



Fact Sheet: 08004

µSmart Logger data download

The logger download settings can be altered to simplify data parsing. The user should experiment with the settings to optimize the data parsing for each application.

The user should ensure that the parsing routines allow for missing sensors and replacement sensors.

Logger options:

| | | |
|----|------------------------|---|
| D2 | omit max min | the download will not include the minimum, maximum & average lines |
| E3 | send "End" | the download will conclude with the word End |
| E6 | log zero events | event recorder zero readings will be logged |
| E5 | skip 9am Rain | 9am rainfall record will not be included in the download |
| G5 | separate date and time | date & time will be separated by a comma |
| G7 | exclude comments | comment records will be excluded |
| H2 | invisible menus | menu text will not be displayed |
| H3 | modem string on | Text at EE0A0 will be output every 10 + 3 minutes implemented for modems that reset and lose settings eg. Globalstar 1620 |
| H4 | Web Reporter on | Text at EE180 will be output as scheduled used to dial, open TCP sockets, send Site ID ... |
| H5 | Silent mode | ignores RS232 data after web access until juwu received |

Glossary

<CR> carriage return character 0D hex

<LF> line feed character 0A hex

ESC escape character 1B hex

Option 1 – current readings

- Send **ESC** to the logger to ensure that the logger menu system is at the top level
- Send **2** to the logger to display the current sensor readings in a formatted table

| <u>No.</u> | <u>address</u> | <u>schedule</u> | <u>Type of sensor</u> | <u>current reading</u> |
|------------|----------------|-----------------|-----------------------|------------------------|
| 1 | 1 | g | Air temperature | 19.330 °C |
| 2 | 5 | g | Solar radiation | 16.9 w/m ² |
| 3 | 6 | g | wind speed | 1.43 km/h |
| 4 | 7 | g | wind direction | 118.66 deg |
| 5 | 8 | g | Humidity | 85.28 % |
| 6 | = | g | Dew point | |
| 7 |] | g | Battery voltage | 6.56 volts |
| 8 | ^ | g | Battery current | 72 mA |

Press 2 to refresh readings

Press 3 to refresh repeatedly

Press 4 for maximum minimum report

Press 5 for sensor config table

Press any other key to start again

Option 2 – one touch download

- Send **7** to the logger
- The logger will reply with all the data logged since the last download command was received. The last line of the download will be followed by the word **End<CR><LF>**
- The logger will move the download pointer to the last data record

Example:

```
Download from SL100934, Logger's Name goes here. Press 40 to edit. , on 29/10/2008 at 20:19:18
  date      time  , TA178032, SR200659, AN274005, WD27B016, HU17B009, DP000000, BV000000, BI000000,
dd/mm/yy  hh:mm:ss, 1      °C, 5    w/m², 6    km/h, 7    deg, 8    %, =    °C, ] Volts, ^    mA,
29/10/08  20:22:00, 19.618, 16.8, 1.20, 124.57, 85.69, , 6.48, -17,
29/10/08  20:23:00, 19.592, 16.8, 0.90, 125.20, 85.59, , 6.49, 29,
29/10/08  20:24:00, 19.578, 16.8, 1.02, 122.83, 85.58, , 6.54, -16,
29/10/08  20:25:00, 19.604, 16.8, 1.43, 119.35, 85.57, , 6.48, -16,
29/10/08  20:26:00, 19.592, 16.8, 1.24, 123.08, 85.53, , 6.50, 44,

...

29/10/08  20:29:00, 19.592, 16.8, 1.24, 123.08, 85.53, , 6.50, 44,
End
```

NOTE: the download cannot be repeated as the data pointer has been moved. The data is not deleted and can be retrieved using the option 4 download

Option 3 – handshake download

- Send ***jadl*** to the logger
- The logger will reply with all the data logged since the last download command was received. The last line of the download will be followed by the word ***End<CR><LF>***
- Send ***jack*** to the logger
- The logger will reply with ***Ack*** and move the download pointer to the last data record. If ***jack*** is not received the next download will repeat the last data sent plus any new data.

```
Download from SL100934, Logger's Name goes here. Press 40 to edit. , on 29/10/2008 at 20:46:44
date      time      , TA178032, SR200659, AN274005, WD27B016, HU17B009, DP000000, BV000000, BI000000,
dd/mm/yy  hh:mm:ss, 1      °C, 5      w/m², 6      km/h, 7      deg, 8      %, =      °C, ] volts, ^      mA,
29/10/08  20:22:00, 19.618, 16.8, 1.20, 124.57, 85.69, , 6.48, -17,
29/10/08  20:23:00, 19.592, 16.8, 0.90, 125.20, 85.59, , 6.49, 29,
29/10/08  20:24:00, 19.578, 16.8, 1.02, 122.83, 85.58, , 6.54, -16,
29/10/08  20:25:00, 19.604, 16.8, 1.43, 119.35, 85.57, , 6.48, -16,
29/10/08  20:26:00, 19.592, 16.8, 1.24, 123.08, 85.53, , 6.50, 44,

...

29/10/08  20:29:00, 19.592, 16.8, 1.24, 123.08, 85.53, , 6.50, 44,
End
```

Option 4 – download by date

- Send **ESC** to the logger to ensure that the logger menu system is at the top level
- Send **3** to the logger – the logger will reply with a prompt for the sensor address list
- Send <ENTER> for the current sensor list or send the required sensor addresses in sequence eg. **145A**
- Send the download start date in the format *ddmmyy* eg. 210908
- Send the download end date in the format *ddmmyy* eg. 250908
- The logger will prompt - *Press 1 to begin the download*
- Send **1** for normal download or choose one of the options ...

```
the logger date is 30/10/08
enter download start date 30/10/08
enter download end date 30/10/08
```

```
Press 1 to start normal download
Press 2 to start download omitting max mins
Press 3 to start download of only max mins
Press 4 to start download omitting comments
Press 5 to start download of only comments
Press any other key to start again
```

- The logger will reply with all the data logged over the specified data range. The last line of the download will be followed by the word **End<CR><LF>**

```
Download from SL100934, Logger's Name goes here. Press 40 to edit. , on 29/10/2008 at 20:46:44
date      time      , TA178032, SR200659, AN274005, WD27B016, HU17B009, DP000000, BV000000, BI000000,
dd/mm/yy  hh:mm:ss, 1    °C, 5    w/m², 6    km/h, 7    deg, 8    %, =    °C, ]    volts, ^    mA,
29/10/08  20:22:00, 19.618, 16.8, 1.20, 124.57, 85.69, , 6.48, -17,
29/10/08  20:23:00, 19.592, 16.8, 0.90, 125.20, 85.59, , 6.49, 29,
29/10/08  20:24:00, 19.578, 16.8, 1.02, 122.83, 85.58, , 6.54, -16,
29/10/08  20:25:00, 19.604, 16.8, 1.43, 119.35, 85.57, , 6.48, -16,
29/10/08  20:26:00, 19.592, 16.8, 1.24, 123.08, 85.53, , 6.50, 44,
```

...

```
29/10/08  20:29:00, 19.592, 16.8, 1.24, 123.08, 85.53, , 6.50, 44,
End
```

Option 5 – Hydrotel server unload

NOTE: contact Monitor Sensors for more details on this method. The Hydrotel server information is available at <http://www.iquest.co.nz/hydrotel.php>

- Enter the required Hydrotel HELLO sequence into the logger flash memory
- Enter the ModMax TCP socket commands into the logger flash memory
- Ensure that the ModMax modem has correct settings for client socket connection
- Ensure that the ModMax modem has correct settings for server target IP address and port
- Set logger option H6

NOTE: Hydrotel server unload can be tested by pressing the logger **Info** button and then the logger **Read** button when the second information screen is showing on the LCD display - Customer number=43. When the info screens have finished, the logger will start a Hydrotel connection immediately. It should display the sequence "time is hh:mm:ss, opening socket.." then "hydrotel hello", then "hydrotel on line", then "hydrotel on line, downloading.." then after 1 minute "time is hh:mm:ss, closing socket". After about 12 seconds the screen will clear and the logger will be back to normal operation.

Modmax configuration

| | |
|---|-----------------------------|
| at&C0&D0 | flow control |
| at+ifc=0,0 | hardware flow OFF |
| at+ipr=9600 | baud rate |
| at&f1 | reset to configuration 1 |
| ats0=0 | auto answer ring count |
| at+CGDCONT=1,"IP","telstra.internet","",0,0 | IP connection |
| at\$\$ipcfl=0,1 | Client retry count |
| at\$\$ipcfl=1,60 | Auto connect backoff period |
| at\$\$ipcfl=2,0 | keep alive timer |
| at\$\$ipcfl=3,30 | check interval |
| at\$\$ipcfl=4,1 | client |
| at\$\$ipcfl=5,0 | send delay 10 x 0.1s |
| at\$\$ipcfl=6,0 | MTU bytes |
| at\$\$ipcfl=7,5 | inactivity timeout |
| at\$\$ipcfl=8,0 | TCP retry minutes |
| at\$\$ipcfl=9,5 | PPP retry minutes R1.1.18 |
| at\$\$ipctrip=0,203,3,195,195,7781 | TCP IP address & port |
| at+CNMI=2,1,0,0,0 | Allows SMS reporting |
| ate0q1 | turn off modem responses |

Logger flash settings

NOTE: do not modify the logger flash memory parameters unless instructed by Monitor Sensors

| | |
|-------------|--|
| ee02a | default baud |
| ee031 | Default logging schedule (70=m) |
| ee03a | web delay (64=1sec) |
| ee03b | Radio delay |
| ee03c | No of tries (01=3 tries) - Monibus read sensor |
| ee100-ee10f | Read SMS command (CRLF AT+CMGR=0 CRLF) |
| ee110-ee11f | Erase all SMS command (CRLF AT+CMGD=0,4 CRLF) |
| ee120-ee13f | Hydrotel Connect search string (x=don't care) |
| ee140-ee15f | Hydrotel Hello Response search string |
| ee160-ee16f | Maxon Close Socket Command (AT\$\$IPCTCS) |
| ee170-ee17f | Maxon Open Socket Command (AT\$\$IPCTOS) |
| ee180-ee1af | Hydrotel Hello Message |
| ee1b0-ee1df | web Preamble |
| ee1e0-ee1ef | Maxon Close PPP Command (AT\$\$IPCTCP) |
| ee1f0-ee1ff | Maxon Reset Command (AT\$\$RESET) |