

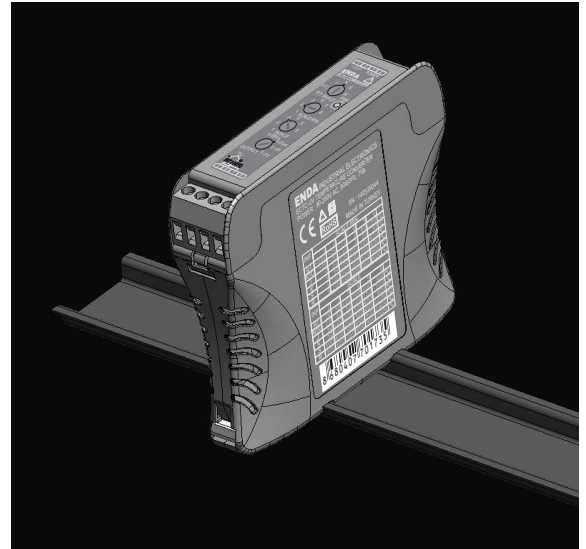


Read this document carefully before using this device. The guarantee will be expired by damaging of the device if you don't attend to the directions in the user manual. Also we don't accept any compensations for personal injury, material damage or capital disadvantages.

# ENDA ECTC Configurable Temperature Converter

Thank you for choosing ENDA ECTC Configurable Temperature Converter.

- \* Configurable T/C, RTD and NTC inputs.
- \* Configurable mA and V outputs.
- \* Configurable scale.
- \* Ambient temperature compensation.
- \* 3-way isolation between the input,output and supply.
- \* Rail mountable.
- \* With socket connector connection.
- \* CE marked according to European Norms.



ORDER CODE :

ECTC-UV

Product Basic Code		Supply Voltage	
Configurable temperature converter	ECTC	UV	90-250V AC
		LV	9-30V DC 7-24V AC

INPUT TYPE	Measurement Range	Selectable Min. Measurement Value	Selectable Measurement Ranges	Accuracy
PT100 Resistance thermometer	-100 ... 600 °C	-100, -50, -10, 0, 50, 100 °C	20, 50, 100, 200, 300, 700 °C	%0,5 ±1
NTC	-50 ..... 150 °C	-50, -20, -10, 0, 20, 50 °C	10, 30, 50, 100, 150, 200 °C	%0,5 ±1
J (Fe-CuNi) Thermocouple	0 ..... 600 °C	0, 50, 100, 200, 300, 400 °C	50, 100, 200, 300, 400, 600 °C	%0,5 ±1
K (NiCr-Ni) Thermocouple	0 ... 1200 °C	0, 50, 100, 200, 300, 400 °C	50, 100, 200, 300, 400, 1200 °C	%0,5 ±1
S (PT10Rh-Pt) Thermocouple	0 ... 1600 °C	0, 100, 200, 300, 500, 800 °C	500, 600, 700, 800, 900, 1600 °C	%0,5 ±1
R (PT13Rh-Pt) Thermocouple	0 ... 1600 °C	0, 100, 200, 300, 500, 800 °C	500, 600, 700, 800, 900, 1600 °C	%0,5 ±1

PROBE FAILURES	
If the probe is open-circuit	For the PT100 or NTC input;the minimum value, For the J,K,S,R type thermocouple input;the maximum value of the output signal.
If the probe is short-circuit	For the PT100 or NTC input; the minimum value.

ELECTRICAL CHARACTERISTICS	
Output	0-20/4-20mA DC (Max. load resistance 500Ω) 0-10/1-5V DC can be selected via the device
Supply	For ECTC-UV ;90-250V AC ± %10, 50/60Hz For ECTC-LV ;9-30V DC/7-24V AC ± %10, 50/60Hz (Should be specified in order.)
Power consumption	Max. 7VA
Line Resistance	For thermocouple max. 100Ω, for 3 wired PT100 max. 20Ω.
A/D converter	10 bit
D/A converter	12 bit
Connection	2.5mm <sup>2</sup> screw-terminal connections
EMC	EN 61326-1: 2013
Security requirements	EN 61010-1: 2010 (Pollution degree 2, over voltage category II)

ENVIRONMENTAL CONDITIONS	
Ambient/storage temperature	0 ... +50°C/-25 ... 70°C (Device(s) should not run at freezing or condensation conditions.)
Relative humidity	Relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.
Protection class	IP20 According to EN60529
Height	Max. 2000m

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

HOUSING	
Mounting	Rail mountable (EN60715,TH35 or G-32)
Dimensions	W25xH97xD97mm
Weight	Approx.150 g (After packaging)
Enclosure material	Self extinguishing plastics (According to EN 60695-11-10 V-O)

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



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# CONNECTION DIAGRAM

**ENDA INDUSTRIAL ELECTRONICS**  
ECTC-UV TEMPERATURE CONVERTER  
POWER : 90-250V AC, 50/60Hz, 7VA

CE, RoHS, SN : 140335044, MADE IN TURKEY

INP	SCALE MIN.					
	1	2	3	4	5	6
RT	-100	-50	-10	0	50	100 °C
NTC	-50	-20	-10	0	20	50 °C
J	0	50	100	200	300	400 °C
K	0	50	100	200	300	400 °C
S	0	100	200	300	500	800 °C
R	0	100	200	300	500	800 °C

INP	SCALE					
	1	2	3	4	5	6
RT	20	50	100	200	300	700 °C
NTC	10	30	50	100	150	200 °C
J	50	100	200	300	400	600 °C
K	50	100	200	300	400	1200 °C
S	500	600	700	800	900	1600 °C
R	500	600	700	800	900	1600 °C



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**ENDA INDUSTRIAL ELECTRONICS**  
ECTC-LV TEMPERATURE CONVERTER  
POWER : 9-30V DC, 7-24V AC, 50/60Hz, 7VA

CE, RoHS, SN : 140335043, MADE IN TURKEY

INP	SCALE MIN.					
	1	2	3	4	5	6
RT	-100	-50	-10	0	50	100 °C
NTC	-50	-20	-10	0	20	50 °C
J	0	50	100	200	300	400 °C
K	0	50	100	200	300	400 °C
S	0	100	200	300	500	800 °C
R	0	100	200	300	500	800 °C

INP	SCALE					
	1	2	3	4	5	6
RT	20	50	100	200	300	700 °C
NTC	10	30	50	100	150	200 °C
J	50	100	200	300	400	600 °C
K	50	100	200	300	400	1200 °C
S	500	600	700	800	900	1600 °C
R	500	600	700	800	900	1600 °C



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**ENDA ECTC Series converters** are rail mountable devices. 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.

**Output**  
+ -

Fuse F 100 mA  
250V AC

Phase

Neutral

Switch

90-250V AC or  
9-30V DC / 7-24V AC  
Cable size: 1,5mm<sup>2</sup>

**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.

**Input type selection.**

**Supply indicator.**  
(If the device is powered up, the led lights.)

**Minimum measured value for the selected input type.**  
(MIN. SCALE of values is provided in the device labels.)

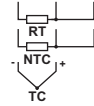
**For selected input type measurement range value.**  
(SCALE values are given in the device labels.)

**The maximum measured value for the selected input type.** SCALE MAX. = SCALE MIN. + SCALE

**Output type selection.**

Holding screw  
0.4-0.5Nm

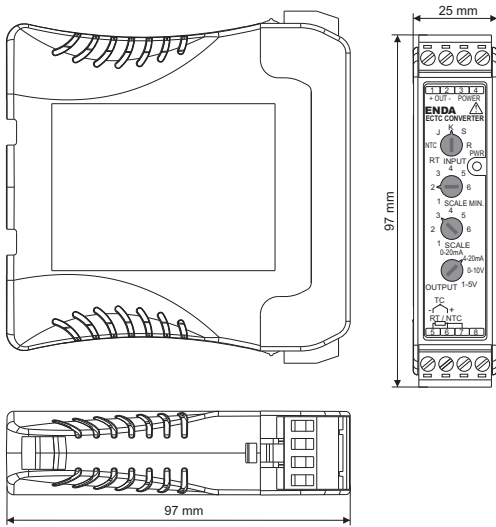
Equipment is protected throughout  
by DOUBLE INSULATION.



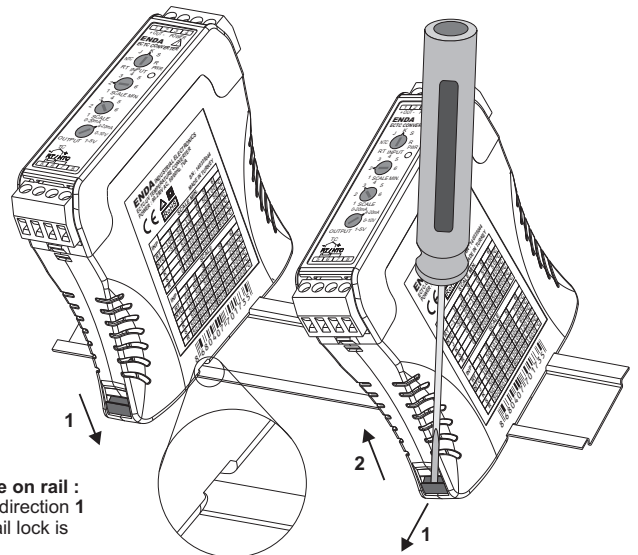
**For J-K-T-S-R type thermocouple :**  
Use suitable compensation cables. Don't use jointed cables. Pay attention to the polarities of the thermocouple cables as shown in the figure right are connected.

**For resistance thermometer :**  
When NTC or 2 wired PT100 is used, terminals 6 and 7 must be short circuited.

## DIMENSIONS



## MONTAGE



**For mounting the device on rail :**  
Push the device to rail in direction 1 and make sure that the rail lock is interlocked to rail.

**For removing the device from rail;**  
Push the rails lock in direction 1 with a screwdriver and pull the device in direction 2.



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