Manuals+ — User Manuals Simplified.

AK-SM 800A Series System Manager

Danfoss AK-SM 800A Series System Manager Installation Guide

Contents

Danfoss AK-SM 800A Series System Manager

Specifications

- **Model:** System Manager Type AK-SM 800A series
- **Mounting Type:** Panel mount / Wall mount
- **Manufacturer:** Danfoss
- **Input Voltage:** 100 – 240 V AC
- **Connectivity:** Ethernet, Canbus
- **Protocols:** MODBUS, LON, TP78

Product Usage Instructions

Installation

1. Mount the System Manager Type AK-SM 800A series on the panel or wall as per your requirement.
2. Ensure proper termination of cables using external resistors or contacts as needed.
3. Use repeaters to terminate cable sections, with each repeater handling two sections.

Connectivity Setup

1. Establish Ethernet connections for communication.
2. Activate WiFi access point from the local screen and follow the on-screen instructions.

Initial Setup

1. For first-time start-up, follow the initial settings wizard on the device.
2. Configure the device as Master or Slave based on your setup.
3. Complete the steps in the wizard including legal terms, language selection, user setup, date/time setting, unit selection, and communication setup.

Software Update

- To update software offline, download firmware from ak-sm800a.danfoss.com.
- Alternatively, use the online software update utility in the web interface of the device.

FAQ

Regulatory Compliance

FCC Compliance: Changes not approved by Danfoss may void authority to use the equipment.

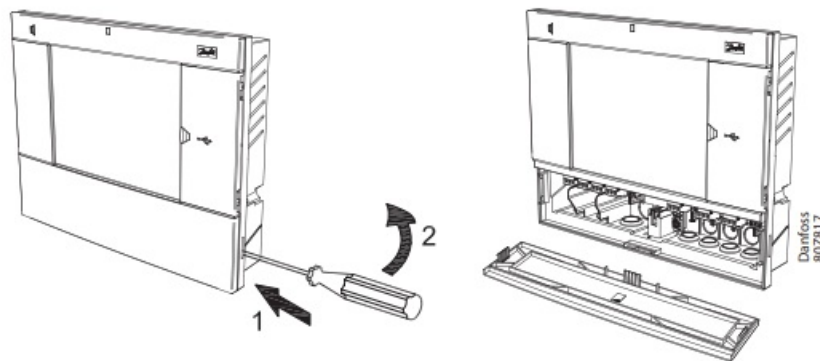**Industry Canada Statement:** Compliance with license-exempt standards.

EU Conformity Notice: Declaration of compliance with Directive 2014/53/EU.

Disposal Instructions
The product contains electrical components and should not be disposed of with domestic waste. Please follow local legislation for separate collection with Electrical and Electronic waste.

System Manager
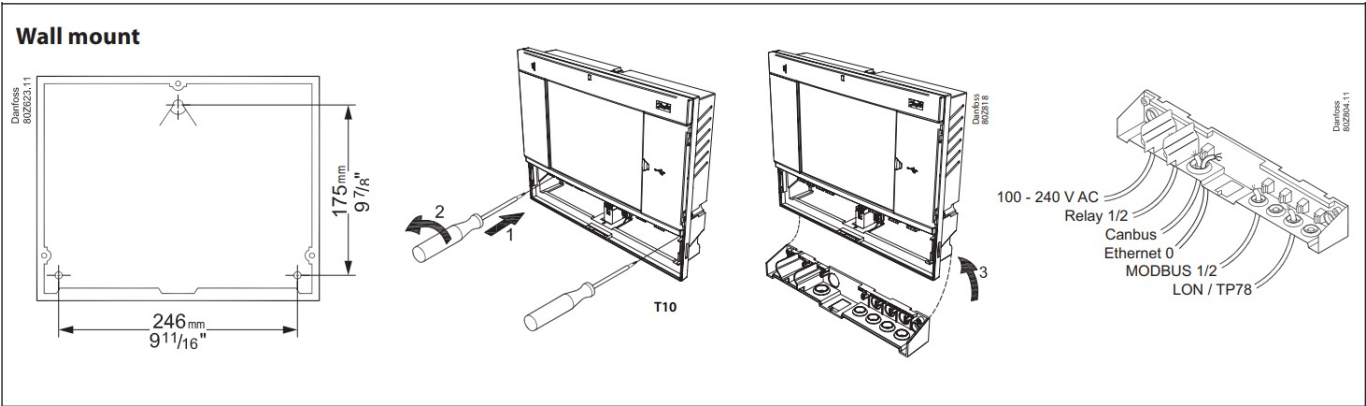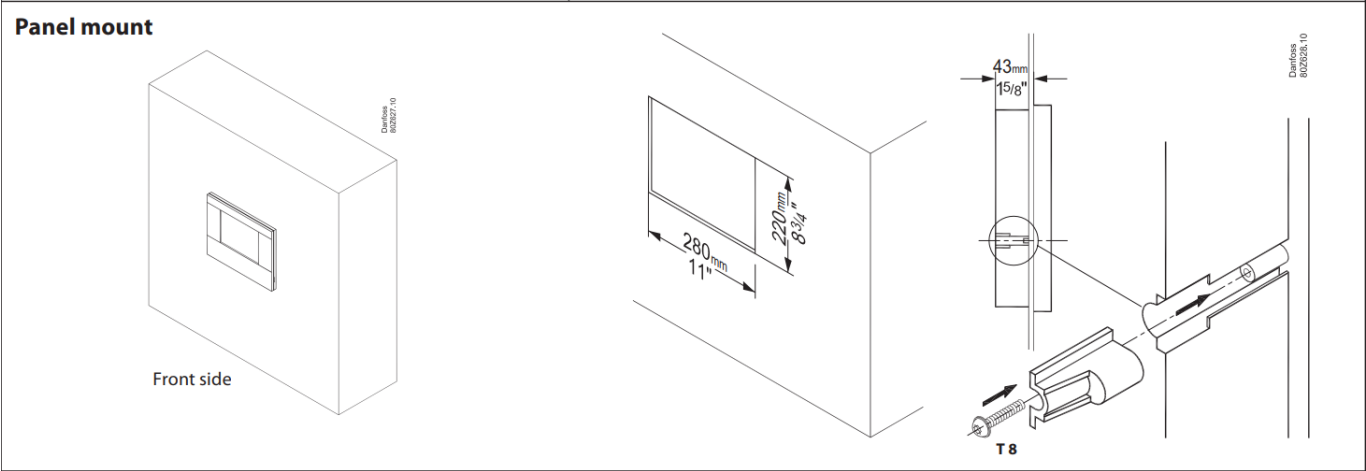Type AK-SM 800A series

Installation Guide

SPECIFICATION

- -10 °C< tamb < 50 °C
- 14 °F < tamb < 120 °F
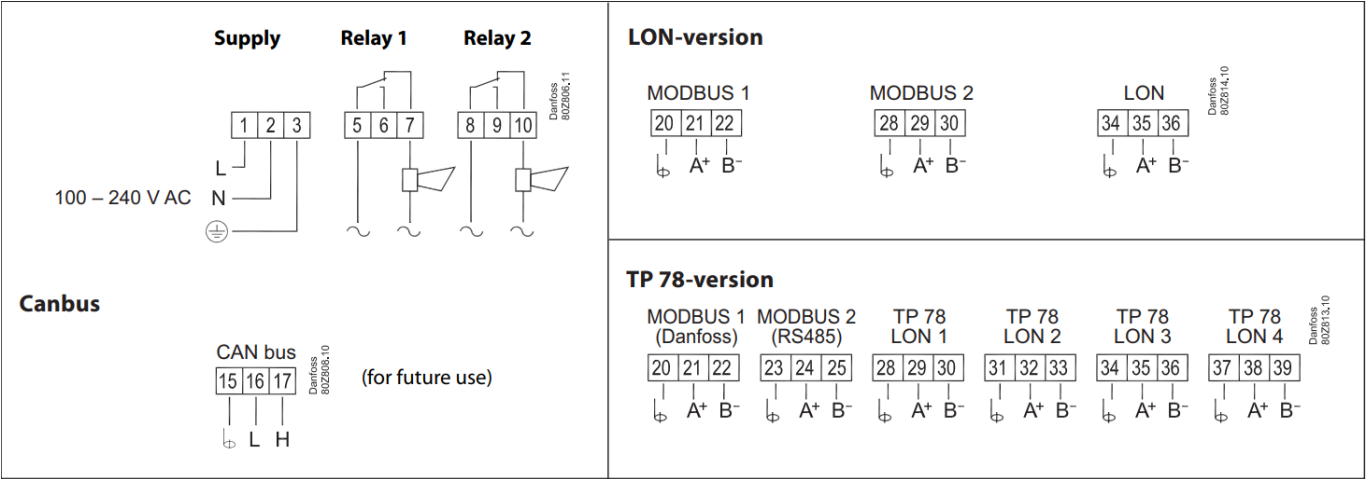- 0 – 95% RH, non condensing
- IP20

- UL file: E31024
- 61B5
- Class 2 or LPS in accordance with NEC.
- For supply connections, use 16 AWG or larger wires rated for at least 75 °C (167 °F).
- Use copper conducters only.
- Enclosure rating type 1
- FCC ID: X02SPB209A
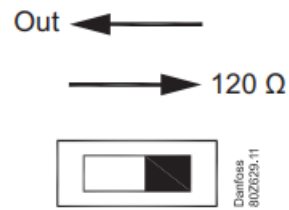- IC ID: 8713A-SPB209A

WALL MOUNTING

Panel mount

Front side

43 mm
1 5/8 "

220 mm
8 3/4 "

280 mm
11 "

T 8

Danfoss
80Z827.10

Danfoss
80Z828.10

Wall mount

175 mm
9 7/8 "

246 mm
9 11/16 "

T10

100 – 240 V AC
Relay 1/2
Canbus
Ethernet 0
MODBUS 1/2
LON / TP78

Danfoss
80Z823.11

Danfoss
80Z818

Danfoss
80Z804.11

TECHNICAL DATA

Supply   **Relay 1**   **Relay 2**

| 1 | 2 | 3 | | 5 | 6 | 7 | | 8 | 9 | 10 |

L
100 – 240 V AC   N

Danfoss
80Z806.11

Canbus

CAN bus

| 15 | 16 | 17 | (for future use)

L   H

Danfoss
80Z808.10

LON-version

MODBUS 1   MODBUS 2   LON

| 20 | 21 | 22 | | 28 | 29 | 30 | | 34 | 35 | 36 |

A+ B−   A+ B−   A+ B−

Danfoss
80Z814.10

TP 78-version

| MODBUS 1 (Danfoss) | MODBUS 2 (RS485) | TP 78 LON 1 | TP 78 LON 2 | TP 78 LON 3 | TP 78 LON 4 |

| 20 | 21 | 22 | | 23 | 24 | 25 | | 28 | 29 | 30 | | 31 | 32 | 33 | | 34 | 35 | 36 | | 37 | 38 | 39 |

A+ B−   A+ B−   A+ B−   A+ B−   A+ B−   A+ B−
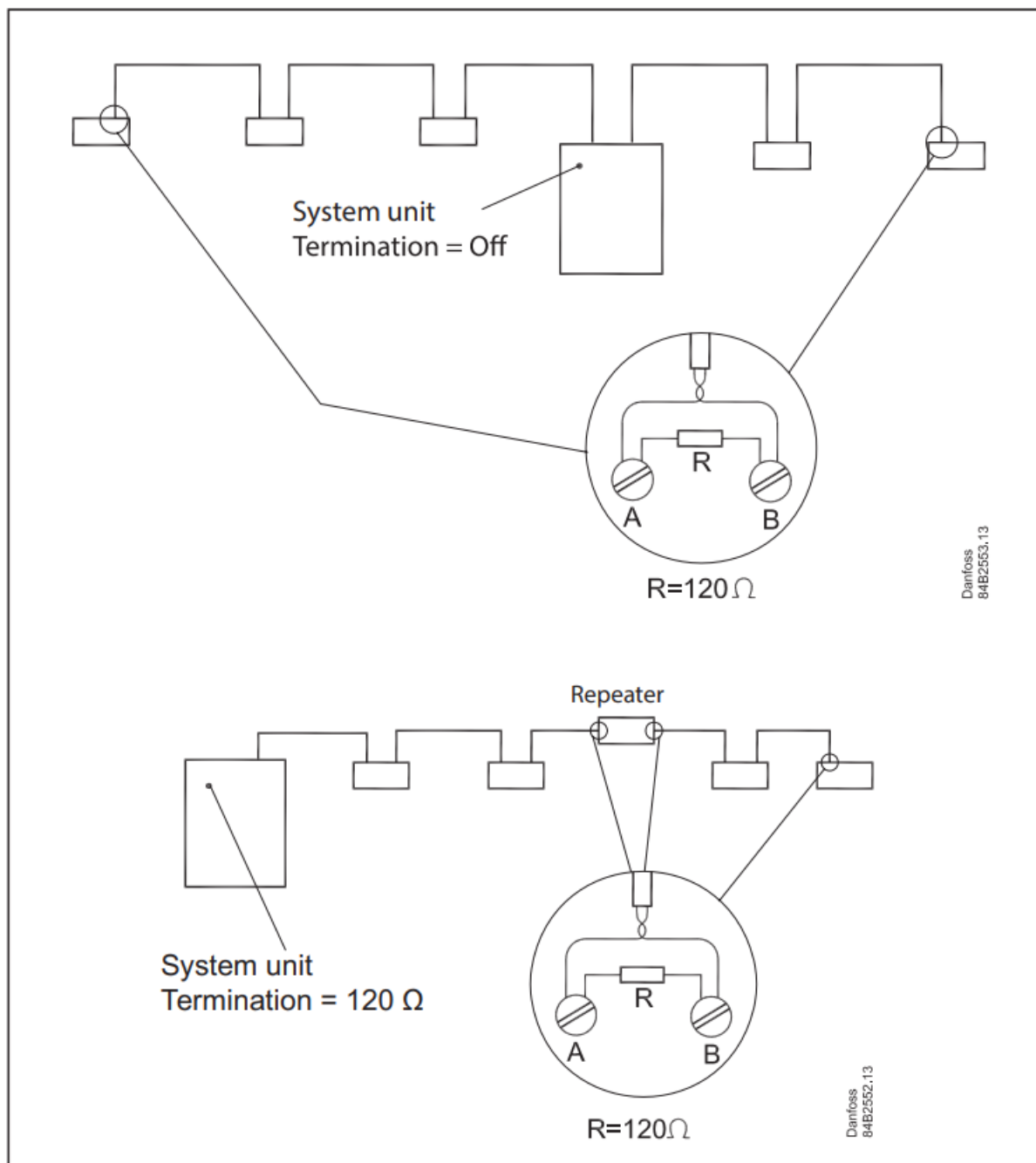
Danfoss
80Z813.10

The actual installation of the data communication cable must comply with the requirements mentioned in the document "Data communication between ADAP-KOOL® Refrigeration controls". Literature sheet number = **RC8AC902**.

Terminating
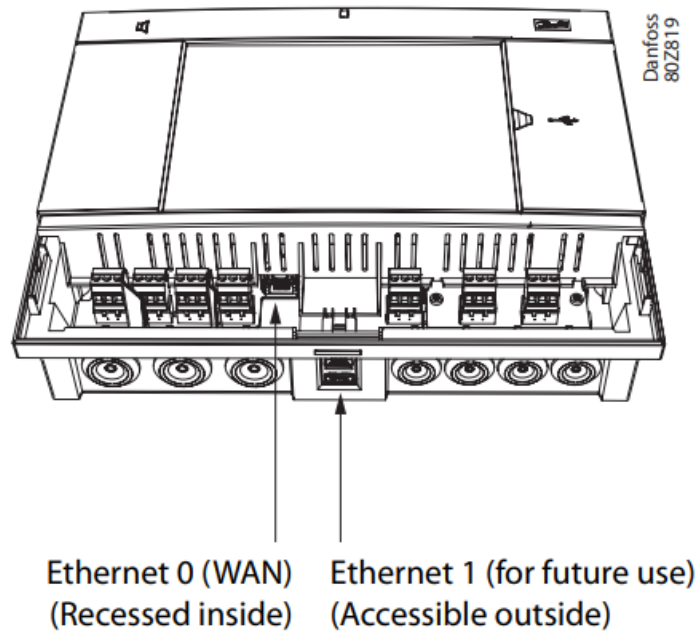

MODBUS
LON
TP78
Canbus

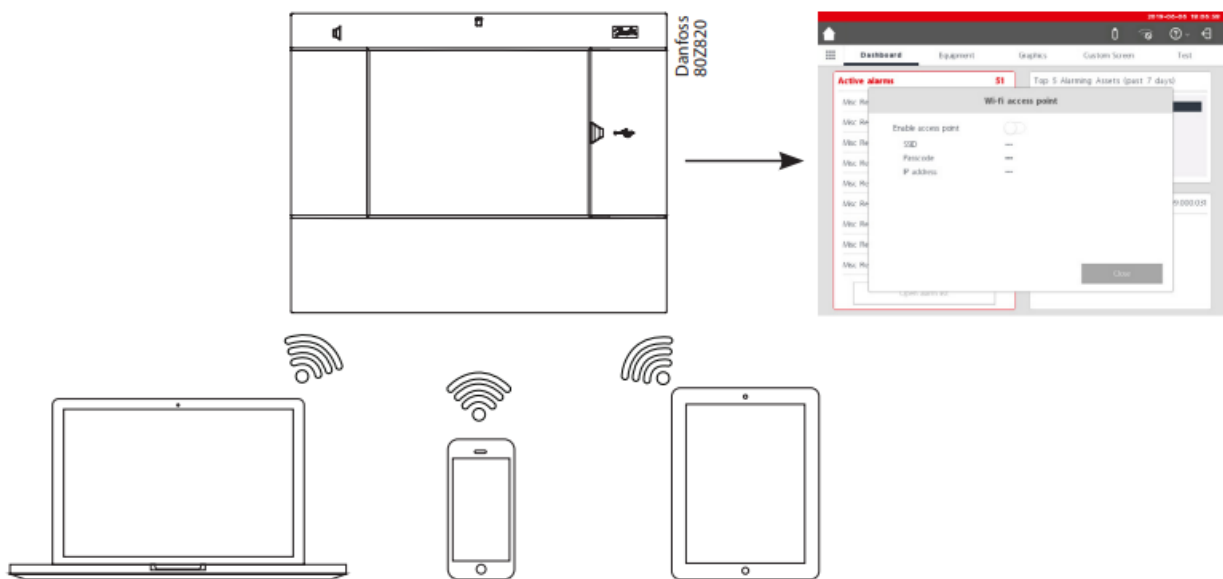When all cables have been mounted on the different units, the cable must be terminated.

System unit
Termination = Off

R

A   B

R=120 Ω

Danfoss
84B2553.13

Repeater

System unit
Termination = 120 Ω

R

A   B

R=120Ω

Danfoss
84B2552.13

Connectivity

Ethernet

Ethernet 0 (WAN)   Ethernet 1 (for future use)
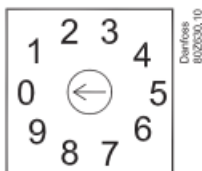(Recessed inside)   (Accessible outside)

WiFi Access point

1. Activate WiFi access point from local screen

2. Follow on-screen instructions
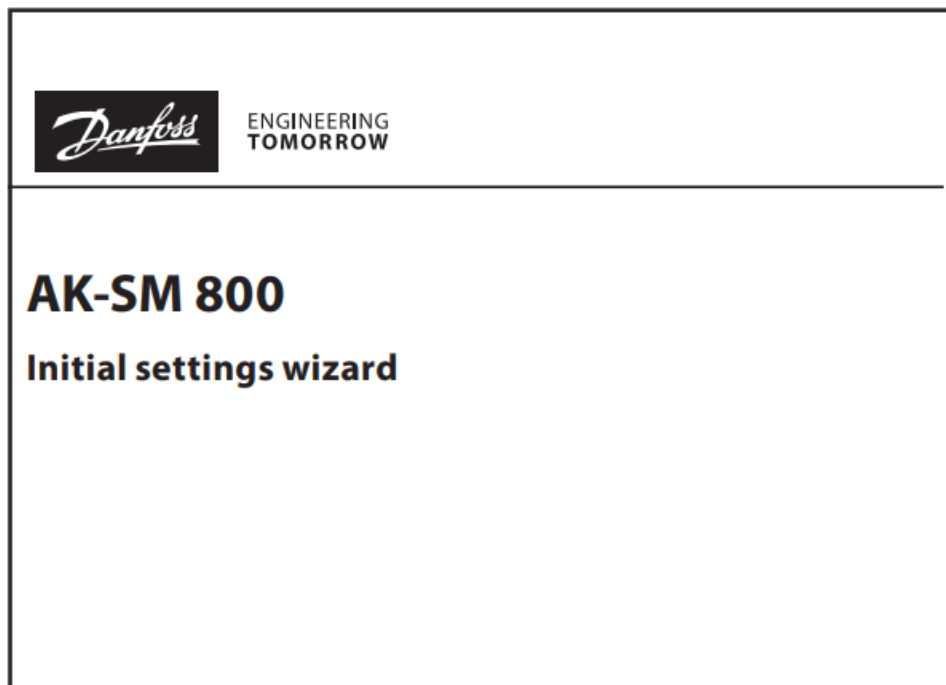
Start-up

First-time start-up

- AK-SM 820A
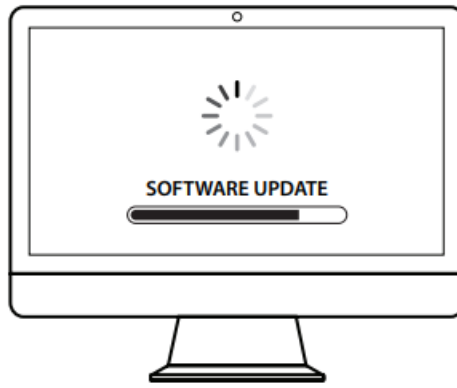- AK-SM 850A
- AK-SM 880A

Address

Initial settings:

1. Legal terms
2. Select language for local screen
3. Set up user
4. Set Date/time
5. Select Units
6. Set Communication
7. OK and Finish

Configuration

See User Guide: BC316842192932en-001001

IMPORTANT!

Method 1: Offline
Download firmware from **ak-sm800a.danfoss.com**

Method 2: Online
Use software update utility in the web interface.

Statements for the AK-SM 800A

FCC COMPLIANCE STATEMENT

CAUTION: Changes or modifications not expressly approved could void your authority to use this equipment
This device complies with Part 15 of the FCC Rules. Operation to the following two conditions:

1. This device may not cause harmful interference, and

2. this device must accept any interference received, including interference that may cause undesired operation

INDUSTRY CANADA STATEMENT
This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

NOTICE

FCC COMPLIANT NOTICE
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does

cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications: Any modifications made to this device that are not approved by Danfoss may void the authority granted to the user by the FCC to operate this equipment.

Any regulatory related concerns contact: **global_approvals@danfoss.com**

Danfoss Cooling
11655 Crossroads Circle
Baltimore, Maryland 21220
United States of America
global_approvals@danfoss.com
www.danfoss.com

EU CONFORMITY NOTICE
Hereby, Danfoss A/S declares that the radio equipment type AK-SM 800A is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: **www.danfoss.com**

Danfoss A/S
Nordborgvej 81
6430 Nordborg
Denmark
global_approvals@danfoss.com
www.danfoss.com

The Product contains electrical components And may not be disposed together with domestic waste.
Equipment must be separate collected with Electrical and Electronic waste. According to Local and currently valid legislation.
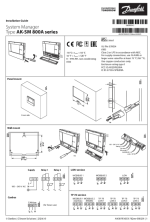
080R9342

AN307930531782en-000201

Documents / Resources

Danfoss AK-SM 800A Series System Manager [pdf] Installation Guide
80Z817, 80Z818, 80Z819, 80Z820, AK-SM 800A Series System Manager, AK-SM 800A Series, System Manager, Manager

References

- **Engineering Tomorrow | Danfoss**
- **User Manual**