Programming Instructions

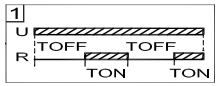
Apply power & hold the SET key for > 3 sec.
OR
Press both ADJ & SET key for > 3 sec. After power ON.
Now follow the steps given below

KEY	DISPLAY	RESULT
ADJ	F 5:39 HM	Press ADJ key to select desired function (e.g. F)
SET	F 5:39 HM	Confirms function Then Range indicator blinks
ADJ	F 5:39 HM	Press ADJ key to select range (e.g. HM range ' HM ')
SET	F 5:39 HM	Confirms range selection. 1st digit of Preset time blinks. (For modes '1', '2' & 'G' two preset times 'On' & 'Off' to be set)
ADJ	F 8:39 HM	Press ADJ key to adjust desired preset time digit (e.g.from 5 to 8)
SET	F 8:39 HM	Press Set to confirm 1st digit selection, now 2nd digit blinks
ADJ	F 8:09 HM	Change with ADJ Key (e.g.from 3 to 0)
SET	F 8:09 HM	Confirms 2nd digit selection, now 3rd digit of Preset Time blinks.
ADJ	F 8:06 HM	Change with ADJ Key (e.g. from 9 to 6)
SET	F 8:06 HM	Now UP / DOWN Indicator blinks
ADJ	F 8:06 HM △	Change with ADJ Key (e.g.from DOWN to UP)
SET	00.0 F 8:06 HM △	Confirms counting mode. Program Over. Timer starts working normally.

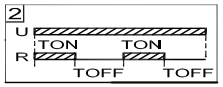
Timing Diagrams of Modes

1. ON DELAY [0]

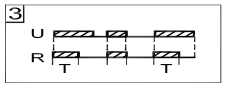
2. CYCLIC OFF/ON {OFF Start, (Sym, Asym)} [1]



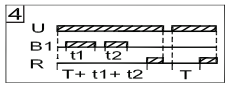
3.CYCLIC ON/OFF {ON start,(Sym,Asym)} [2]



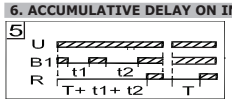
4. IMPULSE ON ENERGIZING [3]



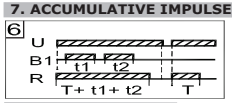
5. ACCUMULATIVE DELAY ON SIGNAL [4]



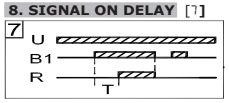
6. ACCUMULATIVE DELAY ON INVERTED SIGNAL [5]



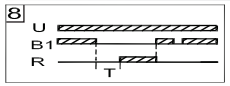
7. ACCUMULATIVE IMPULSE ON SIGNAL [6]



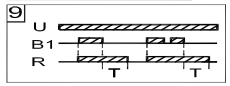
8. SIGNAL ON DELAY [7]



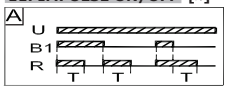
9. INVERTED SIGNAL ON DELAY [8]



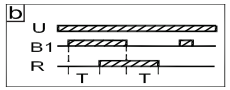
10. SIGNAL OFF DELAY [9]



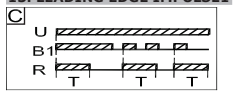
11. IMPULSE ON/OFF [A]



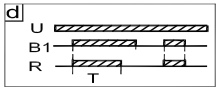
12.SIGNAL OFF/ON [b]



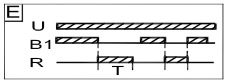
13. LEADING EDGE IMPULSE1 [C]



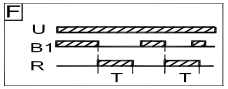
14. LEADING EDGE IMPULSE2 [d]



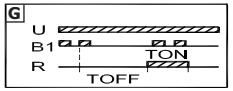
15. TRAILING EDGE IMPULSE1 [E]



16. TRAILING EDGE IMPULSE2 [F]



17. DELAYED IMPULSE [G]



Functional Description

1. ON DELAY [0]
Timing commences when supply is present.R energizes at the end of the timing period.

2. CYCLIC OFF/ON {OFF Start, (Sym, Asym)} [1]
T-ON and T-OFF can be same or different. The relay(R) keeps on changing its status till power is removed.

3.CYCLIC ON/OFF{On Start,(Sym,Asym)} [2]
This function is quite similar to the function '1' but initially the relay(R) is ON for period T-ON after the power is applied.

4.IMPULSE ON ENERGIZING [3]
After power ON, R energizes and timing starts. R de-energizes after timing is over.

5.ACCUMULATIVE DELAY ON SIGNAL [4]
Time commences as supply is present and switch B1 is open. Closing switch B1 pauses timing. Timing resumes when switch B1 is opened again. R energizes at the end of timing.

Important Note:

1. Output de-energizes when device enters into PROGRAM MODE and starts new cycle after coming out of PROGRAM MODE.
2. Loads which have current requirement > 1mA, can only be used as Optional Load. For e.g. Contactor Coil, AC Relay Coil, etc.

6. ACCUMULATIVE DELAY ON INVERTED SIGNAL [5]
Time commences as supply is present and switch B1 is closed. Opening switch B1 pauses timing. Timing resumes when switch B1 is closed again. R energizes at end of timing.

7. ACCUMULATIVE IMPULSE ON SIGNAL [6]
When supply is ON, R energizes. When switch B1 is closed timing is suspended and remains suspended till switch B1 is opened again. Interrupting supply resets timer.

8. SIGNAL ON DELAY [7]
Permanent supply required. Timing starts when switch B1 is closed. R energizes at end of timing period and de-energizes when B1 is opened.

9. INVERTED SIGNAL ON DELAY [8]
Timing will commence when supply is present and switch B1 is open. R energizes after timing .If B1 is closed during timing period, timing resets to the beginning of cycle.

10. SIGNAL OFF DELAY [9]
Permanent supply is required. R energizes when switch B1 is closed. Timing commences after S is opened and then the relay de-energizes.

11. IMPULSE ON/OFF [A]
Permanent supply is required. R energizes for the timing period when B1 is opened or closed. When timing commences, changing state of B1 does not affect R but resets timer.

12. SIGNAL OFF/ON [b]
When switch B1 is closed or opened for preset time ,T, the relay changes its state after time duration T.

13. LEADING EDGE IMPULSE 1 [C]
A permanent supply is needed. When B1 is closed, output relay energizes until timing irrespective of any further action of B1.

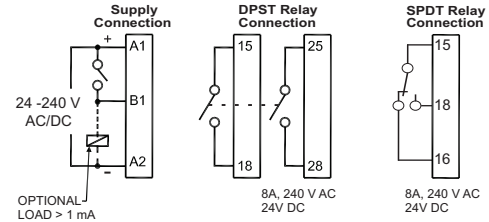
14. LEADING EDGE IMPULSE 2 [d]
Permanent supply is required. when switch B1 is closed, and remains closed output relay energizes until timing is over. If B1 is opened during timing, R resets.

15.TRAILING EDGE IMPULSE 1 [E]
Permanent supply required. when B1 is opened, R energizes and de-energizes when timing is over. If B1 is closed during timing R resets.

16. TRAILING EDGE IMPULSE 2 [F]
Permanent supply is required. When switch B1 is opened, R energizes and will de-energize when timing is over. If B1 is pulsed during timing period it will have no effect on R.

17. DELAYED IMPULSE [G]
when switch B1 is closed, T_{OFF} starts. Relay energizes at the end of T_{OFF} period. Then, T_{ON} starts irrespective of signal level and relay de-energizes at the end of T_{ON} period.

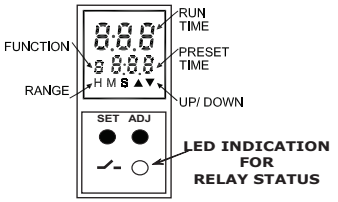
CONNECTIONS



TECHNICAL SPECIFICATIONS		
CAT. No.	**AMT12-S1**	**AMT12-D2**
SUPPLY CHARACTERISTICS		
Nominal Supply (U)	24 - 240 VAC / DC (50 - 60 Hz, +/-2 Hz)	
Limits	-15 % to +10% of U	
Power Consumption (Max.)	~ 10 VA	
RELAY OUTPUT CHARACTERISTICS		
Contact Arrangement	1 C/O	2 NO
Contact Rating	240 VAC / 24 VDC @ 8A (resistive)	240 VAC / 24 VDC @ 8A (resistive)
Contact Material	Ag alloy	
Mechanical Life Expectancy	2×10^7	
Electrical Life Expectancy	1×10^5	
Switching Frequency (Max.)	1800 Operations / hr. @ rated load	
Status Indication on panel	Red LED - Relay ON	
FEATURE CHARACTERISTICS		
Modes Available	Refer "Timing diagrams of modes".	
Timing Ranges	h:m 9:59 / m:s 9:59 / hr 999 99.9 / min 999 99.9 / sec 999 99.9	
Repeat Accuracy	+/-0.5% of selected range	
Variation in timing due to voltage change	+/-2%	
Variation in timing due to temperature change	+/-5%	
Temperature limits	Operating: -10 °C to +55 °C	Storage: -20 °C to +65 °C
Humidity (Non - Condensing)	93 % Rh	
Mounting	Base / Din - Rail (35 mm Sym.)	
Weight (Unpacked)	85 gms (approx).	
Initiate Time	40 ms.	
Reset Time	<200 ms.	
Isolation (Between Input and Output)	2.5 kV	
Degree of protection	IP30(Enclosure) , IP20(Terminals)	
Utilization category AC-15 **Ue Rated Voltage V** **Ie Rated Current I**	 120/240 3.0/1.5	
Utilization category DC-13 **Ue Rated Voltage V** **Ie Rated Current I**	 125/250 0.22/0.1	
CERTIFICATIONS	CE, RoHS	
Vibration	IEC 60068-2-6	
Fast Transients	IEC 61000-4-4 Level IV Ed.2.0b-2004-07	
Surges	IEC 61000-4-5 Level IV Ed.2.0b-2005-11	
Voltage Dips, short interruptions and voltage variations	IEC 61000-4-29 (DC) Ed. 1.0b-2000-08 IEC 61000-4-11 (AC) Ed.2.0b-2004-11	
Radiated Susceptibility	IEC 61000-4-3 Level III Ed.3.0b-2006-02	
EMC Conducted Emission	CISPR-14, Class-A	
EMC Radiated Emission	CISPR-14, Class-B	
ESD	Areas other than side surfaces are ESD sensitive	

⚠ Caution :

1. Always follow instructions stated in this product leaflet.
2. Before installation, check to ensure that the specifications agree with the intended application.
3. Installation to be done by skilled electrician.
4. Automation & Control devices must be properly installed so that they are protected against any risk of involuntary actuations.



1. PRESET TIME: The Timer Duration selected by the user.

2. RUN TIME**:** In Down counting (▼) mode it indicates the remaining time while in Up counting (▲) mode it indicates the elapsed time.

3. Up/Down (▲▼) blinks during the Timer Duration (T)

THE KEYS

KEY	OPERATION	RESULT
SET	Apply Power & Hold the key for >3 sec. OR	Program Mode
ADJ + SET	Press both > 3 sec after power on	Program Mode
SET	Press in Program mode	Select, Edit parameter
ADJ	Press in Program mode	Edit blinking parameter
SET	Press for > 3 sec. during Timer operation	Reset Timer
ADJ	Press for > 3 sec. during Timer operation	Lock / Unlock Preset Time
SET	Press during Timer operation	Edit Preset Time during Timer operation

ALTECH DIGITAL TIMER

Altech Corp.®

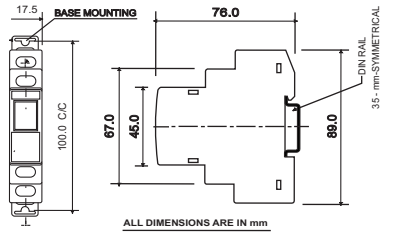
CAT. NOS.: AMT12-S1
AMT12-D2

Features :

- 17 functions
- Wide operating voltage : 24 to 240 V AC/DC
- Multi Range : 0.1 sec to 999 hrs.
- Up / Down counting modes
- 3 Digit LCD for Preset Time and Run Time
- Clear LED indication of Relay status
- Key lock Function
- Conforms to IEC standards of EMI/EMC
- Compact size (17.5 mm single width module)

Note : Product innovation being a continuous process, we reserve the right to alter specification without any prior notice.

OVERALL DIMENSIONs



Ø 3.5 mm	0.54 N.m (5 Lb.in)
	1 X 0.2...2.5 mm^2 Solid Wire / Single Wire Ferrule
	2 X 0.2...0.5 mm^2 Insulated Twin Wire Ferrule
AWG	1 X 23 to 13