



Pack Controller

AK-PC 782B

One controller for the entire CO₂ booster pack.

Description

The flexible AK-PC 782B pack controller delivers highest efficiency. AK-PC 782B is a powerful and flexible controller that provides precise regulation, improved efficiency, and enhanced user friendliness for pack control in transcritical CO₂ booster packs. The controller flexibility and efficiency makes it the obvious choice for all sizes of packs in all climates.

Features & Benefits

- Comprehensive Control and Setup
 - ■ One controller for the entire CO₂ booster pack.
 - Easy first-time use with wizard-like setup.
 - Quick Application Selection for independent control functions.
- Advanced Compressor Management
 - ■ Supports variable speed, digital scroll, CRII, Stream, and unloader compressors.
 - Controls up to 2 compressors per suction group.
 - Best fit step control handles mixed compressor sizes.
 - Model-based Smart IT start for parallel compressor control.
 - Can control large booster packs with up to 22 compressors.
- Efficient Pressure and Temperature Management
 - ■ Optimal high-pressure control.
 - Receiver pressure management with four control modes.
 - For the most heavily loaded refrigeration area.
 - Gas cooler temperature optimization with regard to ambient temperature.
- Energy Efficiency and Optimization
 - ■ Improved energy efficiency with Danfoss Multi Ejector™.
 - Ensures safe and reliable operation.
 - To compare and benchmark system efficiency.
- Robust Algorithms and Safety
 - ■ Ensures safe initial start-up and reliable operation.
 - Stops case regulation in case of serious compressor alarms in the rack.
- Comprehensive Oil and Liquid Management
 - ■ Control of oil separator and oil receiver
 - Option for liquid injection into the suction line.
- Advanced Gas Cooler Control
 - Capacity control of up to 8 fans.
- Heat Recovery and External Support
 - ■ Management for tap water and space heating.
 - KPI and COP calculation to compare and benchmark system efficiency.
- Alarm and Communication Management
 - ■ Local and remote alarm management with readable text descriptions.
 - IP communication.

Ordering

Product code numbers

Type	Supply voltage [V] AC/DC	Communication type	Code number
AK-PC 782B	24	LAN with IP communication	080Z0202

Note: Chinese is not available in MMI display. It is available only in PC via ST-500 (Service Tool).

Accessories code numbers



080Z0058

**Electron. control accessories,
AK-PS 130 STEP3 Accessory
Power Supply, Power supply**

AK-PS 130 STEP3 Accessory Power Supply, Used for product: Power supply, Packing format: Single pack, Quantity per packing format: 1

Related products

080Z0202



080Z0010

I/O module, AK-XM 205A

Function: Analog Inputs, Digital Outputs, Communication type: AK2 LOCAL BUS, Packing format: Multi pack, Quantity per packing format: 12

Related products

080Z0202



080Z0064

**Communication module, AK-
CM 102**

Function: Pack contr to IO Extension, Communication type: RJ 45 to Controller, Application area: Additional In- and Outputs

Related products

080Z0202



080Z0018

I/O module, AK-XM 204B

Function: Digital Outputs, Communication type: AK2 LOCAL BUS, Packing format: Multi pack, Quantity per packing format: 12

Related products

080Z0202



080Z0017

I/O module, AK-XM 205B

Function: Analog Inputs, Digital Outputs, Communication type: AK2 LOCAL BUS, Packing format: Multi pack, Quantity per packing format: 12

Related products

080Z0202



080Z0023

I/O module, AK-XM 208C

Function: 8AI, 4 Stepper out, Controller type: Extension Module, Packing format: Multi pack, Quantity per packing format: 12

Related products

080Z0202



080Z0008

I/O module, AK-XM 102A

I/O module, Product Type: AK-XM 102A, Controller type: Extension Module, Digital inputs (DI) [pc]: 8, Packing format: Multi pack, Quantity per packing format: 16

Related products

080Z0202



080Z0032

I/O module, AK-XM 103A

Function: Analog Inputs and Outputs, Controller type: Extension Module, Analog inputs (AI) [pc]: 4, Analog outputs (AO) [pc]: 4, Packing format: Multi pack, Quantity per packing format: 16

Related products

080Z0202



084B8562

Electron. control accessories, EKA 163A, Display, Universal, EKC Controllers

EKA 163A, Display, Universal, Used for product: EKC Controllers, Packing format: Multi pack, Quantity per packing format: 30

Related products

080Z0202



080Z0161

System software, AK-ST 500

Controller type: Service Tool, Application area: Service

Related products

080Z0202



080Z0059

Electron. control accessories, AK-PS 250 STEP3 Accessory Power Supply, Power supply

AK-PS 250 STEP3 Accessory Power Supply, Used for product: Power supply, Packing format: Single pack, Quantity per packing format: 1

Related products

080Z0202



080G0294

Control panel, MMIGRS2

Function: Programmable controller, Supply voltage [V] AC: 24, Communication type: CANBUS, Packing format: Single pack, Quantity per packing format: 1

Related products

080Z0202



084B8563

**Electron. control accessories,
EKA 164A, Display, Universal
settings, EKC Controllers**

EKA 164A, Display, Universal
settings, Used for product: EKC
Controllers, Packing format: Multi
pack, Quantity per packing
format: 30

Related products

080Z0202



080Z0011

I/O module, AK-XM 204A

Function: Digital Outputs,
Communication type: AK2
LOCAL BUS, Packing format:
Multi pack, Quantity per
packing format: 12

Related products

080Z0202



080Z0007

I/O module, AK-XM 101A

I/O module, Product Type: AK-XM
101A, Controller type: Extension
Module, Analog inputs (AI) [pc]: 8,
Packing format: Multi pack,
Quantity per packing format: 16

Related products

080Z0202



080Z0013

I/O module, AK-XM 102B

Function: Digital Inputs,
Communication type: AK2
LOCAL BUS, Packing format:
Multi pack, Quantity per
packing format: 16

Related products

080Z0202



080Z0057

**Electron. control accessories,
AK-PS 063 STEP3 Accessory
Power Supply, Power supply**

AK-PS 063 STEP3 Accessory Power
Supply, Used for product: Power
supply, Packing format: Single
pack, Quantity per packing
format: 1

Related products

080Z0202

Product details

General data

Parameter	Specification	
Supply voltage	24 V DC/AC $\pm 20\%$	
Power consumption	AK- (controller)	8 VA
	AK-XM 101, 102, 103, 107, AK-CM 102	2 VA
	AK-XM 204, 205, 208	5 VA
Analogue inputs	Pt 1000 ohm / 0 °C	Resolution: 0.1 °C Accuracy: ± 0.5 °C ± 0.5 °C between -50 °C and 50 °C ± 1 °C between -100 °C and -50 °C ± 1 °C between 50 °C and 130 °C
	Pressure transmitter type AKS 32R / AKS 2050 / MBS 2050 / AKS 32 (1 – 5 V)	Resolution: 1 mV Accuracy: ± 10 mV Max. connection of 5 pressure transmitters on one module
	Other pressure transmitter: Ratiometric signal Min. and Max. pressure must be set	
	Voltage signal 0 – 10 V	
	Contact function (On/Off)	On at R < 20 ohm Off at R > 2k ohm (Gold-plated contacts not necessary)
Analogue outputs	0 – 10 V	Accuracy ± 100 mV
On/Off supply voltage inputs	Low voltage 0/80 V AC/DC	Off: U < 2 V On: U > 10 V
	High voltage 0/260 V AC	Off: U < 24 V On: U > 80 V
Relay outputs SPDT	AC-1 (ohmic)	4 A
	AC-15 (inductive)	3 A
	U	Min. 24 V Max. 230 V Low and high voltage must not be connected to the same output group
Solid state outputs	Can be used for loads that are cut in and out frequently, e.g. Ejector valves, Oil valves, fans and AKV valves	Max. 240 V AC, Min. 48 V AC Max. 0.5 A Leak < 1 mA Max. 1 AKV
Stepper outputs	Used for valves with stepper input	20 – 500 steps/s Separate supply to stepper outputs: 24 AC/DC
Ambient temperature	During transport	-40 – 70 °C
	During operation	-20 – 55 °C 0 – 95% RH (non-condensing) No shock influences / vibrations
Enclosure	Material	PC / ABS
	Class	IP10, VBG 4
	Mounting	For mounting on panel wall or DIN rail
Weight with screw terminals	Modules in 100-/200-/ controller-series	Ca. 200 g / 500 g / 600 g

Table: Extension modules and survey for inputs and outputs

Type	Analog inputs	ON / OFF outputs		ON / OFF supply voltage (DI signal)		Analog outputs	Stepper outputs	Module with switches
	For sensors, pressure transmitters	Relay (SPDT)	Solid state	Low voltage (max. 80 V)	High voltage (max. 260 V)	0 – 10 V DC	For valves with step control	For override of relay outputs
Controller	11	4	4	–	–	–	–	–
AK-XM 101A	8	–	–	–	–	–	–	–
AK-XM 102A	–	–	–	8	–	–	–	–
AK-XM 102B	–	–	–	–	8	–	–	–
AK-XM 103A	4	–	–	–	–	4	–	–
AK-XM 204A	–	8	–	–	–	–	–	–
AK-XM 204B	–	8	–	–	–	–	–	x
AK-XM 205A	8	8	–	–	–	–	–	–
AK-XM 205B	8	8	–	–	–	–	–	x
AK-XM 208C	8	–	–	–	–	–	4	–

Certificates, declarations and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Certification body	Approval topic
EU-UK Declaration	Danfoss EU-UK 080R1206.05	Danfoss	LVD
EAC Declaration	EAC KZ 7100841.13.12.01062	EAC - Eurasian Customs Union	EMC
Electrical Safety Certificate	EAC KZ 7100841.01.01.01245	EAC - Eurasian Customs Union	LVD
Electrical Safety Certificate	UL E31024	UL - Underwriters Laboratories inc.	
Export Control Declaration	Pack controllers	Danfoss	

Contact details

Online support

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