

ECT 300 Perpetuum

Ultra Low Power DC/DC Converter for Thermal Energy Harvester

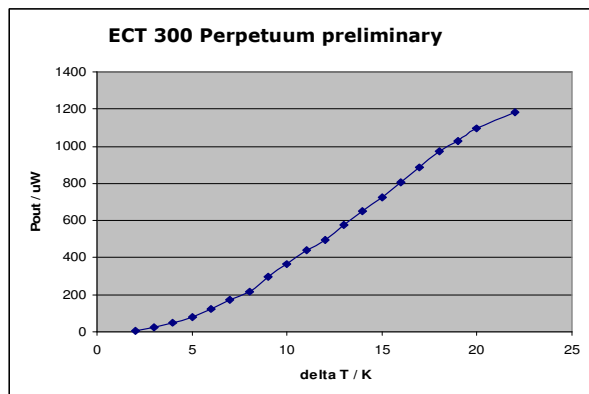
ECT 300 extends EnOcean’s developer kit EDK 300 by thermal energy harvesting technology. Wireless sensor and even actuators can be operated by a few Kelvin temperature difference.

EnOcean’s energy harvester is based on a revolutionary ultra low voltage DC/DC converter which starts operation at already 20mV. For comparison: the leading conventional DC/DC converters need at least 500m-600V to start operation - a factor of 25x more!

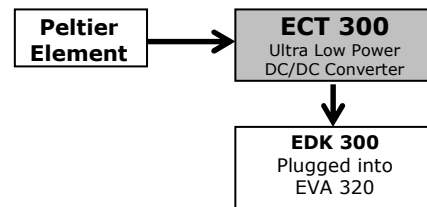
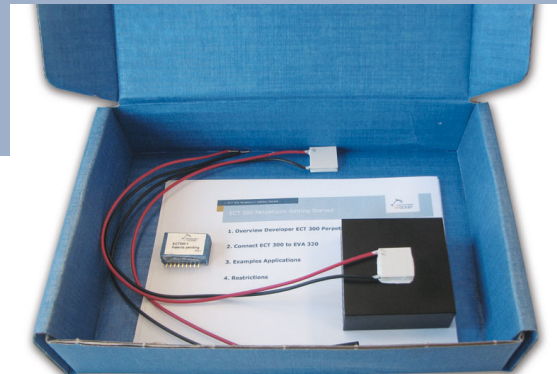
The output power is in the range from μ W to mW at 3.4V and depends on the actual temperature difference at the Peltier element. It is designed and optimized for use with EnOcean radio technology in sensors and actuators. A typical thermo-driven sensor consists of a sensor element, a small Peltier element, the ultra low voltage DC/DC converter and an EnOcean STM radio module.

Technical Data of ECT 300 DC/DC converter

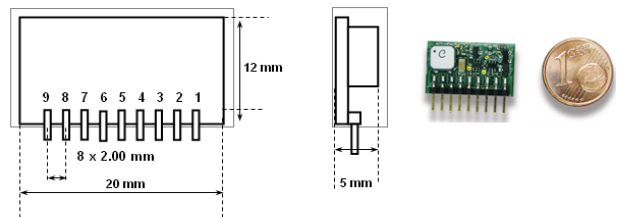
- Physical dimensions: 20x12x5mm
- Typ. input voltage: 20 - 500mV
- Max. input voltage: 1V
- Typ. source impedance: <20 Ω m
- Typ. output voltage: 3,4V
- Average efficiency: 30%
- Storage temperature: -40°C - +85°C



Electrical power against temperature difference measured with ECT 100 & TEC2L-15-15 5.6/73CS



ECT 300 Dimensions and pin out



Pin	Name	Description
1	V _{IN1}	Voltage input 1 External generator connected to this pin
2	NC	Not connected
3	NC	Not connected
4	V _{IN2}	Voltage input 2 External generator connected to this pin
5	V _{OUTAC}	AC output (for internal use only)
6	NC	Not connected
7	V _{OUT}	Output voltage of the power converter module
8	NC	Not connected
9	GND	Ground

ECT 300 content

- ECT 300 ultra low power thermo converter
- Peltier element with heat sink
- Peltier element
- User manual

Type ECT 300	Ordering Code S3004-P300
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