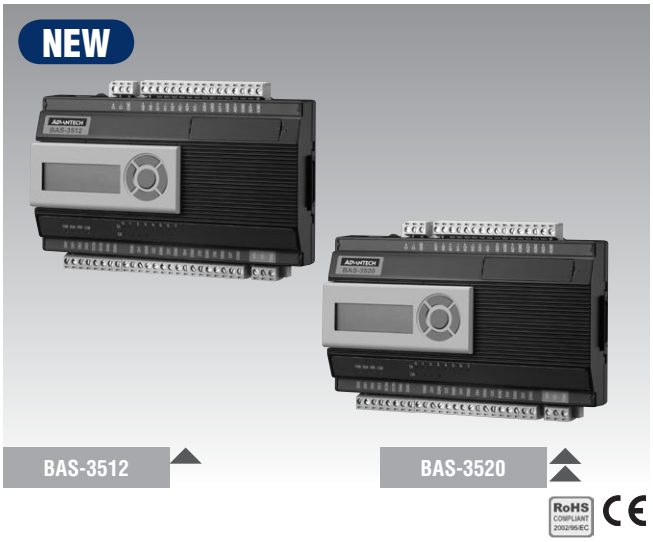
# BAS-3512
# BAS-3520

## 12-ch Web-enabled DDC Controller

## 20-ch Web-enabled DDC Controller




## Features

- Standalone programmable controller
- Built-in BASPro programming software provides BA domain function (scheduler, HVAC calculation, sequence…)
- Auto-tuning PID control
- Calendar schedule control
- Alarm and Event
- Provide RS-485 to connect with remote I/O devices
- Up to 3 Local I/O Expansion Modules
- Remote programming and maintenance through Ethernet
- LCM display (optional)

## Introduction

BAS-3512/3520 is a standalone programmable controller specially designed for building automation applications. Designed as a typical DDC (Direct Digital Controller), BAS-3512/3520 delivers various of onboard I/O including universal input, analog output, digital input and digital output, providing flexible options to satisfy versatile application requirements. It also features powerful BASPro programming tool for engineers to quickly develop their application. BASPro delivers many function blocks suitable for BA application, such as scheduler, HVAC calculation, sequential control, PID control, alarm, and event. Its compact size makes it an ideal solution to fulfill BA installation environment. The I/O expansion modules (BAS-3018, BAS-3024, BAS-3050 and BAS-3051) provide more I/O points and make the system a scalable solution.

## Specifications

### General

- **Dimension (W x H x D)** 176 x 120 x 44 mm
- **Enclosure** ABS + PC
- **Power Input** 24 $V_{DC}$/24 $V_{AC}$
- **Power Consumption** 10 W @ 24 $V_{DC}$
- **Real-time Clock** Yes
- **Watchdog Timer** Yes
- **I/O Isolation Protection** 3000 $V_{DC}$

### Hardware

- **CPU** 32-bit CPU 312 MHz
- **Flash Memory** 32 MB
- **RAM** 64 MB SDRAM
- **Battery backup SRAM** 512 KB

### Communication

- **LAN** 1 x 10/100Base-T (RJ-45)
- **RS-485** 1 (isolated)
- **Communication Protocol** Modbus/TCP, Modbus/RTU

### Universal Input (BAS-3520 only)

- **Channels** 4
- **Resolution** 16-bit
- **Sample Rate** 10 Hz (Total)
- **Accuracy** ±0.1% of FSR (Voltage, Current)
- **Type and Range**
  - Analog Input: 0 ~ 10 V, 0 ~ 20 mA, 4 ~ 20 mA, Pt-100 RTD, Pt-1000 RTD, Thermistor (3 k, 10 k)
  - Digital Input (Dry Contact): Logic High: Close, Logic Low: Open
- **Over Voltage Protection** ±35 V
- **Span Drift** ±25 ppm/° C
- **Zero Drift** ±6 μV/° C

### Analog Output (BAS-3520 only)

- **Channels** 4
- **Resolution** 12-bit
- **Accuracy** ±0.1% of FSR
- **Range** 0 ~ 10 V, 0 ~ 20 mA, 4 ~ 20 mA

### Digital Input

- **Channels** 8
- **Dry Contact** Logic High: Close, Logic Low: Open
- **Supports 1 kHz Counter Input (2 channels)**
- **Supports 1 kHz Frequency Input (2 channels)**

### Digital Output

- **Channels** 4 (Source Type)
- **Vcc: 10 ~ 35 $V_{DC}$, Current: 1 A (per channel)**
- **Minimum Period** 1 second (for PWM output)
- **Minimum Pulse Width** 0.1 second (for PWM output)

### Environment

- **Operating Temperature** -10 ~ 60° C
- **Storage Temperature** -20 ~ 80° C
- **Operating Humidity** 20 ~ 95% (Non-condensing)
- **Storage Humidity** 0 ~ 95% (Non-condensing)

## Ordering Information

- **BAS-3512** 12-ch Web-enabled DDC Controller
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