

SECTION 25 30 00 – BAS COMMUNICATION DEVICES

PART 1 - GENERAL

A. RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.
- B. Although Specifications throughout the Mechanical, Electrical, Communications, Electronic Safety and Security divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them; additional Divisions also may be reciprocally applicable to this Section.
- C. Refer to Section 25 00 00 - Building Automation System (BAS) General for definitions and abbreviations.
- D. 23 05 93 Testing Adjusting and Balancing

B. SUMMARY

- A. Provide all interface devices and software to provide an integrated system connecting BCs, AACs, ASCs and Gateways to the Owner's Wide Area Network (UNIVERSITY OF HOUSTON WAN).
 - 1. Local Supervisory LAN Gateways/Routers.
 - 2. Chiller Controls Interface Device (CID).
 - 3. Variable Frequency Drives (VFD's).
- B. Provide all interface devices and software to provide an integrated system connecting BCs, AACs, ASCs and Gateways to the Owner's Wide Area Network (UNIVERSITY OF HOUSTON WAN).
- C. Designated IP Address by Owner (within project budget).
- D. Controllers serving fire alarm system must be rated per NFPA

C. REFERENCE STANDARDS

- A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.
- B. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.
- C. All materials, installation and workmanship shall comply with the applicable requirements and standards addressed within all references.

PART 2 - PRODUCTS

A. GENERAL

D. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.

B. Local Supervisory LAN Gateways/Routers

E. The Supervisory Gateway shall be a microprocessor-based communications device that acts as a gateway/router between the Supervisory LAN CSSs or OWS and the Primary LAN.

F. The Gateway shall perform information translation between the Primary LAN and the Local Supervisory LAN, which is 100 Mbps Ethernet TCP/IP and shall use BACnet over IP.

G. The gateway shall contain its own microprocessor, RAM, battery, real-time clock, communication ports, and power supply as specified for a BC in Section 25 14 00. Each gateway/router shall be mounted in a lockable enclosure unless it is a PC that also serves as an OWS.

H. The gateway/router shall allow centralized overall system supervision, operator interface, management report generation, alarm annunciation, acquisition of trend data, and communication with control units. It shall allow system operators to perform the following functions from the CSS, OWSs, and POTs:

1. Configure systems.
2. Monitor and supervise control of all points.
3. Change control setpoints.
4. Override input values.
5. Override output values.
6. Enter programmed start/stop time schedules.
7. View and acknowledge alarms and messages.
8. Receive, store and display trend logs and management reports.
9. Upload/Download programs, databases, etc. as specified.

I. Upon loss of power to the Gateway, the battery shall provide for minimum 100 hour backup of all programs and data in RAM.

J. The Gateway shall be transparent to control functions and shall not be required to control information routing on the Primary LAN

C. Chiller Controls Interface Device (CID)

K. The CID shall be a microprocessor-based communications device that acts as a gateway between the control protocol and the applicable chiller controller.

- L. The CID shall contain its own microprocessor, RAM, battery, communication ports and, power supply.
- M. Each CID shall support full bi-directional communications translation as more fully specified in Section 25 15 00.
- N. The following points shall be mapped as a minimum:
 - 1. CHW Supply and Return Temperatures.
 - 2. CW Supply and Return Temperatures.
 - 3. Power Consumption (kW).
 - 4. Percent of Power Consumption (compared to maximum).
 - 5. Bearing Temperature.
 - 6. Suction and Head Pressures.
 - 7. Suction and Head Temperatures.
 - 8. All available alarms; common alarm as minimum.
 - 9. Chiller Status.
 - 10. Enable/Disable.
 - 11. Current Limit Percent.
 - 12. CHW Setpoint and Setpoint Reset.

PART 3 - EXECUTION

A. PREPARATION

- O. Examine areas and conditions under which control systems are to be installed. Do not proceed with Work until unsatisfactory conditions have been corrected in manner acceptable to Installer.

B. INSTALLATION

- C. Installation shall meet or exceed all applicable federal, state and local requirements, referenced standards and conform to codes and ordinances of authorities having jurisdiction.
- D. All installation shall be in accordance with manufacturer's published recommendations.
- E. Provide all interface devices and software to provide an integrated system.
- F. Closely coordinate with the owner, or designated representative, to establish IP addresses and communications to assure proper operation of the building automation system with owner's wan.
- G. Closely coordinate with owner's commissioning agent and TAB firm.

END OF SECTION 25 30 00