

# USER'S OPERATING MANUAL FOR DIGITAL PRESET TIMER COUNTER

## (Models: XTC - 774 / 994)



**XTC - 774**  
(72 X 72)



**XTC - 994**  
(96 X 96)

### SPECIFICATIONS :

Display	: 4 Digit , 0.56" Ht (XTC-774/994)
Status Indication	: a) Relay status (OP1/OP2) b) Auto Reset / EOC Time (RT) c) Time Unit (Hrs. / Min. / Sec.)
Control Inputs	: a) Count Input (For Counter) b) Start Input (For Timer) c) 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 ~ 50° C
Humidity	: 95% Rh (Non Condensing).

### Configurable Parameters:

Mode	: a) Counter b) Timer
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### Counter Parameters :

Count Input	: AC / DC
Count Frequency (For DC Input only)	: a) Very Low (0 to 3Hz) b) Low (0 to 30Hz) c) Medium (0 to 100Hz) d) High (0 to 1KHz) e) Very High (0 to 2.5KHz)

Count direction	: Up / Down
Function	: On Delay / Off Delay
Counter Operating Mode	: a) Latch Output + Over Run Disable b) Latch Output + Over Run Enable c) Auto Reset d) TPR

Scalar	: 0.001 to 9999
Output 2 Function	: a) Auxiliary b) Batch c) Off

### Timer Parameters :

Count direction	: Up / Down
Timer Start	: a) Power on Start b) Front Start c) Remote Start (Edge Triggered) d) Remote Start (Edge + Level Triggered)

Timer Operating Mode	: a) Auto Reset b) Latch Output
Output 2 Function	: a) Auxiliary b) End of Cycle (EOC) c) Off

### 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

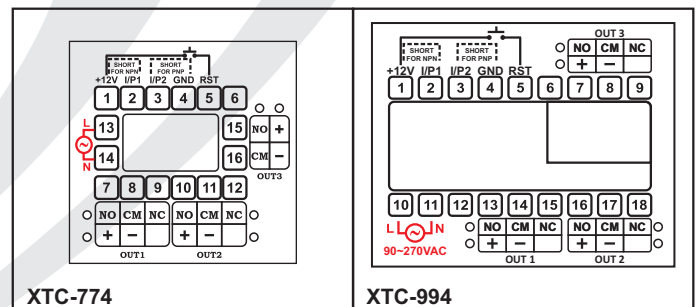
#### MECHANICAL

- ❖ 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.

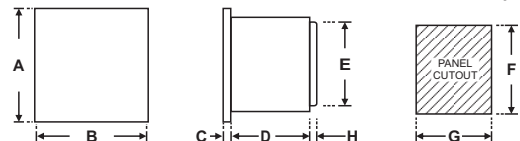
#### ELECTRICAL

- ❖ 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 :

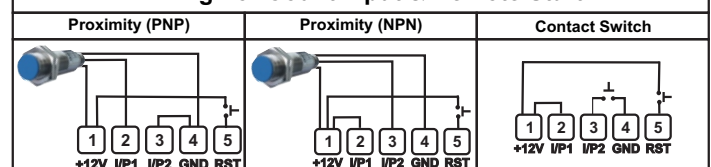


### OVER ALL DIMENSIONS & PANEL CUT OUT (IN MM)

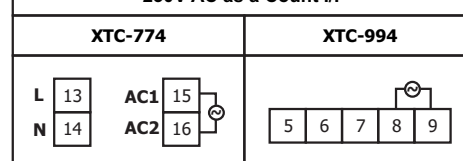


Model	A	B	C	D	E	F	G	H
XTC-774	72	72	10	65	66	68	68	9
XTC-994	96	96	10	65	89	92	92	9

### Wiring For Count Input & Remote Start



### 230V AC as a Count I/P



## Programming as Counter Mode

### Configuration List:-

- 1) To Enter in this mode Press & Hold 'SET' key for 5 sec. at Power On. 'CNFG' & 'V.1.0.1' 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 'RST' Key to scroll between parameter options.
- 4) All following parameters as shown in the shaded will be displayed for 1 Sec. followed by its options or values.

PARAMETER	DISPLAY	DESCRIPTION	DEFAULT
<b>Mode Selection</b>	mode > [Cnt]	<b>XTC Mode:-</b> Thumb Wheel Timer / Counter Mode Selection.	<b>Counter</b>
	↓ ↑ [Tmr]	<b>Counter :-</b> If Selected, Controller will work as Counter. Ref. Page No. 2 to 3	
		<b>Timer :-</b> If Selected, Controller will work as Timer. Ref. Page No. 3 to 4	
<b>Count Input Type</b>	C.InP > [AC]	<b>Count Input Type :-</b> By this parameter lets the user select Input type for counting.	<b>DC</b>
	↓ ↑ [DC]	<b>AC :</b> If selected count input from 230V AC mains supply.	
		<b>DC :</b> If selected count input from Proximity or Potential free contact.	
<b>Input Frequency</b>	FrEQ > [ULow]	<b>Input Frequency :-</b> User can select the frequency of count pulse at the input terminal. This feature is useful in avoiding noise signal.	<b>Medium</b>
	↓ ↑ [Low]	<b>Very Low :-</b> If selected count input frequency is 3Hz.	
	↓ ↑ [Med]	<b>Low :-</b> If selected count input frequency is 30Hz.	
	↓ ↑ [High]	<b>Medium :-</b> If selected count input frequency is 100Hz.	
	↓ ↑ [UHigh]	<b>High :-</b> If selected count input frequency is 1000Hz.	
		<b>Very High :-</b> If selected count input frequency is 2500Hz.	
<b>Count Direction</b>	dir > [UP]	<b>Count Direction :-</b> This parameter allows user to set count direction in run mode as follows	<b>Down</b>
	↓ ↑ [dn]	<b>Up Count :-</b> If selected; counting starts from 0000 up to set count in ascending order.	
		<b>Down Count :-</b> If selected; counting starts from set count to 0000 in descending order.	
<b>Front Reset</b>	FrSt > [YES]	<b>Front Reset :-</b> User can Enable / Disable the Count Reset from RST Key.	<b>Yes</b>
	↓ ↑ [nO]	<b>Yes :-</b> If selected user can reset the counter by pressing RST Key located at front panel.	
		<b>No :-</b> If selected user can not reset the counter by pressing RST Key located at front panel. Only Remote Reset at back terminal is allowed. This feature is useful to avoid unauthorized attempt to reset the counter during run mode.	
<b>Select Decimal Point</b>	SDP > [0000.]	User can set position of decimal point for scale factor. Position of decimal point can be shifted by using the shift key.	<b>0000.</b>
<b>Scale Factor</b>	FAct > [0001]	User can set the value of scale factor. The last stored value of scale with decimal position will be display. For this parameter Set key will work as Shift Key, user can easily select digit. To store the Factor value press Set Key for 3Sec. 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.	<b>0001</b>
<b>Output 2 Function</b>	OP2 > [AUX]	<b>Output 2 Function :-</b> User can select from Batch, Auxiliary or Off operation for 2nd Output.	<b>Auxiliary</b>
	↓ ↑ [BACH]	<b>Auxiliary :-</b> If selected OP2 can be used as Auxiliary contact. Both the relay output will ON/OFF together as per the ON/OFF Delay.	
	↓ ↑ [OFF]	<b>Batch :-</b> If selected , Output2 used as a Batch mode. When Batch count EQUAL to Set Batch count output2 will on & the output of second relay will remain ON until user press the reset key for 3second when Batch count displayed.	
		<b>Off :-</b> If selected , Output 2 will Permanently OFF.	

## User List:-

- 1) To access the User List Press & Hold 'SET' key for 3 Sec.
- 2) Press 'RST' Key to change the value.
- 3) After entering in parameter 'SET' key will work as 'SHIFT' Key.
- 4) Press 'SET' Key for 3 Sec. to Store data & move on to next parameter.
- 5) All parameters as shown in the shaded will be displayed for 1 Sec. followed by its value.

PARAMETER	DISPLAY	DESCRIPTION	DEFAULT
Auto Reset Time	Art > 0050	<b>Auto Reset Time :-</b> It will appears only if Selected counter mode is Auto Reset or TPR via DIP Switch. User can set Auto Reset time form 0.1Sec to 99.9Sec. via SET & RST Key.	5.0
Set Batch	SbCh > 0005	<b>Set Batch :-</b> 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

## View List:-

- 1) To access the View List Press & Release 'SET' key Once.

PARAMETER	DISPLAY	DESCRIPTION	DEFAULT
Batch View	bCnt > 0005	<b>Batch View :-</b> 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

## DIP Switch Setting :-

### Individual

DIP No.	Off Condition	On Condition
DIP 1	On Delay	Off Delay
DIP 2	Memory Disable	Memory Enable

### Combination

	DIP 4	DIP 3	Mode
1	OFF	OFF	Latch Output + Over Run Disable
2	OFF	ON	Latch Output + Over Run Enable
3	ON	OFF	Auto Reset Mode
4	ON	ON	TPR

## Programming as Timer Mode

### Configuration List:-

- 1) To Enter in this mode Press & Hold 'SET' key for 5 sec. at Power On. 'CNFG' & 'V.1.0.1' Message will be toggle for 5 sec. Now unit will allow the user to figure different parameters with options as described below.
- 2) Press 'SET' Key to move on to next parameter.
- 3) Press 'RST' Key to scroll between parameter options.
- 4) All following parameters as shown in the shaded will be displayed for 1 Sec. followed by its options or values.

PARAMETER	DISPLAY	DESCRIPTION	DEFAULT
Mode Selection	mode > Cnt ↓ ↑ tInE	<b>XTC Mode :-</b> Thumb Wheel Timer / Counter Mode Selection. <b>Counter :-</b> If Selected, Controller will work as Counter. Ref. Page No. 2 to 3 <b>Timer :-</b> If Selected, Controller will work as Timer. Ref. Page No. 3 to 4	Timer
Timer Direction	dir > UP ↓ ↑ dn	<b>Timer Counting Direction:-</b> <b>Up Counting :-</b> If Selected, timer starts counting from 0 to set time in ascending order. ( Up direction ) <b>Down Counting :-</b> If Selected, timer starts counting from Set time to 0 in descending order. ( Down direction )	Down
Timer Start	tSt > P.St ↓ ↑ F.St ↓ ↑ r.Et ↓ ↑ r.EL	<b>Timer Start Mode :-</b> This parameter defines the Start mode for the timer. <b>Power On Start :-</b> If Selected, timer starts counting from Power On. <b>Front Start :-</b> 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 ). <b>Remote Edge Trigger Start :-</b> If Selected, Timer starts counting only when it detects high to low pulse at back terminal from external Input. <b>Remote Edge Trigger + Level Start :-</b> If Selected, Timer starts counting only when it detects high to low pulse at back terminal from external Input. The input signal must remain low during timing cycle otherwise timer will Reset.	Power On Start
Gate Input	GATE > n0 ↓ ↑ YES	<b>Gate Input :-</b> Prompted only if Timer is configured as Power On Start. When Enabled (Set to yes) the External Input can work as a Gate input. <b>Yes :-</b> The External Input can be used as a Gate input. <b>No :-</b> The External Input can not be used as a Gate input.	No

PARAMETER	DISPLAY	DESCRIPTION	DEFAULT
Timer Mode		<b>Timer Mode :-</b> This parameter will be prompted if other than power on start selected.	Latch Output
		<b>Latched Mode :-</b> 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.	
		<b>Auto Reset Mode :-</b> 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.	
Front Reset		<b>Front Reset :-</b> 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.	Yes
		<b>Yes :-</b> The Timer can be reset through front panel.	
		<b>No :-</b> The Timer can not be reset through front panel.	
Output 2 Function		<b>Output 2 Function :-</b>	Auxiliary
		<b>Auxiliary Contact :-</b> The OP2 will operate simultaneously with OP1. This function is required when user needs 2 changeover Relay contacts.	
		<b>End of Cycle Output :-</b> The OP2 is energized for RT period programmed by user via push wheel switches in Sec.	
		<b>Off :-</b> The OP2 is not used & can be kept reserve for future use.	

### User List:-

- 1) To access the User List Press & Hold 'SET' key for 3 Sec.
- 2) Press 'RST' Key to change the value.
- 3) After entering in parameter 'SET' key will work as 'SHIFT' Key.
- 4) Press 'SET' Key for 3 Sec. to Store data & move on to next parameter.
- 5) All parameters as shown in the shaded will be displayed for 1 Sec. followed by its value.

PARAMETER	DISPLAY	DESCRIPTION	DEFAULT
End of Cycle Time		<b>End of Cycle Time :-</b> It will appears only if End of Cycle as Output 2 is selected.	5.0
		User can set End of Cycle time form 0.1Sec to 99.9Sec. via SET & RST Key.	

### DIP Switch Setting :-

#### Individual

DIP No.	Off Condition	On Condition
DIP 1	On Delay	Off Delay

#### Combination

	DIP 4	DIP 3	DIP 2	Range	Resolution
1	OFF	OFF	OFF	99.99 Sec	0.01 Sec
2	OFF	OFF	ON	999.9 Sec	0.1 Sec
3	OFF	ON	OFF	9999 Sec	1 Sec
4	OFF	ON	ON	999.9 Min	0.1 Min
5	ON	OFF	OFF	9999 Min	1 Min
6	ON	OFF	ON	99Hr. 59Min	1 Min
7	ON	ON	OFF	999.9 Hrs	0.1 Hrs
8	ON	ON	ON	9999 Hrs	1 Hrs



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