

EnOcean Equipment Profiles

REVISION HISTORY

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System Specification

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EnOcean Equipment Profiles



D2-14: Multi Function Sensors

TYPE 00 ... 24 Submitter: Perfactory

TYPE 30 ... 31 Submitter: Nexelec

Description:

Indoor Smarthome Multisensor

These EEPs describe a family of smarthome multi-functional sensors with optional Touch Button devices. Each device/member of the family is equipped with a different set of sensors to measure ambient environmental parameters, e.g. temperature, humidity, light level etc.

Some family-members are equipped with buttons in addition to the sensors. The response to pressing a button can be defined freely.

Sensor fault mode status (COA / SMA):

A smoke sensor failure prevents operation of a smoke / CO alarm signal. The smoke / CO sensor is supervised and a failure activates this flag.

Smoke Alarm Condition analysis:

The smoke alarm might be activated by improper environmental conditions like dust, humidity, etc. The product will activate flags if some of these conditions are observed at the moment of alarm activation.

- Maintenance: the flag is set if there is a lack of maintenance
- Temperature: the flag is set if the temperature may cause the alarm
- Humidity: the flag is set if the relative humidity may cause the alarm

!!! An activated flag doesn't mean that there is no smoke. It is dangerous to suspect a false alarm as the smoke preceding the onset of the flames are toxic and may cause you to lose consciousness: despite the absence of flames, a fire may blaze up in a few minutes. Nexelec recommends to analyse the environmental condition of a smoke alarm after the disappearance of the smoke alarm signal.

CO Alarm Condition analysis:

The CO alarm might be activated by improper environmental conditions like dust, humidity, etc. The product will activate flags if some of these conditions are observed at the moment of alarm activation.

- Maintenance: the flag is set if there is a lack of maintenance
- Temperature: the flag is set if the temperature may cause the alarm
- Humidity: the flag is set if the relative humidity may cause the alarm

!!! An activated flag doesn't mean that there is no CO. It is dangerous to suspect a false alarm. Nexelec recommends to analyse the environmental condition of a CO alarm after the disappearance of the CO alarm signal.

EEP Properties defined by the submitter:

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)

Security

Encryption supported: no Security level format: -

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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.

Name	ShortCut	Size	Description	Valid Range	Scale	Unit		
Massace ID	MSGID		Massace ID	0 255				
Message ID	MSGID	8	Message ID	0 255				
Temperature	TMP8	8	Temperature	0 250	Linear, range sensor (TYPE) dependent	°C		
remperature	TMPO	0	Status of Temperature Sensor	Enum: 251 254: R	eserved			
				255: Error				
T	TMDO		Temperature	0 500	Linear, range sensor (TYPE) dependent	°c		
Temperature	TMP9	9	Status of	Enum:				
			Temperature Sensor	501 510: R	eserved			
				511: Error				
		8	rel. Humidity (linear)	0 200	0 100	%		
Humidity	ним		Status of Humidity Sensor	Enum: 201 254: Reserved 255: Error				
				233. [110]				
	ILL	17	Illumination (linear)	0 100,000	0 100,000 0 100,000 lx			
Illumination			Status of Illumination Sensor	Enum: 100,001 131,070: Reserved				
				131,071: Erro	ror			
Energy Storage	ES	2	Energy Storage Status	Enum: 0: High 1: Medium 2: Low				
				3: Critical				
			VOC in CO2 equivalents (linear)	0 250	0 2,000	ppm/e		
voc	VOC	8	TVOC (linear)	0 250	0 1,150	ppb		
VOC	VOC	8	Status of VOC Sensor	Enum: 251 254: R	eserved			
			211001	255: Error				
CO2	CO2	9	CO2 (linear)	0 250	Sensor dependent, e.g. 0 2,000	ppm		
CO2	CO2	8	Status of CO2 Sensor	Enum: 251 254: Reserved 255: Error				



со со		8	CO (linear)	0 200 Sensor dependent, e.g. 0 1,000 ppm				
CO	100	8		Enum:				
			Status of CO Sensor	201 254: Reserved				
				255: Error				
			Barometer (linear)	0 500 600 1,000 hPa				
				Enum:				
Barometer	BAR	9	Status of Barometer Sensor	501 510: Reserved				
			Daronieter Sensor	511: Error				
	<u>'</u>		•					
				Enum:				
				0: Present				
Presence	PR	2	Presence Detector	1: Not present				
				2: Not detectable				
				3: Presence Detector error				
	_							
				Enum:				
			Button A	0: Button A released				
Button A	BA	2		1: Button A pressed				
				2: Reserved				
				3: Button A error (state not detectable)				
				Enum:				
			Button B	0: Button B released				
Button B	BB	2		1: Button B pressed				
Dutton D		_		2: Reserved				
				3: Button B error (state not detectable)				
				Enum:				
		1	Smoke Alarm status	0: Smoke Alarm non-activated				
		-	Sillotto Atlantii Status	1: Smoke Alarm activated				
				Enum:				
		1	Sensor fault mode	0: Sensor Fault mode non-activated				
		-	status	1: Sensor Fault mode activated				
			Smoke Alarm	Enum:				
		1	Condition analysis:	0: Maintenance OK				
			Maintenance	1: Maintenance not done				
Smoke Alarm	SMA		Smoke Alarm	Enum:				
	1		Condition analysis:	0: Humidity range OK				
			Humidity	1: Humidity range NOK				
			Smoke Alarm	Enum:				
		1	Condition analysis:	0: Temperature range OK				
			Temperature	1: Temperature range NOK				
				0 250 0 250 Week				
			Time since last	Enum:				
		8	maintenance	251 254: Reserved				
				255: Error				
		255; 21101						



				Enum:				
		1	CO Alarm status	0: CO Alarm non-activated				
				1: CO Alarm activated				
			Sensor fault mode	Enum:				
		1	status	0: Sensor Fau	It mode non-activ	vated		
			Status	1: Sensor Fau	It mode activated	i		
			CO Alarm	Enum:				
		1	Condition analysis:	0: Maintenand	e OK			
			Maintenance	1: Maintenand	e not done			
CO Alarm	COA		CO Alarm	Enum:				
		1	Condition analysis:	0: Humidity ra	nge OK			
			Humidity	1: Humidity ra				
			00.41	Enum:	go ivo k			
		1	CO Alarm Condition analysis:	0: Temperatur	re range OK			
		1	Temperature	1: Temperatur				
			Tomperature	-		Week		
				0 250	0 250	Week		
		8	Time since last maintenance	Enum:				
			maintenance	251 254: Re	eserved			
				255: Error				
		LT 8				Product		
Daniel de	RPLT		Countdown time until product end of life	0 250	dependent,	Month		
Remaining Product Life					e.g. 0 250			
Time				Enum:				
				251 254: Re	eserved			
				255: Error				
				Enum:				
			Comfort Index	0: Good				
Hygrothermal	HCI	2	based on	1: Medium				
Comfort Index			temperature and	2: Bad				
			humidity	3: Error				
				J. LITOI				
				F				
				Enum:				
				0: Optimal air				
			Indoor Air quality	1: Dry Air rang				
T/Hum, Indoor			analysis based on	2: High humid				
Air Analysis	IAQTH	3	temperature and		rature and humic			
			humidity		e or Humidity ou	t of		
				analysis range				
				5 6: Reserve	ed			
				7: Error				
				Enum:				
			Indoor Air quality	0: Good				
CO Indoor Air	IAQCO	2	analysis based on CO	1: Medium				
Analysis				2: Bad				
				3: Error				
				3. [110]				

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System Specification

EEP Family Tables:

Each line in the Family Table describes a parameter which is part of the message(s) of the marked Family Members (= column in the table / TYPE).

Line Powered devices:

Туре	0x00	0x01	0x02	0x03	0x04	0x05
Temperature Sensor, TMP9	050	050		050	050	050
Humidity Sensor, HUM	Χ	Χ		X	X	Х
Illumination Sensor, ILL					X	Х
VOC Sensor [CO2-equiv.], VOC			02000	02000		02000
Freely Programmable Button A, BA		X				
Freely Programmable Button B, BB		X				

Туре	0x06	0x07	0x08	0x09	0x0A
Temperature Sensor, TMP9		050	050	050	050
Humidity Sensor, HUM		X	Χ	X	Χ
Illumination Sensor, ILL			X		Х
VOC Sensor [CO2-equiv.], VOC				02000	02000
CO2 Sensor, CO2	02000	02000	02000	02000	02000

Туре	0x0B	0x0C	0x0D	0x0E	0x0F	0x10
Temperature Sensor, TMP9	050		050	050	050	050
Humidity Sensor, HUM	X		Χ	X	X	X
VOC Sensor [CO2-equiv.], VOC			02000	02000		02000
VOC Sensor, TVOC	01150					
CO2 Sensor, CO2				02000		
CO2 Sensor, CO2		05000				
Barometer Sensor, BAR					X	
Room Occupancy Sensor, PR						X
Freely Programmable Button A, BA			X	X		

Autonomous devices (indoor):

Туре	0x1A	0x1B	0x1C	0x1D
Temperature Sensor, TMP9	050	050	050	050
Humidity Sensor, HUM	X	X	X	X
Illumination Sensor, ILL		X		X
Energy Storage Status, ES	Χ	X	X	X
Barometer Sensor, BAR			X	X

Туре	0x30	0x31
Temperature Sensor, TMP8	050	050
Humidity Sensor, HUM	X	X
Smoke Alarm, SMA	X	
CO Alarm, COA		X
CO Sensor, CO		01000
Energy Storage Status, ES	Х	X
Remaining Product Life Time, RPLF	120	120
Hygrothermal Comfort Index, HCI	X	X
T/Hum. Indoor Air Analysis, IAQTH	X	X
CO Indoor Air Analysis, IAQCO		X

Autonomous devices (outdoor):

Туре	0x20	0x21	0x22	0x23	0x24
Temperature Sensor, TMP9	-4060	-4060	-4060	-4060	
Humidity Sensor, HUM	Х		Х		
Illumination Sensor, ILL	Χ			X	X
Energy Storage Status, ES	X	X	X	X	Χ

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RORG	D2	VLD Telegram
FUNC	14	Multi Function Sensors
TYPE	0C	Sensor for CO2, line-powered

Submitter: Perfactory

TYPE 0x0C - Sensor for CO2, line-powered

	21122 221123 131 232,								
Data Byte	DB_0								
DB Bit	7	6	5	4	3	2	1	0	
Bit Offset	0	1	2	3	4	5	6	7	
Data	C02								

Offset	Size	Data	ShortCut	Description	Valid Range	Scale	Unit
0	8	CO2	CO2	CO2 (linear)	Enum:		
					0250:		ppm
				Status of CO2 Sensor		05000	
					251254: Reserve	i	
					255: Error		

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