

ENGINEERING
TOMORROW



February 2023 | 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

ICV Upgrade to 65 bar	3
CKB Pressure Switch for CO ₂ Applications – New Variant with Extended Pressure Connector	4
Pick the Right Solenoid Valve for Your Application – Danfoss Quick Selector	5
Maintenance Release of ERC 21X Series	5
AK-PC 782A and AK-PC 782B: Issue on Heat Recovery Stop Due to Hardcoded “HR Disable” Parameter	7
Videos on YouTube, Infograms.....	8
Details for Additional Information.....	8

ICV Upgrade to 65 bar

As a result of the increasing number of heat pumps and CO₂ systems, Danfoss experience a demand for an upgrade of the maximum working pressure of ICV platform to 65 bar (943 psi) from the existing MWP of 52 bar (754 psi).

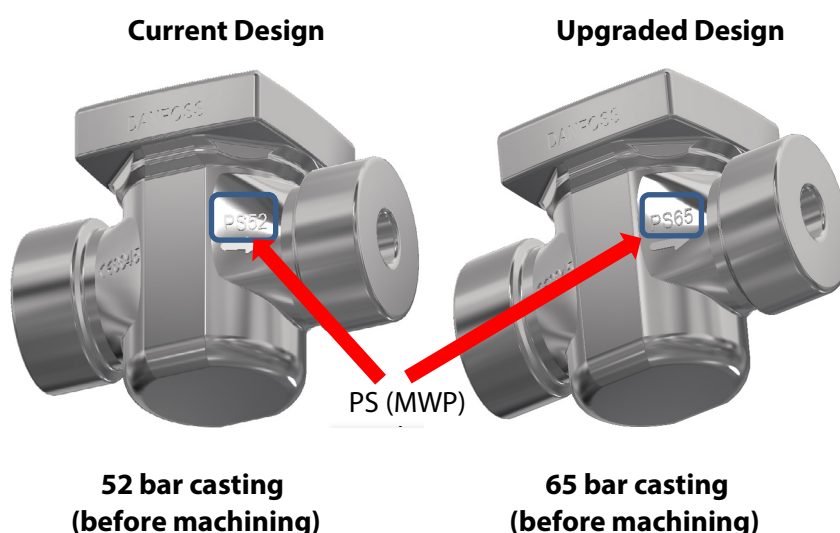
This change will cover the ICV platform (ICS, ICM, ICSH and ICLX) from sizes 25 to 65/80.

Both factory completed valves as well as any component of the parts program are covered.

The existing valve design can meet the higher MWP so no change to form, fit and function.

Only marking of MWP on the housing is changed.

There are no changes to the existing interfaces.



NOTE: This change does not include an upgrade of pilots to 65 bar. For ICS, ICSH and ICLX combined with pilots it is the lowest MWP value that counts, meaning the MWP for the pilots!

Modifications

The only visible change to the valve will be the stamping of the MWP to the housing. The top-covers and inserts will not change.

Affected products

All ICS, ICM, ICSH and ICLX products from sizes 25 to 65/80.

All code numbers will remain the same meaning that all code numbers for 52 bar will now be with 65 bar approval.

Customer impact

This change has no impact for normal business. No change on form, fit and function. Only the stamp on the housing will change.

This change is effective from January 10th 2023.

See more info behind this link: [ICV Flexline™ control valves for a green solution | Danfoss](#)

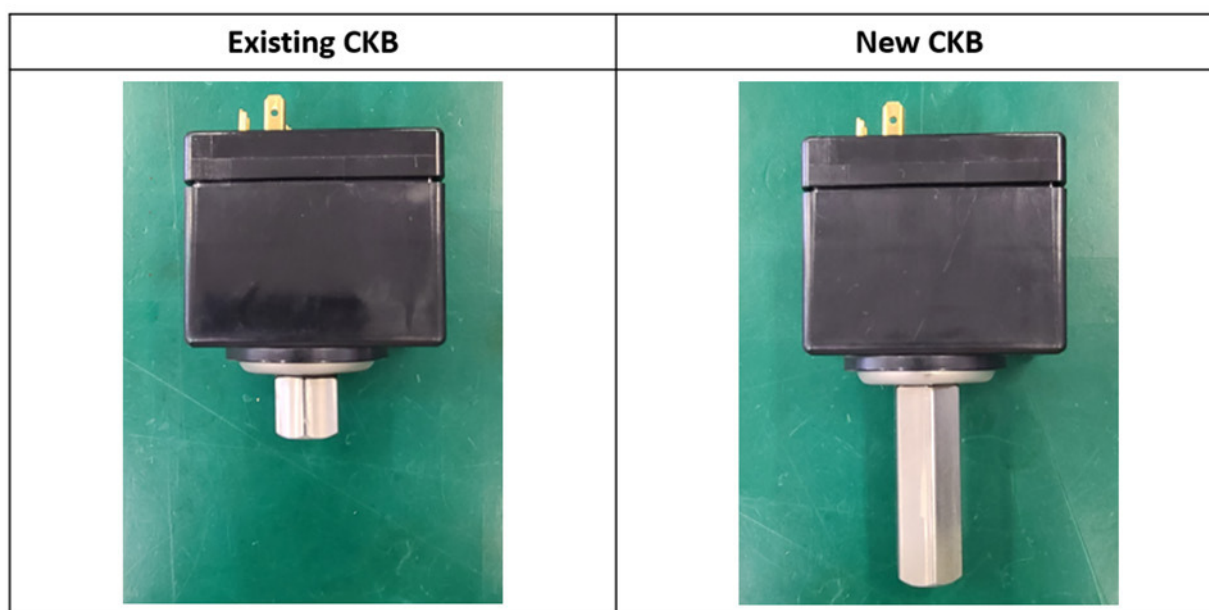
If you have any questions regarding this information, please contact your local Danfoss representative.

CKB Pressure Switch for CO₂ Applications – New Variant with Extended Pressure Connector

Danfoss is launching a new variant of CKB pressure switch.

It has longer pressure connector comparing to existing model to allow direct mounting on Bitzer and some other CO₂ compressor brands.

The pressure connection type and size remain the same as existing CKB: 7/16"-20 UNF female thread (1/4 in. flare) with Schrader opener.



New CKB with extended pressure connector is available for ordering starting January 2023.

Currently available specifications:

CKB model		Set pressure [bar]	Code number
PSH	automatic	117	061Z4001
PZH	manual	118	061Z5001
PZHH	manual with tool	TBA	TBA

See the possibilities here: [CO₂ pressure switches | Danfoss Global Product Store](#)

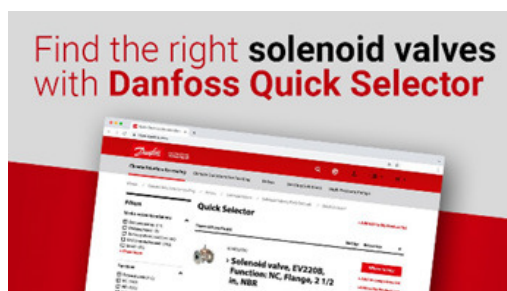
If other specifications are needed, please contact Danfoss local sales representative.

Pick the Right Solenoid Valve for Your Application – Danfoss Quick Selector

There are a lot of choices when it comes to selecting the right solenoid valve for your project. But now, with Danfoss Quick Selector for solenoid valves, you can scope out a complete solenoid valve system for your project or application in a few steps.



Based on a few inputs from you, Danfoss Quick Selector for solenoid valves recommends the most suitable valve and coil from the Danfoss product portfolio. Once you have selected the solenoid valve you are looking for, you can easily email, text, or print the product information.



If you're ready to buy, our distributor guide helps you locate the nearest Danfoss distributor in 20 countries around the world.

Go to Danfoss Quick Selector - [LINK](#)

Maintenance Release of ERC 21X Series



We are pleased to inform you that new ERC 21X WS maintenance version is available for sale from week 9, 2023 in which we have made several improvements, enhancements, and bug fixes.

Description

ERC 21x is an innovative, multi-purpose refrigeration controller available for:

- ERC 211: Single relay output for refrigeration and heating applications
- ERC 213: Three relay output for ventilated refrigeration and heating applications
- ERC 214: Four relay output for ventilated refrigeration and heating applications

ERC 21x is a highly reliable, high-quality controller for almost any light commercial application. The controller is compatible with a wide range of sensors and comes with pre-defined programs for the most typical applications in cold room, CFF (Commercial Freeze and Fridges), display cases, catering equipment, preparation table and other stand-alone refrigeration applications.

Improvements

1. Approved for R290 /R600a (flammable refrigerant) end use applications.
2. Compatibility with external BLE adapter to enable wireless communication with "KoolConnect" mobile application.

3. Added heating function in ERC 213 and ERC 214 series and new application "AP07" for heating applications.
4. Minimum delay for "Compressor stops on door open (C04)" changed from 1 minute to 0 so that compressor can set to off immediately on door open. Also, C04 parameter unit changed from minutes to seconds.
5. Fan ON cycle (F07) and Fan OFF cycle (F08) parameters maximum limit changed from 15 minutes to 180 minutes for better flexibility.
6. Reduced variation in voltage during Voltage Protection feature.
7. Fan during defrost (d09) default setting changed to "OFF" and allowed to change the setting for application 1, 2 and 3 in ERC 213 and ERC 214.
8. Improved auxiliary relay's holding current across all codes to address relay failure issue.
9. Compressor sudden switch ON and OFF issue at power up due to voltage protection is resolved.
10. Defrost initiated by button and digital input have been given higher priority to trigger defrost when evaporator temperature is higher than defrost stop temperature.
11. Swapped parameter code r02 and r03 to align with EKC series.
12. Compressor behavior after drip off time changed to ensure compressor do not start if control temperature is less than cut in temperature.

Bug fixes

1. Need of Controller reboot when display unit changed from °C to °F.
2. Compressor minimum stop time issue when parameter "C02" is set more than 3 minutes.
3. Password saving issue when programmed using copy key/KoolKey.
4. Set point display issue when set point is configured less than -10°C via Modbus.
5. Incorrect firmware version issue when read through Modbus.
6. "Order number low" (controller code) reading issue in controller display.

We are also consolidating few codes in the new version which are low runners. Please find below cross reference table.

Exist. Code	New replacement code	Model	Description
080G3262 080G3290	080G3451	ERC 211	Red LED, 115 V, Single/Multi Pack
080G3263	080G3453	ERC 211	Red LED, 230 V, KIT
080G3293	080G3454	ERC 211	Red LED, 230 V, Single/Multi Pack
080G3265	080G3457	ERC 213	Red LED, 230 V, KIT, Single/Multi Pack
080G3294	080G3458	ERC 213	Red LED, 230 V, Single/Multi Pack
080G3288	080G3459	ERC 211	Red LED, 230 V, Industrial Pack
080G3289	080G3460	ERC 213	Red LED, 230 V, Industrial Pack
080G3295 080G3296	080G3463	ERC 214	Red LED, 230 V, Single/Multi Pack
080G3264 080G3291 080G3411	080G3467	ERC 213	Red LED, 115 V, Single/Multi Pack
080G3292	080G3466	ERC 214	Red LED, 230 V, KIT Single/Multi Pack
080G3412	080G3469	ERC 213	NAM KIT - ERC 213, RED LED, 230V

Cross reference of current ERC 21X with new maintenance release version.

Affected Products

All members of ERC 21X family.

Please note

1. There is no impact of Accessories and all temperature sensors which were being used with old ERC 21X series.
2. Industrial pack sizes remain same as current ERC 21X

Recommendations

1. As part of the transition process already started, any customer currently using the ERC 21X series should consider moving to the New ERC 21X series immediately. This is because one of the raw materials(relays) have reached its end of Life and it is no longer available. Transition should be facilitated by the technical information which is mentioned below.
2. Existing few codes of ERC 21X is still available for ordering as a free stock. These codes will be completely phased out, only then the new codes will be opened for sales.
3. New codes (refer cross reference table) are available for ordering with a standard lead time.

Implementation date: Immediate

See the ERC controllers here: [ERC electronic controller for refrigeration | Danfoss](#)

AK-PC 782A and AK-PC 782B: Issue on Heat Recovery Stop Due to Hardcoded "HR Disable" Parameter



We have experienced that in the AK-PC 782A with SW versions 3.2x, 3.3x, 3.5x, 3.7x and in the AK-PC 782B with SW ver. 3.6x and 3.7x the parameter which disables the Heat Recovery is hardcoded, when instead it should be open for editing.

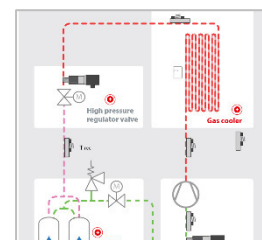
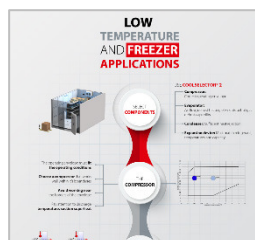
While we are working to a complete solution of the issue to be included in a new future software release, for the time being we have a workaround that can be done via AK-ST 500 Service Tool as follow:

1. Turn OFF the main switch for a short while.
2. Go to the Receiver Control configuration menu and set to YES, the parameter "Vhp Open on Low Prec".
3. Go to the Setpoint Management menu and change the Prec Min Pband parameter to a lower value. The recommendations are *not lower than 3.00 bar above Prec. Min, and not above the pump down limit minus one bar.*
4. Return to the Receiver Control configuration menu and set back to NO the parameter "Vhp Open on Low Prec".
5. Turn ON the main switch in the Lock/ Unlock Configuration menu, to resume the normal operation.

Please refer to your local Danfoss representative to receive all the support and information you might require.

Videos on YouTube, Infograms

- Danfoss Optyma™ iCO₂: the use of CO₂ in smaller commercial systems - [Infogram](#)
- Low temperature and freezer applications - [Infogram](#)
- Changing the sensor bulb – 8 mistakes to avoid - [LINK](#)
- Renew compressor oil in 3 steps - [LINK](#)
- Chilling with Jens: The Evaporator - [LINK](#)
- Ref Tools App - Change of language - [LINK](#)



Details for Additional Information

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[Cooling United Support Hub](#)

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