



### Features

- Graphical programming environment
- Supports remote download and maintenance by Ethernet
- Pre-defined function blocks to save development time
- Scheduler and sequential control
- BA HVAC calculation
- Auto-tuning PID and RAMP/SOAK control algorithm
- Local alarms and event notifications

### Introduction

BASPro is a programming software package suitable for building automation application, perfectly integrating with BAS-3500 Series DDC Controller (Direct Digital Controller). BASPro features rich function blocks like mathematical calculation, data conversion, logic operation, alarm, event and timer, and control algorithm (PID, Ramp, ON/OFF switch control). Moreover, BASPro also provides many BA domain function blocks, such as scheduler, HVAC calculation and sequential control, which are commonly used in building applications. Developers can benefit from saving development time by the function blocks. Engineers can develop applications on their computer. After the application program is complete, it can be downloaded to the BAS-3500 series through Ethernet. Then BAS-3500 series becomes a standalone controller since it can execute the program by itself. Besides, BASPro delivers simulation function that you can observe the program execution situation before the program is downloaded to the BAS-3500 series.

### Features

#### Graphical Programming Environment

BASPro features completely graphical programming environment, it makes the engineers easily develop their function and control logic in various applications.

#### Supports Remote Download and Maintenance

BASPro supports Ethernet communication, which can deliver remotely downloading and uploading control logic programs. Users also can maintain their device by remote control.

#### Powerful and Flexible Function Blocks

There can be up to 30 control pages per controller, each page supports up to 50 function blocks (max.4 PID blocks per page, total 16 PID per controller). BASPro delivers plenty of built-in function blocks, integrating many control and calculation functions into one simple block. Developers don't need to write program code for the control function blocks by themselves, and simply uses these function blocks to complete their applications. It helps greatly decreasing the development time. Below are some lists of the function blocks:

##### ▪ Mathematical Calculation

Addition, subtraction, multiplication, division, exponentiation, square root operation, logarithm operation, natural logarithm operation, absolute operation, maximum number, minimum number, scale conversion.

##### ▪ Logic Operation

Boolean calculation (such as AND, OR, NOT, NAND, NOR, XOR, ...), value comparison, trigger function, etc.

##### ▪ Timer/Counter

Create time delay, count event, timing measurement, pulse, etc.

##### ▪ Data Conversion

Conversion for various data type, such as convert float type data to integer data type, convert boolean data to numeric data, combine byte to word, unpack byte to bit, etc.

##### ▪ Control and Alarm

PID control, Ramp/Soak, ON/OFF switch control, alarm setting (H, L, HH, LL alarm), etc.

##### ▪ Broadcast Variable Function

Sharing broadcast variable provides simple and efficient way to make the DDC quickly share data between devices in the same network.

##### ▪ Schedule

Provide schedule function to implement multiple purpose scheduling task controls with the very friendly configuration edit page, such as Holiday, Weekly and Device group. We also provide campus schedule control using in campus.

##### ▪ Sequential Control

Provide the multiple stage control function for 4 or 8 stage control units. It will turn on or turn off the unit device according to PV, SP, deadband and control mode parameters. The sequential order includes first in last out, first in first out, depending on the time length of operation, etc.

##### ▪ HVAC Function

We support HVAC function include Dew Point, Vapor Pressure, Wet Bulb, and Enthalpy Calculation, also include calculation of absolute humidity and AHU function block.

##### ▪ BA Domain Focus Function

BA Domain function module is provided for the specific control equipment, such as pumps, solenoid valves, fans, dampers, air handling units. Engineers can make system integration with different devices not only simplifies the design work, but also reduce the workload of the project.

**Note:** This software is only available as a bundle with BAS-3512, BAS-3520, and BAS-3500BC.