

DVP-120B Detection and Ventilation Panel

What is BACnet?



- BACnet is short for Building Automation Control Network
- BACnet is registered trademark of ASHRAE.
- It is a data communication protocol designed for building automation and control networks.
- Information within a BACnet device is represented by one or more objects. Each object represent single or group of information about the device.
- Each object of a BACnet device have a collection of properties based on the function and purpose of the object.



Why BACnet?

- Standardization
- Freedom
- Reduced installation cost
- Data, Data, Data
- Alarm and event management
- Scheduling
- Trending
- Device and network management

DVP-120B Detection & Ventilation Panel

The Macurco DVP-120B Detection and Ventilation Panel with Macurco gas sensors (aka transducers) provides automatic controls to help maintain a safe environment in parking garages, bus depots, vehicle maintenance facilities, firehouses, loading docks, etc.

- The DVP-120B system is designed to meet specifications for safety in enclosed parking garages, including the Uniform Building Code and OSHA requirements.
- The **DVP-120B** (BACnet version) can control up to **99 sensors**; 12 analog via 4-20mA current loop and 87 serial, addressable RS-485 MODBUS RTU
- The output on the DVP-120B daughter board outputs BACnet MS/TP from all the digital sensor inputs
- Up to 3 ventilation control zones can be defined and activated based on gas concentration levels and/or time of day



DVP-120B

Horn/Strobe Drivers:
0.25A at 24VDC

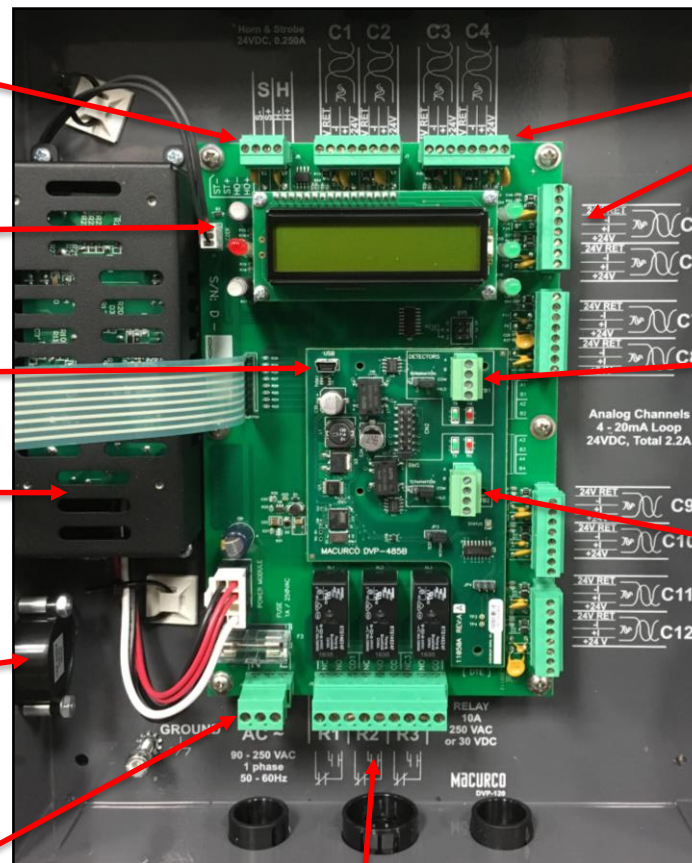
LCD & Status
Indicator Lights

USB Connection

Power
Supply

Panel
Buzzer

Power Input



12 Analog
Inputs

MRS-485 Input
(from sensors)

BACnet MS/TP output
(going to BMS)

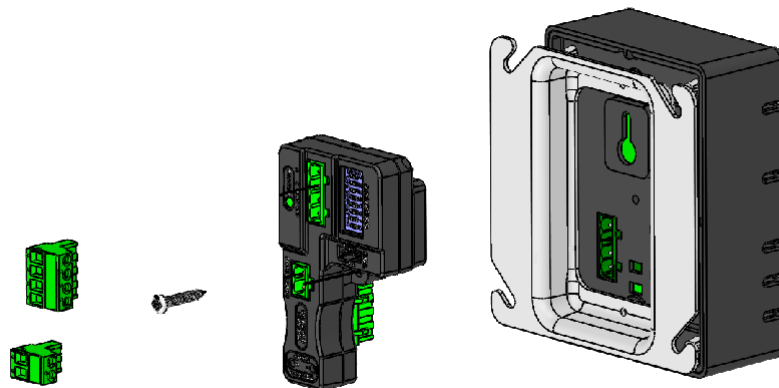
3 - 10 AMP SPDT Relays

DVP-120B

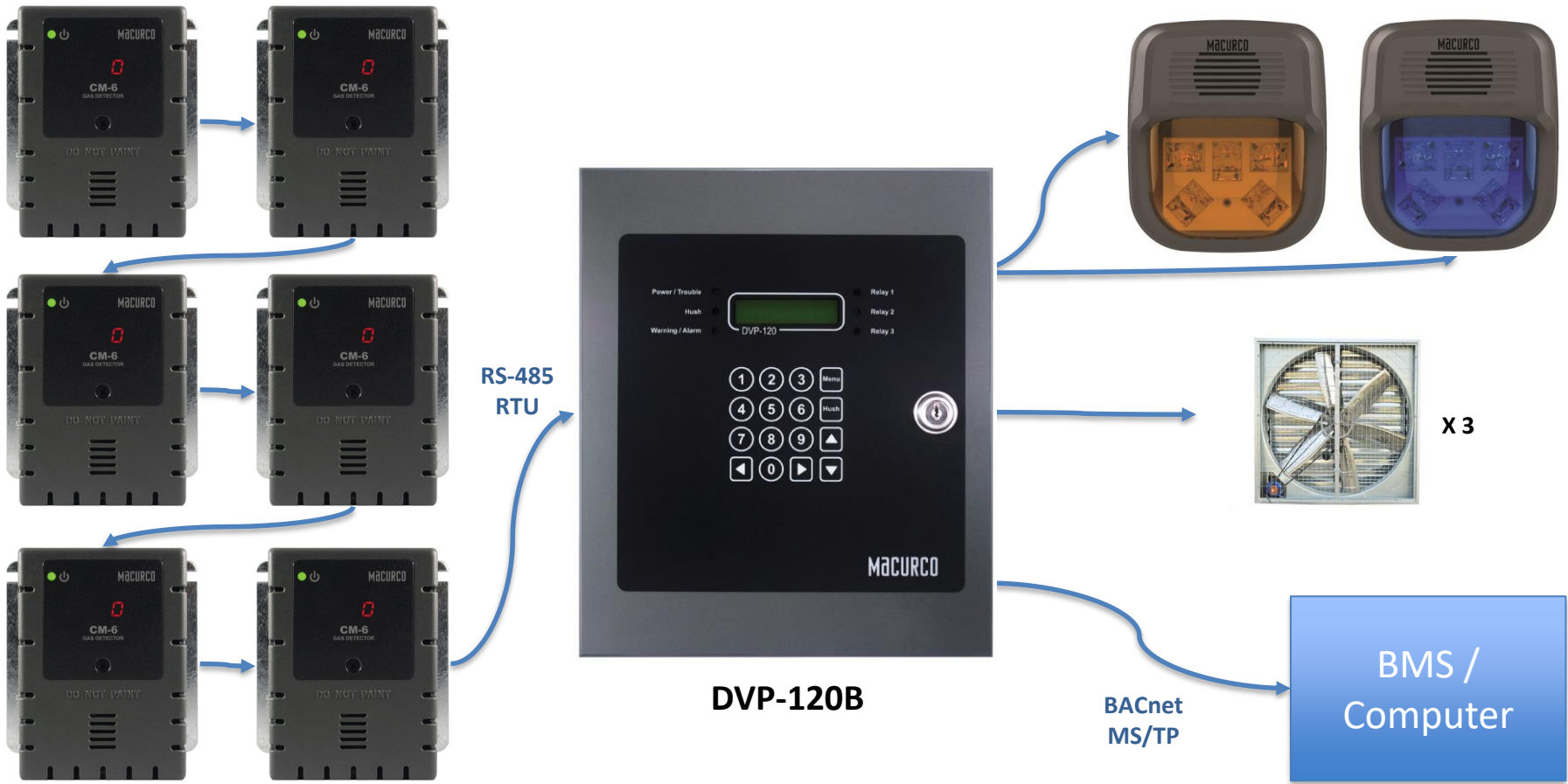


MRS-485 Adapter

- Converts the 4-20mA analog signal to a digital signal for use with multipoint addressable systems.
- Mounts behind the detector inside of a standard 4" x 4" electrical box
- 8 bit dip switch address selector
- RS-485 termination uses 4 pin connector with jumper to select termination
- Communications connections include signal (A and B), common and shield terminals



DVP-120B Example Control Diagram



6-Series Detectors w/ MRS-485 Adapters

DVP-120B

BACnet
MS/TP

BMS /
Computer

DVP-120B BACnet Objects

- Following are BACnet objects available for each detector connected to DVP-120B are as follows:
 - a. Analog Input- Sensor ID
 - b. Analog Input- Gas Reading
 - c. Binary Input- MRS Trouble
 - d. Binary Input- Over Range
 - e. Binary Input- Trouble
- Following two BACnet objects are related to DVP-120B only:
 - a. Device Object
 - b. Binary Input- DVP Com Error

BACnet Device Example

Object:
Type: Analog Input
Instance Number: 1301
Object Name: Gas Reading
Present Value: 0

Object:
Type: Device
Instance Number: 35
Vendor Name: Macurco

Object:
Type: Binary Input
Instance Number: 1300
Object Name: Trouble Status
Present Value: 0

Object:
Type: Analog Input
Instance Number: 1300
Object Name: Sensor ID
Present Value: 1



Macurco Network Parameter Utility (NPU)



- Macurco Network Parameter Utility can be used to update firmware for IC used for BACnet functionality and also to update BACnet Configuration.
- Software displays the BACnet configuration version under device name (DVP-120B). In picture on the left, it shows the BACnet configuration file with Version 1.0 i.e. BACnet V1.0.
- Fields greyed out are read only.
- This can be used to update baud rate for BACnet output, Address for DVP-120B in the network etc.
- **Reload** button will load the current settings for DVP-120B.
- To change settings (for BACnet), change the parameter and hit **Submit**.

Questions



Gas Detection. It's What We Do.