

Suggested Specifications

Price WEB Server

Division 23 – Heating, Ventilating, and Air Conditioning Section 23 09 00 – Instrumentation and Control for HVAC

The following specification is for a defined application. Price would be pleased to assist in developing a specification for your specific need.

PART 1 – GENERAL

1.01 Section Includes

- A. Graphical Interface

1.02 Related Requirements

- A. Section 01 40 00 - Quality Requirements
- B. Section 01 78 00 - Closeout Submittals
- C. Section 01 79 00 - Demonstration and Training

1.03 Reference Standards

- A. All referenced standards and recommended practices in this section pertain to the most recent publication thereof, including all addenda and errata.
- B. BACnet International – Building Automation and Control networks: communications protocol for building automation control networks that leverage the ASHRAE, ANSI and ISO standard protocols.
 - 1. ANSI/ASHRAE Standard 135.1 – Method of Test for Conformance to BACnet.
 - 2. ISO 16484-5 – Building Automation and Control Systems: Data communication protocol.

1.04 Documentation

- A. The manufacturer shall provide documentation for each device to address typical wiring, sequence of operation, physical dimensions of components and installation procedures and requirements.

1.05 Quality Assurance

- A. The manufacturer qualifications shall be specified in this section, with minimum ten years of documented experience.

1.06 Warranty

- A. The warranty shall begin upon the date of shipment and continue for a period of 18 months.
 - 1. The warranty shall cover all products from manufacturer defect and shall include any replacement parts only during the coverage period.
 - 2. The manufacturer shall not include the cost of labor to replace or recalibrate, if necessary, any components found to be defective.
 - 3. This warranty does not cover any product failure which results from, either directly or indirectly, any damage which occurs to the device by improper installation or from failure to comply with the preventative maintenance required per the manufacturer's instructions, or by codes set by local or facility authorities.
 - 4. An extended warranty shall be available at additional cost from the manufacturer.
- B. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

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PART 2 – PRODUCTS

2.01 WEB Server Package

- A. Basis of Design: Price Industries, Inc.
 - 1. Price WEB Server (PRTU-Front-End)

2.02 WEB Server Package

- A. Description:
 - 1. The Web Server shall allow a user to be able to log in through the internet into the building's HVAC network and monitor/override certain values pertaining to all zone controllers and rooftop units. The Web Server shall also allow the ability to monitor any third party BACnet MS/TP devices on the network for information purposes only. The login shall be password protected and shall be routed through the building's local area network.
 - 2. In addition to all aforementioned equipment, the optional web server package shall include:
 - a. System Web Server.
 - b. IP System Router.
 - c. BACnet MS/TP Router.
 - d. IP Switch.
 - 3. The Web Server package shall allow remote access to building HVAC controls and conditions, and allows the user to make adjustments to any writable points on any networked controller. The Web Server shall come complete with preloaded graphics for every type of zone controller, as well as the rooftop unit.
 - 4. Preloaded graphics for each zone controller shall include, but not be limited to:
 - a. Occupancy status.
 - b. Supply air temperature.
 - c. Airflow [**pressure independent controllers only**].
 - d. Airflow target [**pressure independent controllers only**].
 - e. Room setpoint.
 - f. Room temperature.
 - g. Damper position.
 - h. Damper target [**pressure dependent controllers only**].
 - i. Room setpoint override.
 - j. Room load PI
 - 5. Preloaded graphics for the rooftop unit controller shall include, but not be limited to:
 - a. Occupancy status
 - b. Temperature local to the rooftop controller thermostat
 - c. Rooftop return air temperature
 - d. Rooftop discharge air temperature
 - e. Stages of heat/cool energized
 - f. Rooftop status (heat/cool/neutral)
 - g. Rooftop control polling strategy
 - h. Number of zones
 - i. Number of zones up
 - j. Polled cooling demand, %
 - k. Polled heating demand, %
 - l. Polled deadband demand, %
 - m. Network status (active, or down)
 - 6. The Web Server shall also be able to support custom graphics, such as building floor plans, for quickly locating zone conditions/points for a given space.
 - 7. [**Optional**] Web Additional Package: The standard package shall include an additional BACnet router in order to connect multiple rooftop controllers to the system web server:
 - a. BACnet MS/TP Router.
 - b. IP switch for networks with more than 3 rooftop controllers/BACnet routers.
 - c. Access via any web browser with free Adobe Flash plug-in installed.
 - d. No additional software or USB keys (licensing) required.
 - e. BACnet IP support.
 - f. High resolution graphics.
 - g. Supports multiple users with individual access level control.
- C. Electrical Requirements:
 - 1. The WEB Server and associated routers and switches shall operate with 24 VAC supplied by field installed 40VA (minimum) Class 2 transformer.

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- D. Start-up & Commissioning:
 - 1. Start-up shall include verifying proper installation, configuring and verifying of network communication, and ensure that all graphics are created as per site requirements.
 - 2. Basic adjustments from the Web Server shall be performed to ensure proper operation and communication to the BACnet device is achieved.

PART 3 – EXECUTION

3.01 Examination

- A. Verify that conditions are suitable for installation.
- B. Verify that field measurements are as shown on the drawings.

3.02 Installation

- A. The mechanical contractor, controls contractor, or factory authorized commissioning contractor shall install and wire the components of the Web Server. This shall include a 40VA transformer, WEB Server, IP Router, MS/TP BACnet Router, and additional IP Switch as required.
- B. The optional webserver package shall be shipped with a DIN rail for easy wall mounting and removal or reinstallation of the devices should it be necessary to relocate.
- C. All BACnet networking of zone controllers to the rooftop unit controller shall be completed using factory shipped plenum rated CAT 5 cables with RJ45 ends to ensure uniform polarity and network coms throughout network, and to ensure error-proof installation. Connections of the factory supplied Ethernet cables shall be connected from the IP-Router to the Web Server, MS/TP BACnet Routers and IP Switch as required.
- D. The Web Server shall have the following cable and wire requirements:
 - 1. Factory supplied 2 foot length of plenum rated (CMP) RJ-45 Cat 5 cable for networking the IP Router to the Web Server and associated BACnet MS/TP routers.

3.03 Field Quality Control

- A. See Section 01 40 00 - Quality Requirements, for additional quality requirements.

3.04 Closeout Activities

- A. The manufacturer or manufacturer's representative shall provide a minimum of four hours of owner training to facilities personnel or other parties as required.
- B. See Section 01 79 00 - Demonstration and Training for additional closeout requirements.