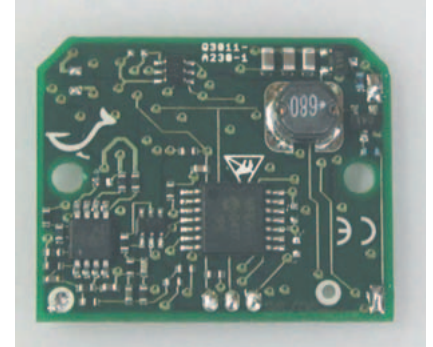


Produktinfo PTM 230

**PTM 230 radio module
for battery less switches**



The radio module PTM 230 may be operated in combination with an energy harvester module e.g. ECO 100 to realize battery less switches for applications in building technology or industrial automation.



Functional principle:

After actuation (press or release) of the energy harvester the converted mechanical energy is supplied to the PTM 230 module. The module checks the polarity of the voltage supplied (information on direction of actuation) and the signal information at the 2 inputs. Then a radio telegram is transmitted containing a unique 32bit ID and the information on polarity and status of the inputs. With the 2 inputs one rocker of a PTM 200 can be simulated.

Features Overview

- Energy input:** $3.0V \leq U_{max,Pulse} \leq 4.0V$ at $R_{Load} = 150\Omega$
 $0.1mWs \leq E_{Pulse} \leq 0.2mWs$
 $2ms \leq T_{Pulse} \leq 5ms$
 (measured between 10% and 100% of $U_{max,Pulse}$)
- Antenna:** no antenna installed, 9 cm whip antenna
- Frequency / Transmit power / Modulation:** 868.3 MHz / max. 10 mW EIRP / ASK
- Data rate / Channel bandwidth:** 125 kbps / 280 kHz
- Number of digital inputs:** 2
- Telegram type:** RPS Typ 2, 32 bit ID, 3 telegrams within 25 ms
- Minimum time between activations:** 45 ms
- Transmission Range:** ca. 300m free field, strongly dependent on surrounding material and position relative to energy harvester
- PCB dimensions:** approx. 20 x 25 x 6 mm
- Operating temperature:** -25 to +65°C
- Storage temperature:** -40 to +85°C
- Humidity:** 0-93% r.h. non-condensing, IP 00

Type	Ordering Code
PTM 230	S3011-A230

Produktinfo ECO 100

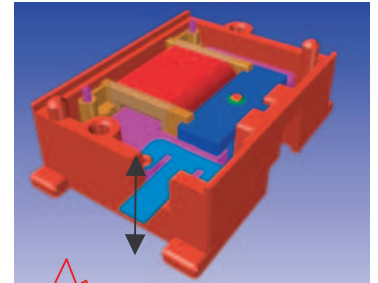
Energy harvester ECO 100



The energy module ECO 100 is an energy converter for linear motion. It can be used to power the PTM 230 radio module or derivatives.

The energy output at every actuation of the spring is sufficient to transmit 3 sub-telegrams with a PTM 230 module.

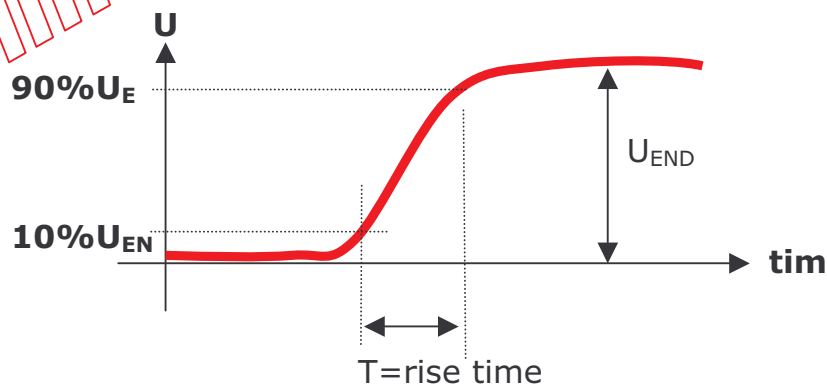
Possible applications are miniaturized switches and sensors in building technology and industrial automation.



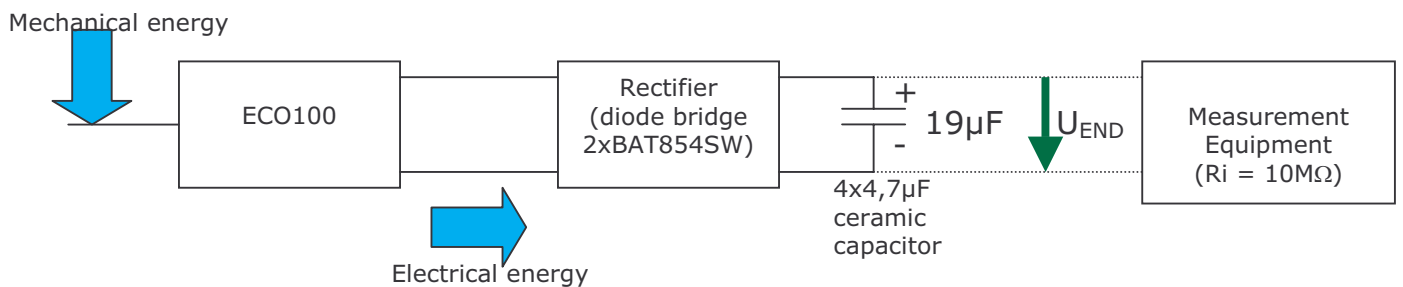
Features Overview

- Mechanical dimensions:** 32.35 x 22.0 x 9.7 mm
- Actuating force / travel:** 2.5±0.5 N / 1.8 mm
- Switching cycles (up or down):** >60.000 at 25°C
- Operating temperature:** -20 up to +65 °C
- Output pulse: T (rise time)** Typical 1,4 ms
- Output pulse: U_{END}** (voltage in the capacitor at the end of the energy pulse) Typical 5 V ± 25%

Preliminary data sheet



Circuit used to characterise the Output Pulse:



Type	Ordering Code
ECO 100	S3016-N100