

M-bus decoding table for m-bus thermometer MBPT-2

Device sends variable data structure telegram. It complies with basic requirements of m-bus, which are:

REQ_UD2 ->RSP_UD

SND_NKE -> 0xE5 (Acknowledgement)

RSP_UD format and explain:

Byte No.	Byte value, HEX	Explanation	Note
1	0x68	START BYTE	
2	0x1C	LENGTH = (TOTAL BYTES – 6)	
3	0x1C	LENGTH = (TOTAL BYTES – 6)	
4	0x68	START BYTE	
Information fields			
5	0x08	C-Field (Control field)	
6	0x01	Primary Address	Address is 1
7	0x72	CI-field (Control Information field)	
MAIN HEADER			
8	0x01	ID 1 st byte (LSB), in BCD	ID number is 16179001
9	0x90	ID 2 nd byte, in BCD	
10	0x17	ID 3 rd byte, in BCD	
11	0x16	ID 4 th byte (MSB), in BCD	
12	0x2E	Manufacturer 1 st byte	Encoded due to m-bus standard
13	0x1D	Manufacturer 2 nd byte	
14	0x82	Access number	
15	0x00	Main Medium measured	= Other, since temperature can not be Main medium
16	0x01	Version of the device	
17	0x02	STATUS byte*	See * note
18	0x00	SIG 0	Reserved
19	0x00	SIG 1	Reserved
FIRST DATA TELEGRAM			
20	0x04	DIF	Data is 4-bytes signed HEX
21	0x66	VIF	Data is "External temp.", measured in 10 ⁻¹ °C
22	0xCC	Data LSB	Value is 0x000000CC This is 204 decimal, x10 ⁻¹ = 20.4 °C
23	0x00		
24	0x00		
25	0x00	Data MSB	
SECOND DATA TELEGRAM			
26	0x84	DIF	Data is 4-bytes signed HEX, extension exists
27	0x40	Extension of DIF (storage number)	
28	0x66	VIF	Data is "External temp.", measured in 10 ⁻¹ °C
29	0x03	Data LSB	Value is 0x00000503. This is 1283 decimal, x10 ⁻¹ = 128.3 °C**
30	0x05		
31	0x00		
32	0x00	Data MSB	
CRC and END			
33	0x71	CRC, this is SUM of all bytes before CRC, except START and LENGTH bytes	
34	0x16	STOP Byte	End of telegram

*STATUS byte is used to code if there are errors to the inputs. It uses the two least significant bits for this:

Bit 0 - if set means ERROR on INPUT 1
Bit 1 - if set, means ERROR on INPUT 2
Bit 2 – Bit 7 - reserved for future use

**if error on the input – value is the maximal one, i.e. 128.3 degrees Celsius and not valid.