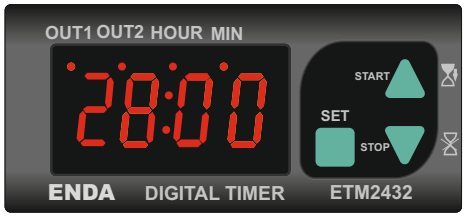
english

Read this document carefully before using this device. The guarantee will be expired by device demages if you don't attend to the directions in the user manual. Also we don't accept any compensations for personal injury, material damage or capital disadvantages.

ENDA ETM2432 DIGITAL TIMER

Thank you for choosing **ENDA ETM2432** Digital Timer.

- 35x77mm sized.
- Dual contact output for timing control.
- External start, reset, and gate inputs.
- Hours/Minutes and Minutes/Seconds indication..
- Scale 0:01 .... 99:59 Minutes
  0:01 .... 99:59 Hours
- Increment - Decrement timing step settings.
- Countdown timing.
- Start/Stop control from the front panel.
- 8 Different warning tones.
- Upper and Lower limits can be adjusted to setpoint value.
- CE marked according to European Norms.



RoHS Compliant

CE

Order Code : ETM2432 - □□□

1

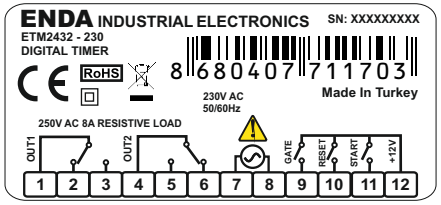
1 - Supply Voltage

230.....230V AC

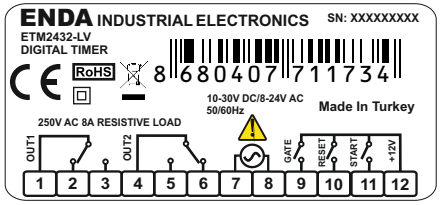
LV.....10-30V DC / 8-24V AC

Connection Diagram

ENDA ETM2432 is intended for installation in control panels. Make sure that the device is used only for intended purpose. The shielding must be grounded on the instrument side. During an installation, all of the cables that are connected to the device must be free of energy. The device must be protected against inadmissible humidity, vibrations, severe soiling. Make sure that the operation temperature is not exceeded. All input and output lines that are not connected to the supply network must be laid out as shielded and twisted cables. These cables should not be close to the power cables or components. The installation and electrical connections must be carried on by a qualified staff and must be according to the relevant locally applicable regulations.



Equipment is protected throughout by DOUBLE INSULATION

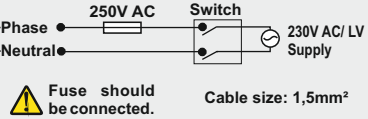


Holding screw
0.4-0.5Nm.

NOTE :

SUPPLY

184-253V AC or 10-30V DC / 8-24V AC 50/60Hz



Fuse should be connected.

Cable size: 1,5mm²

Note :

1) Mains supply cords shall meet the requirements of IEC 60227 or IEC 60245.

2) In accordance with the safety regulations, the power supply switch shall bring the identification of the relevant instrument and it should be easily accessible by the operator.

up to date: 07062023, modification reserved and can be change any time previous notice !

Technical Specifications

ENVIRONMENTAL CONDITIONS	
Ambient/Storage Temperature	0 ... +50°C/-25 ... +70°C (with no icing).
Relative Humidity	80% Relative humidity for temperatures up to 31°C, decreasing linearly to 50% at 40°C.
Protection Class	According to EN60529; Front panel: IP65 Rear panel : IP20
Height	Max. 2000m

KEEP AWAY device from exposed to corrosive, volatile and flammable gases or liquids and DO NOT USE the device in similar hazardous locations.

ELECTRICAL CHARACTERISTICS	
Supply	230V AC +%10-%20 , 50/60Hz ; 10-30V DC / 8-24V AC 50/60Hz
Power Consumption	Max. 7VA
Wiring	2.5mm² screw-terminal
Scale	Selectable 99:59 min. or hour.
Sensitivity	1 Second.
Time Accuracy	±%1
Indicator	4 Digits, 12.5mm, 7 Segment Red LED
EMC	EN 61326-1: 2013 (Performance criterion B is satisfied for EN 61000-4-3)
Safety Requirements	EN 61010-1: 2010 (Pollution degree 2, overvoltage category II)

OUTPUT	
Out	2 Relays: 250V AC, 8A (for resistive load), NO and NC control output.
Life Expectancy for Relay	30.000.000 Switching for no-load operation; 300.000 switching for 8A resistive load at 250VAC.

START INPUT	
Input Type	Mechanical contact (Minimum = 50ms)
RESET INPUT	
Input Type	Mechanical contact (Minimum = 50ms)
GATE INPUT	
Input Type	Mechanical contact (Minimum = 50ms)

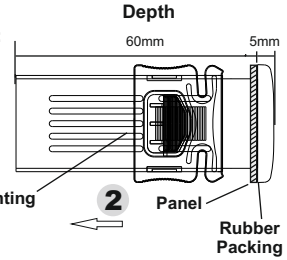
HOUSING	
Housing Type	Suitable for flush-panel mounting according to DIN 43 700.
Dimensions	W77xH35xD71mm
Weight	Approx. 198g (After packing)
Enclosure Materials	Self extinguishing plastics

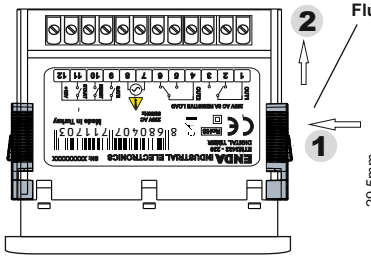
Avoid any liquid contact when the device is switched on.
DO NOT clean the device with solvent (thinner, gasoline, acid etc.) and / or abrasive cleaning

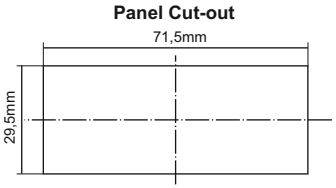
Dimensions

To removing the mounting clamps :

- Push the flush-mounting clamp in direction **1** as shown in the figure below.Then, pull out the clamp in direction **2** .







Note :

1) Panel thickness should be maximum 7mm.

2) If there is not 60mm free space at the back side of the device,it would be difficult to remove it from the panel.

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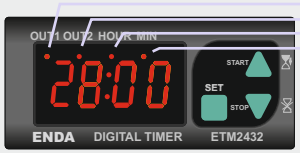


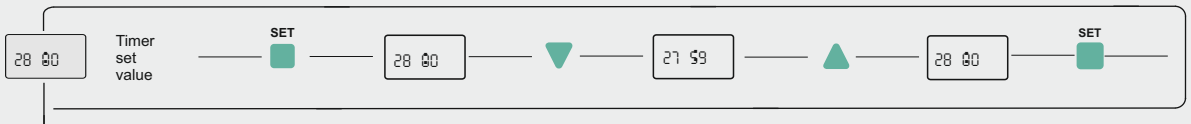
Related indication LEDs provides to monitoring the current status of OUT1, OUT2, HOUR and MINUTE (MIN) information and each LED refers to status information when it is illuminated.

SET key provide to set time value in "Running Mode". Also, provide to set parameter value and is used for saving the adjusted new parameter value in "Programming Mode". If no operation is performed during "Programming Mode" for 10 seconds, the latest adjusted parameter value (if any) is stored and returned to the "Running Mode" (to the main display).

The timer starts when pressing to ▲ key for 1 second if the STR2 is set (except during setting up the timer and parameter value(s)).
Allows to transition between menus and is used for increasing to the parameter value in "Programming Mode". And, provides to set timing value in timer settings. If pressed continuously, the adjusted value increases rapidly.

The timer stops and the buzzer is silenced when pressing to ▼ key for 1 second if the STR2 is set (except during setting up the timer and parameter value(s)).
Allows to transition between menus and is used for decreasing to the parameter value in "Programming Mode". And, provides to set timing value in timer settings. If pressed continuously, the adjusted value decreases rapidly.

TIME CONFIG MODE



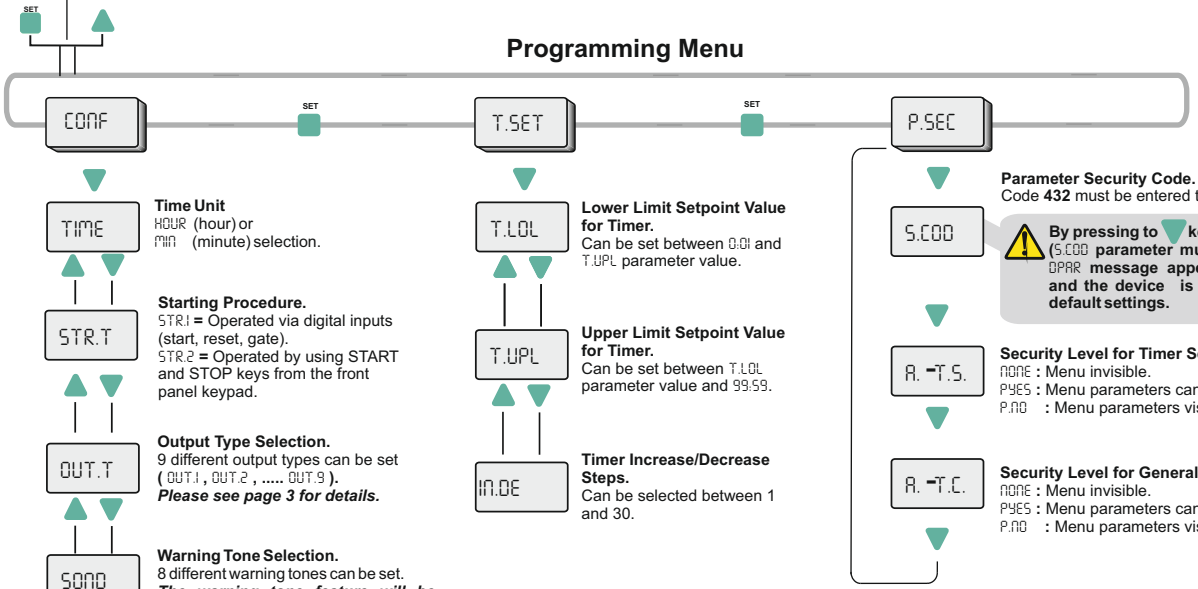
Revision number:
In Running Mode, if the SET, ▲ and ▼ keys are pressed together, revision number appears on display. (In order to show the revision number, STR.T parameter must be set to STR.1 in CONF menu).

Running Mode switches to Time Config Mode by pressing SET button. Display indicates configuration mode is opened by flashing. Desired timer set value can be set by pressing ▼▲ buttons. After desired timer value set, new timer set value is saved to memory and Running Mode is returned either by pressing SET button or by waiting 10 seconds.

Programing Menu is opened and CONF parameter is seen by pressing SET and ▲ buttons at same time. Switching between menu parameters is done by pressing SET button. While one of menu parameter is seen, sub-menu parameter is opened when pressing ▼ button.

In order to change sub-menu parameters value, press ▼▲ buttons while holding SET button down.When SET button is released , all changes will be saved to memory and related sub-menu parameter is returned. Programming Menu is returned from sub-menu parameters by pressing ▼▲ buttons at same time. In the sub-menu , all changes will be saved to memory and Running Mode is returned from sub-menu if no key is pressed for 10 seconds. In programming menu , all changes can be saved to memory and Running Mode can be returned from programming menu either by pressing SET ▲ buttons at same time or if no key is pressed for 10 seconds.

Programming Menu



Time Unit
HOUR (hour) or
MIN (minute) selection.

Starting Procedure.
STR.1 = Operated via digital inputs (start, reset, gate).
STR.2 = Operated by using START and STOP keys from the front panel keypad.

Output Type Selection.
9 different output types can be set (OUT.1 , OUT.2 , ... OUT.9).
Please see page 3 for details.

Warning Tone Selection.
8 different warning tones can be set.
The warning tone feature will be disabled when this parameter is set to SO.1.

Lower Limit Setpoint Value for Timer.
Can be set between 0:01 and T.UPL parameter value.

Upper Limit Setpoint Value for Timer.
Can be set between T.LOL parameter value and 99:59.

Timer Increase/Decrease Steps.
Can be selected between 1 and 30.

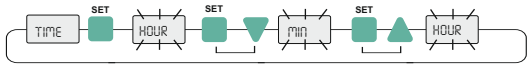
Parameter Security Code.
Code **432** must be entered to

By pressing to ▼ key for 4 seconds (S.COD parameter must be set to 0), OPAR message appears on display and the device is reset to factory default settings.

Security Level for Timer Settings (R.-SET).
NONE : Menu invisible.
YES : Menu parameters can be changed.
P.NO : Menu parameters visible only.

Security Level for General Settings (CONF).
NONE : Menu invisible.
YES : Menu parameters can be changed.
P.NO : Menu parameters visible only.

Parameter Configuration Diagram



In order to set related parameter to desired value, hold SET button down, when display is started to flash use ▲▼ buttons. Value increases/decreases gradually accelerated by pressing ▲▼ buttons continuously.

ENDA ETM2432 DIGITAL TIMER PARAMETERS

CONFIGURATION PARAMETERS

Parameter Name	Functional Specification	Min.	Max.	Unit	Factory Settings
TIME	Device time config	00:01	99:59	hr:min / min:sec	MIN
STR.T	Device input control parameter	STR.1	STR.2		STR.1
OUT.T	Device output control parameter	OUT.1	OUT.9		OUT.1
SOND	Device audible warning control parameter	SO.1	SO.8		SO.1

TIMER CONFIGURATION PARAMETERS

T.LOL	Time config lower limit define parameter	00:01	99:59		00:01
T.UPL	Time config upper limit define parameter	00:02	99:59		99:59
IN.DE	Time config increase/decrease coefficient parameter				

SECURITY PARAMETERS

S.COD	Security code parameter	0	9999		0
R.-T.S.	Time config security parameter				P.YES
R.-T.C.	Menu security parameter				P.YES

Note 1 : START - RESET - GATE inputs can be controlled when STR.T parameter is set to STR.1.
Note 2 : START(▲) - STOP(▼) keys on the device can be used when STR.T parameter is set to STRT.2.
Note 3 : GATE input can be used for all STR.T and OUT.T types.
Note 4 : The device continues to operate on the current OUTT parameter set when the STR.T parameter type is switched from STR.1 to STR.2. The timer can be stopped by using the STOP(▼) key on the device if required.
Note 5 : Switching conditions from STR.2 to STR.1 can be performed as same as Note4.
RESET digital input can be used instead of the STOP key.

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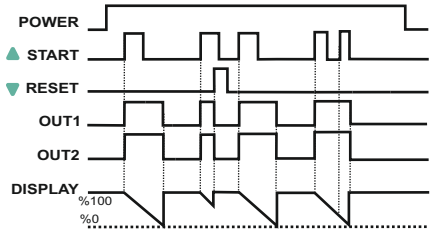
ETM2432 DIGITAL TIMER OUTPUT TYPES

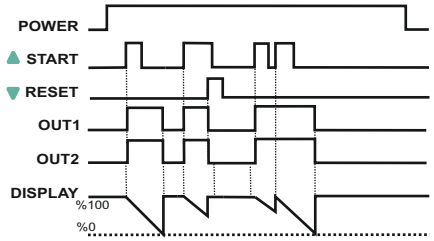
OUT.1



OUT1 and OUT2 relay contacts attracts when the START input is triggered. OUT1 and OUT2 relay contacts are releases at the end of the adjusted time value and the adjusted time value is also shown on the display.

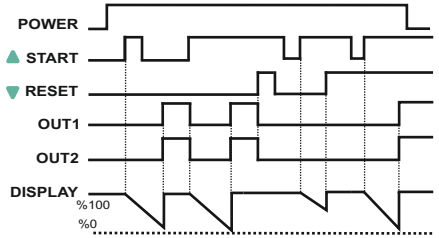
OUT1 and OUT2 relay contacts are released and returned to the adjusted time value if its terminated before the adjusted time is not completed via RESET input triggering.

OUT.2



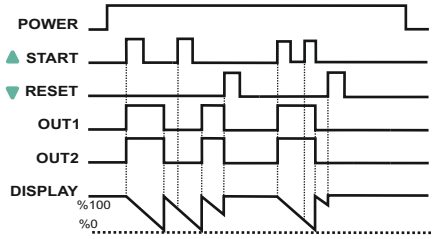
When device is powered, If START input is set OUT1 and OUT2 relays are turned on. When timer set value is expired, OUT1 and OUT2 relays are turned off.
If RESET input is set before timer set value is expired OUT1 and OUT2 relays are turned off and timer set value is renewed.
If START input is set before timer set value is expired, relays remain turned-on and timer set value is renewed and timer starts counting down.

OUT.3



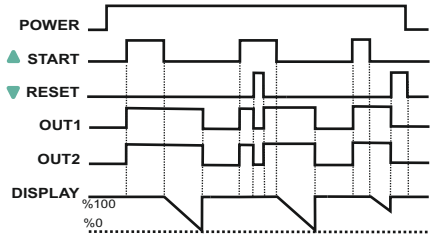
The timer starts counting when START input is triggered, OUT1 and OUT2 relay contacts are attracted at the end of the adjusted time value. OUT1 and OUT2 relay contacts are released if the START input is triggered after the adjusted time is over and the timer starts counting.
Time value returns to initial value when the RESET input is triggered and relay contacts are released if the relay contacts are attracted position.
Timer starts counting when the RESET input is triggered while the START input is active.

OUT.4



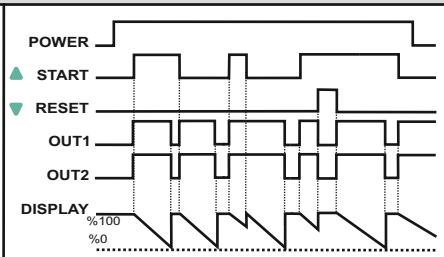
When device is powered, If START input is set OUT1 and OUT2 relays are turned on.
When timer set value is expired, OUT1 and OUT2 relays are turned off , timer set value is renewed and timer starts counting down again. This process periodically continues.
If RESET input is set OUT1 and OUT2 relays are turned off and timer stops counting down.

OUT.5



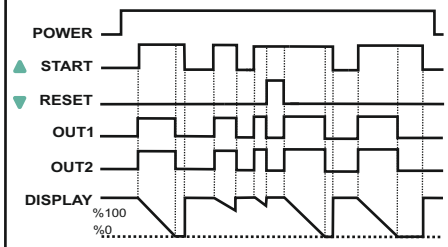
When device is powered, If START input is set OUT1 and OUT2 relays are turned on.When START input is reset timer starts to counting down.
When timer set value is expired, OUT1 and OUT2 relays are turned off and timer set value is renewed. If START input is set while timer counts down, timer set value is renewed. When START input is reset timer starts to counting down. If RESET input is set OUT1 and OUT2 relays are turned off and timer stops counting down.

OUT.6



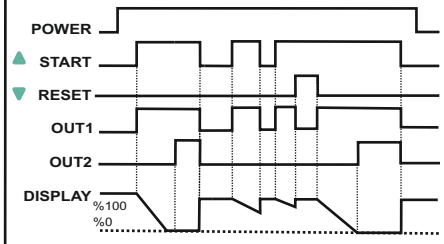
When device is powered, If START input is set OUT1 and OUT2 relays are turned on and timer starts counting down.
If START input is reset , timer value is renewed to timer set value and timer starts to counting down.
If START input is set again , timer value is renewed to timer set value.When timer set value is expired, OUT1 and OUT2 relays are turned off and timer value is renewed to timer set value.
If RESET input is set,OUT1 and OUT2 relays are turned off and timer value is renewed to timer set value.

OUT.7



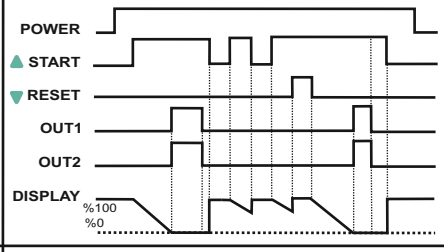
When device is powered, If START input is set OUT1 and OUT2 relays are turned on and timer starts counting down from timer set value .When timer set value is expired, OUT1 and OUT2 relays are turned off.If START input is reset after an timer set value is expired,timer value is renewed to timer set value.If START input is reset while timer counts down ,OUT1 and OUT2 relays are turned off.
If RESET input is set while START input is set, OUT1 and OUT2 relays are turned off and timer value is renewed to timer set value. If RESET input is reset while START input is set, OUT1 and OUT2 relays are turned on and timer starts counting down.

OUT.8



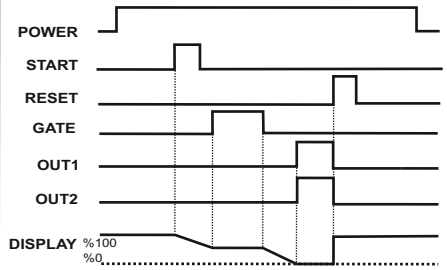
When device is powered, If START input is set OUT1 relay is turned on and timer starts counting down from timer set value. When timer set value is expired, OUT2 relay is turned on. If START input is reset when timer set value is expried, timer value is renewed to timer set value . If START input is reset while timer counts down OUT1 and OUT2 relays are turned off.
If RESET input is set while START input is set, OUT1 and OUT2 relays are turned off and timer value is renewed to timer set value. If RESET input is reset while START input is set, OUT1 relay is turned on and timer starts counting down.

OUT.9



When device is powered, If START input is set, timer starts counting down. When timer set value is expired, OUT1 and OUT2 relays are turned on.
If START input reset when timer set value is expired, OUT1 and OUT2 relays are turned off and timer value is renewed to timer set value. If START input is reset while timer counts down, timer value is renewed to timer set value.
If RESET input is set while START input is set, timer value is renewed to timer set value.
If RESET input is reset while START input is set, timer value is renewed to timer set value.and starts counting down.

GATE USAGE



When device is powered, If GATE input is set, timer set value is seen on display and timer stops counting down.
If GATE input is reset , timer continue where it remains.
If RESET input is set while GATE input is reset, OUT1 and OUT2 relays are turned off and timer value is renewed to timer set value.

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