



Read this document carefully before using this device. The guarantee will be expired by damaging of the device 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 ET4400 PROPORTIONAL OR ON-OFF TEMPERATURE CONTROLLER

Thank you for choosing ENDA ET4400 temperature controller .

- * 48 x 48mm sized.
- * Selectable SSO or relay control output.
- * Alarm or control output can be programmed as C/A1 relay output.
- * Selectable heating/cooling control.
- * For input offset feature.
- * In the case of sensor failure periodical running or relay state can be selected.
- * For keypad protection levels.
- * CE marked according to European Norms.



TECHNICAL SPECIFICATIONS

Input type	Temperature Range	Accuracy
J (Fe-CuNi) Thermocouple EN 60584	0... 600 °C +32... +1112 °F	0,5% (of full scale) ± 1 digit

ENVIRONMENTAL CONDITIONS

Ambient/storage temperature	0 ... +50°C/-25... +70°C (with no icing)		
Max. Relative humidity	80% up to 31°C decreasing linearly 50% at 40°C.		
Protection class	According to EN 60529	Front panel : IP65	Rear panel : IP20
Height	Max. 2000m		
Do not use the device in locations subject to corrosive and flammable gases.			

ELECTRICAL CHARACTERISTICS

Supply	230V AC +10% -20%, 50/60Hz or 24V AC ±10%, 50/60Hz.
Power consumption	Max. 5VA
Wiring	2.5mm ² screw-terminal connections
Line resistance	For thermocouple max.100ohm
Data retention	EEPROM (minimum 10 years)
EMC	EN 61326-1: 1997, A1: 1998, A2: 2001 (Performance criterion B for standard EN 61000-4-3)
Safety requirements	EN 61010-1: 2001 (Pollution degree 2, overvoltage category II)

OUTPUTS

C/A1	Relay : 250V AC, 2A (for resistive load), NO/NC. Selectable as Control or Alarm1 output.
SSO out	Selectable logic control output. (Max 12V 20mA)
Life expectancy for relay	Without load switching 30.000.000 mechanical operation;250V AC,on the 2A resistive load 300.000 electrical switching

CONTROL

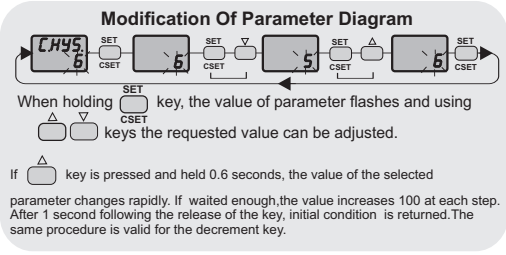
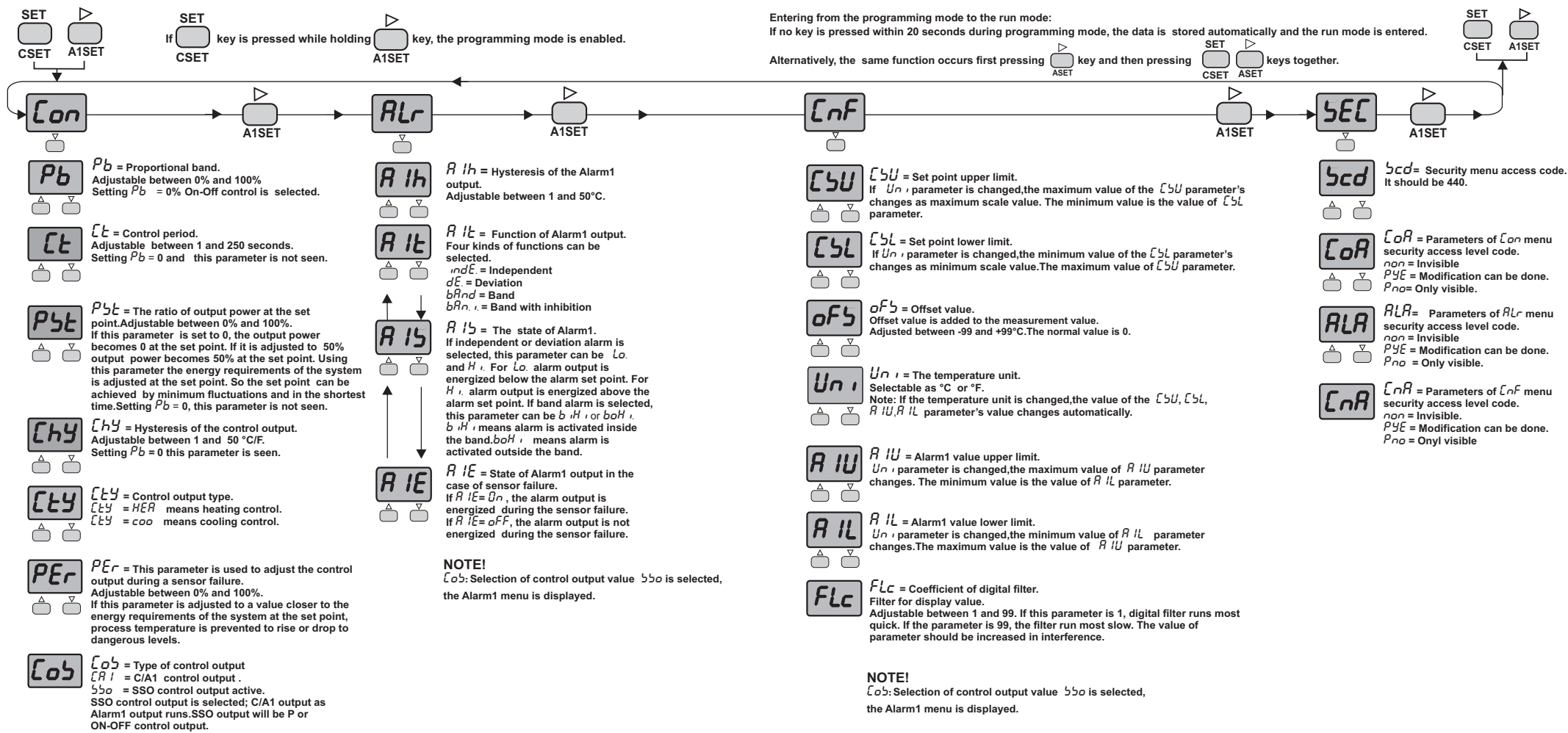
Control type	Single set-point and alarm control
Control algorithm	On-Off / P (selectable)
A/D converter	12 bit
Sampling time	500ms
Proportional band	Adjustable between 0% and 100%. If Pb=%0, On-Off control is selected.
Integral time	Adjustable between 1 and 250 seconds.
Hysteresis	Adjustable between 1 and 50°C/F.
Output power	The ratio of power at a set point can be adjusted between 0% and 100%

HOUSING

Housing type	Suitable for flush-panel mounting according to DIN 43 700.
Dimensions	W48xH48xD87mm
Weight	Approx. 250g (after packing)
Enclosure material	Self extinguishing plastics.



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



TERMS

(1) Measurement value (Running mode)
Parameter name and value (Programming mode)

(2) Value increment key (Running and programming mode)
Parameter selection key (Programming mode)

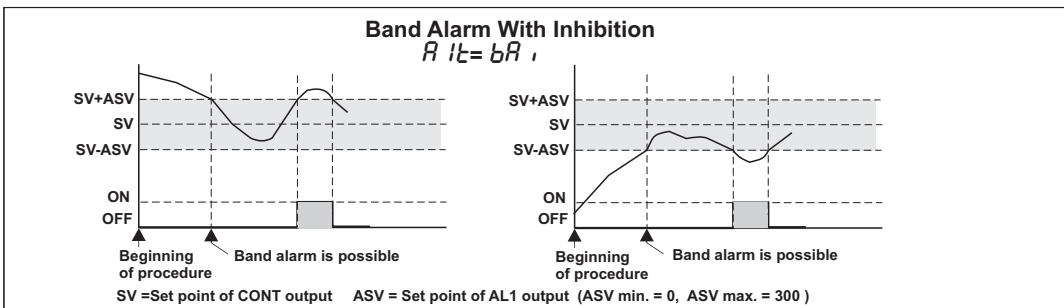
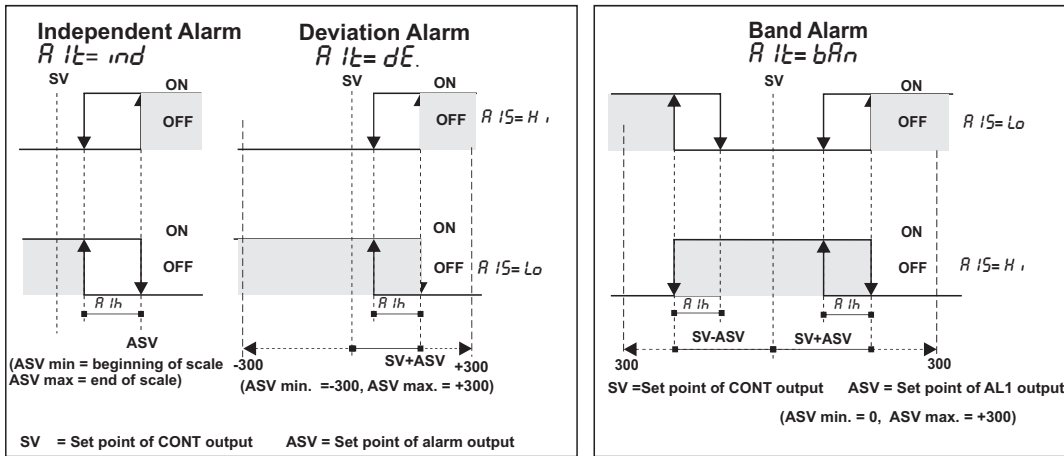
(3) Value decrement key (Running and programming mode)
If only this key is pressed in normal operation, software version number is seen.
Parameter selection key (Programming mode)

(4) Alarm1 set key (Running mode)
Menu selection key (Programming mode)

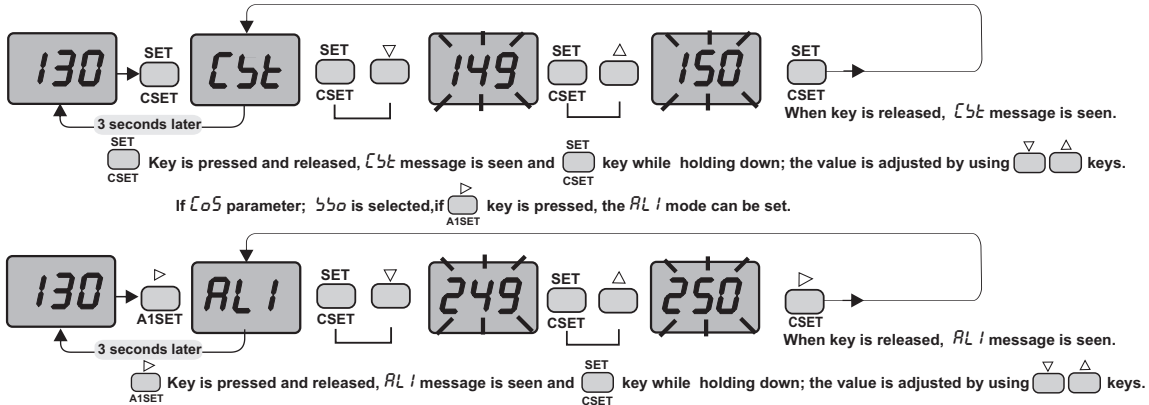
(5) CSet set key (Running mode)
Parameter set key (Programming mode)

(1) PV display	3 digits,7 segment red LED display
Character heights	PV display : 14 mm
(2),(3),(4),(5) Keypad	Micro switch
(7) State indicator	2 red LEDs for control,Alarm1 and SSO outputs

ALARM1 OUTPUT TYPES



MODIFICATION OF CONTROL AND ALARM SET POINTS



NOTE: The maximum of $C5t$ is the value of $C5U$ parameter and the minimum of it is the value of $C5L$ parameter. Alarm type; the independent alarm is selected, RLI value full scale can be adjusted within limits. If deviation alarm is selected, RLI value can be adjusted between -99 and +99. If band alarm is selected, RLI value can be adjusted between 0 and 300.

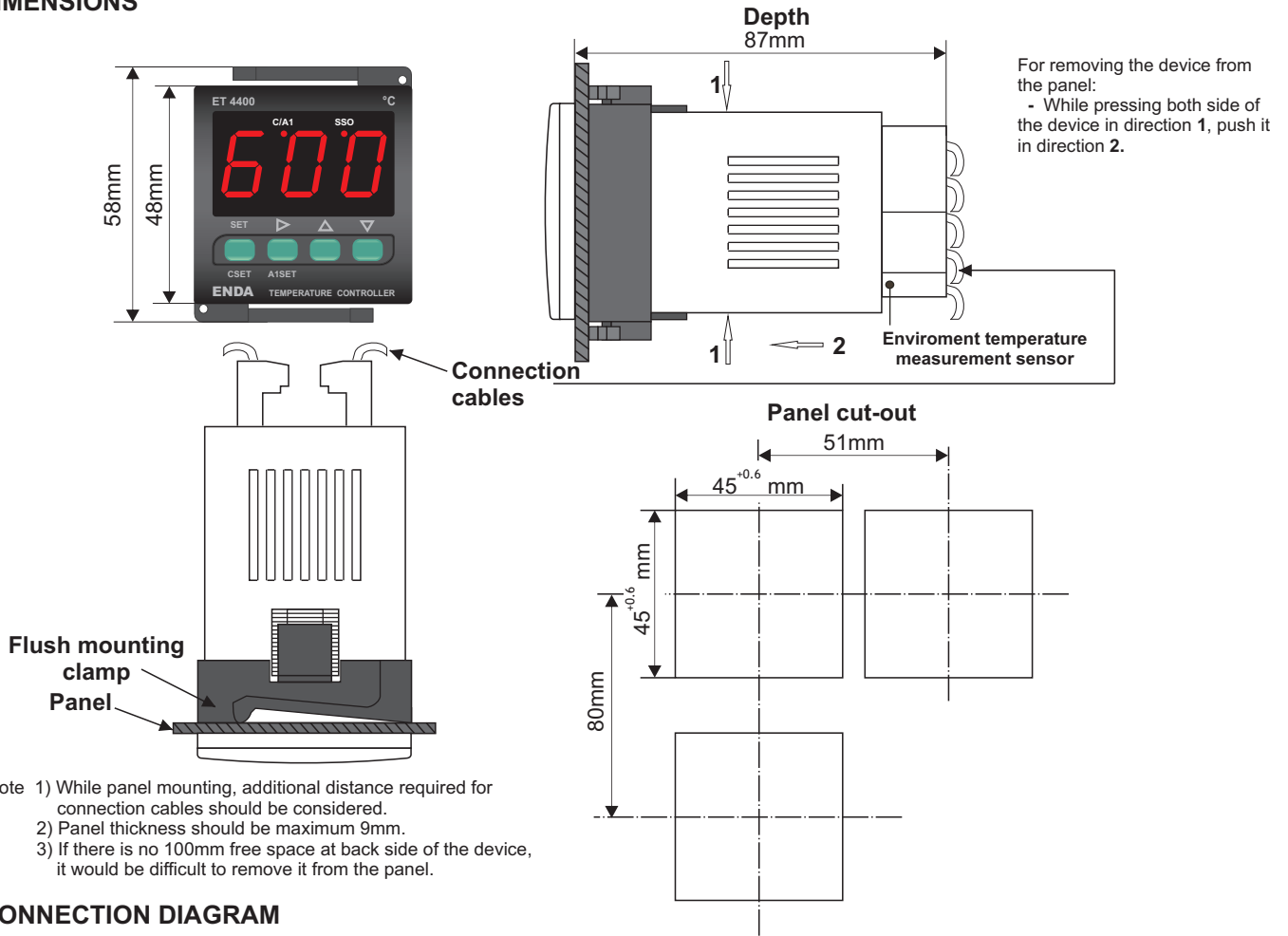
Sensor Error Messages

Temperature value is higher than the scale

Temperature value is lower than the scale

Temperature sensor is broken or over temperature

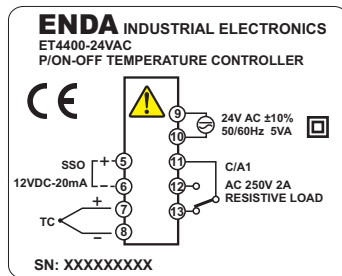
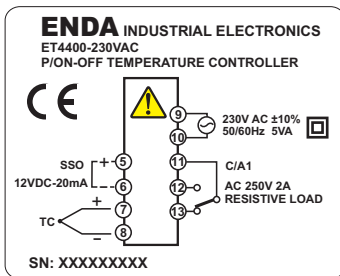
DIMENSIONS



CONNECTION DIAGRAM

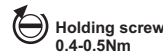


ENDA ET4400 is intended for installation in control panels. Make sure that the device is used only for intended purpose. The shielding must be grounded on the instrument side. During an installation, all of the cables that are connected to the device must be free of energy. The device must be protected against inadmissible humidity, vibrations, severe soiling and 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.



Logic output of the instrument is not electrically insulated from the internal circuits. Therefore, when using a grounding thermocouple, do not connect the logic output terminals to the ground.

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.



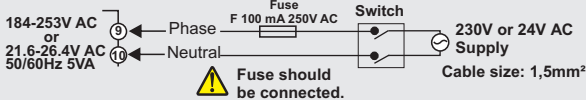
Holding screw
0.4-0.5Nm



Equipment is protected throughout
by DOUBLE INSULATION.

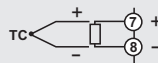
NOTE :

SUPPLY :



SENSOR INPUT :

For J type thermocouple :
Use suitable compensation cables. Don't use jointed cables. Pay attention to the polarities of the thermocouple cables as shown in the figure right are connected to the .



Order Code : ET4400-
1

1- Supply Voltage

230VAC...230V AC
24VAC.....24V AC
SM.....9-30V DC / 7-24V AC