

ENGINEERING
TOMORROW



Alsmart™ Universal Programmable Controller Platform

Optimize the performance of your **HVAC** ecosystem with the powerful **Alsmart™** controller platform

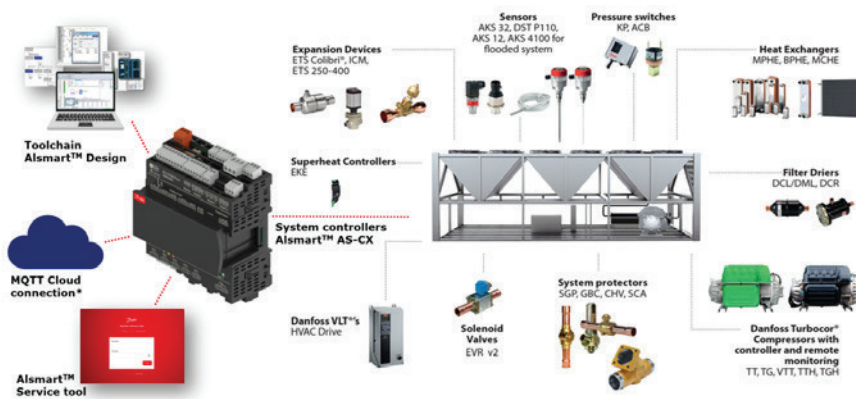
Alsmart is the latest generation programmable controller platform for the HVAC market. It is the smart, compact and powerful brain of the HVAC unit (chiller, rooftop, heat pump, dedicated outdoor air systems, and more) packed with the latest best-in-class technology, ready to fully make the most of your thermodynamic knowledge.

Easy,
efficient,
and fast
platform

alsmart.danfoss.com

Efficient engineering meets operational excellence through climate domain knowhow and flexible solutions.

The Alsmart™ Universal controller platform, consists of an advanced base controller, I/O extension module, display, and a complete software toolchain that covers all major application needs and meets the highest standard programming languages in the global HVAC market. Integration is key - the controller enables secure opto-isolated connections with field devices and allows for cloud and/or BMS systems integration over BACnet, SNMP, HTTPS, and Modbus. It is designed to comply with the newest IEC62443 IT security standards. This integration capability, together with outstanding hardware performance, allows plants to network multiple chillers or different HVAC units.



With the push to decarbonize the planet, Alsmart can play a significant role. Using Danfoss' thermodynamic know-how and testing by their global Application Development Centers, we can support fleet management according to energy cost, facilitate in the use of low GWP natural refrigerant gases, as well as introduce high technology module-based design and simulation to reduce time to market. Alsmart is changing the future of HVAC management.



Flexible I/O

- Modular concept (connect up to 20 expansions)
- Auto-recognition function
- Universal I/Os
- Stepper driver embedded (Plus versions)



Higher execution speed and memory

- Enhanced CPU memory
- Scalable RAM and ROM
- Faster compilation time – faster cycle time



Wide selection of interfaces

- Snap-on display (with copy function)
- LCD option*
- Touch screens*



Secure and Reliable

- FailSafe feature
- Isolated power supply
- High precision I/Os
- Designed following IEC 62443 (cybersecurity guidelines)



Connectivity

- 2 Ethernet ports
- USB-C
- 2 opto-isolated Modbus RS485
- CAN FD as fieldbus towards other controllers and remote user interfaces



Complete Toolchain

- Alsmart Design for programming and debugging
- IEC61131-3 compliant
- Alsmart Service Tool for commissioning and monitoring



MQTT Cloud connectivity*

*: In preparation & continuously being updated.

Product range overview



AS-CX06 Pro+ controller



AS-XP05 expansion module



AS-PS20 Power supplier

Universal Controller AS-CX06							Expansion modules AS-XP**		
AS-CX 06 variant		Lite	Mid	Mid+	Pro	Pro+	AS-XP05	AS-XP05+	AS-XP10
Dimension		6 DIN					4 DIN		6 DIN
Digital output	N	6	6	6	6	6	5	5	10
	Type	5xSPST 1xSPDT	5xSPST 1xSPDT	4xSPST 1xSPDT 1xSSR	5xSPST 1xSPDT	5xSPST 1xSPDT	4xSPST 1xSPDT	4xSPST 1xSPD	8xSPST 2xSPDT
Digital input	N	2	2	2	2	2	—	—	4
	Type	Voltage free					—	—	24Vac or 230Vac
Analog output	N	3	3	3	3	3	2	2	2
	Type	0/10V or PWM					0/10V or PWM		
Universal input	N	10	10	10	10	10	10	10	14
	Type	NTC, PTC1000, PT1000, 4-20mA, DI, 0/5V ratio, 0-1V / 0-5V / 0-10V					NTC, PTC, 4-20mA, DI, 0/5V, 0-1V / 0-5V / 0-10V		
Stepper motor		—	—	1	—	1	—	1	—
CAN FD		YES	YES	YES	YES	YES	—	—	—
Ethernet / Web server		—	—	—	2	2	—	—	—
Modbus RS485 (opto-isolated)		1	2	2	2	2	—	—	—
USB		Yes, C type					—	—	—
Power supply		24 Vac or 20...60 Vdc					From main control, except for stepper valve		

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