IndiaMART Cx-408 Digital Preset Timer Counter Owner's Manual

USER'S OPERATING MANUAL FOR DIGITAL PRESET TIMER COUNTER
(Models: Cx-408 / 428 / Cx-728 / Cx-928)

Contents

Cx-408 Digital Preset Timer Counter

SPECIFICATIONS :

Display : Dual 4 Digit 7-segment LED,

Model no.	Cx-408 / 428	Cx-728	Cx-928	Display Colour
Display height (PV)	0.36”	0.56”	0.56”	White
Display height (SV)	0.24”	0.39”	0.39”	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
Operating temp.	: ABS Plastic
Housing	: 0 ~ 50o C
Humidity	: 95% Rh (Non Condensing).

Configurable Parameters:

Mode	

Counter Parameters :

Count Input	: AC / DC
Count Frequency (For DC Input only)	: Various selectable frequencies
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 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

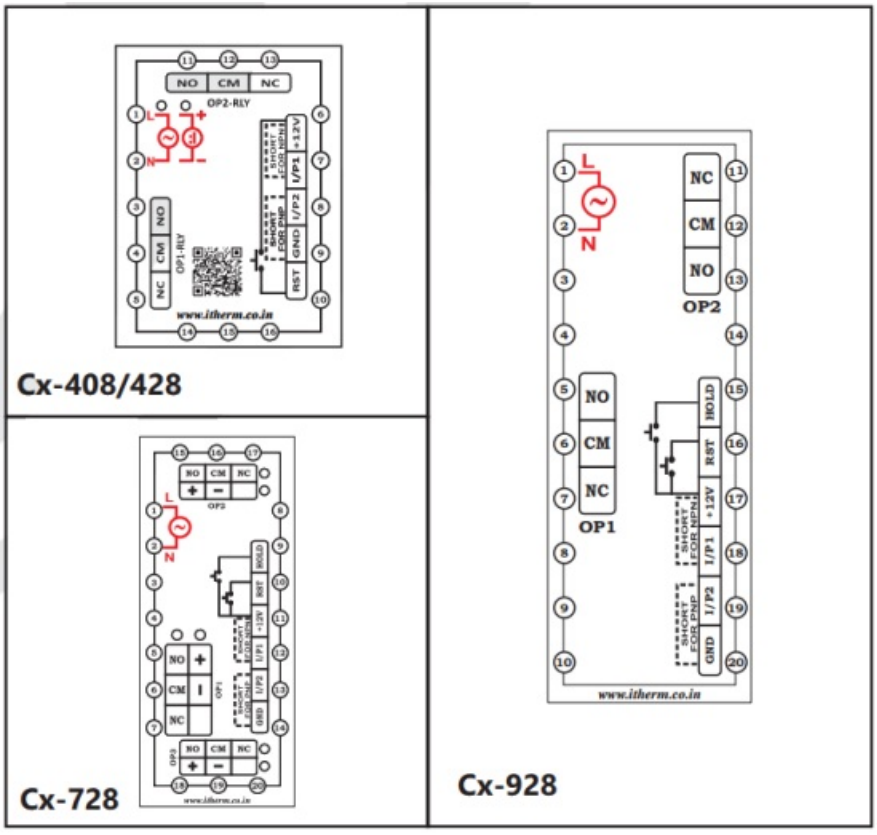
MECHANICAL

- 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.

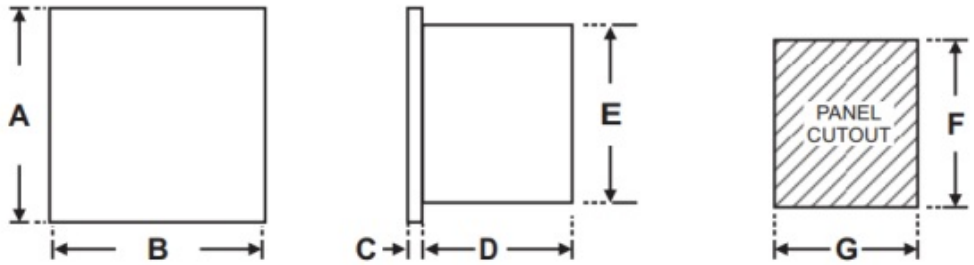
ELECTRICAL

- 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 :

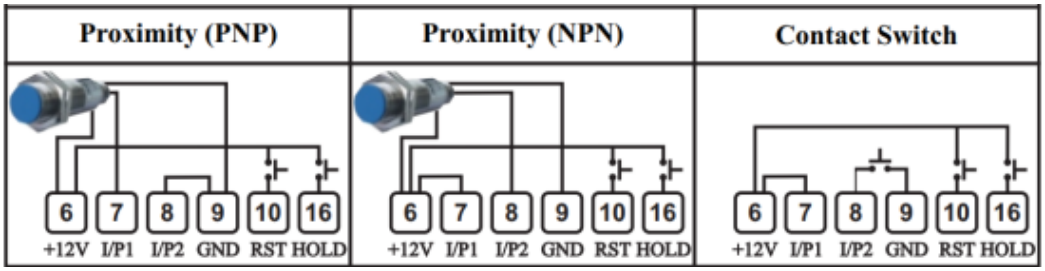


OVER ALL DIMENSIONS & PANEL CUT OUT (IN MM)



Dim Model	A	B	C	D	E	F	G
Cx-408/428	50	50	3	70	45	45	45
Cx-728	73	73	3	59	68	68	68
Cx-928	96	50	3	90	90	68	68

Cx-408/428 / Cx-728 / Cx-928



Programming

Mode Selection :-

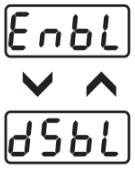
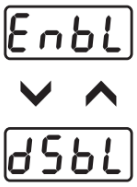
1. To Enter in this mode Press & Hold ‘SET & UP’ key for 5 sec. at Power On. ‘CNFG’ & ‘V.6.0.0′ Message will display for 5 Sec.
2. Press ‘SET’ Key to move on to next parameter.
3. Press ‘UP / DOWN / SHIFT’ Key to scroll / change parameter options.

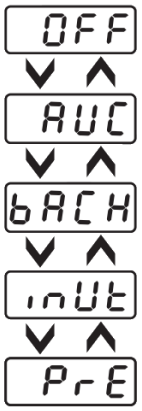
Parameter	Lower Display	Upper Display	Description	Default
Lock Code	LoCK	0000	Lock Code :- Set this parameter to 15(Default Lock Code) to view or edit Selected Mode. User has choice to set different Lock Code from User Lock Code Parameter.	0
Mode Selection	mode	Cnt ⌄ ⌃ tIME	KTC Mode :- Key Board Timer / 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	U.LCK	0015	User Lock Code :- 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.

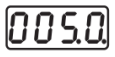
Parameter	Lower Display	Upper Display	Description	Default
Count Input Type	C. InP	AC dC	**Count Input Type** :- By this parameter lets the user select Input type for counting. **AC** : If selected count input from 230V AC mains supply. **DC** : If selected count input from Proximity or Potential free contact.	DC
Input Frequency	FrEq	U.Lo Lo nEd HIGH U.HIG	**Input Frequency** :- User can select the frequency of count pulse at the input terminal. This feature is useful in avoiding noise signal. **Very Low** :- If selected count input frequency is 3Hz. **Low** :- If selected count input frequency is 30Hz. **Medium** :- If selected count input frequency is 100Hz. **High** :- If selected count input frequency is 1000Hz. **Very High** :- If selected count input frequency is 2500Hz.	Medium
Output 1 Function	1-Fn	On OFF	**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). **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).	On Delay
Count Direction	dIr	UP dn	**Count Direction** :- This parameter allows user to set count direction in run mode as follows **Up Count** :- If selected counting starts from 0000 up to set count in ascending order. **Down Count** :- If selected; counting starts from set count to 0000 in descending order.	Down

Counter Mode			**Latch Output Mode** :- If selected; When actual counts reaches its set value ,Relay O/Ps changes its state & r emains in this state until reset key or rear reset presse d.	Latch Out put Mode (LO)
			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 & wai t for end of auto reset time. On completion of this time, counter will reset i.e. relay contact positions initialize d epending on 'ON' or 'OFF' Delay mode selected &counter will start counting again.	
			TPR Output Mode :- If selected; when relay contacts c hange its state after the set value of count has been re ached; Relays will remain in this state for 'TPR' time. O n completion of this time, relay contact positions initiali ze depending on 'ON' or 'OFF' Delay mode selected. Unlike Auto reset mode, counting continues during the TPR time.	
Over Run Mo de			**Over** Run **Mode** :- This parameter occurs only if Latch Output mode with UP Counting Selected.	Enable
			Enable :- If selected; Counting continues after the set value of count is reached. Only the Output remains latc hed thereafter until count is reset.	
			Disable :- If selected; Counting stops after the set valu e of count is reached. The o/p & count remains latched thereafter until count is reset.	
Front Reset			**Front Reset** :- This parameter allows the user to Enable or Disable front Reset function. This feature pr events un-authorized attempt to Reset the Counter dur ing Run mode.	Enable
			Enable :- If selected; The Counter can be reset throug h front panel by pressing Down key	
			Disable :- If selected; The Counter can not be reset thr ough front panel by pressinDown key. Only Remote Re set at back terminal is allowed.	
Memory Back up			**Memory Backup** :- This parameter allows the user to Enable or Disable Memory Backup function.	Enable
			Enable :- If selected; At the time of Power Failure Run ning Count value is Stored in Memory.	
			Disable :- If selected; At the time of Power Failure Run ning Count will not be Stored in Memory. Counter will be Reset at next power On.	

Select Decimal Point	S.dP		**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 Factor	FACt		**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 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	rES		**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.
Output 2 Function	2-Fn		**OFF:** If selected , OP2 will be completely OFF. **AUXILIARY:** If selected , OP2 can be used as Auxiliary contact. Both the relay output will ON/OFF together as per the ON/OFF Delay. **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. **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 SETPOINT:** If selected , OP2 used as Independent setpoint , when running counts equal to "s.ct2″ OP2 will oparate depending on the function of OP1.	Auxiliary

User List :-

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			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.	
Set Count 2			This parameter will appear only if OP2 function is selected as pre setpoint. **Note:** s.ct2 should be less than s.cnt.	
Set Batch			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			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.

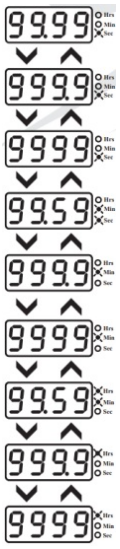
Parameter	Lower Display	Upper Display	Description	Default
Batch View			Batch View :- This parameter will appears only if OP2 is selected as Batch Mode.	5
			Total Batch Count will be shown here. Press Reset Key for 3 Sec to Reset Batch Count.	

Programming as Timer Mode

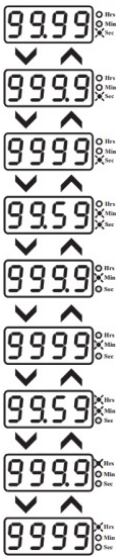
Configuration List :-

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
Timer Function	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.	On Delay
			OFF DELAY: Outputs are energized at the start of timing cycle. After completions of timing cycle outputs are de-energized.	
			CYCLIC WITH OFF TIME FIRST : St1 : Off-time St2 : On-time	
			CYCLIC WITH ON TIME FIRST : St1 : On-time St2 : Off-time	
			CYCLIC WITH HOLD TIME : StH : Hold Time St1 : Forward-Time ; St2 : Reverse-Time	
			CYCLIC WITHOUT HOLD TIME : St1 : Output 1 ON time. St2 : Output 2 ON time.	
Range 1	rnG1		TIMER RANGE & RESOLUTION : Range : 99.99 Sec. Resolution : 0.01 Sec.	9999 Sec.
			Range : 999.9 Sec. Resolution : 0.1 Sec.	
			Range : 9999 Sec. Resolution : 1 Sec.	
			Range : 99 Min. 59 Sec. Resolution : 1 Sec.	
			Range: 999.9 Min. Resolution : 0.1 Min.	
			Range: 9999 Min Resolution : 1 Min.	
			Range : 99 Hrs. 59 Min. Resolution : 1 Min.	
			Range : 999.9 Hrs. Resolution : 0.1 Hrs.	
			Range : 9999 Hrs. Resolution : 1 Hrs.	

Parameter	Lower Display	Upper Display	Description	Default
			TIMER RANGE & RESOLUTION : Range : 99.99 Sec. Resolution : 0.01 Sec.	

Range 2	rnG2		Range : 999.9 Sec. Resolution : 0.1 Sec.	9999 Sec.
			Range : 9999 Sec. Resolution : 1 Sec.	
			Range : 99 Min. 59 Sec. Resolution : 1 Sec.	
			Range : 999.9 Min. Resolution : 0.1 Min.	
			Range : 9999 Min Resolution : 1 Min.	
			Range : 99 Hrs. 59 Min. Resolution : 1 Min.	
			Range: 999.9 Hrs. Resolution : 0.1 Hrs.	
			Range : 9999 Hrs. resolution : 1 Hrs.	
Hold Range	HdrG		TIMER RANGE & RESOLUTION : Range : 99.99 Sec. Resolution : 0.01 Sec.	9999 Sec.
			Range : 999.9 Sec. Resolution : 0.1 Sec.	
			Range : 9999 Sec. Resolution : 1 Sec.	
			Range : 99 Min. 59 Sec. Resolution : 1 Sec.	
			Range : 999.9 Min. Resolution : 0.1 Min.	
			Range : 9999 Min Resolution : 1 Min.	
			Range : 99 Hrs. 59 Min. Resolution : 1 Min	
			Range: 999.9 Hrs. Resolution : 0.1 Hrs.	
			Range : 9999 Hrs. resolution : 1 Hrs.	

Timer Direction	dIr	UP dn	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)	Down
Timer Start	t.St	P.St F.St r.EtP r.Etn r.ELo r.ELC	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 detects high to low pulse at back terminal from external Input. The input signal must remain high during timing cycle otherwise timer will Reset. 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.	Power On Start

Parameter	Lower Display	Upper Display	Description	Default
Timer Mode	tn	Art Lo	Timer Mode:- This parameter will be prompted if other than power on start selected. Latched Mode :- 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. 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.	Latch Output
			Repeat Cycle :- This parameter will be prompted only when the timer function is selected as CY1, CY2 or CY3.	

Repeat Cycle	r.CYC	Cont. nC tot	Continue :- The cycle will be continuously executed till a reset pulse is given either from rear terminal or front reset. Number of Cycle:- The cycle will be executed for the value fed in nC parameter in the user list. Total Time:- The cycle will be executed for the total time fed in the TOT parameter in the user list.	Continue
Start Cycle 3 from	St.C3	Hold Fryd	Start Cycle 3 from :- This parameter will be prompted only when the timer function is selected as CY3. Hold :- Starts the operation from Hold time. Forward:- Starts the operation from Forward time.	Hold
HOLD TIME	Hold	EnbL dSbL	HOLD:- This Parameter will be prompted only when time Function is selected as CYC3. ENBL:- User can change & view Hold Time setpoint. DSBL:- User can only view the Hold Time setpoint.	Enbl
Gate Input	GAtE	EnbL dSbL	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. Enable :- The External Input can be used as a Gate input. Disable :- The External Input can not be used as a Gate input.	Disable
Front Reset	F.rSt	EnbL dSbL	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. Enable :- The Timer can be reset through front panel. Disable :- The Timer can not be reset through front panel.	Enable
Memory Backup	mEm	EnbL dSbL	Memory Backup :- This parameter allows the user to Enable or Disable memory backup function. Enable :- Memory backup for run time value. Disable :- No memory backup for run time value.	Disable
Output 2 Function	2-Fn	OFF AUC EoC inUt PrE	2-Fn parameter will NOT be prompted in CY3 mode. OFF:- If selected , OP2 will completely OFF. AUXILIARY:- If selected , OP2 can be used as Auxiliary contact. Both the relay output will ON/OFF together as per the ON/OFF Delay. End of Cycle Output :- The OP2 is energized for EOC period programmed by user via EOC time in User list in Seconds only. INVERT:- If selected , OP2 logic will be inverse of OP1. Both the relay output will ON/OFF vice-versa as per the timer function. PRE SETPOINT:- If selected , Output 2 used as Independent set point.	Auxiliary

StartUp Delay	St.dL	EnbL dSbL	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. Enable :- This will enable the startup delay. Disable :- This will disable the startup delay.	Disable
Startup Delay Time	t.dLY	10.0	Startup Delay Time :- This parameter is prompted only when the Startup Delay Time is ENABLED Startup Delay Time :- Range: 0.1 to 999.9 seconds	10.0

USER LIST : 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	St 1	010	0.01 – 999.9	SET TIME 1 : Set time for On delay & Off delay modes.	10.0
SET TIME 2	St2	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	EoC	5.0	0.01 – 999.9	EOC TIME : OP2 function is set to EOC. This parameter sets the End of cycle time (Fixed in seconds)	5.0

b) For CY1 & CY2 :

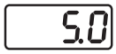
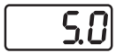
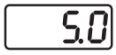
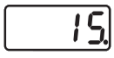
Parameter	Lower Display	Upper Display	Range	Description	Default
ON TIME	St 1	010	1 – 9999	ON TIME : Prompted only if selected timer mode is CY1 or CY2. It sets On time for CY1 & CY2 modes.	10.0
OFF TIME	t.oFF	010	1 – 9999	OFF TIME: Prompted only if selected timer mode is CY1 or CY2 . It sets Off time for CY1 & CY2 modes.	10.0
NUMBER OF CYCLES	nC	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	tOt	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:

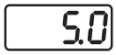
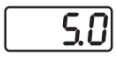
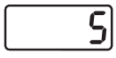
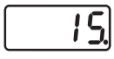
1. In CY1 mode the OFF time will be executed first followed by the ON time.

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			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			0.01 – 999.9	FORWARD TIME : Prompted only if selected mode is CY3 (Cyclic with Hold). Sets the FORWARD time for motor.	5.0
REVERSE TIME			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			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			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			0.01 – 999.9	SET POINT 1 : Output 1 ON time.	5.0
SET POINT 2			0.01 – 999.9	SET POINT 2 : Output 2 ON time.	5.0
NUMBER OF CYCLES			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			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:

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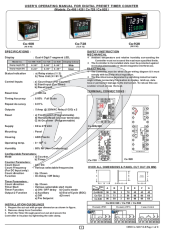
https://www.youtube.com/channel/UCzWGtv0HuHUgZR4KKRyKG1w/videos

Documents / Resources

	IndiaMART Cx-408 Digital Preset Timer Counter [pdf] Owner's Manual Cx-408 Digital Preset Timer Counter, Cx-408, Digital Preset Timer Counter, Preset Timer Counter, Timer Counter, Counter

References

- User Manual