Technical Specifications

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ENVIRONMENTAL CONDITIONS	
Ambient/storage temperature	0 ... +50°C/-25... +70°C, without condense
Max. relative humidity	80% up to 31°C decreasing linearly 50% at 40°C.
Rated pollution degree	According to EN 60529 Front panel : IP60 Rare 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
Input / Wiring	Thermocouple "J" type / 1.5mm² screw-terminal connection.
Scale	0 ... 400°C
Sensitivity	1°C
Accuracy	For adjustment ±4%, for display ±0,5% (of full scale) or ±1 digit.
Display	3 digits, 7.62mm, 7 seven segment LED
Data retention	EEPROM (>10 years)
EMC	EN 61326-1: 1997, A1: 1998, A2: 2001 (For EMC tests performance criterion B is satisfied.)
Safety requirements	EN 61010-1: 2001 (Pollution degree 2, overvoltage category II)

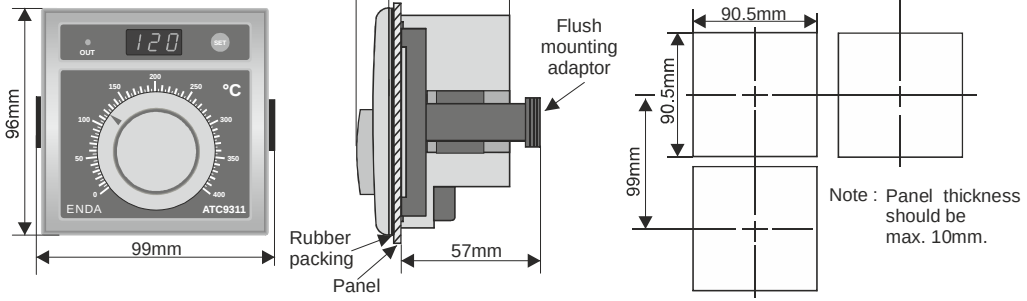
OUTPUT	
Control output	Relay : 250V AC, 2A (for resistive load), NO+NC or 12V DC 20mA logic output
Life expentancy for relay	Mechanical 30.000.000 operation; electrical 300.000 operation

CONTROL	
Control type	Single-setpoint control
Control algorithm	On-Off / time proportional (optional)
A/D converter	9 bits
Proportional band	2% (for time porportional control)
Control period	10 second (for time proportional control)
Hysteresis	4°C (for On-Off control)

HOUSING	
Housing type	Suitable for flush-panel mounting.
Dimensions	W96xH96xD50mm
Weight	Approx. 340g (after packing)
Enclosure material	Self extinguishing plastics

While cleaning the device, don't use solvents (thinner, benzine, acid etc.) or corrosive materials

Dimensions

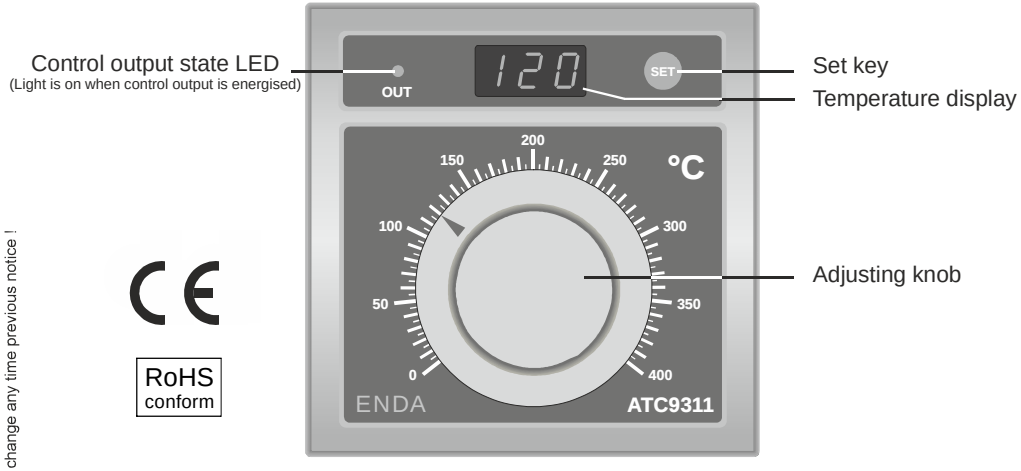


Read this document carefully before using this device. The guarantee will be expired by damaging of the device if you don't attent to the directions in the user manual. Also we don't accept any compansations for personal injury, material damage or capital disadvantages.

ENDA ATC9311

ANALOG THERMOSTAT with DIGITAL DISPLAY

Thank you for choosing ENDA ATC9311 temperature controller.



RoHS conform

* 96 x 96mm sized.
* Digital display for measured temperature and set value.
* Selectable On-Off or time proportional control.
* Fe-CuNi "J" type thermocouple input.
* Output relay is deenergied in the case of sensor failure.
* Easy setting procedure.

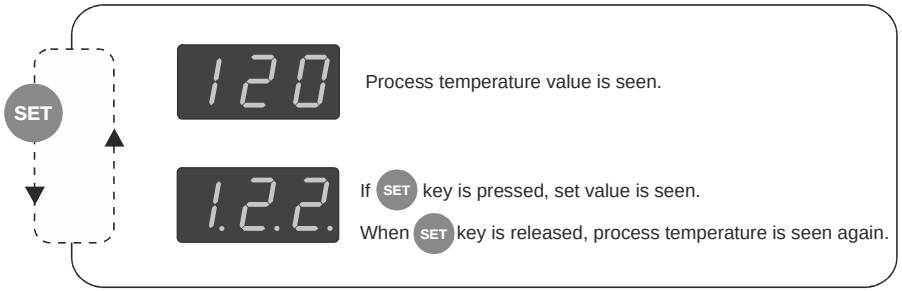
Application areas

glass industry, chemistry and pharmacy, drinks industry, drying plant, paper industry, food industry, baker's plant, plastic indutry

ATC9311 Programming Diagram

Set value

Temperature display



Selecting control form

When the device is energised, selected control form is seen on the display.

If time proportional control was selected, tP is seen.

If On-Off control was selected, on- and oFF are seen.

If the device is energised while holding SET key, contol form chages and the related message is seen on the display.

Error Messages

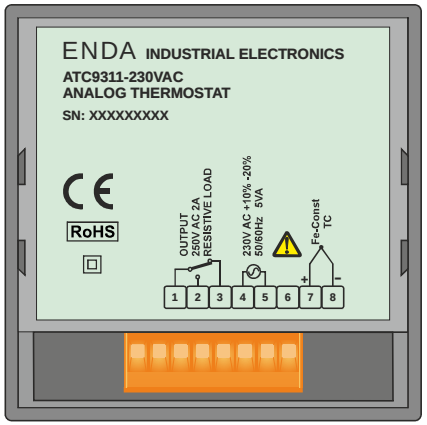
PFA If this message is seen, it means temperature sesor was not disconnected or over temperature condition was occured. When this message is seen,

Err If this message is seen, it means the device has a calibration error. In this case, the device should be sent to your trader. or to a nearest ENDA local representative for calibration and testing. When this message is seen, the control output is deenergised.

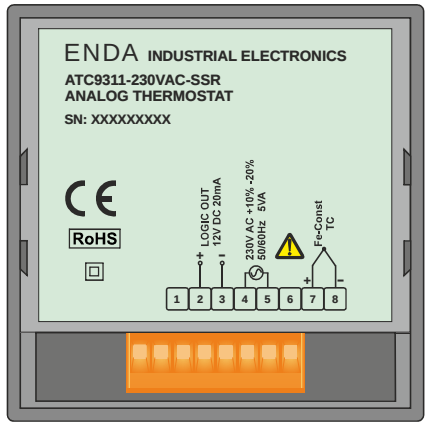
Connection diagram

ENDA ATC9311 is intended for installation in control panels. Make sure that the device is used only for intented purpose. The electrical connections must be carried on by a qualified staff and must be according to the relevant locally applicable regulations. During an installation, all of the cables that are connected to the device must be free of energy. The device must be protected against inadmisible 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 shielding must be grounded on the instrument side.

Terminal connection

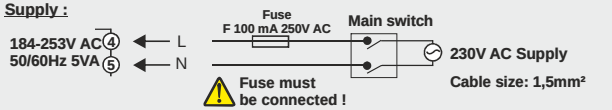


Terminal connection

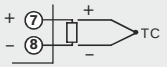


NOTE : **The fuse for the load is not considered !**

Supply :



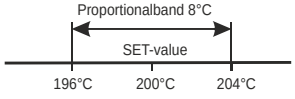
SENSOR INPUT :
Use suitable compansation cables. Don't use jointed cables. Pay attention to the polarities of the thermocouple cables as shown in the figure below.



Logic output of the instrument ATC9311-SSR is electrically not insulated from the internal circuits. Therefore, when using a grounding thermo-couple, do not connect the logic output terminals to the ground.

Note :
1)Cables for supply must be IEC60799 or IEC60245 conform.
2)Main switch should be with in easy reach and should be indicated !

Note :
The time proportional function controls a temperature area near the SET value. Out of this temperaturrange the relay is "OFF" by over the SET value or "ON" under the SET value.
If the processvalue approximated to SET value, the "ON" time from the relay will be shortly. The processtemperature will be prevent to swing or will be very small.



2% from scale 400°C= 8°C

Supply voltage	Control output	Order code
230V AC +%10 -%20	Relay	ATC9311
	Logic output	ATC9311-SSR
24V AC ±%10	Relay	ATC9311-24
	Logic output	ATC9311-24-SSR

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