ENGINEERING
TOMORROW

Danfoss Cooling | EKE 400 Evaporator Controller

Industrial refrigeration control
Easier than ever before

The Danfoss EKE 400 Evaporator Controller is specifically designed for industrial and heavy commercial refrigeration systems, significantly reducing installation time and costs.

It helps achieve the optimal cooling mode and defrost sequence for efficient, safe, and trouble-free evaporator operation.

Reduce installation cost by up to

50%

eke400.danfoss.com

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EKE 400
Evaporator Controller

The new EKE 400 is specifically designed to control industrial refrigeration evaporators – in small as well as large systems. Following the Distributed Control System (DCS) architecture, advanced control algorithms, and wizard for quick setup and commissioning, the EKE 400 significantly reduces control installation time and costs and provides operational safety and efficiency.

The EKE 400 Evaporator Controller manages the complete operation in cooling and defrost mode for optimal operation and defrost sequence (ammonia, CO_2, and HFC/HCFC-based systems). It is applicable for defrosting both flooded evaporators and DX evaporators* and supports multiple defrost methods, including hot gas defrost (pressure control/liquid drain), electrical defrost, and water/brine defrost.

An easy-to-use wizard enables quick setup of key parameters and efficient commissioning, and the predefined process sequence ensures reliable operation and defrost. The EKE 400 is specially designed to get the best performance from Danfoss valves. However, it also works with non-Danfoss valves.

The EKE 400 includes MODBUS communication, which allows integration to a central PLC system. However, it can also be used without central PLC as standalone.

Feature	Metric
Supply Voltage	85 – 265 V AC, 50/60 Hz 20 – 60 V DC 24 V AC ± 15%, 50/60 Hz
8 AI - Analog Input	Analog measurements selectable via parameter Up to 8 Pt 1000, or NTC – temperature Up to 8 0-1V/0-5V/0-10V Up to 4 0-20mA/4-20A 4 ON/OFF (current 20 mA)
8 DI - Digital Input	Voltage-free (dry) contact function
8 DO – Digital Output	6 - Relay output 2 Normally open 4 Change-over contacts 2 - Solid state output (AC required)
4 AO - Analog Output	0-10 V DC
Data communication	Modbus RTU (RS 485) for communication to PLC and CANbus for internal communication between multiple EKE 400s or Remote HMI, type MMIGRS2 if necessary.
Approvals	CE, UL

Visit **eke400.danfoss.com** to discover more about the new Danfoss EKE 400 Evaporator Controller

Benefits

Specifically, for industrial refrigeration

- Application-specific Evaporator Controller, managing the complete operation in cooling and defrost mode for optimal operation and defrost sequence
- One dedicated controller per evaporator
- For small and large systems alike
- Applicable for defrosting flooded evaporators and DX evaporators*
- Supports multiple defrost methods: hot gas defrost, electrical defrost, and water/brine defrost

Cost-efficient installation and easy setup

- Distributed Control Systems (DCS) reduce control installation costs compared to central PLC systems.
- Easy-to-use wizard enables quick setup of key parameters, reducing need for PLC programming in the field
- Replication of setup to multiple EKE 400 units via Danfoss tools
- Specially designed to get the best performance from Danfoss valves
- Also works with non-Danfoss valves
- MODBUS communication allows integration to central PLC system
- CANbus communication for interconnection of multiple EKE 400 controllers and process alignment
- Can be used without central PLC as standalone

Operational safety and efficiency

- Standardized solution with high flexibility
- Predefined process sequence for reliable operation and defrost
- Complies with IIAR recommendations for hot gas defrosting
- Wizard supports correct valve selection for specific evaporator applications
- Reduced reliance on PLC programming expertise

Complete solution from Danfoss

- One point of contact regardless of valve/actuator/sensor/controller support

* Contact Danfoss

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