Communication protocol

The sensors operate in a question-answer mode. The maximum response time is 50 ms.

Communication bus	RS-485	
Range of addresses	"A" to "Z"	(26 addresses) – addresses for the temp. sensor
C C	"a" to "z"	(26 addresses) – addresses for the humidity sensor
Communication	. ASCII, de	scribed below
Response time	. max. 50 r	ns for a command
Max. delay between characters	. max. 10 r	ns to type one character of a command
Speed	. 9600 bau	d
Data bits	. 8	
Parity	. none	
Stop bits	.1	

Temperature reading

Function	Command syntax	Example
Temperature request	T <address>I</address>	TAI
Answer from sensor (all OK)	* <address><temp><cr></cr></temp></address>	*A+025.51C
Answer from sensor (error)	* <address>Err<cr></cr></address>	*AErr

<address> is a character from "A" .. "Z" with exception of "T", <CR> is the 0xD or 13 dec - end of line, <temp> has the format *A+025.5C or *A+025.55C .

Humidity reading

Function	Command syntax	Example
Humidity request	T <address>I</address>	Tal
Answer from sensor (all OK)	* <address><humidity><cr></cr></humidity></address>	*a048.19%
Answer from sensor (error)	* <address>Err<cr></cr></address>	*aErr

<address> is a character from "a" .. "z" with exception of "t", <CR> is the 0xD or 13 dec - end of line,

<humidity> has the format *a048.198 .

Device identification

Function	Command syntax	Example
Device type request	T <address>?</address>	TA?
Answer from sensor (all OK)	* <address><identificat><cr></cr></identificat></address>	*ATHMP 2
<identificat> HTem zHTen</identificat>	p-485 (temp. sensor)	HMP 2" TMP 2"

Note: Number 2 gives the FW version of the sensor.

Sensor address setup

This function works only in case that the sensor has set the jumpers at the combination <u>"Adr by</u> <u>SETUP</u>". If the address is set by jumpers manually, the sensor ignores the command.

At the RS-485 line must be just one sensor, to be set, otherwise there will be a collision.

Function	Command syntax	Example
Address change	T# <new address=""></new>	T#A
Answer from sensor (all OK)	* <new address="">OK<cr></cr></new>	*AOK
Answer from sensor (error)	* <old address="">Err<cr></cr></old>	*BErr

<address> is a character from "A" .. "Z" and "a" .. "z" with exception of "T" <CR> is the 0xD or 13 dec - end of line,

Note: You are setting **HTemp-485** address, which uses two addresses (one for temperature sensor, second for humidity sensor). By this command you only set the address in this form: capital letter, second address (same letter, but small) is set automatically.

Notes

- If the device does not answer in the terminal mode, the cause must be the typing delay between the character. If you send the commands from the keyboard by typing them, because the delay between characters is too long then the sensor does not admit this kind of command. We recommend you to prepare the commands as sequences at "makro" and send them at once. The following figures show where you can find the makro in the recommended software Hercules and Terminal.
- If you set the address with the command "T#A", that contains in it the character "#", is necessary to write two times this character, because this character is used very often in makro to insert decimal values of characters.

爘 Hercules SETUP utility by HW.cz	
UDP Setup Serial TCP client TCP server UDP Test mode About	
Recieved/Sent data	Carial
	▲ Name
######################################	COM2 V
#********* FW version: 1.02 *********#	
	Baud
T: Device address: A/a	9600 🔳
	Data size
Actual temperature: +22.49°C	8 💌
Actual numicity: 39.29%	Parity
CT: Temperature calibration (CTR for calibration reset)	none
Actual cal. constant: -0.01°C	Handshake
CH: Humidity calibration (CHR for calibration reset)	Mode
Actual cal. constant: -0.01%	Free T
D: Outgoing delay (O=disable): Os	
Y. Evit setun	
A. BAIC SCOUP	🔗 Open
########### www.HW-group.com ####################################	
	HWg FW update
HTEMP485>	
Modem lines	
O CO O TH O DOD O LTS T DTR T RT	3
T##A File File File File File File File File	
	group
TAI HEX Send	WV.HW-group.com
	Iercules SETUP utility
	Version 2.6.7

🛃 Terminal v1.	.9b - 20041226 - by Br@y++
Disconnect HeScan Help About. Quit	CDM Port Baud rate Data bits Parity Stop bits Handshaking 1 6 600 14400 57600 5 none 1 6 none 1 7 Radshing 1 7 RTS/RTS 6 1 7 RTS/RTS 7 RTS/RTS 2 4 7 C 8 1 5 C NM/0FF C XNM/X0FF C 1.5 C XNM/X0FF C 8 C space C 2 C RTS/or TX
Set font A	uto Dis/Connect
	ResetCounter 0 🗢 Counter = 0 C HEX 🔽 Dec 🔽 Bin Stantog Scotog
#ATHMP 2 #ATHMP 2 #ATHMP 2 #ATHMP 2 #aHTMP 2 #aHTMP 2 #a039.69% *A+021.37C *a039.69% *A+021.37C	▲ 32 ▲ 50 ▲ 00110010 ▲ 32 ↓ 49 22 ↓ 46 00110110 33 51 00110011 37 55 00110111 43 67 001001101 43 67 001001101 24 ↓ 42 001001101 2010001 ↓ 30 ↓ 10 ↓ 10
	SendFile CR=CR+LF DTR RTS
Set Macros	M1 M2 M3 M4 M5 M6 M7 M8 M9 M10 M11 M12
TaI TaI TaI	-> Send
1	