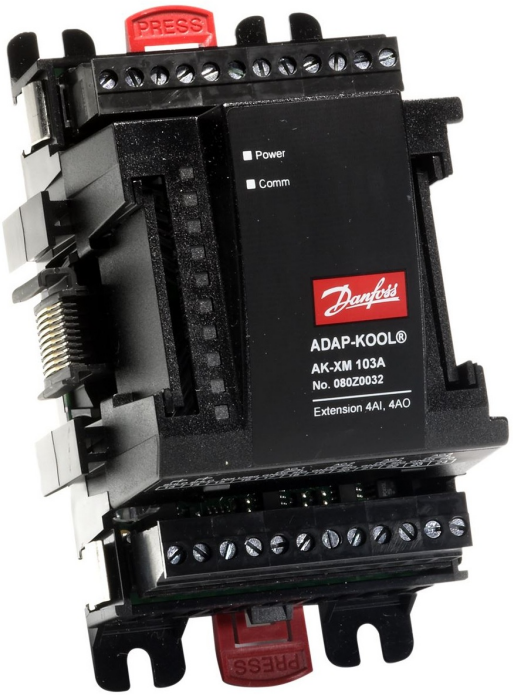
Contents [hide]

Danfoss XM 102A Extension Module



Product details

Gross weight	0.354 Kilogram
Net weight	0.2 Kilogram

Volume	2.554 Liter
EAN	5702428078832

Application area	Additional In- and Outputs
Approval	C-TICK CE LLC CDC TYSK UR
CE evaluated	Yes
Communication type	AK2 LOCAL BUS
Controller type	Extension Module
Customer part number	00P305
Digital inputs (DI) [pc]	8 pc
Display on front	No
Division	25
EEE category	5 small equipment (any external dimension < 50 cm)
Equipment	Standard blocks
EU RoHS compliance	Out of scope
Function	Digital Inputs

Further information	Low voltage
In scope of WEEE	Yes
Packing format	Multi pack
PFAS content [Yes/No]	No
Power consumption [VA]	1 VA
Product accessories	Electron. control accessories
Product group	I/O and communication modules
Product Name Description	I/O module
Quantity per packing format	16 pc
REACH Candidate List substances	No
Serviceable	No
Type	AK-XM 102A

Design

Menu list. This menu function can be used together with the system software type AKM. The description is divided up into function groups that can be displayed on the PC screen. Within each group, it is now possible to show the measured values or settings. Regarding the use of AKM, reference is made to the AKM Manual.

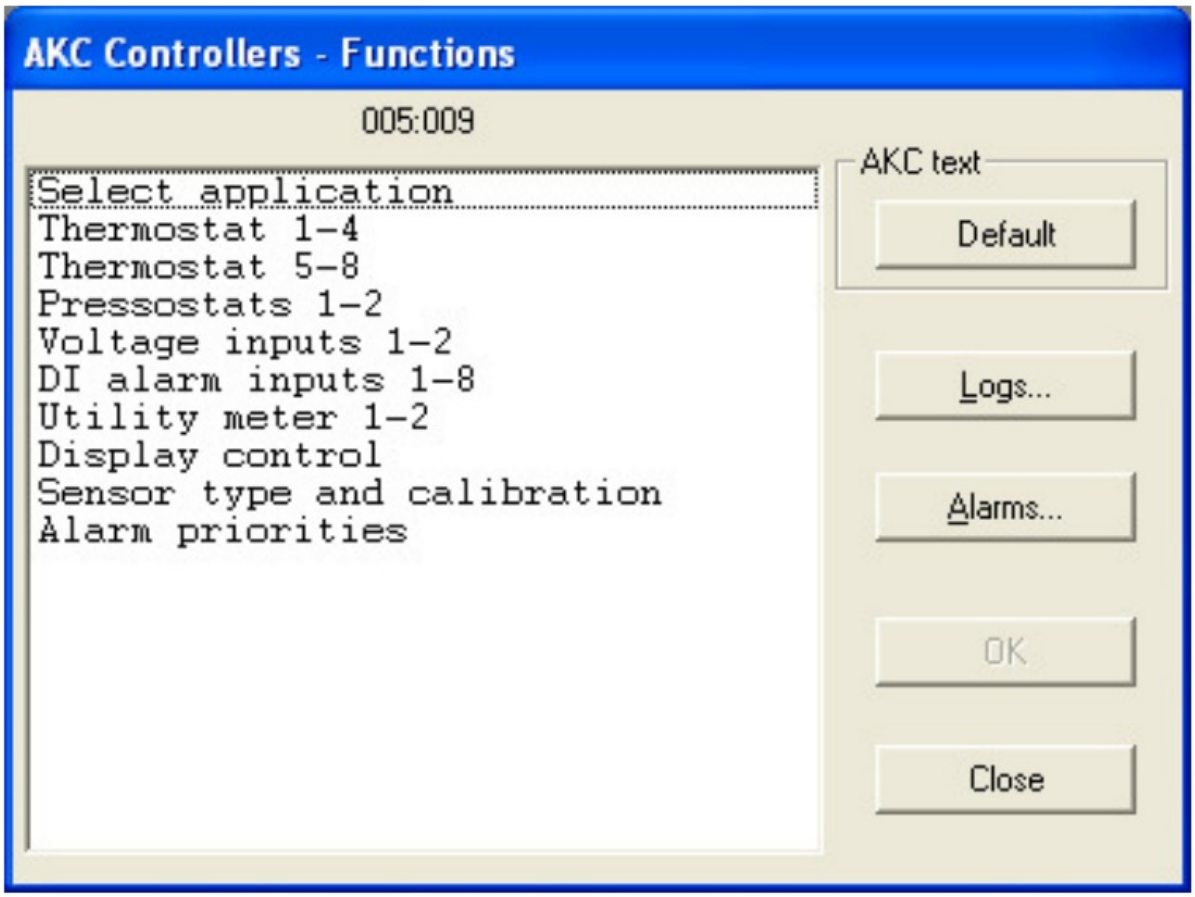
Validity

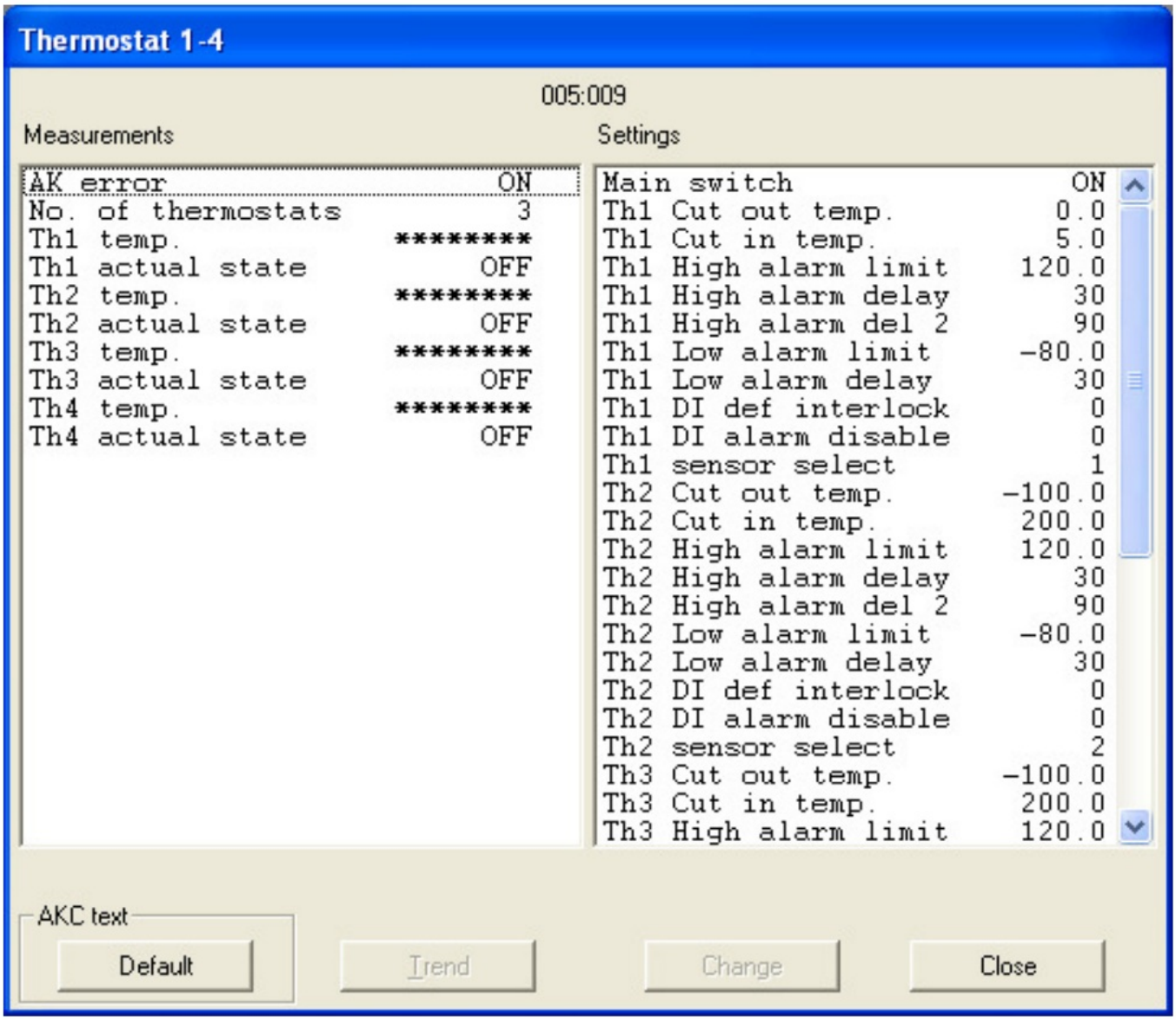
This menu operation (from September 2012) applies to controller type AK-LM 330, code Nos 080z0170 with programme version 1.4x.

Function groups

The operation is divided up into several functional groups. When a selection has been

made, push “OK”, and you may continue to the next display. By way of example, “Thermostat 1-4” has been selected here. From the measuring line the different values can be read. The values are constantly updated. In the list of settings, the set values can be seen. If a setting has to be changed, select the parameter and proceed via “OK”.



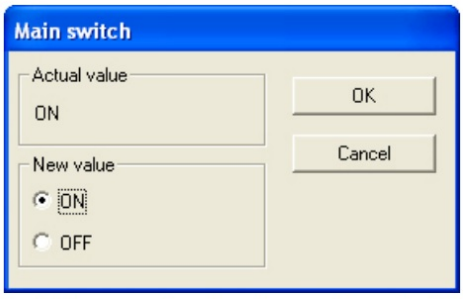


Measurements

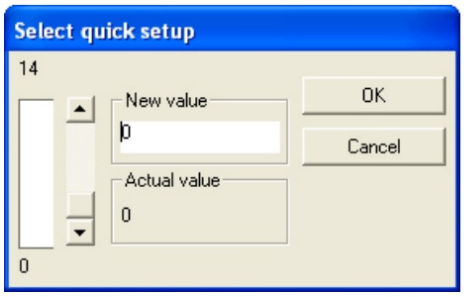
The various measurements can be read directly. If a graphic display of the measurements is required, up to eight of them can be shown. Select the required measurements and push “Trend”.

Settings

Settings can only be made for the daily operation. Configuration settings cannot be seen, changed or written out. They can only be made from the Service Tool programme. There are four kinds of settings: ON/OFF settings, settings with a variable value, time settings and “reset alarms”.



Set the required value and push “OK”

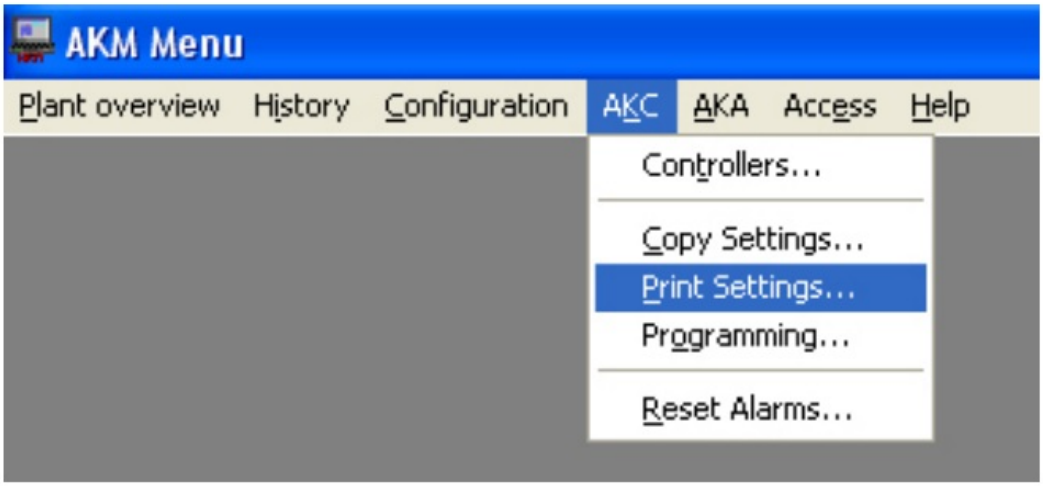


Enter the new value or move the sliding scale up or down. The new value will apply, when “OK” is pushed.

Go through the individual functions one by one and make the required settings. When settings have been made for one controller, the set values may be used as a basis in the other controllers of the same type and with the same software version. Copy the settings by using the copy settings function in the AKM programme, and subsequently adjust any settings where there are deviations. NB! If a list is required for noting down the individual settings, a printout can be made of it with a function in the AKM programme. Read the next section, “Documentation”.

Documentation

Documentation of the settings of the individual controllers can be made with the print function in the AKM programme. Select the controller for which documentation of the settings is required and select the “Print Settings” function (cf. also the AKM Manual).



Functions

Shown below are function groups with corresponding measurements and settings. A printout of the given settings can be made using the AKM function “Print Settings” (see

above).

Note It has been necessary to make a selection from the numerous measurements and settings coming from the controller. There is not room for all these in the AKM programme controls.

It can display:

- 8 thermostats
- 2 pressostats
- 2 volt inputs
- 8 digital alarm inputs
- 2 consumption gauges

If it is necessary to obtain access to all measurements and settings, see Using Service Tool, type AK-ST 500.

Select application

Measurements	AK error	When "ON", the controller is in alarm condition.	
Settings	Main switch	Main switch:	ON: Regulation OFF: Controller stopped
	Configuration lock	Locking configuration To implement changes of certain parameters, the configuration lock must be "open". Note: "Main switch" must be turned" OFF" to open configuration 0: Open 1: Locked	
	Select quick setup	Selection of predefined configurations. When this is selected, all the controller settings and the definitions of input and output will be adjusted to fit the selected application. (see manual for more details on individual predefined settings).	

Thermostat 1 – 4

Measurements	AK error	When "ON", the controller is in alarm condition.
	No. of thermostats	The number of thermostats that have been defined can be read here. **1 to 8 can be read and operated in the following menus.** **9 or more can only be read and operated from the Service Tool AK-ST**
	Th1 temp.	Temperature Measurements on the sensor defined in "Thermostat 1"
	Th 1 actual state	The thermostat's actual value is shown here. ON or OFF.
	2, 3, 4	There are similar settings for the other thermostats.
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	Th1 Cut out temp	Cut out value for relay which is defined in "Thermostat 1"
	Th1 Cut in temp	Cut in value for relay which is defined in "Thermostat 1"
	Th1 High alarm limit	High alarm limit "Thermostat 1"
	Th1 High alarm delay	Delay time for high alarm "Thermostat 1" (normal regulation)
	Th1 High alarm del 2	Delay time 2 for high alarm "Thermostat 1" (e.g. after a defrost / cooling down)
	Th1 Low alarm limit	Low alarm limit "Thermostat 1"
	Th1 Low alarm delay	Delay time for low alarm "Thermostat 1"
	Th1 DI def interlock	Definition of switch to "Delay time 2" with DI signal 0: not used 1-16: Here, it is defined which DI input is to activate the long delay time.
	Th1 DI alarm disable	Definition of disarming alarm with DI signal 0: Not used 1-16: Here, the DI input that is to deactivate the alarm function is defined
	Th1 Sensor select	Here, the sensor that is to be used for "Thermostat 1" is defined
	2, 3, 4	There are similar settings for the other thermostats.

Thermostat 5 – 8

Measurements	AK error	When "ON", the controller is in alarm condition.
	5, 6, 7, 8	Same function as for "Thermostat 1".
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	5, 6, 7, 8	Same function as for "Thermostat 1".

Pressostats 1 – 2

Measurements	AK error	When "ON", the controller is in alarm condition.
	No. of pressostats	The number of pressostats that have been defined can be read here. **1 to 2 can be read and operated in the following menus.** **3 or more can only be read and operated from the Service Tool AK-ST 500.**
	P1 pressure.	Pressure reading for the transmitter defined in "Pressostat 1"
	P1 actual state	The pressostat's actual value is shown here. ON or OFF.
	2	There are similar readings for "Pressostat 2".
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	P1 Cut out pressure	Cut out value for relay "Pressostat 1"
	P1 Cut in pressure	Cut in value for relay "Pressostat 1"
	P1 High alarm limit	High alarm limit "Pressostat 1"
	P1 High alarm delay	Delay time for high alarm "Pressostat 1"
	P1 Low alarm limit	Low alarm limit "Pressostat 1"
	P1 Low alarm delay	Delay time for low alarm "Pressostat 1"
	P1 Sensor select	The transmitter that is to send the signal to "Pressostat 1" is defined here.
	2	There are similar settings for "Pressostat 2".

Voltage inputs

Measurements	AK error	When "ON", the controller is in alarm condition.
	No. of voltage input	The number of voltage functions that have been defined can be read here. **1 to 2 can be read and operated in the following menus.** **3 or more can only be read and operated from the Service Tool AK-ST 500.**
	V1 value	The voltage measurement for the function defined in "Volt 1"
	V1 actual state	The function's actual value is shown here. ON or OFF.
	2	There are similar readings for "Volt 2".
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	V1 Cut out	Cut out value for relay which is defined in "Volt 1"
	V1 Cut out delay	Delay time for cut out of relay
	V1 Cut in	Cut in value for relay which is defined in "Volt 1"
	V1 Cut in delay	Delay time for cut in of relay
	V1 High alarm limit	High alarm limit "Volt 1"
	V1 High alarm delay	Delay time for high alarm "Volt 1"
	V1 Low alarm limit	Low alarm limit "Volt 1"
	V1 Low alarm delay	Delay time for low alarm "Volt 1"
	V1 Volt signal type	The voltage area that is to send the signal to "Volt 1" is defined here. 0-5 V: Defined with setting = 9 1-5 V: Defined with setting = 11 0-10 V: Defined with setting = 10 2-10 V: Defined with setting = 12 (The received voltage is converted to a value which is defined by the following: Lower voltage value = Min. read out. Higher voltage value = Max. read out. It is these limits that form the function's setting values)
	V1 Min read out	Definition of the reading at the voltage area's lowest value
	V1 Max read out	Definition of the reading at the voltage area's highest value.
	2	There are similar settings for "Volt 2".

DI alarm inputs 1-8

Measurements	AK error	When "ON", the controller is in alarm condition.
	No of DI input	The number of DI inputs that have been defined can be read here. **1 to 8 can be read and operated in the following menus.** **9 or more can only be read and operated from the Service Tool AK-ST 500.**
	DI1 status	The signal's actual value for DI1 is shown here. On or Off (On = alarm)
	DI1 No. of cycles/24h	The number of signals that have been changed to "On" within the last 24 hours can be read here.
	DI1 On time/24h	The amount of time during which the signal has been "On" within the last 24 hours (shown in %) can be read here.
	2, 3, 4, 5, 6, 7,8	There are similar readings for the other DI inputs.
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	DI1 alarm fct.	When "On", the DI1 alarm function is active.
	DI1 alarm delay	Delay time for alarm "DI 1"
	DI1 Input polarity	The input signal's normal situation and alarm situation is defined here On: Alarm, when the signal to the input is connected (short circuit/volt supply) Off: Alarm, when the signal to the input is cut off
	DI1 Total no. of cyc.	Readings for the total number of changes to "On". The value can be reset
	DI1 Total ON time	Readings for total On time. The value can be reset
	2, 3, 4, 5, 6, 7,8	There are similar settings for the other DI inputs.

Utility meter 1-2

Measurements	AK error	When "ON", the controller is in alarm condition.
	No. of util meters	Here, it is possible to read how many power reading functions have been defined. **1 to 2 can be read and operated in the following menus.** **3 or more can only be read and operated from the Service Tool AK-ST 500.**
	UM1 Total consump.	Readings for the total consumption registered by "Utility Meter 1"
	UM1 Today consump.	Readings for today's consumption registered by "Utility Meter 1"
	UM1 Last week cons.	Readings for last week's consumption registered by "Utility Meter 1"
	UM1 Actual load	Readings for actual load registered by "Utility Meter 1"
	UM1 Average load	Readings for average load registered by "Utility Meter 1"
	2	There are similar readings for "Utility Meter 2".
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	Load period	Set period time for synchronising pulses
	UM1 Start	The measurements can be started and stopped here.
	UM1 Pulses/unit	Define how many pulses are to be received for each unit of measure
	UM1 Scale factor	Set scale factor, if required
	UM1 Preset counter	The counter can be reset here.
	2	There are similar settings for "Utility Meter 2".

Display control

Measurements	AK error	When “ON”, the controller is in alarm condition.
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	Display control A	Set what should be read in "Display A"
	Display control B	Set what should be read in "Display B"
	Display control C	Set what should be read in "Display C"
	Display control D	Set what should be read in "Display D"

No reading = 0
"Thermostat 1" to be defined with setting = 1
"Thermostat 2" to be defined with setting = 2
"Thermostat 3" to be defined with setting = 3
"Thermostat 4" to be defined with setting = 4
"Thermostat 5" to be defined with setting = 5
"Thermostat 6" to be defined with setting = 6
"Thermostat 7" to be defined with setting = 7
"Thermostat 8" to be defined with setting = 8
"Thermostat 9" to be defined with setting = 9
"Thermostat 10" to be defined with setting = 10
"Pressostat 1" to be defined with setting = 11
"Pressostat 2" to be defined with setting = 12
"Pressostat 3" to be defined with setting = 13
"Pressostat 4" to be defined with setting = 14
"Pressostat 5" to be defined with setting = 15
"DI1 Alarm" to be defined with setting = 16
"DI2 Alarm" to be defined with setting = 17
"DI3 Alarm" to be defined with setting = 18
"DI4 Alarm" to be defined with setting = 19
"DI5 Alarm" to be defined with setting = 20
"DI6 Alarm" to be defined with setting = 21
"DI7 Alarm" to be defined with setting = 22
"DI8 Alarm" to be defined with setting = 23
"DI9 Alarm" to be defined with setting = 24
"DI10 Alarm" to be defined with setting = 25
"DI11 Alarm" to be defined with setting = 26
"DI12 Alarm" to be defined with setting = 27
"DI13 Alarm" to be defined with setting = 28
"DI14 Alarm" to be defined with setting = 29
"DI15 Alarm" to be defined with setting = 30
"DI16 Alarm" to be defined with setting = 31

Sensor type and calibration

Measurements	AK error	When "ON", the controller is in alarm condition.
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	Saux 1 offset	Correction of the signal from the sensor "Saux 1" if necessary
	2,3,4,5,6,7,8	Do for Saux 2,3,4,5,6,7,8
	Paux 1 offset	Correction of the signal from the pressure transmitter "Paux 1" if necessary
	Paux 2 offset	Correction of the signal from the pressure transmitter "Paux 2" if necessary
	Saux 1 sensor type	Definition of the sensor type for the input "Saux 1" Pt 1000 ohm defined with setting = 0 PTC 1000 ohm defined with setting = 2
	2,3,4,5,6,7,8	Do for Saux 2,3,4,5,6,7,8
	Paux 1 sensor type	Definition of pressure transmitter type and pressure area for "Paux 1" AKS 32 -6 defined with setting = 1 AKS 32 -9 defined with setting = 4 AKS 32 -12 defined with setting = 7

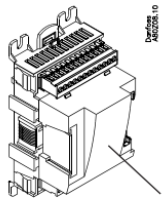
- AKS 32 -20 defined with setting = 10
- AKS 32 -34 defined with setting = 13
- AKS 32 -50 defined with setting = 16
- AKS 32R -6 defined with setting = 2
- AKS 32R -9 defined with setting = 5
- AKS 32R -12 defined with setting = 8
- AKS 32R -20 defined with setting = 11
- AKS 32R -34 defined with setting = 14
- AKS 32R – 50 defined with setting = 17
- AKS 2050 -59 defined with setting = 31
- AKS 2050 -99 defined with setting = 32
- AKS 2050 -159 defined with setting = 33
- User-defined defined with setting = 0. + settings via Service Tool.

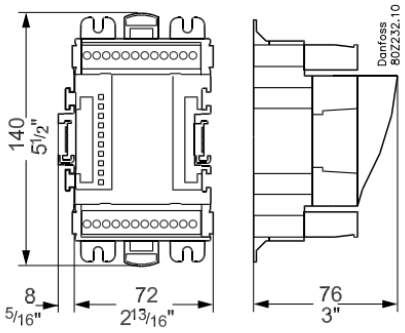
2 Do for Paux 2.

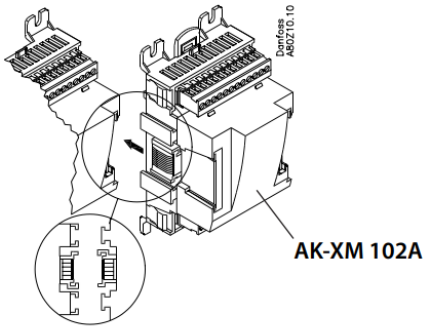
Alarm priorities

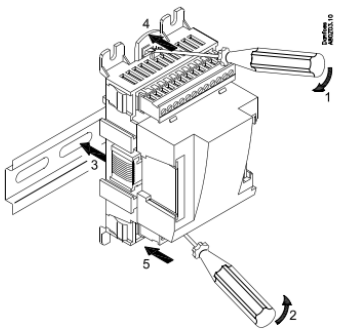
Measurements	AK error	When "ON", the controller is in alarm condition.
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
		The alarm priority of the following alarms can be changed: High priority is defined with setting = 1 Medium priority is defined with setting = 2 Low priority is defined with setting = 3 Overriding the alarms is defined with setting = 0
	Stand by mode	(Interrupted regulation) See the above introduction
	Saux 1 error 2,3,4,5,6,7,8	See the above introduction As for Saux 1
	Paux 1 error 2,3,4,5,6,7,8	See the above introduction As for Paux 1
	DI1 2,3,4,5,6,7,8	See the above introduction As for DI1
	Th.1 High alarm Th 1 Low alarm 2,3,4,5,6,7,8	See the above introduction See the above introduction As for Th. 1
	P1 Low alarm P1 High alarm 2	See the above introduction See the above introduction As for P1
	V1 High alarm V1 Low alarm 2	See the above introduction See the above introduction As for V1

Installation





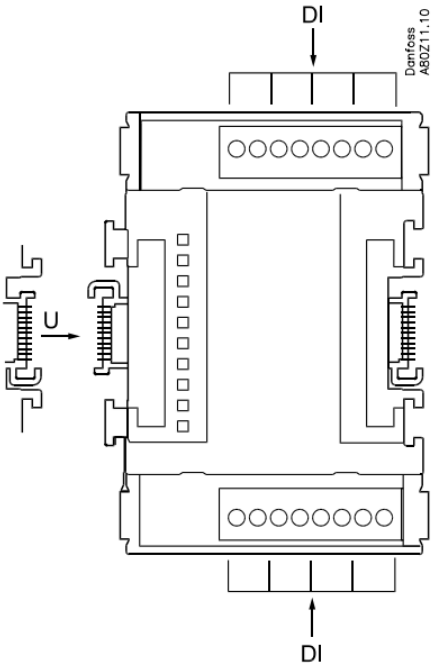




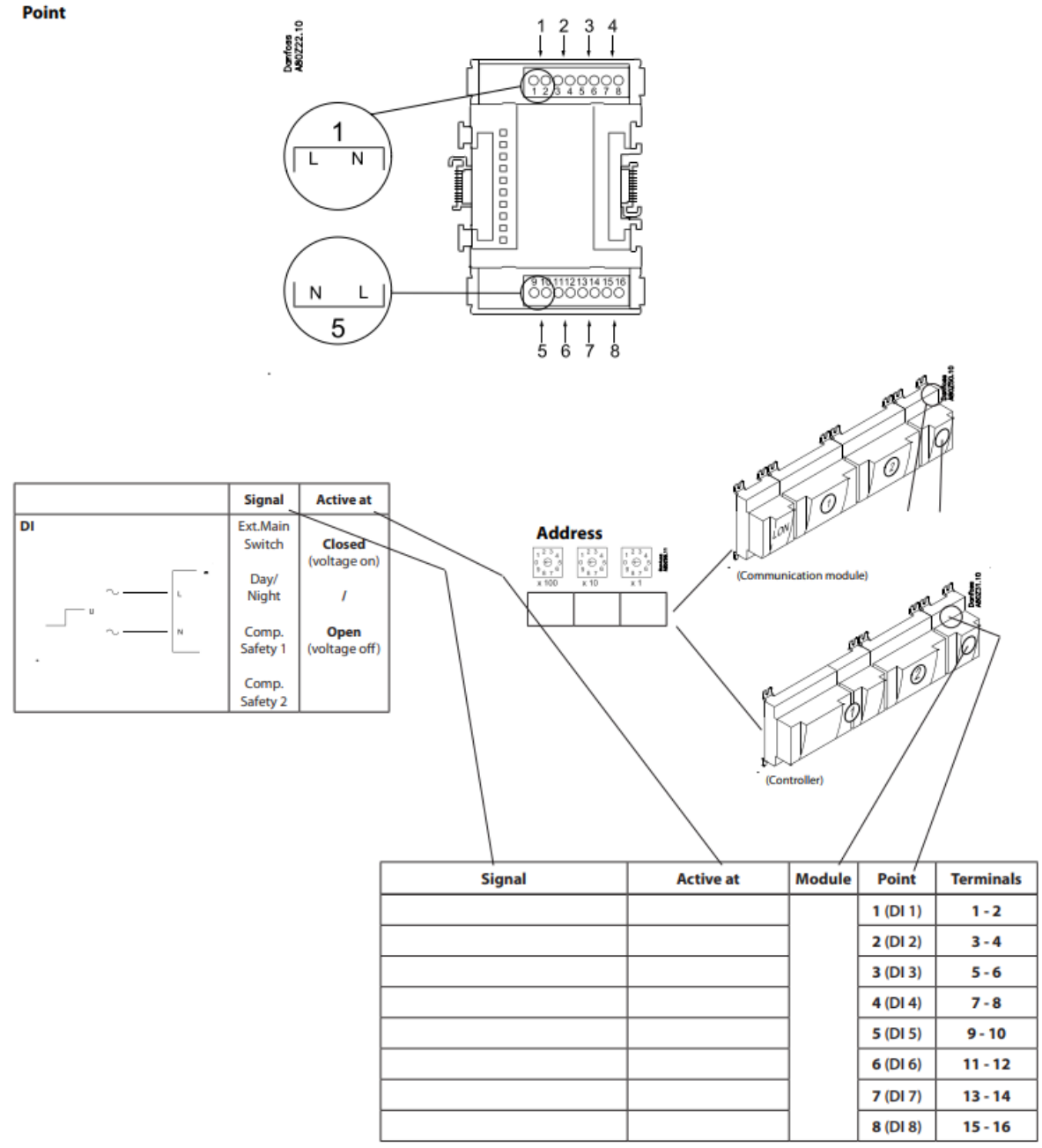
DI x 8

24 V

On/Off:
On: DI > 10 V a.c. / d.c.
Off: DI < 2 V a.c. / d.c.



Point



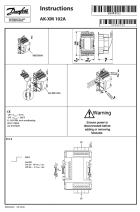
Signal	Active at	Module	Point	Terminals
			1 (DI 1)	1 - 2
			2 (DI 2)	3 - 4
			3 (DI 3)	5 - 6
			4 (DI 4)	7 - 8
			5 (DI 5)	9 - 10
			6 (DI 6)	11 - 12
			7 (DI 7)	13 - 14
			8 (DI 8)	15 - 16

The Product contains electrical components And may not be disposed together with domestic waste. Equipment must be separate collected with Electrical and Electronic waste. According to Local and currently valid legislation.

Frequently Asked Questions

- **Q: How should I dispose of the product?**
  - A: The Product contains electrical components and should not be disposed of with domestic waste. It must be separately collected with Electrical and Electronic waste according to local and currently valid legislation.

Documents / Resources

	Danfoss XM 102A Extension Module [pdf] Instructions 080Z0008, RI8HG502, XM 102A Extension Module, Extension Module, M odule

References

- User Manual

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