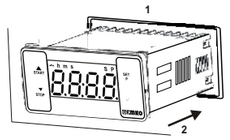
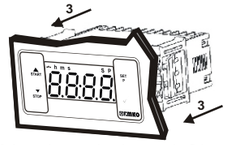
2.3 Panel Mounting



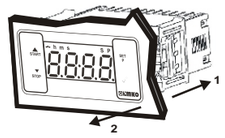
1-Before mounting the device in your panel, make sure that the cut-out is of the right size.

2-Insert the device through the cut-out. If the mounting clamps are on the unit, put out them before inserting the unit to the panel.



3- Insert the mounting clamps to the fixing sockets that located left and right sides of device and make the unit completely immobile within the panel

2.4 Removing from the Panel

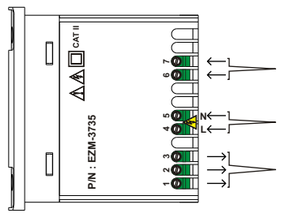


1-Pull mounting clamps from left and right fixing sockets.

2-Pull the unit through the front side of the panel

Before starting to remove the unit from panel, power off the unit and the related system.

4. Electrical Wiring Diagram

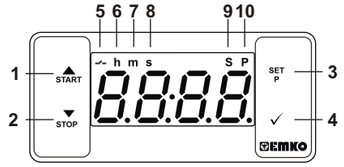


Digital Input

Supply Voltage Input
230V~ (±%15) 50/60Hz
115V~ (±%15) 50/60Hz
10...30 V⎓
Must be determined in order.

Relay Output

5.Front Panel Definition and Accessing to the Menus



BUTTON DEFINITIONS

1. Increment Button and Start Button :
** It is used to increase the value in the Set screen and Programming mode.
** It is used for Start the Timer in the Main Screen.

2. Decrement, Silencing Buzzer and Stop Button :
** It is used to decrease the value in the Set screen and Programming mode.
** It is used to silence the buzzer.
** It is used for Stop the Timer in the Main Screen.

3. Set Button and Programming Button:
** In the main operation screen; if this button pressed, set value will be displayed. Value can be changed using increment and decrement buttons. When Enter button pressed , value is saved and returns back to main operating screen.
** To access the programming screen; in the main operation screen, press this button for 5 seconds.

4. Enter Button:
** It is used to saving value in the Set screen and programming screen.

LED DEFINITIONS

5. Output led :
** This led indicates that Output is active.

6.Hour led :
** Indicates that device is in Hour mode.

7.Minute led :
** Indicates that device is in Minute mode.

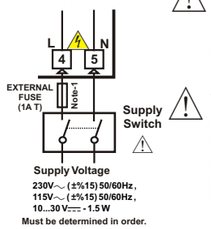
8.Second led :
** Indicates that device is in Second mode.

9.Set led :
** Indicates that device is in Set value changing mode.

10.Program led :
**Blinks in programming mode .

4.1 Supply Voltage Input Connection of the Device

Power Supply Connection



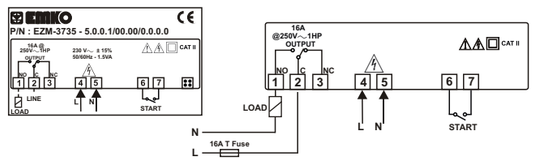
Make sure that the power supply voltage is the same indicated on the instrument.
Switch on the power supply only after that all the electrical connections have been completed.
Supply voltage range must be determined in order. While installing the unit, supply voltage range must be controlled and appropriate supply voltage must be applied to the unit.

There is no power supply switch on the device. So a power supply switch must be added to the supply voltage input.
Power switch must be two poled for seperating phase and neutral, On/Off condition of power supply switch is very important in electrical connection.
External fuse that on ~power supply inputs must be on phase connection.
External fuse that on ⎓power supply inputs must be on (+) connection.

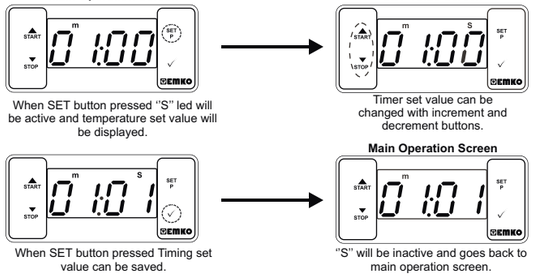
Note-1 : External fuse is recommended.

4.2 Device Label and Connection Diagram

230V~ CONNECTION DIAGRAM



6. Changing and Saving Timing Set Value



Timer set value parameter (Default=01:00)
Timer set value, can be programmed between minimum Timer set value 00:01 and UPL maximum set limit.

6.1 Programming Mode Parameter List

rSTF **Filter Time of Start Inputs (Default = 100)**
It is used for protection against the electrical contact debounce or the signal that is less than the determined pulse time.
It can be adjusted from 2 to 250 msec .

tunt **Time Unit and Scale Selection Parameter (Default = 1)**
- hour Hour / Minute — It can be adjusted from 0001 to 9999.
- Min Minute /Second — It can be adjusted from 0001 to 9999.
- SEc Second /10 Milisecond , It can be adjusted from 0001 to 9999.

Strt **Start Type Selection Parameter (Default = typ0)**
- typ0 Start / Stop buttons can be used to run or stop the timer.
- typ1 Start / Stop buttons can be used to run or stop the timer.
- typ2 External Start Input can be used to run or stop the timer.
- typ3 External Start Input can only be used to run the timer. In order to stop the timer the Stop button must be used.
  For detailed information refer to graphics.

outF **Output Functions (Default = oFF)**
- o-n if ON is selected timer runs by start and relay contact is closed. When time is over, relay contact opens.
- oFF if OFF is selected timer runs by start. When time is over, relay contact is closed.

buF **Buzzer Function Selection Parameter (Default = 0)**
if this parameter is selected 0, Buzzer is inactive. Adjustable 16 different buzzer sounds. It can be adjusted from 0 to16.

bon **Buzzer is active during this time (Default = ---)**
Buzzer stays active during this time. It can be adjusted from 1 to 99 seconds When this parameter is 1, if decrement button is pressed ---is observed. In this condition buzzer is active till buzzer Stop button is pressed.

drEc **Data Record (Default = 1)**
- 0 Timer count value is saved to memory when power is disconnected and restored on power up.
- 1 Timer count value is not saved to memory when power is disconnected. When power up, Set value is shown on the screen.

outt **Output Relay On Delay Time (Default = 0)**
It determines how long output relay will be active. If it is 0000 second, then it operates indefinitely. It can be adjusted from 0000 to 9999 minute/second. This parameter is active only if outF = oFF .

UPL **Maximum Set Value Parameter (Default = 01:00)**
Maximum set value for set time value.
It can be adjusted from 0001 to 9999. (If time value is monitored in miliseconds.) SEc
It can be adjusted from 0001 to 9959 .(If time value is monitored in Hours hour or Minutes. Min)

dEct **Timer Counting Direction (Default = 1)**
- 0 Timer upcount. 0 to Set value.
- 1 Timer Downcount. Set value to 0.

Prt **Button Protection Parameter (Default = 0)**
- 0 Button protection is not active.
- 1 Buttom protection is active for Timer set value.

PAS **Programming Section Access Password (Default = 0)**
It is used for accessing to the programming section. It can be adjusted from 0 to 9999. If it is selected 0, password will not be asked.

6.3 Operation Graphics of ESM-3735 Digital Timer

1.Control diagram using Start / Stop buttons.

1.1 If Start type Strt is selected as typ0 .

1.1.1 If downcount dEct=1 and outF is o-n the control diagram is shown in Figure 1.1

1.1.2 If downcount dEct=1 and outF is oFF the control diagram is shown in Figure 1.2

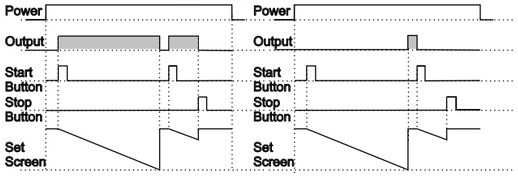


Figure 1.1 Figure 1.2

1.2 If Start type Strt is selected as typ0 .

1.2.1 If Upcount dEct =0 and outF is o-n the control diagram is shown in Figure 1.3

1.2.2 If Upcount dEct =0 and outF is oFF the control diagram is shown in Figure 1.4

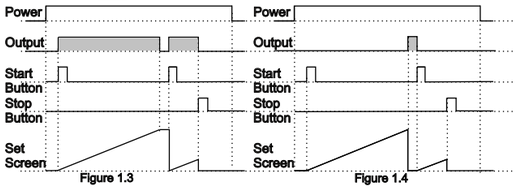


Figure 1.3 Figure 1.4

2.Control diagram using Start / Stop buttons.

2.1 If Start type Strt is selected as typ1 .

2.1.1 If Downcount dEct=1 and outF is o-n the control diagram is shown in Figure 2.1

2.2.2 If Downcount dEct=1 and outF is oFF the control diagram is shown in Figure 2.2

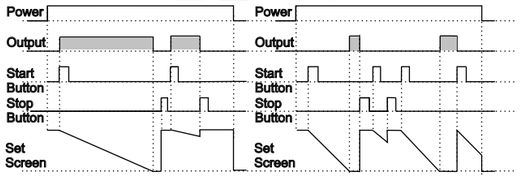


Figure 2.1 Figure 2.2

1.4 If Start type Strt is selected as typ1 .

1.4.1 If Upcount dEct =0 and outF is o-n the control diagram is shown in Figure 2.3

1.4.2 If Upcount dEct =0 and outF is oFF the control diagram is shown in Figure 2.4

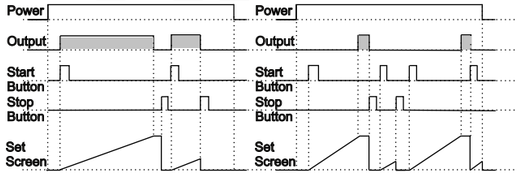


Figure 2.3 Figure 2.4

3.Control diagram using External Digital Start Input.

3.1 If Start type Strt is selected as typ2 .

3.1.1 If Downcount dEct=1 and outF is o-n the control diagram is shown in Figure 3.1

3.1.2 If Downcount dEct=1 and outF is oFF the control diagram is shown in Figure 3.2

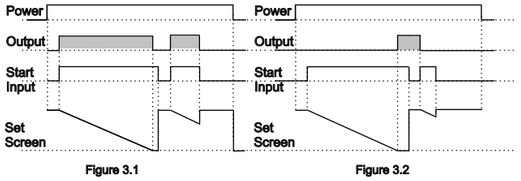


Figure 3.1 Figure 3.2

3.2.1 If Upcount dEct =0 and outF is o-n the control diagram is shown in Figure 3.3

3.2.2 If Upcount dEct =0 and outF is oFF the control diagram is shown in Figure 3.4

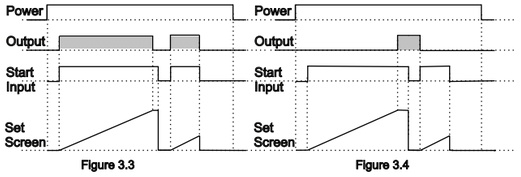


Figure 3.3 Figure 3.4