

ENGINEERING
TOMORROW



January 2025 | Danfoss Climate Solutions for cooling

TECH INSIDER



Introduction

Danfoss Tech Insider keeps you updated with the latest news on the cooling and industrial products portfolios from Danfoss Climate Solutions. The content is intended to give a quick overview of core technical news and updates in our product portfolio, including links to relevant documentation and more information.

Danfoss Tech Insider is sent out, on a monthly basis, to ensure you are always up to date with the latest innovations and changes made to Danfoss products and solutions.

We hope you will enjoy reading Danfoss Tech Insider!

Table of Contents

Google Transition to Increased Security and How it Impacts e-mail on MCX15B2 / MCX20B2	3
Google Transition to Increased Security and How it Impacts e-mail on the AK-SM800A	4
Release of AK-OB55 Modbus TCP/IP Communication Module	5
AS-CX06 Pro, AS-CX06 Mid+, AS-CX06 Mid: Alsmart New Variance Release	6
Alsmart® Universal Controller Platform: AS-PS20 New Power Module Release	7
Introducing the X-Gate – A New Solution for Protocol Translation	8
Phase Out of Motor Actuator ICAD A	9
Optyma Condensing Unit Catalogues Updated	10
Discontinuation of the NSK/XSK/YSK Pressure Transmitter Program	11
Videos on YouTube and Infograchis	11
Details for Additional Information	12

Google Transition to Increased Security and How it Impacts e-mail on MCX15B2 / MCX20B2

Starting January 2025, Google will transition from "Less Secure Apps" to OAuth for Gmail account authentication. This change is part of Google's ongoing efforts to enhance account security. It impacts how Gmail accounts authenticate and no longer permits the use of standard passwords (except app passwords).

As a courtesy, we are sharing this reminder and guidance to help you adjust your settings and configuring Gmail account settings in MCX with app password, if you haven't done so already.

To continue using Gmail accounts with your MCX, three actions will be required.

Action	Where	Results
1) Enable 2-Step Verification on your Google account	Your Google Account used to send e-mails from MCX	Enabling 2-Step verification will allow the generation of an App Password (step 2)
2) Generate an App Password	Your Google Account used to send e-mails from MCX	A new 16-character password is generated – to be then used in MCX e-mail config
3) Update your MCX e-mail password to newly created App Password	MCX (via remote user interface MCXWeb)	E-mails sent from the MCX using an App Password will function as expected

Action 1) Enable 2-Step Verification on your Google account

[Turn on 2-Step Verification - Computer - Google Account Help](#)

Action 2) Generate an App Password via your Google account

[How to create App Passwords | Google Workspace Knowledge Center](#)

PS: Note that 16-digit password does not include any spaces.

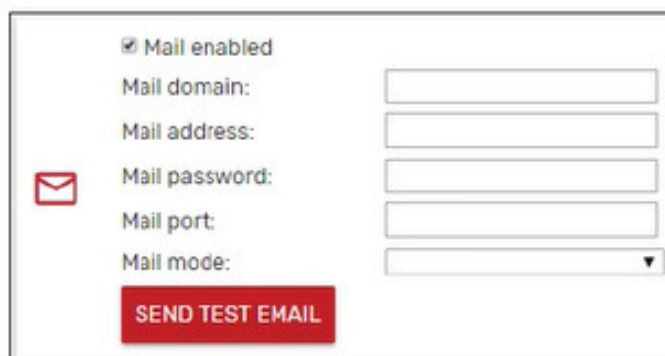
Action 3) Update MCX e-mail password/check e-mail configuration

Using a configuration level user login, navigate to the Settings configuration tab, this can be done via MCXWeb.

Ensure the following settings are correct for email functionality:

- **Mail Domain:** name of the SMTP server you want to use
- **Mail Address:** Must be a valid email address
- **Mail Password:** **Enter the new App Password you generated**
- **Mail Port:** Confirm correct SMTP port for Gmail (e.g., 587 for TLS or 465 for SSL)
- **Mail Mode:** Confirm correct SMTP mode for Gmail (e.g. TLS or SSL) based on previous value

Setting > Email notification



Testing

To validate the new e-mail configuration, press "Send Test Email" to send an email as a test to the mail address above. Save your settings before sending the test email. The email destination is set when configuring the users.

Google Transition to Increased Security and How it Impacts e-mail on the AK-SM800A

Starting January 2025, Google will transition from "Less Secure Apps" to OAuth for Gmail account authentication. This change is part of Google's ongoing efforts to enhance account security. It impacts how Gmail accounts authenticate and no longer permits the use of standard passwords (except app passwords).

It was announced before that Danfoss suggests to configure Gmail account settings in AK-SM800A with app password (please see [here.](#)) that comply with latest cybersecurity updates of AK-SM800A R4.0 and R4.1. However, as a courtesy, we are sharing this reminder and guidance to help you adjust your settings if you haven't done so already.

To continue using Gmail accounts with your AK-SM800A system, three actions will be required.

Action	Where	Results
1) Enable 2-Step Verification on your Google account	Your Google Account used to send e-mails from AK-AM800A	Enabling 2-Step verification will allow the generation of an App Password (step 2)
2) Generate an App Password	Your Google Account used to send e-mails from AK-SM800A	A new 16-character password is generated – to be then used in AK-SM800A e-mail config
3) Update your AK-SM800A e-mail password to newly created App Password	AK-SM800A (via local screen or remote user interface SvB5/SvW)	E-mails sent from the AK-SM800A using an App Password will function as expected

Action 1) Enable 2-Step Verification on your Google account

[Turn on 2-Step Verification - Computer - Google Account Help](#)

Action 2) Generate an App Password via your Google account

[How to create app passwords | Google Workspace Knowledge Center](#)

Action 3) Update AK-SM800A e-mail password / check e-mail configuration

Using a configuration level user login, navigate to the Alarm configuration screen, this can be done via local screen, StoreView Browser5 or StoreView Web (Configuration > Alarms > Connections)

Ensure the following settings are correct for email functionality:

- **Reply-to Address:** Must be a valid email address
- **Username:** The Gmail account address
- **Server/Name:** Gmail's SMTP server details
- **Password:** **Enter the new app password you generated without spaces, only 16 characters.**
- **Port Number:** Confirm correct SMTP port for Gmail (e.g., 587 for TLS or 465 for SSL)

Configuration ENGINEERING TOMORROW TEST

File Dashboard Alarms System View Detail Schedules Info History **Configuration**

Location: Configuration → Alarms Address: 0 Mike Test SM

Connections Service Alarm Routing Relays System Offline

Connections Updated 10:38:22

Number of network connections	1
Network Connection 1	
Type	E-Mail
E-Mail Configuration	
Use Encryption	Yes
Server	
Type	Name
Name	smtp.gmail.com
Use authentication	Yes
User name	example@gmail.com
Password	new App password here!
Send To	
1	example@gmail.com
2	
3	example@gmail.com
Reply To	example@gmail.com
Send abbreviated alarm message	No
Date	MM/DD/YY
Language	English
Time	24 Hour
Port	587
Schedule 1	Standard
From	00:00
To	00:00
Days	SMTWRFSA
Holidays	12345678
Schedule 2	Not Used
Schedule 3	Not Used

Release of AK-OB55 Modbus TCP/IP Communication Module

The AK-CC55 family of case controllers is complemented with a new Modbus TCP/IP communication option board.

This is compatible with the larger AK-CC55 controllers – Single Coil (UI) and Multi Coil, which have the capability to use the extension boards.

Ordering

AK-OB55 Modbus TCP/IP, 084B4086 – S/M-pack

Highlights

- Modbus TCP/IP communication,
- Ethernet based structured cabling
- Much improved data polling speed – up to 100x

Connection to front ends

AK-CC55 controllers equipped with the AK-OB55 Modbus TCP/IP are supported on the AK-SM 800A series System manager, running R4.1 or later SW release. No special EDF files are required for this communication type. Modbus parameter list remains unchanged compared to Modbus RS-485. EDF files are related to AK-CC55 controller SW version, not the communication type.

A router with DHCP functionality is required to assign an IP address and establish the connection. Please refer to the [Installation guide](#).



AS-CX06 Pro, AS-CX06 Mid+, AS-CX06 Mid: Alsmart New Variance Release

We are pleased to announce the release of the new variances of the Alsmart® Universal Controller Platform for sale. The product variances of Alsmart controller AS-CX06 Pro, AS-CX06 Mid+ and AS-CX06 Mid are officially released.

Key advantages

- CE and UL certification available on all the variances
- Programmable with the Alsmart Design 1.06.0002
- High flexibility to build your unit system choosing the best controller configuration

Affected products

- Alsmart Controllers AS-CX06 Pro (080G6002), AS-CX06 Mid+ (080G6004), AS-CX06 Mid (080G6006)

The Alsmart Design version 1.06.0002 can be downloaded from Danfoss Partner Portal.

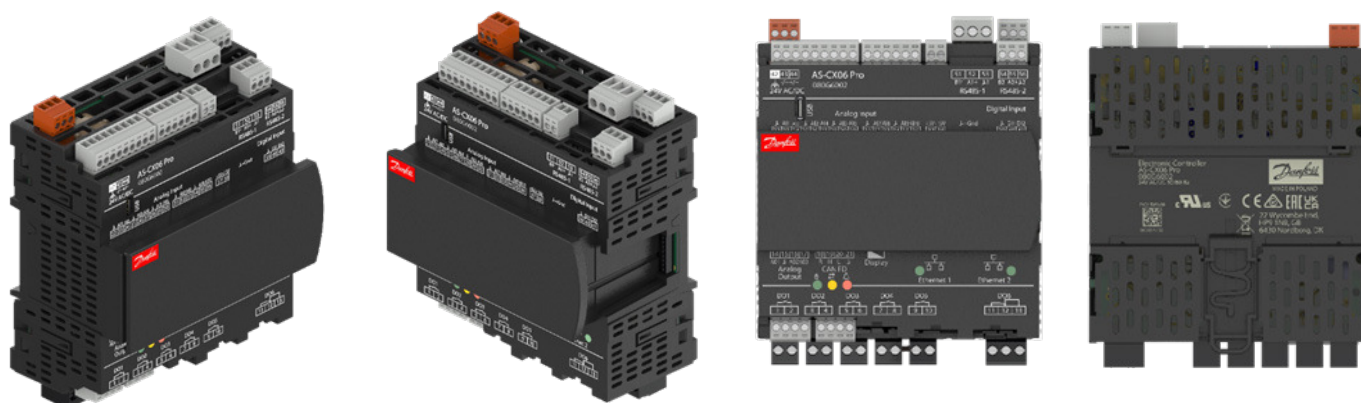
The table shows the controllers characteristics:

	AS-CX06 Pro+	AS-CX06 Pro	AS-CX06 Mid+	AS-CX06 Mid
Digital Output	6	6	6	6
Analog Output	3	3	3	3
Digital Input	2	2	2	2
Universal Input	10	10	10	10
TOTAL I/O	21	21	21	21
RS485	2	2	2	2
Ethernet	2	2	---	---
CAN FD	yes	yes	yes	yes
EEV	1	---	1	---
Power	24 V AC or 20...60 V DC			
USB-C	1	1	1	1
Dimension	6 DIN	6 DIN	6 DIN	6 DIN

For direct access to AS-CX06, read the data sheet [here](#).

For more information, please contact your local Danfoss sales representative.

You can read more about Alsmart on the [Danfoss.com](https://www.danfoss.com) website.



(pictures above are referred to AS-CX06 Pro)

The Alsmart Design v. 1.06.0002 can be downloaded from a dedicated Alsmart section of the [Danfoss Partner Portal](#).

Follow the attached instruction to get the access: [Alsmart Partner Portal - Quick setup guide](#)

Alsmart® Universal Controller Platform: AS-PS20 New Power Module Release

We are pleased to announce the release of the new power module for the Alsmart® Universal Controller Platform. The product variance Alsmart® Power Module AS-PS20 is officially released. The new Power Module AS-PS20 allows the capability to increase the number of I/Os in the unit configuration providing power supply and communication to the expansion modules (AS-XP devices).

Key advantages

- Ability to power supply up to 5 expansion modules
- Monitor AS-XP's power consumption and reports anomalies to the AS-CX controller
- Manage the self-addressing of the expansion modules AS-XP's
- CE and UL certification
- Supported and selectable in all the Alsmart Design releases

Affected products

- Alsmart® Power Module AS-PS20 (080G6019)

The new AS-PS20 is available in stock.

Any sample marked as "Prototype" will not work with the Alsmart® controllers PV04 and with the Alsmart® expansion module PV01 or later.



For direct access to AS-PS20 data sheet please read [here](#).

For more information, please contact your local Danfoss sales representative. You can also read more on [Danfoss.com website](#).

The Alsmart® Design v. 1.06.0004 can be downloaded from a dedicated Alsmart section of the [Danfoss Partner Portal](#). Follow the attached instruction to get access: [Alsmart Partner Portal - Quick setup guide](#)

Introducing the X-Gate – A New Solution for Protocol Translation

We are excited to introduce the **Danfoss X-Gate**, a new flexible gateway solution, used at field level to translate data from one protocol to another with the goal of enabling the integration of the devices present in the installation.

Protocols supported are

- Modbus RTU or TCP/IP
- BACnet MS/TP or IP
- CAN Bus



The X-Gate can be used to integrated devices in a variety of ways, including

- Integration of 3rd party devices into the System Manager AK-SM 800A
- Integration of the System Manager AK-SM 800A into a general BMS
- Integration of the Danfoss' devices into a general BMS

Whether you are working with existing or new systems, the **X-Gate** is your reliable gateway for managing complex integrations. With its modular design, easy configuration, and remote monitoring capabilities, it is perfect for optimizing the performance of your operations.

Key Features

- Multiple Protocol Support: Modbus RTU & TCP/IP, BACnet MS/TP & IP, CAN Bus.
- Multiple access channels including: x2 independent ethernet cards, x1 RS485 port, and x1 CAN Bus port.
- Expandable Ports: RS485 expansion port.
- Web-Based configuration: Easy setup and management through a secure web interface.
- DIN rail mounting: Simplified installation into an electrical panel

Figure 1: Expansion module snap-fit

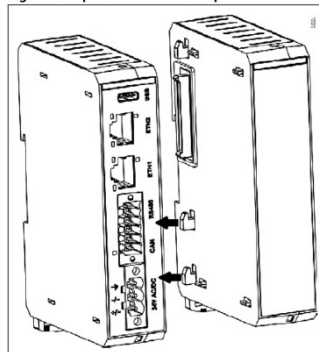
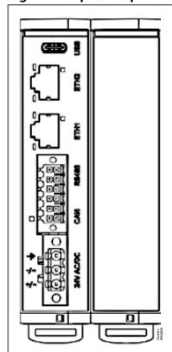


Figure 2: Input/output list



Optional RS485 Serial expansion module

The optional RS485 expansion module mechanically fits in with the main X-Gate board and both can be easily accommodated into a standard DIN-rail bar.

Online software release

X-Gate software release will be available online on the official web page as per following link: [X-Gate | Danfoss](#)

X-Gate Code Number

Model	Description	Code no.
X-Gate	X-Gate main board	080G0342

Accessories

Model	Description	Code no.
RS485 Module	X-Gate RS485 Serial expansion module	080G0343

To learn more about the X-Gate

To find more information about the new X-Gate and see additional documents, you can visit the following web-page:

[X-GATE: Gateway solution | Danfoss](#)

Phase Out of Motor Actuator ICAD A

As the industrial refrigeration industry embarks on digital transformation, and with the introduction of the new ICAD B – which takes motorized valve control and connectivity to a new level – we want to make it an easy choice to adopt the ICAD B. Released at the end of 2023, the ICAD B is now available to everyone.

To focus sales on our newest and best solution, **we will phase out ICAD A version by March 1st, 2025**. ICAD A orders placed before February 28th, 2025, will be delivered to the extent possible. If we do not have enough components to fulfill all orders, we will need to transfer the order to ICAD B instead.

If you are still not fully familiar with the new ICAD B and all its benefits, please visit our landing page for ICAD B:

[ICAD B Motorized valve control | Danfoss](#)



New generation ICAD B

Overall features and benefits of the ICAD B include

- *Saving time* thanks to the quick set-up function.
- *Smartphone app control* via Bluetooth.
- *Easy operation* with the larger display and intuitive, descriptive menu.
- *Self-diagnostics and remote monitoring*, ensuring no downtime.
- *Multiple interfaces* for easier set-up and adjustment of parameters.
- *Enhanced operating logic* designed for outstanding reliability on the most challenging conditions.
- *Real-time monitoring and control* via data communication.
- *New mounting design* for easier mounting.
- *Forward compatibility* with software-based updates providing the latest features and functionalities.

Meet the New ICAD B

Enhanced User Interface

Multiple interfaces(options) for easier set up and adjustment:

- Text descriptive Menu on display
- Status light.
- Smartphone app – Bluetooth connectivity
- Interface via Data Comm



Data communication

For easier integration to control systems (Monitor and Control via data):

- RS485 with Modbus RTU
- Ethernet with Modbus TCP/IP

New mounting design

Easier/faster mounting & dedicated for low temp applications:

- Only 2 screw adjustment needed for mounting.
- Fully hermetic design (no moisture penetration)



Smart software features

- Quick set up
- Self-diagnostics
- Maintenance intervals
- Operational logic enhancements
- Better control resolution(micro-steps)
- Easy SW update on the field
- New functionalities (2-step control)

100% Backwards compatible
Functional and dimensional compatibility

Phase out codes / Replacement codes

Code no.	Description		Code no.	Description
027H9075 027H9120	ICAD 600A Actuator ICAD 600A w/o cables		027H0485	ICAD 600, disp., BTH, RS485
			027H0486	ICAD 600, disp., BTH, Ethernet
			027H0488	ICAD 600, w/o disp., BTH, RS485
			027H0489	ICAD 600, w/o disp., BTH, Ethernet
027H9077 027H9122	ICAD 1200A Actuator ICAD 1200A w/o cables		027H0490	ICAD 1200, disp., BTH, RS485
			027H0491	ICAD 1200, disp., BTH, Ethernet
			027H0493	ICAD 1200, w/o disp., BTH, RS485
			027H0494	ICAD 1200, w/o disp., BTH, Ethernet
027H9078 027H9123	ICAD 600A-TS actuator with cables ICAD 600A-TS w/o cables		027H0495	ICAD 600TS, disp., BTH, RS485
			027H0496	ICAD 600TS, disp., BTH, Ethernet
			027H0498	ICAD 600TS, w/o disp., BTH, RS485
			027H0499	ICAD 600TS, w/o disp., BTH, Ethernet

Cables and accessories are not included in the ICAD B codes so these need to be ordered separately going forward.

Accessories codes

Type	Description	Order no.
ICAD Cable set 1,5 m (2x cables)	Includes power (1) and control signals (1) cables	027H0426
ICAD Cable set 3 m (2x cables)		027H0438
ICAD Cable set 10 m (2x cables)		027H0427
ICAD Cable set 15 m (2x cables)		027H0435
ICAD Cable set 1,5 m (3x cables)	Includes power (1), control signals (1) and data communication (1) cables	027H0464
ICAD Cable set 3 m (3x cables)		027H0465
ICAD Cable set 10 m (3x cables)		027H0466
ICAD Cable set 15 m (3x cables)		027H0467
Service kit ICAD 600B	Includes mounting O-ring replacement (10 pcs)	027H0428
Service kit ICAD 1200B		027H0429
ICAD-B Protective cover		027H0468

Optyma Condensing Unit Catalogues Updated

The catalogues for the Optyma™ Bare condensing units and Optyma™ Packaged condensing units have been updated.



[LINK](#)



[LINK](#)

Discontinuation of the NSK/XSK/YSK Pressure Transmitter Program

Danfoss is going to discontinue the NSK/XSK/YSK pressure sensor program for HVAC applications.

Danfoss has over the last years evolved our pressure sensor program, and the time is right for discontinuing our old range of pressure sensors.

We already have the pressure sensor DST P110 in our program and start of 2025 our new DST P070 will be launched.

We are confident that the new products range of HVAC sensors will serve you better than the product range we are discontinuing.

Among new features are total error band with better accuracy, better temperature resistance both during operation but also when soldering the sensor into the application. Furthermore, the pressure sensor DST P110 can be customized to your requirements.

See the pdf file for more information:

[list of affected code numbers and detailed timeline for the discontinuation of the products.](#)

Videos on YouTube and Infograchis

- Introducing the IPS 8 air purger- [LINK](#)
- ICAD B actuator: basic navigation with Danfoss smartphone app - [LINK](#)
- The potential of excess heat | Expert deep dive | Decarbonization Explained- [LINK](#)
- NeoCharge explained: Game changer in industrial refrigeration - [LINK](#)
- 4 simple steps to reducing energy bill in glass door merchandisers - [INFOG](#)
- Better chillers from inside out - [INFOG](#)
- Troubleshooting Danfoss AKV valve - [INFOG](#)



Details for Additional Information

UK/IE

[Cooling United Support Hub](#)

[Support Made Easy](#)

customerservice.uk@danfoss.com

customerservice.ie@danfoss.com

Customer Service UK & IE tel: 0330 808 6888

Denmark

[Cooling United Support Hub](#)

[Support Made Easy](#)

kundeservice.dk@danfoss.com

Kundeservice tel: 69 91 80 80

Norway

[Cooling United Support Hub](#)

[Support Made Easy](#)

kundeservice.no@danfoss.com

Kundeservice tel: 23 96 71 00

Sweden

[Cooling United Support Hub](#)

[Support Made Easy](#)

kundservice.se@danfoss.com

Kundservice tel: 010 888 7400

Finland

[Cooling United Support Hub](#)

[Support Made Easy](#)

asiakaspalvelu.fi@danfoss.com

Asiakaspalvelu puh: 0753 251 100

Estonia

klienditeenindus.ee@danfoss.com

Klienditeenindus tel: +372 6681 380

Latvia

klientuserviss.lv@danfoss.com

Klientu serviss tel: +371 6733 9166

Lithuania

klientucentras.lt@danfoss.com

Klientų centras tel: +370 5214 0043