RS232 Communication protocol for AAG_CloudWatcher (Part 2)

This document contains the alterations to the RS232 communication protocol when using firmware version 3.xx.

Command C!

Command **C!** which is the command to get values contains 3 blocks of information plus the handshake block (i.e. a total of 4 blocks).

Sent	**Received**			
Command	No of Blocks	Total no. of characters	Block Content	Meaning
C!	4	60	1st block: !6 xxxx 2nd block: !4 xxxx 3rd block: !5 xxxx 4th block: ! ¶	1st block: xxxx Zener voltage 2nd block: xxxx LDR voltage 3rd block: xxxx Rain Sensor Temperature 4th block: Handshaking block

Note that block **!3** ***Ambient Temperature*** has disappeared seeing that this sensor is not installed in the units with firmware version 3.xx.

The ambient temperature corresponds to sensor temperature which is obtained using command **T!**

New commands to read information stored in the microprocessor non-volatile memory

The units with firmware versions 3.xx have information stored in the microprocessor non-volatile memory. This information corresponds to the serial number and the values of the electrical constants.

Command K!

This command will get a reply **!Kxxxx** where **xxxx** is the serial number. Note that the 1st character of the serial number starts immediately after **!K** (this is an exception to the general structure of the information received)

Sent	**Received**			
Command	No of Blocks	Total no. of characters	Block Content	Meaning
K!	2	30	1st block: !Kxxxx 2nd block: ! ¶	1st block: xxxx Serial Number 2nd block: Handshaking block

Command M!

This command will get a reply **!Mxxxxxxxxxxxx** where **xxxxxxxxxxxx** contains information regarding the electrical constants. Note that the 1st character of this information starts immediately after **!M** (this is an exception to the general structure of the information received)

Sent	**Received**			
Command	No of Blocks	Total no. of characters	Block Content	Meaning
M!	2	30	1st block: !Mxxxxxxxxxxxx 2nd block: ! ¶	1st block: xxxxxxxxxxxx 2nd block: Handshaking block

The 12 character string is converted the following manner:

ZenerVoltage	(256# * Asc(c1) + Asc(c2)) / 100#
LDRMaxResistance	(256# * Asc(c3) + Asc(c4)) / 1#
LDRPullupResistance	(256# * Asc(c5) + Asc(c6)) / 10#
RainBeta	(256# * Asc(c7) + Asc(c8)) / 1#
RainResAt25	(256# * Asc(c9) + Asc(c10)) / 10#
RainPullUpResistance	(256# * Asc(c11) + Asc(c12))/ 10#

Where c1 is the 1st character of xxxxxxxxxxxx;
c2 is the 2nd character of xxxxxxxxxxxx;
c3 is the 3rd character of xxxxxxxxxxxx;
etc..