Poseidon2/Damocles2 formats and interfaces (SMS/E-mail/Datalog)

SMS – Interface description

SMS format

```
DEVICE_NAME #ALARM SENSOR1_NAME:VALUE/EXCEEDED_THRESHOLD
SENSOR1_NAME:VALUE/EXCEEDED_THRESHOLD #STATUS: INP: 0 0 0
SENS:VALUES_OF_ALL_SENSORS_CONNECTED_TO_UNIT
```

Description:

- Values are separated with spaces
- DEVICE_NAME is truncated to a maximum of 8 characters
- SENSOR1 _NAME is truncated to a maximum of 6 characters
- Values are only positive or negative integers – no decimal separators
- The list always shows all sensors, including those in alarm
- Temperature is displayed in the following format: 48C
- Humidity is displayed in the following format: 10%.

SMS example:

- Device name: **Poseid11**
- Sensors in Alarm:
  - Rack11 = 48.5°C, threshold is 40°C
  - T-Room = 48.3°C, threshold is 35°C
  - H-Room = 10% RH, threshold is 45% RH

```
Poseid11 ALARM: Rack11(48),T-Room(48),H-Room(10)
```

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E-mail – Interface description

```
<---------------------------61------------------------------>
<---10---> <---8--> <------16------> <------15----->
<-5-> <------15-----> <---11 --->  <------16------> <--8--->

DATE          TIME        Device_NAME         Device_IP
XX.XX.XXXX    XX:XX:XX    XXXXXXXXXXXXXXX     XXX.XXX.XXX.XXX
|-1
Email  initiated:  XXXXX  XXXXXXXXXXXXXXX   XXXXXXXXXXXXXXX
|-1
-------------------------------------------------------------
ID    SENSOR_Name      VALUE    UNIT     Safe_RANGE     ALARM
-------------------------------------------------------------
|-1
ALARM state:
-----------------------------------------------------
XXXXX XXXXXXXXXXXXXXX XXXX.XX XXX  XXXX.X .. XXXX.X XXXXXXXX
|
|-2
Sensors list:
-----------------------------------------------
XXXXX XXXXXXXXXXXXXXX XXXX.XX XXX  XXXX.X .. XXXX.X XXXXXXXX
XXXXX XXXXXXXXXXXXXXX XXXX.XX XXX  XXXX.X .. XXXX.X XXXXXXXX
XXXXX XXXXXXXXXXXXXXX XXXX.XX XXX  XXXX.X .. XXXX.X XXXXXXXX
|
|-2
-------------------------------------------------------------
Device_NAME:   http://Device_IP            00:0A:59:xx:xx:xx
-------------------------------------------------------------
```

Description

- When a sensor is not available (disconnected, not found), "**-999.99**" is shown
- All texts that exceed the reserved length are truncated
- Device name is 16 characters long, sensor names are 15 chars long
- Readings are listed with two decimal places, safe range thresholds with one
- All numbers in e-mails and logs use a **period** as the decimal separator.
- Besides Alarm, the reason for sending the e-mail can also be "**Periodical report**"

E-mail subject:

The following strings are appended to the specified e-mail subject:

- "**Test**" for the test e-mail
- "**Periodical report**" for the periodically e-mailed report
- "**T-Room Alarm ACTIVATED**" when the alarm for the sensor named T-Room is activated
- "**T-Room Alarm DEACTIVATED**" when the alarm for the sensor named T-Room is deactivated

Alarm activation:

```
DATE         TIME       Device_NAME       Device_IP
10.10.2005   15:04:27   Server_room1      192.168.1.20

Email  initiated:  48245  T-Room           Alarm ACTIVATED

------------------------------------------------------------
ID    SENSOR_Name     VALUE   UNIT    Safe_RANGE    ALARM
------------------------------------------------------------

ALARM state:
------------------------------------------------------
48245 T-Room            25.30  °C   -45.0 ..   22.0 Enabled
    1 C-water             OFF                     if OFF

Sensors list:
------------------------------------------------------
48245 T-Room            25.30  °C   -45.0 ..   22.0 Enabled
 1559 H-Room            53.00 %RH    30.0 ..   80.0 Enabled
   48 T-Srv01          -27.30  °C   -49.0 ..  -25.1 Disabled
  257 ABCDEFGHIJKLMNO -109.30  °C  -150.0 .. -105.0 Enabled
    1 C-water             OFF                     if OFF
    2 C-AirFl             OFF                     if ON
    3 C-Door1             OFF                     Disabled

------------------------------------------------------------
Server_room1:   http://192.168.1.20        00:0A:59:00:00:00
------------------------------------------------------------
```

Alarm deactivation:

```
DATE         TIME       Device_NAME       Device_IP
10.10.2005   15:04:27   Server_room1      192.168.1.20

Email  initiated:  48245  T-Room           Alarm DEACTIVATED

------------------------------------------------------------
ID    SENSOR_Name     VALUE   UNIT    Safe_RANGE    ALARM
------------------------------------------------------------

ALARM state:
------------------------------------------------------
    1 C-water             OFF                        if OFF

Sensors list:
------------------------------------------------
48245 T-Room            21.30  °C   -45.0 ..   22.0 Enabled
 1559 H-Room            53.00 %RH    30.0 ..   80.0 Enabled
   48 T-Srv01          -27.30  °C   -49.0 ..  -25.1 Disabled
  257 ABCDEFGHIJKLMNO -109.30  °C  -150.0 .. -105.0 Enabled
    1 C-water             OFF                        if OFF
    2 C-AirFl             OFF                        if ON

------------------------------------------------------------
Server_room1:   http://192.168.1.20        00:0A:59:00:00:00
------------------------------------------------------------
```

Periodical e-mail:

```
DATE         TIME       Device_NAME       Device_IP
10.10.2005   15:04:27   Server_room1      192.168.1.20

Email  initiated:  Periodical report

------------------------------------------------------------
ID    SENSOR_Name     VALUE   UNIT    Safe_RANGE    ALARM
------------------------------------------------------------

ALARM state:
------------------------------------------------------
    1 C-water             OFF                        if OFF

Sensors list:
------------------------------------------------
48245 T-Room            21.30  °C   -45.0 ..   22.0 Enabled
 1559 H-Room            53.00 %RH    30.0 ..   80.0 Enabled
   48 T-Srv01          -27.30  °C   -49.0 ..  -25.1 Disabled
  257 ABCDEFGHIJKLMNO -109.30  °C  -150.0 .. -105.0 Enabled
    1 C-water             OFF                        if OFF
    2 C-AirFl             OFF                        if ON

------------------------------------------------------------
Server_room1:   http://192.168.1.20        00:0A:59:00:00:00
------------------------------------------------------------
```

Logger format

Logged data from the logger:

x.x.x.x/**spilog.bin** binary format of the logged data
x.x.x.x/**spilog.txt** Text format (CSV) of the logged data
x.x.x.x/**spilog.del** call this file to delete logged data and start logging again

Logger is circuit buffer = oldest data are rewrite by newer data.

spilog.txt

yyyy/mm/dd;hh:mm:ss;log_type;log_group;value_count;value_id[0];value[0];value_id[1];value[1]; ... value_id[value_count - 1];value[value_count - 1];

- **log_type** 0 - normal (periodical), 1 - alarm
- **log_group** Type of sensors
  - 0 - Wire1 sensors,
  - 1 - RS232 sensors,
  - 2 - RS485 sensors,
  - 3 - inputs,
  - 4 – outputs

- **value_count** # of values in this record
- **value_id[i]** Unique ID in the Poseidon device
  - 1..64 – Digital inputs,
  - 128.. – Digital outputs,
  - 65 ('A') .. 122 ('z') - RS485 sensors,
  - 0 .. 1 - RS232 sensors,
  - 256 .. 65535 - Wire1 sensors

- **value[i]** the most important number in this babel of digits

spilog.txt SCV file format example

```
2007/04/02;14:26:51;0;0;7;54896;243;28078;242;27385;243;25539;245;55499;243;14127;243;4127;246;
2007/04/02;14:26:51;0;2;2;74;245;106;359;
2007/04/02;14:26:51;0;3;3;1;0;2;0;3;0;
2007/04/02;14:26:51;0;4;2;128;0;129;0;
```

File spilog.bin

```
    u_char   occupied_bytes;     // record length (total include length)
    u_char   type;               // log_type - type of record
    time_t   time;               // time of sampling (u_long)

    u_char   type;               // log_group - sensor type
    u_char   count;              // value count

    u_short  id;                 // value_id[i]
    int                 val;     // value[i]
```

Aspilog.bin format

- Log current values when Alarm started and finisher
- log digital inputs and outputs

```
/*
 * RECORD STRUCTURE
 *  spi_record_header|data_record_header|data_1|data_2|...|data_n
 *
 */

typedef struct {
        u_char  occupied_bytes;          // record length (data + TSpiRecordHeader)
       u_char   type;                      // Record type: LOG_FILE_DATA_TYPE: LOG - 0, ALARM
- 1
       time_t   time;                     // sampling time (u_long)
} TSpiRecordHeader;

typedef struct {
        u_char  type;                  // Sensor type 0 - Wire1 sensors, 1 - RS232 sensors, 2
- RS485 sensors, 3 - inputs, 4 - outputs
        u_char  count;
} TDataRecordHeader;

typedef struct {
        u_short id;
       int               val;
} TIdVal;

typedef enum
{ WIRE_1_TEMP = 0, RS232_TEMP, RS485_TEMP, BINARY_IN, BINARY_OUT }
DataType;
```