Achieve your energy goals with the best **control** and **system management** for Food Retail.

**24/7** monitoring and supervision of your system.

[food-retail.danfoss.com](http://food-retail.danfoss.com)
Right tools for the right job

The Danfoss System Manager is the key component of the intelligent ADAP-KOOL® refrigeration and HVAC systems for food retail. The System Manager is the brain of the system, coordinating data to and from the individual refrigeration and HVAC controllers, including temperature data for logging and alarms. The System Manager can be set up to optimize different functions such as suction pressure and coordinated defrosting, resulting in significant energy savings and optimum temperature control.

The System Manager can be set up and operated from a local screen or remotely via pc, tablet or mobile phone.

Remote Management Tool (RMT)
The RMT tool is designed to facilitate easy commissioning. The tool offers:
- Full offline programming in web environment
- Custom images to create graphic screens to be viewed in local screen and web browser
- Address Book to store multi-site details
- Map configured data points for live view of status
- Load System Manager firmware
- Save / load System Manager database

StoreView Desktop
The StoreView Desktop is designed to give the store manager and staff an easy overview of the current status on alarm, temperature and KPIs. The StoreView Desktop is designed as a stand-alone PC application and offers:
- Fast connection time since all required web files are self-contained
- Same web environment as the system manager web browser, but bundled as a desktop application
- User preference to allow store to configure according to their specific requirements

SiteService App
The SiteService App is designed for the service technician and offers the ability to remotely connect to a Danfoss controls system from a tablet or smart phone. The App offers:
- Site connections address book
- Live plant status (refrigeration/HVAC/ lighting/energy/ miscellaneous points)
- Device details
- Read/write parameter access
- Manual control (e.g. start a defrost)
- Alarm management
- History graphs visualization

AK-SM 800 - Alarm logger
- Dedicated alarm management solution based on AK-SM800 platform
- Designed to complement AK-SM800 systems
- New User Interface / Full touch screen
- Simple setup wizard and automated host setup
- Local alarm relay, buzzer and LED
- Audit trail
- Report to USB feature (Alarm list / Audit trial)
System Manager AK-SM 800 series
Connectivity & Control

The System Manager AK-SM 800 series core design concept provides premier store control with the seamless connectivity from “case to cloud”. It supports centralized and decentralized control strategy and is compatible with Danfoss case and pack controllers and Danfoss I/O modules.

- Large colour screen (800x600)
- Easy USB access (software updates / database load / save)
- No internal battery to worry about

**Updated features and functions**

- New browser based ‘wizards' to simplify initial configuration
- Multi graphic screens, allowing custom images with live datapoints showing status
- Built-in energy optimization functionality

**Get-Connected Web technology**

The AK-SM 800 has a built-in web browser, and presents system information in a meaningful and rich way either as dashboards, automatic generated system graphics or asset detail screens.

**Wizard assistance for configuration**

The designated web wizards are intended to assist the user in a step by step format offering clean screen formatting and drag and drop functionality. The net result is improved commissioning times and less chance of configuration errors.
<table>
<thead>
<tr>
<th>HARDWARE PLATFORM</th>
<th>AK-SM 880</th>
<th>AK-SM 850</th>
<th>AK-SM 820</th>
<th>AK-SM 810 (no screen)</th>
<th>AK-SM 800 Alarm Logger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box Format (Wall Mountable)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>USB (Load/Save software)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Color Screen SVG 800x600 w/ Bit Map static graphics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>touch</td>
</tr>
<tr>
<td>CE, C-Tick, UL, HACCP</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FIELD BUS / COMMUNICATIONS</th>
<th>AK-SM 880</th>
<th>AK-SM 850</th>
<th>AK-SM 820</th>
<th>AK-SM 810 (no screen)</th>
<th>AK-SM 800 Alarm Logger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lonworks RS485 (TP78 Special Order)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
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<tr>
<td>EKC Modbus</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>Ethernet (LAN/WAN/Host network connectivity)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONTROL</th>
<th>AK-SM 880</th>
<th>AK-SM 850</th>
<th>AK-SM 820</th>
<th>AK-SM 810 (no screen)</th>
<th>AK-SM 800 Alarm Logger</th>
</tr>
</thead>
<tbody>
<tr>
<td>User selectable De-centralized control (Case and Pack controllers)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>User selectable Centralized control (Rack control / I/O)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>Design for Danfoss CO2 application support (AK2 controllers)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>Next generation HVAC &amp; Lighting control (MCK)</td>
<td>✓</td>
<td>n/a</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>Supports Danfoss and 3rd Party Devices (via field bus)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>Po (Suction) optimization</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>Generic On/Off schedule (customizable)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>Adaptive Rail heat control (via I/o or controller bus communications)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SYSTEM CAPACITY</th>
<th>AK-SM 880</th>
<th>AK-SM 850</th>
<th>AK-SM 820</th>
<th>AK-SM 810 (no screen)</th>
<th>AK-SM 800 Alarm Logger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack/Pack controllers</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td>5</td>
<td>n/a</td>
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<tr>
<td>Controller devices on field bus (i.e. EKC/CC.)</td>
<td>120</td>
<td>120</td>
<td>32</td>
<td>32</td>
<td>n/a</td>
</tr>
<tr>
<td>Schedules (Case lighting, Night setback, Shutdown, Def)</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>n/a</td>
</tr>
<tr>
<td>Calculation Points / Conversion Factors</td>
<td>96 / 10</td>
<td>96 / 10</td>
<td>96 / 10</td>
<td>96 / 10</td>
<td>n/a</td>
</tr>
<tr>
<td>HVAC (see comment)</td>
<td>45</td>
<td>n/a</td>
<td>10</td>
<td>10</td>
<td>n/a</td>
</tr>
<tr>
<td>Lighting zones</td>
<td>30</td>
<td>30</td>
<td>10</td>
<td>10</td>
<td>n/a</td>
</tr>
<tr>
<td>Energy meter input points</td>
<td>80</td>
<td>80</td>
<td>32</td>
<td>32</td>
<td>n/a</td>
</tr>
<tr>
<td>Leak detector inputs</td>
<td>50</td>
<td>50</td>
<td>10</td>
<td>10</td>
<td>n/a</td>
</tr>
<tr>
<td>Relay &amp; Variable outputs (each)</td>
<td>70</td>
<td>70</td>
<td>20</td>
<td>20</td>
<td>n/a</td>
</tr>
<tr>
<td>Sensor &amp; On-Off inputs (each)</td>
<td>80 / 70</td>
<td>80 / 70</td>
<td>20</td>
<td>20</td>
<td>n/a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EASE OF USE / REMOTE ACCESS</th>
<th>AK-SM 880</th>
<th>AK-SM 850</th>
<th>AK-SM 820</th>
<th>AK-SM 810 (no screen)</th>
<th>AK-SM 800 Alarm Logger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Web Browser &amp; Offline programming</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>Full web interface consolidating all front ends</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>Danfoss Enterprise Services Support</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>StoreView Desktop (PC application)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>Service Tool Tunnel (PC application)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
<tr>
<td>SiteService Mobile App</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>n/a</td>
</tr>
</tbody>
</table>

For additional product details, visit food-retail.danfoss.com/system-managers
Danfoss Enterprise Services

Think ahead and create value with big data

Danfoss Enterprise Services offer powerful analytics and reporting tools that can be used to ensure that assets are performing top-notch at all times. With access to real-time data 24/7, your staff can act on facts and control the store around the clock via dashboards with information about temperatures, energy consumption, alarms, etc.

What’s in it for you?
With a Danfoss Enterprise Services subscription, Danfoss manages data collection, analysis and reporting. There are different service packages available that will enable you to:

- Benchmark stores and divisions to promote energy and environmental awareness
- Sustain energy savings achieved through optimization tailored to your facilities
- Improve profitability by reducing food loss and ensuring food quality

Danfoss Enterprise Services Portfolio
- Enabling value-adding decisions

- 24/7/365 Alarm Management
- Compressor Performance
- Leak Detection
- Refrigerant Levels
- HACCP (Temperature Management)
- Setpoint Control
- Energy Baselining & Benchmarking
- Lighting & HVAC
- Estate Performance Reporting
- Continuous Commissioning
- Demand Response Programs

Today, Danfoss Enterprise Services is monitoring 5000 stores and handles more than 3 million alarms every year.

Open Standard XML Interface

- Standard XML Interface for 3rd party monitoring and managing
- Documentation on request
- No License or Protocol Fees
Engineering Tomorrow’s Food Retail Solutions

Danfoss Enterprise Services

3rd party integration
Open XML interface

Remote Management Tool
Web Browser
System Manager
Store View Desktop
Site Service App

Evaporator Control
Pack Control
HVAC
Light, Aux. Control

3rd party integration
Open XML interface

TXV
EEV
Stepper
Sensors
Drives
Compressors
Balancing Valves
Humidity Sensors
Light Sensors
Gas Sensors
Energy Meter

Basic
High-End
Mid-Range HFC
High End HFC / CO₂
Basic Control
HVAC Control
Programmable Control
3rd Party HVAC, Light, Controllers

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DKRCE.PBL00.C2.22