MEPNN Supplier Scouting Opportunity Synopsis

Section 1: General Information

Scouting Number	2025-080
Item to be Scouted	BABA - HVAC Direct Digital Control (DDC) Building Automation System (BAS)
Days to be scouted	30
Response Due By	04/11/2025
Description	United States manufacturers of BABAA-compliant HVAC Direct Digital Control (DDC) Building Automation System (BAS) for a hospital addition in Charles City, IA.
Notify Requester Immediately	No
State item to be used in	Iowa

Section 2: Technical Information

Type of supplier being sought	Other
Details	Manufacturer/Distributor
Reason	BABA
Describe the manufacturing processes (elaborate to provide as much detail as possible)	electrical \ mechanical assembly
Provide dimensions / size / tolerances / performance specifications for the item	HVAC Building Automation System (BAS) components include Control valves, input/output sensors for DDC controls, thermostats and thermostat/sensor accessories, airflow measuring stations, and variable frequency drives (VFD). see attached.
List required materials needed to make the product, including materials of product components	See attached specifications.
Are there applicable certification requirements?	No
Are there applicable regulations?	Yes
Details	Yes. NFPA 70 - National Electrical Code NFPA 90A - Installation of Air Conditioning and Ventilation Systems
Are there any other stndards, requirements, etc.?	No
NAICS 1	
NAICS 2	

Additional Technical Comments	Domestic components in each of the BABAA compliant manufactured products must exceed 55% of the total component cost and be assembled in the United States. Certification(s) required Build America, Buy America Act (BABAA) compliant Must be able to submit BABAA manufactured product self-certification manufactured product letter that details a compliant product or system. Manufacturers shall specialize and have experience in the manufacturing of the designated components. Must be compatible with existing hospital BAS manufacturer, Johnson Controls. See attached CF060 HVAC DDC Building Automation System (BAS) Components Specification for details on each BAS components performance requirements.

Section 4: Business Information

Estimated potential business volume	one-time purchase of 1 Heating, ventilation, and air conditioning (HVAC) Direct Digital Control (DDC) Building Automation System (BAS) for existing Hospital Addition.
Estimated target price / unit cost information (if unavailable explain)	Best available, as this is related to BABA, acceptable pricing is to be determined in negotiation.
When is it needed by?	August 2025
Describe packaging requirements	Best available. Delivered undamaged. Specifics discussed in negotiation.
Where will this item be shipped?	Charles City, IA

Additional Comments

Is there other information you would like to include?	Nationwide Search Provide written documentation in response to the Supplier Scouting request of being a current Build America Buy America Act (BABAA) compliant HVAC DDC BAS manufacturer with experience manufacturing the system components meeting the product performance requirements. Information on BABAA compliance requirements can be found at Made in America Office link https://www.madeinamerica.gov/. POC - Joe Edmondson - joe.edmondson@okalliance.com USDA - Posted through CBS

CONTROL VALVES

A. Ball Pattern:

1. Up to 2 Inches: Brass or bronze body, NPT female connections. The value trim must include a stainless-steel ball and stem.
2. Modulated Valves: The valve manufacturer recommended maximum pressure drop for modulation service must be greater than the pump shut off head. Ball valves must not be used for steam service.
3. Over 2 Inches: Brass, bronze or iron body, ANSI Class 125# flanges. The valve trim must include a stainless-steel ball and stem. The valve manufacturer recommended maximum pressure drop for modulation service must be greater than the pump shut off head for modulated valves.
4. Hydronic Systems:
    a. Valve assembly, including packing, must be capable of continuous service at pressure of 125 psig and medium temperature of 250 deg F.
    b. Size for between 4 and 6 PSIG maximum pressure drop at design flow for modulating service. Size equal to line size and use full port design for two-position service.
    c. Two-way valves must have equal percentage characteristic. Two-way valve and actuator must be rated to close off against the pump shut off head.

B. Globe Pattern:

1. Up to 2 Inches: Bronze body, NPT female connections. Sweat or flare connections are allowed for copper piping. The valve must have stainless steel trim. The valve manufacturer recommended maximum pressure drop for modulation service must be greater than the pump shut off head for modulated valves in water or glycol solution service. The valve must have a renewable composition disc or metal to metal seating meeting ANSI Class IV leakage requirements.
2. Over 2 inches: Brass, bronze, cast iron, ductile iron or steel body. ANSI Class 125/150 flanges for fluid temperatures, including steam superheat, up to 300 deg F. ANSI Class 250/300 flanges for fluid temperatures over 300 deg F. The valve must have stainless steel trim. The valve manufacturer recommended maximum pressure drop for modulation service must be greater than the pump shut off head for modulated valves in water or glycol solution service. The valve must have a renewable composition disc or metal to metal seating meeting ANSI Class IV leakage requirements.
3. Hydronic Systems:

a. Valve assembly, including packing and disc material, must be capable of continuous service at pressure of 125 psig and medium temperature of at least 250 deg F for water and glycol systems.

b. Size for between 4 and 6 PSIG maximum pressure drop at design flow for modulating service. Size equal to line size for two-position service.

c. Two-way valves must have equal percentage characteristic. Two-way valve and actuator must be rated to close off against the pump shut off head.

C. Operators:

1. All modulating valve actuators must be electronic, using a 0-10 Vdc or 4-20 mA positioning input.

2. All two-position valve actuators must be electric.

3. Valve actuators on valves serving outside air preheating coils; heating coils at air handlers, cooling coils at air handlers, unit heaters in vestibules to outside; unit heaters within five feet (5') of an outside door must spring return to open on loss of power.

4. All fail in place valve actuators must have a manual means for an operator to position the valve.

5. All valve actuators must be capable of continuous service at the medium temperature expected for the valve. The actuator may be placed in a factory approved position that is not below the horizontal plane of the valve body and/or equipped with factory approved insulation and heat shields in order to meet this requirement.

INPUT/OUTPUT SENSORS FOR DDC CONTROL

A. Temperature Sensors and Transmitters:

1. Temperature sensors used for measuring room temperature and mounted on a wall or ceiling or installed in a return duct must have a +/- 0.5 F accuracy over a range of 55F to 95F. The sensor accuracy requirement applies to sensors that are connected to a Tier 2 or Tier 3 controller or sensors that are part of a thermostat. Room temperature sensors may be thermistor or RTD.

2. Temperature sensors used to measure the discharge air temperature from an air valve, unit heater, fan coil unit, unit ventilator or duct mounted reheat coil must have a +/- 0.75F accuracy over a range of 20F to 120F. These temperature sensors may be thermistor or RTD. A duct mounted temperature sensor assembly must include a gasket to prevent air leakage. The temperature sensor may connect directly to a Tier 2 or Tier 3 controller or may connect to a temperature transmitter that in turn connects to a Tier 2 or Tier 3 controller.

3. FMS contractor furnished or provided temperature sensors used for duct, air processing machine, immersion or outside air measurement other than to measure an air valve, unit heater, fan coil unit, unit ventilator or duct mounted reheat coil discharge temperature, may use a thermistor or RTD. Single point sensors must

have an accuracy of +/- 0.36F or better in the range of 20F to 120F. Averaging sensors must have an accuracy of +/- 0.5F or better in the range of 20F to 120F.

a. An air processing machine is a packaged air handler, modular air handler, field built air handler, energy recovery ventilator, standalone preheat coil assembly or stand alone fan.

b. Duct or air processing machine temperature sensors include single point or averaging element sensors listed on the point list in the sequence of operation or on the control system drawings that are used to sense discharge air temperature from an air processing machine, discharge temperature from any coil inside an air processing machine, entering air temperature into any coil inside an air processing machine, mixed air temperature associated with an air processing machine or air temperature entering an air processing machine.

c. Use single point temperature sensors in ducts or air processing machine locations that are 10 square feet or smaller and not used to measure mixed air temperature.

d. Use averaging elements for locations required in a point list or that are larger than 10 square feet or used to measure mixed air temperature, regardless of duct area. Use averaging elements that are at least 24 inches long at locations with up to 5 square feet of cross sectional area. Use averaging elements that are at least 48 inches long at locations with between 5 and 10 square feet of cross sectional area. Use averaging elements with a length of at least 96 inches long at locations with between 10 and 15 square feet of cross sectional area. Use averaging elements with a length of at least 96 inches long plus additional 12 inch increments for each square foot increment of cross sectional area above 15 square feet (i.e., a cross sectional area of 16 square feet requires a 108 inch long element. A cross sectional area of 20 square feet requires a 154 inch long element.). Multiple averaging bulb sensors may be used at a particular location to meet the bulb length requirement. Averaging sensors that are up to 48-inches long may be rigid or bendable. Averaging sensors longer than 48-inches long must be bendable.

e. Single point and averaging temperature sensor assemblies must include a junction box with a gasket to prevent leakage and reduce vibration noise.

f. Temperature sensors used for outside air temperature measurement be in a NEMA 4 watertight fitting or enclosure and shielded from the direct rays of the sun at all times.

g. Temperature sensors used for fluid temperature measurement must be inserted into a separable immersion well. The well must be constructed of brass or stainless steel.

B. Relative Humidity Sensors:

1. The room and duct mounted relative humidity sensors must have a detection range of 0 - 100% relative humidity (RH) with linear output and be accurate within 3% full range, unless another accuracy is indicated on the points list.

2. The outside air relative humidity sensors must have a detection range of 0 - 100% relative humidity (RH) with linear output and be accurate within 2% full range.

3. Place outside air sensors in a watertight inlet fitting, shielded from direct rays of sun.

C. Gas Sensors:

1. CO2 Sensors:

a. The room and duct mount CO2 sensors must have a detection range of 0 - 2,000 ppm with linear output and be accurate within 100 ppm across the span.

b. The sensing technology must be infrared and the sensor must have an expected lifetime of at least ten years.

c. Place duct sensors in an appropriate enclosure as required by the manufacturer.

D. Air Static and Differential Pressure Sensors:

1. The pressure sensors must be electronic. Static pressure sensors for to measure duct pressure distant from the supply fan must range 0-5 in WC. Differential pressure sensors to measure mixed air plenums' static pressure must range 0-1 in W.C. Differential pressure sensors to measure return, relief or exhaust fan suction pressure must range 0-2.5 in W.C. Differential pressure sensors for room or building pressure measurement must range -0.25-0.25 in WC. Differential pressure sensors for exhaust damper pressure drop measurement must range 0-1 in WC.

2. Pressure sensors must be thermally compensated with a zero span shift of no more than 0.04% of full scale per degree F of change.

3. Multiple range pressure sensors must meet the full scale accuracy requirement for the range selected, not only for the highest range available. The sensors must have a non-repeatability error of no more than 0.05% full scale and hysteresis error of no more than 0.1% of full scale. Pressure sensors used for velocity pressure measurement must have an accuracy of 0.4% of full scale. All other pressure sensors must have an accuracy of 1.0% of full scale.

E. Water and Glycol Solution Static and Differential Pressure Sensors:

1. The pressure sensors must be electronic. Static pressure sensors for pipe pressure must span no more than 150% of the expected maximum pressure, except that the next higher standard span may be selected. Differential pressure sensors for pipe to pipe pressure differential measurement must range 0-25 psid when installed at a hydraulically distant point from the pumps.

2. Differential pressure sensors must have three-valve manifolds.

3. Differential pressure sensors must have a proof pressure of at least 50 psig on either port.

4. Static pressure sensors must have a proof pressure of at least 100 psig.

5. Pressure sensors must be thermally compensated with a zero/span shift of no more than 0.02% of full scale per degree F of change.

6. Multiple range pressure sensors must meet the full scale accuracy requirement for the range selected, not only for the highest range available. The pressure sensors must have a non-repeatability error of no more than 0.05% full scale and hysteresis error of no more than 0.1% of full scale. The pressure sensors must have an accuracy of 0.25% of full scale.

F. Equipment Operation Sensors:

1. Sense fan on/off status with adjustable threshold current sensors sized for the fan motors full load current draw on one horse power and larger motors. Use on/off current sensors for smaller motors.

2. Sense pump on/off status with on/off current sensors.

3. Sense the run status of any other electric motor with adjustable threshold current sensors sized for the motors full load current draw on one horse power and larger motors. Use on / off current sensors for smaller motors.

THERMOSTATS AND THERMOSTAT/SENSOR ACCESSORIES

A. Room Thermostat and Sensor Accessories:

1. Any thermostat or sensor located on an exterior wall or an interior wall adjacent to an interior space that is not maintained at a similar temperature during the winter (i.e., a sometimes heated garage) must have an insulating base.

2. Any temperature sensor indicated to be flush mount must be a stainless steel plate with the sensor attached and thermally bridged to the back of the plate.

B. Electric Low Limit Duct Thermostat:

1. Snap acting, single-pole, single throw, manual or automatic reset switch which trips if temperature sensed across any 12 inch of bulb length is equal to or below setpoint. Provide manual or automatic reset per the sequence of control.

2. The bulb length must be no less than 12 inch of length for every square foot of duct area at the location of installation. Provide multiple low limit thermostats if required to cover the duct area.

3. Except as otherwise specified in the sequence or on the drawings, place the bulb(s) on the entering side of the first coil in the air handler unless the air handler has more than a 25% minimum outside setting and the first coil is a heating coil. In that case, place the bulb on the leaving side of the coil, no more than one inch (1") downstream of that coil.

4. Except as otherwise specified in the sequence or on the drawings, serpentine the bulb evenly across the duct area and place one run of the bulb within six inch (6") of the expected cold air stratification. (For example, if the outside air duct connects to the top of the return duct, one run of the bulb must be within six inch (6") of the top of the duct). Orient the lay of the bulb so it is parallel with the expected stratification. For example, if the outside air duct connects to the side of the return

duct, run the bulb vertically. If the outside air duct connects to the top or bottom of the return duct, run the bulb horizontally.

AIR FLOW MEASURING STATIONS

A. Duct Differential Pressure Air Flow Measuring System

1. The air flow system must measure the uniform differential field created by air moving across fixed Cv pressure drop inducing obstacle such as a metal mesh screen.
2. The air flow system must use temperature and pressure compensated sensors to present instantaneous standard CFM as an analog output.
3. The system must include a factory furnished flanged obstacle that is duct sized.
4. The obstacle, tubing exposed to air flow and the differential pressure measuring sensor(s) must be constructed of corrosion resistant materials such as stainless steel, galvanized carbon steel and polymer.
5. The system's electronics must be inside a NEMA 1 enclosure.
6. The system must work with a process (air flow) temperature range of -40F to 120F.
7. The system components must work with an ambient temperature range of 40F to 100F.
8. The system accuracy must be no worse than +/- 5% with an air flow velocity at the obstacle in the range of 100 FPM to 3,000 FPM.
9. The system must be factory calibrated at a NIST traceable calibration fixture.
10. Test the system using ANSI/AMCA 610. The system must be licensed to bear the AMCA Certified Ratings program seal for airflow measurement accuracy.

B. RTU Outside Air Inlet Differential Pressure Air Flow Measuring System

1. The air flow system must measure the uniform differential field created by air moving across fixed Cv pressure drop inducing obstacle such as a metal mesh screen.
2. The air flow system must use temperature and pressure compensated sensors to present instantaneous standard CFM as an analog output.
3. The system must use the RTU's outside air inlet as the obstacle for the differential pressure measurement. The FMS contractor must install a galvanized metal mesh screen at the inlet if the differential pressure must be increased at the low end (100 FPM) of the air velocity measuring range to obtain the required system accuracy. If a field installed screen must be installed, the screen must uniformly cover the entire inlet.
4. The tubing exposed to air flow and the differential pressure measuring sensor(s) must be constructed of corrosion resistant materials such as stainless steel, galvanized carbon steel and polymer.
5. The system's electronics must be inside a NEMA 4X enclosure.

6. The system must work with a process (air flow) temperature range of -40F to 120F.
7. The system components must work with an ambient temperature range of -40F to 120F.
8. The system accuracy must be no worse than +/- 5% with an air flow velocity at the obstacle in the range of 100 FPM to 2,000 FPM.
9. The differential pressure sensors must be factory calibrated at a NIST traceable calibration fixture.
10. Test the sensors using ANSI/AMCA 610. The system must be licensed to bear the AMCA Certified Ratings program seal for airflow measurement accuracy.

VARIABLE FREQUENCY DRIVES

A. The FMS contractor must furnish all field installed variable frequency drives for the pumps.

B. The variable frequency drives installed on or inside packaged air handlers and a on pump skids must be provided by the equipment manufacturer unless the FMS contractor is directed to furnish the VFD in Specification Section 23 0993 - SEQUENCE OF OPERATION or by notes on the drawings.

C. All FMS contractor furnished VFDs must meet the requirements of Specification Section 23 2923 - VARIABLE FREQUENCY CONTROLLERS.