Xavitech serial protocol (RS-232)

Communication settings
Asynchronous communication, 9600 baud, 8bit, 1 start bit, 1 stop bit, no parity

Serial protocol

<SNHi> <SNMi> <SNLo><NetID><ADRHi><ADRLo> <R/W-AMOUNT><DATA1><DATAx><CHKSM>

<SNHi><SNMi> <SNLo>
 Pump serial number, if you wish to address a pump in a system with more than one pump these values can be set from 1 – 16777215. However, the general call is 0 which will be default.

<NetID>
Can also be used to address single pumps with a value from 1-255. 0 will be used as general call and that is also the default value.

<ADRHi><ADRLo>
ADRHi uppermost 2 bits is setting for which memory type to access. Lower 6 bits of ADRHi and ADRLo byte forms the memory address.

ADRHi=00XXXXXX=RAM
ADRHi=01XXXXXX=EEPROM

Memory address pointer=(ADRHi AND 00111111)*256+ADRLo

<R/W-AMOUNT>
Number of bytes to read or write to either the RAM or the EEPROM

<R/W-AMOUNT> = 00XXXXXX = Read from memory
<R/W-AMOUNT> = 10XXXXXX = Write to memory

Number of bytes to read/write is the lower 6bits + 1. So if you want to read 1byte the lower 6 bits should be 0 (0+1=1), if they are set to 63 (bin XX111111) you will read 64bytes (63+1=64).

<DATAx>
Number of databytes defined in <R/W-AMOUNT>.

<CHKSUM>
Add every byte in the package (without carry/overflow) to calculate checksum.

Response from pump

If a read command is sent to the pump a 3 byte response will be sent. The pump will at least send an integer value and a checksum. Number of bytes is defined by the chosen amount data.

<DATA1><DATAX><CHKSUM>

If a write command is executed the pump will answer <A5> if the command was successful executed and <5A> if it failed.

Serial commands

Read firmware
<0><0><0><0><192><0><1><0><0><193>
Get the firmware version of the pump. Will be value 221 for firmware version 35.0

1 byte with the checksum of entire flash will be sent from the pump.

Enable EEPROM
<0><0><0><0><1><71><129><1><0><202>
This is write command to RAM, when this variable is set to 1 the EEPROM memory write lock is removed.

1 byte will be sent back from the pump A5 if write was successful or 5A if write fail occurred.

Set max current (timeout of magnet on) in EEPROM
<0><0><0><0><64><9><129><VALUE><0><CHECKSUM>
This value will be stored at address 9 in EEPROM and the value is read during startup of the pump, so a reset is needed. Note that the EEPROM needs to be enabled before a write to EEPROM can be executed. VALUE can be changed within the range of 1-255.

1 byte will be sent back from the pump A5 if write was successful or 5A if write fail occurred.

Set max current (timeout of magnet on) in RAM
<0><0><0><0><1><101><129><VALUE><0><CHECKSUM>
VALUE = 1-255 (255 is default and that is max current consumption

1 byte will be sent back from the pump A5 if write was successful or 5A if write fail occurred.

Read max current value from RAM
<0><0><0><0><2><58><1><0><0><61>
3 bytes will be sent back from the pump
1st byte = VALUE that are set in the pump
2nd byte = 0
3rd Byte = Checksum of 1st and 2nd byte, will be the same value as 1^{st}byte

Read max current value from EEPROM
<0><0><0><0><64><9><1><0><0><74>
3 bytes will be sent back from the pump
1st byte = VALUE that are set in the pump
2nd byte = 0
3rd Byte = Checksum of 1st and 2nd byte, will be the same value as 1^{st}byte

Reset pump
<0><0><0><0><128><0><1><0><0><129>

Stop command
First: <0><0><0><0><0><122><129><0><0><251>

Then: <0><0><0><0><0><37><129><0><0><166>