

How to communicate eWON with Danfoss System Manager SM via XML Interface

EDF File

Danfoss has for every device a well-known Device Support File EDF (ED3 for newer devices). These files can be downloaded from the Danfoss website.

<http://food-retail.danfoss.com/support-center/apps-and-software/ak-sm-800/#/>

AK-SM 800 v08.053

Software V08.053 replaces 08.047 as the latest firmware package for the AK-SM800 series front end controller.

V08.053 offers the following new updates:

- Danfoss Coordinated Adaptive Defrost
- Energy Measurement / load shed
- Support for EMERSON® CoreSense™ modules
- Minor bug and enhancements

> [AK-SM800_V08_053.zip](#)

RMT (Remote Management Tool) StoreView Desktop (SVD)

Use the link(s) below to download the latest RMT v4.13/SVD v1.18 software. The installer will load both the RMT and SVD applications. Use the simulator link to load individual simulators into RMT. V08_047 simulator is also available as an individual install, but is included in the RMT4.13_SVD1.18 package.

Note that RMT and StoreView Desktop are undergoing formal Windows® 10 verification. Whilst it is expected the tools will function under Windows® 10 please be aware of this pending verification whilst using both tools.

> [RMT4.13_SVD1.18.zip](#)

> [SVD1_19_07.zip](#)

> [VG08_053_Simulator_Install.zip](#)

AK-SM 800 User Guide

Read the user guide AK-SM 800.

> [View the user guide \(PDF\)](#)

Device Support Files (EDFs)

Use link below for current EDF files.

> [AK-SM_800_0853_EDF.zip \(Nov 18, 2016\)](#)

> [AK-SM_800_Interim_EDF.zip \(Mar 06, 2017\)](#)

Previous SM800 Software

Download the previous version of the SM800 software.

> [AK-SM800_V08_047.zip](#)

In this file you can find all informations about a device including a complete list of parameters which this device provide. Very important are CID and VID, Component ID and Value ID. The values of CID and VID for a specific parameter you can find also into the EDF file. With these two parameters it is possible to identify every parameter of a device explicit!

How to get the right EDF?

If you read out a System Manager AK-SM with the XML command "read_devices" you will get an answer like this:

```
<?xml version="1.0" encoding="UTF-8"?>
<resp error="0" action="read_devices" compress="0">
  <unit_name>Full store wall</unit_name>
  <software>G08.047</software>
  <device rack_id="1" indent="0" node_type="255">
    <name>Pack 1</name>
    <type>PACK_ONLY</type>
    <num_suction>1</num_suction>
  </device>
  <device indent="0" node_type="16" ctrl_val="16.0 °C" value="40.7 °C" point="0" mod="0" online="1" alarm="0" node="4" modelname="AK-PC781-041x" status="Volle Last">
    <name>Pack 1</name>
    <device_id>08020186_041x</device_id>
    <type>PACK</type>
    <rack_id>1</rack_id>
  </device>
  <device rack_id="1" indent="4" node_type="16" ctrl_val="15.5 °C" value="36.6 °C" point="0" mod="0" online="1" alarm="0" node="2" modelname="AK-CC500-a-012x" status="(s20) Alarm" suction_id="1" multicasename="AK CC 550" defrost="0" state="0">
    <name>AK CC 550</name>
    <device_id>084B8030_012x</device_id>
    <type>EVAP</type>
  </device>
  <device rack_id="1" indent="4" node_type="16" ctrl_val="2.0 °C" value="27.7 °C" point="0" mod="0" online="1" alarm="0" node="6" modelname="AK-CC550-A-015x" status="(s20) Alarm" suction_id="1" multicasename="AKCC550-2" defrost="0" state="0">
    <name>AKCC550-2</name>
    <device_id>084B8032_015x</device_id>
    <type>EVAP</type>
  </device>
  <device rack_id="1" indent="4" node_type="16" ctrl_val="2.0 °C" value="26.4 °C" point="0" mod="0" online="1" alarm="0" node="7" modelname="AK-CC550-A-015x" status="(s20) Alarm" suction_id="1" multicasename="AKCC550-3" defrost="0" state="0">
    <name>AKCC550-3</name>
    <device_id>084B8020_015x</device_id>
    <type>EVAP</type>
  </device>
  <device rack_id="1" indent="4" node_type="16" ctrl_val="NA" value="0.0 °C" point="0" mod="0" online="1" alarm="0" node="5" modelname="AK-LM350-012x" status="Ja" suction_id="1" multicasename="LM350" defrost="0" state="0">
    <name>LM350</name>
    <device_id>08020176_012x</device_id>
    <type>EVAP</type>
  </device>
  <device rack_id="1" indent="4" node_type="16" ctrl_val="2.0 °C" value="0.2 °C" point="0" mod="0" online="1" alarm="0" node="10" modelname="AK-CT550A-017x" status="(s11) Gestoppt" suction_id="1" multicasename="AK CT550A" defrost="0" state="0">
    <name>AK CT550A</name>
    <device_id>084B8043_017x</device_id>
    <type>EVAP</type>
  </device>
</total>
</resp>
```

In the answer is always the model name (1), which is given by the user, and the Device ID (2). With the Device ID you can find the EDF file for this device because the EDF file have the same name as the device ID. For example: In the answer above, the model name is "AK-CC500_a_012x", the Device ID is 084B8030_012x, were 084B8030 is the name of the EDF file and 012x is a version number.

Now you can go to the EDF files and get the right EDF for this device 084B8030.ED3.

The EDF and ED3 files are text files. If you open the file 084B8030.ED3 with a text editor you can see for instance the following:

```
100 113,187,20
101 <PARAMETER_SECTION_START>
102
103 001,xbcderghijxbcdetghij, 0, 4,16, 0, 0, 2007,F,W, 0, 0, 100,15, 0, R,--- Ctrl State
104 002,xbcderghijxbcdetghij, 4, 4, 0, 0, 2532,F,F, 0, 0, -2000,15,258, R,u17 Ther Air
105 003,xbcderghijxbcdetghij, 0, 0,17, 0, 0, 2554,W,W, 0, 0, 100,14, 0, R,--- Reg Cond
106 004,xbcderghijxbcdetghij, 4, 0, 0, 0, 2583,F,F, 0, 0, -3000, 2000,14,258, R,--- Cutin Temp
107 005,xbcderghijxbcdetghij, 4, 4, 0, 0, 2501,F,F, 0, 0, -2000, 2000,14,258, R,--- Cutout Temp
108 006,xbcderghijxbcdetghij, 0, 7, 0, 0, 124,W,W, 1, 0, 1, 0, 2, 1, 0, W,r14 Therm Mode
109 007,xbcderghijxbcdetghij, 4, 0, 0, 0, 100,F,F, 20, 0, -500, 500, 1,258, W,--- Cutout
110 008,xbcderghijxbcdetghij, 16, 0, 0, 0, 101,F,F, 20, 0, 200, 1,258, W,r01 Differential
111 009,xbcderghijxbcdetghij, 4, 0, 0, 0, 102,F,F, 500, 0, -490, 500, 1,258, W,r02 Max Cutout
112 010,xbcderghijxbcdetghij, 4, 0, 0, 0, 103,F,F, -500, 0, 490, 500, 1,258, W,r03 Min Cutout
113 011,xbcdergh--xbcdetgh--, 5, 0, 0, 0, 123,W,W, 100, 0, 100, 1, 0, W,r15 Ther S4 %
114 012,xbcderghijxbcdetghij, 0, 0, 0, 0, 126,B,B, 0, 0, 0, 1, 0, W,--- Night Setback
115 013,xbcderghijxbcdetghij, 16, 0, 0, 0, 128,F,F, 0, 0, -500, 500, 1,258, W,r13 Night Offset
116 014,xbcderghijxbcdetghij, 0, 0, 0, 0, 3044,B,B, 0, 0, 0, 1, 0, W,--- Forced Cool
117 015,xbcderghijxbcdetghij, 4, 0, 0, 0, 131,F,F, 20, 0, -500, 500, 1,258, W,r21 Cutout2 Temp
118 016,xbcdergh--xbcdetgh--, 5, 0, 0, 0, 2021,W,W, 100, 0, 100, 1, 0, W,r17 Disp S4 %
119 017,xbcderghijxbcdetghij, 16, 0, 0, 0, 104,F,F, 0, 0, -100, 100, 1,258, W,r04 Disp Adj K
120 018,xbcderghijxbcdetghij, 16, 0, 0, 0, 122,W,W, 1, 0, 0, 10, 1, 0, W,r16 Melt Interval
121 019,xbcderghijxbcdetghij, 17, 0, 0, 0, 121,W,W, 5, 0, 0, 30, 1, 0, W,r17 Melt Period
122 020,-----h-----h--,16, 0, 0, 0, 183,F,F, 20, 0, 500, 1,258, W,r62 Heat N2
123 021,-----h-----h--,17, 0, 0, 0, 184,W,W, 0, 0, 240, 1, 0, W,r63 Heat Start Del
124 022,-----g-----g--, 5, 0, 0, 0, 182,W,W, 100, 0, 100, 1, 0, W,r61 Ther S4% Ngt
125 023,xbcderghijxbcdetghij, 17, 0, 0, 0, 10002,W,W, 30, 0, 240, 9, 0, W,A03 Alarm Delay
126 024,xbcderghijxbcdetghij, 17, 0, 0, 0, 10003,W,W, 60, 0, 240, 9, 0, W,A04 Door Open Del
127 025,xbcderghijxbcdetghij, 17, 0, 0, 0, 10018,W,W, 90, 0, 240, 9, 0, W,A12 Fulldown Del
128 026,xbcderghijxbcdetghij, 4, 0, 0, 0, 10019,F,F, 80, 0, -500, 500, 9,258, W,A13 High Lim Air
129 027,xbcderghijxbcdetghij, 4, 0, 0, 0, 10020,F,F, -300, 0, -500, 500, 9,258, W,A14 Low Lim Air
130 028,xbcderghijxbcdetghij, 4, 0, 0, 0, 10021,F,F, 80, 0, -500, 500, 9,258, W,A20 High Lim2 Air
131 029,xbcderghijxbcdetghij, 4, 0, 0, 0, 10022,F,F, -300, 0, -500, 500, 9,258, W,A21 Low Lim2 Air
132 030,xbcdergh--xbcdetgh--, 4, 0, 0, 0, 10023,F,F, 80, 0, -500, 500, 9,258, W,A22 High Lim1 S6
133 031,xbcdergh--xbcdetgh--, 4, 0, 0, 0, 10024,F,F, -300, 0, -500, 500, 9,258, W,A23 Low Lim1 S6
134 032,xbcdergh--xbcdetgh--, 4, 0, 0, 0, 10025,F,F, 80, 0, -500, 500, 9,258, W,A24 High Lim2 S6
```

There you have all informations about the device and like you can see CID and VID for every parameter. With this information it should be possible to read and write every parameter in a device.

Read Sensors

Until now we read out the System Manager SM by XML interface with the command "read_val". It works fine so far.

But the SM can also be equipped with sensors. These are read out via the command "read_sensor". Would be nice to have this functionality with eWON as well!

Instead of CID and VID, like for "read_val", "read_sensor" works with MOD and POINT. To know MOD and POINT for a specific sensor the command "read_sensors" must be used. There is an answer like the following:

```
<sensor>
  <host>0</host>
  <legacy>0</legacy>
  <name>Roomtemp</name>
  <addr>03-2.1</addr>
  <node>3</node>
  <mod>2</mod>
  <point>17</point>
  <units>°C</units>
</sensor>
<sensor>
  <host>0</host>
  <legacy>0</legacy>
  <name>002:1 u17 Ther</name>
  <addr>002:1</addr>
  <node>2</node>
  <mod>10</mod>
  <point>17</point>
  <units>°C</units>
</sensor>
<sensor>
  <host>0</host>
  <legacy>0</legacy>
  <name>L3 FOTO</name>
  <addr>03-2.2</addr>
  <node>3</node>
  <mod>2</mod>
  <point>18</point>
  <units>lx</units>
</sensor>
<sensor>
  <host>0</host>
  <legacy>0</legacy>
  <name>Temp in wall</name>
  <addr>Ca-01</addr>
  <node>0</node>
  <mod>0</mod>
  <point>1</point>
  <units>°C</units>
</sensor>
```

```
<mod>0</mod>
<point>5</point>
<units>lx</units>
</sensor>
<total_count>15</total_count>
```

There you can see all informations are inside.

- Name of the sensor
- Node number
- MOD and POINT

After "read_sensors" and the information above you can read out a specific value by using MOD and POINT. Here is an example in which 2 values are queried in one call:

Request:

```
<cmd action= "read_sensor"units="S"><sensor node="3" mod="2" point="23"/><sensor
node="0" mod="0" point="5"/></cmd>
```

Answer:

```
<sensor node="3" mod="2" point="23" offset="0.00" parval="22.3" units="degc"
units_index="4" name="FAN temperature">22.3 °C</sensor>
<sensor node="0" mod="0" point="5" offset="0.00" parval="319.7" units="lx" units_index="25"
name="Lightsensor">319.7 lx</sensor>
```

As you can see above, FAN temperature = 22.3 °C and lightsensor = 319.7 Lux.

Is it possible to implement the read sensor function into the already existing Danfoss I/O server?