

Input/Output Communication and Extension Modules

Input/Output (I/O) expansion modules are used in applications requiring more connections than featured on a given control: up to nine extension modules may communicate through each communication module. I/O modules require a communication module to communicate with frontend system managers.



AK-CM Communication Modules

Danfoss Type	Description	Danfoss Code No.
AK-CM 101A	Communication Module (LON TP-78)	080Z0061
AK-CM 101C	Communication Module (LON RS485)	080Z0063



AK-XM Extension Modules

Danfoss Type	Analog inputs	On/off outputs		On/off supply voltage (DI signal)		Analog outputs	Stepper outputs	Module with switches	Uses	Danfoss Code No.
	For sensors, pressure transmitters, etc.	Relay (SPDT)	Solid state	Low voltage (80 V max.)	High voltage (260 V max.)	0-10 V DC	For valves with step control	For overriding relay outputs		With screw terminals
AK-XM 101A	8								Sensors, pressure transmitters, contact signals	080Z0007
AK-XM 102A				8					On/off voltage signals, low voltage (24 V)	080Z0008
AK-XM 102B					8				On/off voltage signals, high voltage (230 V)	080Z0013
AK-XM 103A	4					4			Sensors, pressure transmitters, contact signal, analog outputs (0-10 V DC)	080Z0032
AK-XM 107A pulse module									Pulse measuring	080Z0020
AK-XM 204A		8							On/off relay outputs	080Z0011
AK-XM 204B		8							On/off relay outputs with overriding function	080Z0018
AK-XM 205A	8	8							Sensors, pressure transmitters, and on/off outputs	080Z0010
AK-XM 205B	8	8		x					Sensors, pressure transmitters, and on/off output with overriding function	080Z0017
AK-XM 208B							4		Stepper output	080Z0022
AK-XM 208C	8						4		Sensors, pressure transmitters, and stepper output. Can only be used with AK-PC 7xx pack controllers	080Z0023

I/O Spare Parts and Accessories

Description	Notes	Danfoss Code No.
DIN Rail for AK2 module mounting	1 Meter	080Z0290
AK2 light ballast dimmer driver board	Boosts signal from a variable output (such as AK-XM 103A) board to drive multiple ballasts	080Z0270
RTC to AK2 board conversion kit	Converts obsolete RTC board to AK2 IO modules; includes documentation, power supply, and wire	080Z2117
CO ₂ indoor sensor	For measuring indoor CO ₂ levels	LDC02
Air flow switch	For proofing RTU airflow	CAFS-1

AKS—Pressure Transmitters



AKS 32 and AKS 33 pressure transmitters measure and convert pressures to a standard signal (1 to 5 V DC for AKS 32 and 4 to 20 mA for AKS 33). AKS 32R and AKS 2050 ratiometric pressure transmitters measure and convert pressure to a linear output signal (the minimum value of the output signal is 10% of the actual supply voltage and the maximum value is 90% of the actual supply voltage). AKS 2050 pressure transmitters are designed specifically for CO₂ pressure ranges.

Danfoss Type	Pressure range (psig)	Electrical connection	System connection (in.)	Notes	Danfoss Code No.
AKS 32	0 to 200	26 ft. cable	1/8 NPT	For Danfoss rack controllers	060G3990
AKS 32	0 to 500	26 ft. cable	1/8 NPT	For Danfoss rack controllers	060G3991
AKS 32	0 to 100	26 ft. cable	1/8 NPT	For ECI rack controllers	060G1889
AKS 32	0 to 500	26 ft. cable	1/8 NPT	For ECI rack controllers	060G1890
AKS 33	–14.5 to 174	DIN plug	1/4 NPT	Use with EKC 316	060G2101
AKS 32R	–14.5 to 174	DIN plug	1/4 NPT	Use with AK CC controllers	060G1037
AKS 2050	–14.5 to 855	DIN plug	1/4 NPT	Designed for CO ₂	060G6342
AKS 2050	–14.5 to 2306	DIN plug	1/4 NPT	Designed for CO ₂	060G6344
MBS 8250	14.5 to 2320	Packard 3 pin male	7/16 UNF 20	Used as integrated pressure transducer in CCMT valves	064G4032

AKS Spare Parts and Accessories

Description	Notes	Danfoss Code No.
DIN plug for AKS transducer	Fits AKS 32, 32R, 33, and 2050	060G000812
Cable with end plug for AKS transducer	16 ft., fits AKS 32, 32R, 33, and 2050	060G1034

Temperature Sensors

Danfoss Type	Sensor type	Sensor temp. range (°F)	Wire length (ft.)	Description	Danfoss Code No.
AKS 21W	PT1000	−94 to 356	1	Boiler temp. probe, fits well with ½ NPT	084N2032
AKS 11	PT1000	−60 to 212	11.5	Single packed 084N0027	084N0003
AKS 11	PT1000	−60 to 212	18	Single packed 084N0028	084N0005
AKS 11	PT1000	−60 to 212	27.5	Single packed 084N0029	084N0008
AKS 12	PT1000	−40 to 176	5	Single packed 084N0035	084N0036
AKS 12	PT1000	−40 to 176	18		084N0038
AKS 21	PT1000	−94 to 356	8	Used for high temp. pipe applications	084N2003
AKS 21	PT1000	−94 to 356	16	Used for high temp. pipe applications	084N2008
MBT 153	NTC	−40 to 158	18	General purpose sensor—replace Com-Trol and ECI TP 2L	084Z3016
Air supply/duct probe		−94 to 356	8	Old part no. ASTP2	084Z2186
Box temp. probe assembly		−13 to 221		Probe length 18 in.	084Z2185
Product temp. sensor		−22 to 122	18	PT1000; calibration certificate included	084N1007
Zone temp. sensor		−40 to 122		PT1000; temp. sensor on cover plate for HVAC room temp.; old part no. ZTP2	080N2187
Condenser air probe		−40 to 122		PT1000; temp. sensor for measuring air temp. under condenser	AKOTC

AKS 11 Temperature Sensors with Case Locations Specific Colors

Insulation color	Purpose	Wire length (ft.)	Danfoss Code No.
Blue	S1 coil in	27.8	097U0063
Red	S2 coil out		097U0064
Purple	S3 return air		097U0065
Green	S4 discharge air		097U0066
Orange	S5 defrost termination		067U0067

Temperature Sensor Resistors (Permit use of non-Danfoss sensors on AK2 input boards)

Description	Notes	Danfoss Code No.
Com-Trol, CPC, and Altech Temp. Sensor Resistor Kit	Kit contains 2 resistors	CTPKIT
AK-2 Pullup kit for ECI TP-1 Probe	Kit contains 4 resistors	TP1KIT

Humidity Sensors and Light Level Sensors

Description	Notes	Danfoss Code No.
Outdoor Photo Cell/Humidity Sensor/Temp Sensor	Mounts on ½ in. conduit knockout; box not included	AKCOTHP
Outdoor humidity sensor	Mounts in ½ in. conduit knock out; replaces EMHS-4	080Z2167
Humidity sensor w/indoor temp. sensor	Old part no. EMHS3-1	080Z2171
Outdoor photo cell with temp. sensor	Old part no. PHOTO-OD-1	080Z2172
Skylight Photocell 0-5000 FC with resistor	Old part no. PHOTO-MAS	080Z2169

Door Monitors, Current Transducer

Description	Notes	Danfoss Code No.
Magnetic Door Monitor Assembly	Door contacts; typically used for walk in coolers and freezers	DRMON-1
Current transducer 0-5/100/200 A	Connects to inboards for current monitoring. Frequently used for compressor, fan motor or other loads requiring current monitoring.	080Z2251
Current sensing relay	Provides contact closure when current is detected.	49-100

Miscellaneous Relays and Transformers

Description	Notes	Danfoss Code No.
Relay	24V coil 2 pole Form C relay	41-062
Transformer	24V 150 VA wall mount control transformer	55-168
Power supply	5Vdc Din rail mounted power supply	68-102

Alarm Devices

Description	Notes	Danfoss Code No.
24V horn/strobe; red	For indoor use	AKAHS01
24V horn/strobe; blue	For outdoor use	AKAHS02
Strobe alarm light; amber		99-242
Strobe alarm light; blue		99-272
Office alarm box PC board w/audio, LED signal & reset	Requires 12V AC	OAB-1