t_{off}$  and stays energized for an adjustable period,  $t_{on}$  and then de-energized.

Fon function / On flasher operation



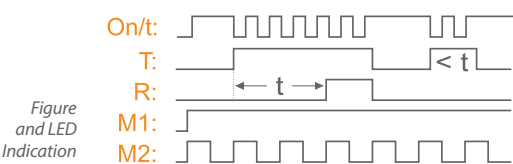
The output relay is initially energized and de-energized after an adjustable time delay,  $t_{on}$  and stays de-energized for an adjustable period,  $t_{off}$  and then energized. This loop is repeated until the device is powered off. "On/t" led flashes at Fon and Foff mode for "T1-M4" product.

g and Foff functions / Off flasher operation



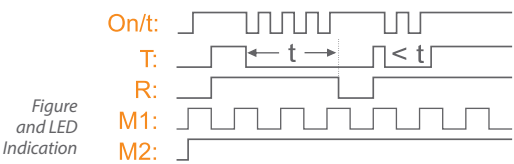
The output relay is initially de-energized and energized after an adjustable time delay,  $t_{off}$  and stays energized for an adjustable period,  $t_{on}$  and then de-energized. This loop is repeated until the device is powered off. "On/t" led flashes at Fon and Foff mode for "T1-M4" product.

c function / On delay with control input



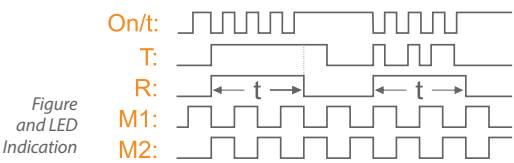
The output relay is initially de-energized. A contact closure on T contact triggers an adjustable time delay,  $t$ , which energizes the output relay when expired. The output relay stays energized as long as the T contact is active. Delay time,  $t$ , is cleared when the contact on T contact opens.

d function / Off delay with control input



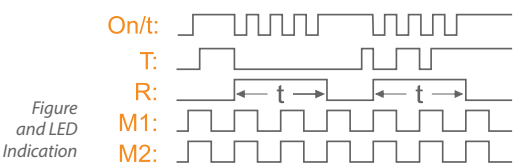
The output relay is initially de-energized and energized when a contact closure on T contact is detected. A contact triggers an adjustable time delay,  $t$ , which de-energizes the output relay when expired. Reclosure of the contact on T contact before the time delay is expired restarts time delay,  $t$ , and keeps the output relay energized.

e function / Rising edge triggered off delay



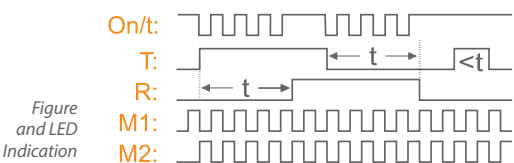
The output relay is initially de-energized. A contact closure on T contact both energizes the output relay and triggers an adjustable time delay,  $t$ , which de-energizes the output relay when expired. During the time delay, T contact is insensitive to state changes and becomes sensitive when time delay,  $t$ , expired.

f function / Falling edge triggered off delay



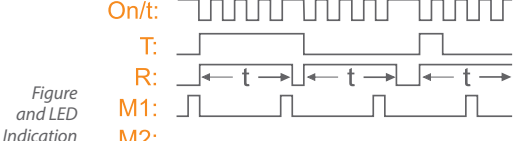
The output relay is initially de-energized. A state change of the T contact from closed to open both energizes the output relay and triggers an adjustable time delay,  $t$ , which de-energizes the output relay when expired. During the time delay, T contact is insensitive to state changes and becomes sensitive when time delay,  $t$ , expired.

h function / On and off delay with control input



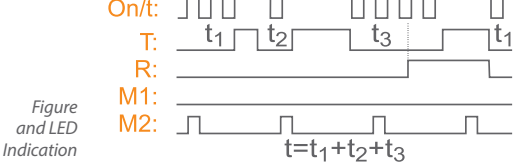
The output relay is initially de-energized. A contact closure on T contact triggers an adjustable time delay,  $t$ , which energizes the output relay when expired. Similarly contact release of T contact triggers the time delay,  $t$ , which de-energizes the output relay when expired. Delay time,  $t$ , is cleared when the contact state of T contact changes.

i function / Adjustable pulse output with control input



The output relay is initially de-energized. A state change on T contact both energizes the output relay and triggers an adjustable time delay,  $t$ , which de-energizes the output relay when expired. During the time delay, T contact is insensitive to state changes and becomes sensitive when time delay,  $t$ , expired.

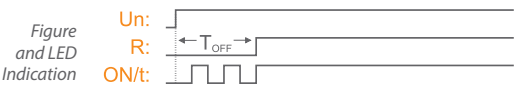
k function / On delay with memory



The output relay is initially de-energized. If T contact is open, adjustable time delay,  $t$ , counts down and output relay energizes when  $t$  is expired. Any contact closure on T contact pauses the count down process and the process continues when the contact release on T contact occurs. A contact release is needed to restart the cycle, after the output relay is energized.

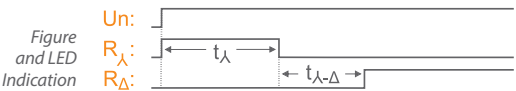


XS function / On delay adjustment for each second



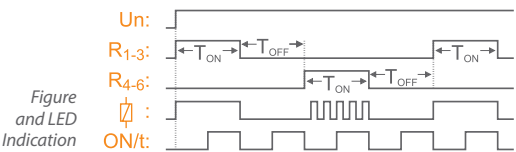
T1-XS is an ON delay timer that allows a sensitive time setting from 1 to 2559 seconds with 1 second increments. The output relay is initially de-energized and energized after the time delay  $t$  is expired.

SD function / Star-Delta operation



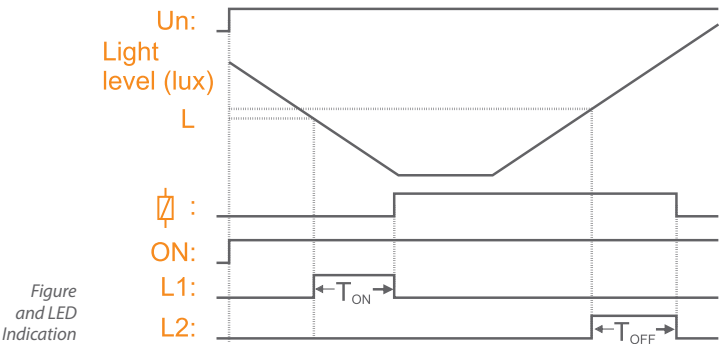
When the energy applied to device, star relay is energized until the end of the adjustable  $t_A$  time. At the end of the adjusted delay time  $t_{A-\Delta}$ , delta relay is energized until the device is powered off.

LR function / Left-Right operation



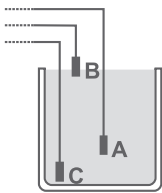
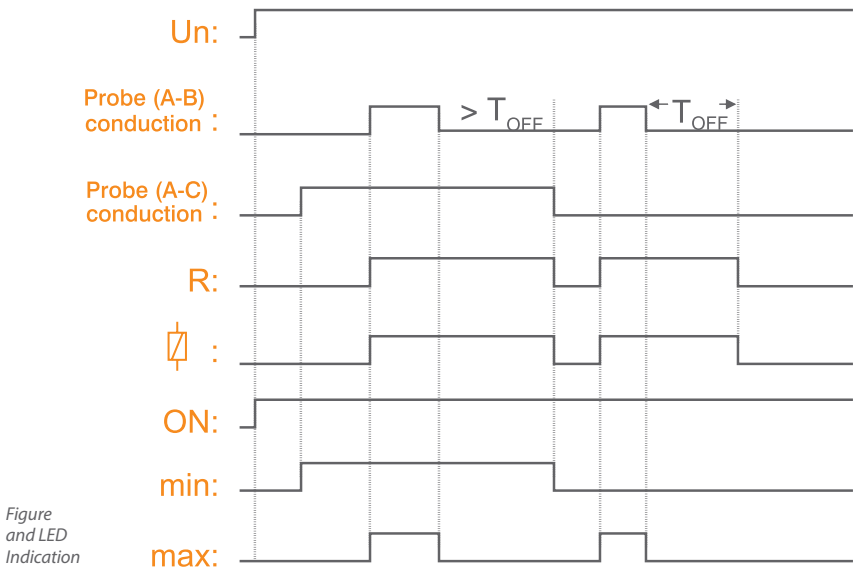
Initially first relay is energized. After the adjustable time delay  $t_{on}$ , relay is de-energized. Both relays are de-energized during the adjustable time delay  $t_{off}$ . At the end of  $t_{off}$ , second relay energizes. Second relay stays in this position during  $t_{on}$ . When  $t_{on}$  finished both relays are de-energized. This cycle is repeated continuously.

PHL function / Photocell operation



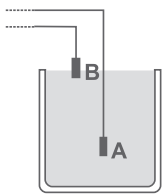
PH1-20L photocell relay measures the luminous intensity by means of a photocell sensor. On-off threshold value is adjusted in the range of 1-20 lux, via the front adjustment dial. The output relay is energized when the ambient light level is below the adjusted limit. On and off delays are adjustable between 1 and 45 seconds, via the front panel knobs. On delay is adjusted by  $t_{on}$  knob, and off delay is adjusted by  $t_{off}$  knob.

LC function / Liquid Level Operation



3 electrodes mode:

When the level of liquid in the tank reaches to electrode B, the output relay is activated and stays in this position even if the level drops below the electrode B level. The output relay is deactivated when the liquid level drops below the electrode A level. Re-activation occurs when the level reaches to the electrode B level.



2 electrodes mode:

For 2 electrodes mode of operation, A and B electrodes are used. When level of liquid in the tank reaches to electrode B, output relay is activated. When the liquid level drops below electrode B and continually stays there for the adjustable time delay (adjusted on the front panel knob); output relay will be de-energized.