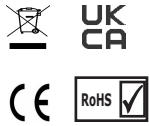# Digital Multi-function Timer_48X48

Catalogue Number : DT124S

UK CA

CE RoHS ✓

FEATURES

- LED dual display 11 segment for Process Value and 7 segment for Set value
- Display height of 15mm for PV
- Multi-voltage (88-276 VAC/DC) and Multi-range (0.01S to 999H)
- Memory option (Retentive function) in event of break in supply
- Lock function to menu and time
- User selectable up or down timing for process value
- Suitable for 48X48mm Panel mounting
- Short depth of only 65mm
- Two Relay output
- Intuitive LED symbol for lock, relay output, memory retention, signal and time range
- Compliant to **IEC 61812-1**
- IP 65 for front panel, IP 20 for terminals & IP 30 for housing

⚠ CAUTION

- Do not touch the terminals while power is being supplied
- Tighten terminal screws with the specified torque
- Always follow instructions stated in product leaflet
- Before installation, ensure that specifications agree with intended application
- During installation, keep 10mm distance on both sides of product from adjacent devices
- Suitable dampers should be provided in the event of excessive vibrations
- Only qualified persons are authorized to install the product
- Automation & Control devices must be properly installed so that they are protected against any risk of involuntary actuations.
- Device should be kept away from wet, dust & humidity environments
- Device manufacturer will not be responsible if any incident occur due to negligence of cautions

CONNECTION DIAGRAM
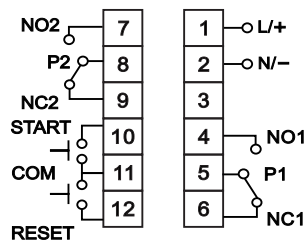
TECHNICAL SPECIFICATIONS

Supply Characteristics	
Supply Voltage (Un)	110-240 VAC/DC
Tolerance	-20%, +15% of Un
Frequency	50/60 Hz(+/-3Hz)
Power consumption	Max 5.5VA at 240V

Relay Output Characteristics	
Number of Relays	2 nos.
Contact arrangement	2 C/O contacts
Contact rating	NC/NO - 5A @250VAC Resistive Load
Mechanical Life	1×10^7 Operations
Electrical Life	1×10^5 Operations

Functional characteristics					
Display Type	Dual display-11segment(PV) & 7segment(SV)				
Display colour	PV Value-White, SV Value-Green, Symbol-Yellow				
No. of operating mode	4(ON Delay, Interval, Cyclic On First & Cyclic Off First)				
	Sec	Min	Hours	Min:Sec	Hours:Min
Timing Range	999 99.9 9.99	999 99.9	999 99.9	9.59	9.59
Counting Direction	User Selectable: Elapsed Time (Up) or Remaining Time (Down)				
Keypad	4 front key as ENT, MENU, LOCK & RST				
Setting Accuracy	+/-0.05% of set time or 50 msec(whichever is greater)				
Repeat Accuracy	+/-0.05%				
Memory Retention	10 Years				

Environmental Parameters	
Operating Temperature	-10 °C to 55 °C
Storage Temperature	-25 °C to 70 °C
Humidity	95% RH (Without condensation)
Altitude	< 2000 meters
Pollution Degree	2
Over voltage category	III
MTBF (IEC 62380)	Min.177009 Hours

Mechanical Parameters	
Degree of protection	
Front panel	IP 65
Terminals	IP 20
Housing	IP 30
Mounting	Panel
Mounting position	any
Dimensions (W X H X D) in mm	48 x 48 x 65mm
Housing	Flame retardant (UL94-V0)
Weight (Unpacked)	Approx. 110 gm

ELECTROMAGNETIC COMPATIBILITY

EMI / EMC Test

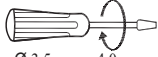|	
Harmonic Current Emissions	IEC 61000-3-2 Class A
ESD	IEC 61000-4-2 Level 3
Radiated Susceptibility	IEC 61000-4-3 Level 3
Electrical Fast Transients	IEC 61000-4-4 Level 4
Surge	IEC 61000-4-5 Level 3
Conducted Susceptibility	IEC 61000-4-6 Level 3
Power Frequency Magnetic Field	IEC 61000-4-8 Level 4
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Conducted Emission	CISPR-11 Class A
Radiated Emission	CISPR-11 Class A

SAFETY DATA

|	
Voltage Withstand test	
- Test Voltage between I/P and O/P	IEC 61812-1 2kV
- Test Voltage between all terminals and enclosure	IEC 61812-1 2.5kV
Impulse Voltage between I/P and O/P	IEC 61812-1 4kV
Insulation Resistance	IEC 61010-1, >100Mohm And > 500Mohm/250VDC/1min
Leakage Current	<3.5mA UL508
Single Fault test	IEC 61010-1

ENVIRONMENTAL DATA

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Damp Heat	IEC 60068-2-30
Vibration	IEC 60068-2-6

TERMINAL TORQUE AND CAPACITY

Ø 3.5 mm....4.0mm	0.5 N.m (4.5 Lb.in)
	2 x 1.5 mm² Solid/Stranded Wire
AWG	1 x 24 to 15

MOUNTING DIMENSION (mm)

RECOMMENDED PANEL CUTOUT
45 mmX 45 mm +0.5 mm

14LL000-00
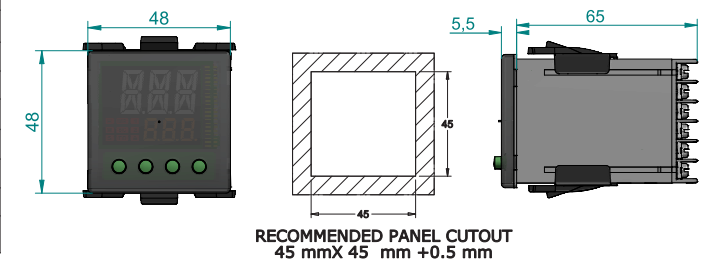
FRONT FACIA
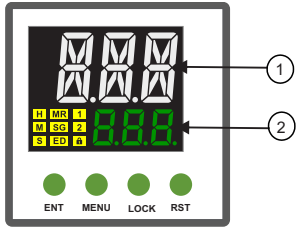
1) **PROCESS VALUE (PV):** a) Display the Run time
   b) Display the parameter name during configuration mode
2) **SET VALUE (SV):** a) Display the Set time
   b) Display the parameter setting during configuration mode

Symbol	Description
H,M,S	Time Range in Hour, Minute & Seconds
MR	Retentive mode On
SG	Presence of Start signal
ED	Configuration Editing mode
1	Output Relay 1 ON
2	Output Relay 2 ON
🔒	Time Lock is activated

FRONT KEY DESCRIPTION

KEY	FUNCTION	
ENT	ENT+MENU	Enter Programming Mode
	ENT+LOCK	Enable Lock function
	ENT+RST	Enable Reset function
	Move to next configuration parameter & store the previous parameter setting	
MENU LOCK RST	Scroll different option in each configuration	
	Increment the set value for corresponding digit	

MENU PARAMETER DESCRIPTION

1) START :Pulse/Gate
   A) Pulse :Timing starts on momentary closure of switch between START & COMMON terminal
   B) Gate :Timing starts at power on when the START & COMMON terminal is open and timing pauses when the START & COMMON terminal is short

2) Front panel reset(FPR) :Yes/No
   A) Yes : The device can be reset from front panel
   B) No : The device can not be reset from front panel
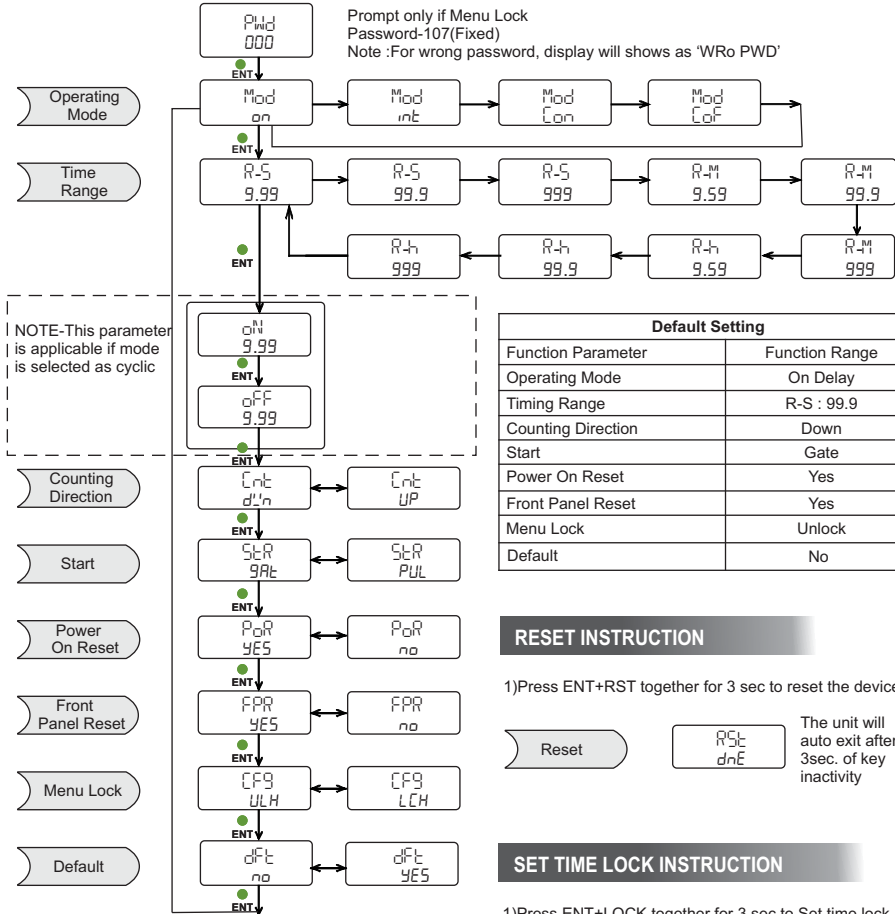
3) Power on Reset(POR) :Yes/No
   A) Yes : The device will reset for every Power On
   B) No : The device will not reset on Power On

4) Configuration lock(CFG) :LCH/ULH
   A) LCH : Menu is locked
   B) ULH : Menu is unlocked

MENU INSTRUCTION

1) To Edit the Menu Press ENT+MENU Key together for 3 Sec
2) Change the function range by pressing any (LOCK/RST/MENU)Key
3) Set the selected fuction range & go to the next parameter by pressing the 'ENT' Key
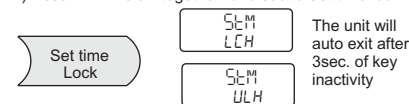4) To unlock the menu if password enabled press '107' by using (LOCK, RST & MENU)Key

Prompt only if Menu Lock
Password-107(Fixed)
Note :For wrong password, display will shows as 'WRo PWD'

NOTE-This parameter is applicable if mode is selected as cyclic

Default Setting	
Function Parameter	Function Range
Operating Mode	On Delay
Timing Range	R-S : 99.9
Counting Direction	Down
Start	Gate
Power On Reset	Yes
Front Panel Reset	Yes
Menu Lock	Unlock
Default	No

The unit will auto exit after 40 Sec. of key inactivity or by pressing Ent+Menu key together continuously for 3 sec

PROGRAM THE SET TIME

1) Press MENU/LOCK/RST key to change the set value. The corresponding digit will increment from 0 to 9.
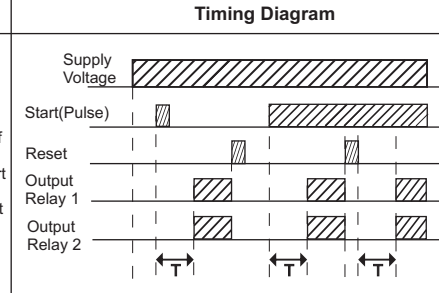   Mode-On Delay/Interval (M-MENU, L-LOCK, R-RST)

Note : Press ENT to store the set value.

Mode-Cyclic On First/Cyclic Off First

Note : Decimal point of third digit blink till the storage of set value

RESET INSTRUCTION

1) Press ENT+RST together for 3 sec to reset the device

The unit will auto exit after 3sec. of key inactivity

SET TIME LOCK INSTRUCTION

1) Press ENT+LOCK together for 3 sec to Set time lock.

The unit will auto exit after 3sec. of key inactivity

FUNCTION DIAGRAM

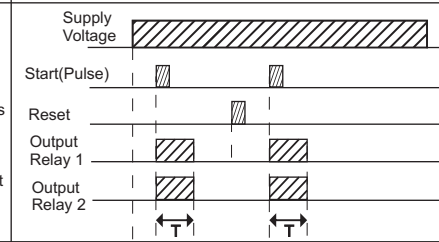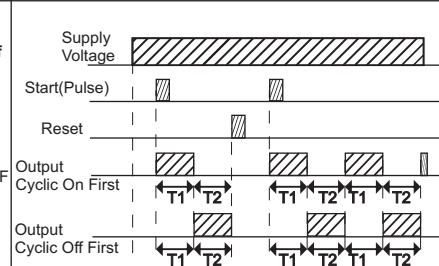| Operating Mode & Description	Timing Diagram
MODE 1: ON DELAY START SIGNAL: PULSE 1) The Timer starts when both Supply voltage & start signal (P)are applied. The relays are energized at the end of preset Time (T) and remains on till supply voltage is removed or next start (P) /reset signal is applied. 2) Run/process time and relays are reset when reset signal is applied. 3) In Continuous application of start signal, timer does not restart until device get a reset signal.	
MODE 2: INTERVAL START SIGNAL: PULSE 1) When both Supply voltage and start signal (P) are applied ,the Timer Starts and the output relays are energized . The output relay becomes OFF at the end of time duration (T). 2) Run/process time and relays are reset when reset signal is applied.	
MODE 3&4: Cyclic On First, Cyclic Off First START SIGNAL: PULSE 1) Cyclic On first - When both supply voltage & start signal(P) applied ,the output Relays initially ON for preset time duration (T1) after which it is OFF for the preset time (T2). 2) This Cycle repeats and continues till the supply is present.	
TYPICAL APPLICATION OF GATE MODE: ON DELAY, INTERVAL START SIGNAL: GATE 1) When both supply voltage & Gate signal is applied, Timer is not started. 2) After removing the Gate signal, timer starts. 3) During the run/process time if Gate signal is applied then time paused till the Gate signal present.	
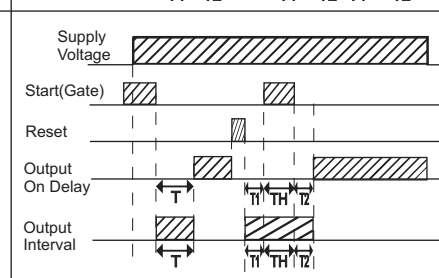
NOTE

➤ The technical information provided in this document was correct at the time of publish

➤ Product innovation being a continuous process, we reserve the right to alter specifications without any prior notice

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