BAS-SMP-2000-V3.0

The BAS-SMP-2000-V3.0 is a stand-alone, embedded, web-based graphical interface for building automation and process/access control systems.
Multiple simultaneous protocols are supported including BACnet MS/TP (with BACnet/IP to BACnet MS/TP router), BACnet/IP, Modbus/485 (with AEX-SMP-MOD), Modbus/TCP and LonWorks.

Applications

Residential	Small/medium offices	Remote monitoring and management

Function

- All set up and user interactions are performed via a web browser. No dedicated PC or external applications are required.
- The user interface utilizes HTML5 to allow for advanced graphical features and drag and drop setup.
- No knowledge of HTML, XML, JavaScript or any other programming language is required to set up or use the GMS-2000-SMP-V3.0 (a scripting language is included for optional light control logic.)
- The BAS-SMP-2000-V3.0 is designed to automatically adjust to any screen size and orientation. This allows it to be used in browsers on a PC, tablet or mobile phone with no changes or special effort necessary.
- Supported browsers are Chrome (PC/Android) and Safari (iPhone/iPad). Most other browsers should work, with possible minor visual differences.
- The BAS-SMP-2000-V3.0 uses flash memory for internal storage. It contains no hard disk or other moving parts.
- The Linux operating system is used for enhanced security and stability.
- The BAS-SMP-2000-V3.0 is totally self-contained.

Types and Ordering

Product Name	Product No.	USB	Ethernet	Description
BAS-SMP-2000-V3.0	40-120014	4	1	BAS HTML5 server for BACnet/IP and Modbus TCP/IP protocol including 16 GB micro SD memory, 35 mm DIN rail clip and external 12V power supply

Accessories

Product Name	Product No.	Description
Networking / Communication		
AEX-SMP-MOD	40-120005	Modbus RTU RS485 – USB converter
AEX-BAS-BAC-2	40-120026	Pre-configured BACnet/IP to BACnet MS/TP router, 35 mm DIN rail clip (without 12 – 24V AC/DC power supply)

Features

- Dashboards with over 20 gadgets, including containers to embed graphics, trends, schedules and remote HTML content.
- Traditional graphic displays for animated systems or floor plans.
- Internally maintained schedules with sunrise/sunset and staggered starts.
- Trend collection, display and export.
- Runtime accumulation with email notification.
- Alarm condition monitoring with email notification.
- Calculated point values (average, min, max, etc).
- Simple scripting language for light control logic.
- Database of up to 100 users and 100 user groups.
- Multiple simultaneous users.
- Activity log for tracking important user actions.
- Template system for quickly cloning points, dashboards, devices or entire networks.
- Flexible point addressing system allows access to most proprietary structures, bit fields and objects.
- Calculations may be performed on data points when read and/or written (e.g. Deg. F to Deg. C or scaling).
- Support for up to 2,000 tree nodes which can be any combination of points, dashboards, trends, etc. There are no hard limits on individual nodes but practical limits on control points will depend on communication speed and network bandwidth used.

Historical Trends

Built-in Schedules

PC, Tablet and Phone Compatible

Dashboards with Over 20 Gadgets

Differences between the V1.0, V2.0 and V3.0

The BAS-SMP-2000 V3.0 includes all of the features and functionality of the BAS-SMP-2000 V2.0 and V1.0. It adds several new features, a much faster processor and more memory, as well as a new HTML5 mobile-compatible default interface.

All AEX-SMP hardware interfaces are compatible. BAS-SMP-2000 V1.0 or V2.0 database backup files may be loaded in to a V3.0 device for seamless upgrading or new sites.

When using the Flash interface with V3.0, it effectively becomes a very fast BAS-SMP-2000. All features will work as they did with the previous hardware. See below for important notes about using the Flash interface.

When using a V1.0 database on a V2.0 or V3.0 device, all features will automatically work in the HTML5 interface with the exception of the graphic screens. The Flash and HTML5 graphic screens are not compatible. The HTML5 has newer, simpler graphic screens that are designed (but not required) to be embedded in Dashboards to allow them to work properly on mobile devices. Dashboards are where the gauges, switches and other visual gadgets can be found, and are recommended over graphic screens when possible, for better mobile compatibility.

Technical specifications

Important notice and safety advice

This device is for use as operating controls. It is not a safety device! Where a device failure endangers human life and/or property, it is the responsibility of the client, installer and system designer to add additional safety devices to prevent a system failure caused by such a device failure. Ignoring specifications and local regulations may cause equipment damage and endangers life and property. Tampering with the device and misapplication will void warranty.

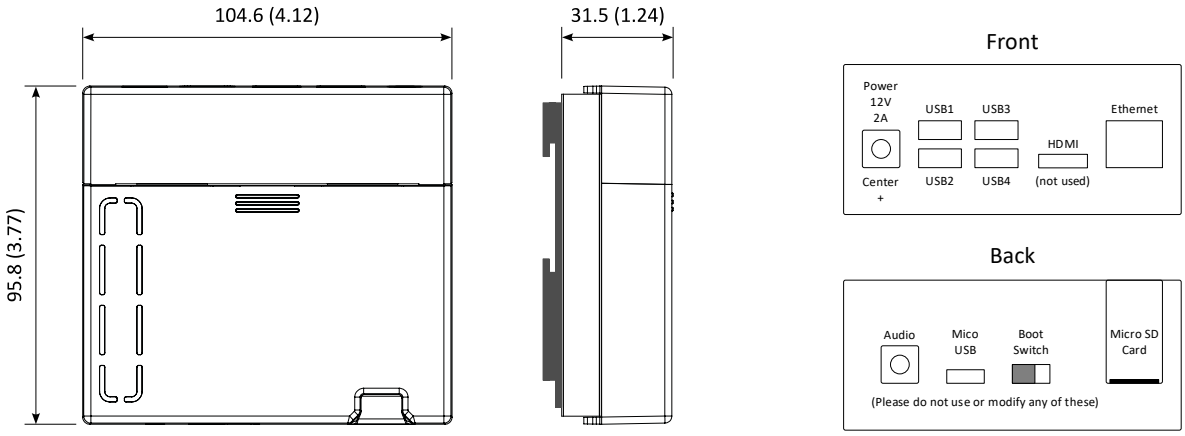
Power supply	Power requirements	12 VDC 2.0 A
	Power consumption	Max. 10 VA
	RTC backup	Battery Backed Real Time Clock
Ports	USB	4 USB 3.0 Compatible OHCI ports
	Ethernet	1 10/100/1000 MBPS Ethernet port
Processor and memory	CPU	Quad core 2.2GHZ ARM Cortex A73 and Dual core 1.8GHZ ARM Cortex A53
	RAM	2 GB DDR4 RAM
	Flash	16 GB micro SD
Environment	Operation Climatic conditions Temperature Humidity	To IEC 721-3-3 class 3K5 0…50 °C (32…122 °F) <85 % RH non-condensing
	Transport & storage Climatic conditions Temperature Humidity Mechanical conditions	To IEC 721-3-2 and IEC 721-3-1 class 3K3 and class 1K3 -40…70 °C (-40…158 °F) <95 % RH non-condensing class 2M2
General	Degree of protection	IP00 to EN 60 529
	Pollution class	II (EN 60 730-1)
	Material Housing	PC + ABS
	Dimensions (W x D x H)	105 x 96 x 32 mm (4.12 x 3.77 x 1.24 ")
	Weight (including package & power supply)	495g (17.5 oz)
Requirements	No software is required other than an HTML5 compatible web browser.	
Supported browsers	Windows: Chrome, Android: Chrome, iPhone/iPad: Safari, Linux: Chrome Most other browsers should work, with possible minor visual differences.	

Product certification

CE Declaration of conformity

Information about the conformity of our products can be found on our website www.vectorcontrols.com on the corresponding product page under "Downloads".

Dimensions mm (inch)



Important: If the case is ever opened, the micro SD card must be temporarily removed to close it again!

Protocols Supported

- BACnet/IP: Recommended for larger projects
- BACnet MS/TP: Use BACnet to BACnet MS/TP router. Connect only on USB1. Not recommended for > 10 devices
- Modbus TCP: Recommended for larger projects
- Modbus RTU: Use AEX-SMP-MOD. Connect on USB1 or USB2

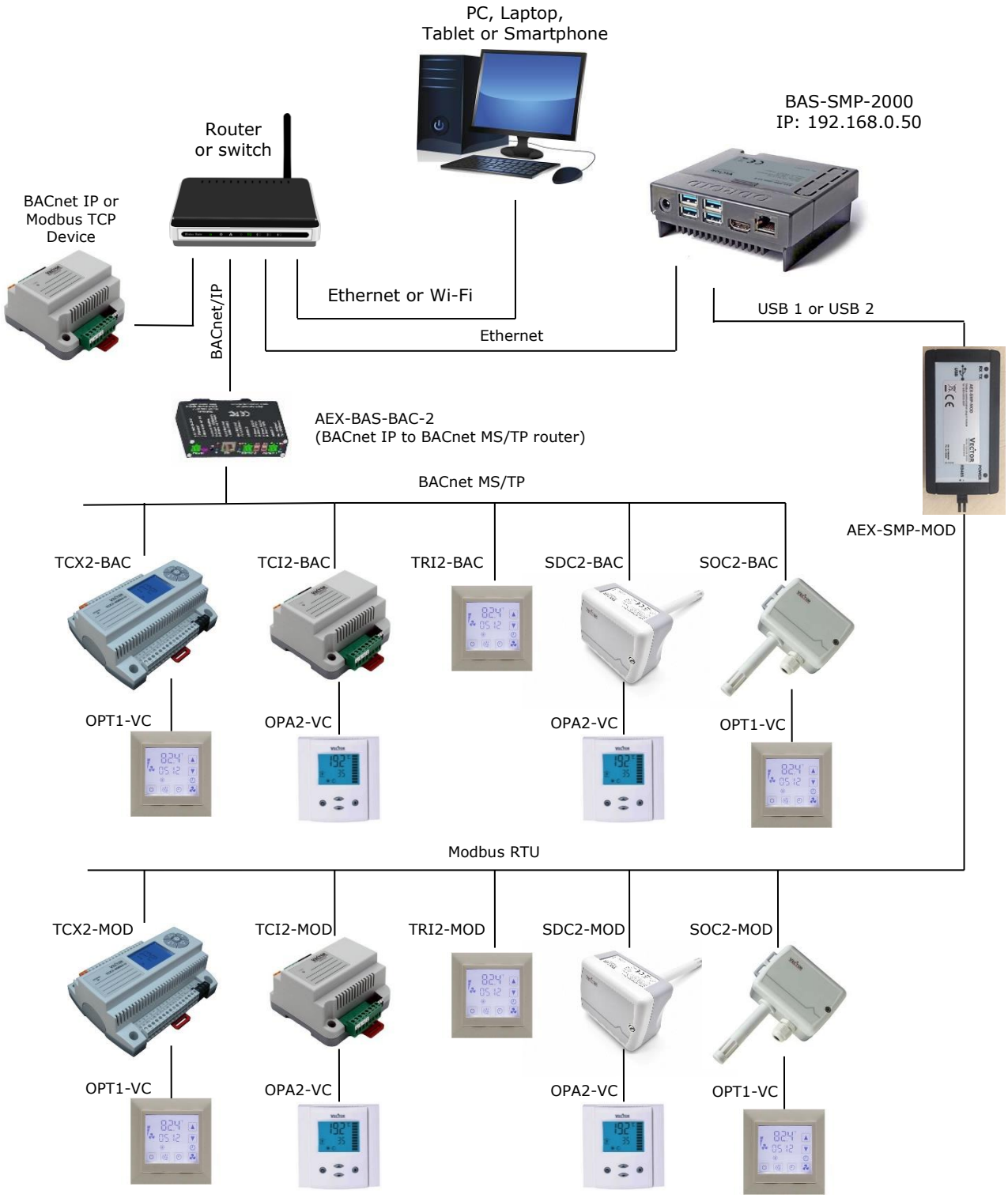
Connection topology

Limitations:
BACnet:

- In order to keep response times low, do only activate those objects that are needed.
- For larger projects it is recommended to use BACnet/IP devices or if BACnet MS/TP is required it should be used with the BACnet/IP to BACnet MS/TP router

Modbus:

- AEX-SMP-MOD: may be used on USB 1 and USB 2.
- For larger projects Modbus TCP is recommended.



Setup Instructions

Important: Avoid removing power from the BAS-SMP-2000-V3.0 unit without properly shutting it down by selecting "Server Functions" in the system menu, then selecting "Shut Server Down"

1. Connect a standard Ethernet cable from the BAS-SMP-2000-V3.0 unit to a hub or router on your network. **Do not connect directly to your computer unless you are using a "crossover" cable as this could damage the BAS-SMP-2000-V3.0 Unit and/or your computer.**
2. If using a BACnet MS/TP or Modbus USB adapter, connect it to the upper-left USB port (USB1) using the supplied USB cable. A second USB adapter can be plugged in to the lower-left USB port (USB2).
3. Plug the supplied line voltage adapter in to a wall outlet, then in to the BAS-SMP-2000-V3.0 unit.
4. It could take up to 2 minutes for the BAS-SMP-2000-V3.0 unit to boot for the first time.
5. If your network is not set to use 192.168.0.x [*1)], you may need to temporarily set your network to use that address or use a different computer. If this is not possible, contact us for further instructions.
6. Load a web browser on your PC, and in the address bar, type "http://192.168.0.50" (be sure to include the "http://") and press "Enter". To get to the older Flash interface, use http://192.168.0.50/goFlash.
7. You should see the BAS-SMP-2000-V3.0 login screen. If you do not see a login screen, wait 30 seconds and click the "Refresh" button in the browser. If you still do not see a login screen, check your network settings and the address in the browsers address bar.
8. Log in to the BAS-SMP-2000-V3.0 unit with the username of "admin" and password of "pass" or "admin123" for Version 2.17 and up.
9. The default administrator password should be changed as soon as possible. Select "Users & Groups" from the system menu to access the User Database. Help is available by clicking the "?" (Help) button. **Record the administrator password in a safe place. Recovering a lost administrator password is not a simple process.**
10. If the IP address needs to be changed, select "Edit Settings" from the system menu, then select "Network Settings". After changing the network settings, select "Reboot Server" from the "Server Functions" menu.

Once the unit is up and running at the desired IP address click the "?" (Help) button on the bottom toolbar. There you will find a tutorial with instructions for quickly connecting to a network, connecting devices and creating a simple dashboard.

Default Settings

IP Address: 192.168.0.50
Web server (HTTP) port: 80
Administrator Username: **admin**
Administrator Password: **pass** or **admin123**

[*1)] Note: older versions of the product used 192.168.170.50 as an IP address. In case you use a device manufactured before July 2022, please use these IP settings.

Network reset procedure

1. Get a clean, empty USB flash drive. Any size will work. Skip to step 4 if you do not need to reset the web server port.
2. Using your computer, create a text file on the USB drive named exactly "webPortReset.txt". Case is important.
3. Edit the file and enter a single line with nothing on it except the port number to use for the web server. For example "8447" (without the quotes) and press [Enter].
4. Create a text file as outlined below and name it "interfaces.txt" and copy it to the USB drive. Edit the file and change the settings as appropriate. Don't change anything except the "address", "gateway" and "netmask" settings. This file may as well be downloaded from www.vectorcontrols.com under the download section of products/gateway/BAS-SMP-2000
5. Remove all USB devices from the unit and plug the USB drive in to the top-left USB port of the unit.
6. Remove power from the unit, wait about 30 seconds, and then reconnect power.
7. It may take 3-5 minutes for it to become available with the new settings. It will reboot twice and run a check of The flash memory, which can take several minutes.
8. Once you are able to log in, shut the unit down properly (through the System Menu), remove the USB flash drive, reconnect any interfaces and power the unit back up.

Note that the files will be renamed on the USB flash drive after the reset is complete. You will have to manually change them back if you need to reset multiple units. This is done so it doesn't get caught in a loop seeing the reset file over and over.

Interfaces.txt:

```
# Used by ifup(8) and ifdown(8). See the interfaces(5) manpage or
# /usr/share/doc/ifupdown/examples for more information.

auto lo
iface lo inet loopback

auto eth0
#iface eth0 inet dhcp
iface eth0 inet static
        address 192.168.0.10
        gateway 192.168.0.100
        netmask 255.255.255.0
```

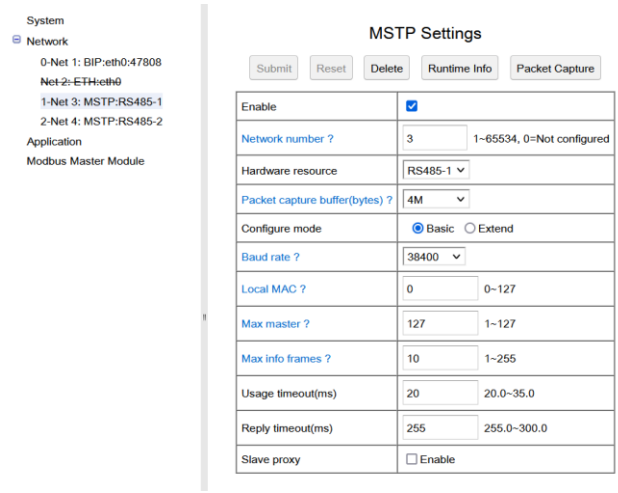
BACnet/IP to BACnet MS/TP router

For projects that are using a BACnet MS/TP network, Vector Controls offers a pre-configured BACnet/IP to BACnet MS/TP router (AEX-BAS-BAC-2, Product No. 40-120026) that allows you to eastly control and manage all off your BACnet devices.

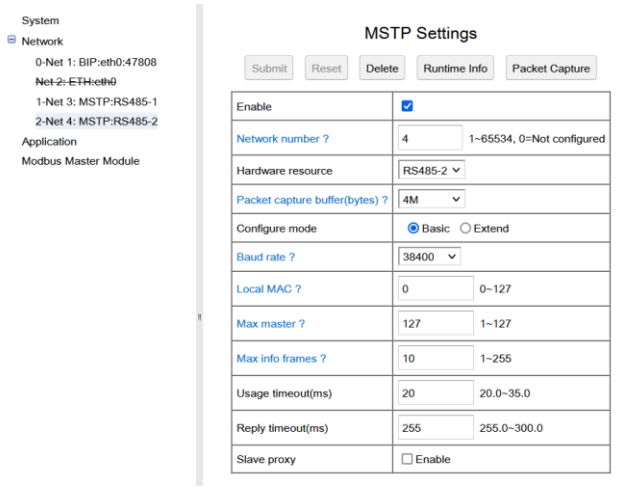
Configuration

The Vector Controls BACnet/IP to BACnet MS/TP router (AEX-BAS-BAC-2, product number 40-120026) uses the following configuration:

MSTP RS485-1



MSTP RS485-2



Empty page.

Smart Sensors and Controls
Made Easy!

Quality - Innovation – Partnership

Vector Controls LLC
USA

infous@vectorcontrols.com
www.vectorcontrols.com