

2.4 GHz Pushbutton Transmitter Module PTM 215ZE

PTM 215ZE enables the realization of energy harvesting wireless switches for EnOcean systems communicating based on the 2.4 GHz IEEE 802.15.4 radio standard.

PTM 215ZE is mechanically compatible with the established PTM 21x form factor enabling quick integration into a wide range of designs.

Key applications are wall-mounted or portable switches either with up to two rockers or up to four push buttons.

PTM 215ZE contains an electro-dynamic energy transducer actuated by a bow which can be pushed from outside the module on the left or right by an appropriate pushbutton or switch rocker.

When the energy bow is pushed down, electrical energy is created and a 2.4GHz radio telegram according to the IEEE 802.15.4 standard is transmitted.

This radio telegram transmits the operating status of all four contact nipples at the moment when the energy bow was pushed down.



PTM 215ZE telegram format has been defined to maximize compatibility with a wide range of devices including such implementing the ZigBee Green Power standard.

PTM 215ZE pushbutton transmitter modules are self-powered (no batteries) and fully maintenance-free. They can therefore be used in many environments including locations that are difficult to reach or within hermetically sealed housings.

PTM 215ZE radio telegrams are protected with AES-128 (CBC) security based on a device-unique private key.

Starting with product revision DB, PTM 215ZE provides an NFC interface for the configuration of device parameters.

TYPE
PTM 215ZE

ORDERING CODE
S3271-A215

Features overview

Antenna	Integrated PCB antenna
Radio Standard	2.4GHz / IEEE 802.15.4 channels 11 ... 26
Typical transmit power	4 dBm
Default Radio Channel	IEEE 802.15.4 radio channel 11
Radio Channel Selection	User-selectable (Commissioning)
Device Identification	Individual 32 Bit Device ID (factory programmed)
Security	AES128 (CBC) with Sequence Counter
Transmission Range	typ. 175 m free field / 20 m indoor
Power Supply	Integrated Kinetic Energy Harvester
Energy Bow Travel / Force	1.8 mm / typ. 10 N (at room temperature)
Button Inputs	Up to four buttons or two rockers
Number of operations at 25°C	typ. 100.000 (tested according to EN 60669 / VDE 0632)
Module Dimensions	40.0 x 40.0 x 11.2 mm
Operating Temperature	-25°C ... 65°C
Radio Certification	RED (Europe) / FCC (US) / ISED (Canada)