

ZBS-171

Interface Control Document

History:

DVers.:	Date	Author	Change	State
1.00	04.12.2015	PI-MH	Born	

Direction from Coordinator	Syntax	Parameter	Description	Example
I	GET	./.	(no single parameter possible) Get bulk sensor information telegram from ZBS module	see below
		MB1	The value of the ModBus-adress-register is adjusted on position 1 (0..65535)	MB1=13579
		MB2	The value of the ModBus-adress-register is adjusted on position 2 (0..65535)	MB2=2468
		MB3	The value of the ModBus-adress-register is adjusted on position 3 (0..65535)	MB3=1234
		MB4	The value of the ModBus-adress-register is adjusted on position 4 (0..65535)	MB4=1
		MB5	The value of the ModBus-adress-register is adjusted on position 5 (0..65535)	MB5=159
		MB6	The value of the ModBus-adress-register is adjusted on position 6 (0..65535)	MB6=6543
		MB7	The value of the ModBus-adress-register is adjusted on position 7 (0..65535)	MB7=21

		MB8	The value of the ModBus-adress-register is adjusted on position 8 (0..65535)	MB8=0
I	DEV	./.	(no single parameter possible) Get bulk device information telegram from ZBS module	see below
		PID	Product Identification	PID=ZBS-171
		HW	Hardware Version	HW=0100
		SW	Software Version	SW=0100
		SN	Serial Number, also used as node identifier in XBee module, max. 12 bytes	SN=00012345
		ID	ID for customer´s purpose, max. 12 bytes	ID=0815BZ4711
		ST	Cause of DEV telegram 1 = DEV command 2 = Push button 4 = Device reset 8 = PAN connect 16 = Heartbeat <u>Note:</u> Concurrent causes are added to one value (e.g. Device reset and PAN connect → ST=12)	ST=16
EV	TX telegram counter (repeatedly counts up to 65535 and restarts from 0)	EV=12		

O	SET	TXT	TX Time in [s] (1..65000), default: 60	SET TXT=1800
O	SET	MBPROT	Set the protocol type for the ModBus position settings [position in the GET- message, protocol type(0- ASCII, 1-RTU)]	SET MBPROT=1, 0
O	SET	MBADDR	Set the station address for the ModBus position settings [position in the GET- message, decimal station address]	SET MBADDR=2, 123
O	SET	MBFUNC	Set the function code for the ModBus position settings [position in the GET- message, function code[1..3]]	SET MBFUNC=3, 3
O	SET	MBREG	Set the register address for the ModBus position settings [position in the GET- message, decimal register address]	SET MBREG=4, 3035
O	SET	MBACT	Activate/Deactivate the ModBus position [position in the GET-message, 1(Activate)/0(Deactivate)]	SET MBACT=
O	READ	MBSET	Read the stored settings for the ModBus position [1..8]	READ MBSET=1

I	./.	Stored settings for the requested Modbus position	Separate message for READ MBSET=x result	MB2_ACT=0 MB2_ADDR=1E MB2_PROT=1 MB2_FNCT=03 MB2_REG=159
O	SET	MBRTU	Send a RTU-protocol ModBus-Message Message must be without CRC! [2 character hexadecimal station address, 2 character hexadecimal function code, hexadecimal data]	SET MBRTU=1E,03,123A
O	SET	MBASCII	Send a ASCII-protocol ModBus-Message Message must be without CRC!	SET MBASCII=1E,03,123A
I	./.	MBANSWER	The answer to the commands MBRTU or MBASCII	MBANSWER=452EDF65
O	SET	HBEAT	Heartbeat Interval in [s] (1..65000), 0 means no heartbeat, default 0, sends DEV telegram	SET HBEAT=3600
O	SET	LD0	An action of the green LED triggers [reiterations, duration on * 100ms, duration off * 100ms]	SET LD0=10,4,1

O	SET	LD1	An action of the orange LED triggers [repetitions, duration on * 100ms, duration off * 100ms]	SET LD0=10,4,1
O	RESET	./.	Resets and associates device to the network	RESET
O	DEFAULTS	./.	Loads factory defaults	DEFAULTS
O	!#*	ID	Sets ID (default is the serial number)	!#*ID=1234567890
O	!#*	B1	Prepares for firmware update	!#*B1
O	!#*	B2	Erases flash and wait for updates	!#*B2
O	!#*	WRITE	Writes XBee register directly	!#*WRITE=SPG (writes '0x67' to 'sp' register)
O	!#*	READ	Reads XBee register directly	!#*READ=NP
I	./.	Register name and value	Separate message for READ result	NP='0x00''0x54'
O	!#*	REG1	Reads the first part of the ZBS settings	!#*REG1
I	./.		Separate message for REG1 result	TXT=60 HBEAT=0

Communication Facts & Features

- Communication Mode Xbee-Module: API
- All incoming messages must be terminated with linefeed character (0x0a)
- All outgoing messages are terminated with double linefeed character
- Maximum incoming message length: 24 bytes including linefeed
- Device acknowledges positive and negative:
 - SET TXT=480 ...will lead to... ack: set txt=480
 - SET TXR=480 ...will lead to... nack: set txr=480
- Alerts are getting transmitted immediately after measurement interval "MSI", no matter if TX interval time "TXT" is reached or not
- Motion detection messages are getting transmitted immediately

Firmware Update will affect

- Firmware
- SW-Version
- PID (product identification)

Firmware Update will NOT affect

- HW-Version
- ID
- SN