

ENGINEERING
TOMORROW



June 2021 | 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!

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Latest Software Release of the Current Generation ADAP-KOOL™ System Manager, the AK-SM 800 Series



The new **AK-SM 800 software update v08.095** is now available for [download](#). This software is recommended for all customers and improves system reliability and performance. This update will also include manufacturing/production, **ensuring newly produced units will utilize 08.095**.

The AK-SM 800 series firmware version 08.095.007 improves connectivity with CC55 and energy meters, enhances SNMP stability, and includes several updates and improvements.

Top changes/improvements include

- SNMP randomly changing setpoints
- Full CC55 support
- Updated CALM feature
- Improved connectivity to energy meters
- Improved connectivity to Lennox devices
- Several other fixes – improving overall stability

EDF updates are also included. Please note that it might be necessary to download the latest EDF files from our System Manager site under this [link](#).

Timing

V08.095.007 software is immediately available via this [link](#).

Affected products

AK-SM 850 System M. Ref.	080z4001
AK-SM 820 System M. Conv.	080z4004
AK-SM 810 System M. Wo D.	080z4006
SK-SM 880 System M. full	080z4008
SK-SM 880 System M. TP78	080z4008
AK-SM 880AL System M. w touch	080z4552

Important notice on SM800 platform

With the new SM 800A platform being released globally, we recommend all customers to change to the new SM 800A platform as soon as possible.

Accompanying SM 800 software tools (RMT and StoreView Desktop and Browser) will remain available.

Alternative solutions for AK-SM 800

Current AK-SM 800 series		Recommended alternative – AK-SM 800A	
AK-SM 810 System M. Wo D.	080z4006	Currently not available	n/a
AK-SM 820 System M. Conv.	080z4004	AK-SM 820A Control RS485-Screen / Conv. store	080Z4024
AK-SM 850 System M. Ref.	080z4001	AK-SM 850A Control RS485-Screen/ Ref. license	080Z4021
AK-SM 880 System M. full	080z4008	AK-SM 880A Control RS485-Screen / Full store	080Z4028
AK-SM 880 System M. TP78	080z4008	AK-SM 880A Control TP78 retro-fit screen / Full store	080Z4029
AK-SM 880AL System M. w touch	080z4552	Currently not available	n/a

Reach out to your local Sales Representative or Technical Support for further information.

AK-SM 800 Series Enters a Scheduled End of Life (EoL)

The newly launched AK-SM 800A platform offers higher advantages and is superior to the current AK-SM 800 series. Therefore, Danfoss now announces the scheduling of formal product End-of-Life (EoL) for the current AK-SM 800 series.



The AK-SM 800 platform will transition into maintenance mode – meaning software updates will be focusing on fixing critical bugs and improvements only. With that, accompanying software tools (RMT and StoreView Desktop and StoreView Browser) will remain available and move into maintenance mode.

Timing

Existing demand up to Q1/2022 will be produced and made available for all our customers. Additional volumes will be produced to cover service replacement need until end of 2022.

Affected products

AK-SM 850 System M. Ref.	080z4001
AK-SM 820 System M. Conv.	080z4004
AK-SM 810 System M. Wo D.	080z4006
AK-SM 880 System M. full	080z4008
AK-SM 880 System M. TP78	080z4008
AK-SM 880AL System M. w touch	080z4552

Recommendation to change to the new SM 800A platform as soon as possible

With the new SM 800A platform being released globally, **we recommend all customers to change to the new SM 800A platform as soon as possible.**

Alternative solutions for AK-SM 800

Current AK-SM 800 series		Recommended alternative – AK-SM 800A	
AK-SM 810 System M. Wo D.	080z4006	Currently not available	n/a
AK-SM 820 System M. Conv.	080z4004	AK-SM 820A Control RS485-Screen / Conv. store	080Z4024
AK-SM 850 System M. Ref.	080z4001	AK-SM 850A Control RS485-Screen/ Ref. license	080Z4021
AK-SM 880 System M. full	080z4008	AK-SM 880A Control RS485-Screen / Full store	080Z4028
AK-SM 880 System M. TP78	080z4008	AK-SM 880A Control TP78 retro-fit screen / Full store	080Z4029
AK-SM 880AL System M. w touch	080z4552	Currently not available	n/a

AK-UI55 Displays - New Mounting Base



Danfoss is now introducing AK-UI55 Mounting Base (084B4099) for the AK-UI55 displays: Info, Set or Bluetooth.

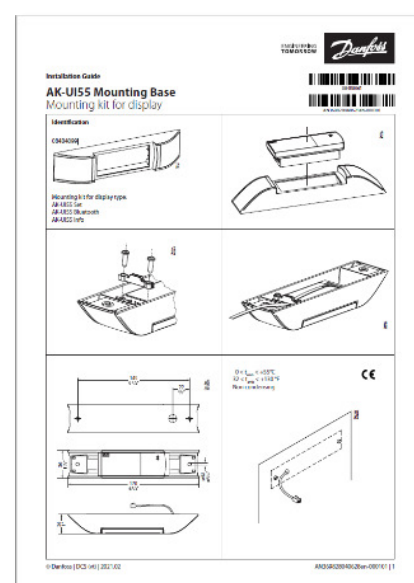
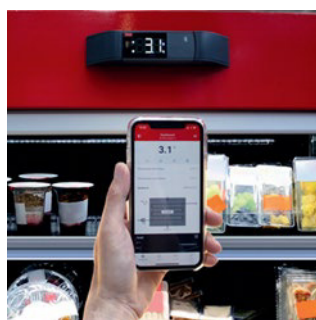
Ease of installation

The mounting base makes it easy to mount the displays on a wall or on the outside of the refrigerated display cabinet.

In a retrofit situation it is easy to exchange an old AK-CC 550 controller and mounting base, as the screw connections fits in the same dimensions.

Please note that the cable must be updated for AK-CC55 and displays.

See the brochure [here](#)



If you need additional information, please contact your local Danfoss sales representative.

MTZ / NTZ Compressors Qualified with R455A One-Cylinder Models

The MTZ and NTZ models below are qualified for using with refrigerant R455A, which is classified in Refrigerant Group 1. For R455A, the stated GWP is below 150 limits. The refrigerant is also classified as A2L with low flammability properties. Please refer to European regulations and directives about the safe use of A2L refrigerants (EN378, EN60335). Outside of Europe, refer to local regulations

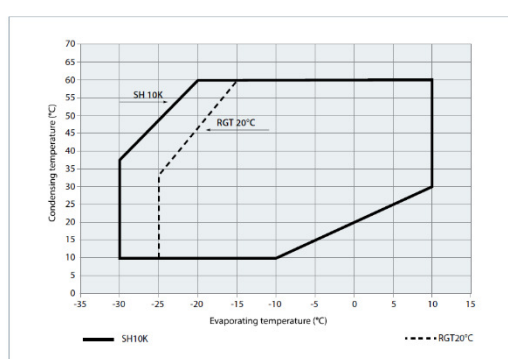
Affected compressors

MTZ18, MTZ22, MTZ28, MTZ32, MTZ36, MTZ40, NTZ048, NTZ068 with voltage code 4 (380 - 400 V (415 V) 3 ph) and code 5 (220 - 240 V 1 ph).

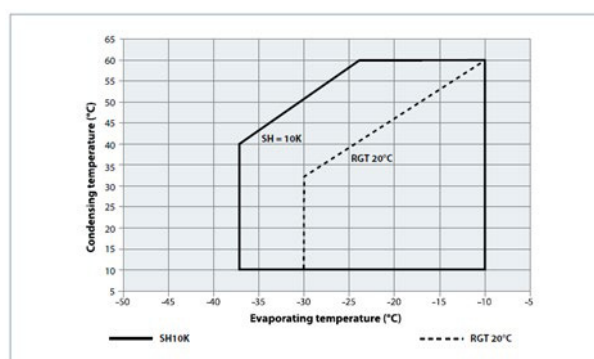
All compressor models listed above, starting from serial number LD1008416617, are qualified with R455A.

Operating Map

MTZ—R455A



NTZ—R455A



Nominal Performance data for R455A

Compressor model	50 Hz, EN12900 ratings To = -35°C, Tc = 40°C, SC = 0K, SH = 10K				60 Hz, EN12900 ratings To = -35°C, Tc = 40°C, SC = 0K, SH = 10K			
	Cooling capacity W	Power input kW	Current input A	COP W/W	Cooling capacity W	Power input kW	Current input A	COP W/W
NTZ048-4	677	0.72	1.88	0.95	807	0.94	1.86	0.86
NTZ068-4	1282	1.28	3.5	1.0	1438	1.35	3.28	1.07

R455A	Refrigeration											
Compressor model	50 Hz, EN12900 ratings To = -10°C, Tc = 45°C, SC = 0K, SH = 10K 50 Hz				50 Hz, ARI ratings To = -6.7°C, Tc = 48.9°C, SC = 0K, SH = 11.1K				60 Hz, ARI ratings To = -6.7°C, Tc = 48.9°C, SC = 0K, SH = 11.1K			
	Cooling capacity W	Power input kW	Current input A	C.O.P. W/W	Cooling capacity W	Power input kW	Current input A	E.E.R. Btu.h/W	Cooling capacity W	Power input kW	Current input A	E.E.R. Btu.h/W
MTZ018-4	1708	1.0	2.5	1.71	1882	1.09	2.56	5.87	2276	1.3	2.42	5.99
MTZ022-4	2424	1.27	2.53	1.91	2654	1.4	2.68	6.46	3394	1.76	2.78	6.58
MTZ028-4	3115	1.6	3.77	1.95	3405	1.74	3.95	6.66	4416	2.22	3.87	6.79
MTZ032-4	3534	1.76	3.52	2.01	3849	1.92	3.72	6.85	5081	2.46	3.84	7.04
MTZ036-4	4002	2.08	4.57	1.93	4441	2.3	4.85	6.59	5661	2.87	4.78	6.73
MTZ040-4	4668	2.43	5.54	1.92	5110	2.69	5.87	6.49	6524	3.28	5.8	6.78

Recommendations

R455A is a zeotropic refrigerant with a temperature glide of about 6K and therefore must be charged in liquid phase. Even if MTZ and NTZ compressors are loaded with 175PZ, R455A can highly dilute the oil. To prevent any lack of lubrication, a crankcase heater must be used.

For details please refer to the following application guidelines:

[Maneurop® reciprocating compressors MT/MTZ](#)

[Maneurop® reciprocating compressors NTZ](#)

and selection program [CoolSelector2](#)

Code numbers for ordering and technical references printed on the compressor nameplates are unchanged.

If you need additional information, please contact your local Danfoss sales representative or Technical Support.

New Titanium Pressure Transmitter for Marine Applications

To withstand the harshest marine conditions and meeting strict environmental regulations, Danfoss has developed a new Titanium Pressure Transmitter DST P40M



The **P40M pressure transmitter** is specifically engineered for the robust pressure monitoring of marine applications such as ballast-water treatment, exhaust-gas scrubbers, desalination systems, and seawater cooling systems - environments where high corrosion resistance and longevity are essential for the reliable operation of the auxiliary and propulsion systems of a vessel.

With P40M, experience best-in-market reliability and performance against aggressive water corrosion through titanium housing and a ceramic Al₂O₃ 96% pressure element. Plus, P40M has several required international marine approvals, easing the design process to save time and administrative cost.

For more technical information have a look at the [datasheet](#) or contact our Technical Support.

Overall features and benefits

- Best-in-market quality: titanium housing and ceramic Al₂O₃ 96 % pressure element
- Innovation: robust, durable, weldless titanium construction
- Reliability: improved accuracy with high linearity and low hysteresis value
- Compliance: meets enclosure requirements up to IP67 and operates according to TS 16949
- Marine approvals: China Classification Society (CCS) (pending); DNV-GL EU RO Mutual Recognition Type Approval Certificate; Korean Register (KR); Nippon Kaiji Kyokai General Incorporated Foundations (NK, Class NK)
- Partnership & expertise: 40+ years of market experience, reliable partnership, and innovative future-proof solutions

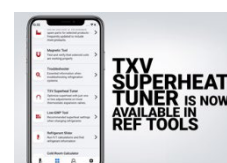
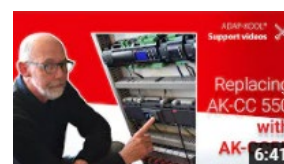
Livestream Recordings & Videos in YouTube

Livestream recording:

- Thermostatic vs electronic expansion valve- [LINK](#)

Videos in YouTube:

- CO₂ ejector system performance in a midsized supermarket in mild climate – [LINK](#)
- How to replace AK-CC 550 with the AK-CC55 – [LINK](#)
- Main differences between AK-SM 800 and the AK-SM 800A – [LINK](#)
- How to exchange controller on the AK-SM 8xxA | ADAP-KOOL® – [LINK](#)
- TXV Superheat Tuner integrated into Ref Tools - [ANIMATION](#)



Details for Additional Information

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