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TACTICAL TECHNOLOGIES PTY LTD

Universal Digital Timer Module

TIM-01

TIM-01 General Features

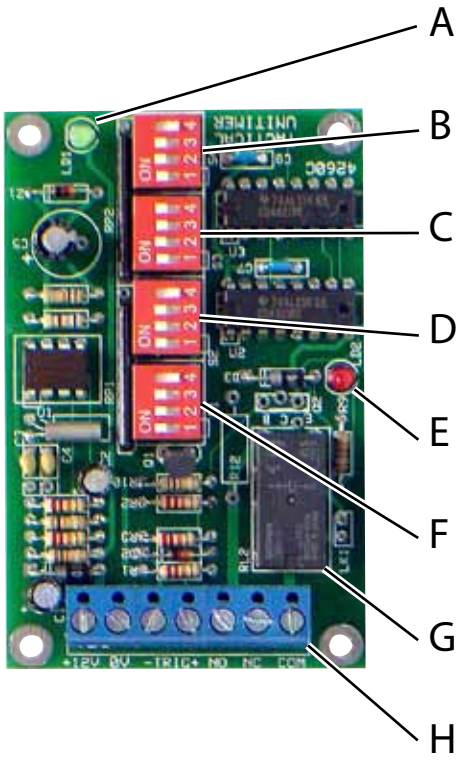
The TIM-01 Universal Digital Timer Module has been designed to provide 8 field programmable functions controlling a Single Pole Double Throw relay with timing intervals ranging between 1 second and 99 days.

The unit must be powered by a constant 12Vdc power supply and will accept either positive or negative triggering from external devices such as reed switches, request to exit buttons and access control PLC's (Programmable Logic Controllers).

TIM-01 may be programmed for Fail Safe operation (relay is energised when trigger is not active & will de-energise during power failure) or Fail Secure (relay does not change state during a power failure)

Programming may be changed whilst unit is powered, but power must be disconnected, then reconnected before changes become active as DIP switch configuration is read during boot sequence only.

TIM-01 Layout



See over page for details

	Description
A	Power LED
B	SW 4 - "Ones" Switch Bank
C	SW 3 - "Tens" Switch Bank
D	SW 2 - "Timing" Switch Bank
E	Relay Operation LED
F	SW 1 - "Mode" Switch Bank
G	Output Relay - 1A @ 30Vdc Max (SPDT)
H	Terminal Block

SW 1 = Mode	1	2	3	4
One Shot	-	On	On	Off
Retriggerable	-	On	Off	On
Strobe	-	On	Off	Off
Clutch Relay	-	Off	On	On
Programmed Pulse	-	Off	On	Off
Debounce	-	Off	Off	On
Stand-Off Timer	-	Off	Off	Off
Relay Fail Secure	On	-	-	-
Relay Fail Safe	Off	-	-	-

SW 2 = Timing	1	2	3	4
Seconds	On	On	On	Off
Minutes	On	On	Off	On
Hours	On	Off	On	On
Days	Off	On	On	On

SW 3 = Tens	1	2	3	4
0	On	On	On	On
1	On	On	On	Off
2	On	On	Off	On
3	On	On	Off	Off
4	On	Off	On	On
5	On	Off	On	Off
6	On	Off	Off	On
7	On	Off	Off	Off
8	Off	On	On	On
9	Off	On	On	Off

SW 4 = Ones	1	2	3	4
0	On	On	On	On
1	On	On	On	Off
2	On	On	Off	On
3	On	On	Off	Off
4	On	Off	On	On
5	On	Off	On	Off
6	On	Off	Off	On
7	On	Off	Off	Off
8	Off	On	On	On
9	Off	On	On	Off

TIM-01 Program Modes:

One Shot - Applying trigger activates relay for selected time. Trigger input must be removed & re-applied to re-activate.

Retriggerable - As for One Shot, except where input is retriggered, the timer starts again.

Strobe - Requires momentary trigger to be applied, relay will activate for programmed time.

Clutch Relay - Applying trigger causes relay to change state. Removing and re-applying trigger forces relay to change state. No timing function in this mode.

Programmed Pulse - Applying trigger causes relay to operate for one second at programmed intervals. Set intervals on SW2,SW3 & SW4. Operation ceases when trigger is removed.

Debounce - Applying trigger causes relay to activate for programmed time. Relay remains activated until timeout regardless of trigger being removed. If input remains triggered after timeout, relay remains activated until trigger is removed.

Stand-Off Timer - Ideal for DOTL (Door Open Too Long) alarms. Timing commences when trigger is applied. If trigger is removed before timeout, relay will not activate. If trigger remains after timeout, relay will activate. *(See also Note 3. below)*

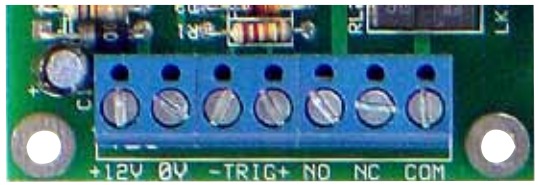
Fail Secure - The relay does not change state during power failure.

Fail Safe - The relay is energised when the trigger is not active. Relay will de-energise (e.g. releasing power to door locks) during a power failure.

Important Information:

1. Power (12Vdc) must be applied constantly to the timer. i.e Power cannot be applied simultaneously with trigger.
2. TIM-01 may be programmed while powered, but power must be disconnected for 10 seconds, then re-applied before new programming options are initialised.
3. TIM-01 may be triggered by the application of 0V (12V negative) to the "Trig -" terminal or by the application of 5-12Vdc (max) to the "Trig +" terminal. (Trigger applied singularly, not simultaneously)
4. Timer is activated by application of trigger - not by removal of trigger i.e. When using Stand-off Timer mode for DOTL, change-over reed switches (N.O. when door closed) must be used or a relay used to invert reed switch operation.

TIM-01 Terminal Connections:



12V +	12Vdc Positive Input	**NO**	Normally Open Relay Contact
0V	12Vdc Negative Input	**NC**	Normally Closed Relay Contact
Trig -	Negative Trigger Input (0V / 12V negative)	**NO**	Common Relay Contact
Trig +	Positive Trigger Input (5-12Vdc positive Max)		

Specifications:

N645

Input Voltage	12Vdc - 13.8Vdc
Quiescent Current	15mA @ 12Vdc
Operational Current	35mA @12Vdc
Relay Rating	1A @ 30Vdc SPDT
Dimensions	85L x 54W x 20H mm
Weight	40g
C-Tick	N-645 to Class B

Designed & Manufactured