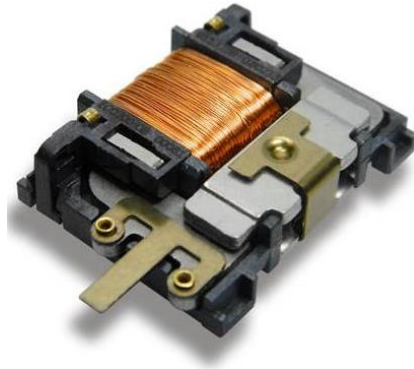


# Energy Harvester

## ECO 200



The energy harvester module ECO 200 is an energy converter for linear motion (e.g. push button). It can be used to power all EnOcean radio modules of the PTM 535 family (EnOcean Alliance radio, Bluetooth BLE, Zigbee ZGP).

### Ordering Information

The energy output at every actuation of the spring is sufficient to transmit 3 sub-telegrams with PTM 535 (EnOcean Alliance Standard Mode).

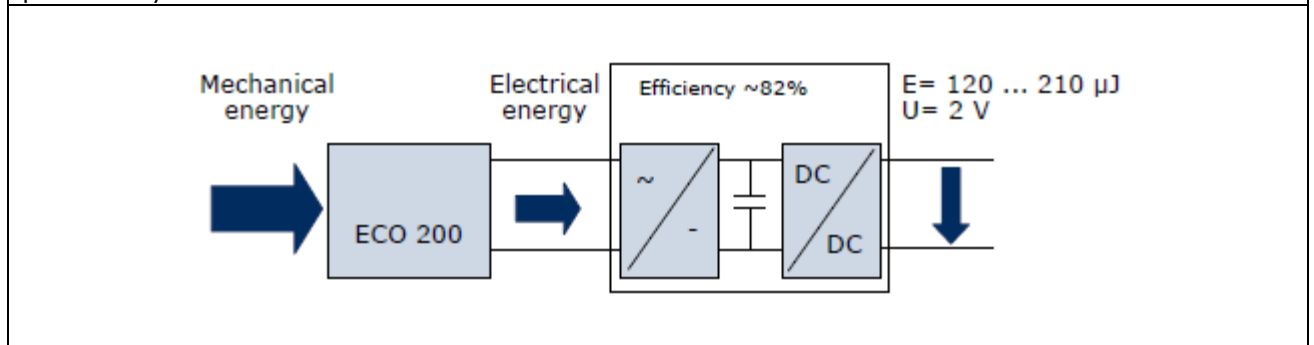
TYPE <b>ECO 200</b>	ORDERING CODE <b>S3016-N200</b>
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Possible applications are self-powered buttons, switches and sensors in building technology and industrial automation.

### Feature Overview

<b>Mechanical Dimensions</b>	29.3 x 19.5 x 7.0 mm
<b>Actuating force</b>	2.7 ... 3.9 N
<b>Actuating travel</b>	1.2 mm
<b>Changes of switching state</b>	typ. >1.000.000 at 25 °C (up or down)
<b>Operating temperature</b>	-25 up to +65 °C
<b>Energy output</b>	120 ... 210 µJ @ 2 V (with circuit specified below)
<b>Packing unit</b>	400 pcs, Tape & Reel

In order to achieve the performance specified, it is essential to follow the "ECO 200 Installation Instruction" provided by EnOcean.



**Patent protected: EP 1389358, US 7391135, US2006/0091984 A1**

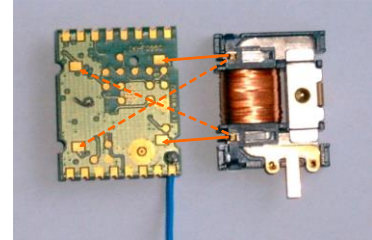
The ECO 200 is an energy harvester designed for use with radio modules produced by EnOcean. The use of the ECO 200 in combination with energy harvesting wireless communication is protected by EnOcean under international patents. Purchase of the ECO 200 does not include a license to any EnOcean intellectual property. The use of the ECO 200 in conjunction with energy harvesting wireless switches or sensors is allowed if a PTM module or derivate from EnOcean is used as transmitter. In all other cases written approval of EnOcean is required.

### Application information:

ECO 200 can be connected to every PTM 535 variant without soldering. ECO 200 provides contact springs which can directly be connected to the corresponding contact pads of PTM 535.

The contact pads on the bottom of the PCB are shown below (left). A second orientation where PTM 535 is rotated 180° with respect to ECO 200 is also possible as shown with dashed lines.

For details see user manual of the required PTM 535 variant.



EnOcean Alliance radio protocol:

- PTM 535 (868 MHz for Europe)
- PTM 535U (902 MHz for USA/Canada)
- PTM 430J (928 MHz for Japan)

Bluetooth and ZigBee radio protocol:

- PTM 535BZ (2.4 GHz with configurable BLE or ZGP worldwide)

### Safety warnings:

- ECO 200 is sold as a component to be combined with an EnOcean radio module and integrated into a proper housing according to the specific application. The OEM customer is responsible to demonstrate market conformity and approval for the finished product.
- ECO 200 must not be used in any relation with equipment that supports, directly or indirectly, human/animal health or life or with applications that can result in danger for people, animals or real value.
- ECO 200 is not suitable for use in mechanically or environmentally challenging environments including (but not limited to) environments with heavy vibrations, mechanical shocks, very high humidity, very dusty or in explosive atmosphere.
- Integration of ECO 200 into final product may only be performed by a skilled person due to sharp spring elements and magnet (dangerous for small children).