

Description

| R-ORG | D2 | VLD |
|-------|----|-------------------------|
| FUNC | 15 | Single Sensor |
| TYPE | 00 | People Activity Counter |

Submitter:

Submitting EnOcean Alliance Member: EnOcean GmbH

Membership Level: Promoter

Contact Information

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Date of Submission: 2018-11-12 Start of TWG Review: 2018-12-20 Date of Approval: 2019-01-31

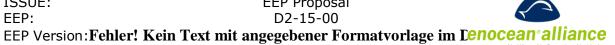
EEP Version: 1.0

Last Change: 2019-01-31 Status: APPROVED

Change History:

| Date | Version | Author | Description |
|------------|---------|------------------|-------------------------|
| 2018-11-12 | 0.1 | EnOcean GmbH | Initial Draft |
| 2018-12-20 | 0.2 | EnOcean GmbH | EAC Feedback included. |
| 2019-01-31 | 1.0 | EnOcean Alliance | Final version, approved |

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2019-01-31

EEP Submission

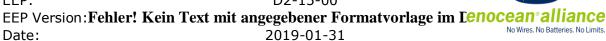
| R-ORG | D2 | VLD |
|-------|----|-------------------------|
| FUNC | 15 | Single Sensor |
| TYPE | 00 | People Activity Counter |

Description:

The EnOcean People Activity Counter (EPAC) modules is a variant of the EnOcean PIR sensor. It is intended to count and transmit the amount of movement detected at configured time intervals. These modules have applications in buildings where the usage/activity of each room is to be tracked. Additionally, the module transmits the voltage-supply in the module.

The activity is deducted by comparing activity recorded at the past transmission and current value.

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EEP Properties defined by the submitter:

(Same as family members)

Data exchange

Direction: unidirectional Addressing: broadcast

Communication trigger: event- & time-triggered

Communication interval: Depending if occupancy detected or not. Trigger event: change of value (configuration-dependent) over threshold

Tx delay: -Rx timeout: -Teach-in

Teach-in method: Universal teach-in (UTE)

Parameters applied by EEP family members:

Each member of the family transports at least one or more parameters it its messages as defined later. The parameters are defined in the following table; these are the "building blocks" of the telegrams.

This family follows the concept established with VLD-family D2-14.

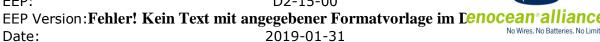
| Name | ShortCut | Size | Description | Valid Range | Scale | Unit |
|----------------|----------|------|--------------------------|--|-------|------|
| Energy Storage | ES | 2 | Energy Storage Status | Enum: 0: High 1: Medium 2: Low 3: Critical | | |
| Presence | PR | 2 | Presence Detector | Enum: 0: Present 1: Not preser 2: Not detect 3: Presence [| | |

New Parameters PIR Counter

| Name | Size | Description | Valid Range | Scale | Unit | trigger |
|-------------|------|---|--------------------|-------------------------------|------|--------------|
| PIR Counter | 16 | Amount of times that PIR activity has been counted. | Enumera 0-65535 | a <u>tion:</u> : Activatio | ns | PIR activity |

NOTE: This counter can be reset at the RST/power-event. Roll-over is allowed.

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New Parameters PIR Update rate

| Name | Size | Description | Valid Range | Scale | Unit | trigger |
|--------------------|------|--|----------------|-------|------|---------|
| PIR Update Rate | 4 | Discrete interval in which the activity is considered. | 015 | 116 | S | NA |

NOTE: Update rate can change during application lifetime, based on battery storage and other factors.

PIR Counter is increased by 1 if a movement during the PIR Update Rate was detected.

Activity Counting:

Example:

PIR Update Rate is 2 seconds.

If in the past 2 seconds at least movement was registered (regardless how many excitations from the PIR), then counter is increased by 1. If in the next 2 seconds no movement is registered counter is not increased.

Following formula applies:

$$\label{eq:activity} Activity \ [\%] = \frac{PIRCounterCurrentTel - PIRCounterLastTel}{\underbrace{(ArrivalCurrentTelegram \ [s] - ArrivalPreviousTelegram \ [s])}_{PIRUpdateRate \ [s]}$$

Activity could be counted at PIR, but with cumulative counter also past activities are considered in case of telegram lose. If a telegram is lost then activity can be still deducted from last received telegram at following telegram reception.

EEP Family Table: D2-15-XX

Parameter Overview

The XX sensor shall use the following parameters

| TYPE | 00 |
|-----------------|----|
| Presence | X |
| PIR Counter | X |
| PIR Update Rate | X |
| Energy Storage | X |
| | |
| | |
| | |

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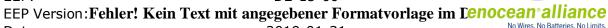
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EEP Proposal D2-15-00 ISSUE: EEP:



EEP Version: Fehler! Kein Text mit angegebener Formatvorlage im Lenocean alliance
No Wires. No Batteries. No Limits. 2019-01-31

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Date: 2019-01-31

Telegram Definition:

CMD 1:

direction: TO

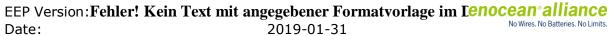
addressing: broadcast

triggers: event & periodic

timing description: (Period configuration is not part of the EEP).

| Offset | Size | Data | Description | Valid Range | Scale | Unit | trigger |
|--------|------|-----------------|--|--|-------|--------|--------------|
| 0 | 2 | Presence | Presence detector | Enumeration: 0: Present 1: Not present 2: Not detectable 3: Presence Detection Error | | | PIR Activity |
| 2 | 2 | Energy storage | Energy storage Status | Enumeration: 0: High 1: Medium 2: Low 3: Critical | | | NA |
| 4 | 4 | PIR Update Rate | Discrete interval in which the activity is considered. | 015 | 116 | S | NA |
| 8 | 16 | PIR counter | Amount of times that PIR activity has been counted. | Enumeration: 0-65535: Activations | | ations | PIR activity |

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IP representation of Profile Definition:

| Data (from Telegram) | IP KEY | Valid Range | Step size | Unit | IP Meaning |
|-------------------------|----------------|----------------|--------------|------|-------------------------------|
| PIR Counter | pirCou nter | 0655 35 | 1 | | Accumulated movement detected |
| PIR Update Rate | time | 116 | 1 | S | seconds |
| Presence | | | | | Already defined in D2-14 |
| Energy storage | | | | | Already defined in D2-14 |
| | | | | | |
| | | | | | |
| | | | | | |

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