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.

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D2-10: Room Control Panels with Temperature & Fan Speed Control, Room Status Information and Time Program

Submitter: Kieback&Peter GmbH & CO KG

Description
This VLD family consists of several profiles for a group of different bidirectional solar powered room control panels with environmental sensors and display.

These profiles support various functions and measurements, e.g. room temperature, humidity and independent generation of utilization time profiles with continuous dynamic adaptation and optimization as well as for the wireless transmission of measured values. Such a room control panel should primarily be operated with valve controllers (actuators) in order to provide a functional unit for simple room temperature control.

The profiles are designed to establish a communication between a battery-powered room control panel and an always receiving (e.g. line-powered) gateway. Because of the high energy consumption when switching on the radio-receiver, the room control panel is always the initiator of a data exchange (communication slot). It cannot be triggered by the gateway, because the room control panel is not in receiving mode most of the time.

The room control panel wakes up due to a timer trigger and sends the measured sensor data. The gateway is always required to respond with a command message or a heartbeat message within a maximum response time of 250ms. If no further commands are placed in the queue, the gateway must send a heartbeat message to terminate the communication slot. The room control panel then goes into sleep mode. If no response from the gateway is sent within 250ms, the room control panel goes immediately into sleep mode and the current communication slot is terminated. However, the room control panel maintains the communication interval and continues to transmit data in the next communication slot.

Data exchange **TYPE 00 ff**
Direction: bidirectional
Addressing: unicast (ADT)
Communication trigger: event- & time-triggered
Communication interval: can be defined during runtime
Trigger event: device status change
Tx delay: 1 s
Rx timeout: N/A
Teach-in
Teach-in method: UTE
Security
Encryption required: no
Security level format: N/A

Data exchange **TYPE 30 ff**
Direction: bidirectional
Addressing: unicast (ADT)
Communication trigger: event- or time-triggered
Communication interval: the interval is configurable from 1 minute to 1 day Default=10 minutes)

Trigger event: device status change
Tx delay: 250 ms
Rx timeout: 5 ms
Teach-in
Teach-in method: UTE
Security
Encryption required: no
Security level format: N/A

EEP Family Tables **TYPE 00 ff**

Message Type (ID)	Commands ... of TYPE	0x00	0x01	0x02
0x0	General Message	X	X	X
0x1	Data Message	X	X	X
0x2	Configuration Message	X	X	X
0x3	Room Control Setup	X	X	X
0x4	Time Program Setup	X	X	-

Parameters ... of TYPE	0x00	0x01	0x02
Message Identifier	X	X	X
Message Continuation Flag	X	X	X
Information Request Classifier	X	X	X
Feedback Classifier	X	X	X
General Message Type	X	X	X
Humidity	X	-	-
Humidity Validity Flag	X	-	-
Fan Speed Control	X	-	-
Fan Speed Validity Flag	X	-	-
Fan Speed Mode	X	-	-
Custom Warning 2	X	X	X
Custom Warning 1	X	X	X
Mold Warning	X	-	-
Window Open Detection	X	X	X
Battery Status	X	X	X
Solar-power Status	X	-	X
PIR Status	X	-	X
Occupancy Button Status	X	X	X
Cooling Operation Status	X	-	-
Heating Operation Status	X	-	-
Room Control Mode	X	X	X
Temperature Set Point Validity	X	X	X
Temperature Validity	X	X	X
Temperature Set Point	X	X	X
Room Temperature	X	X	X
PIR Status Lock	X	-	X
Temperature Scale Lock	X	X	-
Display Content Lock	X	X	X
Date / Time Lock	X	X	X
Time Program Lock	X	X	X
Occupancy Button Lock	X	X	X
Temperature Set Point Lock	X	X	-
Fan Speed Lock	X	-	-
Radio Communication Interval	X	X	X
Key Lock	X	X	-
Display Content	X	X	X
Temperature Scale	X	X	X
Daylight Saving Time Flag	X	X	X
Time Notation	X	X	X
Day	X	X	X
Month	X	X	X
Year	X	X	X
Minute	X	X	X
Hour	X	X	X

Date / Time Update Flag	X	X	X
Temperature Set Point Building Protection Mode	X	X	-
Temperature Set Point Pre-comfort Mode	X	-	-
Temperature Set Point Economy Mode	X	X	X
Temperature Set Point Comfort Mode	X	X	X
Temperature Set Point Flag Building Protection Mode	X	X	-
Temperature Set Point Flag Pre-comfort Mode	X	-	-
Temperature Set Point Flag Economy Mode	X	X	X
Temperature Set Point Flag Comfort Mode	X	X	X
End Time: Minute	X	X	-
End Time: Hour	X	X	-
Start Time: Minute	X	X	-
Start Time: Hour	X	X	-
Period	X	X	-
Time Program Deletion	X	X	-

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

EEP Family Tables **TYPE 30 ff**

Message Type (ID)	Commands ... of TYPE	0x30	0x31	0x32
0x00	Heartbeat Message	X	X	X
0x20	Acknowledge Message	X	X	X
0x21	Data Message	X	X	X
0x22	Status Message	X	X	X
0x23	Actuator Status	X	X	X
0x24	Set Point Limits Status	X	X	X
0x61	Configuration Message	X	X	X
0x62	Clock Setup	X	X	X
0x80	Room Temperature Override	X	X	-
0x81	Recent Temperature Set Point Override Absolute	X	X	X
0x82	Recent Temperature Set Point Override Relative	X	X	-
0x83	External Value	X	X	-
0x84	Humidity Override	X	X	-
0x85	Fan Speed Override	X	-	-
0x86	Room Mode Override	X	X	X-
0x87	Open Window Override	X	X	X
0x88	PIR Override	X	X	-
0x89	Occupancy Override	X	X	X
0x8A	Set Display Advice Symbol	X	X	-
0x8B	Autonomous Level Override	X	X	-
0x8C	Set Display Cooling/Heating Symbol	X	-	-
0x8D	Set Display Sun/Moon Symbol	X	-	-
0x8E	Display Content Override	X	X	X
0x8F	Daylight Saving Time Override	X	X	-
0x90	Set User Defined Info Codes	X	-	-
0x91	Temperature Set Point Vacation Mode	X	X	-
0x92	Temperature Set Point Comfort Mode	X	X	X
0x93	Temperature Set Point Eco Mode	X	X	X
0x94	Upper Temperature Set Point Limit Vacation Mode	X	X	-
0x95	Lower Temperature Set Point Limit Vacation Mode	X	X	-
0x96	Upper Temperature Set Point Limit Eco Mode	X	X	-
0x97	Lower Temperature Set Point Limit Eco Mode	X	X	-
0x98	Upper Temperature Set Point Limit Comfort Mode	X	X	-
0x99	Lower Temperature Set Point Limit Comfort Mode	X	X	-
0x9A	Temperature Set Point Range Relative	X	X	-
0x9B	Energy Saving Mode Override	X	X	-

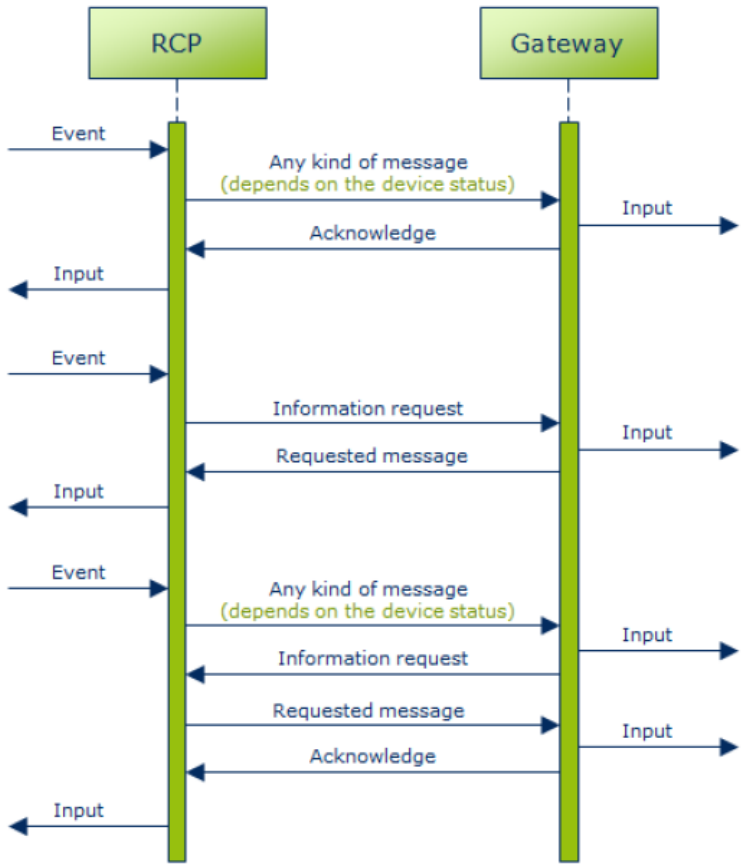
System Specification

Parameters ... of TYPE	0x30	0x31	0x32
Message Identifier	X	X	X
Humidity	X	X	X
Open Window Detect	X	X	X
Occupancy Button Status	X	X	-
Room Control Mode	X	X	X
Room Temperature	X	X	X
PIR Status	X	X	-
Fan Speed	X	-	-
Recent Temperature Set Point -absolute	X	X	X
Recent Temperature Set Point -relative	X	X	-
Analog Value	X	X	-
UI Type	X	X	X
Mold Warning/Advice	X	X	-
Display Content	X	X	-
Device Status	X	X	X
Party/Holiday Status	X	-	-
Heating/Cooling Status	X	-	-
Sun/Moon Status	X	-	-
Daylight Saving Time	X	X	-
Autonomous Level	X	X	-
Energy State	X	X	X
Solar Power Status	X	X	-
Temperature Set Point Vacation Mode	X	X	-
Temperature Set Point Eco Mode	X	X	X
Temperature Set Point Comfort Mode	X	X	X
Position, Valve 1	X	X	-
Position, Valve 2	X	X	-
Position, Valve 3	X	X	-
Position, Valve 4	X	X	-
Temperature, Actuator 1	X	X	-
Temperature, Actuator 2	X	X	-
Temperature, Actuator 3	X	X	-
Temperature, Actuator 4	X	X	-
Status, Actuator 1	X	X	-
Status, Actuator 2	X	X	-
Status, Actuator 3	X	X	-
Status, Actuator 4	X	X	-
Temperature Set Point Range Relative	X	X	-
Upper Temperature Set Point Limit Vacation Mode	X	X	-
Lower Temperature Set Point Limit Vacation Mode	X	X	-
Upper Temperature Set Point Limit Eco Mode	X	X	-
Lower Temperature Set Point Limit Eco Mode	X	X	-
Upper Temperature Set Point Limit Comfort Mode	X	X	-
Lower Temperature Set Point Limit Comfort Mode	X	X	-
PIR Status Lock	X	-	-
Temperature Scale Lock	X	-	-
Display Content Lock	X	-	-
Date / Time Lock	X	-	-
Time Program Lock	X	-	-

Occupancy Button Lock	X	-	-
Temperature Set Point Lock	X	X	-
Fan Speed Lock	X	-	-
Holiday Feature Lock	X	-	-
Time Bar	X	-	-
Season Energy Saving Mode	X	X	X
Mold Warning Signal	X	-	-
Mold Warning Coefficient	X	-	-
Mold Warning Limit	X	-	-
Set Point Mode Config	X	X	-
Display Content Toggle List	X	-	-
Radio Communication Interval	X	-	-
Temperature Scale	X	-	-
Heating Coefficient	X	X	-
Key Lock	X	-	-
Window Open Detection Stopping Time	X	X	-
Time Notation	X	X	-
Day	X	X	-
Month	X	X	-
Year	X	X	-
Minute	X	X	-
Date / Time Update Flag	X	X	-
Hour	X	X	-
Room Temperature Override	X	X	-
Recent Temperature Set Point Override	X	X	X
Recent Temperature Set Point Offset Override	X	X	-
External Value Scale and Unit	X	X	-
External Value	X	X	-
Humidity Override	X	X	-
Fan Speed Override	X	-	-
Room Mode Override	X	X	X
Open Window Override	X	X	X
PIR Override	X	X	-
Occupancy Override	X	X	X
Set Display Advice Symbol	X	X	-
Autonomous Level Override	X	X	-
Set Display Cooling/Heating Symbol	X	-	-
Set Display Sun/Moon Symbol	X	-	-
Display Content Override	X	X	-
Daylight Saving Time Override	X	X	-
Set User Defined Info Code	X	-	-
Temperature Set Point Vacation Mode	X	X	-
Temperature Set Point Comfort Mode	X	X	X
Temperature Set Point Eco Mode	X	X	X
Upper Temperature Set Point Limit Vacation Mode	X	X	-
Lower Temperature Set Point Limit Vacation Mode	X	X	-
Upper Temperature Set Point Limit Eco Mode	X	X	-
Lower Temperature Set Point Limit Eco Mode	X	X	-
Upper Temperature Setpoint Limit Comfort Mode	X	X	-
Lower Temperature Set Point Limit Comfort Mode	X	X	-
Temperature Set Point Range Relative	X	X	-
Energy Saving Mode Override	X	X	-

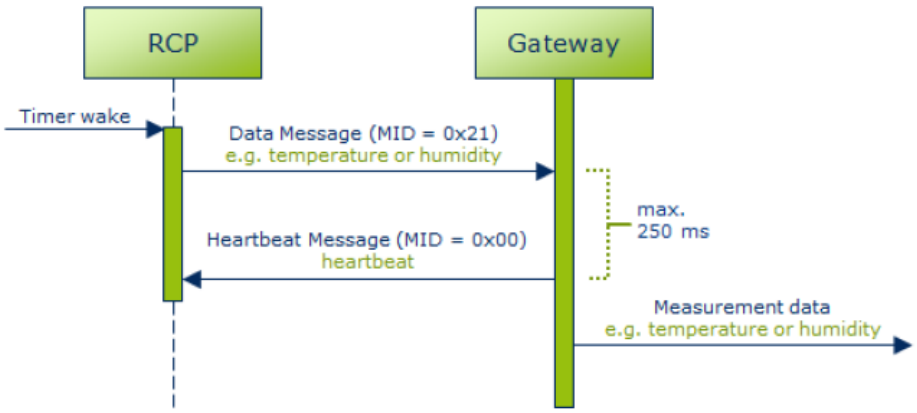
The list of parameters could be structured following the features that always include a certain group of parameters.

Telegram Definition **TYPE 00 ff**

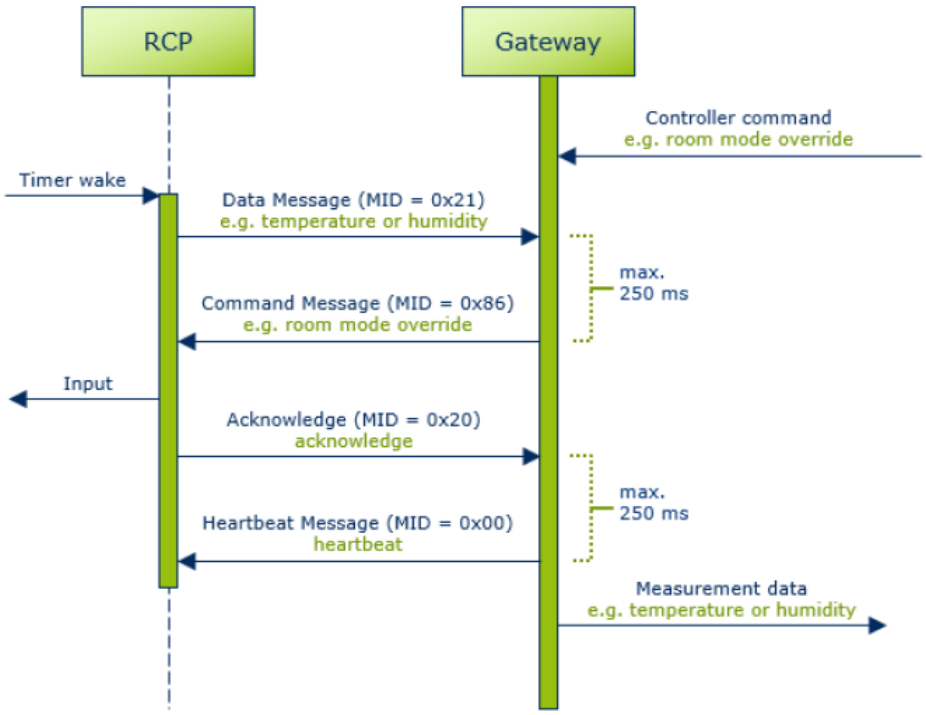


Telegram Definition **TYPE 30 ff**

Normal operation: Measurement data update, without further ado. (communication trigger: time wake)



Measurement data update, followed by a command message send by a gateway (communication trigger: time wake)



RORG	D2	**VLD Telegram**
FUNC	10	Room Control Panels with Temperature & Fan Speed Control, Room Status Information and Time Program
TYPE	02	Type 0x02

Submitter: Kieback&Peter GmbH & CO KG

General Message

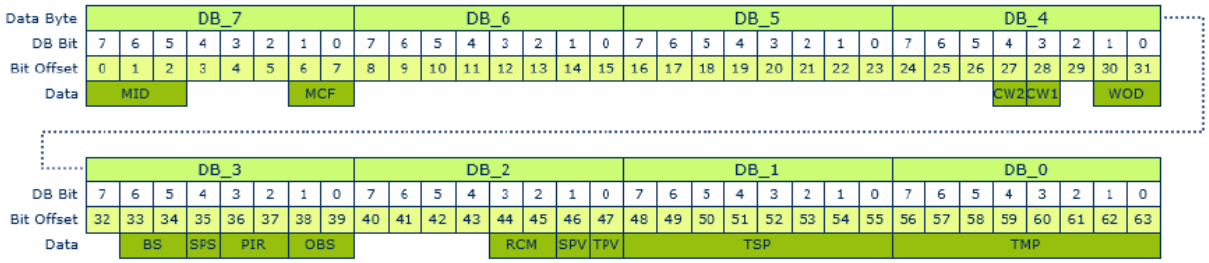
TYPE 02 Message ID **0** - General Message

Data Byte	DB_1								DB_0							
DB Bit	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
Bit Offset	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Data	MID						MCF				IRC			FBC		GMT

Offset	Size	Data	ShortCut	Description	Valid Range	Scale	Unit
0	3	Message identifier	MID	Defines the type of message	Enum: 0: General Message		
3	3	Not Used (= 0)					
6	2	Message continuation flag	MCF	Indicates if another telegram has to be expected or if the message is complete	Enum: 3: Reserved 2: Automatic message control 1: Incomplete 0: Complete		
8	2	Not Used (= 0)					
10	3	Information request classifier	IRC	Defines the type of information request	Enum: 7: Reserved 6: Reserved 5: Reserved 4: Time program request 3: Room control setup request 2: Configuration request 1: Data request 0: Acknowledge request		
13	2	Feedback classifier	FBC	Defines the type of feedback	Enum: 3: Reserved 2: Message repetition request 1: Telegram repetition request 0: Acknowledge / heartbeat		
15	1	General message type	GMT	Indicates if the general message is a feedback or an information request	Enum: 1: Information request 0: Feedback		

Data Message

TYPE 02 Message ID **1** - Data Message



Offset	Size	Data	ShortCut	Description	Valid Range	Scale	Unit
0	3	Message identifier	MID	Defines the type of message	Enum: 1: Data Message		
3	3	Not Used (= 0)					
6	2	Message continuation flag	MCF	Indicates if another telegram has to be expected or if the message is complete	Enum: 3: Reserved 2: Automatic message control 1: Incomplete 0: Complete		
8	8	Not Used (= 0)					
16	1	Not Used (= 0)					
17	7	Not Used (= 0)					
24	1	Not Used (= 0)					
25	1	Not Used (= 0)					
26	1	Not Used (= 0)					
27	1	Custom warning 2	CW2	Flag for an application specific warning	Enum: 1: True 0: False		
28	1	Custom warning 1	CW1	Flag for an application specific warning	Enum: 1: True 0: False		
29	1	Not Used (= 0)					
30	2	Window open detection	WOD	Indicates if an open window is detected	Enum: 3: Reserved 2: Open 1: Closed 0: No change		
32	1	Not Used (= 0)					
33	2	Battery status	BS	Battery status	Enum: 3: Critical 2: Low 1: Good 0: No change		
35	1	Solar-powered status	SPS	Indicates if the device is powered by its solar cell	Enum: 1: Not solar-powered 0: Solar-powered		

36	2	PIR status	PIR	Indicates if the PIR detected a movement	Enum: 3: Locked 2: Movement detected 1: No movement detected 0: No change		
38	2	Occupancy button status	OBS	Indicates if the occupancy button was pressed and its occupancy status	Enum: 3: Reserved 2: Button pressed and unoccupied 1: Button pressed and occupied 0: No change		
40	2	Not Used (= 0)					
42	2	Not Used (= 0)					
44	2	Room control mode	RCM	Recent room control mode	Enum: 3: Building protection 2: Pre-comfort 1: Economy 0: Comfort		
46	1	Temperature set point validity	SPV	Indicates if the temperature set point value is valid	Enum: 1: Valid value 0: No change		
47	1	Temperature validity	TPV	Indicates if the temperature value is valid	Enum: 1: Valid value 0: No change		
48	8	Temperature set point	TSP	Recent temperature set point	0...255	0...+40	°C
56	8	Temperature	TMP	Recent room temperature	0...255	0...+40	°C

Configuration Message

TYPE 02 Message ID **2** - Configuration Message

Data Byte	DB_7								DB_6								DB_5								DB_4							
DB Bit	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
Bit Offset	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Data	MID						MCF		PSL		DCL	DTL	TPL	OBL			RCI								DC			TS		DST	TN	

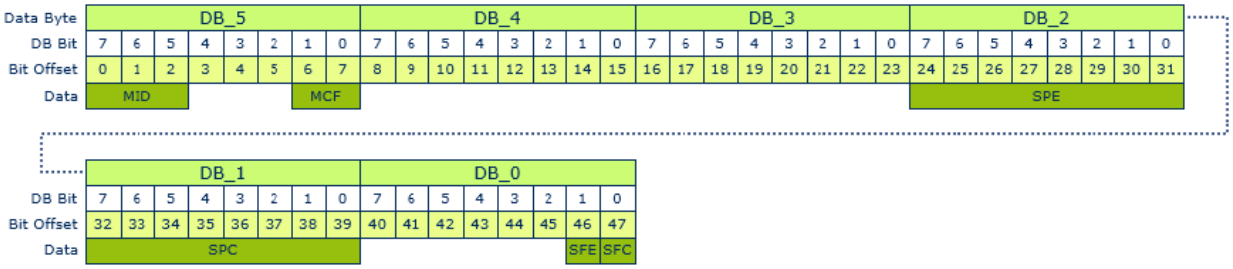
Data Byte	DB_3								DB_2								DB_1								DB_0							
DB Bit	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
Bit Offset	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Data	DAY					MON			YR								MIN								HR							DTU

Offset	Size	Data	ShortCut	Description	Valid Range	Scale	Unit
0	3	Message identifier	MID	Defines the type of message	Enum: 2: Configuration Message		
3	3	Not Used (= 0)					
6	2	Message continuation flag	MCF	Indicates if another telegram has to be expected or if the message is complete	Enum: 3: Reserved 2: Automatic message control 1: Incomplete 0: Complete		
8	1	PIR status lock	PSL	Indicates if the PIR status is transmitted or kept inside the room control panel	Enum: 1: Unlocked 0: Locked		
9	1	Not Used (= 0)					
10	1	Display content lock	DCL	Indicates if the display content can be changed at the room control panel	Enum: 1: Unlocked 0: Locked		
11	1	Date / time lock	DTL	Indicates if date and time can be changed at the room control panel	Enum: 1: Unlocked 0: Locked		
12	1	Time program lock	TPL	Indicates if the time program can be changed at the room control panel	Enum: 1: Unlocked 0: Locked		
13	1	Occupancy button lock	OBL	Indicates if the occupancy status can be changed at the room control panel	Enum: 1: Unlocked 0: Locked		
14	1	Not Used (= 0)					
15	1	Not Used (= 0)					
16	6	Radio communication interval	RCI	Defines the longest time between two consecutive telegrams (clock-based communication)	Enum: 63: 24 hours 62: 12 hours 61: 3 hours 1...60: 1...60 min 0: No communication interval		
22	1	Not Used (= 0)					
23	1	Not Used (= 0)					

24	3	Display content	DC	Defines the main display content	Enum: 7: Humidity 6: Display off 5: Temperature set point 4: Room temperature (external) 3: Room temperature (internal) 2: Time 1: Default 0: No change		
27	2	Temperature scale	TS	Defines the used temperature scale for the room control panel display and menus	Enum: 3: ° Fahrenheit 2: ° Celsius 1: Default 0: No change		
29	1	Daylight saving time flag	DST	Indicates if daylight saving time is supported	Enum: 1: Not supported 0: Supported		
30	2	Time notation	TN	Defines the used time notation	Enum: 3: 12 h 2: 24 h 1: Default 0: No change		
32	5	Day	DAY	Date format: YYYY/MM/DD	1...31	1...31	day
37	4	Month	MON	Date format: YYYY/MM/DD	1...12	1...12	mon
41	7	Year	YR	Date format: YYYY/MM/DD year = 2000 + x	0...127	2000...2127	year
48	6	Minute	MIN	Time format: hh:mm	0...59	0...59	min
54	2	Not Used (= 0)					
56	5	Hour	HR	Time format: hh:mm	0...23	0...23	h
61	2	Not Used (= 0)					
63	1	Date / time update flag	DTU	Indicates if an update of date or time is provided	Enum: 1: Update 0: No update		

Room Control Setup

TYPE 02 Message ID 3 – Room Control Setup



Offset	Size	Data	ShortCut	Description	Valid Range	Scale	Unit
0	3	Message identifier	MID	Defines the type of message	Enum: 3: Room Control Setup		
3	3	Not Used (= 0)					
6	2	Message continuation flag	MCF	Indicates if another telegram has to be expected or if the message is complete	Enum: 3: Reserved 2: Automatic message control 1: Incomplete 0: Complete		
8	8	Not Used (= 0)					
16	8	Not Used (= 0)					
24	8	Temperature set point economy mode	SPE	Temperature set point economy mode	0...255	0...+40	°C
32	8	Temperature set point comfort mode	SPC	Temperature set point comfort mode	0...255	0...+40	°C
40	4	Not Used (= 0)					
44	1	Not Used (= 0)					
45	1	Not Used (= 0)					
46	1	Temperature set point flag economy mode	SFE	Indicates if a temperature set point for the economy mode is provided	Enum: 1: Valid value 0: No change		
47	1	Temperature set point flag comfort mode	SFC	Indicates if a temperature set point for the comfort mode is provided	Enum: 1: Valid value 0: No change		