

Superheat Controller | EKE Series

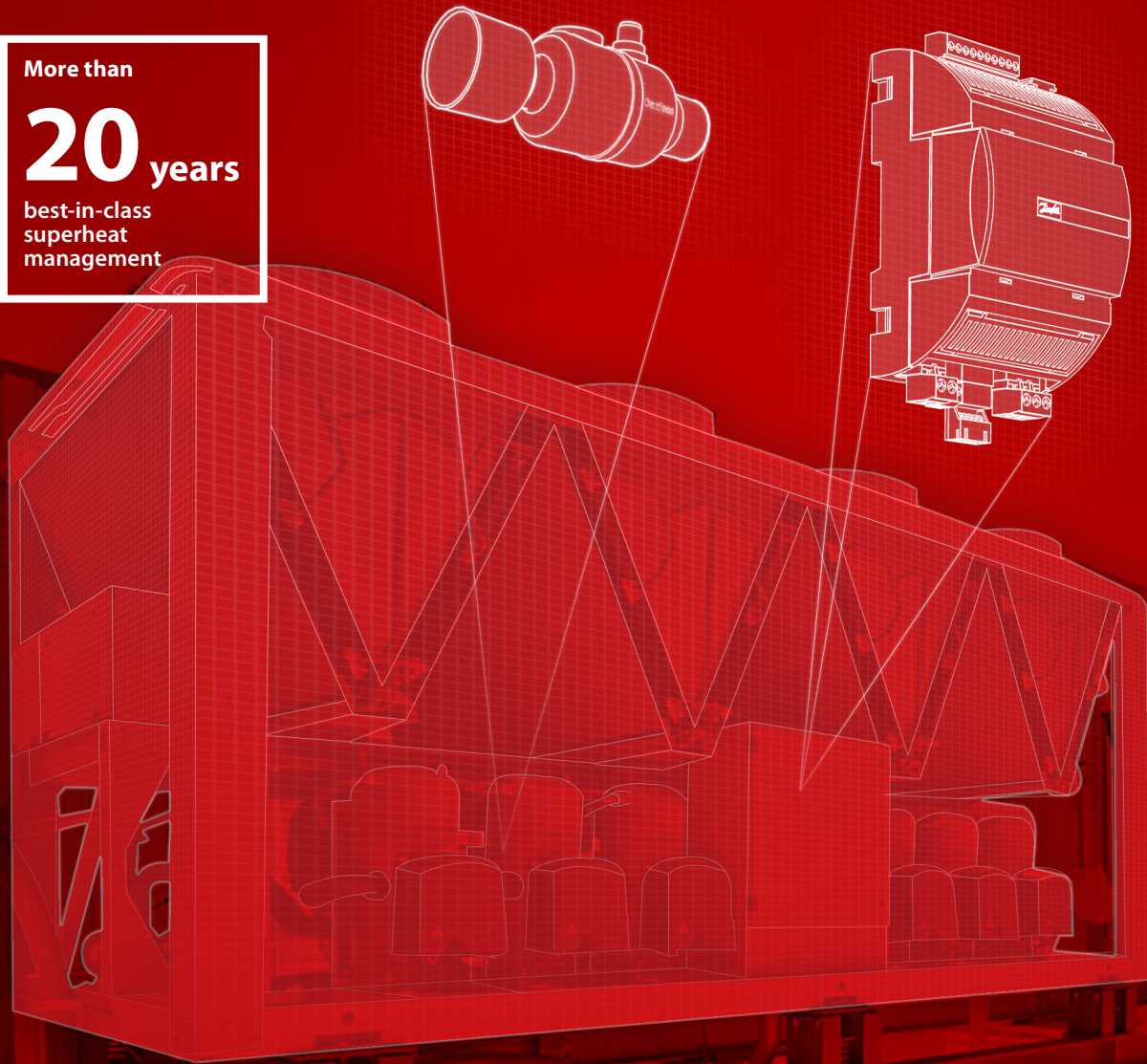
Obtain **high system reliability** with **precise superheat control** and valve management

Danfoss superheat controls are designed to support the attainment of high system efficiency and reliability, while helping OEMs reduce development costs for chillers, rooftop units, heat pumps, CRAC units and cold rooms.

More than

20 years

best-in-class
superheat
management



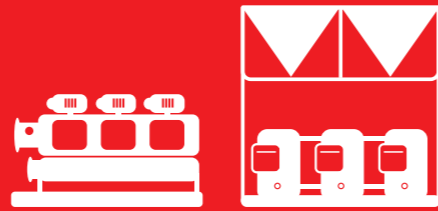
Optimized superheat control

Increase system protections while **reducing** development costs

With tuned up software and easy installation, the EKE series of superheat controllers are a perfect complement to our ETS expansion devices.

When utilizing Danfoss ETS and EKE, your system will have best-in-class superheat management with precise valve control.

EKE combined with a full collection of Danfoss pressure and temperature sensors will enable the next generation of HVAC systems to be more precise, energy efficient by using the most stable superheat solution available.



System Protection

Fail Safe Operation

In case of sensor error, system can continue cooling in emergency mode based on a user-defined parameter (i.e. pre-defined opening degree).

Low Operating Pressure (LOP)

Allows applications to start-up at lower ambient conditions, to prevent compressor from stopping due to low suction pressure, by quickly opening the expansion valve.

High Condensing Temperature Protection (For EKE series) (HCTP)

Ensures that the load on the condenser is reduced, in cases where the condensing temperature gets too high, by reducing the flow in the expansion valve.

Superheat Close

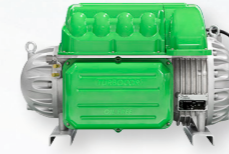
When the superheat is below a set minimum value, the valve will close faster in order to protect the compressor from the risk of getting liquid in the suction line.

Max Operating Pressure (MOP)

Keeps evaporating pressure below the MOP set point, to avoid overload of the compressor, by reducing the flow in the expansion valve.

Backup power module

Enables to quickly shut down the valves, in case the mains power fail, thus prevents liquid from entering the compressor.



Efficiency

Adaptive Superheat Control

Several control algorithms available to match your application that guarantee low and stable superheat.

Compressor Feed Forward

Provides proper superheat by synchronizing valve reactivity to compressor speed. (great for variable speed or when operating conditions vary)

Heating & Cooling Selection Mode

Optimizes evaporator performance by allowing 2 different sets of superheat settings (i.e. reversible systems).

Fast Start-Up

Ensures optimal superheat in the shortest period of time by quickly opening the valve and avoiding low pressure cut-out during start-up.



Comparison table

		EKE 1A	EKE 1B	EKE 1C	EKE 100
Dimensions (W x H x D)		70 x 130 x 60 mm	70 x 130 x 60 mm	70 x 130 x 60 mm	70 x 110 x 49.5
Power supply type	24V AC / DC	•	•	•	•
Temperature Sensor Type	PT1000	-	-	•	•
	NTC 10K	•	•	•	•
No of temperature sensors		1	2	3	1 for 1V model and 2 for 2V model
Pressure Transmitter types	Ratiometric 0.5 - 4.5V DC	•	•	•	•
	0 - 20 mA signal	-	-	•	•
	1 - 5V / 0 - 10V	•	•	•	(1-5V possible), (for 0-10V need external supply)
No of pressure sensors		1	1	2 or (1 P and 1 ext. ref.)	1 for 1V model and 2 for 2V model
External reference	4 - 20 mA	-	-	•	•
	0 - 20 mA	-	-	•	•
	User defined current	-	-	•	•
	0 - 10 V	•	•	•	•
	1 - 5 V	•	•	•	1 for 1V model and 2 for 2V model
	User defined voltage	•	•	•	•
No. of external reference		1	1	1	-
Communication	Modbus RS 485	-	•	•	•
	Wired CAN Bus	-	-	•	-



Ease of Use/Installation/Applied Costs

Share DC Power Supply

Galvanic isolation eliminates the need of one transformer for every EKE.

Valves & Sensors

Compatible with a wide range of valves and sensors.

Share Pressure Signal via Modbus

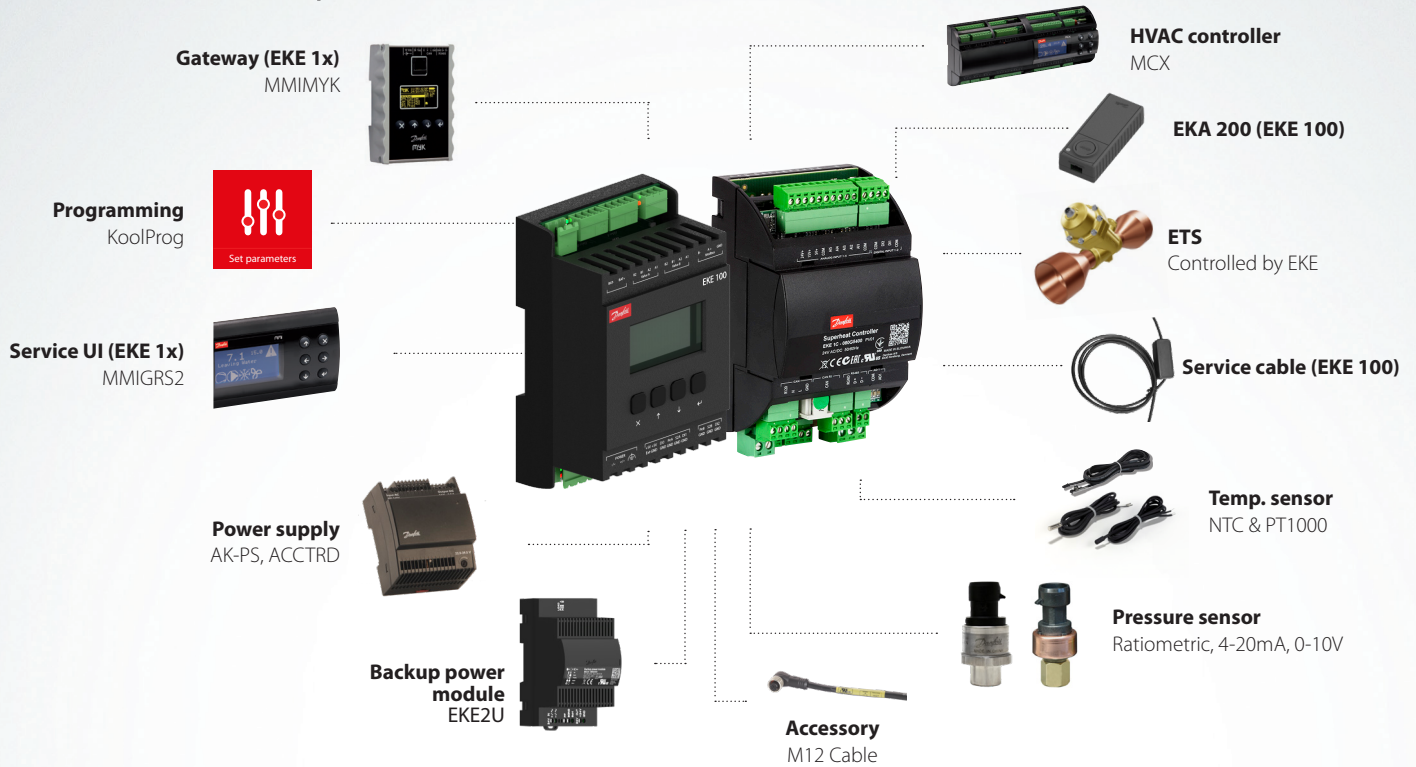
1 sensor can be used with multiple controllers.

KoolProg

The Koolprog wizard tool will guide the user to set up the controller in a fast and easy way.



Superheat controller collection for ideal superheat control



Access our **online services 24/7**

You can find many helpful resources on our website, including product catalogues, educational and training programs, downloadable manuals and apps, and troubleshooting tools.

Danfoss online self-services

- Superheat controllers: www.airconditioning.danfoss.com
- KoolProg Software: <http://koolprog.danfoss.com>
- Learning platform: Learning.Danfoss.com



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Scan QR code for more ETS info



Scan QR code for more programmable controllers

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