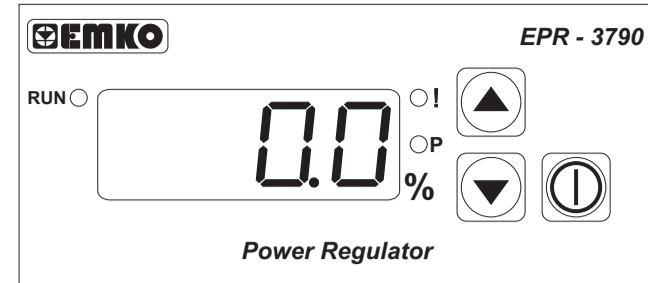


5. Failure Message in EPR-3790 Unit



When Error input is activated, Error led starts blinking after a period of time defined in **FlonD** parameter. If the device is started, the Analog output ramps down to minimum set limit. After error input becomes passive error Led turns off after a period of time defined in **Flod** parameter. (If Error latching is selected it turns off when the decrement button is pressed on the Operation Screen.) If the device is started, the Analog output ramps up to maximum set limit.

6. Specifications

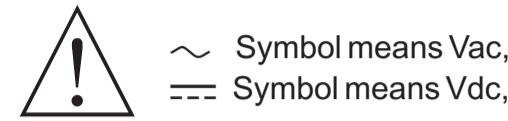
Device Type	: Digital Power Regulator
Housing&Mounting	: 77mm x 35mm x 62,5mm Plastic housing for panel Mounting, Panel cut-out is 71x29mm.
Protection Class	: NEMA 4X (IP65 at front, IP20 at rear).
Weight	: Approximately 90Gr.
Environmental Rating	: Standard, indoor at an altitude of less than 2000 meters with none-condensing humidity.
Storage / Operating Temperature	: -40 °C to +85 °C / 0 °C to +50 °C
Storage / Operating Humidity	: 90 % max. (None condensing)
Installation	: Fixed Installation
Overtoltage Category	: II.
Pollution Degree	: II. Office or workplace, none conductive pollution
Operating Conditions	: Continuous
Supply Voltage and Power	: 100-240 V ~ (-%15;+%10) 50/60 Hz. 2VA 24V ~ (-%15;+%10) 50/60 Hz. 2VA 24V==(-%15;+%10) 2W
Analogue Output	: 0/2...10V== (Max.10mA) or 0/4...20mA==
Analogue Output Accuracy	: ± % 0.1
Display	: 10 mm Red 4 digits LED Display
LED	: Run(Red), Error(Red), P(Red) 3 mm Led

7. Ordering Information

EPR-3790 (77x35 DIN Size)	
A	BCDE / FGHI / UVWZ
1	00 / 00 / 00 / 00
2	00 / 00 / 00 / 00
3	00 / 00 / 00 / 00
4	00 / 00 / 00 / 00
5	00 / 00 / 00 / 00

A Power Supply
1 100...240V ~ (-%15;+%10) 50/60Hz
2 24V ~ (-%15;+%10) 50/60Hz 24V==(-%15;+%10)
9 Customer
E Output
4 Current Output (0/4...20mA==)
5 Voltage Output (0/2...10V== Max. 10mA)

All order information of EPR-3790 units are given on the table on the left. User may form appropriate device configuration from information and codes that on the table and convert it to the ordering codes. Firstly supply voltage, then other specifications must be determined. Please fill the order code blanks according to your needs. Please contact us, if your needs are out of the standards.



~ Symbol means Vac,
== Symbol means Vdc,

EMKO Thank you very much for your preference to use Emko Elektronik products, please visit our Your Technology Partner web page to download detailed user manual. www.emkoelektronik.com.tr

EMKO

Power Regulator

EPR-3790 77x35 DIN Size



EPR-3790 77 x 35 DIN Size Digital Power Regulator

- 4 Digits Display
- Easily adjustable set value from front panel
- Configurable display scale between -1999 and 9999
- Adjustable decimal point
- Set value low limit and set value high limit boundaries
- Adjustable ramp up and ramp down time
- Error Input
- 0/2...10V== Voltage output or 0/4...20mA== Current output (It must be determined in order.)
- Password protection for programming and adjustment sections

Instruction Manual, ENG EPR-3790 01 V03 03/14

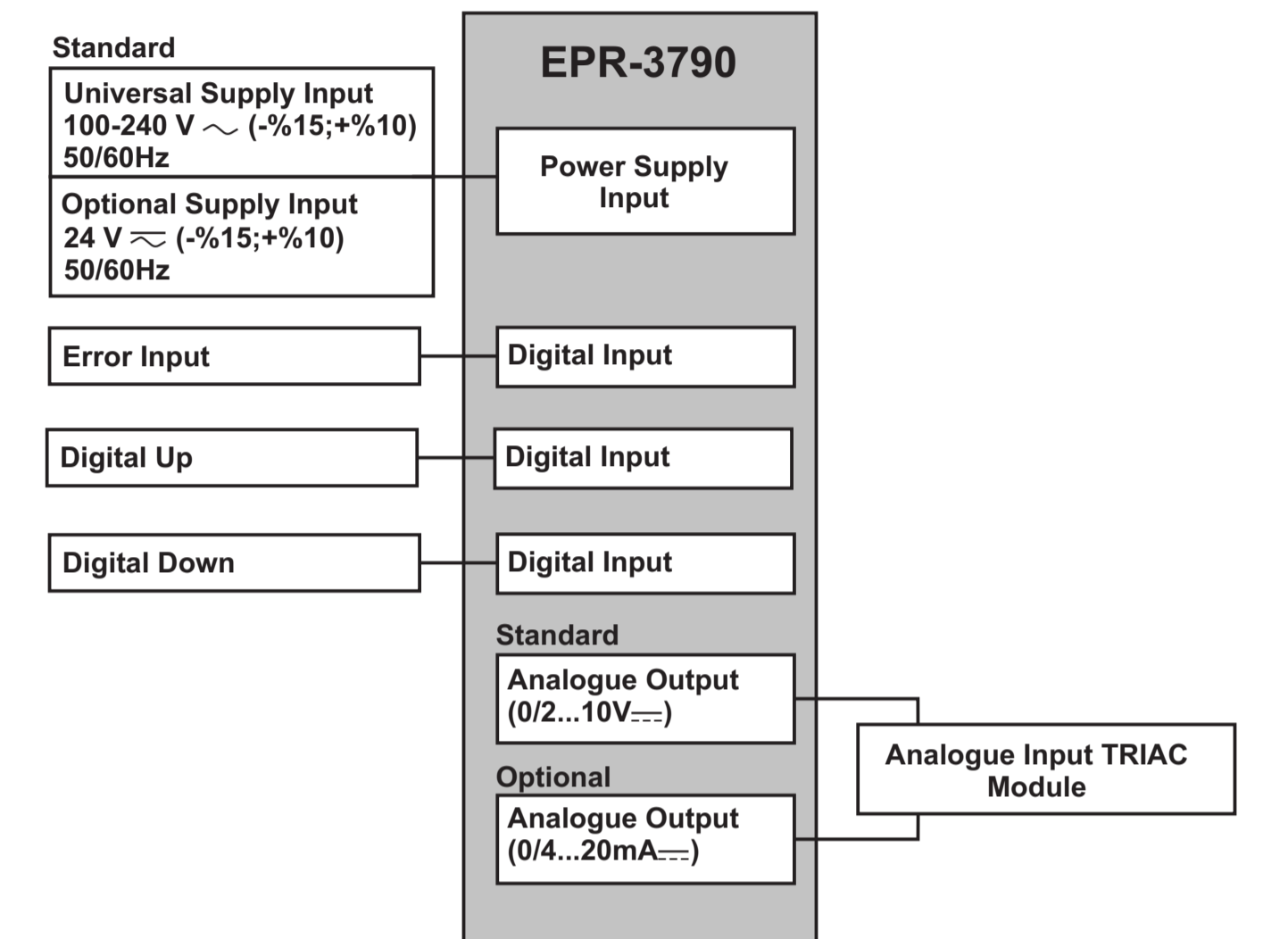
1.Preface

EPR-3790 series Digital Power Regulator devices are designed for controlling Analogue Input TRIAC modules in industry. They can be used in many applications with their easy use and ramped Start/Stop function.

1.1 Environmental Ratings

- Operating Temperature** : 0 to 50 °C
- Max. Operating Humidity** : 90% Rh (non-condensing)
- Altitude** : Up to 2000m.
- Forbidden Conditions:** Corrosive atmosphere, Explosive atmosphere, Home applications (The unit is only for industrial applications)

1.2 General Specifications



2

1.3 Installation

! Before beginning installation of this product, please read the instruction manual and warnings below carefully.

- In package ,
- One piece unit
 - Two pieces mounting clamps
 - One piece instruction manual

A visual inspection of this product for possible damage occurred during shipment is recommended before installation. It is your responsibility to ensure that qualified mechanical and electrical technicians install this product.

If there is danger of serious accident resulting from a failure or defect in this unit, power off the system and separate the electrical connection of the device from the system.

The unit is normally supplied without a power supply switch or a fuse. Use power switch and fuse as required.

Be sure to use the rated power supply voltage to protect the unit against damage and to prevent failure.

Keep the power off until all of the wiring is completed so that electric shock and trouble with the unit can be prevented.

Never attempt to disassemble, modify or repair this unit. Tampering with the unit may result in malfunction, electric shock or fire.

Do not use the unit in combustible or explosive gaseous atmospheres.

During the equipment is putted in hole on the metal panel while mechanical installation some metal burrs can cause injury on hands, you must be careful.

Montage of the product on a system must be done with it's fixing clamps. Do not do the montage of the device with inappropriate fixing clamp. Be sure that device will not fall while doing the montage.

It is your responsibility if this equipment is used in a manner not specified in this instruction manual.

1.4 Warranty

EMKO Elektronik warrants that the equipment delivered is free from defects in material and workmanship. This warranty is provided for a period of two years. The warranty period starts from the delivery date. This warranty is in force if duty and responsibilities which are determined in warranty document and instruction manual performs by the customer completely.

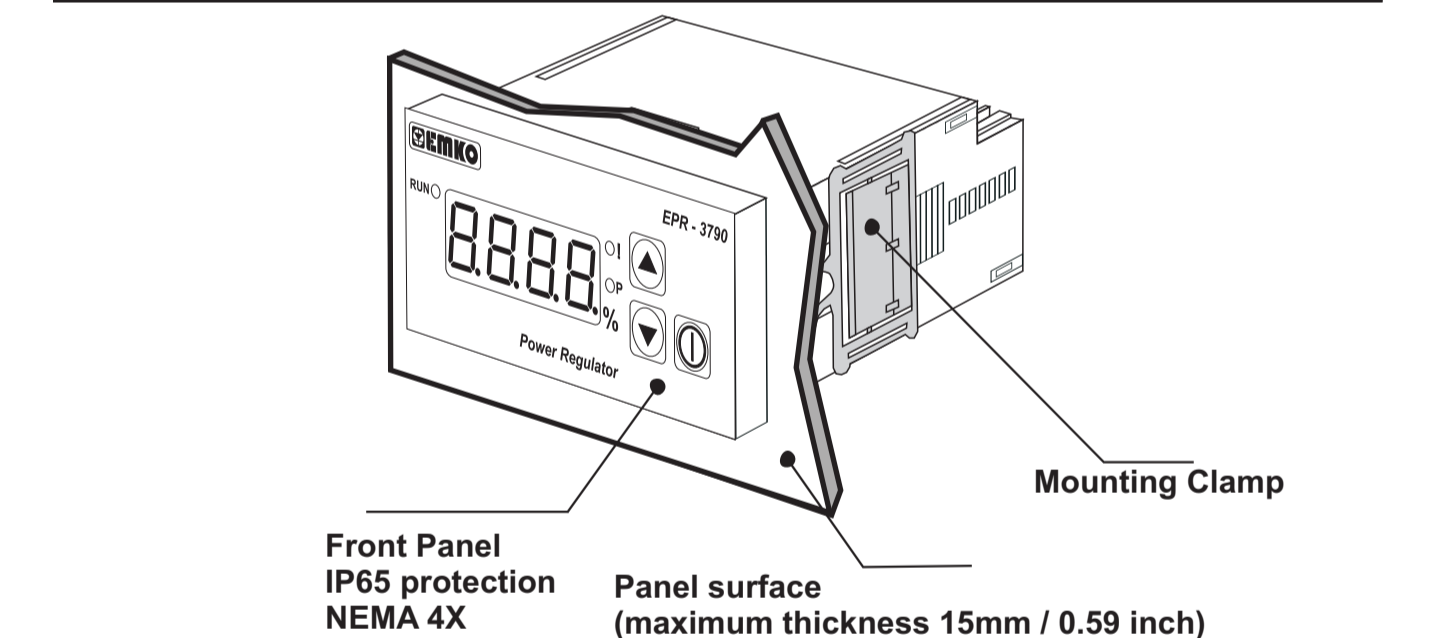
1.5 Maintenance

Repairs should only be performed by trained and specialized personnel. Cut power to the device before accessing internal parts. Do not clean the case with hydrocarbon-based solvents (Petrol, Trichlorethylene etc.). Use of these solvents can reduce the mechanical reliability of the device. Use a cloth dampened in ethyl alcohol or water to clean the external plastic case.

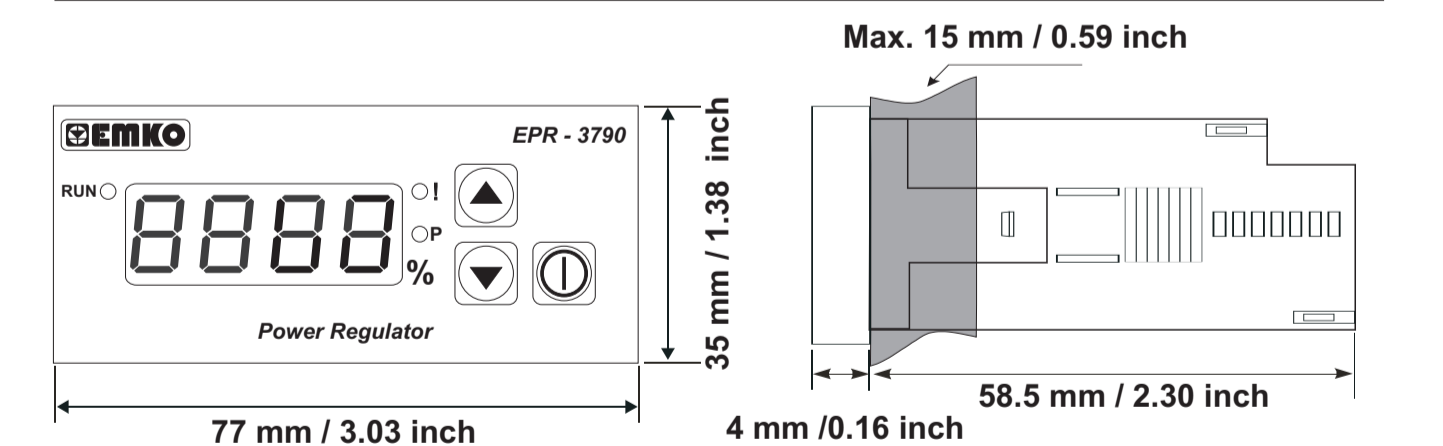
1.6 Manufacturer Company

Manufacturer Information:
Emko Elektronik Sanayi ve Ticaret A.Ş.
Demirtaş Organize Sanayi Bölgesi Karanfil Sk. No:6 16369 BURSA/TURKEY
Phone : +90 224 261 1900
Fax : +90 224 261 1912
Repair and maintenance service information:
Emko Elektronik Sanayi ve Ticaret A.Ş.
Demirtaş Organize Sanayi Bölgesi Karanfil Sk. No:6 16369 BURSA/TURKEY
Phone : +90 224 261 1900
Fax : +90 224 261 1912

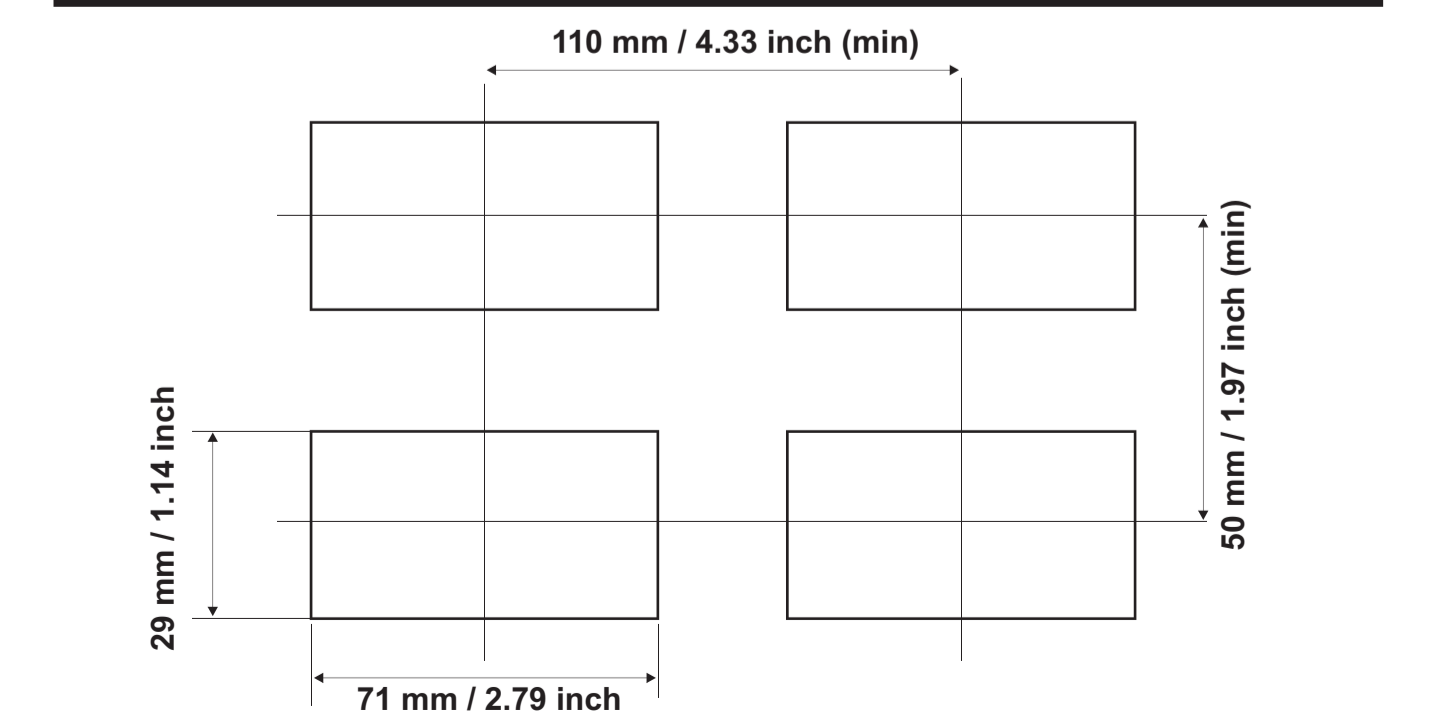
2 General Description



2.1 Front View and Dimensions of EPR-3790 Unit



2.2 Panel Cut-Out



4

13

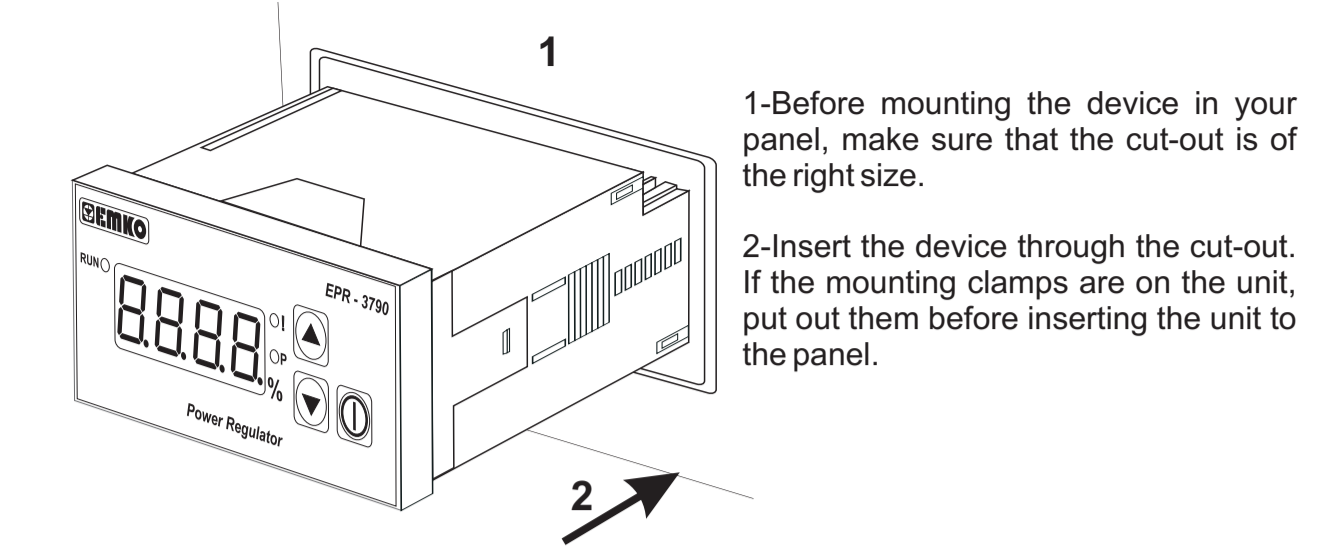
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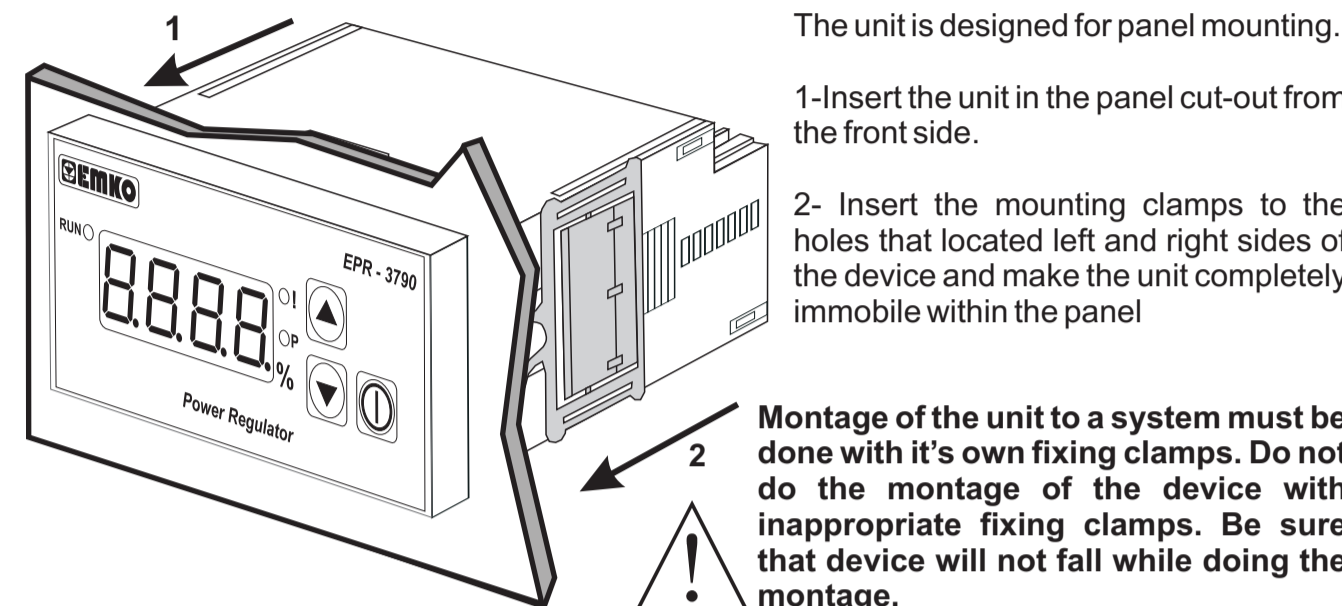
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2.3 Panel Mounting



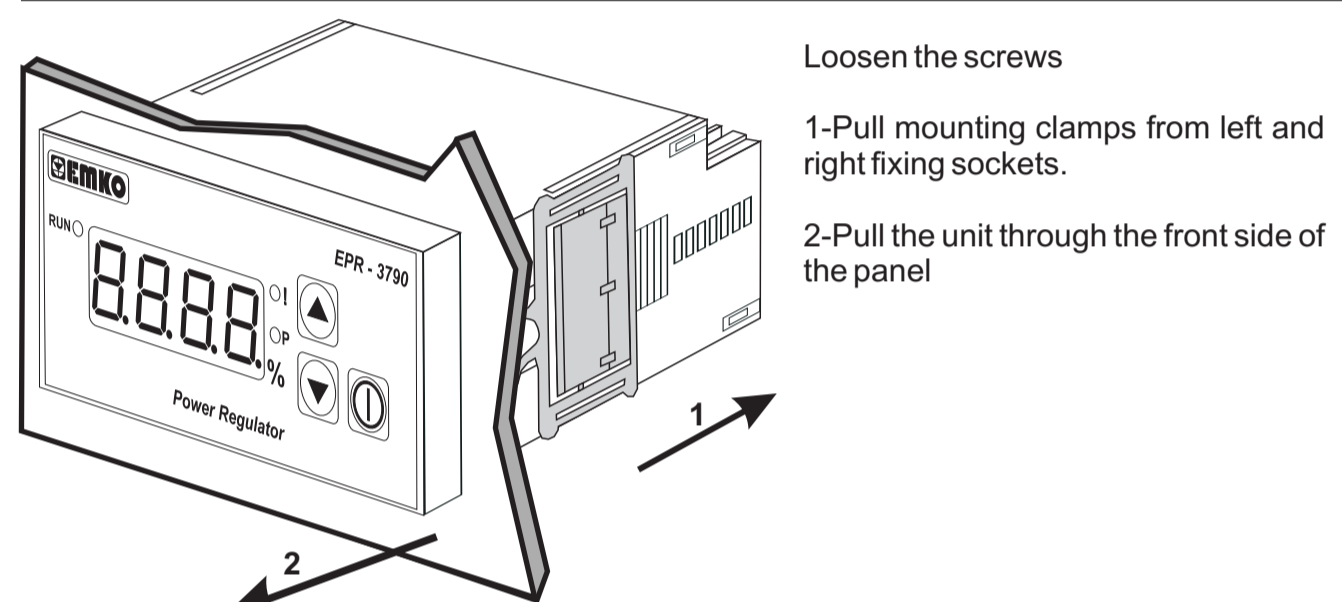
- 1-Before mounting the device in your panel, make sure that the cut-out is of the right size.
- 2-Insert the device through the cut-out. If the mounting clamps are on the unit, put out them before inserting the unit to the panel.

2.4 Installation Fixing Clamp



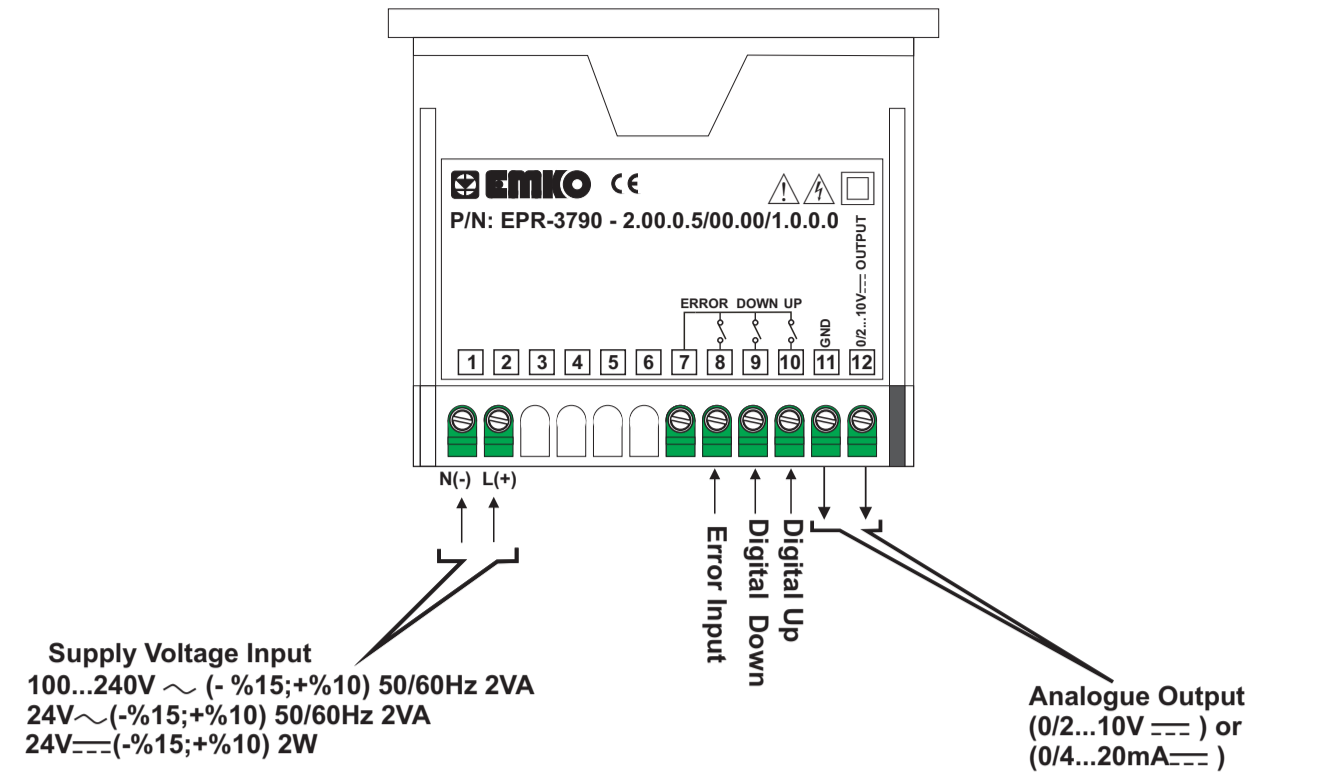
- The unit is designed for panel mounting.
- 1-Insert the unit in the panel cut-out from the front side.
 - 2- Insert the mounting clamps to the holes that located left and right sides of the device and make the unit completely immobile within the panel
- Montage of the unit to a system must be done with it's own fixing clamps. Do not do the montage of the device with inappropriate fixing clamps. Be sure that device will not fall while doing the montage.

2.5 Removing from the Panel

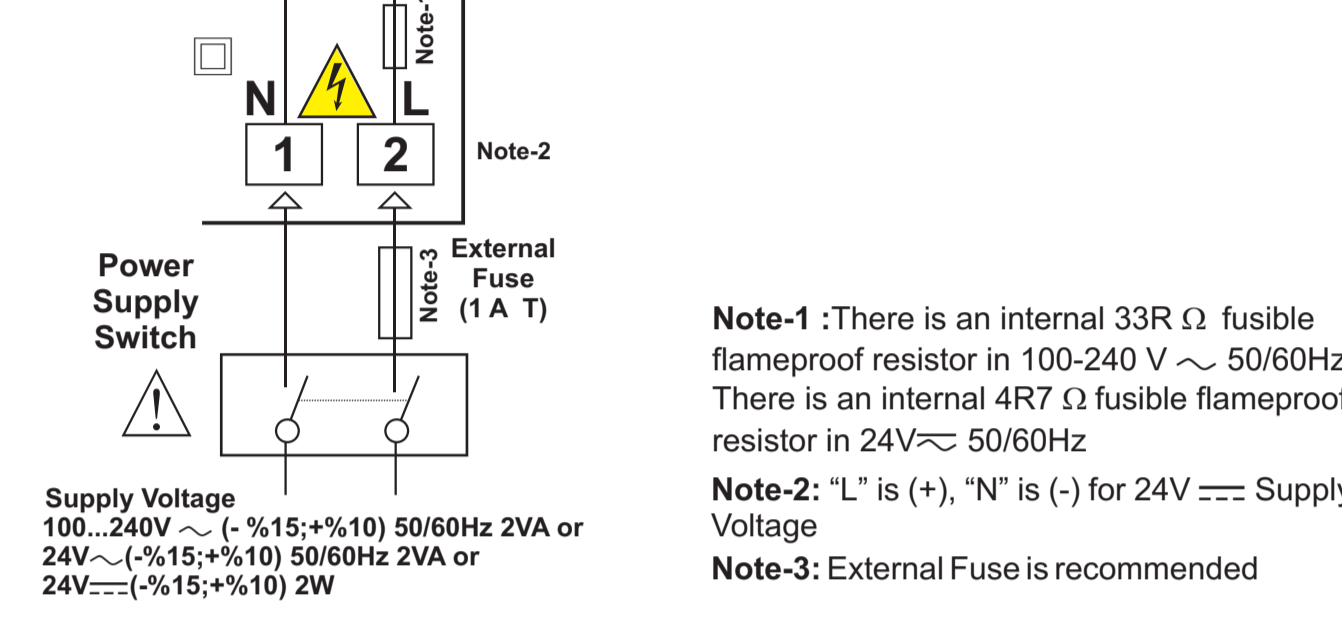


- Loosen the screws
- 1-Pull mounting clamps from left and right fixing sockets.
 - 2-Pull the unit through the front side of the panel

3. Electrical Wiring Diagram



3.1 Supply Voltage Input Connection of the Device



Make sure that the power supply voltage is same indicated on the instrument. Switch on the power supply only after that all the electrical connection 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. Controlling prevents damages in unit and system and possible accidents as a result of incorrect supply voltage.

There is no power supply switch or fuse on the device. So a power supply switch and a fuse must be added to the supply voltage input. Power supply switch and fuse must be put to a place where user can reach easily. Power supply switch must be two poled for separating phase and neutral. On/Off condition of power supply switch is very important in electrical connection. On/Off condition of power supply switch must be signed for preventing the wrong connection.

External fuse must be on phase connection in ~ supply input.
External fuse must be on (+) line connection in ~ supply input.

The instrument is protected with an internal fuse (Please refer to Note-1 for information). In case of failure it is suggested to return the instrument to the manufacturer for repair.

4.3. Program Parameters

- LoL** Scale Low Limit Parameter (Default = 0.0)
It can be adjusted from -1999 to (uPL -1). At this value analogue output becomes:
If oRE=0, according to the device type 0V or 0mA
If oRE=1, according to the device type 2V or 4mA
- uPL** Scale High Limit Parameter:(Default = 100.0)
It can be adjusted from (LoL +1) to 9999. At this value analogue output becomes;
According to the device type 10V or 20mA
- Su-L** Set Low Limit Parameter:(Default = 0.0)
Set value can not be defined less than this value.
It can be adjusted from Scale low limit parameter LoL value to Set high limit parameter Su-u value.
- Su-u** Set High Limit Parameter:(Default = 100.0)
Set value can not be defined greater than this value.
It can be adjusted from Set low limit parameter Su-l value to Scale high limit parameter uPL value.
- dPnt** Decimal Point Position Parameter:(Default = 1)
Decimal point position is determined with this parameter. It can be adjusted from 0 to 3.
- Strt** Power On Output Control Parameter: (Default = 2)
When power on firstly, Analogue and digital outputs status can be determined with this parameter. It can be adjusted from 0 to 2.

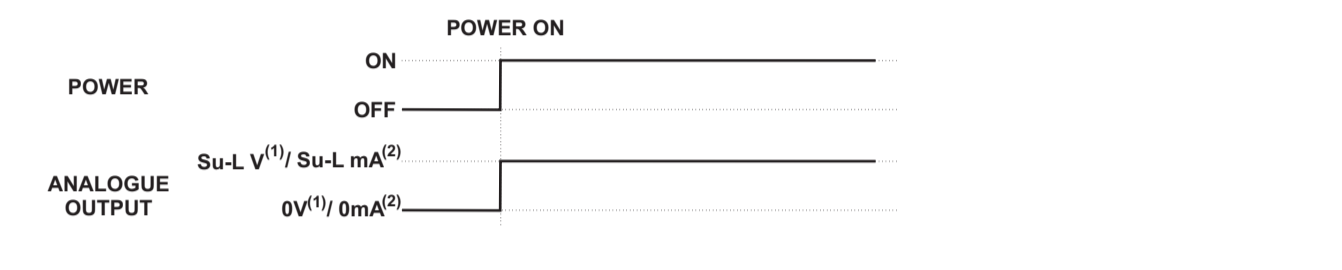


Figure-4.1 Power On Behaviour (Strt=0)

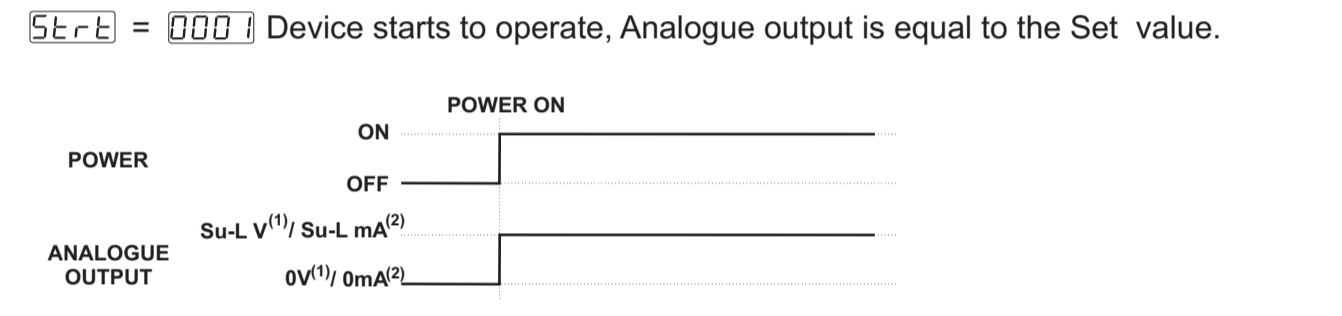


Figure-4.2 Power On Behaviour (Strt=1)

- (1) It is valid, if the device type 0/2...10V analogue output.
- (2) It is valid, if the device type 0/4...20mA analogue output.

Strt = 0002 Device starts to operate, Analogue output is increased from the Scale Set low limit to Set value according to the ramp up time.

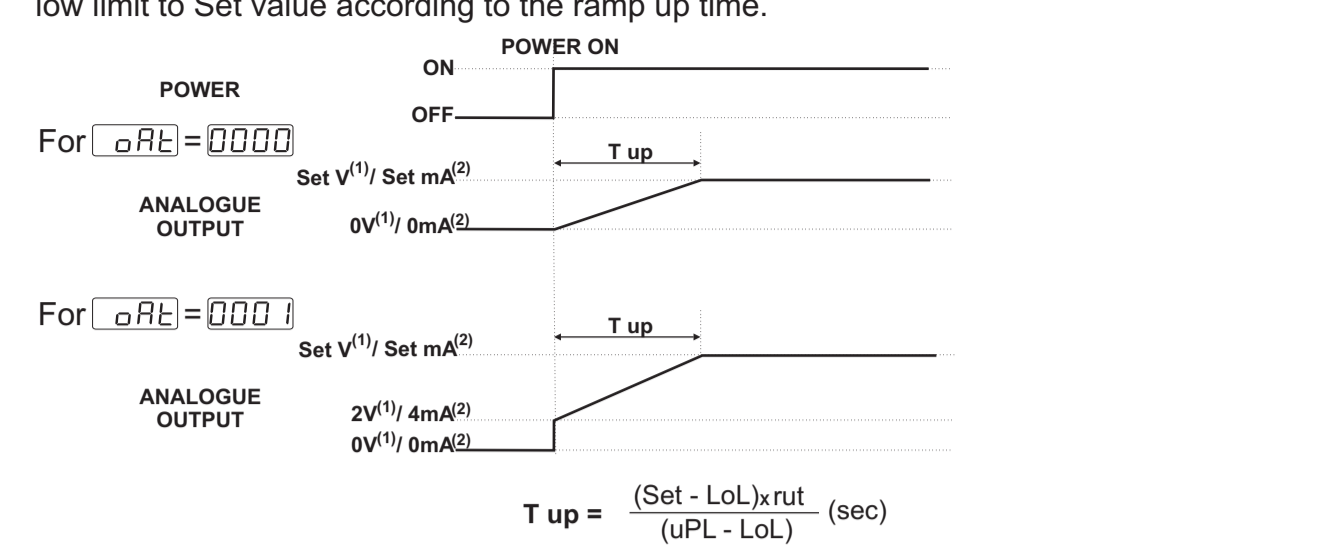
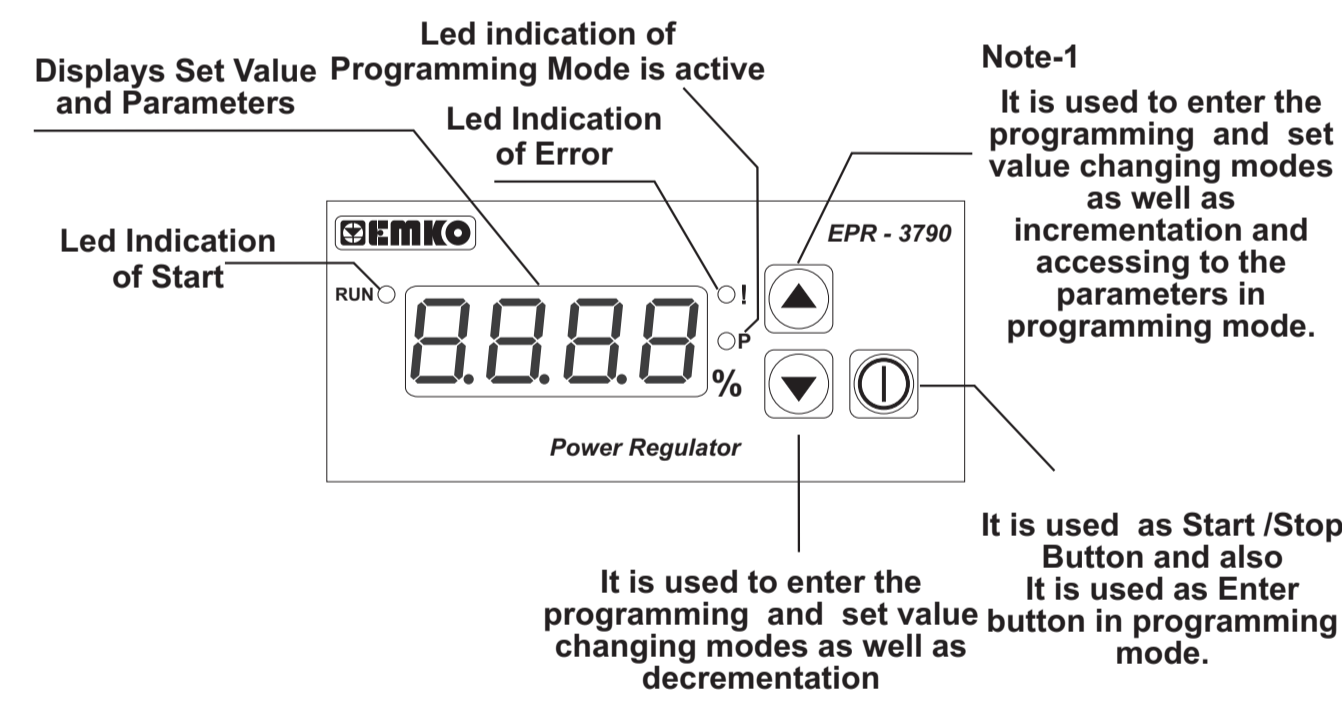


Figure-4.3 Power On Behaviour (Strt=2)

- tunt** Time Unit Selection Parameter: (Default = 0)
0 Counts in Second
1 Counts in Minute
- rut** Ramp Up Time Parameter:(Default = 10sec)
Increasing time of the analogue output from 0V value to 10V value or from 0mA value to 20mA value is determined with this parameter. It can be adjusted from 0 to 6000.
- SoRt** Soak Time Parameter:(Default = 0 sec)
Soak time is activated unless soak parameter is entered 0. After rut ramp time is up, the output remains active for soak time and output returns to 0. It can be selected between 0 and 6000.
- rdt** Ramp Down Time Parameter:(Default = 10sec)
Decreasing time of the analogue output from 10V value to 0V value or from 20mA value to 0mA value is determined with this parameter. It can be adjusted from 0 to 6000.
- SidE** Set Changing Value Parameter:(Default = 4)
Changing value for Set value is determined with this parameter.
0001 Set changing value become one(1)
0002 Set changing value become ten(10)
0003 Set changing value become hundred(100), for each pressing the Increment, Decrement button
0004 Set changing value become incremental. (Note-1)
- Rond** Error Input Active on Delay Parameter: (Default = 0)
When the error input is active, this parameter indicates the delay time for the device to be in error mode. It can be adjusted from 0 to 9999 seconds.
- RofD** Error Input Passive on Delay Parameter: (Default = 0)
When the error input is passive, this parameter indicates the delay time for the device to leave the error mode. When this parameter is 9998, if the increment button is pressed LCH is observed and error latching is selected. The device stays in error mode even if error condition is disappeared. In order to make Error latching passive the decrement button must be pressed in Main Operation Screen. It can be adjusted from 0 to 9999 seconds.

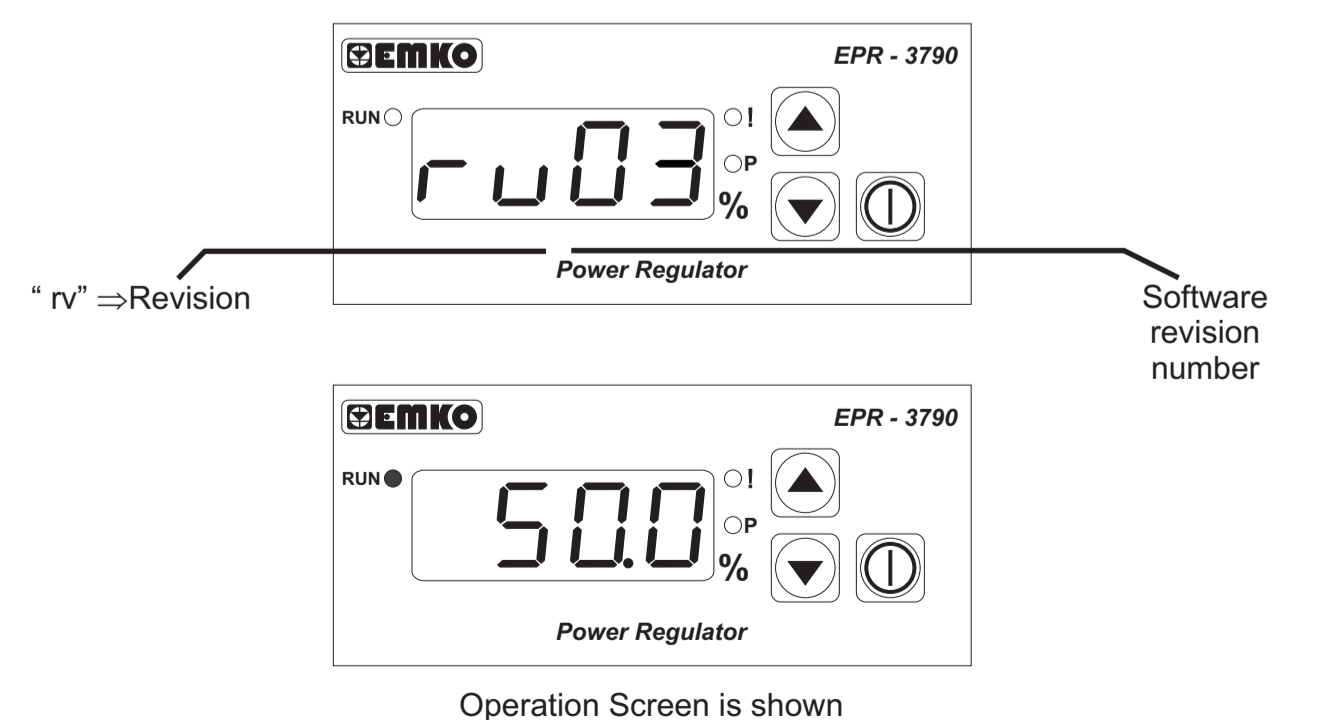
4. Front Panel Definition and Accessing to the Menus



Note-1: If increment or decrement button is pressed for 2 seconds continuously, increment and decrement number become 10, if pressed for 4 seconds continuously, increment and decrement number become 100, if pressed for 6 seconds continuously, increment and decrement number become 1000.

4.1 Observation of Software Revision on the Display

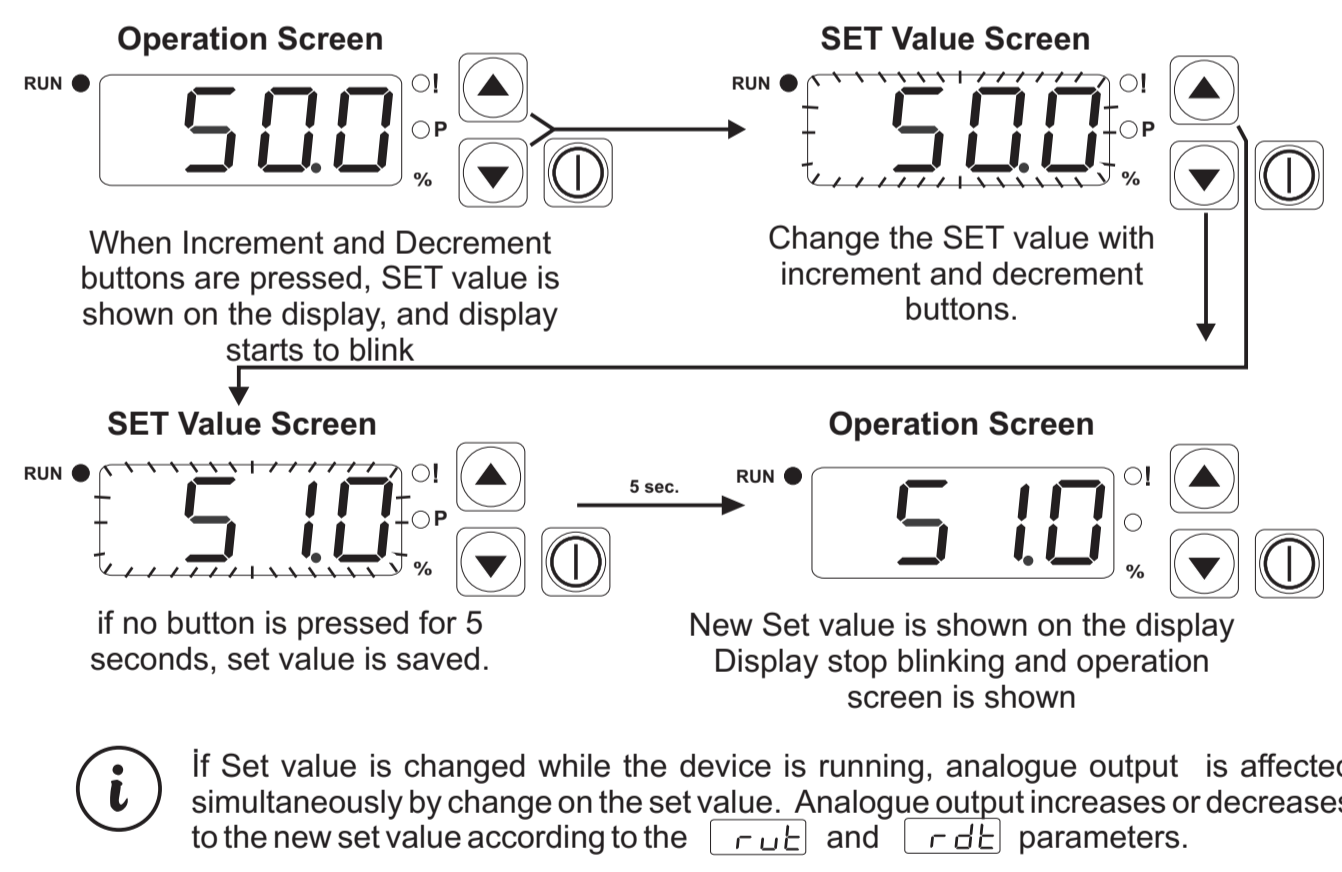
When power is first applied to the Digital Power Regulator, software revision number is shown on the display.



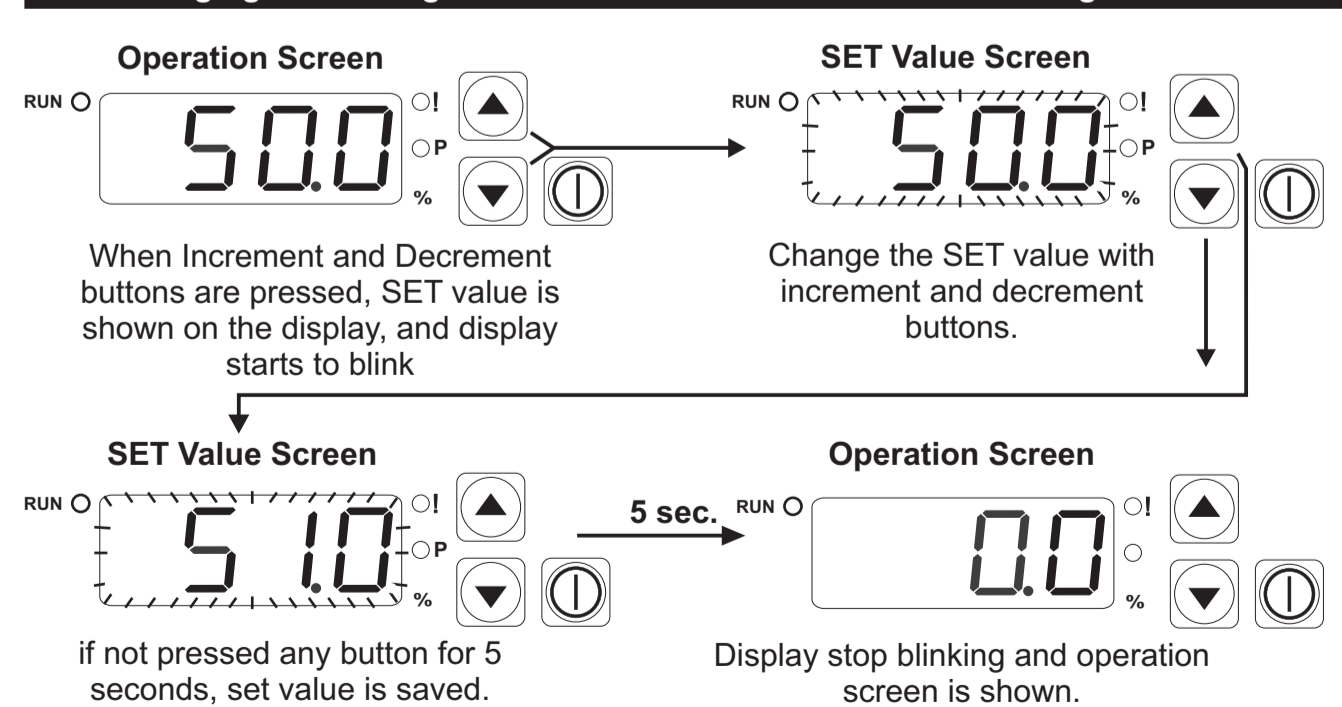
If there is an unexpected situation while opening the device, power off the device and inform a qualified personnel.

4.2 Changing and Saving Set Value

4.2.1 Changing and Saving Set Value Device is Running



4.2.2 Changing and Saving Set Value While The Device is not Running



SET value can be adjusted from minimum set value Su-l parameter to maximum set value Su-u parameter, they can be accessed from programming parameters.

If no operation is performed in Set value changing mode for 5 seconds, device turns to operation screen automatically.

Note-1 : If increment or decrement button is pressed for 2 seconds continuously, increment and decrement number become 10, if pressed for 4 seconds continuously, increment and decrement number become 100, if pressed for 6 seconds continuously, increment and decrement number become 1000.

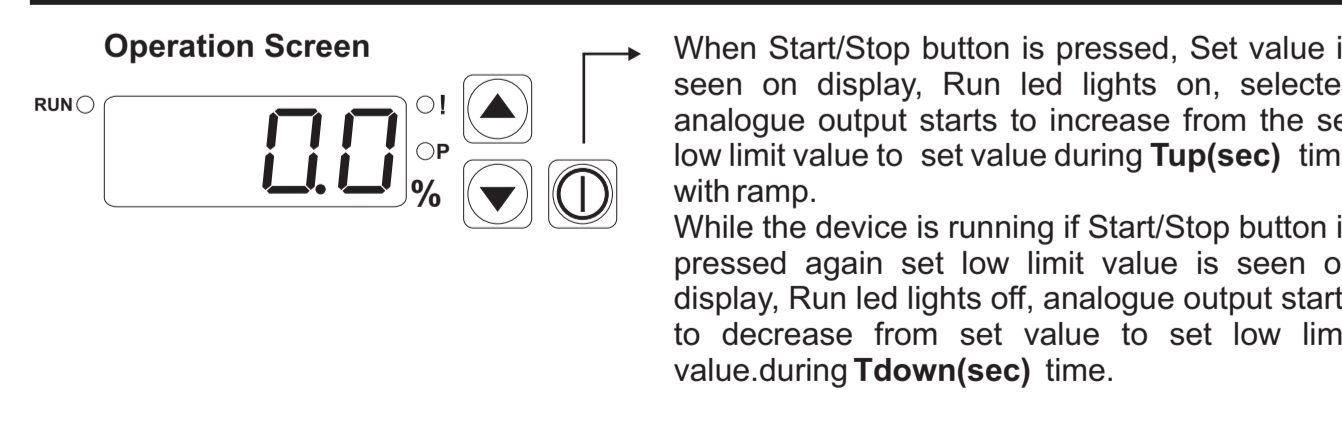
- oRE** Analogue Output Range Selection Parameter:(Default = 0)
Analogue output range is determined with this parameter
0000 according to the device type 0...10V or 0...20mA
0001 according to the device type 2...10V or 4...20mA
- Prt** Button Protection Parameter: (Default = 0)
0000 Buttons protection is passived.
0001 Start-Stop Button protection is activated.
- APAS** Adjustment Section Accessing Password:
Required password is entered via this parameter for accessing to the adjustment section. If the parameter value is entered as 3083, AURL screen is accessed, otherwise PRS5 parameter is seen
- AURL** Adjustment Value Parameter:
Adjustment value for Analogue output. It can be adjusted from 0 to 4095.

When pressing button on AURL screen, adjustment value is seen on screen. The value on the screen should be adjusted with Increment and decrement button until 10.00V or 20.00mA is obtained from the analogue output.
After getting the 10.00V or 20.00mA on analogue output, press button for saving this value as an adjustment value.

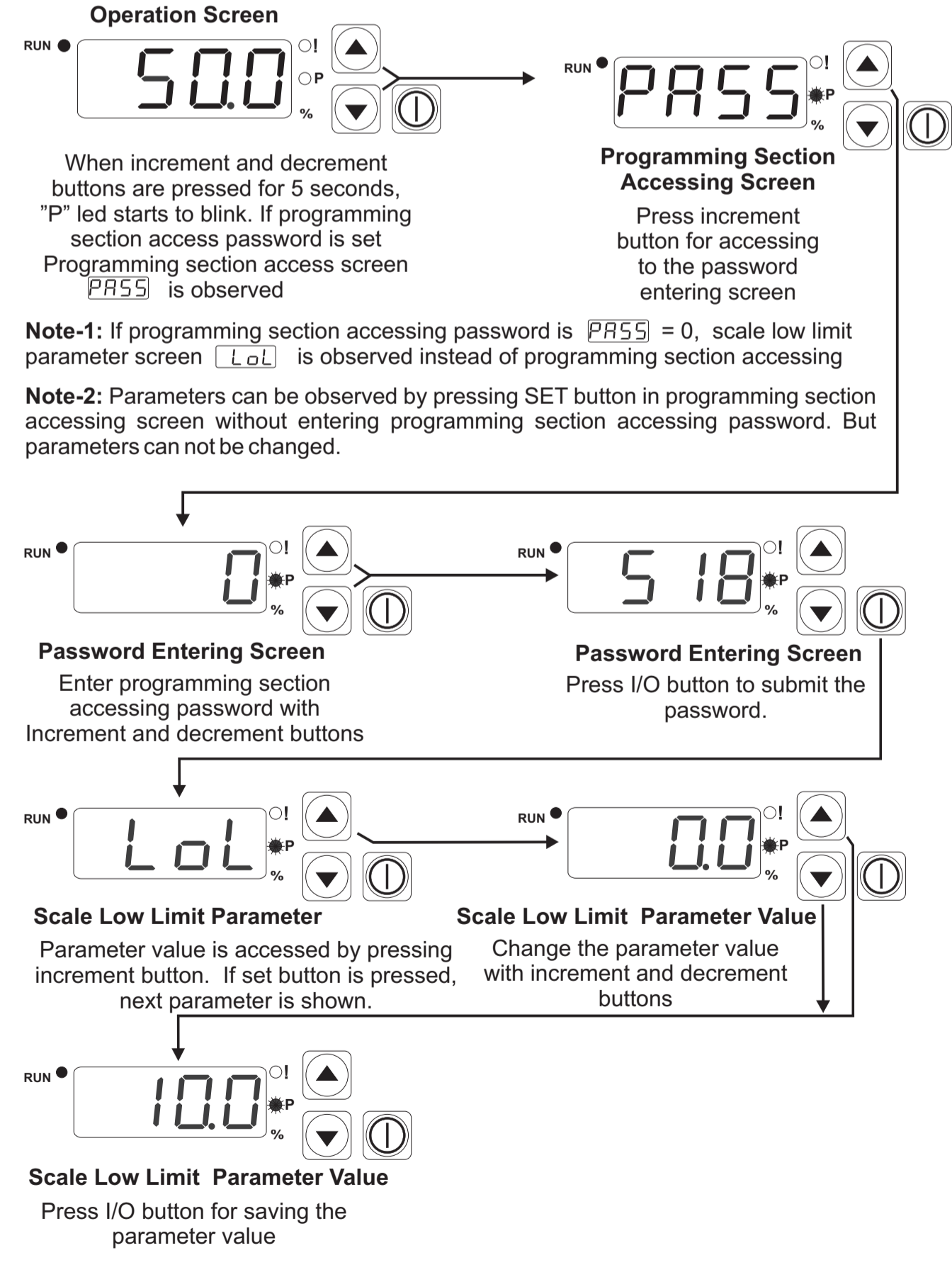
PASS Programming Section Accessing Password:(Default = 0)
It is used for entering to the programming section.
It can be adjusted from 0 to 9999. If this password is 0, programming section can be accessed without entering the password.

- (1) It is valid, if the device type 0/2...10V analogue output.
- (2) It is valid, if the device type 0/4...20mA analogue output.

4.4. Device Start/Stop Operation



4.5 Entering To The Programming Mode, Changing and Saving Parameter



If no operation is performed in programming mode for 20 seconds, device turns to main operation screen automatically.