

# ELECTRONIC TIMERS



Minilec offers timers for various functions and applications, in various enclosures/sizes and with multi voltage options.

## MODELS

**S1 ETS1, S1 ETM1, ETS D1, ETAD1,  
ESR D1, S1 ESD1, ESD D1,  
D1 ETM1, S2ETM1,  
D2 ETR1,  
S2 ETM2, S2 ETM3**



## FEATURES

- Single voltage & Multi-voltage
- Single function and multi-function
- Wide time range
- Better repeat Accuracy
- Models with Micro-Controller based design
- Use of SMD Technology (S2 Series models)

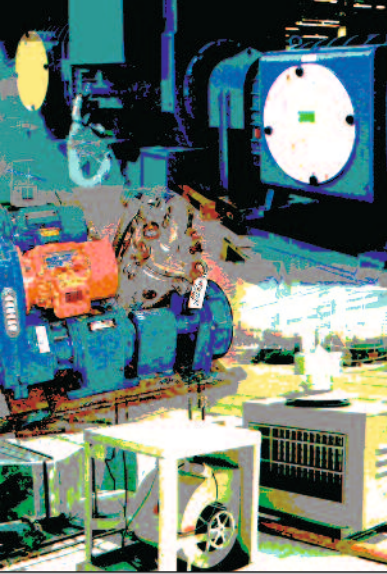

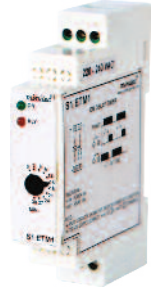


## FUNCTIONS

- On Delay
- Interval Delay
- Cyclic ON/OFF
- Multi-Attempt (for Engine Starting)
- Star-Delta changeover
- True off Delay

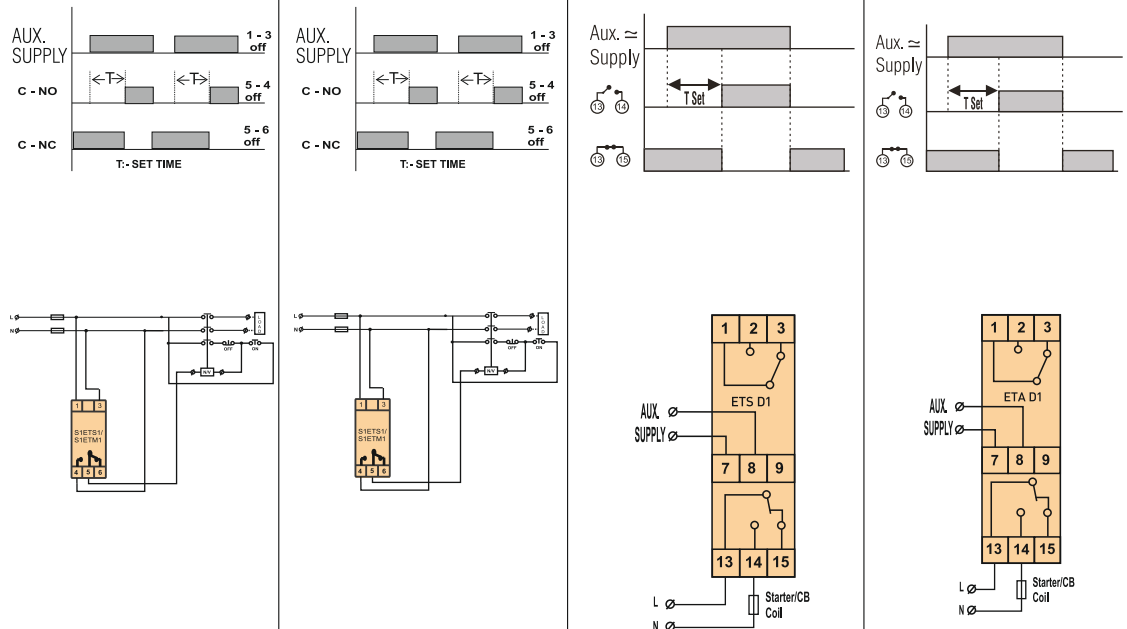
### Ordering Instructions

- Product Family Name
- Model Name
- Aux. Supply/Control supply voltage
- Application
- Time Range

# ON DELAY TIMERS

	S1 ETS1 On Delay Timer	S1 ETM1 On Delay Timer	ETS D1 On Delay Timer	ETA D1 On Delay Timer (Multivoltage)
	 <p style="text-align: center;">On Delay timer, Auto reset, Time range upto 0-30 or 0-60 sec., 1CO output relay</p>	 <p style="text-align: center;">On Delay timer, Auto reset, Time range upto 0-30 or 0-60 min., 1CO output relay</p>	 <p style="text-align: center;">On Delay, time range 209 hours, 2 CO output relay</p>	 <p style="text-align: center;">On Delay, time range 30 Minutes, Multi- voltage supply, 2 CO output relay</p>
<p><b>Supply Voltage</b> <small>Note: Mention specific voltage (Fixed/wide range) in order</small> Auxiliary</p>	100-120/220-240/380-440 V AC $\pm 20\%$ 12/24VDC (-10%/+20%), 24 VAC (-10%/+15%)	100-120/220-240/380-440 V AC $\pm 20\%$ 12/24VDC (-10%/+20%), 24 VAC (-10%/+15%)	24/110 / 240 / 380 / 415 V AC $\pm 20\%$ , 12 / 24 V DC $\pm 20\%$	24-240 V AC / DC +10%, -20%
<b>Output Contacts</b>	1 CO	1 CO	2 CO	2 CO
<b>Time Range</b>	0-10 sec., 0-30 sec., 0-60 sec.	0-30 min., 0-60 min.	0.1-10, 1-19, 10-109, 20-209 sec, 1-19, 10-109, 20-209 min, 1-19, 10-109, 20-209 Hrs.	0.7 secs. - 30 mins. (4 ranges)
<b>Operating Modes</b>	On Delay	On Delay	On Delay	On Delay
<b>Weight</b>	90 gms.	90 gms.	175 gms.	160 gms.
<b>Dimensions (mm)</b>				
Overall (L x W x D)	90 x 18 x 60	90 x 18 x 60	76 x 30.5 x 120	76 x 30.5 x 117.5
Mounting (L x W)	35 mm Rail Mounting	35 mm Rail Mounting	68 mm centre to centre / 35 mm Rail Mounting	68 centre to centre / 35 mm Rail Mounting

Wherever not specified Contact Rating :  
5A @ 230 V AC (resistive)

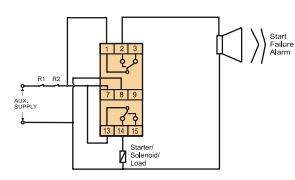
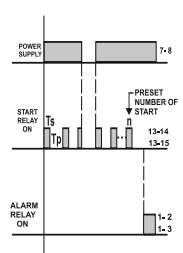


**Note : Relay contacts Shown For Relay in Power Off Condition.**

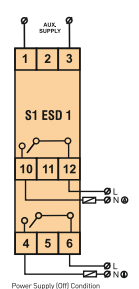
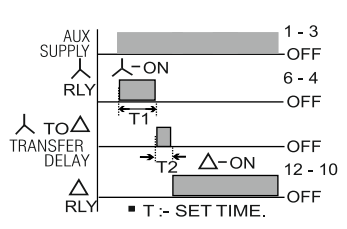
Note: ETS D1 old model available on request

# SPECIAL FUNCTION TIMERS

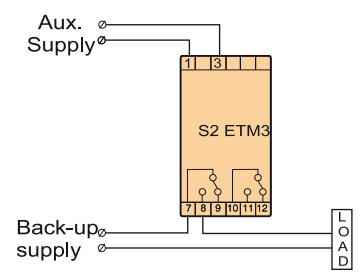
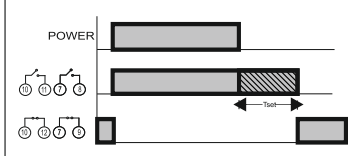
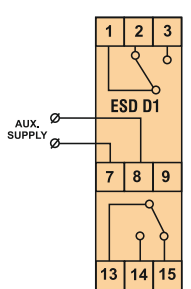
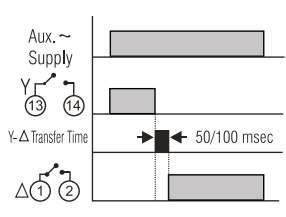
ESR D1 Engine Start Relay	S1 ESD1 Start Delta Timer	ESD D1 Star Delta Timer	S2 ETM3 Off Delay Timer
Multi-attempt engine start relay	Star to Delta, Changeover timer, Time range upto 60 seconds, 2x1 NO output relay	Star to Delta Changeover timer, Time range upto 60 seconds, 2x1NO output relays	Off Delay timer, Auto reset, Time range upto 200 seconds, 2 CO output relay
12, 24 VDC $\pm$ 10 % 110 / 220/ 230 / 240 VAC $\pm$ 20%	100-120/220-240/380-440 $\pm$ 20% V AC 12/24 VDC (-10%+20%)	110 / 240 / 380 / 415 V AC +10%, -20%	110/240 V AC $\pm$ 10%
Start attempts - 1 CO Alarm on - 1 CO	1 NO-Star relay 1 NO-Delta relay	1 NO-Star relay (NO) 1 NO-Delta relay (NO)	2 CO
	0.75 - 75. sec., 6 - 60sec.	0.7 - 60 secs. in 2 diff. ranges	10 - 100 Sec. 20 - 200 Sec.
Start Time - 1 to 10 secs. (via Potentiometer) Pause Time - 2 to 20 secs. (via Potentiometer) Number of attempts - 1 to 10 (via Potentiometer)	Star Delta Changeover Time 50 / 100 m.secs.	Star Delta Changeover Time 50 / 100 m.secs.	Power On
175 gms.	120 gms. (Approx.)	175 gms.	170 gms. (Approx.)
76 x 30.5 x 117.5	90 x 18 x 60	76 x 30.5 x 117.5	90 x 35 x 60
68 mm centre to centre / 35 mm Rail Mounting	35 mm Rail Mounting	68 mm centre to centre/35 mm Rail Mounting	35 mm Rail Mounting



Note: Relay contacts shown for relay in energized condition & alarm relay in de energized condition



Starter Coil (240 V AC or Line Supply for Starter Coil (415 V AC)  
Starter Coil (240 V AC or Line Supply for Starter Coil (415 V AC)



Relay contact position shown in 'Time Elapsed' condition

# CYCLIC TIMERS

## D1 ETM1

Multi Function Timer



Microcontroller based Multi-function timer (On delay, interval delay, cyclic, star-delta, Engine starting), time range upto 100 Hrs, 2x1CO output relays

## S2 ETM1

Multi Function Timer



Microcontroller based, SMD technology Multi-function timer (On delay, interval delay, cyclic, star-delta, Engine starting), time range upto 100 Hrs, 2x1CO output relays

## D2 ETR1

Cyclic & Forward-Reverse Timer



Microcontroller based, Unequal cyclic and forward-reverse functions, on time and pause time selectable, 2x1CO output relays

## S2 ETM2

Cyclic & Forward-Reverse Timer



Microcontroller based, SMD technology Unequal cyclic and forward-reverse functions, on time and pause time selectable, 2x1CO output relays



**Supply Voltage**  
Note: Mention specific voltage (Fixed/wide range) in order  
**Auxiliary**

12 VDC  $\pm$  20%  
24 VAC/DC  $\pm$  20%  
\*24-240VAC/DC  $\pm$  10% -20%  
\*100-120/220-240/380-440VAC  $\pm$  20%

12 VDC  $\pm$  20%  
24 VAC/DC  $\pm$  20%  
\*100-120/220-240/380-440VAC  $\pm$  20%

\*24/110/240/415VAC,  $\pm$  20%,  
12/24 VDC  $\pm$  10%

\*100-120/220-240/380-440 V AC  $\pm$  20%,  
12/24 VDC  $\pm$  20%

**Output Contacts**

1 CO + 1 CO

1 CO + 1 CO

1 CO + 1 CO

1 CO + 1 CO

**Time Range**

0.1-1, 1-10, 6-60, 60-600 seconds  
0.1-1, 1-10, 10-100 hours

0.1-1, 1-10, 6-60, 60-600 seconds  
0.1-1, 1-10, 10-100 hours

On Time - 0.1 Sec.To 100 Hrs.  
Pause Time - 0.1 Sec.To 100 Hrs

On Time- 0.1 Sec.To 100 Hrs.  
Pause Time- 0.1 Sec.To 100 Hrs

**Operating Modes**

M1 - On delay  
M2 - Interval  
M3 - Cyclic off first  
M4 - Cyclic on first  
M5 - Star Delta  
M6 - Instant & Delayed  
M7 - Engine Start Mode

Selectable  
By Rotary  
Switch

M1 - On delay  
M2 - Interval  
M3 - Cyclic off first  
M4 - Cyclic on first  
M5 - Star Delta  
M6 - Instant & Delayed  
M7 - Engine Start Mode

Selectable  
By Rotary  
Switch

Mode 1 Unequal Cyclic Operation  
Mode 2 Forward Reverse Cyclic Operation

Mode 1 Unequal Cyclic Operation  
Mode 2 Forward Reverse Cyclic Operation

**Weight**

200 gms (Approx.)

150 gms (Approx.)

200 gms (Approx.)

100 gms (Approx.)

**Dimensions (mm)**

Overall (L x W x D)

76 x 30.5 x 117.5

90 x 35 x 60

76 x 56.5 x 117.5

90 x 35 x 60

Mounting (L x W)

68 mm centre to centre / 35 mm Rail Mounting

35 mm Rail Mounting

67 x 46 / 35 mm Rail Mounting

35 mm Rail Mounting

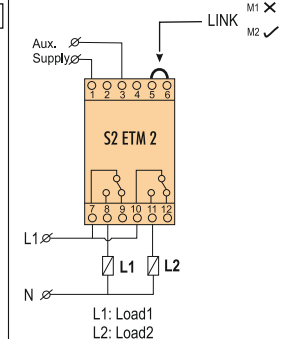
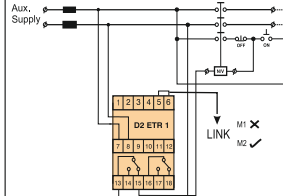
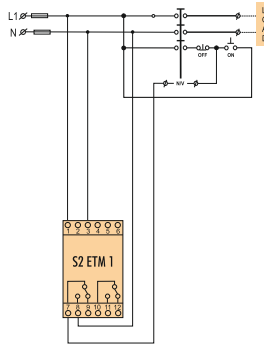
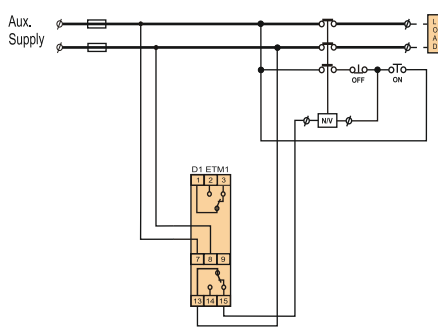
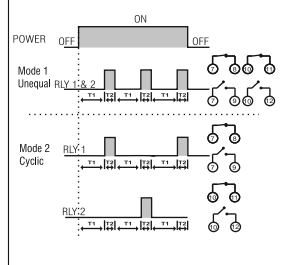
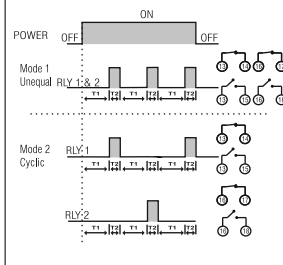
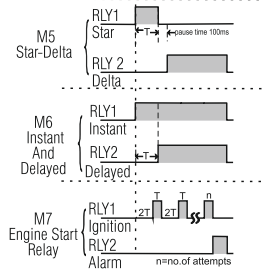
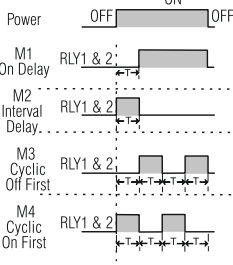
\*CE/CSA Not available for 110 V AC & 24-240 VAC/DC Models

\*CE/CSA Not available for 110VAC models

\*CE/CSA mark not available for 110VAC models

\*CE/CSA mark not available for 110VAC models

Wherever not specified Contact Rating :  
5A @ 230 V AC (resistive)



Relay contact position shown in 'Power off' condition

Note: S2 Series - RoHS Product available on request.