EnOcean Equipment Profiles

REVISION HISTORY

Ver.	Editor	Change	Date
2.6.8	NM	Last xml edition of the EEP-Specification	Dec 31, 2017

specification may be used in development of a product or service for sale without being a participant or promoter member of the EnOcean Alliance and/or joint owner of the appropriate joint IPR.

These errata may not have been subjected to an Intellectual Property review, and as such, may contain undeclared Necessary Claims.

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D2-50: Heat Recovery Ventilation

Submitter: Glen Dimplex

Description
The EEP family D2-50-XX provides different telegram types for heat-recovery ventilation control and status messages using various parameters and variables.

There are 4 types of messages:
- Ventilation Remote Transmission Request Message
- Ventilation Control Message
- Ventilation Basic Status Message
- Ventilation Extended Status Information Message

Data exchange
Direction: bidirectional
Addressing: unicast (ADT) + broadcast
Communication trigger: event- & time-triggered
Communication interval: min. 1s (not more than once per second on events), max. 5s (heartbeat)

Trigger event:
heartbeat 5s
on reception of 'Ventilation Control Message'
query / polling by 'Ventilation Remote Transmission Request Message'
on value change at ...
- "Operating Mode Status"
- "Digital Input 0...15 Status"
- "Digital Output 0...15 Status"
- "Info Message 0...15 Status"
- "Fault 0...31 Status"

Tx delay: -
Rx timeout: -

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

Security
Encryption supported: no
Security level format: -

EEP Family Table

TYPE 00: single room ventilation unit
TYPE 01: single room ventilation unit with pre-heater
TYPE 02...09: reserved for future single room variants
TYPE 10: multi room ventilation unit without bypass
TYPE 11: multi room ventilation unit with bypass
TYPE 12...xx: reserved for future multi room variants

Supported function	Type 00	Type 01	Type 10	Type 11
Message Type	X	X	X	X
Requested Message Type	X	X	X	X
Direct Operation Mode Control	X	X	X	X
Operation Mode Control	X	X	X	X
Timer Operation Mode Control	X	X	X	X
CO2 Threshold	X	X	X	X
Heat Exchanger Bypass Control	-	-	-	X
Humidity Threshold	X	X	X	X
Air Quality Threshold	X	X	X	X
Room Temperature Threshold	-	-	X	X
Operation Mode Status	X	X	X	X
Safety Mode Status	-	-	-	X
Heat Exchanger Bypass Status	-	-	-	X
Supply Air Flap Position	X	X	-	-
Exhaust Air Flap Position	X	X	-	-
Defrost Mode Status	X	X	X	X
Cooling Protection Status	X	X	X	X
Outdoor Air Heater Status	-	X	X	X
Supply Air Heater Status	-	-	X	X
Drain Heater Status	X	X	-	-
Timer Operation Mode Status	X	X	X	X
Filter Maintenance Status	X	X	X	X
Weekly Timer Program Status	-	-	X	X
Room Temperature Control Status	-	-	X	X
Air Quality Sensor 1	X	X	X	X
Master/Slave Status	X	X	-	-
Air Quality Sensor 2	-	-	X	X
Outdoor Air Temperature	X	X	X	X
Supply Air Temperature	X	X	X	X
Indoor Air Temperature	-	-	X	X
Exhaust Air Temperature	-	-	X	X
Supply Air Fan Air Flow Rate	X	X	X	X
Exhaust Air Fan Air Flow Rate	X	X	X	X
Supply Fan Speed	X	X	X	X
Exhaust Fan Speed	X	X	X	X
Software Version Info	X	X	X	X
Operation Hours Counter	X	X	X	X
Digital Input 0...15 Status	-	-	X	X
Digital Output 0...15 Status	-	-	X	X
Info Message 0...15 Status	X	X	X	X
Fault 0...31 Status	X	X	X	X

The list of parameters could be structured following the features that always include a certain group of parameters.

Each TYPE has to support every parameter that is marked in its column!

RORG	D2	VLD Telegram
FUNC	50	Heat Recovery Ventilation
TYPE	00	Type 0x00

Submitter: Glen Dimplex

Telegram Definition: 'Ventilation Remote Transmission Request Message'

The 'Ventilation Remote Transmission Request Message' queries a particular status message from the heat-recovery ventilation unit. Thus status messages can be obtained at any time or at a higher update rate than the heartbeat rate, e.g. during commissioning.

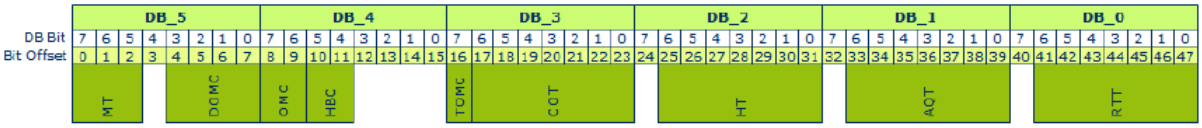
Direction: Gateway --> Heat-recovery ventilation unit

Offset	Size	Data	ShortCut	Description	Valid Range	Scale	Unit
0	3	Message Type	MT	Defines the message type	Enum: 0: Ventilation remote transmission request 1: Ventilation control		
					2: Ventilation basic status 3: Ventilation extended status 4: Reserved 5: Reserved 6: Reserved 7: Reserved		
3	2	Not Used (= 0)					
5	3	Requested Message Type	RMT	Defines the message type, which is requested by the remote device	Enum: 0: Ventilation basic status 1: Ventilation extended status 2: Reserved 3: Reserved 4: Reserved 5: Reserved 6: Reserved 7: Reserved		

Telegram Definition: 'Ventilation Control Message'

The 'Ventilation Control Message' changes the operating mode, the state of several actuators and a subset of control parameters.

Direction: Gateway --> Heat-recovery ventilation unit



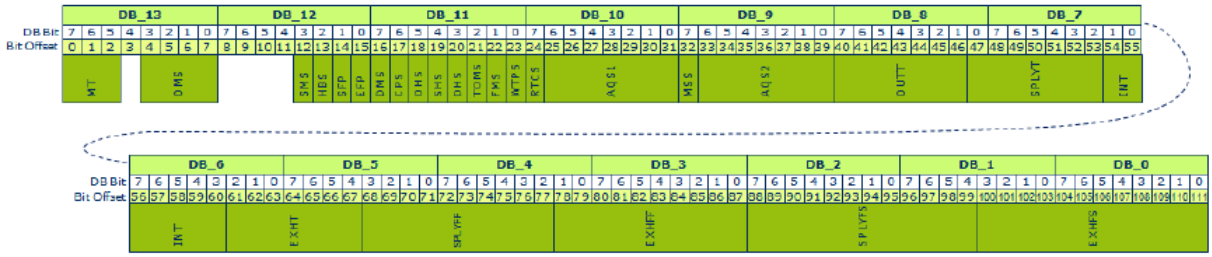
Offset	Size	Data	ShortCut	Description	Valid Range	Scale	Unit
0	3	Message Type	MT	Defines the message type	Enum: 0: Ventilation remote transmission request 1: Ventilation control 2: Ventilation basic status 3: Ventilation extended status 4: Reserved 5: Reserved 6: Reserved 7: Reserved		
3	1	Not Used (= 0)					
4	4	Direct Operation Mode Control	DOMC	Selects ventilation mode/level	Enum: 0: Off 1: Level 1 2: Level 2 3: Level 3 4: Level 4 5: Reserved 6: Reserved 7: Reserved 8: Reserved 9: Reserved 10: Reserved 11: Automatic 12: Automatic on demand 13: Supply air only 14: Exhaust air only 15: No action (keep current ventilation mode/level)		

8	2	Operation Mode Control	OMC	Selects the next resp. previous available ventilation mode/level	Enum: 0: No action 1: Select next operation mode (edge-trigger) 2: Select previous operation mode (edge-trigger) 3: Reserved
10	2	Heat Exchanger Bypass Control	HBC	Manual override of automatic heat exchanger bypass control	Enum: 0: No action 1: Close bypass (edge-trigger) 2: Open bypass (edge-trigger) 3: Reserved
12	4	Not Used (= 0)			
16	1	Timer Operation Mode Control	TOMC	Enables Timer Operation Mode, i.e. a particular ventilation mode is activated for a defined time	Enum: 0: No action 1: Start timer operation mode (edge-trigger)
17	7	CO2 Threshold	COT	Overrides CO2 threshold for CO2 control in automatic mode	Enum: 0...100: 0...100 % 101...126: Reserved 127: Default (use threshold configured in device)
24	1	Not Used (= 0)			
25	7	Humidity Threshold	HT	Overrides humidity threshold for humidity control in automatic mode	Enum: 0...100: 0...100 % 101...126: Reserved 127: Default (use threshold configured in device)
32	1	Not Used (= 0)			
33	7	Air Quality Threshold	AQT	Overrides air quality threshold for air quality control in automatic mode	Enum: 0...100: 0...100 % 101...126: Reserved 127: Default (use threshold configured in device)
40	1	Not Used (= 0)			
41	7	Room temperature threshold	RTT	Overrides room temperature threshold for room temperature control mode	Enum: 1...127: -63...+63 °C 0: Default - use threshold configured in device

Telegram Definition: 'Ventilation Basic Status Message'

The 'Ventilation Basic Status Message' provides current sensor values and internal control status information. It is triggered once at power-on and on particular value changes.
Additionally this message is available on request.

Direction: Heat-recovery ventilation unit --> Gateway



Offset	Size	Data	ShortCut	Description	Valid Range	Scale	Unit
0	3	Message Type	MT	Defines the message type	Enum: 0: Ventilation remote transmission request 1: Ventilation control 2: Ventilation basic status 3: Ventilation extended status 4: Reserved 5: Reserved 6: Reserved 7: Reserved		
3	1	Not Used (= 0)					
4	4	Operation Mode Status	OMS	Shows current Operation Mode Status	Enum: 0: Off 1: Level 1 2: Level 2 3: Level 3 4: Level 4 5: Reserved 6: Reserved 7: Reserved 8: Reserved 9: Reserved 10: Reserved 11: Automatic 12: Automatic on demand 13: Supply air only 14: Exhaust air only 15: Reserved		
8	4	Not Used (= 0)					

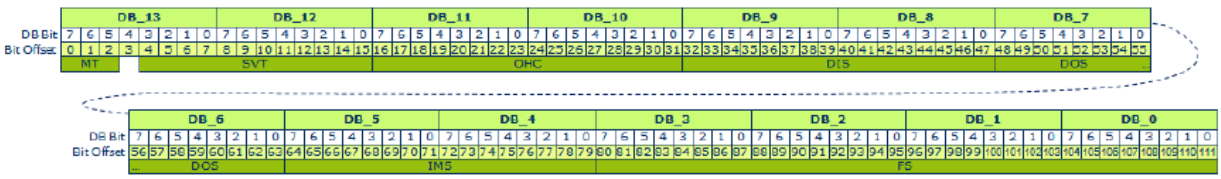
12	1	Safety Mode Status	SMS	Indicates if device is running in fireplace safety mode	Enum: 0: Fireplace safety mode disabled 1: Fireplace safety mode enabled
13	1	Heat Exchanger Bypass Status	HBS	Indicates heat exchanger bypass status	Enum: 0: Bypass closed (heat-recovery active) 1: Bypass opened (heat-recovery inactive)
14	1	Supply Air Flap Position	SFP	Supply Air Flap Position	Enum: 0: Supply air flap closed 1: Supply air flap opened
15	1	Exhaust Air Flap Position	EFP	Exhaust Air Flap Position	Enum: 0: Exhaust air flap closed 1: Exhaust air flap opened
16	1	Defrost Mode Status	DMS	Indicates if device is running in defrost mode, i.e. automatic defrosting of heat exchanger is active	Enum: 0: Defrost mode inactive 1: Defrost mode active
17	1	Cooling Protection Status	CPS	Indicates if device is running in cooling protection	Enum: 0: Cooling protection mode inactive 1: Cooling protection mode active
18	1	Outdoor Air Heater Status	OHS	Outdoor Air Heater Status	Enum: 0: Inactive 1: Active
19	1	Supply Air Heater Status	SHS	Supply Air Heater Status	Enum: 0: Inactive 1: Active
20	1	Drain Heater Status	DHS	Drain Heater Status	Enum: 0: Inactive 1: Active
21	1	Timer Operation Mode Status	TOMS	Indicates timer operation mode status	Enum: 0: timer operation mode inactive 1: timer operation mode active
22	1	Filter Maintenance Status	FMS	Filter Maintenance Status	Enum: 0: Maintenance not required 1: Maintenance required
23	1	Weekly Timer Program Status	WTPS	Indicates if weekly timer program is active (i.e. if device is running according to configured program)	Enum: 0: Weekly timer program disabled or not configured

					1: Weekly timer program active		
24	1	Room Temperature Control Status	RTCS	Indicates room temperature control status	Enum: 0: Room temperature control inactive 1: Room temperature control active		
25	7	Air Quality Sensor 1	AQS1	Current air quality sensor 1 measurement value	Enum: 0...100: 0...100 % 101...126: Reserved 127: Not available		
32	1	Master/Slave Configuration Status	MSS	Indicates whether device is configured as master or slave unit	Enum: 0: Master 1: Slave		
33	7	Air Quality Sensor 2	AQS2	Current air quality sensor 2 measurement value	Enum: 0...100: 0...100 % 101...126: Reserved 127: Not available		
40	7	Outdoor Air Temperature	OUTT	Current outdoor air temperature	0...127	-64...+63	°C
47	7	Supply Air Temperature	SPLYT	Current supply air temperature	0...127	-64...+63	°C
54	7	Indoor Air Temperature	INT	Current indoor air temperature	0...127	-64...+63	°C
61	7	Exhaust Air Temperature	EXHT	Current exhaust air temperature	0...127	-64...+63	°C
68	10	Supply Air Fan Air Flow Rate	SPLYFF	Current supply air fan air flow rate setpoint	0...1023	0...1023	m3/h
78	10	Exhaust Air Fan Air Flow Rate	EXHFF	Current exhaust air fan air flow rate setpoint	0...1023	0...1023	m3/h
88	12	Supply Fan Speed	SPLYFS	Current supply air fan speed	0...4095	0...4095	1/min
100	12	Exhaust Fan Speed	EXHFS	Current exhaust air fan speed	0...4095	0...4095	1/min

Telegram Definition: 'Ventilation Extended Status Message'

The 'Ventilation Extended Status Message' provides additional information, e.g. active failure information. It is triggered once at power-on and on particular value changes.
Additionally, this message is available on request.

Direction: Heat-recovery ventilation unit --> Gateway



Offset	Size	Data	ShortCut	Description	Valid Range	Scale	Unit
0	3	Message Type	MT	Defines the message type	Enum: 0: Ventilation remote transmission request 1: Ventilation control 2: Ventilation basic status 3: Ventilation extended status 4: Reserved 5: Reserved 6: Reserved 7: Reserved		
3	1	Not Used (= 0)					
4	12	Software Version Info	SVI	Shows Software Version Information	0...4095	0...4095	-
16	16	Operation Hours Counter	OHC	Indicates device operation hours	0...65535	0...196605	h
32	16	Digital Input 0...15 Status	DIS	Indicates the current state of digital inputs 0...15 of the device input assignment depends on device variant and configuration	Enum: 0x0001: Input no. 00 active 0x0002: Input no. 01 active 0x0004: Input no. 02 active 0x0008: Input no. 03 active 0x0010: Input no. 04 active 0x0020: Input no. 05 active 0x0040: Input no. 06 active 0x0080: Input no. 07 active 0x0100: Input no. 08 active 0x0200: Input no. 09 active 0x0400: Input no. 10 active 0x0800: Input no. 11 active 0x1000: Input no. 12 active 0x2000: Input no. 13 active 0x4000: Input no. 14 active 0x8000: Input no. 15 active		
48	16	Digital Output 0...15 Status	DOS	Indicates the current state of digital outputs 0...15 of the device output assignment depends on device variant and configuration	Enum: 0x0001: Output no. 00 active 0x0002: Output no. 01 active 0x0004: Output no. 02 active 0x0008: Output no. 03 active 0x0010: Output no. 04 active 0x0020: Output no. 05 active 0x0040: Output no. 06 active 0x0080: Output no. 07 active 0x0100: Output no. 08 active 0x0200: Output no. 09 active 0x0400: Output no. 10 active 0x0800: Output no. 11 active 0x1000: Output no. 12 active 0x2000: Output no. 13 active 0x4000: Output no. 14 active 0x8000: Output no. 15 active		

64	16	Info Message 0...15 Status	IMS	Indicates the current state of info message no. 0...15 generated by the device	Enum: 0x0001: Info no. 00 active 0x0002: Info no. 01 active 0x0004: Info no. 02 active 0x0008: Info no. 03 active 0x0010: Info no. 04 active 0x0020: Info no. 05 active 0x0040: Info no. 06 active 0x0080: Info no. 07 active 0x0100: Info no. 08 active 0x0200: Info no. 09 active 0x0400: Info no. 10 active 0x0800: Info no. 11 active 0x1000: Info no. 12 active 0x2000: Info no. 13 active 0x4000: Info no. 14 active 0x8000: Info no. 15 active
80	32	Fault 0...31 Status	FS	Indicates the current state of fault no. 0...31 generated by the device	Enum: 0x00000001: Fault no. 00 active 0x00000002: Fault no. 01 active 0x00000004: Fault no. 02 active 0x00000008: Fault no. 03 active 0x00000010: Fault no. 04 active 0x00000020: Fault no. 05 active 0x00000040: Fault no. 06 active 0x00000080: Fault no. 07 active 0x00000100: Fault no. 08 active 0x00000200: Fault no. 09 active 0x00000400: Fault no. 10 active 0x00000800: Fault no. 11 active 0x00001000: Fault no. 12 active 0x00002000: Fault no. 13 active 0x00004000: Fault no. 14 active 0x00008000: Fault no. 15 active 0x00010000: Fault no. 16 active 0x00020000: Fault no. 17 active 0x00040000: Fault no. 18 active 0x00080000: Fault no. 19 active 0x00100000: Fault no. 20 active

					0x00200000: Fault no. 21 active
					0x00400000: Fault no. 22 active
					0x00800000: Fault no. 23 active
					0x01000000: Fault no. 24 active
					0x02000000: Fault no. 25 active
					0x04000000: Fault no. 26 active
					0x08000000: Fault no. 27 active
					0x10000000: Fault no. 28 active
					0x20000000: Fault no. 29 active
					0x40000000: Fault no. 30 active
					0x80000000: Fault no. 31 active