USER'S OPERATING MANUAL FOR DIGITAL PRESET TIMER COUNTER

(Model: Cx-408)



Cx-408 (48 X 48)

SPECIFICATIONS:

Display : Dual 4 Digit 7-segment LED,

Model no.	Cx-408	Display Colour
Display height (PV)	0.36"	White
Display height (SV)	0.24"	Green

Status Indication : a] Relay status (1 / 2)

b] Time Unit (H / M / S)

Control Inputs : a] Count Input (For Counter)

b] Start Input (For Timer)

b] Reset Input

Reset time : <100 ms

Timing Accuracy : 0.05% Full Scale

Repeat Accuracy : 0.01%

Outputs : 5 Amp @ 230VAC Relay (1C/O) x 2

Reset : a] Front switch (Programmable)

b] Remote Reset (via rear terminals) C] At On power (Programmable)

Supply : 90 to 270 VAC

Mounting : Panel

Housing : ABS Plastic

Operating temp. : $0 \sim 50^{\circ}$ C

Humidity : 95% Rh (Non Condensing).

Configurable Parameters:

Mode : a] Counter b] Timer

Counter Parameters:

Count Input : AC / DC

Count Frequency

(For DC Input only)

Count direction : Up / Down

Function : On Delay / Off Delay

Timer Parameters:

Count direction : Up / Down

Timer Start : Various selectable start mode
Timer Function : a] ON / OFF delay b] Cyclic mode
Output 2 Function : a] Auxiliary b] End of Cycle (EOC)

c] Off d] Invert

: Various selectable frequencies

e] Pre Setpoint

INSTALLATION GUIDELINES

- 1. Prepare the cut-out with proper dimension as shown in figure.
- 2. Remove clamp from Controller.
- 3. Push the Timer through panel cut-out and secure the Controller in its place by tightening the side clamp.

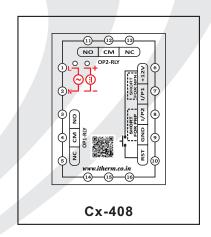
SAFETY INSTRUCTION MECHANICAL

- Ambient temperature and relative humidity surrounding the Controller must not exceed the maximum specified limits.
- The Controller in its installed state must be protected against excessive electrostatic or electromagnetic interferences.

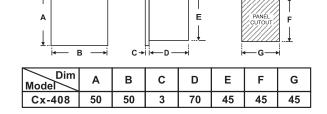
ELECTRICAL

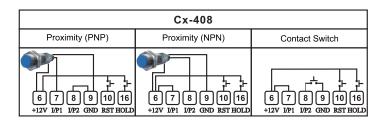
- The Controller must be wired as per wiring diagram & it must comply with local electrical regulation.
- ❖ The Electrical noise generated by switching inductive loads might create momentary Fluctuation in display, latch up, data loss or permanent damage to the instrument. To reduce this use snubber circuit across the load.

TERMINAL CONNECTIONS:



OVER ALL DIMENSIONS & PANEL CUT OUT (IN MM)





Programming

Mode Selection:

- 1) To Enter in this mode Press & Hold 'SET & UP' key for 5 sec. at Power On. 'CNFG' & 'V.6.0.0' Message will display for 5 Sec. 2) Press 'SET' Key to move on to next parameter.
 3) Press 'UP / DOWN / SHIFT' Key to scroll / change parameter options.

Parameter	Lower Display	Upper Display	Description	Default
Lock Code	Lo[Y	0000	<u>Lock Code</u> :- Set this parameter to 15(Default Lock Code) to view or edit Selected Mode. User has choice to set different Lock Code from User Lock Code Parameter.	0
Mode Selection	ñodE	F 1 u E	KTC Mode :- Key Board Timer / Counter Mode Selection. Counter :- If Selected, Controller will work as Counter. Ref. Page No. 2 to 4 Timer :- If Selected, Controller will work as Timer. Ref. Page No. 4 to 7	Counter
User Lock Code	ULEP	00 15	<u>User Lock Code</u> :- Default User Lock Code is 15. User has choice to set its own Lock Code in between 1 to 9999, This parameter is to prevent unauthorized access of Mode Selection.	15

Programming as Counter Mode

Configuration List:

- 1) To Enter in this mode Press & Hold 'SET' key for 5 sec. at Power On. 'CNFG' & 'V.6.0.0' Message will display for 5 Sec.
- 2) Press 'SET' Key to move on to next parameter.
- 3) Press 'UP / DOWN / SHIFT' Key to scroll / change parameter options.

Parameter	Lower Display	Upper Display	Description	Default
Count	E. InP	RE	Count Input Type :- By this parameter lets the user select Input type for counting.	
Input Type		~ ^	AC: If selected count input from 230V AC mains supply.	DC
туре		95	DC : If selected count input from Proximity or Potential free contact.	
	F - E 9	Mron	<u>Input Frequency</u> :- User can select the frequency of count pulse at the input terminal. This feature is useful in avoiding noise signal.	
		109	<u>Very Low</u> :- If selected count input frequency is 3Hz.	
Input		nE d	Low :- If selected count input frequency is 30Hz.	Medium
Frequency		✓ ∧	Medium :- If selected count input frequency is 100Hz.	Medium
		HIGH	High :- If selected count input frequency is 1000Hz.	
		UH ID	Very High :- If selected count input frequency is 2500Hz.	
Output 1	1-Fn	Øn →	On Delay: During Counter is in run mode; Output 1 still remain OFF. At the completion of count; Output 1 change its state(ON) & remain in that state until user press RESET or next cycle begins(in auto reset mode & TPR mode).	On
Function		OFF	Off Delay (Interval): During Counter is in run mode; Output 1 get energised(ON). At the completion of count; Output 1 change its state(OFF) & remain in that state until user press RESET or next cycle begins(in auto reset mode & TPR mode).	Delay
	d 1r	UP	Count Direction :- This parameter allows user to set count direction in run mode as follows	
Count Direction		~ ^	<u>Up Count</u> :- If selected counting starts from 0000 up to set count in ascending order.	Down
Direction		dn	<u>Down Count</u> :- If selected; counting starts from set count to 0000 in descending order.	
	[ō	Lo	<u>Latch Output Mode</u> :- If selected; When actual counts reaches its set value ,Relay O/Ps changes its state & remains in this state until reset key or rear reset pressed.	
Counter Mode		Y	Auto Reset Output Mode: - If selected; When relay contacts change its state after the set value of count has been reached; it will remain in same position & wait for end of auto reset time. On completion of this time, counter will reset i.e. relay contact positions initialize depending on 'ON' or 'OFF' Delay mode selected &counter will start counting again.	Latch Output Mode
Mode		₹Pr	TPR Output Mode: - If selected; when relay contacts change its state after the set value of count has been reached; Relays will remain in this state for 'TPR' time. On completion of this time, relay contact positions initialize depending on 'ON' or 'OFF' Delay mode selected. Unlike Auto reset mode, counting continues during the TPR time.	(LO)

Parameter	Lower Display	Upper Display	Description	Default
Over Run	וור טה	Enbl	Over Run Mode: - This parameter occurs only if Latch Output mode with UP Counting Selected. Enable: - If selected; Counting continues after the set value of count is reached. Only the Output remains latched thereafter until count is reset.	Enable
Mode		d56L	Disable: - If selected; Counting stops after the set value of count is reached. The o/p & count remains latched thereafter until count is reset.	
	F.r Ł	Enbl	Front Reset :- This parameter allows the user to Enable or Disable front Reset function. This feature prevents un-authorized attempt to Reset the Counter during Run mode.	
Front Reset		~ ^	Enable :- If selected; The Counter can be reset through front panel by pressing Down key	Enable
		658L	<u>Disable</u> :- If selected; The Counter can not be reset through front panel by pressing Down key. Only Remote Reset at back terminal is allowed.	
	āEā	Enbl	Memory Backup :- This parameter allows the user to Enable or Disable Memory Backup function.	
Memory Backup		> ^	Enable :- If selected; At the time of Power Failure Running Count value is Stored in Memory.	Enable
		d56L	<u>Disable</u> :- If selected; At the time of Power Failure Running Count will not be Stored in Memory. Counter will be Reset at next power On.	
Select Decimal Point	5.88	0000 >0000 0000	Select Decimal Point: - User can set position of decimal point for scale factor. Position of decimal point can be shifted by using the shift key.	0000.
Scale	FRCE	0.000	Scale Factor: - User can set the value of scale factor. The last stored value of scale with decimal position will be display. Use Up / Down / Shift Key to change scale	0001
Factor			factor value. In run mode, on receiving Count Pulse the counter will Increment or Decrement count value by the scale factor & Count Direction provided by the user.	0001
Resolution	r E S	0000 0000 0000 0000	Resolution: This parameter doesn't appear if the Selected Decimal position for scale is at 4th position (0000.). User can set screen resolution for RUN Mode. Note: Max screen Resolution is equal to resolution for scale factor.	0000.
	2-Fn	OFF	OFF: If selected , OP2 will be completely OFF.	
		RUE	AUXILIARY: If selected , OP2 can be used as Auxiliary contact. Both the relay output will ON/OFF together as per the ON/OFF Delay.	
Output 2 Function		P P C H	BATCH: If selected, Output2 used as a Batch mod. When Batch count EQUAL S.Bch output2 will on & the output of second relay will remain ON until user press the reset key for 3second when Batch count displayed.	Auxiliary
		10 N F	INVERT: If selected , OP2 logic will be inverse of OP1. Both the relay output will ON/OFF visa-versa as per the ON/OFF Delay.	
		PrE	PRE SETPOINT: If selected , OP2 used as Independent setpoint , when running counts equal to "s.ct2" OP2 will oparate depending on the function of OP1.	

<u>User List</u>:-

- 1) To access the User List Press 'SET' key.
 2) Press 'UP / DOWN' Key to change the value.
 3) Press 'SET' Key to store the data & move on to next parameter.

Parameter	Lower Display	Upper Display	Description	Default
Set Count	5.E n Ł	0005	In RUN mode, Press 'Set' key to set count value. 'S.CNT' will be displayed on lower display & last stored/default value of 'set count' will be displayed on upper display. User can change this value by using Up/Down/Shift key. Press "Set' key to store Set value & move to next parameter.	5
Set Count 2	S.E Ł 2	0005	This parameter will appear only if OP2 function is selected as pre setpoint. Note: s.ct2 should be less than s.cnt.	5

Parameter	Lower Display	Upper Display	Description	Default
Set Batch	5.6 E H	0005.	Set Batch :- This parameter will appears only if Op2 is selected as Batch Mode. After achieving Batch set point output 2 will be turned On (Range from 1 to 9999).	5
Auto Reset Time	rŁ	005.0	Auto Reset Time: - It will appears only if Selected counter mode is Auto Reset or TPR. User can set Auto Reset time form 0.1Sec to 99.9Sec. via SET & RST Key.	5.0

View List:

1) To access the View List press & release 'SHIFT' key Once.

Parameter	Lower Display	Upper Display	Description	Default
Batch View	b.[n Ł	0005	Batch View :- This parameter will appears only if OP2 is selected as Batch Mode. Total Batch Count will be shown here. Press Reset Key for 3 Sec to Reset Batch Count.	5

Programming as Timer Mode

Configuration List:

- 1) To Enter in this mode Press & Hold 'SET' key for 5 sec. at Power On. 'CNFG' & 'V.6.0.0' Message will be toggle for 5 sec. Now unit will allow the user to configure different parameters with options as described below.

 2) Press 'SET' Key to move on to next parameter.

 3) Press 'UP / DOWN' Key to scroll between parameter options.

Parameter	Lower Display	Upper Display	Description	Default
	Fn		ON DELAY: Outputs are de-energized at power on. It remains De-energized after start of timing cycle. After completions of timing cycle outputs are energized.	
		OFF	OFF DELAY: Outputs are energized at the start of timing cycle. After completions of timing cycle outputs are de-energized.	
Timer Function		[AC]	CYCLIC WITH OFF TIME FIRST: St1 : Off-time St2 : On-time	On Delay
		<u>EAES</u>	CYCLIC WITH ON TIME FIRST : St1 : On-time St2 : Off-time	
		[75]	CYCLIC WITH HOLD TIME : StH : Hold Time St1 : Forward-Time ; St2 : Reverse-Time	
		[4[4	CYCLIC WITHOUT HOLD TIME : St1 : Output 1 ON time. St2 : Output 2 ON time.	
	rnG I	9999° Min	TIMER RANGE & RESOLUTION : Range : 99.99 Sec. Resolution : 0.01 Sec.	
		9999 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Range : 999.9 Sec. Resolution : 0.1 Sec.	
		9999° Min	Range : 9999 Sec. Resolution : 1 Sec.	
		99.59 % Hrs See	Range : 99 Min. 59 Sec. Resolution : 1 Sec.	
Range 1		9999° Nino Sec	Range : 999.9 Min. Resolution : 0.1 Min.	9999 Sec.
		9999° Hrs Sec	Range : 9999 Min Resolution : 1 Min.	
		99.59 × Hrs 8 See	Range : 99 Hrs. 59 Min. Resolution : 1 Min.	
		9999° Nins	Range : 999.9 Hrs. Resolution : 0.1 Hrs.	
		9999 NHrs Sec	Range : 9999 Hrs. Resolution : 1 Hrs.	

Resolution: 0.1 Min. 9999 Min. Resolution: 1 Min. 9999 Mrs. Resolution: 1 Min. 9999 Mrs. Resolution: 1 Min. 9999 Mrs. Resolution: 0.1 Hrs. 9999 Mrs. Resolution: 0.1 Hrs. 9999 Sec. Resolution: 0.1 Sec. 9999 Sec. Resolution: 1 Min. 9999 Sec. Resolution: 1 Min. 9999 Sec. Resolution: 1 Sec. 9999 Min. Resolution: 1 Sec. 9999 Min. Resolution: 1 Sec. 9999 Min. Resolution: 1 Min. 9999 Min. Resolution: 1 Min. Resolution: 1 Min. Resolution: 1 Min. Resolution: 1 Min. Resolution:	Parameter	Lower Display	Upper Display	Description	Default
Range 2 Range 399.9 Min. Sec. Range 399.9 Min. Resolution: 1 Sec. Range 399.9 Min. Resolution: 1 Min. Range 399.9 Min. Range 399.9 Sec. Range 399.9 Min. Range 399.9 Sec. Range 399.9 Sec. Range 399.9 Sec. Range 399.9 Min. Range 399.9 Sec. Range 399.9 Min. Sec. Range 399.9 Min		rn62	9999° Min	TIMER RANGE & RESOLUTION : Range : 99.99 Sec. Resolution : 0.01 Sec.	
Range 2 Range : 999 Min. 59 Sec. Resolution: 1 Sec. Range : 9999 Min. Range : 9999 Sec. Range : 9999 Min. Range : 999 Min. Range : 9999			99 9.8 % Sec		
Range : 999.9 Min. Resolution: 0.1 Min. 999.5 Range : 999.9 Min. Resolution: 1 Min. 999.5 Range : 999.9 Min. Resolution: 1 Min. 999.5 Range : 999.9 Min. Resolution: 1 Min. 999.8 Range : 999.9 Min. Resolution: 1 Min. 999.8 Range : 999.9 Min. Resolution: 0.1 Sec. 999.8 Range : 999.9 Sec. Resolution: 1.1 Sec. 999.8 Range : 999.9 Sec. Resolution: 1.1 Sec. 999.8 Range : 999.9 Min. Resolution: 1 Sec. 999.9 Min. Resolution: 1 Sec. 999.9 Min. Resolution: 1 Min. 999.8 Range : 999.9 Min. Resolution: 1 Min. 999.8 Range : 999.9 Min. Resolution: 1 Min. 999.8 Range : 999.9 Min. Resolution: 1 Min. 999.9 Range : 999.9 Min. Resolution: 1 Min. 999.8 Range : 999.9 Min. Resolution: 1 Min. 999.9 Range : 999.9 Min. Resolution: 1 Min. 99			9999 National States	Range : 9999 Sec. Resolution : 1 Sec.	
Resolution: 0.1 Min. 9999 Min. Resolution: 1 Min. 9999 Mrs. Range: 9999 Mrs. Resolution: 1 Min. 9999 Mrs. Range: 9999 Mrs. Range: 9999 Mrs. Resolution: 0.1 Frs. 9999 Mrs. Range: 9999 Sec. Resolution: 0.1 Sec. 9999 Range: 9999 Sec. Resolution: 1 Sec. 9999 Range: 9999 Mrs.			9959 ***	Range : 99 Min. 59 Sec. Resolution : 1 Sec.	
Range : 999 9 Hrs. Resolution : 1 Min. Range : 999 9 Hrs. Resolution : 1 Min. Range : 999 9 Hrs. Resolution : 1 Min. Range : 999 9 Hrs. Resolution : 1 Mrs. Range : 999 9 Hrs. Resolution : 1 Mrs. Range : 999 9 Hrs. Resolution : 1 Sec. Range : 999 9 Hrs. Resolution : 1 Sec. Range : 999 9 Sec. Resolution : 1 Sec. Range : 999 Min. 59 Sec. Resolution : 1 Min. Range : 999 Min. Resolution : 1 Min. Range :	Range 2		9999° KHIS Min O Sec	Range : 999.9 Min. Resolution : 0.1 Min.	9999 Sec.
Resolution: 1 Min. 9999: Resolution: 1 Hrs. Range : 9999 Hrs. Resolution: 0.1 Hrs. 9999: Resolution: 0.1 Hrs. 9999: Resolution: 0.1 Sec. 9999: Resolution: 1 Sec. 9999: Resolution: 1 Sec. 9999: Range : 9999 Min. Resolution: 1 Min. 9999: Resolution: 1 Min. 9999: Resolution: 1 Min. Range : 9999 Min. Resolution: 1 Min. 9999: Resolution: 1 Min. Range : 9999 Hrs. Resolution: 1 Min. 9999: Resolution: 1 Min. Power : 9999 Hrs. Resolution: 1 Hrs. Power :			99998Min		
Resolution: 0.1 Hrs. Sange			9959 XIIIs S Sec	Range : 99 Hrs. 59 Min. Resolution : 1 Min.	
Hold Range Range : 9999 Sec. Resolution : 0.1 Sec. 9999 Min. Resolution : 1.1 Min. Range : 9999 Min. Resolution : 1.1 Min. Range : 9999 Min. Resolution : 1 Min. Page : 9999 Min. Resolution : 1 Min. Range : 9999 Min. Resolution : 1 Min. Page : 9999 Min. Resolution : 1 Min. Range : 9999 Min. Resolution : 1 Min. Page : 9999 Min. Resolution : 1 Min. Range : 9999 Min. Resolution : 1 Min. Page : 9999 Min. Resolution : 1 Min. Range : 9999 Min. Resolution : 1 Min. Page : 9999 Min. Resolution : 1 Min. Range : 9999 Min. Resolution : 1 Min. Page : 9999 Min. Resolution : 1 Min. Range : 9999 Min. Resolution : 1 Min. Page : 9999 Min. Resolution : 1 Min. Range : 9999 Min. Resolution : 1 Min. Page :			9999 Hrs Sec	Range : 999.9 Hrs. Resolution : 0.1 Hrs.	
Hold Range Hold R			9999 Hrs O Min O Sec		
Resolution: 0.1 Sec. Page			9999 Name	TIMER RANGE & RESOLUTION : Range : 99.99 Sec. Resolution : 0.01 Sec.	
Range : 99 Min. 59 Sec. Range : 99 Min. 59 Sec. Range : 999.9 Min. Range : 999.9 Min. Resolution : 1 Min. Range : 999.9 Min. Resolution : 1 Min. Range : 999.9 Hrs. Resolution : 1 Hrs. Timer Counting: If Selected, timer starts counting from 0 to set time in ascending order. (Up direction) Down Counting: If Selected, timer starts counting from Power On. Front Start : If Selected, timer starts counting from Power On. Front Start : If Selected, timer starts counting from Power On. Remote Edge Positive Trigger Start : If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external input. Remote Edge Positive Trigger Start : If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external input. Remote Edge Trigger + Level Start : If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external input.		Hdru	9999° Hrs Sec	Range : 999.9 Sec. Resolution : 0.1 Sec.	
Hold Range Range : 999.9 Min. Resolution: 0.1 Min. Range : 9999 Min. Resolution: 1 Min. Range : 999.9 Min. Resolution: 1 Min. Range : 999.9 Min. Resolution: 1 Min. Range : 999.9 Min. Range : 999.9 Min. Range : 999.9 Min. Range : 999.9 Min. Range : 9			9999° Hrs Sec	Range : 9999 Sec. Resolution : 1 Sec.	
Range : 9999 Min Resolution : 1 Min. Range : 9999 Min Resolution : 1 Min. Range : 9999 Hrs. Resolution : 0.1 Hrs. Range : 9999 Hrs. Resolution : 1 Hrs. Range : 9999 Hrs. Resolution : 1 His. Range : 9999 Hrs. Resolution : 1 Hrs. Range : 9999 Hrs. Range : 9999 Hrs. Resolution			9959 × Hrs × Sec	Range : 99 Min. 59 Sec. Resolution : 1 Sec.	
Range : 9999 Min. Resolution : 1 Min. Range : 9999 Hrs. 59 Min. Resolution : 1 Min. Range : 9999 Hrs. Resolution : 1 Hrs. Range : 9999 Hrs. Resolution : 1 Hrs. Range : 9999 Hrs. Resolution : 1 Hrs. Timer Direction Timer Counting Direction: Up Counting: If Selected, timer starts counting from 0 to set time in ascending order. (Up direction) Down Counting: If Selected, timer starts counting from Set time to 0 in descending order. (Down direction) Timer Start Mode :- This parameter defines the Start mode for the timer. Power On Start :- If Selected, timer starts counting from Power On. Front Start :- If Selected, timer starts only after user presses START key. If the cycle is incomplete at the time of power fail, It will continue after power is restored without need for re-issuing the Start command from front key (If MEM=On). Remote Edge Positive Trigger Start :- If Selected, Timer starts counting only when it detects high to low pulse at back terminal from external Input. Remote Edge Negative Trigger Start :- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Trigger + Level Start :- If Selected, Timer starts counting only when it				Range : 999.9 Min. Resolution : 0.1 Min.	9999 Sec.
Resolution: 1 Min. Range: 999.9 Hrs. Resolution: 0.1 Hrs. Range: 9999 Hrs. resolution: 1 Hrs. Timer Counting Direction: Up Counting: If Selected, timer starts counting from 0 to set time in ascending order. (Up direction) Down Counting: If Selected, timer starts counting from Set time to 0 in descending order. (Down direction) Timer Start Mode: This parameter defines the Start mode for the timer. Power On Start: If Selected, timer starts counting from Power On. Front Start: If Selected, timer starts only after user presses START key. If the cycle is incomplete at the time of power fail, It will continue after power is restored without need for re-issuing the Start command from front key (If MEM=On). Remote Edge Negative Trigger Start: If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Trigger + Level Start: If Selected, Timer starts counting only when it				Range : 9999 Min Resolution : 1 Min.	
Resolution: 0.1 Hrs. Range : 9999 Hrs. resolution : 1 Hrs. Timer Counting Direction: Up Counting:- If Selected, timer starts counting from 0 to set time in ascending order. (Up direction) Down Counting:- If Selected, timer starts counting from Set time to 0 in descending order. (Down direction) Timer Start Mode:- This parameter defines the Start mode for the timer. Power On Start:- If Selected, timer starts counting from Power On. Front Start:- If Selected, Timer starts only after user presses START key. If the cycle is incomplete at the time of power fail, it will continue after power is restored without need for re-issuing the Start command from front key (If MEM=On). Remote Edge Positive Trigger Start:- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Negative Trigger Start:- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Trigger + Level Start:- If Selected, Timer starts counting only when it			99.59 % Min	3,	
Timer Direction Timer Start Mode :- This parameter defines the Start mode for the timer. Power On Start :- If Selected, timer starts counting from Power On. Front Start :- If Selected, Timer starts only after user presses START key. If the cycle is incomplete at the time of power fail, It will continue after power is restored without need for re-issuing the Start command from front key (If MEM=On). Remote Edge Positive Trigger Start :- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Negative Trigger Start :- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Trigger + Level Start :- If Selected, Timer starts counting only when it			9999 XHrs 8 Min 8 Sec		
Timer Direction Up Counting:- If Selected, timer starts counting from 0 to set time in ascending order. (Up direction) Down Counting:- If Selected, timer starts counting from Set time to 0 in descending order. (Down direction) F.5E			9999 × Hrs 9999 × Min 9 Sec		
order. (Up direction) Down Counting:- If Selected, timer starts counting from Set time to 0 in descending order. (Down direction) Timer Start Mode:- This parameter defines the Start mode for the timer. Power On Start:- If Selected, timer starts counting from Power On. Front Start:- If Selected, Timer starts only after user presses START key. If the cycle is incomplete at the time of power fail, It will continue after power is restored without need for re-issuing the Start command from front key (If MEM=On). Remote Edge Positive Trigger Start:- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Negative Trigger Start:- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Trigger + Level Start:- If Selected, Timer starts counting only when it		dir	UP	-	
descending order. (Down direction) Timer Start Mode: - This parameter defines the Start mode for the timer. Power On Start: - If Selected, timer starts counting from Power On. Front Start: - If Selected, Timer starts only after user presses START key. If the cycle is incomplete at the time of power fail, It will continue after power is restored without need for re-issuing the Start command from front key (If MEM=On). Remote Edge Positive Trigger Start: - If Selected, Timer starts counting only when it detects high to low pulse at back terminal from external Input. Remote Edge Negative Trigger Start: - If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Trigger + Level Start: - If Selected, Timer starts counting only when it				order. (Up direction)	Down
Power On Start:- If Selected, timer starts counting from Power On. Front Start:- If Selected, Timer starts only after user presses START key. If the cycle is incomplete at the time of power fail, It will continue after power is restored without need for re-issuing the Start command from front key (If MEM=On). Remote Edge Positive Trigger Start:- If Selected, Timer starts counting only when it detects high to low pulse at back terminal from external Input. Remote Edge Negative Trigger Start:- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Trigger + Level Start:- If Selected, Timer starts counting only when it				descending order. (Down direction)	
Front Start :- If Selected, Timer starts only after user presses START key. If the cycle is incomplete at the time of power fail, It will continue after power is restored without need for re-issuing the Start command from front key (If MEM=On). Remote Edge Positive Trigger Start :- If Selected, Timer starts counting only when it detects high to low pulse at back terminal from external Input. Remote Edge Negative Trigger Start :- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Trigger + Level Start :- If Selected, Timer starts counting only when it		£.5£	P.5 Ł		
Timer Start Remote Edge Positive Trigger Start :- If Selected, Timer starts counting only when it detects high to low pulse at back terminal from external Input. Remote Edge Negative Trigger Start :- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Negative Trigger Start :- If Selected, Timer starts counting only when it			F.SE	Front Start :- If Selected, Timer starts only after user presses START key. If the cycle is incomplete at the time of power fail , It will continue after power is restored	
Start Remote Edge Negative Trigger Start :- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. Remote Edge Trigger + Level Start :- If Selected, Timer starts counting only when it	Timer		r.E Ł P	Remote Edge Positive Trigger Start :- If Selected, Timer starts counting only when	Power On
Remote Edge Trigger + Level Start :- If Selected, Timer starts counting only when it	I		r.Etn	Remote Edge Negative Trigger Start :- If Selected, Timer starts counting only when	Start
detects high to low pulse at back terminal from external Input. The input signal must remain high during timing cycle otherwise timer will Reset.			V	detects high to low pulse at back terminal from external Input. The input signal	
Remote Edge Trigger + Level Start :- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. The input signal must remain low during timing cycle otherwise timer will Reset.			V	Remote Edge Trigger + Level Start :- If Selected, Timer starts counting only when it detects low to high pulse at back terminal from external Input. The input signal	

Parameter	Lower Display	Upper Display	Description	Default
	Łō	Art	<u>Timer Mode</u> :- This parameter will be prompted if other than power on start selected.	
Timer Mode		~ ^	<u>Latched Mode</u> :- In this mode once the timing cycle is over, User must issue a Reset signal from front key or Ext. Reset input to Re-Start the timer.	Latch Output
		Lo	Auto Reset Mode: In this mode once the timing cycle is over, Next start input through External Input signal will Re-Start the timer. No need to issue Reset Signal.	
		[ont.	Repeat Cycle :- This parameter will be prompted only when the timer function is selected as CY1, CY2 or CY3.	
Repeat	r.E 4E	~ ^	<u>Continue</u> :- The cycle will be continuously executed till a reset pulse is given either from rear terminal or front reset.	
Cycle			Number of Cycle:- The cycle will be executed for the value fed in nC parameter in the user list.	Continue
		Eot	Total Time:- The cycle will be executed for the total time fed in the TOT parameter in the user list.	-
		Hold	Start Cycle 3 from :- This parameter will be prompted only when the timer function is selected as CY3.	
Start Cycle 3 from	5 Ł.C 3	~ ^	Hold :- Starts the operation from Hold time.	Hold
nom		Fr <u>u</u> d	Forward:- Starts the operation from Forward time.	
		Enbl	HOLD:- This Parameter will be prompted only when time Function is selected as CYC3.	
HOLD TIME	Hold	∨ ∧	ENBL:- User can change & view Hold Time setpoint.	Enbl
		d56L	DSBL:- User can only view the Hold Time setpoint.	
	GREE	Enbl	Gate Input :- Prompted only if Timer is configured as Power On Start. When Enabled (Set to yes) the External Input can work as a Gate input.	
Gate Input		~ ^	Enable :- The External Input can be used as a Gate input.	Disable
		<u>856L</u>	<u>Disable</u> :- The External Input can not be used as a Gate input.	
Ensur	F.r 5 E	EnbL	Front Reset: This parameter allows the user to Enable or Disable front Reset function. This feature prevents un-authorized attempt to Reset the Timer during Run mode.	
Front Reset		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Enable :- The Timer can be reset through front panel.	Enable
		<u>8561</u>	Disable :- The Timer can not be reset through front panel.	
	āEā	EnbL	Memory Backup :- This parameter allows the user to Enable or Disable memory backup function.	
Memory Backup		V ^	Enable :- Memory backup for run time value.	Disable
		656L	Disable :- No memory backup for run time value.	
	2-Fn	OFF	2-Fn parameter will NOT be prompted in CY3 mode. OFF:- If selected, OP2 will completely OFF.	
		RUE	AUXILIARY:- If selected , OP2 can be used as Auxiliary contact. Both the relay output will ON/OFF together as per the ON/OFF Delay.	
Output 2 Function		Eol	End of Cycle Output :- The OP2 is energized for EOC period programmed by user via EOC time in User list in Seconds only.	Auxiliary
		in UE	INVERT:- If selected , OP2 logic will be inverse of OP1. Both the relay output will ON/OFF vice-versa as per the timer function.	1
		PrE	PRE SETPOINT:- If selected , Output 2 used as Independent set point.	

Parameter	Lower Display	Upper Display	Description	Default
StartUp	5 Ł. d L	Enbl	Startup Delay: - This time will always be executed if ENABLED before the start of every timing cycle. The outputs will remain OFF during this time.	
Delay		~ ^	Enable :- This will enable the startup delay.	Disable
		d56L	<u>Disable</u> :- This will disable the startup delay.	
Startup			Startup Delay Time :- This parameter is prompted only when the Startup Delay Time is ENABLED	
Delay Time	E.dL Y	<u> 10.0</u>	Startup Delay Time :- Range: 0.1 to 999.9 seconds	10.0

<u>USER LIST</u>: To access the user list press & release SET key once.

a) For On & Off Delay Mode:

Parameter	Lower Display	Upper Display	Range	Description	Default
SET TIME 1	5E 1	0 10	0.01 - 999.9	SET TIME 1 : Set time for On delay & Off delay modes.	10.0
SET TIME 2	255	009	0.01 - 999.9	SET TIME 2: This parameter will appears only OP2 function is selected as pre set point. Note:- St2 should be less than St2	9.0
EOC TIME	303	5.0	0.01 - 999.9	<u>EOC TIME</u> : OP2 function is set to EOC. This parameter sets the End of cycle time (Fixed in seconds)	5.0

b) For CY1 & CY2:

Parameter	Lower Display	Upper Display	Range	Description	Default
ON TIME	Ł.On	0 10	1 - 9999	ON TIME: Prompted only if selected timer mode is CY1 or CY2. It sets On time for CY1 & CY2 modes.	10.0
OFF TIME	Ł.off	0 10	1 - 9999	OFF TIME: Prompted only if selected timer mode is CY1 or CY2 . It sets Off time for CY1 & CY2 modes.	10.0
NUMBER OF CYCLES	n[5	1 - 9999	NUMBER OF CYCLES: Prompted only if selected timer mode is CY1, Cy2 or CY3. This parameter is enabled only when Repeat cycle is selected as "NC". It sets the number of cycles after which both the Relays will be OFF.	
TOTAL TIME	F 0 F	15.	1 - 9999	TOTAL TIME: Available for CY1, CY2 or CY3 mode. This parameter will be prompted only if "TOT" is selected in repeat cycle. In This mode when Total time is over (Programmed in Min. only); Both relays will be off.	0

NOTE:

- 1) In CY1 mode the OFF time will be executed first followed by the ON time.
- 2) In CY2 mode the ON time will be executed first followed by the OFF time.

c) For CY3:

Parameter	Lower Display	Upper Display	Range	Description	Default
HOLD TIME	HoLd	5.0	0.01 - 999.9	HOLD TIME: Prompted only if selected mode is CY3 (Cyclic with Hold). Sets the HOLD time between motor Forward & Reverse.	5.0
FORWARD TIME	£ - <u>"</u> d		l	FORWARD TIME: Prompted only if selected mode is CY3 (Cyclic with Hold). Sets the FORWARD time for motor.	
REVERSE TIME	rEu	5.0	0.01 - 999.9	REVERSE TIME: Prompted only if selected mode is CY3 (Cyclic with Hold). Sets the REVERSE time for motor.	5.0
NUMBER OF CYCLES	n[5	1 - 9999	NUMBER OF CYCLES: Prompted only if selected timer mode is CY1, Cy2 or CY3. This parameter is enabled only when Repeat cycle is selected as "NC". It sets the number of cycles after which both the Relays will be OFF.	0
TOTAL TIME	£0£	15.	1 - 9999	TOTAL TIME: Available for CY1, CY2 or CY3 mode. This parameter will be prompted only if "TOT" is selected in repeat cycle. In This mode when Total time is over (Programmed in Min. only); Both relays will be off.	0

d) For CY4:

Parameter	Lower Display	Upper Display	Range	Description	Default
SET POINT 1	5P 1	5.0	0.01 - 999.9	SET POINT 1 : Output 1 ON time.	5.0
SET POINT 2	592	5.0	0.01 - 999.9	SET POINT 2 : Output 2 ON time.	5.0
NUMBER OF CYCLES	n[5	1 - 9999	NUMBER OF CYCLES: Prompted only if selected timer mode is CY1, Cy2 or CY3. This parameter is enabled only when Repeat cycle is selected as "NC". It sets the number of cycles after which both the Relays will be OFF.	0
TOTAL TIME	F O E	15.	1 - 9999	TOTAL TIME: Available for CY1, CY2 or CY3 mode. This parameter will be prompted only if "TOT" is selected in repeat cycle. In This mode when Total time is over (Programmed in Min. only); Both relays will be off.	0

Run Mode

a) For On & Off Delay Mode:



a) For Cyclic Mode:







338, New Sonal Link Service Industrial Premises Co-op Society Ltd, Building No.2, Link Road, Malad (W), Mumbai - 400064.

Tel: 022-66939916/17/18; E-mail: sales@itherm.co.in Website: www.itherm.co.in

