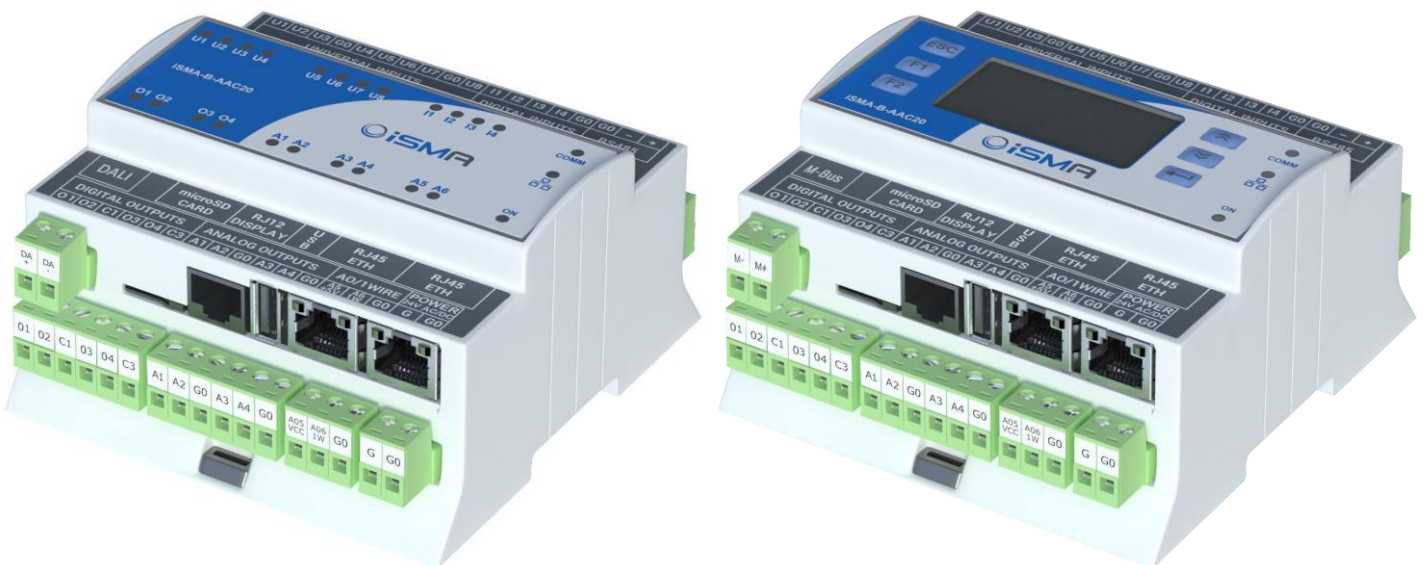# iSMA-B-AAC20

The **iSMA-B-AAC20** is an advanced control device to building automation and HVAC systems. Using SVM (Sedona Virtual Machine) allows the user to quickly and easily program in real time. Large number of inputs and outputs allows to integrate with other devices and sensors (AAC20 provides **8xUI, 4xDI, 4/6xAO and 4xDO**). Legible, fully programmable LCD, can be used as simple interface to local operation of system. Built-in RS485 can be used to expand number of I/O by connecting MINI or MIX series I/O modules using Modbus ASCII/RTU. In addition, to increase the versatility of the controller, it supports many open communications protocols: BACnet, Modbus, SOX, DALI, M-Bus, 1-Wire or oBIX. The AAC20 is mounted in a housing adapted for DIN rail mounting or directly on a panel. Separate, easy to remove connectors allow quick wiring without removing the entire module.

Key Features

- Sedona Framework 1.2 support
- Real Time Clock (RTC)
- Configuration via web
- 2x Fast Ethernet with built-in switch
- RS485 port (Modbus or BACnet)
- Built-in Modbus Gateway TCP/IP to RS485
- DALI Interface: built-in power supply (option)
- M-Bus Interface: up to 20 devices (option)
- 1-Wire Interface
- USB Host Interface
- iSMA Tool – free of charge programming soft
- Built-in LCD Display (option)
- Micro SD card slot to log historical data and alarms
- Fast processor with ARM dual core 204MHz

iSMA-B-AAC20

Specification

8x Universal Inputs (8UI)

All universal inputs have 16-bit resolution which support the following types of inputs:

- Temperature input support the following types of sensors: 10K3A1, 10K4A1, Carel 10K, 20K6A1, 2.2K3A1, 3K3A1, 30K6A1, SIE1, TAC1, SAT1, Pt1000, Ni1000, Ni1000 LG, Ni1000 21C.

For sensor Pt1000 and Ni1000 use only 16-bit resolution

- Voltage input 0-10 V DC: input resistance 100 kΩ accuracy ±0,1% measurement resolution 3 mV @ 12-bit and 1 mV @ 16-bit
- Current input 0-20 mA (external resistor 499 Ω required)
- Resistive input 0-1000 kΩ: measurement resolution for 20 kΩ load 20 Ω @ 12-bit and 1 Ω @ 16-bit
- Dry contact input

4x Digital Inputs (4DI)

- Dry contact inputs
- Fast pulse counter up to 100 Hz save in EEPROM memory

4/6x Analog Outputs (4/6AO)

All analog outputs are equipped with 12-bit ADC provides 10 mV resolution and accuracy less than ±0,5%. They support the following output types:

- Output: 0-10 V DC maximum load up to 20 mA (AO6- 5 mA)
- PWM: 0,01 Hz, 0,1 Hz, 1 Hz, 10 Hz, 100 Hz

AO5 and AO6 can only be used if 1-wire port is not in use, please notice for AO6 maximum current load is up to 5 mA.

4x Digital Outputs (4DO)

- Relay output (NO): max. 3 A, 230 V AC/30 V DC

Platform

- ARM Cortex-M4 204 MHz
- ARM Cortex-M0 204 MHz

Communication

- Interface RS485 half-duplex
- Baud rate: 2400 to 115200 bps
- 2x Ethernet with built-in switch (DHCP, Auto IP)
- DALI Interface: built-in power supply 130 mA (option)
- M-Bus Interface: up to 20 devices (option)
- 1-Wire Interface
- Micro SD card slot
- USB Host Interface
- Protocols: Modbus RTU/ASCII/IP, BACnet MSTP/IP, SOX, DALI, M-Bus, 1-Wire, oBIX

Power supply

- 24 V AC/DC

Housing

- Dimension: 106x110x62 mm (4.18x4.34x2.44 in)
- Construction: UL approved, self-extinguishing plastic (PC/ABS)
- DIN rail mounting DIN (DIN EN 50022 norm)
- Cooling: internal air circulation

Environment

- Operating temperature: -10°C to 50°C (14°F to 122°F)
- Storage temperature: -40°C to 85°C (-40°F to 180°F)
- Relative humidity: 5% to 95%, no condensation
- Ingress Protection Rating: IP40 − for indoor installation