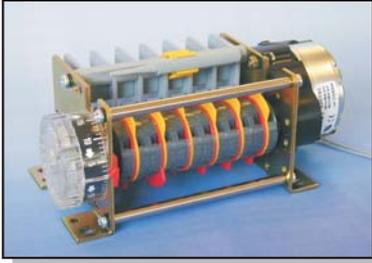


# ANALOGUE TIMERS

TIMERS

## ELECTROMECHANICAL CAM TIMERS



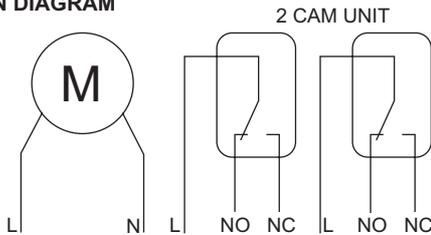
The 5000 series electromechanical cam timers can be supplied with either 2, 4 or 6 cams. The standard models are supplied with 2 screw adjustable cams at each micro switch position. Cycle times between 3 seconds and 24 hours can be achieved using the standard motor and gearbox combination.

- 12, 24, 48, 110 & 230Vac operation
- 2, 4 or 6 micro switches
- Screw adjustable cams
- Cycle time 3 secs to 24 hrs

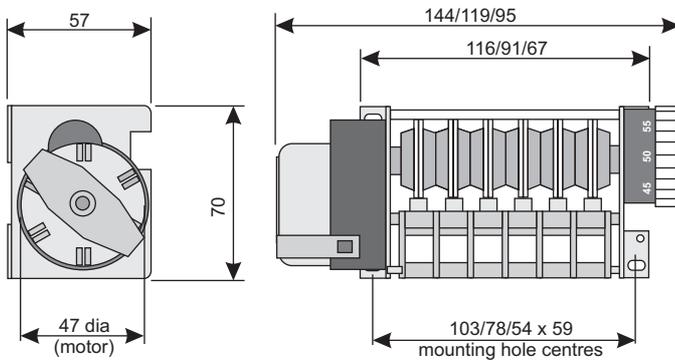
### SPECIFICATION

Supply voltage : 12, 24, 48, 110 or 230Vac  
 Supply frequency : 50/60Hz  
 Cam diameter : 42mm  
 Microswitch type : V3 (supplied separately)  
 Output rating : 16A @ 250Vac  
 Insulation : 2000Vac  
 Standard cycle times : 3, 6, 12, 30 secs; 1, 2, 3, 6, 12, 30 mins; 1, 2, 3, 6, 12, 24 hours  
 Minimum setting : 1/60 of cycle time  
 Mechanical life : 8 years continuous operation  
 Electrical life : 200,000 operations  
 Operating temp : -10 to 55°C  
 Weight : 2 way :350gms; 4 way : 400gms; 6 way :450gms

### CONNECTION DIAGRAM



### DIMENSIONS



### Part Numbering Options : 50AB - CD - EF - G

Option	Description	Value 1	Value 2
AB	No Cams	2	2
		4	4
		6	6
CD	Rotation direction	Clockwise	V1
		Anti clockwise	V3
EF	Cycle time	3 seconds	3S
		6 seconds	6S
		12 seconds	12S
		30 seconds	30S
		1 minute	1M
		6 minute	6M
		30 minute	30M
		1 hour	1H
		12 hour	12H
24 hour	24H		
G	Power supply	12Vac	12V
		24Vac	24V
		110Vac	110V
		230Vac	230V

For other cam layouts, cycle times or supply voltages please contact our sales office.

## 2B OCTAL BASE PLUG-IN TIMER



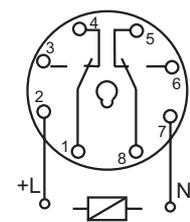
The B series are octal pin, plug-in timers designed for use in a wide range of industrial applications from printing and garment manufacture to lift control, generators and pumping systems.

- 4 Supply options
- 3 Modes of operation
- Up to 10 Amp rated relay outputs
- CE emc and low voltage compatible

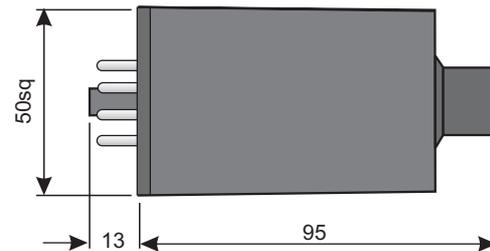
### SPECIFICATION

Supply voltage: 12Vdc, 24Vdc, 110Vac, 230Vac @ 50/60 Hz  
 Min. supply time: (Tm+50)msecs where Tm=max scale time(TDD only)  
 Power drain: 2W or 4VA (20VA for TDD)  
 Supply limits: +/- 15% of supply voltage  
 Timing modes: DE, TDD or DC. See timing charts, page 12 for details  
 Timing ranges: 1, 2, 5, 10, 30, 60 secs, 2, 5, 10, 30, 60 mins or hours (Up to 30 mins for DD and TDD)  
 Scale range: 5% to 100% of max time setting  
 Scale accuracy: +/- 5% of timing range  
 Repeat accuracy: 1% of scale value (20msec min.)  
 Reset time: 100msec (200msec for DC)  
 Output config: 2 x DPCO relay rated 10A/240Vac or 30Vdc (5A TDD)  
 Electrical life: 5 x 10<sup>5</sup> ops at rated load (2x10<sup>5</sup> TDD)  
 Mechanical life: 50 x 10<sup>6</sup> ops (10x10<sup>6</sup> TDD)  
 Operating temp: -10°C to +60°C  
 CE compatibility: meets EN61010-1 low voltage and EN50081-1/50082-1 emc directives  
 Weight : 130 gms (TDD 150gms)

### CONNECTION DIAGRAM



### DIMENSIONS



### STANDARD ITEMS

Voltage	Time	Part Number	Part Number
		Delay On	True Delay Off
12Vdc	20 sec	2BDE20SLP12VDC	
12Vdc	200 sec	2BDE200SLP12VDC	
12Vdc	30 min	2BDE30MLP12VDC	
24Vdc	20 sec	2BDE20SLP24VDC	2BTDD20SLP24VDC
24Vdc	200 sec	2BDE200SLP24VDC	
24Vdc	10 min		2BTDD10MLP24VDC
24Vdc	30 min	2BDE30MLP24VDC	
24Vdc	60 min	2BDE60MLP24VDC	
110Vac	20 sec	2BDE20SLP110VAC	2BTDD20SLP110VAC
110Vac	200 sec	2BDE200SLP110VAC	
110Vac	10 min		2BTDD10MLP110VAC
110Vac	30 min	2BDE30MLP110VAC	
110Vac	60 min	2BDE60MLP110VAC	
230Vac	20 sec	2BDE20SLP230VAC	2BTDD20SLP230VAC
230Vac	200 sec	2BDE200SLP230VAC	
		Delayed Cycling	
110Vac	20 sec	2BDC20SLP20SLP110VAC	
110Vac	200 sec	2BDC200SLP200SLP110VAC	
230Vac	20 sec	2BDC20SLP20SLP230VAC	

For suitable panel mounting or DIN rail sockets see page 33.

## F SERIES PANEL MOUNT & PLUG-IN TIMER



The F series is a range of analogue timers which can be panel mounted from their 48 x 48 mm front bezel or chassis/DIN rail mounted via a plug-in socket. A wide range of supply voltages, timing and operating modes are available to order.

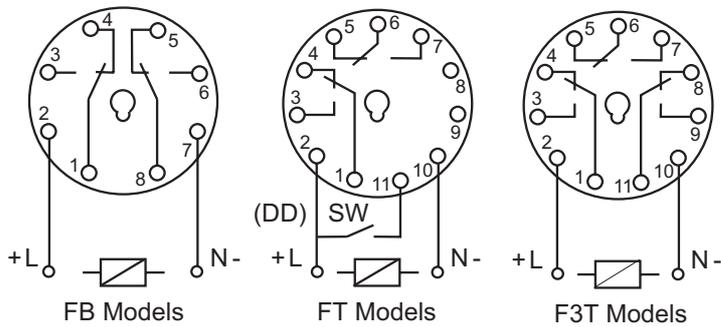
- 12 to 240 Vac/dc supply options
- Time ranges from 1 sec to 60 hrs
- Up to 3 DPCO 5A outputs
- 8/11 pin plug-in or panel mount

# ANALOGUE TIMERS

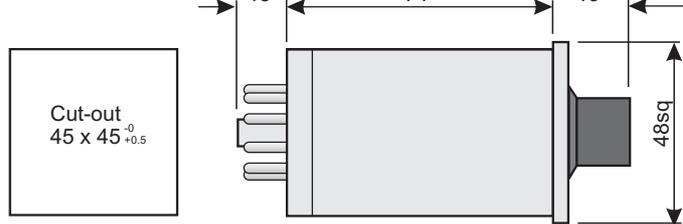
## SPECIFICATION

Supply voltage: 12, 24, 48, 100 Vdc, 24, 50, 110, 230Vac @ 50/60 Hz  
 Min. supply time: (Tm+50)msecs where Tm=max scale range TDD only)  
 Power drain: 2W or 4VA (20VA for TDD)  
 Supply limits: +/- 15% of supply voltage  
 Timing modes: DE, INT, DD, TDD, DC or IC see timing chart, page 12  
 Timing ranges: 1, 2, 5, 10, 30, 60 secs, 2, 5, 10, 30, 60 mins or hours (Up to 30 mins for DD and TDD).  
 Scale range: 5% to 100% of max time setting  
 Scale accuracy: +/- 5% of Timing Range  
 Repeat accuracy: 1% of scale value (20msec min.)  
 Reset time: 100msec (200msec for DC)  
 Output config: 2 or 3 DPCO contacts (3 only on DE & INT models)  
 Output rating: 10A/240Vac or 30Vdc (5A TDD and 3T)  
 Electrical life: 5x10<sup>5</sup> ops at rated load (2 x 10<sup>5</sup> TDD)  
 Mechanical life: 50x10<sup>6</sup> ops (10 x 10<sup>6</sup> TDD)  
 Operating temp: -10°C to +60°C  
 CE compatibility: Meets EN61010-1 low voltage and EN50081-1/50082-1 emc directives  
 Weight: All models 130gms (except TDD = 150 gms)

## CONNECTION DIAGRAMS



## DIMENSIONS



## STANDARD ITEMS

Mode	Voltage	Time	Base	Part Number	
Interval	110Vac	10 sec	8 pin	FBINT10SLP110VAC	
	Delay on	24Vdc	10 sec	8 pin	FBDE10SLP24VDC
		60 sec	8 pin	FBDE60SLP24VDC	
		5 min	8 pin	FBDE5MLP24VDC	
	100Vdc	30 sec	8 pin	FBDE30SLP100VDC	
		30 sec	11 pin	FTDE30SLP100VDC	
	110Vac	10 sec	8 pin	FBDE10SLP110VAC	
		30 sec	8 pin	FBDE30SLP110VAC	
		60 sec	8 pin	FBDE60SLP110VAC	
		5 min	8 pin	FBDE5MLP110VAC	
		30 min	8 pin	FBDE30MLP110VAC	
		230Vac	30 sec	11 pin	FTDE30SLP110VAC
	10 sec		8 pin	FBDE10SLP230VAC	
	30 sec		8 pin	FBDE30SLP230VAC	
	60 sec		8 pin	FBDE60SLP230VAC	
	5 min		8 pin	FBDE5MLP230VAC	
		30 min	8 pin	FBDE30MLP230VAC	
		30 sec	11 pin	FTDE30SLP230VAC	
		5 min	11 pin	FTDE5MLP230VAC	
Cyclic		110Vac	30 sec	8 pin	FBDC30SLP30SLP110VAC
		230Vac	30 sec	8 pin	FBDC30SLP30SLP230VAC
	5 min		8 pin	FBDC5MLP5MLP230VAC	
Delay off	110Vac	30 sec	11 pin	FTDDP30SLP110VAC	
		10 min	11 pin	FTDDP10MLP110VAC	
	230Vac	30 sec	11 pin	FTDDP30SLP230VAC	
		10 min	11 pin	FTDDP10MLP230VAC	
True delay off	110Vac	30 sec	8 pin	FBTDD30SLP110VAC	
		10 min	8 pin	FBTDD10MLP110VAC	
	230Vac	30 sec	8 pin	FBTDD30SLP230VAC	
		10 min	8 pin	FBTDD10MLP230VAC	

For other time ranges or 3 output versions please contact our sales office.  
 For suitable wiring sockets see page 33.

## AT MULTI-RANGE TIMER



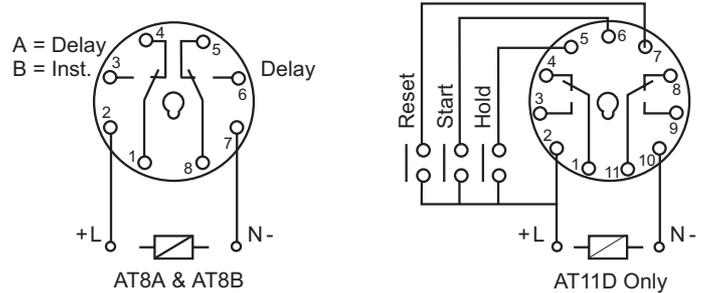
The AT series timers provide multi-range and multi-function options to maximise functionality in each model. The AT8B offers an instantaneous contact option to simplify momentary push button starting circuits, whilst the AT11D provides external hold and reset inputs for wider control applications.

- 16 time ranges up to 100 hours
- 4 Function modes on AT11D
- 2 Delayed or 1 Inst + 1 del contact
- Hold & reset inputs on AT11D

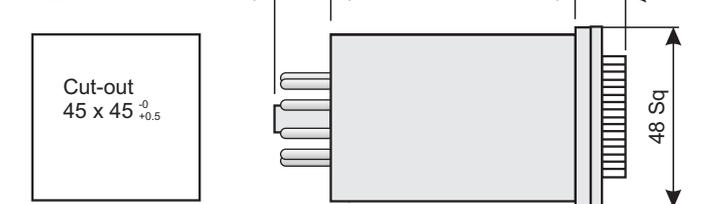
## SPECIFICATION

Supply voltage: 24Vac, 110Vac, 220Vac @ 50/60 Hz, 24Vdc  
 Power drain: 10VA or 2W max.  
 Supply limits: +/- 10% of supply voltage  
 Timing modes: DE (AT8); DE, DD, CT, ETI (AT11D)  
 See timing chart on page 12 for details  
 Timing ranges: 0.5, 1, 5, 10, 30, 60 secs, 5, 10, 30, 60 mins, 5, 10, 50, 100 hrs  
 Scale range: 5% to 100% of max time setting  
 Scale accuracy: +/- 5% of timing range  
 Repeat accuracy: +/- 0.3% of scale value (20msec min.)  
 Reset time: 500msec  
 Output rating: 3A/250Vac resistive  
 Electrical life: 1x10<sup>5</sup> ops at rated load (2x10<sup>5</sup> TDD)  
 Mechanical life: 10x10<sup>6</sup> operations  
 Operating temp: -10°C to +55°C  
 CE compatibility: Meets EN61010-1 low voltage and EN50081-1 and 50082-1 emc directives  
 UL recognised  
 Weight: 110 gms

## CONNECTION DIAGRAMS



## DIMENSIONS



## STANDARD ITEMS

Mode	Voltage	Output	Part Number
Delay On	110Vac	2 x Timed CO	AT8A-110VAC
	240Vac	2 x Timed CO	AT8A-240VAC
	110Vac	Timed CO + Inst CO	AT8B-110VAC
	240Vac	Timed CO + Inst CO	AT8B-240VAC

For matching temperature controllers see the TOS range on page 13. For suitable wiring sockets see page 33.

## L SERIES LOW COST TIMER



The L Series are low cost analogue timers operating in a Delay-on-Energise (DE) mode only. They offer a range of times as well as 3 standard voltages with DPCO relay outputs.

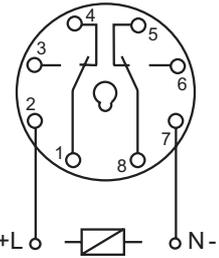
- 6 time ranges up to 5 minutes
- DPCO relay outputs
- 24Vdc, 110Vac and 230Vac supplies

# ANALOGUE TIMERS

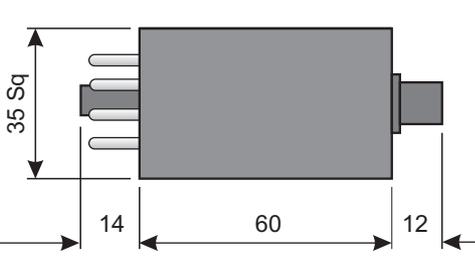
## SPECIFICATION

Supply voltage: 110Vac, 230Vac @ 50/60 Hz, 24Vac/dc  
 Power drain: 4VA or 2W max.  
 Supply limits: +/- 10% of supply voltage  
 Timing modes: Delay On (DE)  
 Timing ranges: 2, 3, 10, 30, 60 secs, 5 mins  
 Scale range: 5% to 100% of max time setting  
 Scale accuracy: +/- 5% of timing range  
 Repeat accuracy: +/- 1% of scale value (20msec min.)  
 Reset time: 100msec  
 Output rating: L = 3A/250Vac L2 = 2 x 5A/250Vac resistive  
 Electrical life: 1x10<sup>5</sup> ops at rated load  
 Mechanical life: 10x10<sup>6</sup> operations  
 Operating temp: -10°C to +50°C  
 Weight: 90 gms

## CONNECTION DIAGRAM



## DIMENSIONS



## STANDARD ITEMS

Mode	Voltage	Time	Part Number
Delay on	110Vac	10 secs	L2DE10S110VAC
		60 secs	L2DE60S110VAC
	230Vac	10 secs	L2DE10S230VAC
		60 secs	L2DE60S230VAC

For suitable wiring sockets see page 33.

## MT4L MINIATURE TIMER



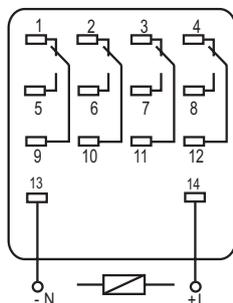
The MT4L series are miniature, 4 pole relay output, analogue timers operating in a 'Delay-on-Energise' mode only. They Offer a range of times and four standard voltages.

- 11 time ranges up to 60 minutes
- 4PCO relay outputs
- 24Vdc, 24Vac, 110Vac & 230Vac power supply
- Miniature size

## SPECIFICATION

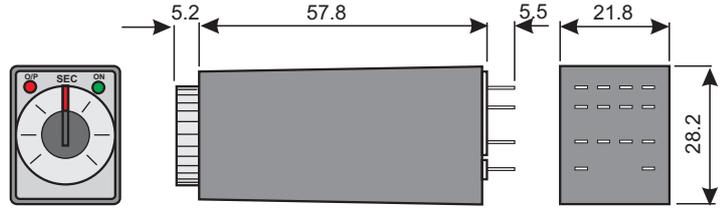
Supply voltage: 24Vac, 110Vac, 230Vac @ 50/60 Hz, 24Vdc  
 Power drain: 2VA or 2W max.  
 Supply limits: +/- 10% of supply voltage  
 Timing modes: Delay On (DE)  
 Timing ranges: 1, 2, 5, 10, 30, 60 Sec, 2, 5, 10, 30, 60 Min  
 Scale range: 5 to 100% of max time setting  
 Scale accuracy: +/- 5% of timing range  
 Repeat accuracy: <2% of scale value  
 Reset time: 100msec max.  
 Output rating: 4PCO relay, 3A @ 240Vac or 30Vdc resistive  
 Electrical life: 2x10<sup>5</sup> ops at rated load  
 Operating temp: -10°C to +60°C  
 Weight: 50 gms  
 Wiring socket: ERS14SS socket & C1016 clip - see page 33

## CONNECTION DIAGRAM



Viewed from base of timer

## DIMENSIONS



## STANDARD ITEMS

Voltage	Time	Part Number	Voltage	Time	Part Number
230Vac	5 sec	MT4L5S230VAC	24Vdc	5 sec	MT4L5S24VAC
	10 sec	MT4L10S230VAC		30 sec	MT4L30S24VAC
	30 sec	MT4L30S230VAC		10 min	MT4L10M24VAC
	60 sec	MT4L60S230VAC		5 min	MT4L5M24VDC
	5 min	MT4L5M230VAC		10 sec	MT4L10S24VDC
	10 min	MT4L10M230VAC		60 sec	MT4L60S24VDC
110Vac	5 sec	MT4L5S110VAC			
	10 sec	MT4L10S110VAC			
	30 sec	MT4L30S110VAC			
	60 sec	MT4L60S110VAC			
	30 min	MT4L30M110VAC			

## TT4800 SERIES MULTI-RANGE TIMER



The TT4800 timer range has been styled to match the TC4800 temperature controllers on page 13. Delay on and true delay off operating modes are available, each with multi-time ranges adjustable from a rotary switch. All models have a lockable dial to prevent tampering.

- Up to 5 selectable time ranges
- Dual, 5 Amp output relay contacts
- 24Vdc, 110Vac & 230Vac supply options
- Lockable dial to prevent tampering
- CE emc and low voltage compatible

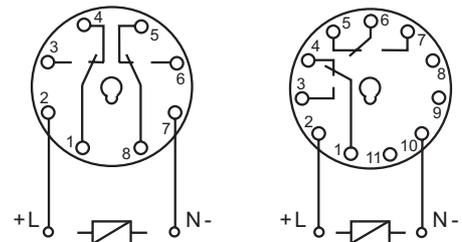
## SPECIFICATION

Supply voltage: 24Vdc, 110Vac, 230Vac @ 50/60 Hz  
 Min. Supply time: 4 secs (TT4802 - TDD models only)  
 Power drain: 2W or 4VA  
 Supply limits: +/- 15% of supply voltage  
 Timing modes: DE or TDD See timing chart on page 12 for details  
 Timing ranges: Multi-range: 6S, 60S, 6M, 60M, 6H for TT4801  
 3S, 30S, 3M, 30M for TT4802

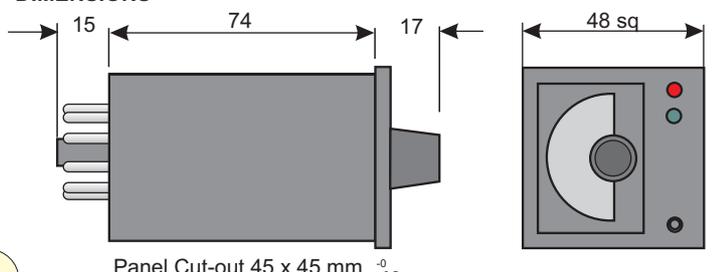
Scale range: 5% to 100% of selected range  
 Calibration: -0 to +5% of full scale range  
 Repeat accuracy: 1% of scale value  
 Reset time: 100msec  
 Output config: DPCO relay contacts  
 Output rating: 5A/240Vac or 30Vdc resistive  
 Electrical life: 1x10<sup>5</sup> ops at rated load  
 Mechanical life: 10x10<sup>6</sup> ops.  
 Operating temp: -10°C to +60°C  
 CE compatibility: Meets EN61010-1 low voltage and EN50081-1/50082-1 emc directives

Weight: DE 150gms, TDD 160gms

## CONNECTION DIAGRAMS



## DIMENSIONS



# DIGITAL TIMERS

## STANDARD ITEMS

Model	Base	Voltage	Part Number
Delay-On	8 pin	230Vac	TT4801-01
		110Vac	TT4801-02
		24Vdc	TT4801-03
	11 pin	230Vac	TT4801-11
		110Vac	TT4801-12
		230Vac	TT4802-01
True Delay-Off	8 pin	110Vac	TT4802-02
		24Vdc	TT4802-03

For matching temperature controllers, see the TC4800 range on page 13. For suitable wiring sockets see page 33.

## TZ SERIES DIN RAIL MOUNT TIMER



The TZ range of timers are designed for standard DIN rail mounting. With up to 2 DPCO relay outputs and operating voltages from 12Vac/dc up to 240Vac the TZ series is an economical solution to in-panel timing requirements.

- Multi-voltage supply inputs
- 4 modes of operation
- Up to 2 x 3A rated relay outputs
- CE emc and low voltage compatible

## SPECIFICATION

Supply voltage: 12Vac/dc and 24Vac/dc  
48Vac/dc and 110 - 230Vac @ 50/60 Hz

Power drain: 1VA

Supply limits: +/- 15% of supply voltage

Timing modes: DE, INT, DC or IC see timing chart on page 12

Timing ranges: 1, 3, 6, 12, 30 secs  
1, 2, 3, 6 mins

Scale range: 1/60th to 100% of selected range

Calibration: +/- 5% of full scale range

Repeat accuracy: +/- 5% of full scale value

Reset time: 200msec

Output config: SPCO/DPCO relay contacts

Output rating: 3A/240Vac or 30Vdc resistive

Electrical life: 5 x 10<sup>5</sup> ops at rated load

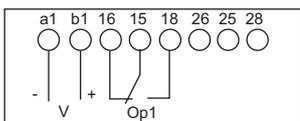
Mechanical life: 10 x 10<sup>6</sup> ops.

Operating temp: -10°C to +55°C

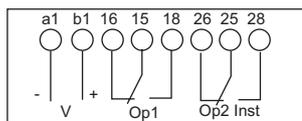
CE compatibility: Meets EN61010-1 low voltage and EN50081-1/58002-1 emc directives

Weight: 150gms

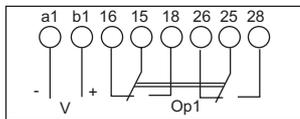
## CONNECTION DIAGRAMS



Types TZ24/914

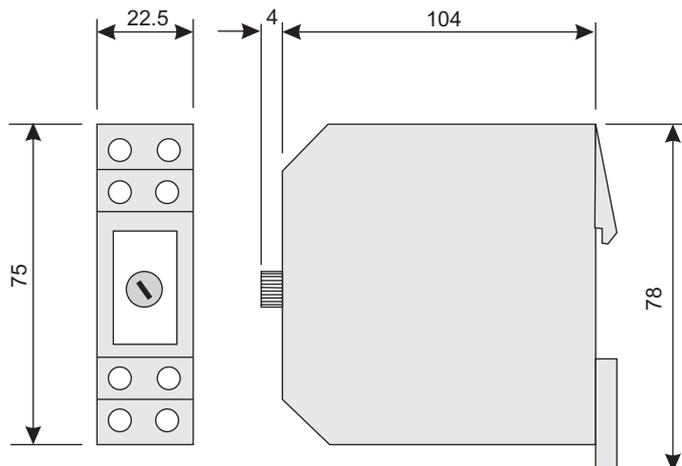


Types TZ24/912



Types TZ24/913

## DIMENSIONS



## STANDARD ITEMS

Mode	Function	Part Number
Delay on	DE SPDT	TZ24/914-TIME-F01
	DE DPDT	TZ24/913-TIME-F01
	DE SPDT	TZ24/912-TIME-F01
Interval	INT SPDT	TZ24/914-TIME-F02
	INT DPDT	TZ24-914-TIME-F02
	INT SPDT + INST	TZ24-912-TIME-F02
Cyclic	DC SPDT	TZ24-912-TIME-F09
	DC DPDT	TZ24-913-TIME-F09
	DC SPDT + INST	TZ24-912-TIME-F09

## LE3S MULTI-RANGE MULTI-MODE TIMER



The LE3S timer has 10 operating modes and 10 time ranges, all selectable from the front panel. The LCD display shows the state of the output and a bar graph of the timing cycle as well as the 3 digit process time display. The single model is powered from 100 to 240Vac or 24 to 240Vdc. The LE3S is housed in a compact 1/16 DIN 48 x 48 mm case.

- 10 operating modes
- Bar graph display of timing cycle
- LED display of output and process time
- 10 time ranges
- Front panel range selection

## SPECIFICATION

Timing range: 0 to 9.99, 99.9 & 999 seconds  
0 to 9:59, 99.9 & 999 minutes  
0 to 9:59, 99.9, 999 & 9990 hours

Timing modes: DE, INT, CT (on & off), DP (300msec), DD, Interval see page 12 for details

Supply voltage: 100 - 240Vac 50/60Hz  
24 - 240 Vdc

Supply variation: +/- 10% of supply voltage.

Power drain : 5VA - 2W max

Min reset time : 300 msec

Min reset signal : 20 msec

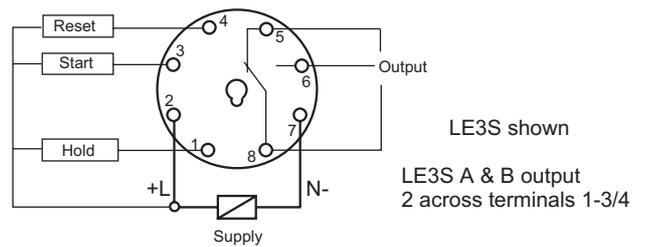
Output rating : SPDT relay 5A @ 240Vac resistive

Reset time: 100 msec max.

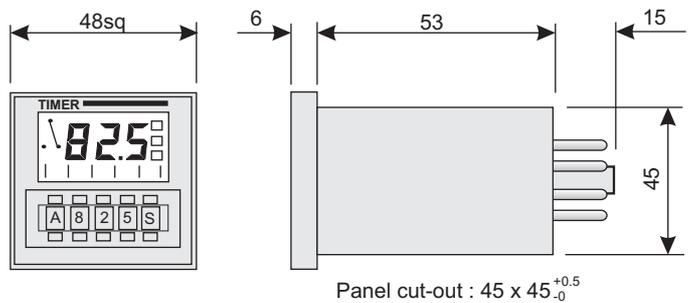
Ambient cond: Working temp: 0 to 50°C, storage temp: 0 to 65°C.

Weight: 100gms

## CONNECTION DIAGRAM



## DIMENSIONS



## STANDARD ITEMS

Mode	Outputs	Voltage	Part Number
All	1 timed + reset	100-240Vac	LE3S
All	2 timed	100-240Vac	LE3SA
All	1 timed + 1 inst	100-240Vac	LE3SB

For suitable panel mounting or DIN-rail sockets see page 33.

# DIGITAL TIMERS

TIMERS

## UDT 1/16 DIN UNIVERSAL DIGITAL TIMER



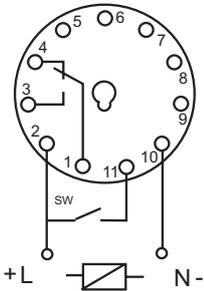
The UDT is a multi-function, multi-time range, digital timer which may be powered from 18 to 264Vac or dc. This single product is therefore suitable for almost any industrial application including those driven from 24Vdc batteries such as diesel generators, pumps, and back-up supplies. An internal Lithium battery ensures that user settings are retained in the event of power failure and, because of its low power consumption, the UDT can be programmed without a supply prior to installation.

- 6 Timing modes, inc. asymmetric cycle
- 6 Time ranges from 0.1 sec to 99.9 hrs
- LCD display of programmed functions
- 18 to 264Vac/300Vdc supply
- Panel mounting or plug-in
- Complies with EEC directives

### SPECIFICATION

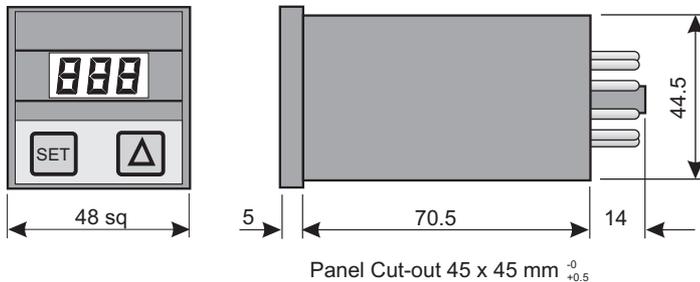
Power supply: 18 to 300Vdc & 18 to 264Vac at 47 to 440Hz.  
 Battery life: 7 to 10 years depending on use  
 Time ranges: 0.1 to 9.99 sec, 0.1 to 99.9 sec, 0.01 to 9.99 min, 0.1 to 99.9 min, 0.01 to 9.9 hrs, 0.01 to 99.9 hrs  
 Timing modes: DE, DD, DP (250msec), INT, ICY, CY see timing chart on page 12 for details.  
 Scale accuracy: +/-0.5% or 20msecs, whichever is greatest.  
 Repeat accuracy: +/-0.3% of set time.  
 Output rating: SPCO relay rated 10A @ 30Vdc/240Vac resistive (limited to 7Amps by socket).  
 Electrical life: 200,000 operations at rated load.  
 Isolation: 1500Vac/50Hz for 1 minute.  
 Approvals: Meets the EEC directives for emc EN50081-1 & EN50082-1 and low voltage EN61010-1  
 Operating Temp: -20°C to +60°C  
 Weight: 200gms

### CONNECTION DIAGRAM



**Note :**  
 This product contains a Lithium battery which must not be cut open, incinerated, exposed to temperatures above 60°C or recharged. When faulty, it must be disposed of in accordance with local regulations.

### DIMENSIONS



### STANDARD ITEM

Model	Part Number
All voltages, modes and times	UDT

For suitable panel mounting or DIN-rail sockets see page 33. For matching temperature controllers see the DTC410 range on page 16.

**If you cannot find a product to suit your requirements in this catalogue give our sales office a call. We can usually customise a standard product for most applications or we can design a bespoke controller to your specification.**

## TT32 DUAL DIGITAL TIMER



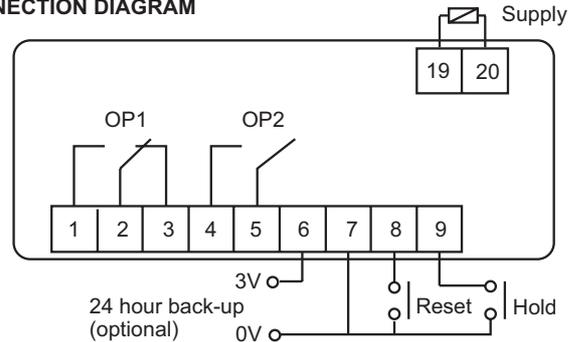
The TT32 programmable timer, packaged in a compact 75 x 33 x 69 mm housing, is an extremely versatile product offering nine operating modes applied to two timed output relay contacts. When only one of the timers is being used, the other output acts as an instantaneous set of changeover contacts. The single model provides timing from 0.1 seconds to 100 hours.

- 9 Programmable modes
- 6 Timing ranges
- Security code
- 2 Timed or 1 timed + 1 inst. contact
- Programmable reset function
- External hold & reset
- IP65 water & dust protection
- LED status & timing indicators

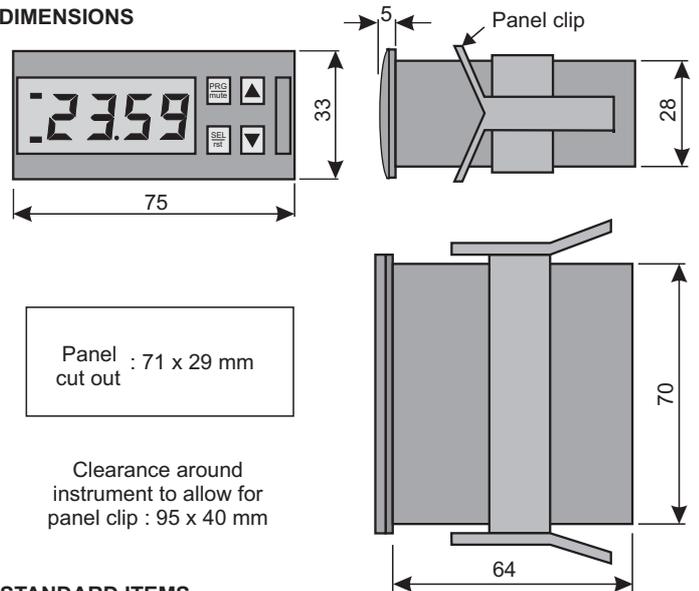
### SPECIFICATION

Timing ranges: 0 to 999.9 secs, 0 to 9999 secs, 0 to 9999 mins, 0 to 99 mins 59 secs, 0 to 99 hrs 59 mins, 23:59 in 24 hr clock mode  
 Timing modes: DE, DDE, DP, CCT, DE-2, IT-2, DE-IT, DD-2, 24HR  
 See timing chart on page 12 for details  
 Supply voltage: 12-24Vac/dc ( 110Vac & 240Vac via transformers TRA11 and TRA12 - see page 33).  
 Supply variation: +/- 10% of supply voltage.  
 Battery back-up: External 3Vdc to retain clock on 24H mode only at loss of supply voltage.  
 Power drain: 3VA max.  
 Contact ratings: OP1: 8A @ 240Vac, OP2: 5A @ 240Vac resistive.  
 Reset time: 100 msec max.  
 Ambient cond: Working temp: 0 to 50°C, Storage temp: 0 to 70°C.  
 Approvals: Complies with CE directives EN50081-1 & EN50082-1 for emc and EN61010-1 for low voltage.  
 Weight: 140gms

### CONNECTION DIAGRAM



### DIMENSIONS



### STANDARD ITEMS

Model	Part Number
All Times, Modes, 12-24Vac/dc	TT32ML
240Vac to 12Vac Transformer	TRA12UN100
110Vac to 12Vac Transformer	TRA11UN100

For matching temperature controllers see pages 17 -18.

# DIGITAL TIMERS

## TTDR DIN RAIL DUAL DIGITAL TIMER



The TTDR timer has all of the features of the TT32 timer in a DIN rail mounting package. The TTDR covers time ranges from 0.1 seconds to 100 hours in a single model and has nine operating modes, two power supply options and two timed relay outputs. When only one timed output is being used the other output acts as an instantaneous set of changeover contacts. The TTDR matches the IRDR temperature controller on page 19.

- 9 Programmable modes
- 6 Timing ranges
- Security code
- 2 Timed or 1 timed + 1 inst. contact
- CE emc & low voltage compatible
- Programmable reset function
- External hold & reset
- IP65 water & dust protection
- Selectable up/down timing
- LED status & timing indicators

### SPECIFICATION

Timing ranges: 0 to 999.9 secs, 0 to 9999 secs, 0 to 9999 mins, 0 to 99 mins 59 secs, 0 to 99 hrs 59 mins, 23:59 in 24 hr clock mode

Timing modes: DE, DDE, DP, CCT, DE-2, IT-2, DE-IT, DD-2, 24HR  
See timing chart on page 12 for details

Supply voltage: 12-24Vac/dc, 110Vac & 230Vac

Supply variation: +/- 10% of Supply Voltage.

Battery back-up: External 3Vdc to retain clock in 24H mode only at loss of supply voltage.

Power drain: 3VA max.

Contact ratings: OP1: 8A @ 240Vac, OP2: 5A @ 240Vac resistive.

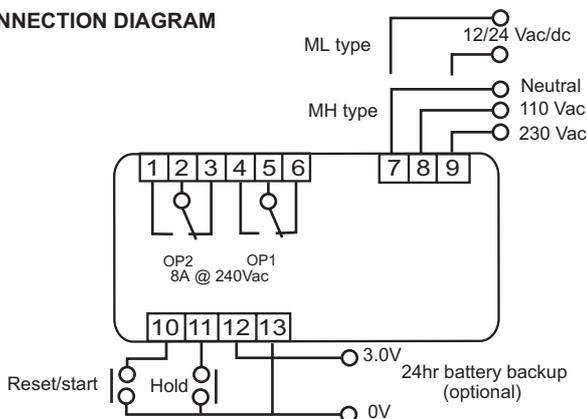
Reset time: 100 msec max.

Ambient cond: Working temp: 0 to 50°C, storage temp: 0 to 70°C.

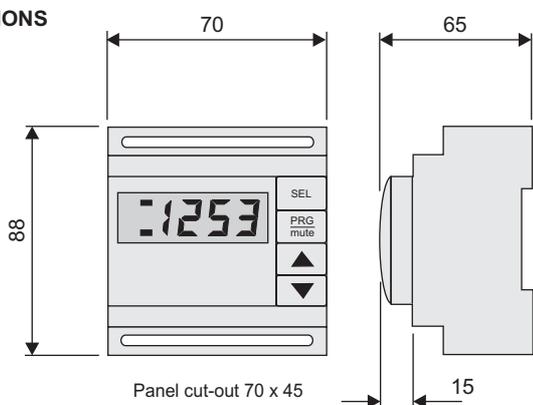
Approvals: Complies with CE directives EN50081-1 & EN50082-1 for emc and EN61010-1 for low voltage.

Weight: 240gms

### CONNECTION DIAGRAM



### DIMENSIONS



### STANDARD ITEMS

Mode	Time	Voltage	Part Number
All	All	12-24Vac/dc	TTDRML
All	All	110/230Vac	TTDRMH
Wall mounting enclosure			GR15070P

For matching temperature controllers see the IRDR range on page 19.

## DDT DIN RAIL MOUNT DIGITAL TIMER



The DDT timer is a compact DIN rail mounting digital timer, taking only a 17.5mm single width module. It has 8 preset operating modes, time ranges from 0.1 seconds to 999 hours and selectable up or down counting. The LED display shows run time, set time, operating mode, time range and timing direction. The output is a single changeover relay rated at 5A 240Vac or 28Vdc and the output state is indicated by a red LED on the front panel. The DDT can be powered by either a 24Vac/dc or 110-230Vac supply voltage.

- 8 selectable operating modes
- 3 digit LCD display
- Key lock function
- Time ranges from 0.1 secs to 999 hrs
- LED indication of output status
- 24Vac/dc or 100-230Vac supply voltage

### SPECIFICATION

Supply voltage : 24Vac/dc or 110-230Vac 50/60Hz

Power drain : 15VA

Timing ranges : 0 to 99.9 secs, 0 to 999 secs, 0 to 99.9 mins, 0 to 999 mins, 0 to 99.9 hrs, 0 to 999 hrs, 0 to 9mins 59secs, 0 to 9hrs 59 mins.

Timing modes : DE, INT, DD, ETI, DC, IC, DP  
See timing chart on page 12 for details.

Accuracy : +/-0.5% of range, 50 msec min constant temp/voltage

Reset time : 100msec

Output : Changeover relay 5A @240Vac or 28Vdc

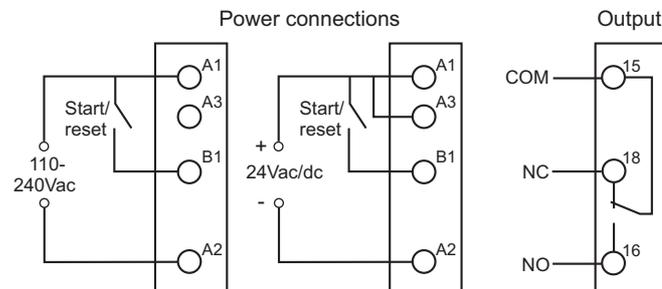
Electrical life : 100,000 operations at rated load

Approvals : Meets the IEC directives for emc EN50081-2 and EN50082-2 and EN61010-1 for low voltage.

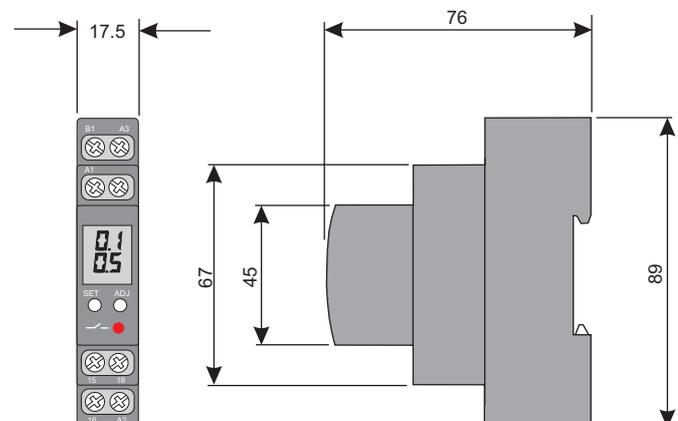
Operating temp : -10° C to +50° C

Weight : 85gms

### CONNECTION DIAGRAM



### DIMENSIONS



### STANDARD ITEMS

Mode	Time range	Voltage	Part Number
All	All	24Vac/dc or 110/230Vac	V0DDT0

# DIGITAL TIMERS

## UMT 500 MULTIPLE DIGITAL TIMER



The UMT 500 timer is a programmable digital timer with 5 relay outputs, each of which has 5 selectable operating modes and an external start/reset function. Each output can either be programmed in timed or instantaneous mode making the UMT500 a particularly flexible unit for in-panel machine control applications that do not warrant the cost or complexity of an industrial plc.

- 5 Independent timers or relays
- 5 Programmable timer modes
- 3 Timing ranges
- External start or reset
- Large LED display and indicators
- Security coded program access

### SPECIFICATION

Timing ranges : 0 to 999.9 secs,  
0 to 99 mins 59 secs,  
0 to 99 hrs 59 mins.

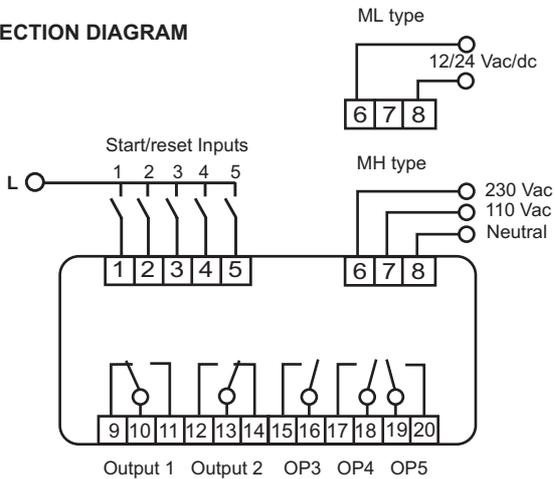
Timing modes : DE - delay on energise  
INT - Interval  
DD - Delay on de-energise  
CCT - Cycle timer with cycle limiter  
DODO - Delay on/Delay off  
RLY - Externally activated relay

Supply voltage : 12-24Vac/dc, 110Vac & 230Vac  
Supply variation : +/- 10% of Supply Voltage.  
Power drain : 3VA max.  
Output ratings : OP 1&2 : SPDT relay 5A @ 240Vac resistive.  
OP 3 -5 : SPST relay 5A @ 240Vac resistive.

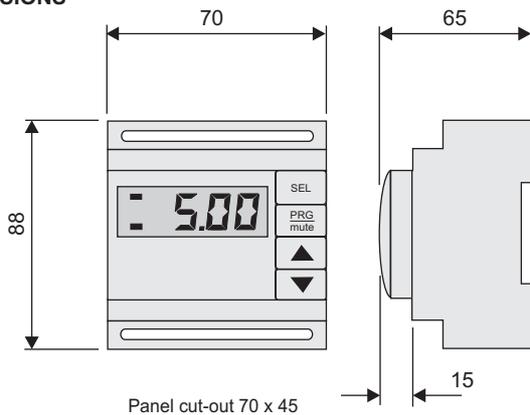
Reset time : 100 msec max.  
Ambient cond : Working temp: 0 to 50°C, storage temp: 0 to 70°C.  
Approvals : Complies with CE directives EN50081-1 & EN50082-1 for emc and EN61010-1 for low voltage.

Weight : 290gms

### CONNECTION DIAGRAM



### DIMENSIONS



### STANDARD ITEMS

No Inputs	No Outputs	Supply Voltage	Part Number
5	5	24Vac/dc	UMT500ML
5	5	110/230Vac	UMT500MH
Wall mounting enclosure			GR15070P

## TE48 1/16 DIN DUAL DIGITAL TIMER



The TE48 is a panel mounting or plug-in programmable timer, packaged in a 1/16th DIN IP65 rated housing and is an extremely versatile product offering 11 operating modes applied to two timed output relay contacts. When only one of the timers is being used, the other output acts as an instantaneous set of changeover contacts. A single model provides timing from 0.1 seconds to 100 hours.

- 11 Programmable modes
- 4 Timing ranges
- Security code
- 2 Timed or 1 time + 1 inst contacts
- Selectable up/down timing
- Programmable reset function
- External hold & reset
- IP65 water & dust protection
- CE emc & low voltage compatible
- Dual LED displays

### SPECIFICATION

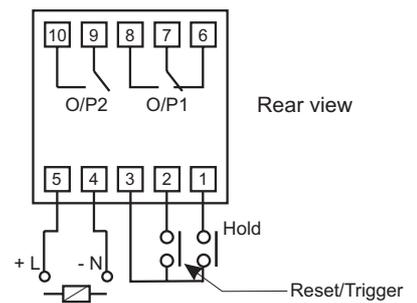
Timing ranges: 0 to 999.9 secs, 0 to 999.9 mins, 0 to 99mins 59 secs, 0 to 99 hrs, 59 mins

Timing modes: DE, INT, DD, DE-2, IT-2, DD-2, DDE, DEIT, DP, CCT, SEQ, MON. See timing chart on page 12 for details

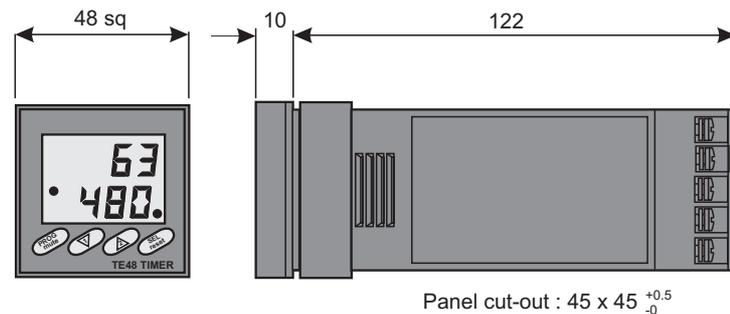
Supply voltage: 90 to 264Vac @ 50/60Hz or 12 to 24Vac/dc  
Supply variation: +/- 10% of supply voltage.  
Power drain: 8VA max.  
Output config: OP1 = SPCO, OP2 = SPNO  
Contact ratings: OP1: 8A @ 240Vac, OP2: 5A @ 240Vac resistive.  
Reset time: 100 msec max.  
Ambient cond: Working temp: 0 to 50°C, storage temp: 0 to 70°C.  
Approvals: Complies with CE directives EN50081-1 & EN50082-1 for emc and EN61010-1 for low voltage.

Weight: 250gms

### CONNECTION DIAGRAM



### DIMENSIONS



### STANDARD ITEMS

Mode	Time	Voltage	Part Number
All	All	12 - 24Vac/dc	TE4800ML
All	All	90 - 264Vac	TE4800MH

# DIGITAL TIMERS

## LE7D-2 SEVEN DAY TIME SWITCH



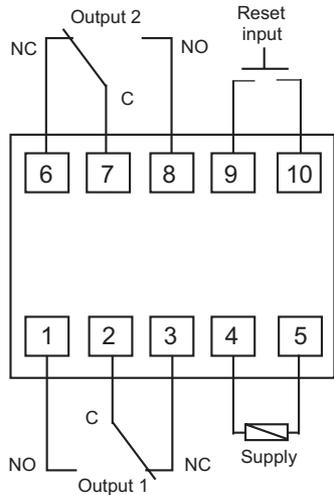
The LE7D is an electronic alternative to the mechanical time switch. It has two independent output relays that can each be programmed with 24 on-off, cyclic or pulsed steps for any combination of days within a weekly cycle. Housed in a 1/6 Din 72 x 72mm case, the LE7D has a clear LCD display and uses simple, intuitive programming techniques. All the programmed data is retained in memory even in the event of power failure.

- 2 independent output relays
- Continuous, cyclic & pulse operation
- 1 minute timing increments
- Large clear LCD display
- 24 step program each day
- Simple programming procedure
- Manual override switch
- Panel, wall or DIN rail mounting

### SPECIFICATION

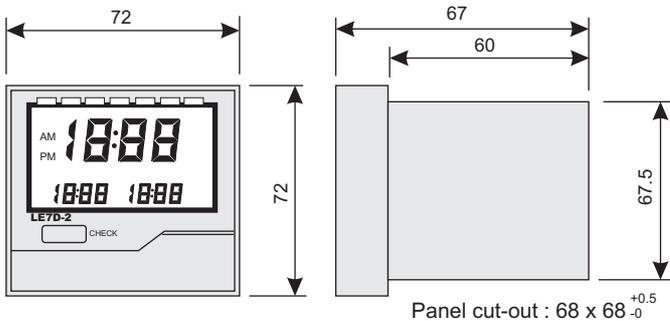
Supply voltage: 100 - 240Vac 50/60Hz  
 Supply variation: +/- 10% of supply voltage.  
 Power drain: 5VA max  
 Timing range: 0 to 23hrs 59mins in 1 minute increments  
 Accuracy: +/- 4 secs per week  
 Timing modes: Continuous on/off, cyclic or pulse  
 Setting range: 7 days  
 Program steps: 24 per day max  
 Memory retention: 5 years without power  
 Output rating: SPDT relay 5A @ 240Vac resistive  
 Reset time: 100 msec max.  
 Ambient cond: Working temp: 0 to 50°C, storage temp: 0 to 65°C.  
 Weight: 250gms

### CONNECTION DIAGRAM



**Note :** This product contains a Lithium battery which must not be cut open, incinerated, exposed to temperatures above 60°C or recharged. When faulty it must be disposed of in accordance with local regulations.

### DIMENSIONS



### STANDARD ITEMS

Mode	Time	Voltage	Part Number
All	All	100-240Vac	LE7D-2

The LE7D-2 is supplied with wall and DIN-rail mounting brackets.

## CT SERIES COUNTER - TIMER



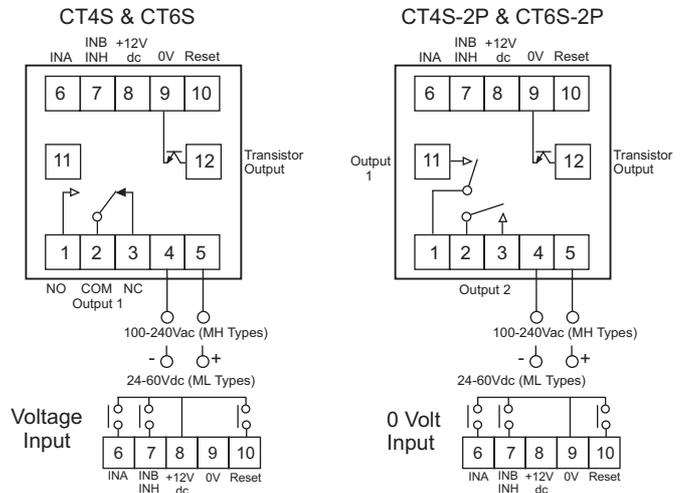
The CT range of counter timers has wide functionality at a competitive cost. Versions are available with 24-60Vdc and 100-264Vac power supplies, 4 or 6 digit dual LED displays and with 1 or 2 presets. The counter has 11 preset modes of operation including batch and cumulative. The timer has 9 modes including delay on, delay off, interval and cycle timer. The CT is housed in a 1/16 DIN 48 x 48mm case with an IP65 environmental rating.

- 9 timing modes
- 11 counter modes
- 4 or 6 digit display options
- Batch counting facility
- Scaleable display
- Time range from 0.01sec to 9999

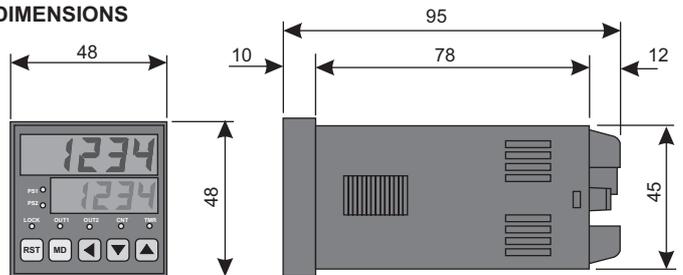
### SPECIFICATION

Supply voltage: 24 to 60Vdc, 100 to 240Vac +/- 10%  
 Power drain: 10VA/6W  
 Voltage input: High 5-30Vdc, Low 0-2Vdc, i/p impedance 5.4K  
 Resistive input: Open 100K min, Closed 1k max  
 Input frequency: 1Hz, 30Hz, 1kHz, 5kHz, or 10KHz  
 Input signal: Counter reset: 1ms or 20ms  
 Timer start, hold & reset: 1ms or 20ms  
 Sensor supply: 12Vdc +/-10% 100mA max  
 Outputs: None  
 Single preset: 1 SPDT relay 2A @ 250V resistive + 1 transistor 30Vdc 100mA max  
 Dual preset: 2 SPST relay 2A @ 250V resistive + 1 transistor 30Vdc 100mA max  
 Timing ranges: 0.01 seconds to 9999hrs 59mins  
 Timing modes: On delay, Off delay, Interval and Cycle  
 Pulse output: Counter: 10 to 1000mS  
 Timer: 10 to 5000mS  
 Ambient cond: Working temp -10 to 55°C, Storage -25 to 65°C  
 35% to 85%RH  
 Weight: 150 - 160gms

### CONNECTION DIAGRAMS



### DIMENSIONS



Panel cut-out 45.5 x 45.5<sup>+0.5</sup><sub>-0.0</sub> . Minimum spacing centres : 55 horizontal, 62 vertical

### STANDARD ITEMS

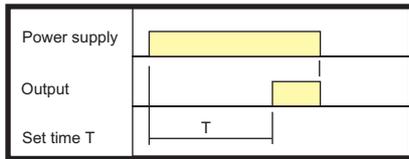
No Digits	No Presets	Power Supply	Part Number
4	1	100 - 230Vac	CT4S-1P-MH
6	2	100 - 230Vac	CT6S-2P-MH
4	2	24 - 60Vdc	CT4S-2P-ML
6	2	24 - 60Vdc	CT6S-2P-ML

Please contact our sales office for availability of other models

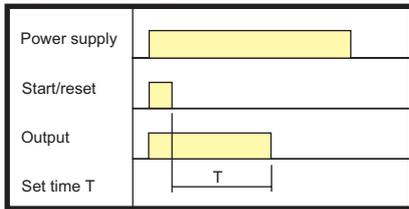
# TIMER OPERATING MODES

TIMERS

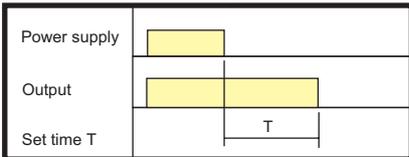
## DE : Delay on energise



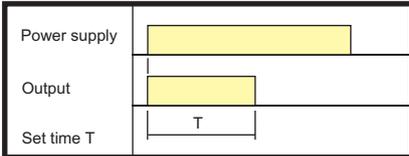
## DD : Delay on de-energise



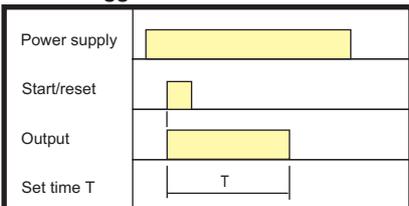
## TDD : True delay on de-energise



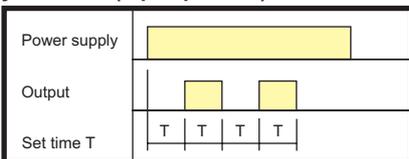
## INT : Interval



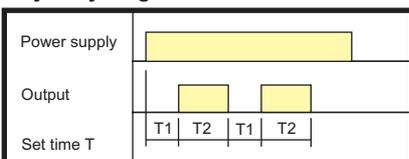
## ETI : External triggered interval



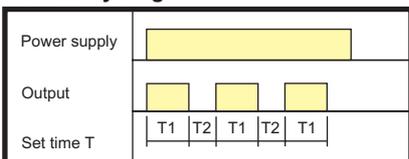
## CT : Cyclic timer (equal periods)



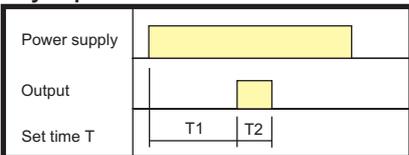
## DC : Delayed cycling



## IC : Immediate cycling

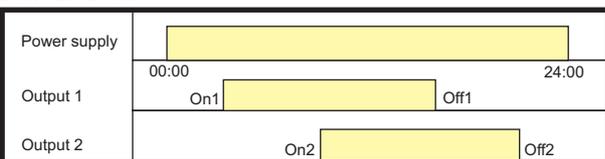


## DP : Delayed pulse

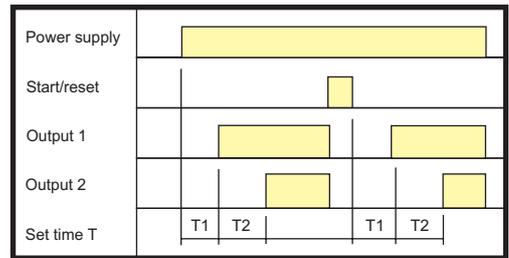


NOTE : For UDT  
T2=250msec

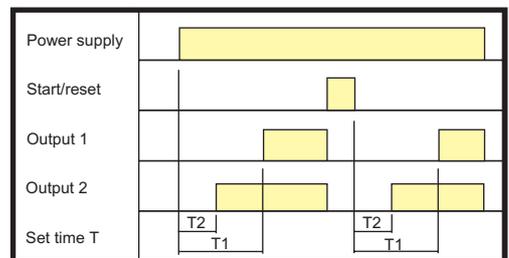
## 24H : 24 hour clock



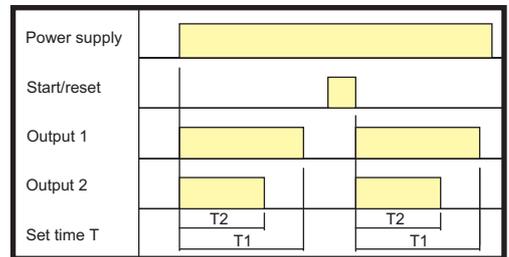
## DDE : Dependant delay on energise



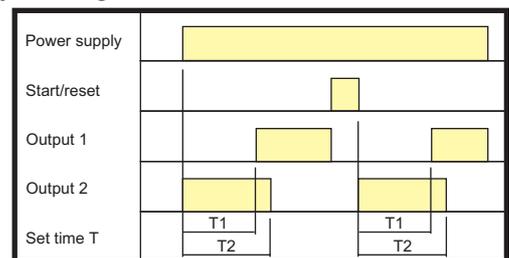
## DE-2 : 2 Delays on energise



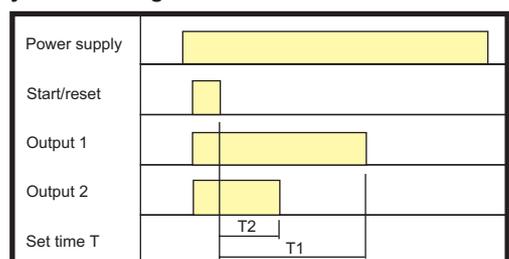
## IT2 : 2 Intervals



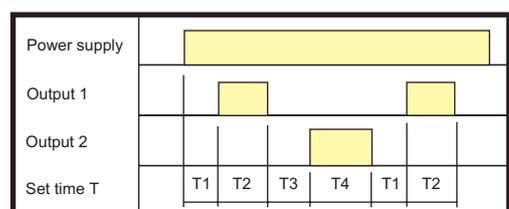
## DEIT : Delay on energise + Interval



## DD2 : 2 Delays on de-energise



## SEQ : Sequence



## MON : Cycle time monitor

