



ZBS-114

Interface Control Document

History:

DVers.:	Date	Author	Change	State
1.00	29.04.2015	PI-MH	./.	1 st Release

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Direction from Coordinator	Syntax	Parameter	Description	Example
I	GET	./.	(no single parameter possible) Get bulk information package.	see below
		POW	Relay Status	POW=ON
		AO	Actual analog output [V]	AO=1.2V
		PWMF	Frequency of the actual PWM output [Hz]	PWMF=345Hz
		PWMDC	Duty cycle of the actual PWM output [%]	PWMDC=67%
I	DEV	./.	(no single parameter possible) Get bulk device information package from ZBS module	see below
		PID	Product Identification	PID=ZBS-114
		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
		UB	Inform about the user settable Byte	UB=8

		ST	<p>Inform about the reason of the device information package</p> <p>1 = dev command 2 = function button pressed once 4 = device reset 8 = connect to a PAN 16 = heartbeat</p> <p>Several reasons at the same time will added to one value (e.g. reset and PAN connect → ST=12)</p>	ST=16
		EV	Count the send events up to 65535	EV=12
0	SET	POW	Sets or resets the relay [ON/OFF] , default OFF	SET POW=OFF
0	SET	AO	Set the analog output voltage in [V] (0.0..10.0), default 0.0	SET AO=1.2
0	SET	PWMF	Set the frequency of the PWM Output in [Hz] (0 or 20..5000), default 0	SET PWMF=345
0	SET	PWMDC	Set the duty cycle of the PWM output in [%] (0..100), default 0	SET PWMDC=67
0	SET	LD0	An action of the green LED triggers [cycles, duration on * 100ms, duration off * 100ms]	SET LD0=10, 4, 1

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O	SET	LD1	An action of the red LED triggers [cycles, duration on * 100ms, duration off * 100ms]	SET LD1=15,1,4
O	SET	HBEAT	Heartbeat Interval in [s] (1..65000), 0 means no heartbeat, default 0	SET HBEAT=3600
O	RESET	./.	Resets and associates device to the network	RESET
O	DEFAULTS	./.	Loads factory defaults	DEFAULTS
O	!#*	ID	Sets ID (operator / user only)	!#*ID=1234567890
O	!#*	B1	Prepares for firmware update	!#*B1
O	!#*	B2	Erases flash and updates firmware	!#*B2
O	!#*	UB	Set the user byte	!#*UB=8
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 ZBS settings	!#*REG1

I	./.		Separate message for REG1 result	HBEAT=0 AO=1.2 PWMF=345 PWMDC=67
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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 POW=OFF ...will lead to... ack: set pow=off
 - SET AO=4,5 ...will lead to... nack: set ao=4,5

Firmware Update will affect

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

Firmware Update will NOT affect

- HW-Version
- ID
- SN