Description

R-ORG	**D2**	VLD
FUNC	**14**	Multi Sensor
TYPE	**40**	Temperature, Humidity XYZ Acceleration, Illumination Sensor

Submitter:

Submitting EnOcean Alliance Member: EnOcean GmbH
Membership Level: Promoter

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EEP Version: 0.2
Last Change: 2018-04-25
Status: DRAFT

Change History :

Date	Version	Author	Description
2018-03-09	0.1	Tobias Meyer, Martin Hemmer, Matthias Kassner	Initial Draft
2018-03-05	0.2	Tobias Meyer	Integrated Feedback from EAC
YYYY-MM-DD	y.y	Xxx	Yyy
YYYY-MM-DD	y.y	Xxx	Yyy

EEP Submission

R-ORG	**D2**	VLD
FUNC	**14**	Multi Sensor
TYPE	**40**	Indoor -Temperature, Humidity XYZ Acceleration, Illumination Sensor

Description:
This EEP type is for multi sensor in indoor application which can measure high resolution-temperature, humidity, illumination and absolute acceleration at once.

For the acceleration it is possible to configure two thresholds (not part of the EEP) which causes that a telegram is transmitted with the current acceleration. Additionally the sensor is configured to send periodic telegrams. The period can also be configured using other mechanism (e.g. ReCom/NFC or an User Interface)

EEP Properties defined by the submitter:

(Same as family members)

Data exchange
Direction: unidirectional
Addressing: broadcast
Communication trigger: event- & time-triggered
Communication interval: According to configuration ((non-)autonomous operation, battery status, etc.)
Trigger event: change of value (configuration-dependent) over threshold
Tx delay: -
Rx timeout: -
Teach-in
Teach-in method: Universal teach-in (UTE)

EEP Family Table : D2-14-40

(Only for VLD EEP families)

New Parameters Acceleration X,Y,Z

Name	Short-Cut	Size	Description	Valid Range	Scale	Unit
Acceleration X	ACC_X	10	Absolute Acceleration on X axis	0... 1000	-2.5... +2.5	g
			Status of the sensor	Enumeration: 1000-1020: Reserved 1021: Out of range negative(<-2.5g) 1022: Out of range positive(>2.5g) 1023: Error		

Name	Short-Cut	Size	Description	Valid Range	Scale	Unit
Acceleration Y	ACC_Y	10	Absolute Acceleration on Y axis	0... 1000	-2.5... +2.5	g
			Status of the sensor	Enumeration: 1000-1020: Reserved 1021: Out of range negative(<-2.5g) 1022: Out of range positive(>2.5g) 1023: Error		

Name	Short-Cut	Size	Description	Valid Range	Scale	Unit
Acceleration Z	ACC_Z	10	Absolute Acceleration on Z axis	0... 1000	-2.5... +2.5	g
			Status of the sensor	Enumeration: 1000-1020: Reserved 1021: Out of range negative(<-2.5g) 1022: Out of range positive(>2.5g) 1023: Error		

Name	Short-	Size	Description	Valid	Scale	Unit

	Cut			Range		
Acceleration Status	ACC_S	2	Status of the sensor	Enumeration: 0: Periodic Update 1: Threshold 1 exceeded 2: Threshold 2 exceeded 3: Reserved		

Temperature 10 bit

Name	Short-Cut	Size	Description	Valid Range	Scale	Unit
Temp 10	Temp_ 10	10	Temperature	0... 1000	-40... +60	°C
			Status of the sensor	Enumeration: 1001-1020: Reserved 1021: Out of range negative(<-40°) 1022: Out of range positive(>60°) 1023: Error		

Parameter Overview

The 40 sensor shall use the following parameters

TYPE	Zz
TMP10	-40...60
Humidity	X
Illumination	X
ACC X	X
ACC Y	X
ACC Z	X
ACC S	X

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Telegram Definition:

Offset	Size	Bit-range	Data	Short-Cut	Description	Valid Range	Scale	Unit
0	10	DB8.7 - DB7.6	Temperature 10	TMP10	Temperature (linear) --- Status of Temperature Sensor	Enumeration: 0...1000: -40...60 ° 1001-1020: Reserved 1021: Out of range negative(<-40°) 1022: Out of range positive(>60°) 1023: Error		
10	8	DB7.5 - DB6.6	Humidity	HUM	Rel. Humidity (linear) --- Status of Humidity Sensor	Enumeration: 0...200: 0...100 % 201...254:Reserved 255: Error		
18	17	DB6.5 - DB4.5	Illumination	ILL	Illumination (linear) --- Status of Illumination Sensor	Enumeration: 0...100000: 0... 100 000lx 100 001 - 131 070: Reserved 131 071: Error		
35	2	DB4.4 - DB4.3	Accleration Status	ACC_S	Status of the Sensor	Enumeration: 0: Heartbeat 1: Threshold 1 exceeded 2: Threshold 2 exceeded 3: Reserved		
37	10	DB4.2 - DB3.1	Acceleration X	ACC_X	Acceleration X (linear) --- Status of Acceleration Sensor	Enumeration: 0-1000: -2.5...2.5 g 1000-1020: Reserved 1021: Out of range negative(<-2.5g) 1022: Out of range positive(>2.5g) 1023: Error		
47	10	DB3.0 - DB1.7	Acceleration Y	ACC_Y	Acceleration Y (linear) --- Status of Acceleration Sensor	Enumeration: 0-1000: -2.5...2.5 g 1000-1020: Reserved 1021: Out of range negative(<-2.5g) 1022: Out of range positive(>2.5g) 1023: Error		
57	10	DB1.6 - DB0.5	Acceleration Z	ACC_Z	Acceleration Z (linear) --- Status of Acceleration Sensor	Enumeration: 0-1000: -2.5...2.5 g 1000-1020: Reserved 1021: Out of range negative(<-2.5g) 1022: Out of range positive(>2.5g) 1023: Error		
67	5	DB0.4 - DB 0.0	Reserved	-	Reserved	Reserved (0)		

IP representation of Profile Definition:

Data (from Telegram)	IP KEY	Valid Range	Step size	Unit	IP Meaning
Temperature 10	Temperature	-40 ... 60	0.1	°C	Temperature
Humidity	Humidty	0 ... 100	0.5	%	Relative Humidity
Illumination 17	Illumuniation	0 ... 100 000	1	lx	Illumination
Accleration Status	statusReason		Heartbeat	Meaning X	Heartbeat
			Treshhold 1	Meaning Y	Treshhold 1 - exceeded
			Treshhold 2	Meaning Z	Treshhold 2 - exceeded
Acceleration X	AccelerationX	-2.5 ... 2.5	0.005	g	Absolute Acceleration X
Acceleration Y	AccelerationY	2.5 ... 2.5	0.005	g	Absolute Acceleration Y
Acceleration Z	AccelerationZ	2.5 ... 2.5	0.005	g	Absolute Acceleration Z

Appendix:

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