



Read this document carefully before using this device. The guarantee will be expired by device damages 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 ET2411 ON/OFF HEAT CONTROLLER

Thank you for choosing ENDA ET2411 ON/OFF Heat Controller.

- ▶ 77 x 35mm sized.
- ▶ Single NTC sensor input.
- ▶ Zero point input shift.
- ▶ Selectable heating or cooling control for C1 relay output.
- ▶ Selectable heating or cooling control.
- ▶ In the case of sensor failure, relay state can be set to ON or OFF.
- ▶ Upper and lower setpoint limits can be adjusted.
- ▶ Temperature unit can be selected as °C or °F.
- ▶ CE marked according to European Norms.



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|--|--|
| <p>1 - Supply Voltage</p> <p>230.....230V AC
024.....24V AC/DC
012.....12V AC/DC
SM.....7-24VAC/9-30VDC</p> | <p>2 - Relay Current Selection</p> <p>05.....5A Relay Output
08.....8A Relay Output
16...16A Relay Output</p> |
|--|--|

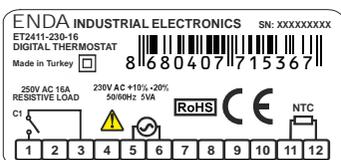
Order Code : ET2411 -

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ENDA ET2411 is intended for installation within 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 electrical power. The device must be protected against inadmissible humidity, vibrations, severe soiling. Make sure that the operation temperature is not exceeded.

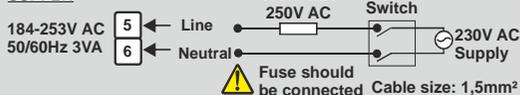
All input and output lines that are not connected to the supply network must be laid out as shielded and twisted cables. These cables should not be close to the power cables or components. The installation and electrical connections must be carried out by a qualified staff and must be according to the relevant locally applicable regulations.



Equipment is protected throughout by **DOUBLE INSULATION**

Holding screw **0.4-0.5Nm.**

NOTE:
SUPPLY:



- 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: 25.03.2019, modification reserved and can be change any time previous notice !

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TECHNICAL SPECIFICATIONS

INPUT		
Input Type	Scale Range	Accuracy
NTC Sensor Typ 103AT-2 at 25 °C - 10 kOhm	EN 60751 -60.0...150.0 °C -76.0...302.0°F	± 1% (for full scale) ± 1 Digit
ENVIRONMENTAL CONDITIONS		
Ambient/Storage temperature	0 ... +50 / °C -25... +70 °C(without icing)	
Relative Humidity	Max. humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.	
Protection Class	According to EN60529; Front panel: IP65 Rear panel : IP20	
Height	Max. 2000m	

Do not use the device in locations subject to corrosive and flammable gasses.

ELECTRICAL CHARACTERISTICS	
Supply	230V AC +10% -20%, 50/60Hz or 12/24V AC/DC ±10%
Power Consumption	Max. 3VA
Wiring	Power connector : 2.5mm² screw-terminal, Signal connector : 1.5mm² screw-terminal conenction.
Line Resistance	Max. 100ohm
Data Retention	EEPROM (Min. 10 years)
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)
Indicator	4 digits, 12.5mm, 7 segment red LED

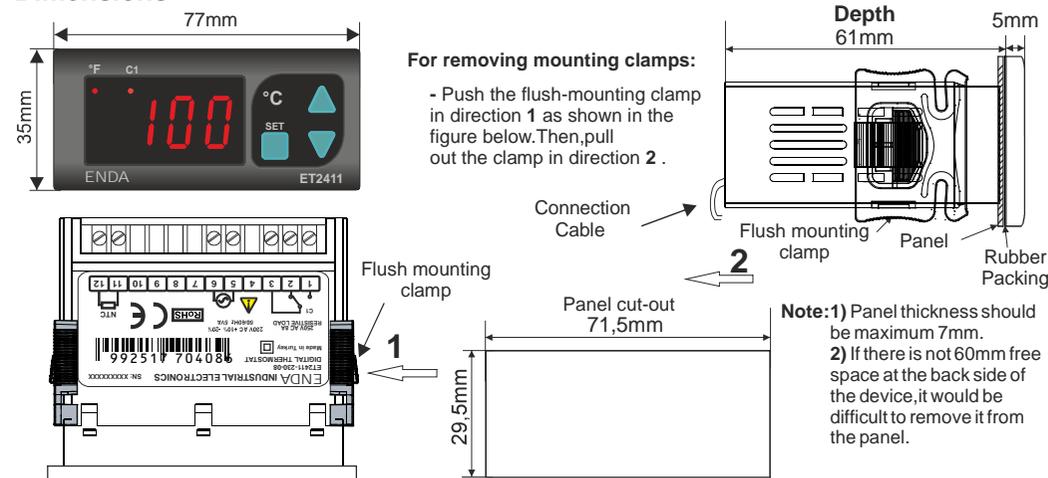
OUTPUT	
C1 Output	For 5A Models : 250V AC, 5A (resistive load), NO control output. For 8A Models : 250V AC, 8A (resistive load), NO and NC control output. For 16A Models : 250V AC, 16A (resistive load), NO control output.
Life Expectancy for Relay	For 5A Models : 5. Mio. Switching for no-load operation; 100.000 switching for 5A resistive load at 250VAC. For 8A Models : 30. Mio. Switching for no-load operation; 300.000 switching for 8A resistive load at 250VAC. For 16A Models : 30. Mio. Switching for no-load operation; 100.000 switching for 16A resistive load at 250VAC.

CONTROL	
Control Type	Single-setpoint and alarm control.
Control Algorithm	On-Off Control.
A/D Converter	12 bit resolution, 100ms sampling time.
Hysteresis	Adjustable between 0.1 and 20.0°C/F.

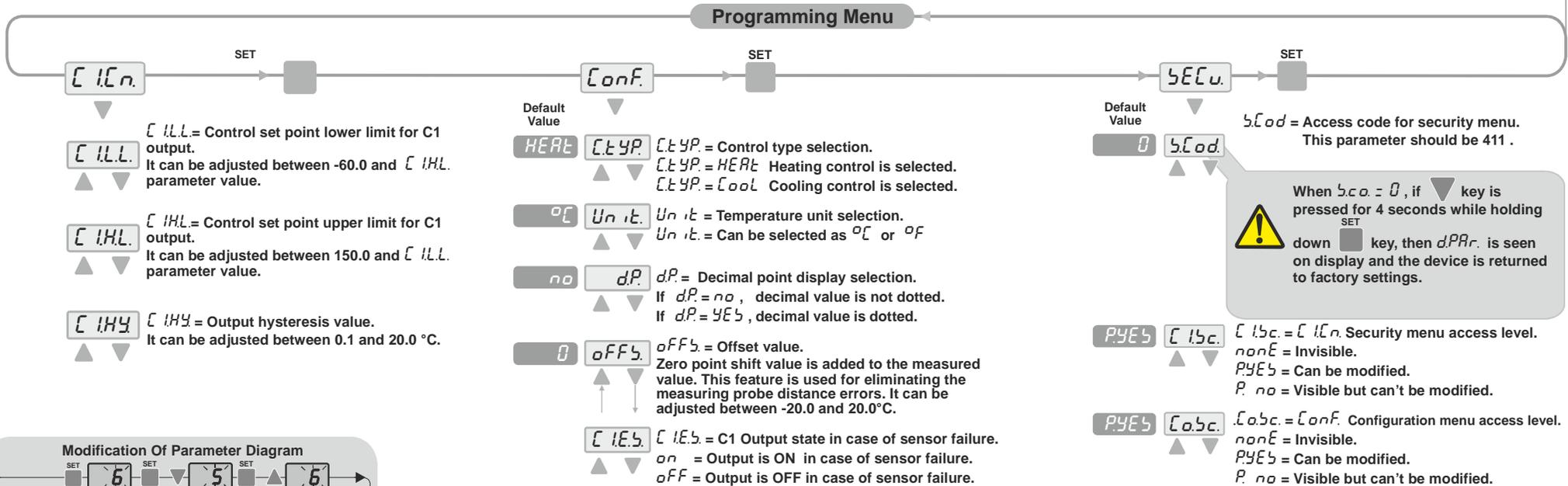
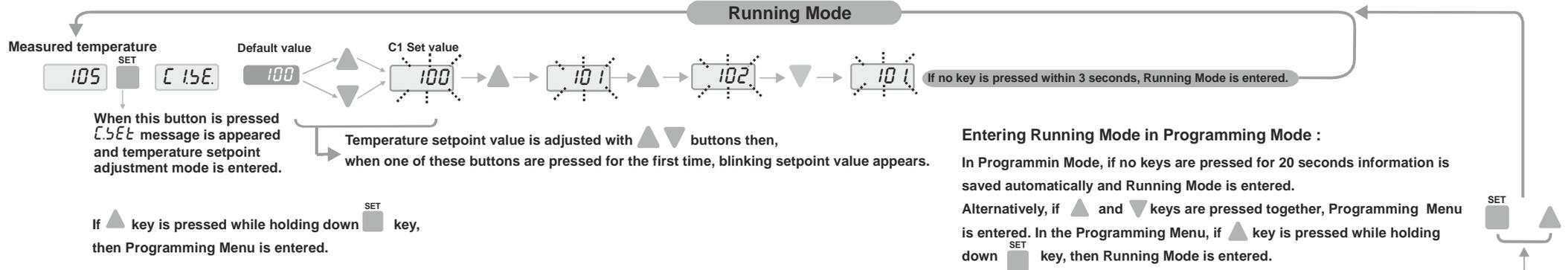
HOUSING	
Housing Type	Suitable for flush-panel mounting according to DIN 43 700.
Dimensions	W77xH35xD61mm
Weight	Approx. 215g (After packing)
Enclosure Materials	Self extinguishing plastics

While cleaning the device, solvents (thinner, benzine, acid etc.) or corrosive materials must not be used.

Dimensions



Programming Diagram



Modification Of Parameter Diagram

While holding down SET key, parameter value blinks and by ▼ ▲ using keys, the requested value can be adjusted.

If ▲ key is pressed and held 0.6 seconds, the value of the selected parameter increases rapidly. If waited enough, the value increases a hundred at each step. After 1 second, following the release of the key, initial increasing condition is returned. The same procedure is valid for the decrementing.

ERROR MESSAGES

- PFR Sensor is broken
- Temperature value is higher than the scale
- Temperature value is lower than the scale