itherm KTM-448 Digital Preset Timer Instruction Manual

Contents

1 itherm KTM-448 Digital Preset Timer
2 Product Information
3 Product Usage Instructions
4 SPECIFICATIONS
5 OVER ALL DIMENSIONS & PANEL CUT OUT (IN MM)
6 INSTALLATION GUIDELINES
7 TERMINAL CONNECTIONS
8 SAFETY INSTRUCTION
9 PROGRAMMING
10 CONFIGURATION LIST
11 Function / Timing Waveforms
12 Documents / Resources
12.1 References
13 Related Posts

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itherm KTM-448 Digital Preset Timer

Product Information

The Digital Preset Timer is available in multiple models: KTM-448, KTM-668, KTM-778, KTM-888, and KTM-998. Each model has different dimensions and specifications.

- **Display:** Dual 4-Digit 7 Segment LED (RED)
- **Status Indication:** Time unit (Hrs./Min./Sec.), Relay status (RL1/RL2)
- Auto Reset / Hold Time
- **Time settings:** Through Keyboard
- **Control Inputs:** Start Input, Reset
- **Reset time:** < 100 ms
- **Timing Accuracy:** 0.05% of Full Scale
- **Repeat Accuracy:** 0.01%
- **Outputs:** 5 Amp @ 230VAC Relay (1C/O) x 2, 12 VDC @ 30mA for SSR Drive (by order)
- **Reset:** Front switch (Programmable), Remote Reset (via rear terminals), On power interruption (Programmable)
- **Supply:** 90 to 270 VAC
- **Mounting:** Panel
- **Housing Operating temp.:** -40°C to +50°C
- **Humidity:** 95% Rh (Non Condensing)

Product Usage Instructions

1. Prepare the cut-out with proper dimensions as shown in the figure.
2. Remove the clamp from the controller.
3. Push the controller through the panel cut-out and secure it in place by tightening the side clamp.
4. Connect the terminals according to the terminal connections diagram.
5. Configure the parameters based on your requirements. Parameters include mode (On delay/Off delay/CY1/CY2/CY3), range 1 & 2 (9.99 Sec. to 999 Hrs.), count direction (Up/Down), timer start, timer function (Auto Reset/Latched output), front reset (Enable/Disable), gate input (Enable/Disable), memory backup (Enable/Disable), and output 2 function.
6. Ensure the Timer is within the specified ambient temperature and relative humidity limits.

7. Wire the Timer as per the wiring diagram and comply with local electrical regulations.

IMPORTANT: Follow all safety instructions provided in the manual to ensure the safety of the operator and the unit.

SPECIFICATIONS

- **Display** : Dual 4- Digit 7 Segment LED (RED)

Model no.	KTM-448	KTM-668	KTM-778	KTM-888	KTM-998
UPPER	0.28”	0.39”	0.56”	0.39”	0.56”
LOWER	0.28”	0.39”	0.39”	0.39”	0.56”

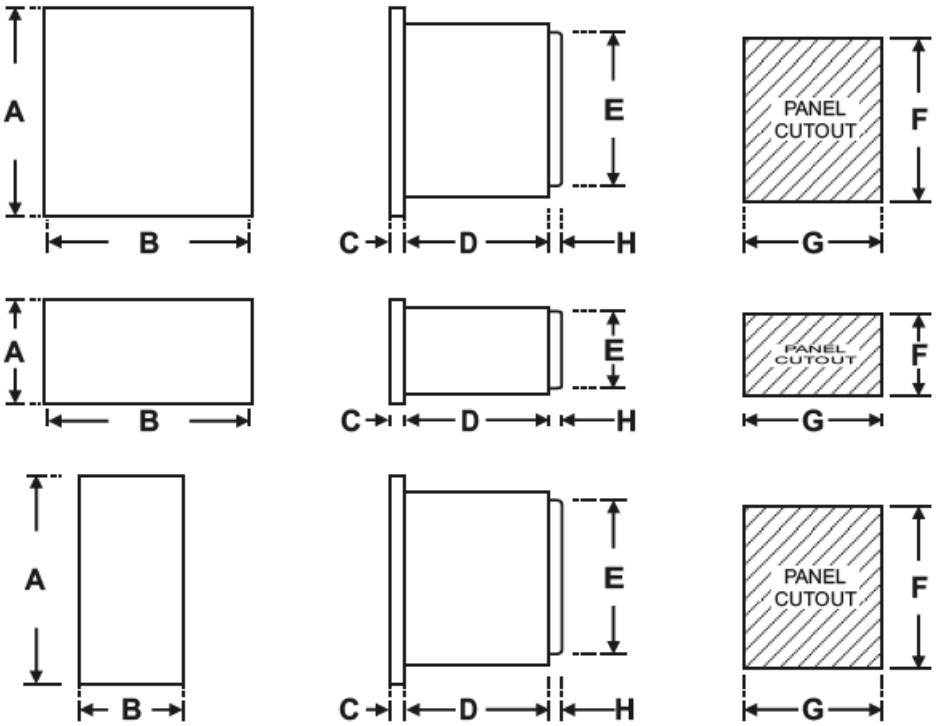
- **Status Indication :** Time unit (Hrs. / Min. /Sec.) Relay status (RL1/RL2) Auto Reset / Hold Time
- **Time settings :** Through Keyboard
- **Control Inputs :** a] Start Input b] Reset
- **Reset time :** < 100 ms
- **Timing Accuracy :** 0.05% of Full Scale
- **Repeat Accuracy :** 0.01%
- **Outputs** : 5 Amp @ 230VAC Relay (1C/O) x 2 12 VDC @ 30mA for SSR Drive (by order)
- **Reset** :
    - Front switch (Programmable)
    - Remote Reset (via rear terminals)
    - On power interruption (Programmable)
- **Supply** : 90 to 270 VAC
- **Mounting** : Panel
- **Housing** : ABS Plaostic
- **Operating temp.** : 0 ~ 50 C
- **Humidity** : 95% Rh (Non Condensing).

Configurable Parameters

- **Mode** : On delay/Off delay/CY1/CY2/CY3
- **Range 1 & 2:** 9.99 Sec. to 999 Hrs. (Programmable)
- **Count direction:** Up / Down
- **Timer Start :** Refer Programming
- **Timer Function :** Auto Reset / Latched output
- **Front Reset:** Enable / Disable
- **Gate Input:** Enable / Disable
- **Memory Backup:** Enable / Disable
- **Output 2 Function :** Refer Programming

OVER ALL DIMENSIONS & PANEL CUT OUT (IN MM)

MODEL :- KTM-448/KTM-668/KTM-778/ KTM-888/KTM-998

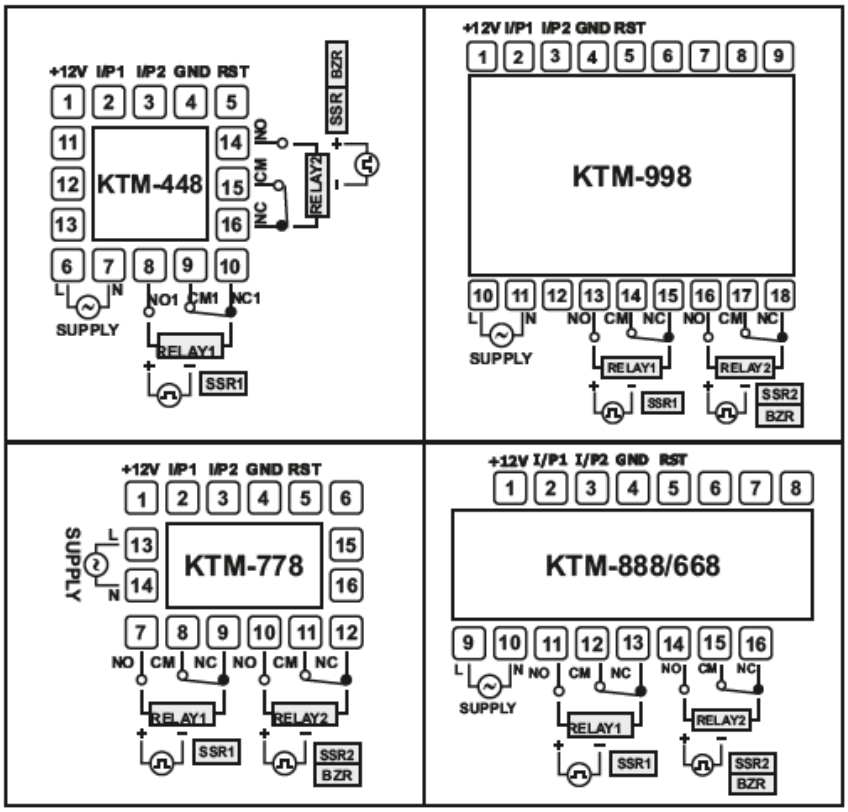


Dim \Model	A	B	C	D	E	F	G	H
KTM-448	**48**	**48**	**8**	**75**	**43**	**44**	**44**	**9**
KTM-778	**72**	**72**	**10**	**65**	**66**	**68**	**68**	**9**
KTM-998	**96**	**96**	**10**	**45**	**89**	**92**	**92**	**9**
KTM-888	**48**	**96**	**10**	**45**	**43**	**44**	**92**	**9**
KTM-668	**96**	**48**	**10**	**45**	**89**	**92**	**44**	**9**

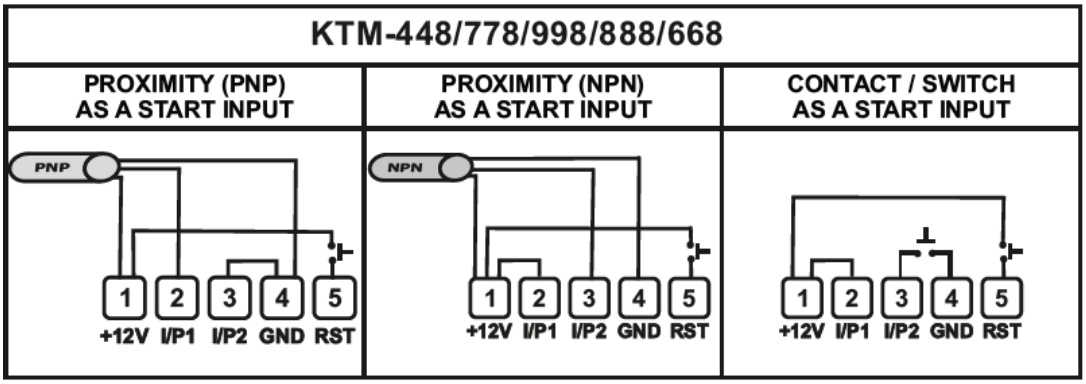
INSTALLATION GUIDELINES

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

TERMINAL CONNECTIONS



TYPICAL APPLICATION :



SAFETY INSTRUCTION

All safety related instruction appearing in this manual must be followed to ensure safety of the operator as well as the unit..

MECHANICAL

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

ELECTRICAL

- The Timer 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

PROGRAMMING

USER LIST : To access the user list, press & release SET key once.

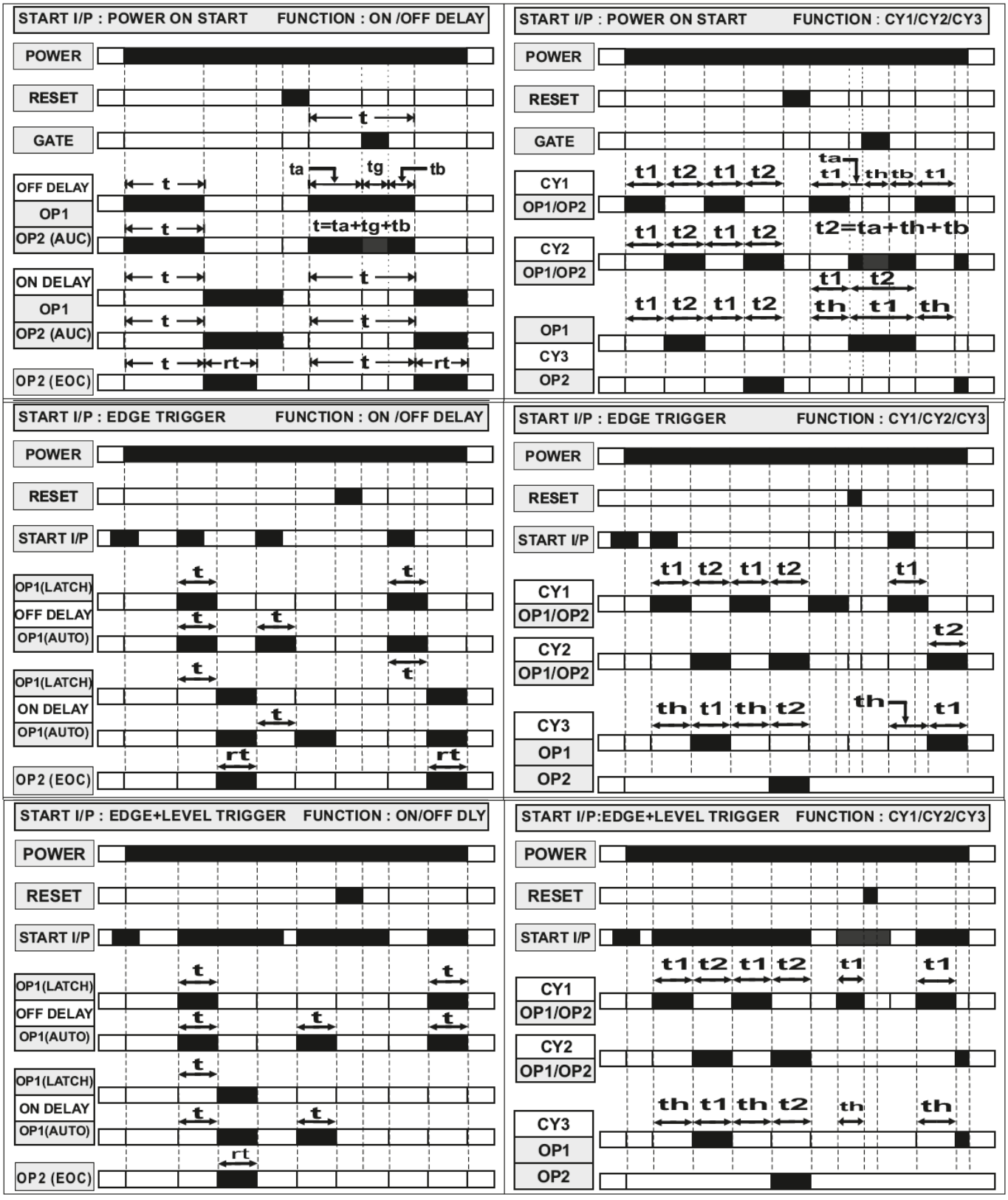
PARAMETER	LOWER DISPLAY	UPPER DISPLAY	RANGE	DESCRIPTION	DEFAULT
HOLD TIME	St.H	005.0	0 – 99.9 S	**HOLD TIME : Prompted only if selected mode is CY3 (Cyclic with Hold). Sets the HOLD time between motor Forward & Reverse.**	5.0
SET TIME 1	St 1	0 10.0	0 – 999	**SET TIME 1 : Set time for On delay & Off delay modes. On time for CY1 & CY2 modes. Forward time for CY3 mode.**	10.0
SET TIME 2	St2	0 10.0	0 – 999	**SET TIME 2 : Prompted only if selected timer mode is CY1, CY2 or CY3. It sets Off time for CY1 & CY2 modes& reverse time for CY3 mode.**	10.0
NUMBER OF CYCLES	nC	000.0	0 – 999	**NUMBER OF CYCLES : Prompted only if selected timer mode is CY1, CY2. It sets the number of cycles after which both the Relays will be OFF.**	0
EOC TIME	rt	005.0	0 – 999	**EOC TIME : OP2 function is set to EOC. This parameter sets the End of cycle time (Fixed in seconds)**	5.0
TOTAL TIME	tOt	000.0	0 – 999	**TOTAL TIME : Available for CY3 mode only. In This mode when Total time is over (Programmed in Min. only); Both relays will be off.**	0

CONFIGURATION LIST

PARAMETER	LOWER DISPLAY	UPPER DISPLAY	DESCRIPTION	DEFAULT
TIMER FUNCTION	Fn	On	**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	**OFF DELAY**: Outputs are energized at the start of timing cycle. After completions of timing cycle outputs are de-energized.	
		CYC1	**CYCLIC WITH OFF TIME FIRST** : St1 : Off-time St2 : On-time	
		CYC2	**CYCLIC WITH ON TIME FIRST** : St1 : On-time St2 : Off-time	
		CYC3	**CYCLIC WITH HOLD TIME** : StH : Hold Time St1 : Forward-Time ; St2 : Reverse-Time	
RANGE 1	rnG1	99.99	**TIMER RANGE & RESOLUTION** : Range : 9.99 Sec. Resolution : 0.01 Sec.	999 SEC.
		999.9	Range : 99.9 Sec. Resolution : 0.1 Sec.	
		9999	Range : 999 Sec. Resolution : 1 Sec.	
		99.59	Range : 9 Min. 59 Sec. Resolution : 1 Sec.	
		999.9	Range : 99.9 Min. Resolution : 0.1 Min.	
		9999	Range : 999 Min Resolution : 1 Min.	
		9999	Range : 999 Min Resolution : 1 Min.	
		99.59	Range : 9 Hrs. 59 Min. Resolution : 1 Min.	
		999.9	Range : 99.9 Hrs. Resolution : 0.1 Hrs.	
		9999	Range : 999 Hrs. resolution : 1 Hrs.	
RANGE 2	rnG2	99.99	**TIMER RANGE & RESOLUTION** : Range : 9.99 Sec. Resolution : 0.01 Sec.	
		999.9	Range : 99.9 Sec. Resolution : 0.1 Sec.	

RANGE 2	rnG2	9999 99.59 999.9 9999 99.59 999.9 9999	Range : 99.9 Sec. Resolution : 0.1 Sec. Range : 999 Sec. Resolution : 1 Sec. Range : 9 Min. 59 Sec. Resolution : 1 Sec. Range : 99.9 Min. Resolution : 0.1 Min. Range : 999 Min. Resolution : 1 Min. Range : 9 Hrs. 59 Min. Resolution : 1 Min. Range : 99.9 Hrs. Resolution : 0.1 Hrs.	999 SEC.
TIMER DIRECTION	dIr	UP dOWn	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 COUNT
TIMER START	t.St	P.St F.S1 F.S2 r.Et r.EL	TIMER START MODE : This parameter defines the Start mode for the timer. POWER ON START : If Selected , Timer starts counting at Power On. FRONT START : 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). Not valid for CY3 mode FRONT START : Timer starts only after user presses START key. If the cycle is not over at the time of power fail, It will not start till the START command is issued from the front panel (If MEM=On). Not valid for CY3 mode. REMOTE START (EDGE TRIGGERING) : Timer starts counting only when it detects high to low pulse at back terminal from external input. REMOTE START WITH LEVEL SENSING : 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
TIMER MODE	tM	LO A.rSt	TIMER MODE : Prompted only if selected function is ON/OFF Delay & start input is other than power on start. For power on start this function is always set to LO LATCHED MODE : In this mode once the timing cycle is over, User must issue a Reset signal from front key(if F.rt= On) or Ext. Reset input to re-start the timer. AUTO RESET MODE : In this mode once the timing cycle is over, Next start input either thro' Front panel or thro' external input signal will re-start the timer.	LATCH OUTPUT
GATE INPUT	GAtE	nO YES	GATE INPUT : Prompted only if Timer is configured for either power on start or front start. When enabled (Set to yes) the external input can work as a Gate input. DISABLE (nO) : The external input can not be used as a Gate input. ENABLE (YES) : The external input can be used as a Gate input.	NO
FRONT RESET	FrSt	nO YES	FRONT RESET ENABLE/DISABLE : 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. DISABLE (nO) : The Timer can not be reset through front panel. ENABLE (YES) : The Timer can be reset through front panel.	YES
MEMORY BACKUP	MEM	nO YES	MEMORY BACKUP ENABLE/DISABLE : This parameter allows the user to Enabe or Disable memory backup function. DISABLE (nO) : No memory backup for run time value. ENABLE (YES) : Memory backup for run time value.	NO
OUTPUT 2 FUNCTION	OP2	EOC AUC Int OFF	OUTPUT 2 FUNCTION : This parameter will be prompted only if selected Timer function is either ON or OFF delay. Not applicable for Cyclic modes. END OF CYCLE OUTPUT : The OP2 is energized for rt period set in user list at the end of timing cycle. AUXILLIARY CONTACT : The OP2 will operate simultaneously with OP1. This function is required when user needs 2 changeover Relay contacts. INSTANT CONTACT : The OP2 function as a instant contact which operates immediately when timer starts & remains in that state till the start of next cycle. OFF : The OP2 is not used & can be kept reserve for future use.	AUC

Function / Timing Waveforms



ABBREVIATION

EOC : END OF CYCLE LATCH : LATCHED O/P MODE AUTO : AUTO RESET MODE	t : SET TIME rt : END OF CYCLE TIME tg : GATE PULSE PERIOD	CY1 t1 : ON TIME t2 : OFF TIME	CY2 t1 : OFF TIME t2 : ON TIME	CY3	th : HOLD TIME t1 : FORWARD TIME t2 : REVERSE TIME

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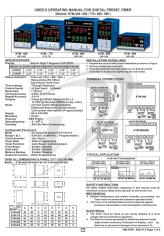
Documents / Resources

	itherm KTM-448 Digital Preset Timer [pdf] Instruction Manual KTM-448, KTM-668, KTM-778, KTM-888, KTM-998, KTM-448 Digital Preset Timer, KTM-448, Digital Preset Timer, Preset Timer, Timer

References

- Home - Itherm