

ENGINEERING
TOMORROW

Danfoss

September 2020

Cooling and Industrial Automation

Danfoss Tech Insider



Introduction

Danfoss Tech Insider keeps you well informed on the latest news and updates in Danfoss Cooling and Industrial Automation. 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

Cooling United Live 2020! The virtual event experience of the year	3
Update on superheat controller EKE 1 series.....	4
Back-up power module EKE 2U - Product Launch	5
Thermostatic expansion valves TE 5 for new refrigerant R455A, R454C, and R1234yf	6
Contactors and motor starters for various industrial applications.....	7
Pressure switches for general and demanding applications.....	7
Trainings and How-to videos	8
Details for additional information	8

Cooling United Live 2020! The virtual event experience of the year



The first ever Cooling United Live will take place on **October 7-8, 2020**. It is a global, digital, live online event hosted by Danfoss Cooling for all cooling professionals.

Designed specifically for air conditioning, commercial refrigeration, food retail and industrial refrigeration audiences, Cooling United Live will serve as both a learning forum and new technology exhibition. It is tailored toward installers, OEMs, distributors, wholesalers and anyone with a particular interest or speciality in the cooling industry.

The event will focus on the various ways the cooling industry is growing and evolving. It will feature a wide variety of session types tailored to different audiences, including:

Live panel discussions and Q&A's

Take a deeper dive into the new technologies that will shape the future of cooling. Attendees will have an opportunity to engage with experts in real-time at the live events.

Engaging keynote speakers

Topics range from megatrends to returning to the workplace in a new environment. With this online format, attendees can easily pick sessions that best fit individual needs.

Connecting with experts in localized regions

Attendees will have the opportunity to speak with Danfoss experts in their local languages. This creates a custom experience tailored to each attendee.

Smaller chatrooms post-session

Reconnect with fellow cooling professionals to discuss key findings and questions from the session. There will be multiple opportunities for socializing — much like a traditional conference.

Product and system demos

Whether through 3D renderings of new products or more hands-on demonstrations, attendees of Cooling United Live will get an up-close experience of new technology offerings from Danfoss.

[See the agenda and register HERE!](#)

Update on superheat controller EKE 1 series



The software for EKE 1A, B and C series will be updated from Product Version PV 03 to PV04, and software version SW 2.02 to SW 2.04 that includes improvements and fixes on previously known bugs.

Improvements:

1. Added EKE 2U battery backup module compatibility to all EKE 1 series controllers (including newly released EKE 1D)
2. EKE controller version detection in SM8xx controllers are improved
3. High condensing temperature protection (HCTP) is enabled for EKE 1B and EKE 1D

Bug fixes:

1. Bug fix on wrong unit shown in Rankine when parameter R005 is set to Imperial
2. Bug fix on SH reference value being forced out of the range due to external reference
3. Bug fix on high and low SH alarm for MSS
4. Bug fix on N129 parameter being scaled wrong
5. High battery voltage alarm A996 disabled
6. Valve holding current I077 range changed
7. LOP disable function is hardcoded as 900 seconds into controller
8. Bug fix on Metric to Imperial conversion of pressure transducer value
9. Alarm relay function has been changed:

The alarm relay will remain open if there is an alarm signal from EKE or if the power of EKE goes off

In case you encounter any of the abovementioned bugs, please contact Danfoss customer service. Contact details for your country can be found in the end of this Tech Insider.

State	Position
Power off	P1
Power on + No alarm	P2
Power on + Alarm	P1

Note: P1 means normally open in NO1, normally closed for NC1 digital output, and P2 means the reverse.

Affected products:

Old version	New version
EKE 1A; 080G5300 PV03/SW2.02	EKE 1A; 080G5300 PV04/SW2.04
EKE 1B; 080G5350 PV03/SW2.02	EKE 1B; 080G5350 PV04/SW2.04
EKE 1C; 080G5400 PV03/SW2.02	EKE 1C; 080G5350 PV04/SW2.04

To communicate with the new SW2.04, [KoolProg version 4.2](#) is needed

Back-up power module EKE 2U - Product Launch



EKE 2U, Back-up power module

The new EKE 2U is a back-up power module that supplies power to stepper motor controllers to close valves in case of power loss.

EKE 2U is a perfect complement to our EKE 1x, EIM 365 and MCX Electronic controllers in helping OEMs to develop systems with best-in-class superheat control with superior level of system protection by preventing liquid/gas migration in case of power failure. The product ensures system protection and simplifies the installation and reduce maintenance costs.

The EKE 2U back up power module is designed with Danfoss controller/driver and Danfoss stepper motor valves in mind (i.e. ETS series, ETS Colibri, ETS 5M, ETS 6, KVS, CCM/CCMT) but technically it can also be used with 3rd party controllers and valves.

For details please refer to the [Product Specification](#) or the dedicated Danfoss [website](#).

Compatible Danfoss controllers

	Stepper motor Controller							
	EIM 365	EKE 1A	EKE 1B	EKE 1C	EKE 1D	EKE 1P	MCX 061V	MCX 152V
Features								
Power signal can be shared	●	✓	✓	✓	✓	✓	●	●
State of health (SOH) detection	●	✓	✓	✓	✓	●	●	●
Number of valves	1	1	1	1	1	1	1	2
At power failure, Nos of controllers powered by 1 unit of EKE 2U	2	2	2	2	2	2	2	1
For Status of Health 'SOH' detection, latest firmware is required.								

Thermostatic expansion valves TE 5 for new refrigerant R455A, R454C, and R1234yf



Danfoss are introducing a program of new TE 5 thermostatic expansion valve power elements for use with A2L refrigerants R455A, R454C, and R1234yf.

Other than compatibility with the new refrigerants, the general features of these new TE 5 variants are identical to those of other standard TE 5 valves. There are no changes to the codes of the orifice and valve body variants. TE 12, TE 20, and specifications other than those mentioned above are available upon request.

The new TE 5 valves may be used in any general application for these refrigerants with evaporating temperatures within the below-mentioned evaporating temperature range.

Product specifications

Charge range: $-40\text{ }^{\circ}\text{C}/+10\text{ }^{\circ}\text{C}$ ($-40\text{ }^{\circ}\text{F}/+50\text{ }^{\circ}\text{F}$) Factory setting: $4\text{ }^{\circ}\text{C}$ ($7.2\text{ }^{\circ}\text{F}$)

Valve type	Refrigerant	Pressure equalization		MOP		Range		Capillary tube		Code no. Multi pack
		Size	Type	[$^{\circ}\text{C}$]	[$^{\circ}\text{F}$]	[$^{\circ}\text{C}$]	[$^{\circ}\text{F}$]	[m]	[in.]	
TE 5	R455A	1/4 in. / 6 mm	Flare	-	-	-40-10	-40-50	3	118	067B3397
TE 5	R454C	1/4 in. / 6 mm	Flare	-	-	-40-10	-40-50	3	118	067B3398
TE 5	R1234yf	1/4 in. / 6 mm	Flare	-	-	-40-10	-40-50	3	118	067B3399

Technical documentation

For capacity tables/selections please refer to Coolselector 2. The appropriate data sheet will soon be updated.

Availability

These new variants are included in the [Product Store](#) and are available for ordering.

Contactors and motor starters for various industrial applications



Danfoss contactors and motor starters provide trouble-free switching and maximum protection for costly motors and other electrical equipment.

Features and benefits:

- Compact, easy to install and reliable
- Designed to meet demanding requirements, based on comprehensive application experience
- More than sixty years of manufacturing experience ensure that our contactors and motor starters stand out with regards to quality and long life

To learn more have a look in the [Product Catalogue](#) or use the [Quick links](#). For availability or further technical information you can use our [Product Store](#)

Pressure switches for general and demanding applications



The Danfoss range of industrial pressure switches measure and control the pressure of air and liquids. Our pressure switches are accurate, robust, built for long life, and perform flawlessly day after day, even under harshest conditions.

Check out the history of the pressure switches in this short [Video](#)

Features and benefits:

- Low differential switching
- Bellows technology
- Designed for various applications
- Snap action contacts
- 15 international approvals

To read more visit the [Quick links – Switches page](#) or have a look at our easy [Switch Selector](#)

Trainings and How-to videos

On-demand webinars: Coolselector®2 - selection and calculation software

- [Coolselector®2 - introduction](#)
- [Coolselector®2 - selection and calculation software \(intermediate\)](#)
- [Coolselector®2 - Industrial Refrigeration deep dive](#)

On-demand webinars: Cold Room Essentials – webinar series

- [Cold Rooms: The Absolute Basics](#)
- [Cold Rooms: Operation and Application](#)
- [Cold Rooms: A Look into the Future](#)
- [Cold Room Q&A on YouTube](#)

On-demand webinar: Position Sensors Technology

- [Position sensors technology at Danfoss](#)

How-to videos - Industrial Automation:

- [For easy guidance to make confident decisions in your installations and service calls](#)



Details for additional information

UK/IE

[Cooling United Support Hub](#)

[Support Made Easy](#)

customerservice.uk@danfoss.com

Customer Service UK tel: 0330 808 6888

customerservice.ie@danfoss.com

Customer Service IE tel: 1 800 816 868

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

Baltic countries

Customer Service email:

asiakaspalvelu.fi@danfoss.com

Customer Service tel: +358 753 251 113