TIMERS

Digital Timer *Eliro*®

- Compact 17.5 mm Wide
- Multi-Function: (8 or 18) Non-Signal & Signal based functions
- Multi-Voltage: 24 - 240 VAC/DC
- Wide Timing Range: 0.1s to 999 Hr
- 3 Digit LCD for Preset time and Run time
- Option to select Up/Down counting
- Tamper proof with key lock feature

Ordering Information

Cat. No.	Description
V0DDTS	24 - 240 VAC/DC, Multi-Function Digital Timer - Eliro (8 Functions), 1 C/O
V0DDTD	24 - 240 VAC/DC, Multi-Function Digital Timer - Eliro (8 Functions), 2 NO
V0DDTS1	24 - 240 VAC/DC, Multi-Function Digital Timer - Eliro (18 Functions), 1 C/O
V0DDTD1	24 - 240 VAC/DC, Multi-Function Digital Timer - Eliro (18 Functions), 2 NO

Digital Timer *Eliro*®

Cat. No.	V0DDTS	V0DDTD	V0DDTS1	V0DDTD1
Parameters				
Timer Description	Multi Function Digital Timer			
Functions	1) ON Delay 2) Cyclic OFF/ON 3) Cyclic ON/OFF 4) Signal ON/OFF 5) Signal OFF Delay 6) Interval 7) Signal OFF/ON 8) One Shot Output		1) ON Delay 2) Cyclic OFF/ON 3) Cyclic ON/OFF 4) Impulse on Energizing 5) Accumulative Delay on Signal 6) Accumulative Delay on Inverted Signal 7) Accumulative Impulse on Signal 8) Signal ON Delay 9) Inverted Signal ON Delay 10) Signal OFF Delay 11) Impulse ON/OFF 12) Signal OFF/ON 13) Leading Edge Impulse 1 14) Leading Edge Impulse 2 15) Trailing Edge Impulse 1 16) Trailing Edge Impulse 2 17) Delayed Impulse 18) Inverted Signal ON Delay	
Supply Voltage (⏚)	24 - 240 VAC/DC			
Supply Variation	-15% to +10% (of ⏚)			
Frequency	50/60 Hz			
Power Consumption (Max.)	0.5 VA (@ 24/48 VAC), 4 VA (@ 110 to 265 VAC/DC)			
Timing Range	0.1s to 999h			
Reset Time	200 ms (Max.)			
Repeat Accuracy	± 0.5%			
Output – Relay Output	1 C/O	2 NO	1 C/O	2 NO
Output – Contact Rating	8A @ 240 VAC / 24 VDC (Resistive)			
Output – Electrical Life	$1x10^5$			
Output – Mechanical Life	$2x10^7$			
Utilization Category – AC - 15	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3/1.5 A			
Utilization Category – DC - 13	Rated Voltage (Ue): 125/250 V, Rated Current (Ie): 0.22/0.1 A			
Operating Temperature Storage Temperature	-10° C to +55° C -20° C to +65° C			
Humidity (Non Condensing)	95% (Rh)			
LED Indication	Red LED →Relay ON			
Enclosure	Flame Retardant UL94-V0			
Dimension (W x H x D) (in mm)	18 X 85 X 76			
Weight (unpacked) Approx.	85 g			
Mounting	DIN Rail			
Certification	CE, cULus LISTED, RoHS Compliant			
Degree of Protection	IP 20 for Terminals, IP 30 for Enclosure, IP 40 for Front side			

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

Digital Timer *Eliro*®

FUNCTIONAL DIAGRAMS FOR V0DDTS & V0DDTD

: Supply Voltage, S: Input Signal, R: Relay Output
T: Preset Time, TON: Preset ON Time, TOFF: Preset OFF Time

ON DELAY (A)

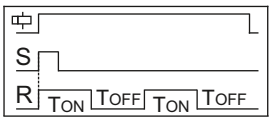
On application of supply voltage, the preset time duration (T) starts. On completion of the preset time, the output is switched ON and remains ON till the supply voltage is present

CYCLIC OFF/ON {OFF Start, (Sym, Asym)} (b)

On application of supply voltage, the output is initially switched OFF for the preset 'OFF' time duration (TOFF) after which it is switched ON for the preset 'ON' time duration (TON). This cycle repeats and continues till the supply is present.

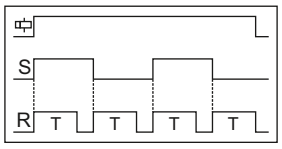
CYCLIC ON/OFF {ON Start, (Sym, Asym)} (C)

On application of supply voltage, the output is initially switched ON for the preset 'ON' time duration (TON) after which it is switched OFF for the preset 'OFF' time duration (TOFF). This cycle repeats and continues till the supply is present.



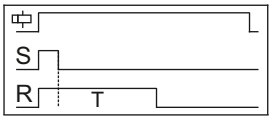
SIGNAL ON/OFF (d)

The output relay is turned ON for Preset Time (T) whenever the Signal(S) is applied or removed.



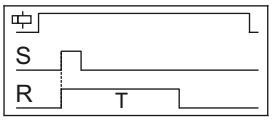
SIGNAL OFF DELAY (E)

On application of supply voltage and input signal, the output is switched ON. When the signal is removed the preset time duration commences & the output is switched OFF at the end of the time duration.



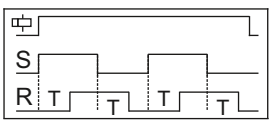
INTERVAL (F)

When supply power is applied to the timer and on application of input signal the output is immediately switched ON. The output remains ON for the preset time duration (T) after which it is switched OFF.



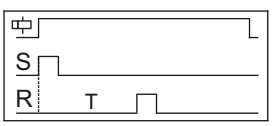
SIGNAL OFF / ON (G)

When Signal (S) is applied or removed, the relay changes its state after Timer Duration (T)



ONE SHOT OUTPUT (H)

When Signal (S) is applied, the Timer Duration (T) starts. At the end of Timer duration (T), the relay gets energized for approximately 1 sec.(Refer Note : 2)



Note:
1. For Power-On operation, connect the terminal B1 to A1 permanently.
2. If the Signal (S) changes during the Timer Duration (T), it does not change the output relay but re-triggering takes places and the Timer Duration is extended.

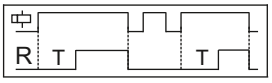
Digital Timer *Eliro*®

FUNCTIONAL DIAGRAMS FOR V0DDTS1 & V0DDTD1

: Supply Voltage, S: Input Signal, R: Relay Output
T: Preset Time, TON: Preset ON Time, TOFF: Preset OFF Time

ON DELAY [0]

On application of supply voltage, the preset time duration (T) starts. On completion of the preset time, the output is switched ON and remains ON till the supply voltage is present.



CYCLIC OFF/ON {OFF Start, (Sym, Asym)} [1]

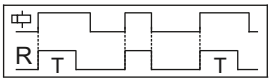
On application of supply voltage, the output is initially switched OFF for the preset 'OFF' time duration (TOFF) after which it is switched ON for the preset 'ON' time duration (TON). This cycle repeats and continues till the supply is present.

CYCLIC ON/OFF {ON start, (Sym, Asym)} [2]

On application of supply voltage, the output is initially switched ON for the preset 'ON' time duration (TON) after which it is switched OFF for the preset 'OFF' time duration (TOFF). This cycle repeats and continues till the supply is present.

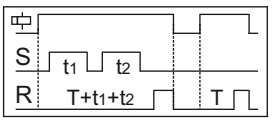
IMPULSE ON ENERGIZING [3]

On application of supply voltage, the output is instantly switched ON for the preset time duration (T) after which it is switched OFF.



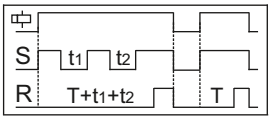
ACCUMULATIVE DELAY ON SIGNAL [4]

On application of supply voltage, the preset timing duration commences. When input signal is applied, the timing pauses and resumes only when the input signal is removed. The output is switched ON at the end of the preset time duration (T).



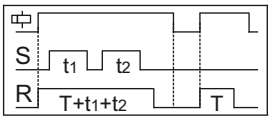
ACCUMULATIVE DELAY ON INVERTED SIGNAL [5]

On application of supply voltage and input signal, the preset timing duration commences. When the signal is removed the timing pauses and resumes when the signal is applied. The output is switched ON at the end of the preset time duration (T).



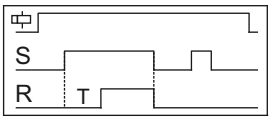
ACCUMULATIVE IMPULSE ON SIGNAL [6]

On application of supply voltage the output is switched ON & the preset timing duration commences. When the signal is applied the timing pauses and resumes when the signal is removed. The output is switched OFF at the end of the preset time duration (T).



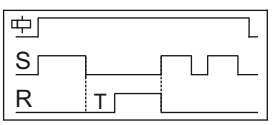
SIGNAL ON DELAY [7]

On application of input signal, the preset time duration (T) starts. On completion of the preset time, the output is switched ON and remains ON till the input signal is present



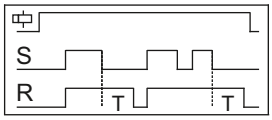
INVERTED SIGNAL ON DELAY [8]

On application of supply voltage, the preset time duration (T) starts. When input signal is applied, the timing pauses & resumes only when the signal is removed. On completion of the preset time, the output is switched ON.



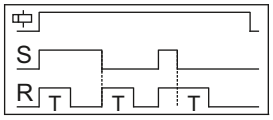
SIGNAL OFF DELAY [9]

On application of supply voltage and input signal, the output is switched ON. When the signal is removed the preset time duration commences & the output is switched OFF at the end of the time duration.



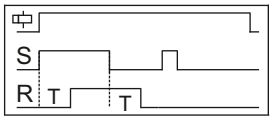
IMPULSE ON/OFF [A]

On application or removal of input signal, the output is switched ON & the preset time duration (T) starts. On completion of the time duration the output is switched OFF. When timing commences, changing the state of the input signal resets the time.



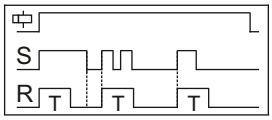
SIGNAL OFF/ON [b]

On application of input signal, the preset delay time period (T) starts. On completion of the preset time, the output is switched ON. On removal of input signal, the preset time period starts again and the output is switched ON when the preset time duration is complete.



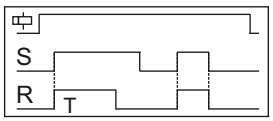
LEADING EDGE IMPULSE1 [C]

On application of input signal the output is immediately switched ON. The output remains ON for the preset time duration (T) after which it is switched OFF. If the input signal is removed during the preset time, the output remains unaffected.



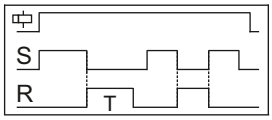
LEADING EDGE IMPULSE2 [d]

On application of input signal the output is immediately switched ON. The output remains ON for the preset time duration (T) after which it is switched OFF. If the input signal is removed during the preset time, the output is immediately switched OFF.



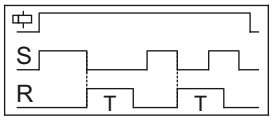
TRAILING EDGE IMPULSE1 [E]

When the input signal to the timer is removed, the output is immediately switched ON for the preset time duration (T) after which it is switched OFF. If the input signal is applied during the preset time, the output is immediately switched OFF.



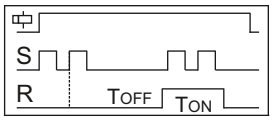
TRAILING EDGE IMPULSE2 [F]

When the input signal to the timer is removed, the output is immediately switched ON for the preset time duration (T) after which it is switched OFF. If the input signal is applied during the preset time, the output remains unaffected.



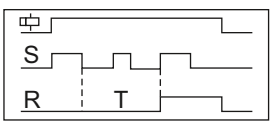
DELAYED IMPULSE [G]

On application of input signal, the preset 'OFF' time duration (TOFF) starts. the output is switched ON at the end of the preset 'OFF' time duration & the preset 'ON' time duration commences irrespective of signal level and remains ON till the completion of 'TON'.



INVERTED SIGNAL ON DELAY-TYPE 2 [H]

Timing starts only upon signal 'S' transition high to low. During timing or after completion of Time (i.e. relay on), any signal transition is ignored. To reset the timer supply has to be interrupted.



Digital Multi-Function Timer *Eliro*®

- LED dual display 11 segment for Process Value & 7 segment for Set Value
- Display height of 15mm for Process Value
- Multi voltage (88-276 VAC/DC) and Multi-range (0.01s to 999hr)
- User selectable up or down counting for Process Value
- Memory option (Retentive function) in event of break in supply
- Short depth of only 65mm
- Lock function for menu & time
- Two relay outputs
- Intuitive LED symbols for lock, relay output, memory retention, signal & time range status
- Compliant to IEC 61812-1
- IP 65 for front panel, IP 20 for terminals & IP 30 for housing

Ordering Information

Cat. No.	Description
DT124S	110 - 240 VAC/DC, Multi-Function Digital Timer - Eliro (4 Functions), 2 C/O
DT125S	110 - 240 VAC/DC, Forward-Reverse Digital Timer, 2 C/O

Digital Multi-Function Timer *Eliro*®

Cat. No.	DT124S	DT125S
Supply Characteristics		
Supply Voltage (Un)	110-240 VAC/DC	
Tolerance	-20%, +15% of Un	
Frequency	50/60Hz (+/-3Hz)	
Power consumption	Max 5.5VA at 240V	
Relay Output Characteristics		
Number of relays	2 C/O	
Contact arrangement	2 X SPDT	
Contact rating	NC/NO - 5A @250 VAC Resistive load	
Mechanical Life	1 X 10^7 Operations	
Electrical Life	1 X 10^5 Operations	
Functional Characteristics		
Display type	Dual display-11segment(PV) & 7segment(SV)	
Display color	PV-White, SV-Green, Symbol-Yellow	
No. of operating mode	4 (ON Delay, Interval, Cyclic On first & Cyclic Off first)	Forward-Reverse Function
Timing range	Sec: 999 / 99.9 / 9.99; Mins: 999 / 99.9; Hours: 999 / 99.9; Min:Sec: 9.59; Hours:Min: 9.59	
Counting direction	User Selectable: Elapsed time (Up) or Remaining time (Down)	
Keypad	4 front keys as ENT, MENU, LOCK & RST	
Setting Accuracy	+/-0.05% of set time or 50 msec (whichever is greater)	
Repeat Accuracy	+/-0.05%	
Memory	10 years	
Environmental Parameters		
Operating Temperature	-10°C to 55°C	
Storage Temperature	-25°C to 70°C	
Humidity	95% Rh (Without condensation)	
Altitude	< 2000 meters	
Pollution Degree	2	
Over voltage category	III	
MTBF (IEC 62380)	Min. 177009 hrs.	
Mechanical Parameters		
Degree of Protection		
Front Panel	IP 65	
Terminals	IP 20	
Housing	IP 30	
Mounting	Panel / Flush Mountable	
Mounting Position	Any	
Dimensions (W X H X D) in mm	48 x 48 x 65 mm	
Housing	Flame retardant (UL94-V0)	
Weight (Unpacked)	Approx. 110 gm	
Certification	CE, RoHS Compliant	

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2 Class A
ESD	IEC 61000-4-2 Level 3
Radiated Susceptibility	IEC 61000-4-3 Level 3
Electrical Fast Transients	IEC 61000-4-4 Level 4
Surge	IEC 61000-4-5 Level 4
Conducted Susceptibility	IEC 61000-4-6 Level 3
Power Frequency Magnetic Field	IEC 61000-4-8 Level 4
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Conducted Emission	CISPR-11 Class A
Radiated Emission	CISPR-11 Class A

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Damp Heat	IEC 60068-2-30
Vibration	IEC 60068-2-6

Safety Data

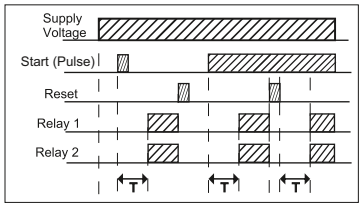
Voltage Withstand Test	
Test voltage between I/P & O/P	IEC 61812-1 2kV
Test voltage between all terminals and enclosure	IEC 61812-1 2.5kV
Impulse voltage between I/P & O/P	IEC 61812-1 4kV
Insulation resistance	IEC 61010-1, >100Mohm And >500Mohm/250VDC/ 1min
Leakage current	< 3.5mA UL508
Single Fault test	IEC 61010-1

Digital Multi-Function Timer *Eliro*®

FUNCTIONAL DIAGRAMS DT124S

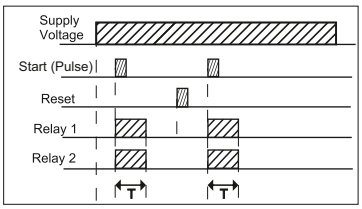
Mode 1 - On Delay

1.On application of supply voltage & start signal, preset time duration (T) starts. On completion of the preset time output relays 1 & 2 are switched ON.
2.On the application of reset signal time & relay are reset.
3.For continuos application of start signal, the preset time duration does not restart until the device gets a reset signal.



Mode 2 - Interval

1.On the application of the supply voltage & start signal, preset time duration (T) starts & Output relays 1 & 2 are actuated till pre-set time (T) is completed.
2. On the application of reset signal run/process time & relay are reset.



Mode 3 - Cyclic ON First,
Mode 4 - Cyclic OFF First

1.On the application of supply voltage & start signal, the output relays 1 & 2 are initially switched ON for preset time duration (T1) & then switched OFF for preset time duration (T2).
2. Cyclic OFF first - On application of supply voltage & start signal, the output relays 1 & 2 are initially switched OFF for preset time duration (T1) & then switched ON for preset time duration (T2).
3. The cycle repeats and continuous till supply is present.
4. On the application of reset signal run/process time and relay are reset.

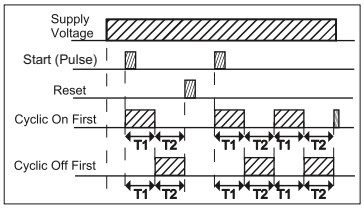
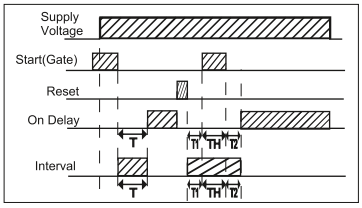


Illustration for Gate Signal -
On Delay, Interval
Start - Gate

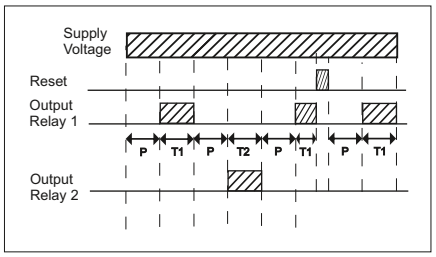
1.On the application of supply voltage & Gate signal, the preset time (T) does not start & relay outputs remain OFF.
2. After removing the Gate signal preset time (T) starts. For ON delay mode, the relay outputs are switched ON after completion of preset time (T). For interval mode, the relay outputs are switched ON for the duration of preset time (T).
3. During the preset time if the gate signal is applied then the preset time pauses till the gate signal is present.



FUNCTIONAL DIAGRAM DT125S

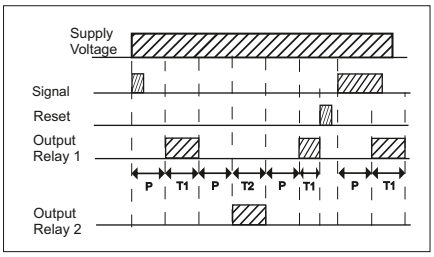
Mode 1 - Signal Disable

1.When Supply voltage applied, the Pause timer (P) signal during this both the relay remains OFF.
2.After set Pause time elapsed Forward time (T1) starts & only relay 1 get energized for the set forward time
3.After forward time (T1) elapsed relay 1 gets OFF & Again pause time (P) starts, during this both relay remains OFF
4.After pause time (P) elapsed Reverse time (T2) starts & only relay 2 energized for the set reverse time.
5.Cycle continue till Supply voltage is present
6.Cycle stop when reset signal applied & as soon as reset signal is removed cycle start from beginning



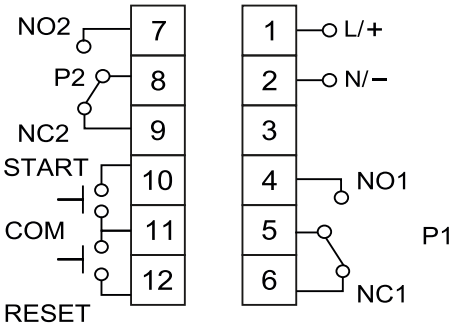
Mode 2 - Signal Enable

1.When Supply voltage & signal applied, the Pause timer (P) starts during this both the relay remains OFF.
2.After set Pause time elapsed Forward time (T1) starts & only relay 1 get energized for the set forward time
3.After forward time (T1) elapsed relay 1 gets OFF & Again pause time (P) starts, during this both relay remains OFF
4.After pause time (P) elapsed Reverse time (T2) starts & only relay 2 energized for the set reverse time.
5.Cycle continue till Supply voltage is present
6.Cycle stop when reset signal applied & cycle start from beginning when reset signal is removed & starts signal (P) is applied.

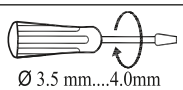


Digital Multi-Function Timer *Eliro*®

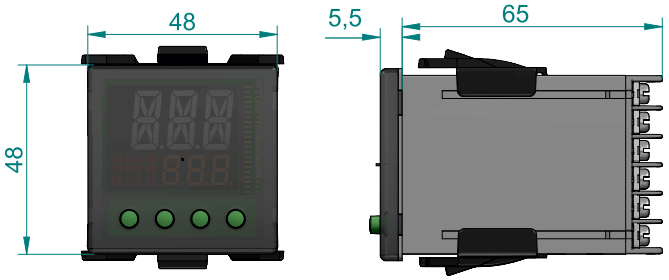
CONNECTION DIAGRAM

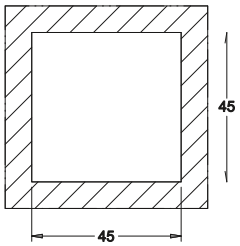


TERMINAL TORQUE & CAPACITY

 Ø 3.5 mm....4.0mm	0.5 N.m (4.5 Lb.in)
	2 x 1.5 mm^2 Solid/Stranded Wire
AWG	1 x 24 to 15

MOUNTING DIMENSIONS (mm)





RECOMMENDED PANEL CUTOUT
45 mmX 45 mm +0.5 mm

Electronic Timer - Series Staircase

- Zero Crossing Switching assistance for better relay & load life
- Slide switch enabled for permanent light
- Functions with pre-warning
- Time extension using re-trigger
- Switch indications (Glow-lamps/Pilot-lamps) up to 100 mA
- 3 wire & 4 wire configurations
- Time range: 0.5min - 20min
- IEC 60669 Compliant

Ordering Information

Cat. No.	Description
27B2B3B2	Staircase Timer 1M - 230 V With Mono Mode, With Pre-Warning
27B2C3B2	Staircase Timer 1M - 230 V With Mono Mode, Without Pre-Warning

Electronic Timer - Series Staircase

Cat. No.	27B2B3B2	27B2C3B2
Parameters		
Timer Description	**Staircase Timer**	
Supply Voltage (⏚)	220-240 VAC	
Supply Variation	- 15% to +10% (of ⏚)	
Frequency	50/60 Hz [+/- 3Hz]	
Power Consumption (Max.)	7 VA at 240 VAC	
Contact Rating	16 A @ 240 VAC (Resistive)	
Contact Material	Ag Alloy	
Mechanical Life	1 x 10^7operations	
Electrical Life	50,000 operations @ rated load	
Incandescent Lamps	2600 W	
Halogen Lamps	2600 W	
LED Lamps <2W	30 W	
LED Lamps 2-8W	100 W	
Set Time (Ts)	0.5m, 2m, 4m, 6m, 9m, 15m, 20m	
Setting Accuracy	+/- 5% of full scale	
Repeat Accuracy	+/- 1%	
Initiate time	< 750 ms	
Reset time	< 500 ms	
Glow lamp load	100 mA	
Switch for permanent light	Sliding switch	
Run time change applicable	When new signal is reapplied	
Pre-warning feature	Yes	NO
Mounting	DIN Rail	
Dimension (W x H x D) (in mm)	18 X 90 X 65.90 (in mm)	
Weight (unpacked)	63 gms	
Operating Temperature	-25° C to 60° C	
Storage Temperature	-25° C to 70° C	
Enclosure	Flame retardant UL 94-V0	
Degree of Protection	IP:20 for terminal, IP:30 for Housing, IP:40 for front plate	
Pollution Degree	II	
Enclosure Color	Light Gray	
Humidity	95% max without condensation	
Certification	CE RoHS Compliant	
Product Reference standard	IEC 60669	

EMI / EMC:

Harmonic Current Emissions	IEC 61000-3-2	Class A
ESD	IEC 61000-4-2	AD:8 kv, CD:4 kv
Radiated Susceptibility	IEC 61000-4-3	Level III
Electrical Fast Transient (Supply)	IEC 61000-4-4	Level IV
Electrical Fast Transient (Signal)	IEC 61000-4-4	Level III
Surge between supply terminals	IEC 61000-4-5	Level III
Conducted Susceptibility	IEC 61000-4-6	Level III
Voltage Dips & Interruptions (AC)	IEC 61000-4-11	
Conducted Emission	CISPR 15	Class B
Radiated Emission	CISPR 15	Class B

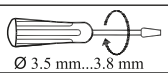
SAFETY:

Test Voltage between all terminals and enclosure	IEC 60947-5-1	Level 2.5 kv
Single Fault	IEC 61010-1	
Insulation Resistance	UL 508	> 50 M Ω
Leakage Current	UL 508	< 3 mA

ENVIRONMENTAL:

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6

TERMINAL TORQUE & CAPACITY

 Ø 3.5 mm...3.8 mm	0.4 N.m (3.6 Lb.in)
	1 x 2.5 mm^2 Solid/Stranded Wire
AWG	1x24 to 12

Delay On Break Timer

- Protects compressor in HVAC applications against premature cycling
- Prevents re-starting of compressor until anti-short cycle delay (lockout period) has completed
- Solid state control with 1.0A switching capacity
- Designed for 25VAC low voltage control
- Compact & easy to install
- Suitable for DIN Rail or Surface/Base mounting

Ordering Information

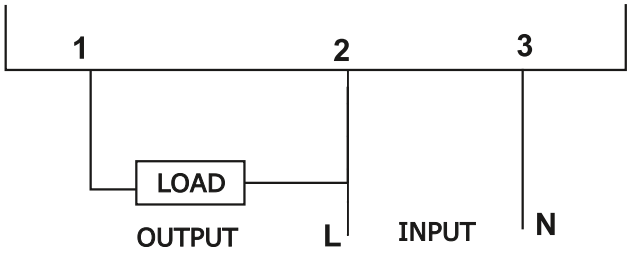
Cat. No.	Description
1G1DTT	Delay On Break Timer, 25VAC, 1A, Base/DIN Mount

Delay On Break Timer

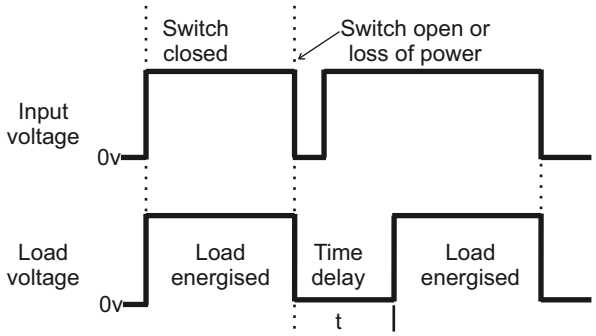
Cat. No.	1G1DTT
Parameter	
Input voltage	25VAC (± 25%) @ 50/60Hz
Output load current	40 mA - 1 A
Output type load	Inductive or Resistive
Humidity	95% Relative humidity, Non-condensing
Operating temp. range	-15˚ to 60˚C
Storage temp. range	-20˚ to 70˚C
Time delay	Fixed: 195 SEC (±10%)
	Repeat accuracy: ±5%
	Reset time: 60mSEC
Mechanical specifications	
Degree of protection	IP 20 for terminal; IP 40 for housing
Enclosure type	1M
Method of fixing	Din rail / Base
Color	Dark grey
Pollution degree	II
Terminal identification	Supply input: 2 & 3 , Output: 1 & 2
LED Indication	
RED LED	ON: Device power ON
	Blink: Supply is below threshold (@500mSec)
	OFF: Device power OFF
GREEN LED	ON: Output ON
	Blink: Delay in progress (@500mSec)
	OFF: Output OFF
Safety tests	
Test voltage between I/P & O/P	Not applicable
Impulse voltage between I/P & O/P	Not applicable
Test voltage between all terminals to enclosure	2kV
Insulation resistance	UL 508 > 50 K Ohm
Leakage current	< 3.5 mA
Environmental tests	
Cold heat	IEC 60068-2-1
Dry heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Certification	CE c UL us LISTED RoHS Compliant

Delay On Break Timer

WIRING DIAGRAM:



FUNCTION DIAGRAM:



TERMINAL TORQUE & CAPACITY

Ø 3.5...3.8 mm	0.4 N.m (3.6 Lb.in)
	1 x 2.5 mm^2 Solid / Stranded Wire
AWG	1 x 24 to 12

MODE OF OPERATIONS:

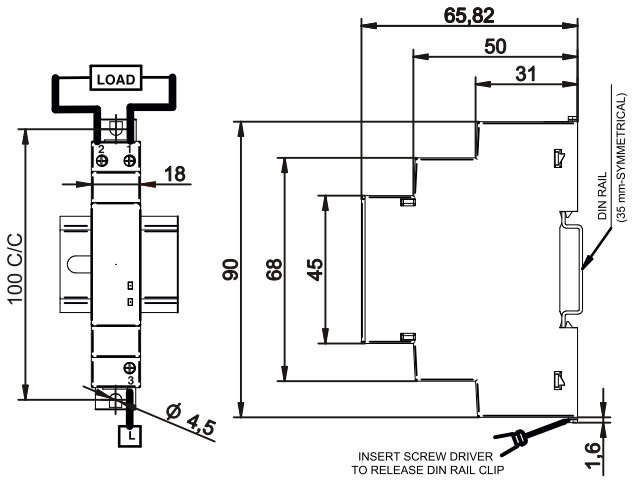
1. The control system is powered by 25VAC, 50/60 Hz which is applied to timer terminals 2 and 3. the control will energize the load (terminals 1 and 2) about 1 second after power is applied. If power is removed from the terminals 2 and 3. The control will de-energize the load. The control will go into 195 seconds (t) anti-short cycle time delay.

2. Regardless of the power condition at the terminals 2 and 3, the load stays off until the anti-short cycle time delay is completed and the power has been applied to the terminals 2 and 3 for 1 second.

3. Restoration and interruption of the power during the lockout will not affect the lockout timing.

4. The control system will also offer brownout detection if <19VAC is applied between terminals 2 and 3 and the output will de-energize. The operation will not continue until > 20VAC is measured between terminals 2 and 3 and a 195 sec (t) anti-short cycle delay is complete.

MOUNTING DIMENSIONS (mm)



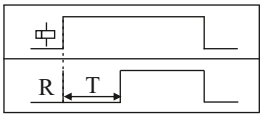
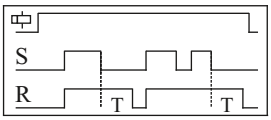
Electronic Timer - Series Micon® 175

- Compact 17.5mm Wide
- Integrated Dual Voltage
- Functions: ON Delay, Interval, Star Delta, One Shot, Signal Off Delay
- Wide Time Range: 0.1s - 100h
- LED Indications for Power and Relay status
- Low Power Consumption

Ordering Information

Cat. No.	Description
11ODT4	110 VAC / 24 VAC/DC, ON Delay Timer, 1 C/O
12ODT4	240 VAC / 24 VAC/DC, ON Delay Timer, 1 C/O
15ODT4	12 VDC, ON Delay Timer, 1 C/O
12RDT4	240 VAC / 24 VAC/DC, Signal OFF Delay Timer, 1 C/O
11RDT4	110 VAC / 24 VAC/DC, Signal OFF Delay Timer, 1 C/O
15DDT4	12 VDC, Signal OFF Delay Timer, 1 C/O
11BDT4	110 VAC / 24 VAC/DC, One Shot Timer, 1 C/O
12BDT4	240 VAC / 24 VAC/DC, One Shot Timer, 1 C/O
15BDT4	12 VDC, One Shot Timer, 1 C/O
12WDTC	240 VAC / 24 VAC/DC, ON Delay & Interval Timer, 1 C/O
11WDTC	110 VAC / 24 VAC/DC, ON Delay & Interval Timer, 1 C/O

Electronic Timer - Series Micon® 175

Cat. No.		12ODT4	12RDT4
Parameters			
Timer Description		**ON-Delay Timer**	**Signal OFF Delay Timer**
Mode		ON-Delay	Signal OFF Delay
Functional Diagram			
Supply Voltage (⏚)		240 VAC / 24 VAC/DC	240 VAC / 24 VAC/DC
Supply Variation		- 20% to +10% (of ⏚)	- 15% to +10% (of ⏚)
Frequency		50/60 Hz	50/60 Hz
Power Consumption (Max.)		8 VA	8 VA
Timing Ranges		0.3s to 30h	0.3s to 30h
Reset Time		100 ms (Max.)	150 ms (Max.)
Setting Accuracy Repeat Accuracy		± 5% of Full scale ± 1%	
Output	Relay Output	1 C/O	
	Contact Rating	5A @ 240 VAC / 28 VDC (Resistive)	5A @ 240 VAC / 3A @ 30 VDC (Resistive)
	Electrical Life	$1X10^5$	
	Mechanical Life	$5X10^6$	
Utilization Category	AC - 15	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A	
	DC - 13	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A	
Operating Temperature Storage Temperature		-10°C to +55°C -20°C to +70°C	
Humidity (Non Condensing)		95% (Rh)	
LED Indication		Green LED → Power ON, Red LED → Relay ON	
Enclosure		Flame Retardant UL94-V0	
Dimension (W x H x D) (in mm)		17.5 X 65 X 90	
Weight		75 g	
Mounting		Base / DIN Rail	
Certification		CE RoHS Compliant	
Degree of Protection		IP 20 for Terminals, IP 40 for Enclosure	

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

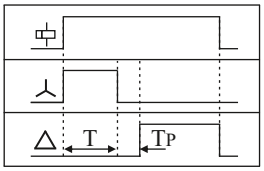
Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

Electronic Timer - Series Micon® 175

Ordering Information

Cat. No.	Description
11SDT0	110 VAC, Star Delta Timer, 1 NO (Star) + 1 NO (Delta)
12SDT0	240 VAC, Star Delta Timer, 1 NO (Star) + 1 NO (Delta)
14SDT1S	240-415V AC, Star Delta Timer, 1C/O (Star) + 1C/O (Delta), 3-30 Sec.

Electronic Timer - Series Micon® 175

Cat. No.		12SDT0
Parameters		
Timer Description		**Star Delta Timer**
Mode		Star Delta
Functional Diagram		
Supply Voltage (⏚)		240 VAC
Supply Variation		- 20% to +10% (of ⏚)
Frequency		50 Hz
Power Consumption (Max.)		10 VA
Timing Ranges		3s to 120s
Pause Time		60 ms
Reset Time		150 ms (Max.)
Setting Accuracy Repeat Accuracy		± 5% of Full scale ± 1%
Output	Relay Output	Star - 1 'NO', Delta - 1 'NO'
	Contact Rating	5A @ 240 VAC / 3A @ 30 VDC (Resistive)
	Electrical Life	$1X10^5$
	Mechanical Life	$5X10^6$
Utilization Category	AC - 15	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A
	DC - 13	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A
Operating Temperature Storage Temperature		-10°C to +55°C -20°C to +70°C
Humidity (Non Condensing)		95% (Rh)
LED Indication		Red LED 1 → '⅄' ON, Red LED 2 → '△' ON
Enclosure		Flame Retardant UL94-V0
Dimension (W x H x D) (in mm)		17.5 X 90 X 58.5
Weight (unpacked)		65 g
Mounting		Base / DIN Rail
Certification		CE RoHS Compliant
Degree of Protection		IP 20 for Terminals, IP 40 for Enclosure

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

Electronic Timer - Series Micon® 175

- Multi-Function: 10 Different (Non-Signal & Signal based) Modes
- Wide Voltage range for both AC & DC
- Wide Time range: 0.1s - 100h
- LED Indications for Power and Relay status
- Independent settings for both ON Time & OFF Time
- Low Power Consumption

Ordering Information

Cat. No.	Description
1CMDT0	12 - 240 VAC/DC, Multi Function Timer (10 Modes), 1 C/O
1CMDTF	12 - 240 VAC/DC, Multi Function Timer (10 Modes), 1 C/O
1CQDT9	12 - 240 VAC/DC, Multi Function Timer (10 Modes), 1 C/O - 16A
1CVDT9	12 - 240 VAC/DC, Multi Function Timer (10 Modes & 10 Ranges), 1 C/O - 16A
1CJDT0	12 - 240 VAC/DC, Asymmetric Timer, 1 C/O

Electronic Timer - Series Micon® 175

Cat. No.		1CMDT0	1CMDTF	1CQDT9	1CJDT0
Parameters					
Timer Description		**Multi Function Timer**			**Asymmetric Timer**
Modes		1) Signal ON Delay 2) Cyclic ON/OFF 3) Cyclic OFF/ON 4) Signal OFF Delay 5) Signal OFF/ON 6) Accumulative Delay on Signal 7) Impulse ON/OFF 8) Leading Edge Impulse 9) Trailing Edge Impulse 10) Leading Edge Bi-stable			1) Asymmetric ON-OFF, 2) Asymmetric OFF-ON
Derived Modes		ON Delay, Interval			N A
Supply Voltage (⏚)		12 - 240 VAC/DC			
Supply Variation		-15% to +10% (of ⏚)			
Frequency		50/60 Hz			
Power Consumption (Max.)		5 VA			
Timing Range		0.1s to 100h			
Reset Time		200 ms (Max)			
Setting Accuracy Repeat Accuracy		± 5% of Full scale ± 1%			
Output	Relay Output	1 C/O	2 C/O	1 C/O	1 C/O
	Contact Rating	8A @ 240 VAC / 5A @ 24 VDC (Resistive)		16A @ 240 VAC / 16A @ 24 VDC (Resistive)	8A @ 240 VAC / 5A @ 24 VDC (Resistive)
	Electrical Life	$5X10^5$			
	Mechanical Life	$1X10^6$			
Utilization Category	AC - 15	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A			
	DC - 13	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A			
Operating Temperature Storage Temperature		-10°C to +60°C -15°C to +70°C			
LED Indication		Green LED → Power ON Yellow LED → Relay ON			Green LED → Power ON Amber LED → Relay ON
Enclosure		Flame Retardant UL94-V0			
Dimension (W x H x D) (in mm)		18 X 60 X 85			
Weight (unpacked)		72 g			
Mounting		DIN Rail			
Certification		CE cULus LISTED RoHS Compliant			
Degree of Protection		IP 20 for Terminals, IP 30 for Enclosure, IP 40 for Front side			

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6

Electronic Timer - Series Micon® 175

- Forward-Reverse Timer with pause time.
- LED Indication for Forward and Reverse Operation.
- Low Power Consumption.
- Wide Voltage range for both AC & DC
- DIN RAIL Mounting.

Ordering Information

Cat. No.	Description
1CZDTF	12 - 240 VAC/DC, Forward-Reverse Timer , 2 C/O

Electronic Timer - Series Micon® 175

Cat. No.		1CZDTF
Parameters		
Timer Description		**Forward-Reverse Timer**
Supply Voltage (⏚)		12 - 240 VAC/DC
Supply Variation		-15% to +10% (of ⏚)
Frequency		50/60 Hz, (± 3Hz)
Power Consumption (Typical)		6 VA
Relay ON Time (T_{ON})		6 Sec to 1 hr
Pause Time (T_{PAUSE})		0.1 Sec to 200 sec
Reset Time		200 ms (Max)
Setting Accuracy Repeat Accuracy		± 5% of Full scale ± 1%
Output	Contact Arrangement	2 C/O Potential free contacts8A @ 240 VAC / 5A @ 24 VDC (Resistive)
	Contact Rating	8A @ 240 VAC / 5A @ 24 VDC (Resistive)
	Contact Material	AgNi
	Electrical Life	$5X10^5$
	Mechanical Life	$1X10^6$
Utilization Category	AC - 15	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A
	DC - 13	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A
Operating Temperature		-20°C to + 60°C
Storage Temperature		-25°C to + 70°C
LED Indication		RLY1 and RLY2 LED → Blink-Pause time in Process ON-Relay ON
Enclosure		Flame Retardant UL94-V0
Dimension (W x H x D) (in mm)		18 X 90 X 66
Weight (unpacked)		72 g
Mounting		DIN Rail
Certification		CE, cULus LISTED, RoHS Compliant
Degree of Protection		IP 20 for Terminals, IP 40 for Housing.

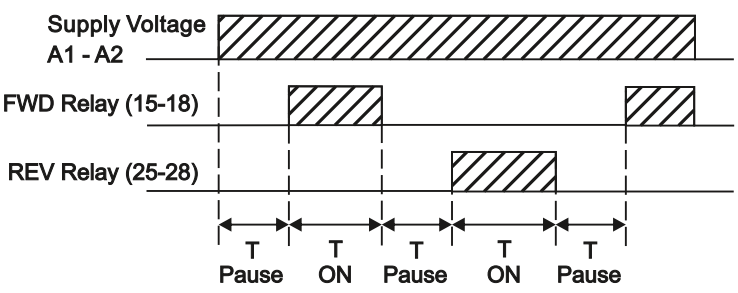
EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2

FUNCTIONAL DIAGRAM FOR 1CZDTF



T Pause :- T2 x t2
T ON :- T1 x t1

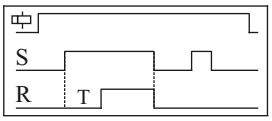
Electronic Timer - Series Micon® 175

FUNCTIONAL DIAGRAMS FOR 1CMDT0

⏚: Supply Voltage, S: Input Signal, R: Relay Output
T: Preset Time, TON: Preset ON Time, TOFF: Preset OFF Time

SIGNAL ON DELAY [stn]

On application of input signal, the preset delay time period starts. On completion of the preset time, the output is switched ON and remains ON till the input signal is present.



CYCLIC ON/OFF [cnf]

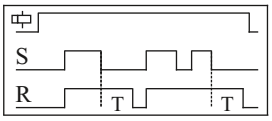
On application of supply voltage, the output is initially switched ON for the preset time duration (T) after which it is switched OFF for the same time duration (T). This cycle continues till the power supply is present.

CYCLIC OFF/ON [cfn]

On application of supply voltage, the output is initially switched OFF for the preset time duration (T) after which it is switched ON for the same time duration (T). This cycle continues till the power supply is present.

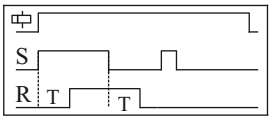
SIGNAL OFF DELAY [sf]

On application of input signal to the timer, the output is immediately switched ON. When the input signal is switched OFF, the preset time delay period starts. On completion of the time period the output is switched OFF.



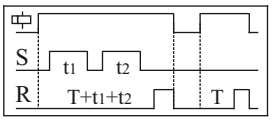
SIGNAL OFF/ON [sfn]

On application of input signal to the timer, the preset delay time period (T) starts. On completion of the time preset time, the output is switched ON When the input signal is switched OFF, again the preset time delay period (T) starts. On completion of the time period the output is switched OFF.



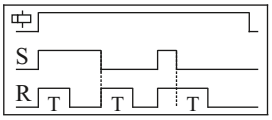
ACCUMULATIVE DELAY On SIGNAL [san]

On application of supply voltage, the preset delay time period starts. If input signal is applied during this period, the preset time stops and resumes only when the input signal is removed. On completion of the preset time, the output is switched ON.



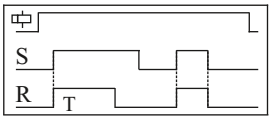
IMPULSE ON/OFF [inf]

On application or removal of input signal to the timer, the output is immediately switched ON for the preset time duration (T). If the state of the input signal is changed during the preset time, the output does not change state only the time is reset.



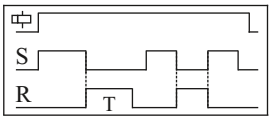
LEADING EDGE IMPULSE [iL]

When input signal is applied to the timer the output is immediately switched ON. The output remains ON for the preset time duration (T) after which it is switched OFF. If the input signal is removed during the preset time, the output is immediately switched OFF.



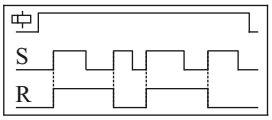
TRAILING EDGE IMPULSE [it]

When the input signal to the timer is removed, the output is immediately switched ON for the preset time duration (T) after which it is switched OFF. If the input signal is applied during the preset time, the output is immediately switched OFF.



LEADING EDGE BISTABLE [sbi]

On application of input signal to the timer, the output is switched ON and remains ON even after the input signal is removed. On subsequent application of input signal, the output keeps on changing its state.

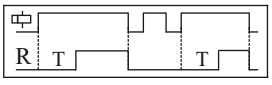


DERIVED MODES

Select 'Signal ON Delay' Mode and short the connection between A1-B1 before power ON OR Select ' Accumulative Delay ON Signal' Mode and keep the connection between A1- B1 open.

ON DELAY

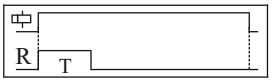
When supply power is applied to the timer, the preset delay time period starts. On completion of the preset time, the output is switched ON and remains ON till the input supply is present.



Select mode, "Leading Edge Impulse" and short the connection between A1 & B1.

INTERVAL

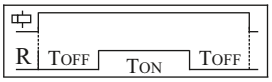
When supply power is applied to the timer, the output is instantly switched ON. On completion of the preset time, the output is switched OFF.



FUNCTIONAL DIAGRAMS FOR 1CJDT0

MODE A
ASYMMETRIC OFF-ON

On application of supply voltage, the output is initially switched OFF for the preset 'OFF' time duration (T) after which it is switched ON for the preset 'ON' time duration (T). This cycle repeats and continues till the supply is present. The ON time & OFF time are set independently.



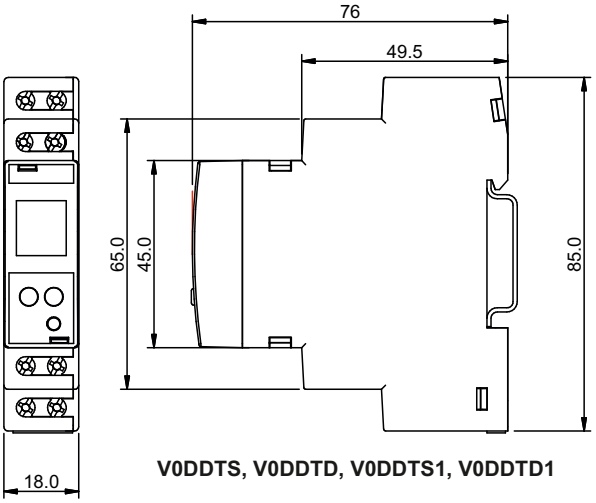
MODE B
ASYMMETRIC ON-OFF

On application of supply voltage, the output is initially switched ON for the preset 'ON' time duration (T) after which it is switched OFF for the preset 'OFF' time duration (T). This cycle repeats and continues till the supply is present. The ON time & OFF time are set independently.

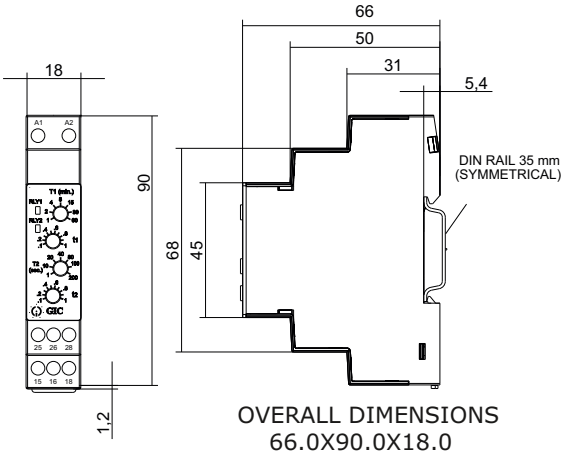
Note: Refer page number 28 for Connection Diagram

Electronic Timer - Series Micon® 175

MOUNTING DIMENSIONS (mm)



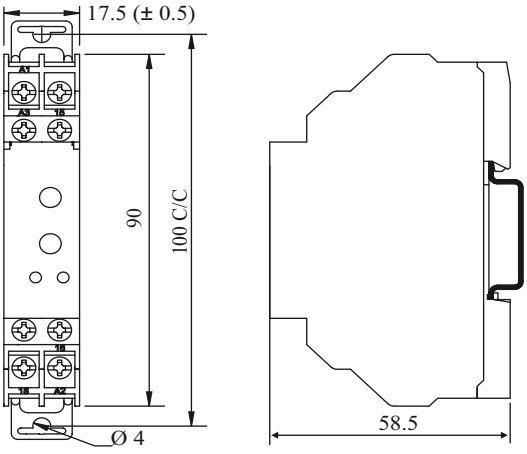
V0DDTS, V0DDTD, V0DDTS1, V0DDTD1



OVERALL DIMENSIONS
66.0X90.0X18.0

All Dimensions are in mm

1CMDT0, 1CQDT9, 1CJDT0, 1CMDTF, 1CZDTF STAIRCASE TIMER
11WDTC, 12WDTC



110DT4, 120DT4, 150DT4, 11SDT0, 12SDT0
11ODT8, 12ODT8, 11BDT4, 12BDT4, 15BDT4

TERMINAL TORQUE & CAPACITY

Ø 3.5 mm	0.54 N.m (6 Lb.in)
	1 x 2.5 mm² Solid/Stranded Wire
AWG	1 x 24 to 12

V0DDTS, V0DDTD, V0DDTS1, V0DDTD1, STAIRCASE TIMER

Ø 3.5 mm....4.0mm	0.6 N.m (5.3 Lb.in)
	1 x 4.0 mm² Solid/Stranded Wire
AWG	1 x 20 to 10

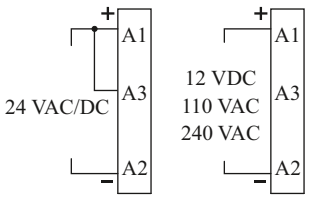
1CMDT0, 1CQ DT9, 1CJDT0

Ø 4 mm....5.0mm Combi Head Bit./Flat	0.5 N.m (4.4 Lb.in) to 0.7 N.m (6.2 Lb.in)
	2 x 2.5 mm² Solid/Stranded Wire
AWG	20 to 12

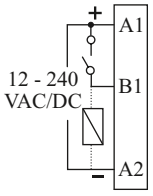
110DT4, 120DT4, 150DT4, 11SDT0, 12SDT0
11ODT8, 12ODT8, 11BDT4, 12BDT4, 15BDT4

Electronic Timer - Series Micon® 175

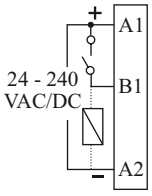
CONNECTION DIAGRAM



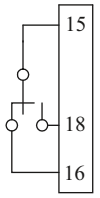
110DT4, 120DT4, 150DT4, 11SDT0, 12SDT0, 11ODT8, 12ODT8, 11BDT4, 12BDT4, 15BDT4



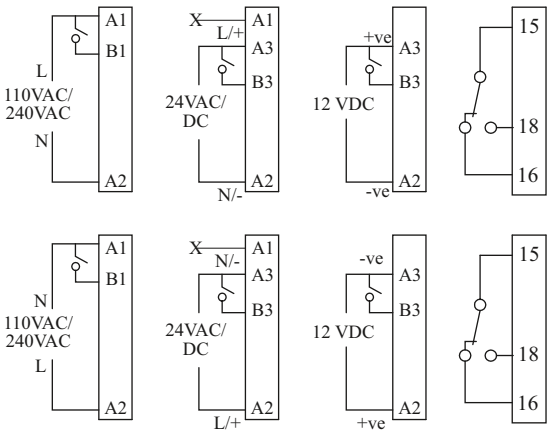
1CMDT0, 1CQDT9, 1CJDT0

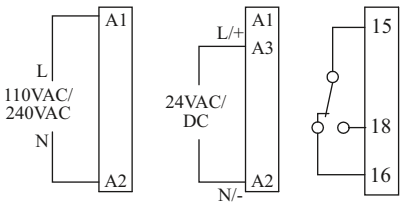


V0DDTS, V0DDTD, V0DDTS1, V0DDTD1



110DT4, 120DT4, 150DT4, 11SDT0, 12SDT0, 11ODT8, 12ODT8, 11BDT4, 12BDT4, 15BDT4,1CMDT0. 1CJDT0, 1CQDT9, V0DDTS, V0DDTS1

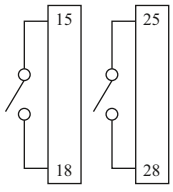




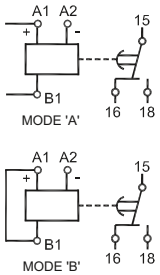
11WDTC, 12WDTC

⚠ **Do not apply more than 27VAC/DC to A3 terminal of 11WDTC & 12WDTC.**

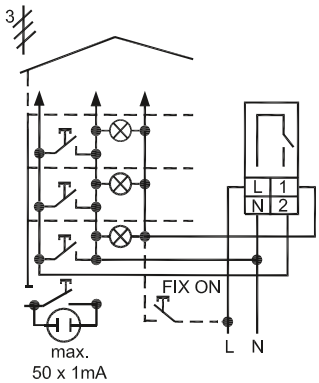
11RDT4, 12RDT4, 15DDT4



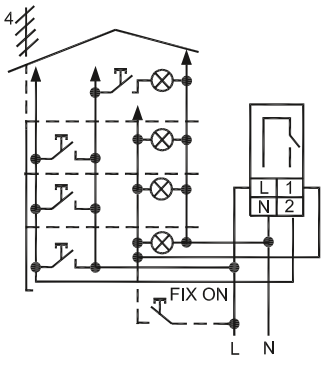
V0DDTD, V0DDTD1, STAIRCASE TIMER



1CJDT0



3 Wire rising main without Loft illumination



4 Wire rising main without connection for Loft illumination

STAIRCASE TIMER

Electronic Timer - Series Micon® 225
Signal Based Multi - Function

- Multi-function with Signal Start and Supply Start.
- 16 Timing Functions selected by DIP switch.
- Two independent relay outputs with either both relays timed or one timed and one instantaneous.
- Wide Input Signal & Supply range - 24-240V AC/DC.
- Wide Timing Range - 0.1 s to 120 days.
- High timing Accuracy.
- LED indicators for Power Supply & Relay Status.
- 22.5mm DIN Mount Housing.

Ordering Information

Cat. No.	Description
2A8DT6	24-240 VAC / DC, Signal Based Multi - Function, 1 C/O (Delayed) & 1 C/O (Configurable as either Delayed or Instant)

Electronic Timer - Series Micon® 225
Signal Based Multi - Function

Cat. No.	2A8DT6
Parameters	
Timer Description	**Multi-function with Signal Start and Supply Start**
Supply Voltage (⏚)	24-240 VAC / DC
Supply Variation	- 20% to +10% (of ⏚)
Frequency	50/60 Hz
Power Consumption (Max.)	< 2 VA @ 24 VAC / DC, < 4 VA @ 230 VAC / DC
Initiate Time	100 ms (Max.)
Reset Time	200 ms (Max.)
Signal Voltage — Low Range (B1L-A2)	24-60V AC/DC
Signal Voltage — High Range (B1H-A2)	85-265V AC, 100-265V DC
Signal Sensing Time	For AC Signals: 50 ms Max. For DC Signals: 20 ms Max.
Signal stabilization Delay	100 ms (Applicable at Power ON Only)
Setting Accuracy	± 5% of Full scale
Repeat Accuracy	± 1%
Output — Relay Output	1 C/O (Delayed) & 1 C/O (Configurable as either Delayed or Instant)
Output — Contact Rating	5A @ 250 VAC / 28 VDC (Resistive)
Output — Contact Material	AgNi
Output — Electrical Life	$1x10^5$
Output — Mechanical Life	$1x10^7$
Set Time (Ts)	0.1 seconds to 120 Days
Functions	Refer page no. 31 & 32
LED Indication on front panel	Green LED ON: Power ON, Amber LED ON :Relay ON for Delayed contact
Mounting	Base / DIN Rail
Max. Operating Altitude	2000 m
Housing	Flame retardant (UL 94-V0)
Operating Temperature	-10°C to +60°C
Storage Temperature	-20°C to +70°C
Humidity (Non Condensing)	95% (Rh)
LED Indication	Green LED → Power ON, Red LED → Relay ON
Enclosure	Flame Retardant UL94-V0
Dimension (W x H x D) (in mm)	22.5 X 75 X 100.5
Weight (unpacked)	153 g
Pollution Degree	II
Certification	CE, cULus LISTED, RoHS Compliant
Degree of Protection	IP 20 for Terminals, IP 40 for Enclosure

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Safety:

Test Voltage between I/P and O/P	IEC 60947-5-1
Test Voltage between all terminals & enclosure	IEC 60947-5-1
Impulse Voltage between I/P and O/P	IEC 60947-5-1
Single Fault	IEC 61010-1
Insulation Resistance	UL 508
Leakage Current	UL 508
Product Reference Standard	IEC 61812-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

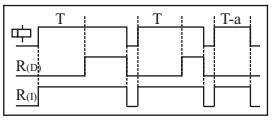
Electronic Timer - Series Micon® 225
Signal Based Multi - Function

FUNCTIONAL DIAGRAMS

: Supply Voltage, S: Input Signal, R: Relay Output, R(I): Instant Relay, R(D): Delayed Relay
T: Preset Time, TON: Preset ON Time, TOFF: Preset OFF Time, T-a: Timing Break Before completion

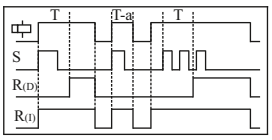
ON DELAY (Non Signal Based)

When supply is applied, timing starts and after the preset time duration 'T', output switches ON and remains ON till the supply is present.



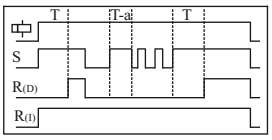
SIGNAL ON DELAY TYPE 1

When the input supply & signal are applied, timing starts and after preset time duration 'T' output switches ON & remains ON till the supply is present. Changing the state of signal during 'T' does not affect the output.



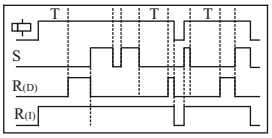
SIGNAL ON DELAY

Time commences as supply and signal is present. When input signal is opened, the timing resets. The output is switched ON at the end of the preset time duration 'T'. When output is ON if signal is opened then the output switches OFF.



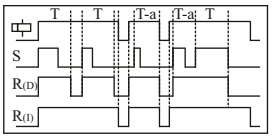
INVERTED SIGNAL ON DELAY

When supply is applied and signal is opened, preset time duration 'T' starts. On completion of the 'T', output switches ON. If the signal is closed during timing 'T', timing resets.



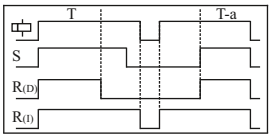
INTERVAL

When supply voltage is applied & signal is closed, output switches ON & timing function starts. If signal is opened and closed during the preset time, the timing restarts. After preset time 'T' has elapsed, the output switches OFF.



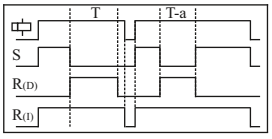
LEADING EDGE IMPULSE

When the supply applied and signal is closed, the output switches ON for preset time 'T'. After the completion of preset time 'T', the output switches OFF. If signal closed or opened during preset time duration 'T', the output remains unaffected.



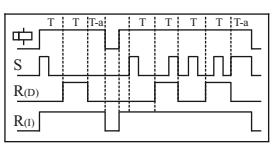
TRAILING EDGE IMPULSE

When supply voltage is applied and signal is opened, output switches ON for the preset time duration 'T'. After completion of preset time 'T', output switches OFF. If the signal is closed during preset timing 'T', output switches OFF & timing stops.



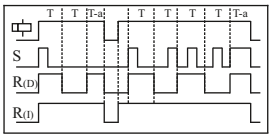
CYCLIC OFF/ON

When the supply applied and signal is closed, output switches OFF for the preset time duration 'T' and then switches ON for preset time duration 'T'. This cycle repeats while the supply is present. Changing the state of signal during 'T' does not affect the output.



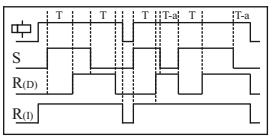
CYCLIC ON/OFF

When the supply applied and signal is closed, output switches ON for the preset time duration 'T' and then switches OFF for preset time duration 'T'. This cycle repeats while the supply is present. Changing the state of signal during 'T' does not affect the output.



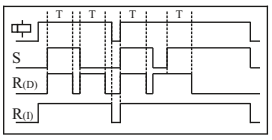
SIGNAL ON/ OFF Delay

Signal ON/OFF Delay: When the supply is applied and signal is closed, outputs switches ON after preset time 'T'. During the timing 'T' if signal is opened, the output switches ON immediately and OFF delay starts. Once this time period has elapsed the output switches OFF. During this OFF delay if signal is closed, the output switches OFF immediately and ON Delay restarts.



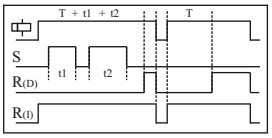
IMPULSE ON/OFF

When supply is applied and if signal closed or opened, output switches ON for Preset time duration 'T'. During time period 'T',changing state of input signal does not affect the output but resets the timing.



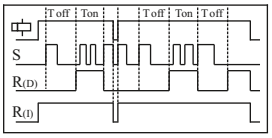
ACCUMULATIVE DELAY ON SIGNAL

Accumulative Delay ON Signal: On application of the supply voltage, the preset timing commences. Whenever signal is closed, timing pauses & resumes back only when the input signal is opened. The output switches ON at the end of the preset time duration 'T'.



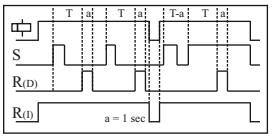
DELAYED IMPULSE

Delayed Impulse: When supply voltage is applied and signal is closed, output switches ON at the end of the preset time 'TOFF'. Then the preset ON time 'TON' starts irrespective of the signal state and remains ON till the completion of preset time duration 'TON'. If signal closed during the timing 'TOFF', the timing restarts but the output state remains unaffected. The signal change does not have any effect during the timing period 'TON'.



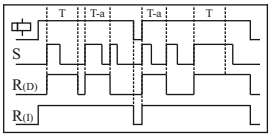
ONE SHOT

One Shot: When the supply voltage is applied and signal is closed,timing starts and after the preset time duration'T', output switches ON for One sec. only.



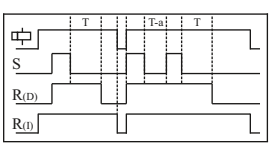
STEP MODE

Step Mode: When the supply voltage is applied and signal closed, output switches ON for preset time duration 'T', removal of the input signal during this time duration 'T' does not affect the output state. But if the signal is closed during time duration 'T', output switches OFF.



SIGNAL OFF DELAY

Signal OFF Delay: When the supply is applied and signal is closed, output is switches ON. When signal is opened, the preset timing commences and output is switches OFF at the end of time duration 'T'. If signal is closed during timing period, then timing stops and restarts when signal.

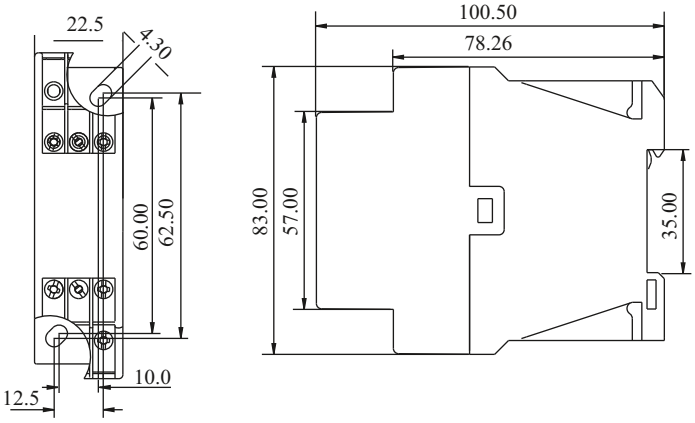


Electronic Timer - Series Micon® 225
Signal Based Multi - Function

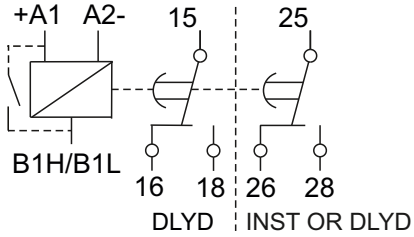
Selection of Function: Operating Mode & timing can be selected by using DIP switches

Function		Function	
1 2 3 4		1 2 3 4	
■■■■	On Delay (Non Signal)	■■■■	Signal OFF Delay
■■■□	Signal On Delay Type 1	■■□■	Step Mode
■■□■	Signal On Delay	■■□□	One Shot
■■□□	Inverted Signal On Delay	■□■■	Delayed Impulse
■□■■	Interval	■□■□	Accumulative Delay On Signal
■□■□	Leading Edge Impulse	■□□■	Impulse ON / OFF
■□□■	Trailing Edge Impulse	■□□□	Signal ON / OFF Delay
■□□□	Cyclic OFF / ON	□■■■	Cyclic ON / OFF
1I + 1D or 2D Selection		Timing Multiplier Selection	
5		6	
■	1I + 1D Operation	■	Timing = 'T' X 't' X 1
□	2 Delayed Operation	□	Timing = 'T' X 't' X 12

MOUNTING DIMENSION (mm)



CONNECTION DIAGRAM



TERMINAL TORQUE & TERMINAL CAPACITY

Ø 3.5 mm....4.0mm	0.6 N.m (5.3 Lb.in)
	1 x 4.0 mm^2 Solid/Stranded Wire
AWG	1 x 20 to 10

Electronic Timer - Series Micon® 225

- Compact 22.5mm Wide
- Wide Time Range: 0.1s to 10h
- Wide Voltage range for both AC & DC

Multi Function Timer

- With 5 different Functions
- 2 C/O Configuration
- Flush knobs for better security
- LED Indications for Power and Relay status
- Excellent Noise Immunity to the latest IEC standards

Multi Function Timer with 1 Instant & 1 Delayed C/O

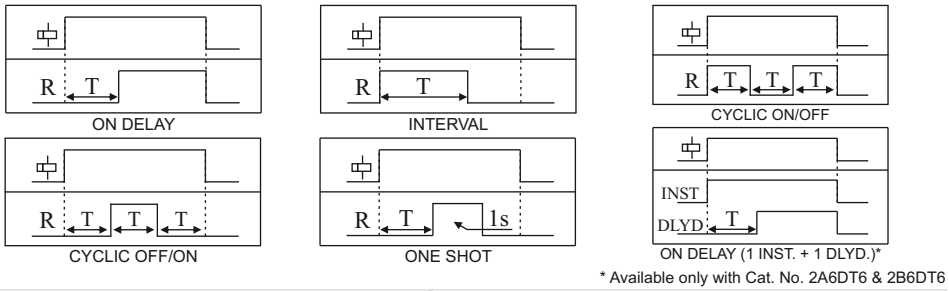
- With 6 different Functions
- Instant + Delayed output Configuration

Ordering Information

Cat. No.	Description
2A5DT5	24 - 240 VAC/DC, Multi-Function Timer (5 Modes), 2 C/O
2B5DT5	240 - 415 VAC, Multi-Function Timer (5 Modes), 2 C/O
2A6DT6	24 - 240 VAC/DC, Multi-Function Timer (6 Modes), 2 C/O (1 Instant + 1 Delayed for 6th Mode)
2B6DT6	240 - 415 VAC, Multi-Function Timer (6 Modes), 2 C/O (1 Instant + 1 Delayed for 6th Mode)
2AODT5	24 - 240 VAC/DC, ON Delay, 2 C/O

UL Approval not applicable for Cat No. 2A6DT6 & 2B6DT6

Electronic Timer - Series Micon® 225

Cat. No.	2A5DT5	2B6DT6
Parameters		
Timer Description	**Multi-Function Timer**	**Multi-Function Timer**
Modes	ON Delay, Interval, Cyclic ON-OFF, Cyclic OFF-ON, One Shot	ON Delay, Interval, Cyclic ON-OFF, Cyclic OFF-ON, One Shot, ON Delay with 1 Instant & 1 Delayed
Functional Diagram	 * Available only with Cat. No. 2A6DT6 & 2B6DT6	
Supply Voltage (⏚)	24 - 240 VAC/DC	240 - 415 VAC
Supply Variation	- 20% to +10% (of ⏚)	
Frequency	50/60 Hz	
Power Consumption (Max.)	4 VA	7 VA
Timing Range	0.1s to 10h	
Reset Time	200 ms (Max.)	
Setting Accuracy Repeat Accuracy	± 5% of Full scale ± 1%	
Output – Relay Output	2 C/O	2 C/O, 1 Instant + 1 Delayed (for 6th mode)
Output – Contact Rating	5A @ 240 VAC / 28 VDC (Resistive)	
Output – Electrical Life	$1x10^5$	
Output – Mechanical Life	$1x10^7$	
Utilization Category – AC - 15	Rated Voltage (Ue): 230/125 V, Rated Current (Ie): 1.3/2.5 A	
Utilization Category – DC - 13	Rated Voltage (Ue): 250/120/24 V, Rated Current (Ie): 0.1/0.22/2 A	
Operating Temperature Storage Temperature	-15°C to +60°C -20°C to +80°C	
Humidity (Non Condensing)	95% (Rh)	
LED Indication	Green LED → Power ON, Red LED → Relay ON	
Enclosure	Flame Retardant UL94V0	
Dimension (W x H x D) (in mm)	22.5 X 75 X 100.5	
Weight (unpacked)	130 g	
Mounting	Base / DIN Rail	
Certification	CE, cULus LISTED, RoHS Compliant	
Degree of Protection	IP 20 for Terminals, IP 40 for Enclosure	

EMI / EMC

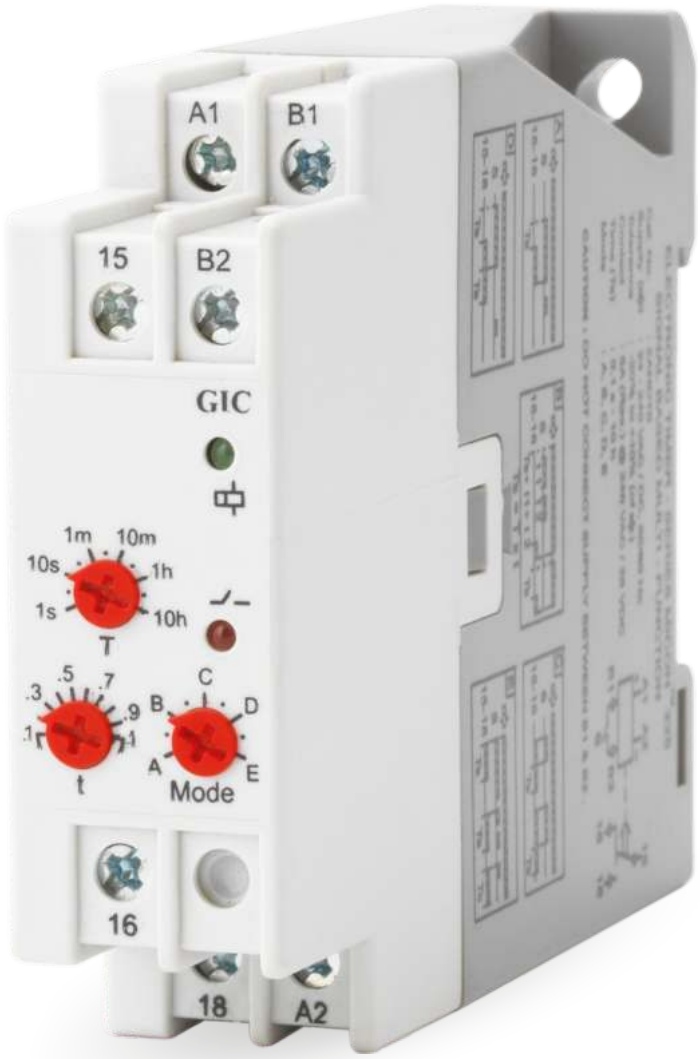
Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

Electronic Timer - Series Micon® 225

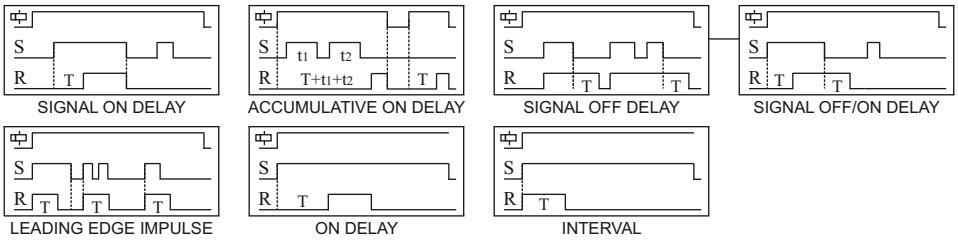
- Signal based Multi-function with Relay / Solid State Output
- Potential Free Signal Input
- Asymmetric Timer with Solid State Output



Ordering Information

Cat. No.	Description
2ANDT0	24 - 240 VAC/DC, Signal Based Multi Function Timer, 1 C/O
20NDTT	110 - 240 VAC, Signal Based Multi Function Timer with Solid State Output
20JDTT	110 - 240 VAC, Asymmetric Timer with Solid State Output

Electronic Timer - Series Micon® 225

Cat. No.		2ANDT0	20NDTT
Parameters			
Description		**Signal Based Multi Function**	
Modes		Signal ON Delay, Accumulative ON Delay, Signal OFF Delay, Signal OFF/ON Delay, Leading Edge Impulse	
Derived Modes		ON Delay, Interval	
Functional Diagram			
Supply Voltage (⏚)		24 - 240 VAC/DC	110 - 240 VAC
Supply Variation		- 20% to +10% (of ⏚)	
Frequency		50/60 Hz	
Power Consumption (Max.)		3 VA	
Timing Ranges		0.1s to 10h	
Reset Time		100 ms	
Setting Accuracy Repeat Accuracy		± 5% of Full scale ± 1%	
Output	Relay Output	1 C/O (SPDT)	N A
	Contact Rating	5A @ 240 VAC / 28 VDC (Resistive)	N A
	Electrical Life	$1x10^5$	N A
	Mechanical Life	$1x10^7$	N A
Solid State Output	Type & Form	N A	Optical Isolation, SPST
	Rated Current	N A	1A (AC)
	Max. Admissible Current	N A	20A (10 ms)
	Vol. Breaking Capacity	N A	110 to 240 VAC
	Max. Drop @ Terminals	N A	<= 8V
	Minimum Load Current	N A	20 mA
	Electrical Life	N A	$1x10^6$
Utilization Category	AC - 15	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A	
	DC - 13	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A	
Operating Temperature Storage Temperature		-15° C to +60° C -20° C to +80° C	
Humidity (Non Condensing)		95% (Rh)	
LED Indication		Green LED → Power ON Red LED → Relay ON	
Enclosure		Flame Retardant UL94-V0	
Dimension (W x H x D) (in mm)		22.5 X 75 X 100.5	
Weight (unpacked)		130 g	
Mounting		Base / DIN Rail	
Certification		CE cULus LISTED RoHS Compliant	
Degree of Protection		IP 20 for Terminals, IP 40 for Enclosure	

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

Electronic Timer - Series Micon® 225

Asymmetric ON-OFF Timer

- Compact 22.5mm Wide
- Independent settings for ON & OFF time
- Wide Time Range
- LED Indications for Power and Relay status

Star Delta Timer

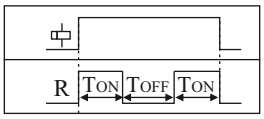
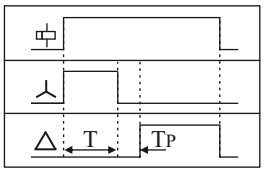
- Settable Start Time
- Settable Pause Time
- Indications for Star & Delta
- Excellent Noise Immunity to the latest IEC standards

Ordering Information

Cat. No.	Description
2AADT5	24 - 240 VAC/DC, Asymmetric ON/OFF Timer, 2 C/O
2ASDT0*	24 - 240 VAC/DC, Star Delta Timer, 1 NO (Star) + 1 NO (Delta)
2ASDT1	24 - 240 VAC/DC, Star Delta Timer, 1 NO (Star) + 1 NO (Delta)
2BSDT0*	240 - 415 VAC, Star Delta Timer, 1 NO (Star) + 1 NO (Delta)
2BSDT1	240 - 415 VAC, Star Delta Timer, 1 NO (Star) + 1 NO (Delta)

*Note: Product with test voltage between input and output at 1.5 kV

Electronic Timer - Series Micon® 225

Cat. No.			2AADT5	2ASDT0
Parameters				
Timer Description			**Asymmetric Timer**	**Star Delta Timer**
Mode			Asymmetric ON-OFF (A)	Star Delta
Functional Diagram				
Supply Voltage (⏚)			24 - 240 VAC/DC	
Supply Variation			- 20% to +10% (of ⏚)	
Frequency			50/60 Hz	
Power Consumption (Max.)			4 VA	
Timing Ranges			0.1s to 10h	3s to 120s
Pause Time (P)			N A	60ms, 90ms, 120ms, 150ms
Reset Time			200 ms (Max.)	
Setting Accuracy Repeat Accuracy			± 5% of Full scale ± 1%	
Output	Relay Output		2 C/O	Star - 1 'NO', Delta - 1 'NO'
	Contact Rating		5A @ 240 VAC / 28 VDC (Resistive)	
	Electrical Life		$1x10^5$	
	Mechanical Life		$1x10^7$	
Utilization Category		AC - 15	Rated Voltage (Ue): 230/125 V, Rated Current (Ie): 1.3/2.5 A	
		DC - 13	Rated Voltage (Ue): 250/120/24 V, Rated Current (Ie): 0.1/0.22/2 A	
Operating Temperature Storage Temperature			-15°C to +60°C -20°C to +80°C	
Humidity (Non Condensing)			95% (Rh)	
LED Indication			Green LED → Power ON, Red LED → Relay ON	Red LED 1 → '⅄' ON, Red LED 2 → 'Δ' ON
Enclosure			Flame Retardant UL94-V0	
Dimension (W x H x D) (in mm)			22.5 X 75 X 100.5	
Weight (unpacked)			130 g	
Mounting			Base / DIN Rail	
Certification			CE cULus LISTED RoHS Compliant	
Degree of Protection			IP 20 for Terminals, IP 40 for Enclosure	

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

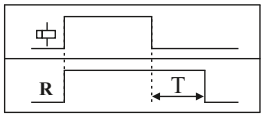
Electronic Timer - Series Micon® 225

- True OFF Delay (Power OFF Delay) up to 600 seconds with 2 C/O.

Ordering Information

Cat. No.	Description
23GDT0	24-240 VAC/DC, True OFF Delay (Power OFF Delay) Timer, 2 C/O

Electronic Timer - Series Micon® 225

Cat. No.		23GDT0
Parameters		
Timer Description		**True OFF Delay (Power OFF Delay) Timer**
Mode		True OFF Delay (Power OFF Delay)
Functional Diagram		
Supply Voltage (⏚)		24 - 240 VAC/DC
Supply Variation		-10 to +20% (of ⏚)
Frequency		50/60 Hz
Power Consumption (Max.)		2.5 VA
Energizing Time		1s (Minimum)
Timing Range		0.6s to 600s
Setting Accuracy Repeat Accuracy		10% of Full scale ± 1%
Output	Relay Output	2 C/O
	Contact Rating	5A @ 240 VAC / 28 VDC (Resistive)
	Electrical Life	$1x10^5$
	Mechanical Life	$1x10^7$
Utilization Category	AC - 15	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A
	DC - 13	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A
Operating Temperature Storage Temperature		-15°C to +60°C -20°C to +70°C
Humidity (Non Condensing)		95% (Rh)
LED Indication		Green LED → Power ON, Red LED → Relay ON
Enclosure		Flame Retardant UL94-V0
Dimension (W x H x D) (in mm)		22.5 X 75 X 100.5
Weight (unpacked)		130 g
Mounting		Base / DIN Rail
Certification		CE RoHS Compliant
Degree of Protection		IP 20 for Terminals, IP 40 for Enclosure

EMI / EMC

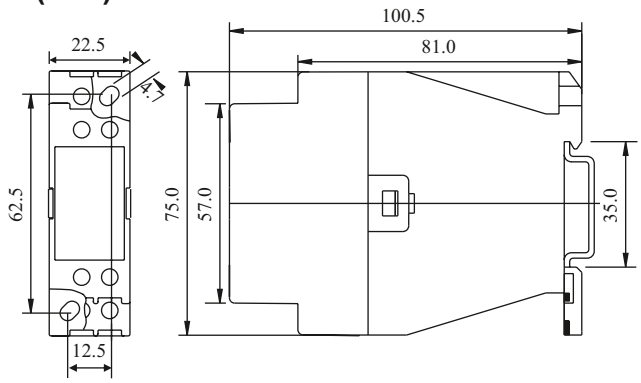
Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

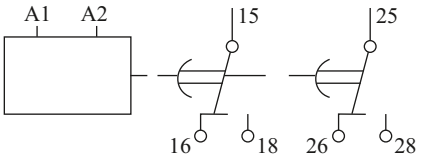
Electronic Timer - Series Micon® 225

MOUNTING DIMENSION (mm)

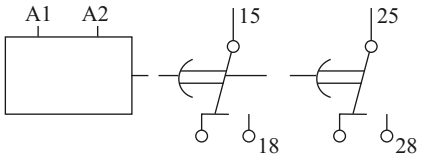


2A5DT5, 2B5DT5, 2AODT5, 2ASDT0, 2ASDT1,
2BSDT0, 2BSDT1, 2AADT5,
20JDTT, 20NDTT, 2ANDT0, 23GDT0, 2A6DT6, 2B6DT6

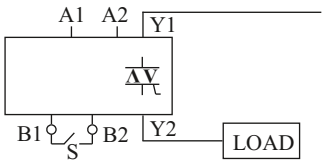
CONNECTION DIAGRAM



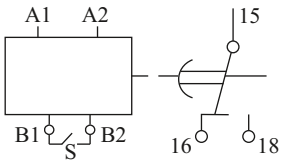
2A5DT5, 2B5DT5, 2AADT5, 23GDT0, 2AODT5



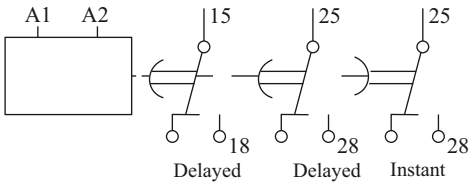
2ASDT0, 2BSDT0, 2ASDT1, 2BSDT1



20JDTT, 20NDTT



2ANDT0



2A6DT6, 2B6DT6

TERMINAL TORQUE & TERMINAL CAPACITY

Ø 3.5 mm....4.0mm	0.6 N.m (5.3 Lb.in)
	1 x 4.0 mm^2 Solid/Stranded Wire
AWG	1 x 20 to 10

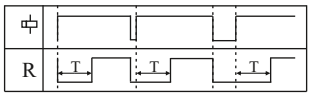
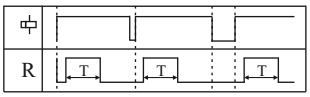
Motor Control Timers

- Compact 17.5mm wide
- Brown Out Timer with many functional options
- Detects Voltage Dips and Momentary Loss of Supply & Resets the control panel
- Low Power Consumption
- Fast Response Time
- Excellent Noise Immunity to the latest IEC standards

Ordering Information

Cat. No.	Description
17UDT0	230 VAC, Brown Out Timer (ON Delay), 1 C/O
17UDT1	230 VAC, Brown Out Timer (Interval), 1 C/O
13UDT0	110 VAC, Brown Out Timer (ON Delay), 1 C/O
13UDT1	110 VAC, Brown Out Timer (Interval), 1 C/O
1FUDT0F	110 VAC, Brown Out Timer (Normally Energized / ON Delay Mode),Fast Response (5 msec max), 1C/O
1FUDT1F	110 VAC, Brown Out Timer (Momentary / Pulse Mode), Fast Response (5 msec max), 1C/O
1FUDT2F	110 VAC, Brown Out Timer (Normally De-energized / Pulse Mode), Fast Response (5 msec max), 1C/O

Motor Control Timers

Cat. No.		17UDT0	13UDT1
Parameters			
Timer Description		**Brown Out Timer**	
Modes		ON Delay	Interval
Functional Diagram			
Supply Voltage (⏚)		160-250 VAC	75-125 VAC
Supply Variation		-30% to +10%	
Frequency		50 Hz	60 Hz
Power Consumption (Max.)		10 VA	4 VA
Timing Range		0.3s to 30s	
Initiate Time		Max. 100 ms	
Trip Voltage		170 V (± 5 V)	88 V (± 5 V)
Recovery Voltage		Trip Voltage + 14 V (± 5 V)	Trip Voltage + 94 V (± 5 V)
Response Time		20 ms (max)	
Setting Accuracy Repeat Accuracy		± 10% @ 30s & ± 20% @ 0.3s ± 1%	
Output	Relay Output	1 C/O	
	Contact Rating	5A @ 240 VAC / 28 VDC (Resistive)	
	Electrical Life	$1x10^5$	
	Mechanical Life	$1x10^7$	
Utilization Category	AC - 15	Rated Voltage (Ue): 240/125 VAC, Rated Current (Ie): 1.3/2.5 A	
	DC - 13	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A	
Operating Temperature Storage Temperature		-10°C to +55°C -15°C to +60°C	
Humidity (Non Condensing)		80% (Rh)	
LED Indication	Green	Healthy	
	Red	Relay ON	
Enclosure		Flame Retardant UL94-V0	
Dimension (W x H x D) (in mm)		17.5 X 58.5 X 90	
Weight (unpacked)		75 gm	
Mounting		Base / DIN rail	
Certification		CE RoHS Compliant	
Degree of Protection		IP 20 for Terminals, IP 40 for Enclosure	

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

BROWN OUT

A dip in voltage causes electro-mechanical devices such as relays and contactors to drop out and electronic devices such as Timers, Programmable Relays, PLC's remain energized. As a result of this the switch sequence of the panel is lost. This can lock out all or a part of the control system causing the entire system to malfunction.

BROWN OUT TIMER

The 'Brown-Out' Timer also known as 'Mains restoration auto restart timer' is used for detection of voltage dips or momentary loss of supply known as 'Brown out' and initiation of a control panel reset following the Brown out.

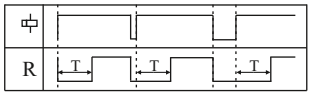
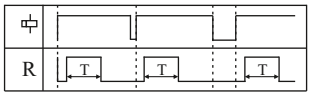
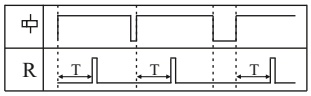
Motor Control Timers

- Brown Out Timer with 3 Functions: ON Delay, Interval, Pulse
- Detects Voltage Dips and Momentary Loss of Supply & Resets the control panel
- Low Power Consumption
- Fast Response Time
- LED indications for Healthy & Unhealthy conditions
- Excellent Noise Immunity to the latest IEC standards

Ordering Information

Cat. No.	Description
23UDT0	110 VAC, Brown Out Timer with 3 Functions, 1 C/O
27UDT0	240 VAC, Brown Out Timer with 3 Functions, 1 C/O

Motor Control Timers

Cat. No.			23UDT0	27UDT0
Parameters				
Timer Description			**Brown Out Timer**	
Modes			ON Delay, Interval, Pulse	
Functional Diagram			 ON DELAY  INTERVAL  PULSE	
Supply Voltage (⏚)			110 VAC	240 VAC
Supply Variation			- 40% to +10% (of ⏚)	
Frequency			50/60 Hz	50 Hz
Power Consumption (Max.)			2 VA	4 VA
Timing Range			0.3s to 30s	
Initiate Time			Max. 200 ms	
Trip Voltage			81 V (± 6 V)	168 V (± 6 V)
Recovery Voltage			96 V (± 4 V)	184 V (± 4 V)
Response Time	Voltage Interruptions		15 ms (Max.)	
	Voltage Dips		30 ms (Max.)	
Setting Accuracy			± 5% of Full scale	
Repeat Accuracy			± 1%	
Output	Relay Output		1 C/O	
	Contact Rating		5A @ 240 VAC / 28 VDC (Resistive)	
	Electrical Life		$1x10^5$	
	Mechanical Life		$1x10^7$	
Utilization Category		AC - 15	Rated Voltage (Ue): 240/125 VAC, Rated Current (Ie): 1.3/2.5 A	
		DC - 13	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A	
Operating Temperature			-10°C to +55°C	
Storage Temperature			-10°C to +60°C	
Humidity (Non Condensing)			80%	
LED Indication			Healthy Condition: Green LED On, Unhealthy Condition: Green LED Flashing slow	
	Colour		Amber	Red
Enclosure			Flame Retardant UL94-V0	
Dimension (W x H x D) (in mm)			22.5 X 75 X 100.5	
Weight (unpacked)			130 g	
Mounting			Base / DIN rail	
Certification			CE RoHS Compliant	
Degree of Protection			IP 20 for Terminals, IP 40 for Enclosure	

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

Motor Control Timers

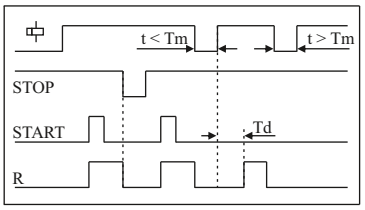
- Single phase Motor Restart Control Timer with Memory Time
- Under Voltage Trip and ON Delay

Ordering Information

Cat. No.	Description
22LDT0	240 VAC, Motor Restart Control Timer, 1 C/O
23LDT0	110 VAC, Motor Restart Control Timer, 1 C/O

UL Approval not applicable for Cat No. 23LDT0

Motor Control Timers

Cat. No.		22LDT0	23LDT0
Parameters			
Timer Description		Motor Restart Control Timer	
Functional Diagram		 t: Power Fail Time; Td: Delay Time; Tm: Memory Time	
Supply Voltage (⏚)		240 VAC	110 VAC
Supply Variation		- 20% to +10% (of ⏚)	
Frequency		50/60 Hz	
Power Consumption (Max.)		4 VA	2 VA
Timing Ranges		Memory Time (Tm): 0.2 to 6s, Delay Time (Td): 0.2 to 60s	
Trip Voltage		176 VAC, (± 6VAC)	80 VAC, (± 6VAC)
Hysterisis		10 VAC (Max.)	
Reset Time		200 ms (Max.)	
Setting Accuracy Repeat Accuracy		± 5% of Full scale ± 1%	
Output	Relay Output	1 C/O	
	Contact Rating	5A @ 240 VAC / 28 VDC (Resistive)	
	Electrical Life	$1x10^5$	
	Mechanical Life	$1x10^7$	
Utilization Category	AC - 15	Rated Voltage (Ue): 230/125 V, Rated Current (Ie): 1.3/2.5 A	
	DC - 13	Rated Voltage (Ue): 250/120/24 V, Rated Current (Ie): 0.1/0.22/2 A	
Operating Temperature Storage Temperature		-15°C to +60°C -20°C to +70°C	
Humidity (Non Condensing)		95% (Rh)	
LED Indication		Green LED → Power ON, Red LED → Relay ON	
Enclosure		Flame Retardant UL94-V0	
Dimension (W x H x D) (in mm)		22.5 X 75 X 100.5	
Weight (unpacked)		130 g	
Mounting		Base / DIN Rail	
Certification		CE, cULus LISTED, RoHS Compliant	
Degree of Protection		IP 20 for Terminals, IP 40 for Enclosure	

EMI / EMC

Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

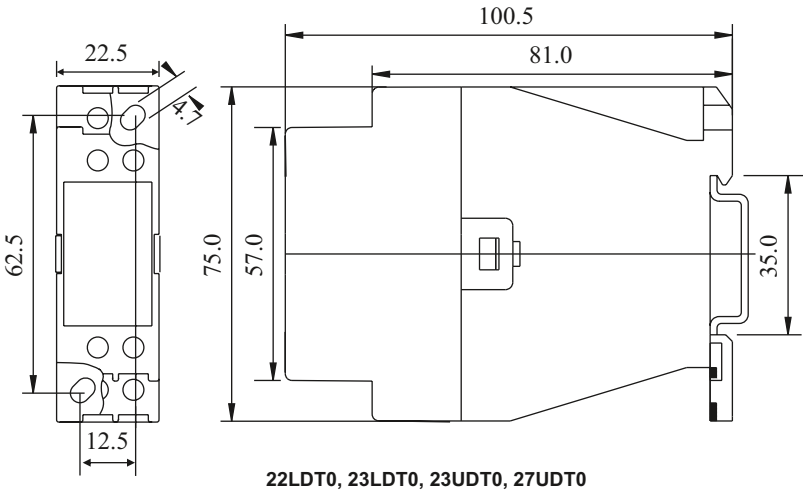
Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

WORKING

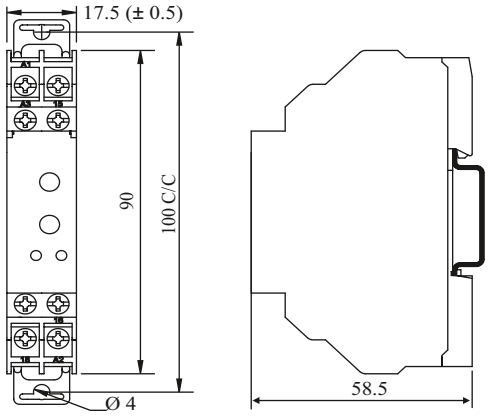
The timer is used for instantaneous or delayed motor startup after a short-time power failure (max. 6 sec). The start occurs immediately if power supply is disrupted for less than 0.2 sec. If the power failure lasts longer, the relay activates its memory for a time that can be set to 0.2 to 6 sec, after which no automatic restart is possible. If power supply is restored while the memory period is elapsing, the relay commands a motor restart with a delay time from power supply restoration that can be set to 0.2 to 60 sec. A system stop cancels the memory function after 50 ms, and therefore the stop signal should be on for at least this time. The relay is non-sensitive to any control voltage fluctuation or disruption during or after the motor stop.

Motor Control Timers

MOUNTING DIMENSION (mm)

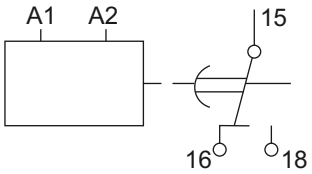


22LDT0, 23LDT0, 23UDT0, 27UDT0

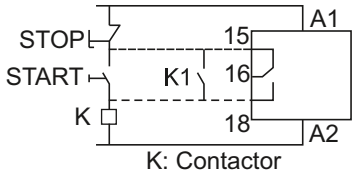


17UDT0, 17UDT1, 13UDT0, 13UDT1
1FUDT0F, 1FUDT1F, 1FUDT2F

CONNECTION DIAGRAM



13UDT0, 17UDT0, 13UDT1, 17UDT1
23UDT0, 27UDT0



22LDT0, 23LDT0

TERMINAL TORQUE & TERMINAL CAPACITY

Ø 3.5 mm....4.0mm	0.60 N.m (6 Lb.in)
	1 x 4.0 mm^2 Solid/Stranded Wire
AWG	1 x 20 to 10

22LDT0, 23LDT0, 23UDT0, 27UDT0

Ø 3.5 mm....5.0mm	0.80 N.m (7.1 Lb.in)
	2 x 2.5 mm^2 Solid/Stranded Wire
AWG	2 x 20 to 14

13UDT0, 17UDT0, 13UDT1, 17UDT1

Synchronous Timer - Series EM 1000

- Time delay is independent of normal voltage and temperature fluctuations
- Black pointer gives clear indication of the time set on the calibrated dial while the red one indicates the time left to complete the cycle
- Automatic reset on de-energisation of the clutch coil
- Base mounting or flush mounting versions
- No-volt feature available

Ordering Information

B□□□□□

Timing Ranges(SR)

B	0.15 - 3.0	SEC
C	1.5 - 30	SEC
D	0.15 - 3.0	MIN
E	1.5 - 30	MIN
F	0.15 - 3.0	HRS
G	1.5 - 30	HRS
H	0.3 - 6.0	SEC
J	3.0 - 60	SEC
K	0.3 - 6.0	MIN
L	3.0 - 60	MIN
M	0.3 - 6.0	HRS
N	3.0 - 60	HRS
P	0.6 - 12	SEC
Q	6.0 - 120	SEC
R	0.6 - 12	MIN
S	6.0 - 120	MIN
T	0.6 - 12	HRS
V	6 - 120	HRS

Timing Ranges(MR)

X	0.15 SEC.-3.0 HRS.
Y	0.3 SEC.- 6.0 HRS.
Z	0.6 SEC.-12.0 HRS.

Voltage

3	110V AC 50 Hz
4	240V AC 50 Hz
C	110V AC 60 Hz
D	240V AC 60 Hz

Contact

1	1 Inst + 1 Del C/O
2	1 Inst + 2 Del C/O

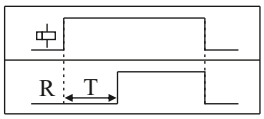
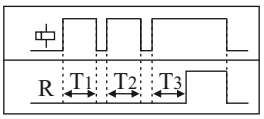
Mounting

B	Base Mounting
F	Flush (door) Mtg.

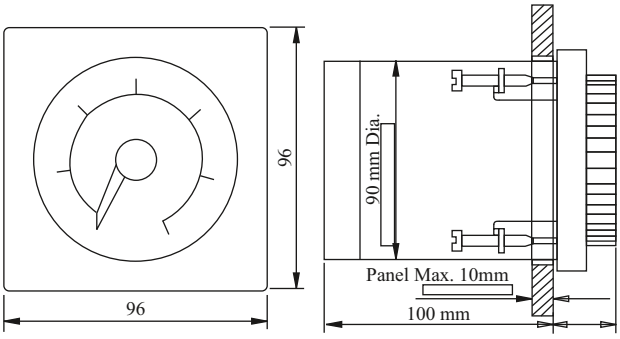
Delay

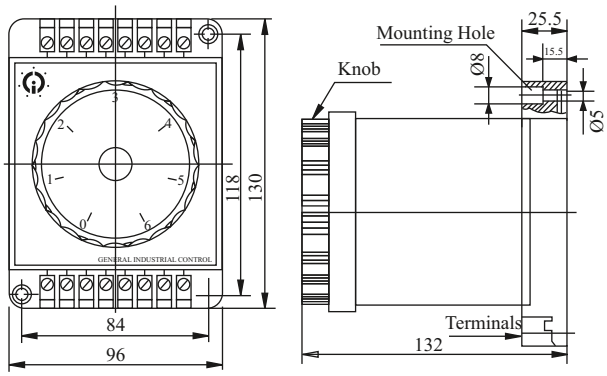
1	Standard ON delay
2	With 'NO VOLT'

Synchronous Timer - Series EM 1000

Mode		ON Delay	ON Delay Retentive (No Volt)
Functional Diagram			
Supply Variation		- 20% to +10%	
Frequency Variation		95% to 105%	
Power Consumption (Max.)		10 VAC	
Timing Range		0.15s to 120h	
Repeat Accuracy		± 0.5% of Full Scale Range @ Constant Frequency	
Output	Output Contact	1 Instant + 1 Delayed / 1 Instant + 2 Delayed (Optional)	
	Contact Rating	6A (resistive) @ 250 VAC	
	Switching Frequency	3000 operations/hr. (Max.)	
Operating Temperature		-5°C to 45°C	
Enclosure		Conforms to IP30 - IS 13947.	
Dimension (W x H x D) (in mm)		96 X 96 X 100	
Weight (unpacked)		530 g	
Mounting		Flush / Base	
Terminal Connection		1– 2.5 mm² solid/stranded.	
Degree of Protection		IP20	

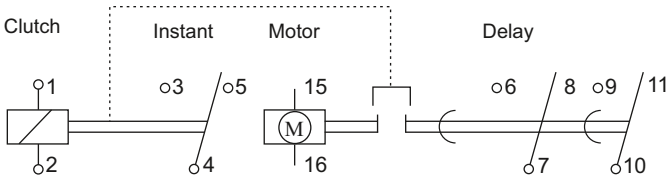
MOUNTING DIMENSION (mm)



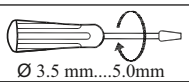


BASE/DIN MOUNTING

CONNECTION DIAGRAM



TERMINAL TORQUE & CAPACITY

 Ø 3.5 mm....5.0mm	0.80 N.m (7.1 Lb.in)
	2 x 2.5 mm² Solid/Stranded Wire
AWG	2 x 20 to 14

Cat. No.	Supply Voltage						Timing Range								Signal		Relay Output			Function					
	12 to 240 VAC / DC	24 to 240 VAC / DC	240 to 415 VAC	240 VAC or 24 VAC / DC	240 VAC	110 to 240 VAC	3 sec to 120 sec	0.6 Sec to 600 sec	0.1 sec to 10 hrs	0.3 sec to 30 hrs	0.1 sec to 100 hrs	0.1 sec to 999 hrs	0.1 sec to 120 days	0.1 sec to 999 days	Potential Signal	Potential Free Signal	1 C/O	2 C/O	2 NO	ON Delay	Asymmetrical ON/OFF Delay	True OFF Delay	Star Delta	Multi-Function	Forward Reverse
12ODT4				●						●							●			●					
12WDTC				●							●						●			●					
1CMDT0	●										●				●		●							●	
1CJDT0	●										●						●				●				
12SDT0					●		●												●				●		
2AODT5		●							●									●		●					
2ASDT0		●					●												●				●		
2BSDT0			●				●												●				●		
2A8DT6		●											●		●			●						●	
2A5DT5		●							●									●						●	
2B5DT5			●						●									●						●	
2ANDT0		●							●							●	●							●	
2AADT5		●							●									●			●				
23GDT0		●						●										●				●			
V0DDTS		●										●			●		●							●	
V0DDTD		●										●			●				●					●	
V0DDTS1		●										●			●		●							●	
V0DDTD1		●										●			●				●					●	
V7DFTS3						●								●	●			●						●	
V7DDSS3						●								●	●			●						●	
DT124S						●						●				●		●						●	
DT125S						●						●				●		●							●