

Universal Timer

User Manual

Notice before start-up

Please confirm the specification of instrument is to totally with your requirement before using it, also read this manual in detail.



Danger

Danger! Electric Shock!

DON'T touch AC power wiring terminals when instrument has been powered!

Keep the power off until all of the wirings are completed!



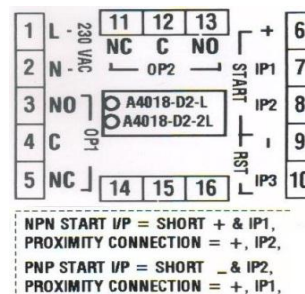
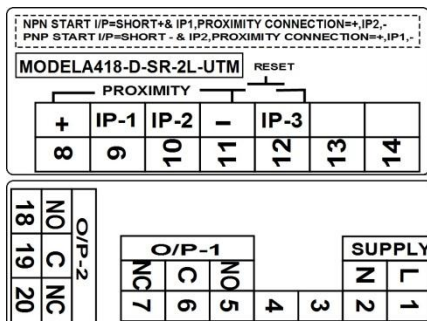
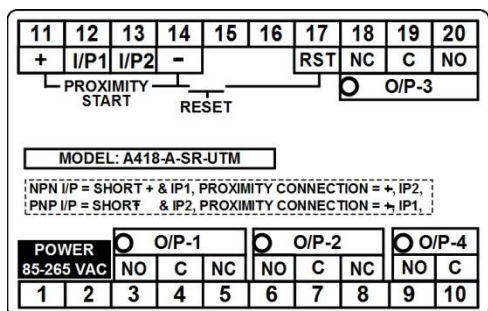
Warning

- 1) Please confirm the AC power wiring to instrument is correct, otherwise it would be caused aggravated damage on instrument.
- 2) Be sure to use the rated power supply, otherwise it would be caused aggravated damage on instrument.
- 3) Please confirm wires are connected with correct terminal (Power, Input and Output).
- 4) Avoid installing instrument in following spaces:
 - I. A place where the ambient temperature may reach beyond the range from 0 to 50°C
 - II. A place where the ambient humidity may reach beyond the range from 20 to 90% RH.
 - III. A place where the instrument likely to come into contact with water, oil, chemicals, steam and vapor.
 - IV. A place where the instrument is subject to interface with static electricity, magnetism and noise.
- 5) For proximity input, use shield compensating lead wire.

TECHNICAL SPECIFICATIONS

Product Name	: Universal Timer
Model No.	: A418-A-SR-L-UTM / A418-D-SR-L-UTM / A418-D2-SR-L-UTM
Input	: Proxy (selectable)/start, Back reset
Output	: 1 Relay, 5Amp/ Relay-1 (Contacts NO-C-NC)
Display	: A418-A-SR-L-UTM: - 4 digits 0.56" RED seven segment display + 4digits 0.39" GREEN seven segment display. A418-D-SR-L-UTM: - 4 digits 0.39" RED seven segment display + 4digits 0.39" GREEN seven segment display.
Reset	: Auto Reset, Back Reset, Manual Reset
Output Logic	: On delay/Off delay/Cyclic
Power Supply	: 230VAC $\pm$ 10%

TERMINAL DETAILS



INPUT TYPE	A418-A-SR-L-UTM	A418-D-SR-L-UTM	A418-D2-SR-L-UTM
230 V AC Supply	Terminal 1 & 2	Terminal 1 & 2	Terminal 1 & 2
NPN Pulse Input	Short Terminal 11 & 12, Terminal 11 (+Ve), 13 (NPN Signal) & 14 (-Ve)	Short Terminal 8 & 9, Terminal 8 (+Ve), 10 (NPN Signal) & 11 (-Ve)	Short Terminal 6 & 7, Terminal 6 (+Ve), 8 (NPN Signal) & 9 (-Ve)
PNP Pulse Input	Short Terminal 13 & 14, Terminal 11 (+Ve), 12 (PNP Signal) & 14 (-Ve)	Short Terminal 10 & 11, Terminal 8 (+Ve), 9 (PNP Signal) & 11 (-Ve)	Short Terminal 8 & 9, Terminal 6 (+Ve), 7 (PNP Signal) & 9 (-Ve)
Reset Input	Terminal 14 & 17 (Potential Free Contact)	Terminal 11 & 12 (Potential Free Contact)	Terminal 9 & 10 (Potential Free Contact)
Output 1(Relay)	Terminal 3(NO), 4(C) & 5(NC)	Terminal 5(NO), 6(C) & 7(NC)	Terminal 3(NO), 4(C) & 5(NC)

Display Indication:

Running Time -----=on Upper Display according to Unit (SEC/MIN/HOUR)
 Set Value -----=on Lower Display according to Unit (SEC/MIN/HOUR)
 Completed Cycle -----=on Upper display by pressing UP Key (For Cyclic Timer only).

CONFIGURATION MENU

To enter in configuration menu, press SET+UP Key till 1 second. Configure all parameter as per your requirement.

KEY	LOWER DISPLAY	UPPER DISPLAY	FUNCTION	RANGE
SET+UP	t.typ	On-d	Timer Type: Select timer type either as On-delay timer, either as OFF-delay, either or Cyclic timer. ON delay – In this mode Relay will be ON after set time. OFF delay – In this mode Relay will be On with input, and will be Off after this time. Press UP key to change the Timer type.	On-d/ OF-d/CYC
SET	1St	On	First time is ON or OFF: In cyclic timer there are selection for first time will be ON time or OFF time. ON – First time (On t) will be considered as an ON time for relay. During this time Relay-1 remains ON. And second time (OFF t) will be OFF time for relay. OFF – First time (OFF t) will be considered as an OFF time for relay. During this time Relay-1 remains OFF. And second time (On t) will be ON time for relay.	On/OFF
SET	Unt 1	SEC	Unit 1: Set Unit for time 1. It may be Hour/Min/sec.	HOUr/mIn/SEC
SET	Unt 2	SEC	Unit 2: Set Unit for time 2. It may be Hour/Min/sec. This is available if the Timer is selected as Cyclic timer.	HOUr/mIn/SEC
SET	rAg1	9999	Range 1: Select Range 1 for time 1. 99.59 range is not available if Unit-1 is selected as second.	9999/99.99/ 99.59/999.9
SET	rAg2	9999	Range 2: Select Range 2 for time 2. This is available if cyclic timer is selected. 99.59 range is not available if Unit-2 is selected as second.	9999/99.99/ 99.59/999.9
SET	U-d	UP	Count Direction: Set direction for counting a running time. UP – Running time is increase from 0(zero) to set value. Down – Running time decrease from set value to 0 (zero).	UP/dOvn
SET	Str	YES	Start selection: Select the start input is required or not. YES – Cycle will start with input. NO – Cycle will start with power ON.	YES/nO
SET	InPt	PLSE	Input type: Select Input type. PLSE (Pulse to start) –cycle start with pulse & pulse has no effect in running cycle. PLSr (Pulse to restart) –cycle restart with pulse & pulse will restart running cycle. LtCE (Latch to start) – Cycle will run till input is applied, with remove input, cycle will pause, if input is applied again, the cycle will resume. LtCr (Latch to restart) – Cycle will run till input is applied, with remove input, cycle will pause, if input is applied again, the cycle will restart (This will work only if the Start selection is set to YES)	PLSE/PLSr/ LtCE/LtCr
SET	F.rSt	EnbL	Front reset: Select front reset type enable or disable. Enable – Timer can be reset by Front RST key. Disable – Timer cannot be reset by Front RST key.	EnbL/dls
SET	mEm	YES	Memory selection: select the cycle saving at power off. YES – running cycle will save in memory at power off. NO – running cycle will not save in memory at power off.	YES/nO
Enter	F.Str	dis	Front start: Select start from front Shift key YES or nO. YES – cycle can start from front SHIFT key. NO – cycle cannot start from front SHIFT key. (This will work only if input type pulse is selected)	YES/nO
SET	t.CYC	0003	Total Cycle: Set total number of cycle. If total number of cycle is 0000, then cycle will run until applied back reset or manual reset. If there is non-zero value, then cycle will finished after set number of cycle.	0000~9999
SET	L.dSP	SET	Lower display: Set the lower display to indicate value or no. of completed cycles.	CYC/SET
SET	EP1	YES	EP1: Set the EP1 parameter to control the t.CYC para in Set key menu. YES – Set key menu will show the t.CYC parameter in the list. NO – Set key menu will no show the t.CYC parameter in the list. (This para is applicable if timer is in cyclic mode)	YES/nO
Enter	EP2	YES	EP2: Set the EP2 parameter to control the L.dSP para in Set key menu. YES – Set key menu will show the L.dSP parameter in the list. NO – Set key menu will no show the L.dSP parameter in the list. (This para is applicable if timer is in cyclic mode)	YES/nO

PARAMETER SETTING MENU

- To set parameters which are required to change frequently, Press SET Key till 1 sec to enter in this menu.
- Use UP and SHIFT key to change value, set current parameter and press SET key, to save and goes to next parameter. After last parameter first parameter will be repeated.
- To exit press Enter Key.

For ON-Delay Timer:

KEY	LOWER DISPLAY	UPPER DISPLAY	FUNCTION	RANGE
SET	SEt1	0010	SEt1: set an On-Delay time for relay-1. [Running time >= set 1] = [Relay-1 ON]	000.0~9999
Enter	tImE	00.00	Auto reset Time: Set an auto reset time for relay-1	00.00~99.99sec

For OFF-Delay Timer:

KEY	LOWER DISPLAY	UPPER DISPLAY	FUNCTION	RANGE
SET	SEt1	0010	SEt1: set an OFF-Delay time for relay-1.[Running time >= set 1] = [Relay-1 OFF]	000.0~9999

For Cyclic Timer:

KEY	LOWER DISPLAY	UPPER DISPLAY	FUNCTION	RANGE
SET	Ont	0010	On time: Set an ON time for Relay-1.	000.0~9999
SET	OFFt	0010	OFF time: Set an OFF time for Relay-1.	000.0~9999
SET	t.CYC	0003	Total Cycle: Set total number of cycle.	0000~9999
Enter	L.dSP	SET	Lower disp: Set the lower display to indicate set value or no. of completed cycles.	CYC/SET

Keys & Terminal Function:

External Reset (Back RST) ----- = to reset the Timer

Front Reset Key ----- = to reset the Timer (if it is Enabled)

Input Types:

- Power-On-Start:-
 - Cycle will start when the power is applied to the device.
 - After the completion of cycle, external reset/front reset will restart the cycle.
- Pulse-To-Start:-
 - Cycle will start when the Pulse is applied to the device.
 - In running cycle, input pulse has no effect.
 - After the cycle complete, reset the Relay-1 if it is set to manual reset mode.
 - Now if the pulse is applied again then the cycle will repeat.
- Pulse-To-Restart:-
 - Cycle will start when the Pulse is applied to the device.
 - In running cycle, input pulse will restart the cycle.
 - After the cycle complete, if the pulse is applied again then the cycle will restart.
- Latch-To-Start:-
 - Cycle will start & run only when the Latch is applied to the device.
 - In running cycle, if latch is removed the cycle will paused & it will start to resume if latch is given.
 - After the cycle complete, reset the Relay-1 if it is set to manual reset mode.
 - Now if the latch is applied again then the cycle will repeat.
- Latch-To-Restart:-
 - Cycle will start & run only when the Latch is applied to the device.
 - In running cycle, if latch is removed the cycle will paused & it will restart the cycle if latch is given.
 - After the cycle complete, if the latch is applied again then the cycle will repeat.

WORKING:

Cycle will start according to the selected input type & display shows the parameters as mentioned above.

ON-Delay Timer:

- Relay-1 is OFF initially & when the **[Running Time >= Set 1]**, the **[Relay-1]** will be ON.
- Relay-1 will auto reset according reset time, if reset time is non-zero. As well as you can reset manually or by applied external reset.

OFF-Delay Timer:

- Relay-1 is ON initially & when the **[Running Time >= Set 1]**, the **[Relay-1]** will be OFF.
- Relay-1 will auto reset according reset time, if reset time is non-zero. As well as you can reset manually or by applied external reset.

Cyclic Timer:

- If the First Time is set to ON, Relay-1 will be ON initially & when the **[Running Time >= On t]**, the **[Relay-1]** will be OFF, after that when the **[Running Time >= OFF t]**, the **[Relay-1]** will be ON & the Completed Cycle is incremented.
- Otherwise, If the First Time is set to OFF, Relay-1 will be OFF initially & when the **[Running Time >= OFF t]**, the **[Relay-1]** will be ON, after that when the **[Running Time >= ON t]**, the **[Relay-1]** will be OFF & the Completed Cycle is incremented.
- If the Total Number of Cycle (t.CYC) is set to non-zero value, then cycle will be stop after **[Completed Cycle = Total Number of Cycle (t.CYC)]**. To see the Number of Completed Cycles on upper display, press the UP Key only.
- If Total Number of Cycle (t.CYC) is set to zero, then cycle will run infinitely. Lower display shows only set value of current mode.