Data sheet

Graphic LCD display
Type AK-MMI

Danfoss range of ADAP-KOOL® controllers offers the functionality and reliability you need to get the best out of your refrigeration system.

AK-MMI is the user interface for the AK-PC 7XX pack controller range. It is fitted with a graphic display offering an intuitive user interface for the controller in local language where it easy to see status informations and get parameter access. The connection with AK unit is made through the RS232 network. All the information about the user interface is loaded inside the AK controller; that's why there is no need of controller dependent programming the AK-MMI interface. AK-MMI is powered externally from the same power supply as the controller.

Features

- Full graphic LCD display, 128x64 dots resolution
- Easy connection to RS232 network through telephone plug
- No need to be programmed: information about user interface is loaded from the AK-PC 7XX controller
- Powered by the AK-PC 7XX which it is connected to
- Dimensions 88x150 mm
- Panel and wall mounting
- IP64 protection rating on panel version
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General features

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>/ From the AK-PC 7XX</td>
</tr>
<tr>
<td></td>
<td>12/30 V DC</td>
</tr>
<tr>
<td></td>
<td>24 V AC ± 15%</td>
</tr>
<tr>
<td></td>
<td>Maximum power consumption: 1.5 W</td>
</tr>
<tr>
<td>Plastic housing</td>
<td>Self extinguishing V0 according to IEC 60695-11-10 and glowing/hot wire test at 960 °C according to IEC 60695-2-12</td>
</tr>
<tr>
<td>Ball test</td>
<td>125 °C according to IEC 60730-1. Leakage current: ≥ 250 V according to IEC 60112</td>
</tr>
<tr>
<td>Operating conditions</td>
<td>CE: -20T60 / UL: 0T55, 90% RH non-condensing</td>
</tr>
<tr>
<td>Storage conditions</td>
<td>-30T80, 90% RH non-condensing</td>
</tr>
<tr>
<td>Integration</td>
<td>In Class I and/or II appliances</td>
</tr>
<tr>
<td>Index of protection</td>
<td>IP64 – NEMA3R</td>
</tr>
<tr>
<td>Period of electric stress across insulating parts</td>
<td>Long</td>
</tr>
<tr>
<td>Resistance to heat and fire</td>
<td>Category D</td>
</tr>
<tr>
<td>Immunity against voltage surges</td>
<td>Category II</td>
</tr>
<tr>
<td>Software class and structure</td>
<td>Class A</td>
</tr>
</tbody>
</table>

Approvals

CE compliance:
This product is designed to comply with the following EU standards:
- Low voltage guideline: 73/23/EEC
- Electromagnetic compatibility EMC: 2004/108/EC and with the following norms:
  • EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments)
  • EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments)
  • EN60730 (Automatic electrical controls for household and similar use)

UL approval:
- UL file E31024

Connection diagram: AK-PC 7XX

Connection

<table>
<thead>
<tr>
<th>CONNECTORS</th>
<th>TYPE</th>
<th>DIMENSIONS</th>
</tr>
</thead>
</table>
| Power supply     | 24 V AC or 12/30 V DC - 2 way screw plug-in connector type | - pitch 3.5 mm
| connector        |                       | - section cable 0.08-1.5 mm²|
| RS232-RJ         | 6/6 way telephone RJ11 plug type |                          |
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Dimensions

User interface

<table>
<thead>
<tr>
<th>TYPE</th>
<th>FEATURES</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD display</td>
<td>Display</td>
<td>Graphical LCD blue transmissive</td>
</tr>
<tr>
<td></td>
<td>Backlight</td>
<td>White LED backlight adjustable via software</td>
</tr>
<tr>
<td></td>
<td>Contrast</td>
<td>Adjustable via software</td>
</tr>
<tr>
<td></td>
<td>Format</td>
<td>128x64 dots</td>
</tr>
<tr>
<td></td>
<td>Active visible area</td>
<td>66.5x33.2 mm</td>
</tr>
<tr>
<td>Keyboard</td>
<td>Number of keys</td>
<td>6, white LED backlight keys individually managed via software</td>
</tr>
<tr>
<td></td>
<td>Keys function</td>
<td>Set by the application software</td>
</tr>
<tr>
<td>Mounting</td>
<td>Panel mounting</td>
<td>See the drilling template in figure, using the screws supplied in the packaging</td>
</tr>
</tbody>
</table>

Ordering

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>CODE NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AK-MMI DISPLAY, Single Pack</td>
<td>080G0311</td>
</tr>
</tbody>
</table>

Accessories

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>CODE NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCCB1, TELEPHONE CABLE USER INTERFACE CONNECTOR, 1.5m CABLE</td>
<td>080G0075</td>
</tr>
<tr>
<td>ACCCB1, TELEPHONE CABLE USER INTERFACE CONNECTOR, 3m CABLE</td>
<td>080G0076</td>
</tr>
</tbody>
</table>
Navigation display status
AK-PC 781 example

Press FORWARD / BACK to toggle between status screens

Press ENTER to access status details

Press ENTER to view parameters details or acknowledge alarms

Press UP / DOWN to acknowledge alarms

Press ENTER to save

Alarm acknowledged
Data sheet

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Navigation display configuration
AK-PC 781 example

From any status screen - press ENTER for 2 seconds to access Setup and Service.

Press X to go one step back.

Password

Login

Press UP / DOWN to scroll between main parameter groups.

Press ENTER to access a sub menu.

Menu list

Press ENTER to access a parameter list.

Sub group menu list

Press ENTER to access a parameter.

Parameter list readout

(Inverted text only)

Parameter list setting

(Inverted text - text and values)

Press ENTER to access a parameter.

Parameter information

(not editable)

Editable parameter

Press ENTER to select a parameter.

Press UP / DOWN to edit a parameter value.

Edit a parameter

Press ENTER to save.

Editable parameter
Navigation display elements
AK-PC 781 example

Actual / total running compressors
Actual / total running fans

Decreasing capacity
Increasing capacity

Toggle between status screens

Suction group
Condenser
High pressure
Receiver
Hot top water
Heat reclaim

Actual load, opening degree, pump speed

Headline
Parameter

Module: Point
Actual / total number of parameters in group

Acknowledged alarm

Alarm started
Alarm stopped

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