eBUS Specification

Application Layer – OSI 7

Vaillant specific extensions

V0.3.0

2010-03

Content

1 General

1.1 Disclaimer

This document has been created by collecting the information of users of Vaillant eBUS heating systems. It is not an official specification revealed or approved by any company.

All use of this information is on your own risk!

2 Vaillant Addresses

2.1 Master Addresses

Address	Priority	Master	Description
10h			Main Control Unit: • VRS620 (auroMATIC 620)
3F			Burner

2.2 Slave Addresses

Address	Slave	Description
23h		
25h		
26h		Outside temperature sensor (including DCF77 clock)
50h		
ECh		

3 Vaillant Commands (Service B5h)

3.1 B5h 04h - Get Data Block

The **Get Data Block** command is used for requesting data from other devices.

Compared to the eBUS protocol specification, it seems that this command is used in some specific way:

- The master always sends exactly one parameter byte (M6) which can be seen as an extension of the primary command byte (PB) and the secondary command byte (SB).
- Some commands are defined in a general way so that the content of the answer may depend on the target address (see Block 0Dh)

VRS620 specific:
The VRS620 seems to use this command very strongly, even if it is not connected to many other devices: Only Block00h is a real communication to an externally connected device (outside temperature sensor combined with a receiver for DCF77 time signal). All other commands can be observed on the eBUS even if there is no additional device connected (no mixer, no burner unit with eBUS-interface). It seems that the This makes it possible to get most of the important status information by using a read-only interface to the PC. Using this solution there is more or less no influence to the system behavior of the VRS620.

3.1.1 Block 00h - Date/Time

Name:	Get Data Block Date/Time (B5h 04h – Block 00h)

Description:
Comm. Load:

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					
M2	ZZ	Target address					
M3	PB = B5h	Vaillant command					
M4	SB = 04h	Get Data Block					
M5	NN = 01h	Length of data					
M6	DB = 00h	Block 00h (Date/Time)					
M7	CRC						
S1	ACK						
S2	NN = 0Ah	Length of data					
S3	00h 01h 02h 03h	DCF77 status: no receiption receiption synchronized data valid			BYTE		
S4	ss	Seconds	Sec	0..59	BCD		
S5	min	Minutes	Min	0..59	BCD		
S6	hh	Hours	Hour	0..59	BCD		
S7	dd	Day		1..31	BCD		
S8	mm	Month		1..12	BCD		
S9	ww	Weekday		1..7	BCD		
S10	yy	Year		0..99	BCD		
S11	TA_L	Outside temperature	°C	-50,0 – 50,0	DATA2b [1/256]		
S12	TA_H						
S13	CRC						
M8	ACK						
M9	SYN						

3.1.2 Block 01h - Unknown

Name:	Get Data Block Unknown (B5h 04h – Block 01h)

Description:
Comm. Load:

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					10h
M2	ZZ	Target address					26h
M3	PB = B5h	Vaillant command					B5h
M4	SB = 04h	Get Data Block					04h
M5	NN = 01h	Length of data					01h
M6	DB = 01h	Block 01h					01h
M7	CRC						D8h
S1	ACK						00h
S2	NN = 09h	Length of data					09h
S3							19h
S4							04h
S5							00h
S6							00h
S7							02h
S8							05h
S9							00h
S10							00h Heiz. Timer off 01h Heiz.Timer on
S11							00h
S12	CRC						2Ch
M8	ACK						00h
M9	SYN						AAh

3.1.3 Block 09h – Unknown

Name:	Get Data Block Unknown (B5h 04h - Block 09h)

Description:	This command regularly is sent to all slaves
Comm. Load:	

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					VRS620
M2	ZZ	Target address					23h 25h 26 50 EC
M3	PB = B5h	Vaillant command					B5h B5h
M4	SB = 04h	Get Data Block					04h 04h
M5	NN = 01h	Length of data					01h 01h
M6	DB = 09h	Block 09h					09h 09h
M7	CRC						CEh DAh
S1	ACK						00h 00h
S2	NN = 0Ah	Length of data					0Ah 0Ah
S3							14h 37h
S4							00h 00h
S5							00h 00h
S6							00h 00h
S7							06h 03h
S8							16h 16h
S9							00h 00h
S10							0Fh 0Fh
S11							4Bh 5Ah
S12							00h 00h
S13	CRC						80h 4Eh
M8	ACK						00h 00h
M9	SYN						AAh AAh

3.1.4 Block 0Ah – Unknown

Name:	Get Data Block Unknown (B5h 04h - Block 0Ah)

Description:
Comm. Load:

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					VRS620
M2	ZZ	Target address					23h 25h 26h
M3	PB = B5h	Vaillant command					B5h B5h B5h
M4	SB = 04h	Get Data Block					04h 04h 04h
M5	NN = 01h	Length of data					01h 01h 01h
M6	DB = 09h	Block 09h					0Ah 0Ah 0Ah
M7	CRC						CDh D9h D3h
S1	ACK						00h 00h 00h
S2	NN = 0Ah	Length of data					06h 06h 06h
S3							00h 8Dh B6h
S4							80h 03h 01h
S5							00h 00h 00h
S6							00h 00h 00h
S7							00h 00h 00h
S8							00h 00h00h
S9	CRC						
M8	ACK						00h 00h 00h
M9	SYN						AAh AAh AAh

3.1.5 Block 0Bh – Unknown

Name:	Get Data Block Unknown (B5h 04h - Block 0Bh)

Description:
Comm. Load:

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					VRS620
M2	ZZ	Target address					25h
M3	PB = B5h	Vaillant command					B5h
M4	SB = 04h	Get Data Block					04h
M5	NN = 01h	Length of data					01h
M6	DB = 09h	Block 09h					0B
M7	CRC						D8h
S1	ACK						00h
S2	NN = 0Ah	Length of data					04h
S3							00h
S4							05h
S5							00h
S6							00h
S9	CRC						
M8	ACK						00h
M9	SYN						AAh

3.1.6 Block 0Dh– Unknown

Name:	**Get Data Block Unknown (B5h 04h - Block 0Dh)**

Description:	This command regularly is sent to all slaves It seems that the target address defines the data being reported.
Comm. Load:	

Master/ Slave Byte-No.	**Abbrev.**	**Description**	**Unit**	**Range**	**Type/ [Res.]**	**Repl. Value**	**Note**	
M1	QQ	Source address					VRS620	VRS620
M2	ZZ	Target address					26h	25h
M3	PB = B5h	Vaillant command					B5h	B5h
M4	SB = 04h	Get Data Block					04h	04h
M5	NN = 01h	Length of data					01h	01h
M6	DB = 0Dh	Block 0Dh					0Dh	0Dh
M7	CRC						D4h	DE
S1	ACK						00h	00h
S2	NN = 05h	Length of data					05h	05h
S3							00h	00h
S4							00h	00h
S5-6	TW	sensor temperature	°C		DATA2c [1/16]	8000h	Vorlauftemperatur (VF1)	Boilertemperatur (SP1)
S7		Bit 0: System ON? Bit 1: Bit 2: Heating OFF? Bit 3:Heizung an (Timer)? Bit 4 Pumpe an? Bit 5: Bit 6: Bit 7:					11h Auto bzw,. Absenken 19h ON bzw.Timer 05h OFF bzw ECO	
S8	CRC							
M8	ACK						00h	00h
M9	SYN						AAh	AAh

3.1.7 Block 0Fh – Service Water

Name:	Get Data Block Service Water (B5h 04h - Block 0Fh)

Description:
Comm. Load:

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					VRS620
M2	ZZ	Target address					ECh
M3	PB = B5h	Vaillant command					B5h
M4	SB = 04h	Get Data Block					04h
M5	NN = 01h	Length of data					01h
M6	DB = 0Fh	Block 0Fh					0Fh
M7	CRC						C7h
S1	ACK						00h
S2	NN = 0Ah	Length of data					0Ah
S3-4	SP1	Service water temperature (boiler top sensor)	°C		DATA2c [1/16]		Speicherfühler (SP1)
S5-6	SP2	Service water temperature (boiler bottom sensor)	“C		DATA2c [1/16]		Speicherfühler (SP2)
S7							21h
S8							FFh
S9							21h
S10							FFh
S11	BW1	(BIT0 BW_loading?) (BIT1 BW_active?)					00h, 01h, 10h, 11h
S12	BW2	(BIT 1 BW_loading?)					00h, 02h
S13	CRC						E4h
M8	ACK						00h
M9	SYN						AAh

3.1.8 Block 10h – Unknown

Name:	Get Data Block Service Water (B5h 04h - Block 10h)

Description:
Comm. Load:

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					VRS620
M2	ZZ	Target address					ECh
M3	PB = B5h	Vaillant command					B5h
M4	SB = 04h	Get Data Block					04h
M5	NN = 01h	Length of data					01h
M6	DB = 0Fh	Block 0Fh					10h
M7	CRC						D8h
S1	ACK						00h
S2	NN = 0Ah	Length of data					0Ah
S3-4	SP1	Service water temperature (boiler top sensor)	°C		DATA2c [1/16]	8000h	Speicherfühler (SP1)
S5-6	SP2	Service water temperature (boiler bottom sensor)	“C		DATA2c [1/16]	8000h	Speicherfühler (SP2)
S7-8		Service water temperature? (boiler bottom sensor)	“C		DATA2c [1/16]	8000h	Speicherfühler? (SP3)
S9-10		Service water temperature? (boiler bottom sensor)	“C		DATA2c [1/16]	8000h	Speicherfühler? (SP4)
S11							00h
S12							80h
S13	CRC						
M8	ACK						00h
M9	SYN						AAh

3.1.9 Block 11h – Unknown

Name:	Get Data Block Unknown (B5h 04h - Block 11h)

Description:
Comm. Load:

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					VRS620
M2	ZZ	Target address					ECh
M3	PB = B5h	Vaillant command					B5h
M4	SB = 04h	Get Data Block					04h
M5	NN = 01h	Length of data					01h
M6	DB = 11h	Block 11h					11h
M7	CRC						D9h
S1	ACK						00h
S2	NN = 06h	Length of data					06h
S3							50h
S4							0Ch
S5							08h
S6							50h
S7							07h
S8							03h
S9	CRC						B2h
M8	ACK						00h
M9	SYN						AAh

3.1.10 Block 12h – Solar1

Name:	Get Data Block Solar1 (B5h 04h - Block 12h)

Description:	
Comm. Load:	Cycle rate: 1/10s

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					VRS620
M2	ZZ	Target address					ECh
M3	PB = B5h	Vaillant command					B5h
M4	SB = 04h	Get Data Block					04h
M5	NN = 01h	Length of data					01h
M6	DB = 12h	Block 12h					12h
M7	CRC						DAh
S1	ACK						00h
S2	NN = 0Ah	Length of data					0Ah
S3-4	KOL1	sun collector 1 temperature	°C		DATA2c [1/16]		Kollektorfühler (KOL1)
S5							00h, 01h 00h = Pumpe aus? 01h = Pumpe an?
S6-7	RP	Runtime solar pump	h		WORD		Laufzeit Solarpumpe in Std
S8-9	KOL2	sun collector2 temperature	°C		DATA2c [1/16]		Kollektorfühler (KOL2)
S10							00h Laufzeit2?
S11							00h Laufzeit2?
S12							00h
S13	CRC						
M8	ACK						00h
M9	SYN						AAh

3.1.11 Block 13h – Solar2

Name:	Get Data Block Solar2 (B5h 04h - Block 13h)

Description:	
Comm. Load:	Cycle rate: 1/24h or when user initiates display of data on the control.

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					VRS620
M2	ZZ	Target address					ECh
M3	PB=B5h	Vaillant command					B5h
M4	SB=04h	Get Data Block					04h
M5	NN=01h	Length of data					01h
M6	DB=13h	Block 13h					13h
M7	CRC						DBh
S1	ACK						00h
S2	NN=09h	Length of data					09h
S3-4	SG	Solar Gain	KWh		WORD		Solarertrag
S5							00h
S6							B4h
S7							00h
S8							00h
S9							01h
S10							01h
S11							03h
S12	CRC						
M8	ACK						00h
M9	SYN						AAh

3.2 B5h 05h – Burner Operational Data

Name:	Burner Operational Data (B5h 05h)

Description:	This Broadcast informs about the operational data of the burner control unit. It seems to be a Vaillant specific variant of Service 08h 01h. This command seems to exist in different flavors: • It can have different lengths (probably the content has just been extended) • It can be sent as a broadcast or it can have a target address
Comm. Load:	Cycle rate: 1/10s

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					
M2	ZZ = FEh	Target address					
M3	PB = B5h	Vaillant command					
M4	SB = 05h	Burner Operational Data?					
M5	NN = 02h	Length of data					
M6	xx = 04h xx = 29h						unknown
M7	yy = 00h						unknown
M8	CRC						
M9	SYN						

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					VRS620
M2	ZZ = FEh	Target address					
M3	PB = B5h	Vaillant command					
M4	SB = 05h	Burner Operational Data					
M5	NN = 04h	Length of data					
M6	xx = 27h	Kesselsollwert? Brauchwassersollwert?					unknown
M7		Bit0 = BW_load			BYTE		00h, 01h This bit is active when service water is loaded.
M8	VT	Lead water temperature	°C	0-89	CHAR	5Ah	Vorlauftemperatur HK1 VF1-Fühler
M9		Bit0 = BW_load			BYTE		00h, 01h This bit seems to be synchronous to M7 Bit0.
M10	CRC						
M11	SYN						

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					VRS620
M2	ZZ	Target address					ECh
M3	PB=B5h	Vaillant command					B5h
M4	SB=05h	Burner Operational Data					05h
M5	NN=07h	Length of data					07h
M6							2Bh
M7							0Fh
M8							01h
M9							00h
M10							00h
M11							05h
M12							00h
M13	CRC						ABh
M14	SYN						00h
S1							00h
S2							00h
S3							00h

Sent once per day (after midnight)

3.3 B5h 06h - Unknown Broadcast 2

Name:	Unknown Broadcast 2 (B5h 06h)

Description:
Comm. Load:

Master/ Slave Byte- No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					
M2	ZZ = FEh	Target address					Broadcast
M3	PB = B5h	Vaillant command					
M4	SB = 06h	Unknown broadcast 2					
M5	NN = 02h	Length of data					
M6	xx = 00h						unknown
M7	yy = 00h						unknown
M8	CRC						
M9	SYN						

Master/ Slave Byte- No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					
M2	ZZ = FEh	Target address					Broadcast
M3	PB = B5h	Vaillant command					
M4	SB = 06h	Unknown broadcast 2					
M5	NN = 01h	Length of data					
M6	xx = 01h						unknown
M7	CRC						
M8	SYN						

3.4 B5h 09h - Get Solar Data

Name:	**Get Solar Data Block (B5h 09h)**

Description:	The **Get Solar Data Block** command is used for requesting specific data from other solar devices.
Comm. Load:	

3.4.1 Block 0Dh - Unknown

Name:	Get Solar Data Block (Service B5h 09h - Block 0Dh)

Description:
Comm. Load:

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					
M2	ZZ	Target address					ECh
M3	PB = B5h	Vaillant command					
M4	SB = 09h	Get Solar Data Block					
M5	NN = 03h	Length of data					
M6	DB = 0Dh	Block 0Dh: Temp. Sensors					
M7	P1 = xx1h	Sensor: 00h: water basin 1] 01h: water basin 2 02h: water basin 3 03h: Collector 1 04h: Collector 2 05h: Gain	 °C °C °C °C °C °C				 SP1 SP2 SP3 Kol1 Kol2 Ertrag
M8	P2 = xx2h	Parameter 2					unknown
M9	CRC						
S1	ACK						
S2	NN = 03h	Length of data					
S3	D_L	Sensor Value			DATA2c [1/16]		
S4	D_H						
S5	00h AAH	sensor connected no sensor connected			CHAR		
S6	CRC						
M10	ACK						
M11	SYN						

3.4.2 Block 18h - Unknown

Name:	Get Solar Data Block (Service B5h 09h - Block 18h)

Description:	This command
Comm. Load:	

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					VRS620
M2	ZZ	Target address					26h
M3	PB = B5h	Vaillant command					B5h
M4	SB = 09h	Get Solar Data Block					09h
M5	NN = 01h	Length of data					01h
M6	DB = 18_h	Block 18h					18h
M7	CRC						3Fh
S1	ACK						00h
S2	NN = 0Ah	Length of data					0Ah
S3							00h
S4							00h
S5							00h
S6							00h
S7							00h
S8							00h
S9							00h
S10							00h
S11							00h
S12							00h
S13	CRC						9Fh
M8	ACK						00h
M9	SYN						AAh

3.5 B5h 10h - Operational Data from Room Controller to Burner Control Unit

Name:	**Operational Data from Room Controller to Burner Control Unit (B5h 10h)**

Description:
Comm. Load:

Master/ Slave Byte-No.	**Abbrev.**	**Description**	**Unit**	**Range**	**Type/ [Res.]**	**Repl. Value**	**Note**
M1	QQ	Source address					
M2	ZZ	Target address					
M3	PB = B5h	Vaillant command					
M4	SB = 10h	Operational Data from Room Controller to Burner Control Unit					
M5	NN = 09h	Length of data					
M6	xx_1						unknown, always 00h
M7	xx_2						unknown, always 00h
M8	LT	Lead water target temperature (Vorlauftemperatur)	°C	0 – 100	DATA1c		
M9	ST	Service water target temperature	°C	0 – 100	DATA1c		
M10	xx_3						unknown, always FFh
M11	xx_4						unknown, always FFh
M12	xx_5 = 00h = 01h = 04h = 05h = 40h = 41h = 44h = 45h				(BIT ?)		unknown
M13	xx_6						unknown, always FFh
M14	xx_7						unknown, always 00h
M15	CRC						
S1	ACK						
S2	NN = 01h	Length of data					
S3	zz = 01h	(acknowledge ?)					unknown
S4	CRC						
M16	ACK						
M17	SYN						

3.6 B5h 11h 01h - Operational Data of Burner Control Unit to Room Control Unit

Name:	**Operational Data of Burner Control Unit to Room Control Unit (B5h 11h Block 1)**

Description:
Comm. Load:

Master/ Slave Byte-No.	**Abbrev.**	**Description**	**Unit**	**Range**	**Type/ [Res.]**	**Repl. Value**	**Note**
M1	QQ	Source address					
M2	ZZ	Target address					
M3	PB = B5h	Vaillant command					
M4	SB = 11h	Operational Data					
M5	NN = 01h	Length of data					
M6	01h	Block number					
M7	CRC						
S1	ACK						
S2	NN = 09h	Length of data					
S3	VT	Lead water temperature (Vorlauf-/ Anlagentemperatur)	°C	0 – 100	DATA1c		
S4	NT	Return water temperature (Nachlauftemperatur)	°C	0 – 100	DATA1c		
S5	TA_L	Outside temperature	°C	-50,0 – 50,0	DATA2b [1/256]		
S6	TA_H						
S7	WT	(WW-Auslauftemperatur)	°C	0 – 100	DATA1c		
S8	ST	Service water temperature (WW-Speichertemperatur)	°C	0 – 100	DATA1c		
S9	vv	Bit 0: Heating Bit 1: Service Water			BIT		0 = OFF 1 = ON
S10	xx_1						unknown, always 00h
S11	xx_2						unknown, always FFh
S12	CRC						
M8	ACK						
M9	SYN						

3.7 B5h 11h 02h - Operational Data of Burner Control Unit to Room Control Unit

Name:	**Operational Data of Burner Control Unit to Room Control Unit (B5h 11h Block 2)**

Description:
Comm. Load:

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					
M2	ZZ	Target address					
M3	PB = B5h	Vaillant command					
M4	SB = 11h	Operational Data					
M5	NN = 01h	Length of data					
M6	02h	Block number					
M7	CRC						
S1	ACK						
S2	NN = 05h	Length of data					
S3	xx_1						unknown, always 03h
S4	xx_2						unknown, always 3Ch
S5	xx_3						unknown, always 96h
S6	xx_4						unknown, always 46h
S7	ST	Service water target temperature	°C	0 – 100	DATA1c		
S8	CRC						
M8	ACK						
M9	SYN						

3.8 B5h 12h - Unknown Command

Name:	**Unknow command [ping] (B5h 12h)**

Description:
Comm. Load:

Date/Time:

Master/ Slave Byte-No.	**Abbrev.**	**Description**	**Unit**	**Range**	**Type/ [Res.]**	**Repl. Value**	**Note**
M1	QQ	Source address					
M2	ZZ	Target address					
M3	PB = B5h	Vaillant command					
M4	SB = 12h	Unknown command [ping ?]					
M5	NN = 02h	Length of data					
M6	xx	?					
M7	yy	?					
M8	CRC						
S1	ACK						
S2	NN = 00h	Length of data					
S3	CRC						
M9	ACK						
M10	SYN						

The following cases were observed:

- Heater Controller (Master 10h) → Firing Automat 1 (Slave 08h): xx = 00h, yy = 00h
  xx = 00h, yy = 64h
- Firing Automat 1 (Master 03h) → Pump 1 (Slave 64h): xx = 02h, yy = 00h
  xx = 02h, yy = 64h
  xx = 02h, yy = FEh
- Firing Automat 1 (Master 03h) → PC/ Modem (Slave 05h): xx = 03h, yy = 00h

3.9 B5h 16h 00h - Broadcast Service

Name:	Broadcast Service (B5h 16h)

Description:
Comm. Load:

Date/Time:

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					
M2	ZZ = FEh	Target address					Broadcast
M3	PB = B5h	Vaillant command					
M4	SB = 16h	Broadcast Service					
M5	NN = 08h	Length of data					
M6	00h	Broadcast Date/Time					
M7	ss	Seconds	Sec	0..59	BCD		
M8	min	Minutes	Min	0..59	BCD		
M9	hh	Hours	Hour	0..59	BCD		
M10	dd	Day		1..31	BCD		
M11	mm	Month		1..12	BCD		
M12	ww	Weekday		1..7	BCD		
M13	yy	Year		0..99	BCD		
M14	CRC						
M15	SYN						

3.10 B5h 16h 01h - Broadcast Service

Name:	Broadcast Service (B5h 16h)

Description:
Comm. Load:

Outside Temperature:

Master/ Slave Byte-No.	Abbrev.	Description	Unit	Range	Type/ [Res.]	Repl. Value	Note
M1	QQ	Source address					
M2	ZZ = FEh	Target address					Broadcast
M3	PB = B5h	Vaillant command					
M4	SB = 16h	Broadcast Service					
M5	NN = 03h	Length of data					
M6	01h	Broadcast outside temperature					
M7	TA_L	Outside temperature	°C	-50,0 – 50,0	DATA2b [1/256]		
M8	TA_H						
M14	CRC						
M15	SYN						

4 History

2010-03-18	V0.3.0	3.1 Service B5h 04h added general description 3.1.4 Service B5h 04h Block 0Ah: added 3.1.5 Service B5h 04h Block 0Bh: added 3.1.6 Service B5h 04h Block 0Dh: added lead temperature and status bits 3.1.7 Service B5h 04h Block 0Fh: renamed to “Service Water” 3.1.8 Service B5h 04h Block 10h: added” 3.1.10 Service B5h 04h Block 12h: renamed to “Solar1” confirmed S6-7 Runtime solar pump added S8-9 temperature KOL2 3.1.11 Service B5h 04h Block 13h: added as “Solar2” 3.2 Service B5h 05h added new variant (not a broadcast)
2010-03-07	V0.2.0	3.1.5 Service B5h 04h Block 0Fh: added boiler temperatures SP1 and SP2 added hypothesis for S6-7 3.1.7 Service B5h 04h Block 12h: added collector temperature KOL1
2010-03-01	V0.1.0	Introduced version number Added chapter for typical Vaillant addresses Added additional B5h 04h commands EXpanded B5h 05h command Added B5h 09h command
2009-09-30		Added parameter name for S4 at Service B5h 11h Block 1.
2009-09-29		Initial release.