	<b>Fort Mill School District</b>  <b>Addendum #2</b>	Solicitation Number: #23-010
		Date Issued: February 7, 2024 Procurement Specialist: Kelly Keniston Phone: (803) 548-8202 E-Mail Address: kenistonk@fortmillschools.org

**DESCRIPTION: SFMS HVAC Upgrades - Phase II**

***YOUR OFFER MUST BE SUBMITTED IN A SEALED PACKAGE WITH THE SOLICITATION NUMBER AND OPENING DATE CLEARLY MARKED ON THE OUTSIDE. SUBMIT YOUR SEALED OFFER TO THE FOLLOWING ADDRESS:***

Mailing Address: <b>FORT MILL SCHOOL DISTRICT          2233 DEERFIELD DR          FORT MILL, SC 29715</b>	PHYSICAL ADDRESS: <b>FORT MILL SCHOOL DISTRICT          2233 DEERFIELD DRIVE          FORT MILL, SC 29715</b>
--	--

SUBMIT OFFER BY: **Tuesday, February 13, 2024 at 2:00 pm**

SUBMIT QUESTIONS BY: **Tuesday, February 6, 2024 at 12:00 pm**

NUMBER OF COPIES TO BE SUBMITTED: **One (1) original**

CONFERENCE TYPE: Pre-Bid Meeting & Site Visit DATE & TIME: <b>January 25, 2024 @ 3:00 pm</b>	LOCATION: <b>Fort Mill School District Office          2233 Deerfield Dr.          Fort Mill, SC 29715</b>
---	--

<b>AWARD &amp; AMENDMENTS</b>	Award will be posted on or around <b>February 14, 2024</b> . The award, this solicitation, any amendments, and any related notices will be posted at the following web address: <a href="http://www.fortmillschools.org/departments/procurement/">http://www.fortmillschools.org/departments/procurement/</a>
-------------------------------	---

You must submit a signed copy of this form with Your Offer. By submitting a bid or proposal, You agree to be bound by the terms of the Solicitation. You agree to hold Your Offer open for a minimum of thirty (30) calendar days after the Opening Date.  
(See "Signing Your Offer" and "Electronic Signature" provisions.)

<b>NAME OF OFFEROR</b>  <small>(full legal name of business submitting the offer)</small>	Any award issued will be issued to, and the contract will be formed with, the entity identified as the Offeror. The entity named as the offeror must be a single and distinct legal entity. Do not use the name of a branch office or a division of a larger entity if the branch or division is not a separate legal entity, i.e., a separate corporation, partnership, sole proprietorship, etc.	
<b>AUTHORIZED SIGNATURE</b>  <small>(Person must be authorized to submit binding offer to contract on behalf of Offeror.)</small>	<b>TAXPAYER IDENTIFICATION NO.</b>  <small>(See "Taxpayer Identification Number" provision)</small>	
<b>TITLE</b>  <small>(business title of person signing above)</small>		
<b>PRINTED NAME</b>  <small>(printed name of person signing above)</small>	<b>DATE SIGNED</b>	<b>STATE OF INCORPORATION</b>  <small>(If you are a corporation, identify the state of incorporation.)</small>

OFFEROR'S TYPE OF ENTITY: (Check one) (See "Signing Your Offer" provision.)

Sole Proprietorship     
  Partnership     
  Other \_\_\_\_\_

Corporate entity (not tax-exempt)     
  Corporation (tax-exempt)     
  Government entity (federal, state, or local)

Minority Participation:

Are you a SC Certified Minority Vendor     Yes     No    If yes, SC Certification # \_\_\_\_\_

Are you a Non SC Certified Minority Vendor     Yes     No

**PAGE TWO**

**(Return Page Two with Your Offer)**

<p><b>HOME OFFICE ADDRESS</b> (Address for offeror's home office / principal place of business)</p>          	<p><b>NOTICE ADDRESS</b> (Address to which all procurement and contract related notices should be sent.) (See "Notice" clause)</p>          <p>_____</p> <p>Area Code - Number - Extension                      Facsimile</p> <p>_____ E-mail Address</p>
---	---

<p><b>PAYMENT ADDRESS</b> (Address to which payments will be sent.) (See "Payment" clause)</p>          <p>_____ Payment Address same as Home Office Address</p> <p>_____ Payment Address same as Notice Address <b>(check only one)</b></p>	<p><b>ORDER ADDRESS</b> (Address to which purchase orders will be sent) (See "Purchase Orders and "Contract Documents" clauses)</p>          <p>_____ Order Address same as Home Office Address</p> <p>_____ Order Address same as Notice Address <b>(check only one)</b></p>
--	---

**ACKNOWLEDGMENT OF AMENDMENTS**  
 Offerors acknowledges receipt of amendments by indicating amendment number and its date of issue. (See "Amendments to Solicitation" Provision)

Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date

<p><b>DISCOUNT FOR PROMPT PAYMENT</b>                  (See "Discount for Prompt Payment" clause)</p>	10 Calendar Days (%)	20 Calendar Days (%)	30 Calendar Days (%)	_____ Calendar Days (%)
---	----------------------	----------------------	----------------------	-------------------------

**PREFERENCES - A NOTICE TO VENDORS (SEP. 2009):** On June 16, 2009, the South Carolina General Assembly rewrote the law governing preferences available to in-state vendors, vendors using in-state subcontractors, and vendors selling in-state or US end products. This law appears in Section 11-35-1524 of the South Carolina Code of Laws. A summary of the new preferences is available at [www.procurement.sc.gov/preferences](http://www.procurement.sc.gov/preferences). ***ALL THE PREFERENCES MUST BE CLAIMED AND ARE APPLIED BY LINE ITEM, REGARDLESS OF WHETHER AWARD IS MADE BY ITEM OR LOT. VENDORS ARE CAUTIONED TO CAREFULLY REVIEW THE STATUTE BEFORE CLAIMING ANY PREFERENCES. THE REQUIREMENTS TO QUALIFY HAVE CHANGED. IF YOU REQUEST A PREFERENCE, YOU ARE CERTIFYING THAT YOUR OFFER QUALIFIES FOR THE PREFERENCE YOU'VE CLAIMED. IMPROPERLY REQUESTING A PREFERENCE CAN HAVE SERIOUS CONSEQUENCES.*** [11-35-1524(E)(4)&(6)]

**PREFERENCES - ADDRESS AND PHONE OF IN-STATE OFFICE:** Please provide the address and phone number for your in-state office in the space provided below. An in-state office is necessary to claim either the Resident Vendor Preference (11-35-1524(C)(1)(i)&(ii)) or the Resident Contractor Preference (11-35-1524(C)(1)(iii)). Accordingly, you must provide this information to qualify for the preference. An in-state office is not required, but can be beneficial, if you are claiming the Resident Subcontractor Preference (11-35-1524(D)).

\_\_\_\_\_ In-State Office Address same as Home Office Address

\_\_\_\_\_ In-State Office Address same as Notice Address (check only one)

**Addendum #2 is being issued to answer questions received from bidders and provide additional project information. There is also a correction on page #1, the day was incorrectly stated, due date remains the same as February 13.**

**You must acknowledge this addendum on page #1 and the bid form.**

**Please note, unless otherwise stated, all stipulations from the original solicitation apply**

**ATTACHMENTS:**

- 1.1 Specification Section 00 41 13 – Bid Form – Revision 1**
- 1.2 Specification Section 01 21 13 – Cash Allowances – Revision 1**
- 1.3 Specification Section 01 22 00 – Unit Prices – Revision 1**
- 1.4 Specification Section 01 23 00 – Alternates – Revision 1**
- 1.5 Specification Section 23 09 95 – Heat Transfer (Electric Cooling) – Revision 1**
- 1.6 Drawing E104 – Revision 1**

**GENERAL:**

**2.1 SUBSTITUTION REQUEST:**

**Request #1:**

**Contractor requested Daikin be listed as an acceptable manufacturer within specification section 239005 – Heat Transfer (Electric Cooling). Specifically, Daikin Comfort model DZ4SE be considered for all heat pumps.**

**A: The Substitution Request has been rejected.**

**Request #2:**

**Use of Honeywell TC500A-N in lieu specified Honeywell Stryker thermostat.**

**A: The Substitution Request has been approved.**

**2.2 LIST OF QUESTIONS:**

**Question #1:**

**Will the Owner or Contractor be responsible for the removal of the classroom personal items and equipment before commencement of work?**

**A: The Owner will be responsible for the removal of personal items and equipment from classroom and office spaces prior to the contractor access. Contractors will be requested to concentrate on the demolition of the corridor interior units while these items are removed.**

**Question #2:**

**Has confirmation of the HVAC equipment lead times been confirmed?**

**A:** It was indicated that last known lead time for the equipment was approximately 3 months. However, the contractor is responsible for confirmation of lead times with their respective manufacturer prior to submission of bids.

**Question #3:**

**Does the Acoustical Ceiling System Replacement Allowance cover all costs associated with the ceilings?**

**A:** The allowance is for the replacement of damaged ceiling grid and tile following necessary demolition to perform the equipment replacement. Contractors shall include all demolition costs of the ceiling assemblies within the Base Bid. Contractors are urged to limit demo of ceiling assemblies only where required and maintain as much of the existing ceiling installation as possible.

**PROJECT MANUAL:**

- 3.1 Specification Section 00 41 13 – Bid Form – Revision 1**  
Replace the specification in its entirety.
- 3.2 Specification Section 01 21 13 – Cash Allowances – Revision 1**  
Replace the specification in its entirety.
- 3.3 Specification Section 01 22 00 – Unit Prices – Revision 1**  
REPLACE the specification in its entirety.
- 3.4 Specification Section 01 23 00 – Alternates – Revision 1**  
REPLACE the specification in its entirety.
- 3.5 Specification Section 23 90 05 – Heat Transfer (Electric Cooling) – Revision 1**  
REPLACE the specification in its entirety.

**DRAWINGS:**

- 4.1 Drawing E104 – Revision 1**  
REPLACE the drawing in its entirety.

**END OF ADDENDUM NO. 2**

# FORT MILL SCHOOLS

SECTION 00 43 13 – BID FORM  
ADDENDUM #2

## II. Bid Form

SOLICITATION RFB# \_\_\_\_\_  
SPRINGFIELD MIDDLE SCHOOL – HVAC Upgrades – Phase II

BIDDER NAME: \_\_\_\_\_

BIDDER PHONE: \_\_\_\_\_

BIDDER EMAIL: \_\_\_\_\_

---

FORT MILL SCHOOL DISTRICT  
2233 DEERFIELD DR.  
FORT MILL, SC 29715

***SINGLE PRIME*** CONTRACT

---

### All Parties:

Having carefully examined the Drawings and Specifications for the above noted project(s), as well as the premises and conditions affecting the work, the undersigned proposes to furnish all materials, labor, equipment, and services called for by them for a lump sum consideration of:

BASE BID: \$ \_\_\_\_\_ (NUMERICAL AMOUNT HERE)

\_\_\_\_\_ (WRITTEN DOLLARS HERE)

The above stated bid is based on the above-mentioned Drawings, Specifications, Pre-Bid Schedule and any Addenda issued subsequent to the basic Drawings and Specifications. (List all Addenda with dates of any issued. If no additional Addenda are issued, write the word "NONE".)

Addendum Number

Date

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If any of the following Alternates are accepted, the above stated sum (base bid amount) will be altered by the amount(s) indicated below.

- If no Alternates are indicated, enter the term "NOT APPLICABLE" after the dollar (\$) sign.
- If Alternates are indicated, strike through completely either "add" or "deduct" in order to leave exposed the proper change to the base bid amount and indicate the amount of the change in numbers after the dollar (\$) sign.
- If Alternates are indicated, but there is no change to the base bid amount, enter the term "NO CHARGE" after the dollar (\$) sign.

**Alternate No. 1: Owner Preferred Equipment**

Base Bid: Provide HVAC equipment per Specification Section 23 9005 – HEAT TRANSFER (ELECTRIC COOLING).

Alternate: Provide HVAC equipment as manufactured by Trane.

**ADD and/or DEDUCT \$** \_\_\_\_\_

**Alternate No. 2: Owner Preferred Controls**

Base Bid: Provide controls per Specification Section 23 0904.05.

Alternate: Provide controls as manufactured and installed by United Automation Corp.

**ADD and/or DEDUCT \$** \_\_\_\_\_

**Alternate No. 3: Refrigerant Line Replacement**

Base Bid: Evacuate and recover existing refrigerant within canisters provided by the Owner. Perform pressure testing of existing refrigerant lines to confirm material integrity. Clean existing linesets and re-connect the existing linesets to new HVAC equipment.

Alternate: Provide all necessary material and labor to reclaim refrigerant, demo existing linesets, and installation of new refrigerant lines / insulation / pipe enclosures to all HVAC equipment. Existing refrigerant shall be recovered within canisters provided by the Owner and copper refrigerant line material removed and turned over to the Owner following demolition.

**ADD and/or DEDUCT \$** \_\_\_\_\_

**UNIT PRICES**

Enter the requested unit prices below. The amount listed will be used for contract deductions in cases of credits and contract increases in cases of work scope additions. The amount listed should be fully inclusive of labor, material, equipment, taxes, insurance, overhead, profit, etc.

**1. Replacement of HVAC Unit Refrigerant Lines (Cost per HVAC Unit)**

Unit cost shall include all necessary material and labor to evacuate existing refrigerant / demo existing linesets / install new refrigerant linesets and insulation / install new exterior pipe enclosures (detail on GC101) to each HVAC unit. Existing refrigerant shall be recovered and removed copper refrigerant line materials turned over to the Owner following demolition. Unit cost will be applied to **ADD or OMIT** lineset replacement on a case-by-case basis contingent upon the award of Alternate #3.

**ADD and/or DEDUCT \$** \_\_\_\_\_

If notified of the acceptance of this bid or any Alternate within one hundred twenty (120) days after the date fixed for the opening of the bid, the undersigned agrees to execute and deliver the specified Contract and Contractor's Bond within ten (10) days. The undersigned agrees, if awarded the Contract within one hundred twenty (120) days from the fixed date for opening of the bids, to faithfully and properly complete the whole work within the specified time, consistent with the best interest of the Owner, the safety of the public and in accordance with first-class workmanship.

The undersigned agrees that the Owner may retain the sum of money specified as "Liquidated Damaged" as indicated within the Contract Documents, from the amount of compensation to be paid the undersigned for each calendar day that work remains uncompleted and unaccepted after the maximum duration of time for the work to be completed. This amount is agreed upon as the proper measure of liquidated damages, which the Owner sustains per day by failure of the undersigned to complete the work in the stipulated time and is not to be construed in any sense as a penalty.

**Attached hereto is a Bid Bond, which shall not be less than five percent (5%) of the principal's bid, made payable to the Owner.**

The undersigned agrees, if awarded the Contract, to comply with all provisions regarding commencement, prosecution, completion and acceptance of the work as described in the above-mentioned Specifications, "Bid Form", Construction Contract and Performance Bond. If the undersigned fails to perform according to these documents, the Bid Bond shall be paid as liquidated damages for such failure; otherwise, the Bid Bond accompanying this proposal shall be returned to the undersigned.

**A Performance and Payment Bond, executed on AIA Document A312, will be required in the amount of one hundred percent (100%) of the Contract amount. Cost of bonds shall be included in the bid.**

It is agreed that the undersigned has completed and/or will comply with all requirements concerning licensing and with all other local, state, and national laws and that no legal requirement has been or will be violated in making or accepting this proposal, in awarding the Contract to him and/or in the performance of the Work required there under.

By submission of this bid, the undersigned declares that the person or persons signing this proposal is/are authorized to sign the proposal on behalf of the firm listed and to fully bind the firm listed to all the conditions and provisions thereof. Furthermore, each person signing on behalf of any bidder certifies, under penalty of perjury that, to the best of its knowledge and belief, each bidder is not on the list created pursuant to Section 11-57-310 of the South Carolina Code of Laws.

Respectfully submitted this \_\_\_\_\_ day of \_\_\_\_\_, 2024.

\_\_\_\_\_  
(Name of Firm)

\_\_\_\_\_  
(S.C. Contractor's License)

\_\_\_\_\_  
(Address)

By \_\_\_\_\_  
(Title)

Minority Owned/Operated Contractor/Business? Yes \_\_\_ No \_\_\_ Certificate Number \_\_\_\_\_

**\*\*\* Be sure to include this page in your proposal \*\*\***

PART 1 GENERAL

1.01 WORK INCLUDED

- A. To provide adequate budget and bonding to cover items not precisely determined by Owner prior to advertising for bids, allow within the proposed contract amount the sums described below.

1.02 RELATED WORK DESCRIBED ELSEWHERE

- A. Documents affecting work of this section include, but are not necessarily limited to, the contract documents, addenda, and General Conditions.

1.03 ESTABLISHED METHODS

- A. When a cash allowance is set for certain items or materials, it is understood that any savings under such allowance shall accrue to the Owner and if the material purchased costs more than the Allowance, such additional cost shall be borne by the Owner.

1.04 UNDESCRIBED ALLOWANCES

- A. Allowances and provisions not further described in these specifications will be specified and bid at a later date.
- B. Allowance shall include purchase and installation, delivery cost to the job, unloading, sales tax and overhead & profit to the General Contractor.
- C. After receipt of bids, as above mentioned, the successful subcontract shall become part of the scope of work of the general contractor at no additional cost to the Owner, except for the stipulated cash allowance as adjusted.
- D. This method established to allow general contractor to control scheduling of subcontractor so as to meet established completion date.

1.05 OWNER PURCHASED ITEMS

- A. The responsibilities of the Contractor vary from item to item. Overall, the Contractor is responsible for coordination and scheduling of all items to be installed. On certain specific items he is responsible for installation and protection of the finished product. On others, he is responsible for coordination of all rough-in. For items purchased by the Owner and installed by the successful bidder that require electrical, mechanical, and plumbing connections, the Contractor is responsible for coordinating the necessary provisions.
- B. The Owner is responsible for furnishing the agreed upon items in a timely fashion. The names of all successful bidders shall be provided to the contractor. The Contractor and successful bidders shall be responsible for scheduling and delivery of all Owner furnished items.



SECTION 01 21 13 – CASH ALLOWANCES – ADDENDUM #2  
SPRINGFIELD MIDDLE SCHOOL – HVAC Upgrades – Phase II

PART 2 PRODUCTS

2.01 SINGLE PRIME CONTRACT

- |           |  |                 |
|-----------|--|-----------------|
| <b>1.</b> | <b>General Contingency</b>                   | <b>\$50,000</b> |
| <b>2.</b> | <b>Acoustical Ceiling System Replacement</b> | <b>\$30,000</b> |

- a) The Acoustical Ceiling System Replacement Allowance will be used to cover the costs associated with the replacement of damaged ceiling assemblies following the necessary demolition to perform the replacement scope of work. Contractors are urged to limit demo of ceiling assemblies only where required and maintain as much of the existing ceiling installation as possible. **Please note ALL Ceiling Assembly Demolition costs shall be included within the Base Bid.**

NOTE: The unused portion of all allowances, including overhead and profit, will be credited back to the owner through a deductive change order.

PART 3 EXECUTION

3.01 PROCEDURE

- A. After receipt of bids, as above mentioned, the successful subcontractor shall become part of the scope of work of general contractor at no additional cost to the Owner, except for the stipulated cash allowance as adjusted.
- B. Mark up of Allowance items (equipment, rental, labor, subcontracts or other) will not be allowed by the Contractor at the time of Allowance use. This includes the assignment of contracts or change requests (change conditions) whether initiated by the Owner, Contractor or any other party. The Contractor should include markup of the Allowance with the lump sum bid.**
- C. This method is established to allow contractors to control scheduling of subcontractors in order to meet established completion date.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section specifies administrative and procedural requirements for unit prices.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General Conditions.

1.03 GENERAL DESCRIPTION

- A. A unit price is an amount proposed by Bidders and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the estimated quantities or Work required by the Contract Documents are increased or decreased beyond those included in the Allowances.
- B. The unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the kinds called for.
- C. Refer to individual Specification Sections for construction activities requiring the establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections and as listed on the Bid Form.
  - 1. The Owner reserves the right to reject the Contractor's measurement of work-in-place that involves the use of established unit prices, and to have this Work measured by an independent surveyor acceptable to the Contractor at the Owner's expense.

1.04 MEASUREMENT OF QUANTITIES

- A. Measurement methods delineated in the individual specification sections complement the criteria of this section. In the event of conflict, the requirements of the individual specification sections shall govern.
- B. Take all measurements and compute quantities. Measurements and quantities will be verified by Architect, Construction Manager and third party surveyor/inspection firm.

1.05 PAYMENT

- A. Payment for work governed by Unit Prices will be made on the basis of the actual measurements and quantities of work accepted by the Architect or Construction Manager multiplied by the Unit Price.
- B. Payments will be deducted from Allowances described in this Section, Cash Allowances or identified on the Bid Form that are to be included in the Contractor's bid.

SECTION 01 22 00 UNIT PRICES – ADDENDUM #2  
SPRINGFIELD MIDDLE SCHOOL – HVAC Upgrades – Phase II

1.06 SCHEDULE OF UNIT PRICES

- A. **Replacement of HVAC Refrigerant Lines:** (Cost per HVAC Unit)
- a. Unit cost shall include all necessary material and labor to evacuate existing refrigerant / demo existing linesets / install new refrigerant linesets and insulation / install new exterior pipe enclosures (detail on GC101) to each HVAC unit. Existing refrigerant shall be recovered and removed copper refrigerant line materials turned over to the Owner following demolition.
  - b. Unit cost will be applied to **ADD or OMIT** lineset replacement on a case-by-case basis contingent upon the award of Alternate #3.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. **Alternate No. 1: Owner Preferred Equipment**

Base Bid: Provide HVAC equipment per Specification Section 23 9005

Alternate: Provide HVAC equipment as manufactured by Trane.

B. **Alternate No. 2: Owner Preferred Controls**

Base Bid: Provide controls per Specification Section 23 0905.05.

Alternate: Provide HVAC controls as manufactured and installed by United Automation Corp.

C. **Alternate No. 3: Refrigerant Line Replacement**

Base Bid: Evacuate and recover existing refrigerant within canisters provided by the Owner. Perform pressure testing of existing refrigerant lines to confirm material integrity. Clean existing linesets and re-connect the existing linesets to new HVAC equipment.

Alternate: Provide all necessary material and labor to reclaim refrigerant, demo existing linesets, and installation of new refrigerant lines / insulation / pipe enclosures to all HVAC equipment. Existing refrigerant shall be recovered within canisters provided by the Owner and copper refrigerant line material removed and turned over to the Owner following demolition.

END OF SECTION

## SECTION 23 9005 - HEAT TRANSFER (ELECTRIC COOLING)

### PART 1 - GENERAL

#### 1.1 SCOPE OF WORK:

##### A. General:

1. Furnish all labor, materials, tools and equipment and perform all operations in connection with the installation of heat transfer equipment and appurtenances where shown on the drawings and specified hereinafter.

#### 1.2 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 specification sections, apply to this section.
- B. All sections of Division 23 specifications apply to this section. In addition, refer to these specification sections:
  1. Section 23 0502 - Common HVAC Materials

#### 1.3 QUALITY ASSURANCE:

##### A. Codes and Standards:

1. All work shall meet or exceed the standards and procedures of the following as referenced (latest editions):
  - a. ARI Standards 210/240, 340, and 360
  - b. ANSI Z21.47/UL - Unitary Air Conditioning Standard for Safety Requirements
  - c. Underwriter's Laboratory
  - d. NFPA 90A
  - e. AMCA 210 Test Code For Air Moving Devices
  - f. National Electric Code
  - g. ASHRAE 15 - Safety Code for Mechanical Refrigeration

B. All motors and equipment shall be U.L. labeled.

C. All insulation and materials shall have a flame spread rating of less than 25 and smoke developed of less than 50.

D. All heating and cooling equipment shall bear the ARI seal.

E. All coils shall be ARI certified.

F. All electric heaters shall have impedance protection per UL519.

- G. Burner assembly, including the gas train, shall be FM and IRM approved.
- H. All outdoor cabinets shall meet or exceed the 500 hour salt spray test unless more stringent tests are specified.
- I. Manufacturers:
  - 1. The following constant volume ducted split system heating and cooling unit manufacturers are acceptable:
    - a. Trane
    - b. Carrier
    - c. JCI

## PART 2 - PRODUCTS

### 2.1 GENERAL:

- A. General:
  - 1. Equipment shall meet or exceed the scheduled efficiencies or ASHRAE 90.1, whichever is greater.
  - 2. Furnish and install heating and cooling units in accordance with the drawings and as specified hereinafter.
  - 3. Units shall be air conditioning or heat pump as shown on equipment schedules.
  - 4. Unit shall be factory assembled and tested.
  - 5. Standard operating range for cooling shall be 55°F to 120°F outdoor ambient except where low ambient controls are required. See equipment schedule.
  - 6. Provide all controls and accessories for a complete operating system including but not limited to:
    - a. Crank case heater
    - b. Start capacitor kit (single phase condensers)
  - 7. Refrigerant shall be R410A.
  - 8. Motors shall be premium efficiency.
- B. Outdoor Cabinets:
  - 1. Unit shall be designed for outdoor installation.

2. Cabinet shall be insulated and constructed of heavy duty galvanized steel. Frame and panels shall be 18 gauge minimum. They shall be zinc coated or epoxy coated with a baked-on finish.
  3. Prewired control panel.
  4. Hinged access doors with quick release handles shall be provided as follows:
    - a. On all access sections on units 3 tons and larger.
    - b. On filter sections for all units smaller than 3 tons.
  5. Single wall cabinets shall be thermally and acoustically insulated with a minimum of R4 fiber insulation. Provide a foil, sprayed neoprene, or mat faced finish.
- C. Refrigerant Circuits:
1. All units shall have factory installed liquid line filter dryer, liquid line sight glass, pressure tap ports, check valves, and suction and liquid service valves.
  2. Heat pump units shall also have reversing valve, suction line accumulator, and discharge muffler.
  3. Where low ambient control is required, electronic head pressure control shall be provided.
- D. Compressors (up to 7 tons):
1. Compressor shall have centrifugal oil pump.
  2. Motor shall have internal temperature and current sensing motor.
  3. Compressor shall have totally dipped hermetic motor windings.
  4. Compressor shall be resiliently mounted and seismically isolated.
- E. Outdoor Coil:
1. The outdoor coil shall be constructed of aluminum spine fin mechanical bonded to seamless aluminum or copper tubing with all joints brazed.
  2. Surface shall be engineered to facilitate defrost water runoff.
  3. Louvered panels.
- F. Indoor Coil:
1. The indoor coil shall be constructed of aluminum plate fins mechanically bonded to seamless copper tubes with all joints brazed.

2. Coil shall include factory installed refrigerant metering device and refrigerant line fittings.
- G. Outdoor Fans:
1. Fan motors shall be permanently lubricated, weatherproof motors suitable for outdoor use.
  2. Motor shall have built-in current and thermal overload protection.
  3. Fans shall be resiliently mounted and seismically isolated.
  4. Fans shall be statically and dynamically balanced.
  5. Provide PVC coated fan guard.
- H. Indoor Fan:
1. Indoor fan shall be direct drive plenum fan with ECM motor and speed adjustment feature or inverter duty motor with a variable frequency drive.
  2. Fan shall be seismically isolated.
- I. Safeties:
1. Heat pumps shall have a solid state defrost control. Defrost shall occur only when coil saturated suction temperature indicates freezing temperatures. Defrosting shall be limited to a maximum of 10 minutes over a 90 minute period.
  2. Provide a time-guard device to prevent compressor recycling by requiring a 5-minute delay before restarting.
  3. Three phase protection.
- J. Electrical (Outdoor Unit):
1. Provide control voltage transformer.
  2. Provide an unswitched GFI service receptacle on all three phase outdoor units. Receptacles shall have metal covers.
  3. Provide transformer for motor or heaters as required.
  4. Transformers shall be factory mounted and wired.
  5. Power to the packaged unit shall be through the interior of the unit curb.
- K. Electric Heaters:
1. Heaters shall have a total output as scheduled on drawings.



2. Each heater assembly shall include power supply fusing if over 48 amps, automatic resetting limit switches and heat limiters for thermal protection.
3. Heaters shall be provided with polarized plug for quick connection to unit low voltage wiring.
4. Electric heaters factory furnished and installed capacity not to exceed scheduled capacity at rated voltage.
5. If larger heaters are supplied, they shall not be large enough to require larger supply wiring or disconnects.
6. Heaters shall be staged.

L. Drain Pan:

1. Provide dual slope insulated non corrosive drain pan.

M. Filters:

1. Provide flat filter rack for 2 inch pre filter.
2. Where additional filters are specified, additional filter racks shall be provided for the additional filters.

N. Provide BacNet communication card on all equipment.

O. Controls:

1. Space temperature and humidity sensors shall be capable of controlling the unit in cooling and heating modes.

## 2.2 SPLIT SYSTEM UNITS (DUCTED):

A. Controls:

1. Provide a control wiring terminal board in the outdoor unit to match the indoor unit terminal board and thermostat terminals.
2. Airflow switch interlocked with condenser operation.

B. Air Handler:

1. Unit enclosures shall be single wall insulated, constructed of heavy-gauge steel, and finished with a baked-on acrylic finish.
2. Units shall be acoustically and thermally insulated with a minimum of 1/2 inch 1-1/2 lb. density mat-faced glass fiber material.
3. Insulation shall have a foil, sprayed neoprene or mat faced finish.

C. Accessories:

1. Provide factory return air plenum permitting side or front return air inlet.

PART 3 - EXECUTION

3.1 CONDENSATE DRAIN LINES:

- A. Provide a weather seal grommet where drain penetrates casing and wall sleeve.

3.2 WARRANTY:

A. Compressor Failure:

1. When a compressor fails within the warranty period, the compressor shall be replaced. If the system has multiple compressors on a single refrigerant circuit, and one compressor fails, all compressors shall be replaced during the warranty period.

END OF SECTION 23 9005

**KEYNOTES:**

◇ PROVIDE NEW 208V, 1PH BRANCH CIRCUIT (2#12, #12GND), REUSING AS MUCH OF EXISTING INTERIOR 3/4" C. AS POSSIBLE. PROVIDE NEW EXTERIOR 3/4" C. AND PROVIDE NEW INTERIOR 3/4" C. AS REQUIRED TO TIE INTO THE DESIGNATED PANELBOARD. PROVIDE NEW 30A, 2P CB IN AVAILABLE SPACE IN PANELBOARD. LEAVE EXISTING 480V, 3P CB AS A SPARE IN FORMER PANELBOARD. UPDATE FORMER PANELBOARD AND NEW HOST PANELBOARD INDEXES WITH PERMANENT INK MARKER.

**ELECTRICAL DEMOLITION NOTES**

1. ELECTRICAL DEMOLITION SCOPE OF WORK FOR ALL OUTDOOR HEAT PUMP AND INDOOR HEAT PUMP UNITS (TYPICAL UNLESS OTHERWISE NOTED); DISCONNECT EXISTING BRANCH CIRCUITS FROM EXISTING UNITS.
2. PROTECT AND PRESERVE EXISTING BRANCH CIRCUITS FOR RECONNECTION TO NEW REPLACEMENT HEAT PUMP UNITS.

**ELECTRICAL RENOVATION NOTES**

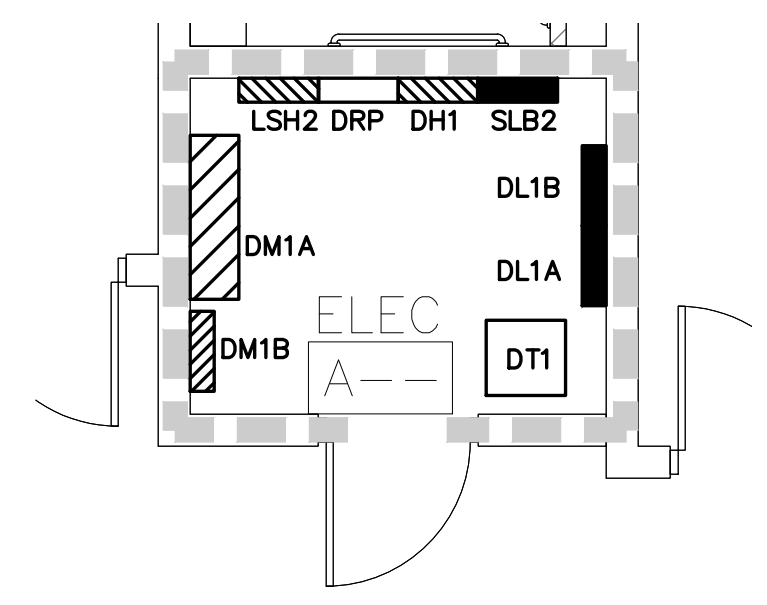
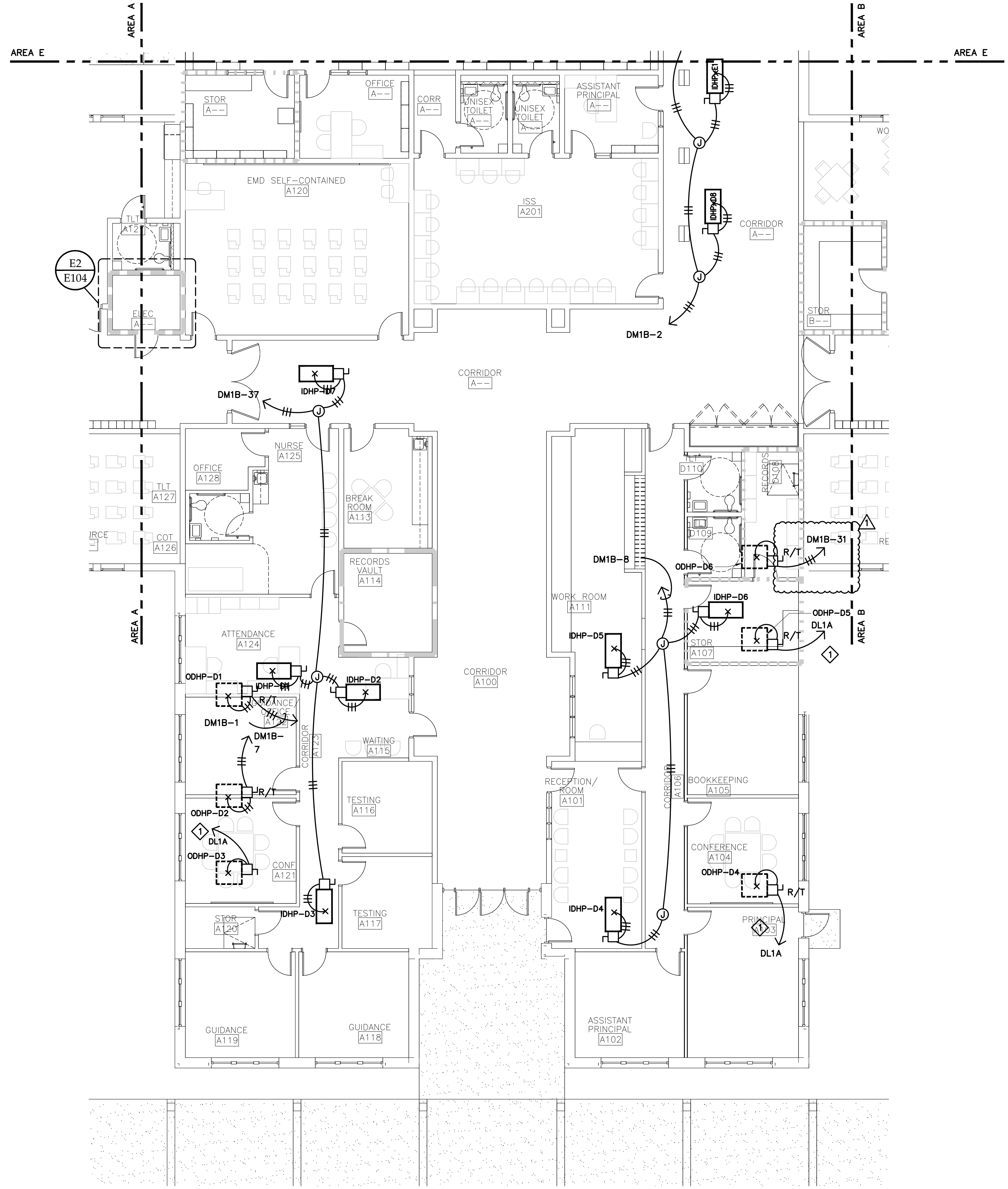
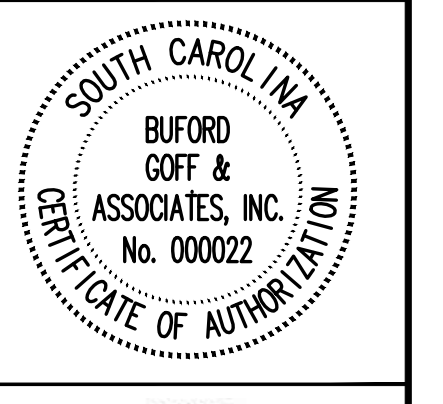
1. TYPICAL - ALL OUTDOOR HEAT PUMP AND INDOOR HEAT PUMP UNITS UNLESS OTHERWISE NOTED: FIELD VERIFY AND REUSE/RECONNECT EXISTING BRANCH CIRCUIT HOMERUNS (CIRCUIT BREAKERS IN HOST PANELBOARDS TO REMAIN). PROVIDE NEW BRANCH CIRCUIT WIRING AND FLEX CONDUIT (SIZED TO MATCH EXISTING) AS REQUIRED TO EXTEND EXISTING BRANCH CIRCUITS TO NEW REPLACEMENT HVAC UNITS.
2. TYPICAL - ALL OUTDOOR HEAT PUMP AND INDOOR HEAT PUMP UNITS UNLESS OTHERWISE NOTED ON PLANS: REUSE EXISTING DISCONNECT SWITCH. REPLACE FUSES WITH NEW DUAL ELEMENT-TIME DELAY FUSES SIZED PER NEW HVAC UNIT NAMEPLATE DATA.
3. TYPICAL - ALL OUTDOOR HEAT PUMP CONNECTIONS: PROVIDE NEW SURFACE MOUNTED IMC CONDUIT CONNECTION FROM DISCONNECT SWITCH TO NEW HEAT PUMP UNIT. PROVIDE SEALTIGHT FLEX CONNECTION FROM STUBUP TO HEAT PUMP TERMINAL BOX.
4. TYPICAL - ALL OUTDOOR HEAT PUMP AND INDOOR HEAT PUMP UNITS: BRANCH CIRCUIT NUMBERS SHOWN ON FLOOR PLANS ARE FROM EXISTING DRAWINGS. FIELD VERIFY CIRCUIT NUMBERS AND UPDATE AS-BUILT DRAWINGS TO REFLECT FIELD-VERIFIED CIRCUIT NUMBERS.
5. ODHP UNITS SHOWN IN DASHED LINETYPE ARE ROOF MOUNTED.
6. UPDATE EXISTING PANELBOARD SCHEDULES AS REQUIRED TO REFLECT NEW IDHP AND ODHP UNIT LABELING.

Project Engineer: ECW  
 Drawn By: GMC

Revisions:

No.	△	Date	02/08/24
No.		Date	
No.		Date	
No.		Date	
No.		Date	
No.		Date	
No.		Date	
No.		Date	

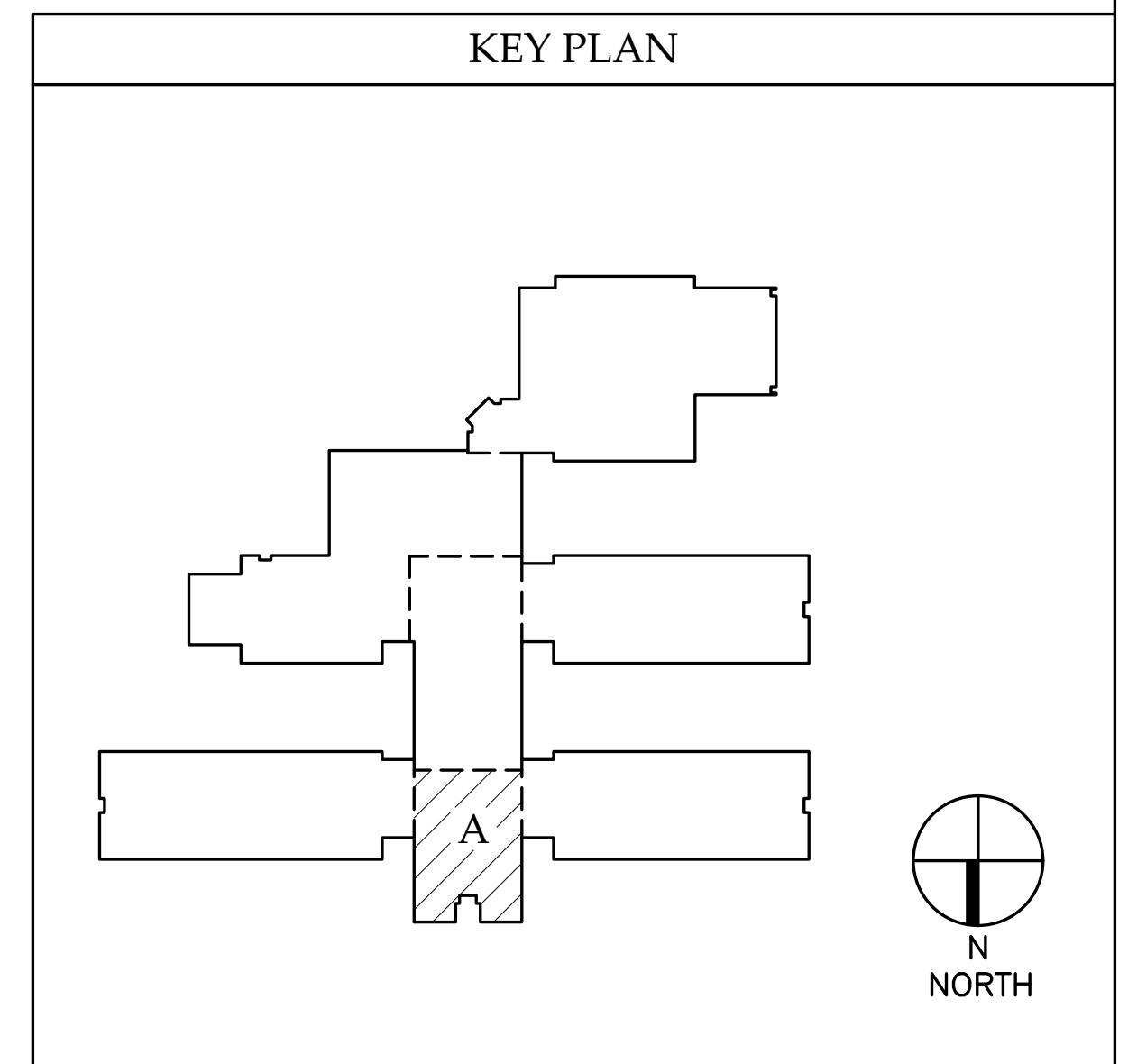
This drawing and the design shown are the property of:  
 Buford Goff & Associates, Inc.  
 The reproduction, copying or other use of this drawing without their written consent is prohibited and any infringement will be subject to legal action.



2 ENLARGED FLOOR PLAN - AREA A - ELECTRICAL ROOM  
 SCALE: 1/4" = 1'-0"  
 SCALE: 1/4" = 1'-0"

1 FLOOR PLAN - AREA A - ELECTRICAL RENOVATION  
 SCALE: 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"



FORT MILL SCHOOL DISTRICT  
 SPRINGFIELD MIDDLE SCHOOL HVAC UPGRADES - PHASE 2  
 FLOOR PLAN - AREA A - ELECTRICAL RENOVATION

Project: Springfield Middle School HVAC Upgrades - Phase 2  
 Sheet Title: Floor Plan - Area A - Electrical Renovation

**Buford Goff & Associates, Inc.**  
 Engineers & Planners  
 1331 Elmwood Ave.  
 Suite 200  
 Columbia, SC 29201  
 Phone: (803) 254-6302

Sheet Number:  
**E104**

Date: JANUARY 17, 2024  
 Scale: As Noted  
 BGA PROJECT NUMBER: 21040  
 CONSTRUCTION DOCUMENTS

## SUBSTITUTION REQUEST FORM

TO: LMG

PROJECT: SFMS – HVAC Upgrades – Phase II

We hereby submit for your consideration the following product instead of the specified item for the above project:

<u>Drawing</u>	<u>Spec. Sect. No.</u>	<u>Paragraph</u>	<u>Specified Item</u>
_____	230904.05 -11	2.8C	Honeywell Stryker

Proposed Substitution:

Attach complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.

Submit with request all necessary samples and substantiating data to prove equal quality and performance to that which is specified. Clearly mark manufacturer's literature to indicate equality in performance.

Fill in blanks below:

A. Does the substitution affect dimensions shown on the Drawings?

Yes \_\_\_ No 

If yes, clearly indicate the changes:

B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution? Yes \_\_\_ No 

C. What effect does substitution have on other Contracts or other Trades?

NO

D. What effect does substitution have on construction schedule?

Reduction in installation time in comparison.

E. Manufacturer's warranties of the proposed and specified items are:

Same  Different \_\_\_\_\_ (Explain on attachment.)

F. Reason for request:

By using a communicating thermostat that can handle the requested points, the project material cost, installation time will improve. This will assist, given the schedule of the project. Also, the look of the thermostat is nicer than the typical ZIO for STRYKER.

SECTION 00 43 25 – SUBSTITUTION REQUEST FORM

G. Itemized comparison of specified item(s) with the proposed substitution; list significant variations:

Stryker TC500  
Controller + Space Sensor One part

H. Accurate cost data comparing proposed substitution with product specified:

~30% reduction in controls cost

I. Designation of maintenance services and sources:  
(Attach additional sheets if required)

**CERTIFICATE OF EQUAL PERFORMANCE  
AND ASSUMPTION OF LIABILITY FOR  
EQUAL PERFORMANCE**

**For Use By Architect:**

The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

Accepted  Accepted as Noted  
 Not Accepted  Received Too Late

Submitted By:

[Signature] Sales Engineer  
Signature Title

By: \_\_\_\_\_

Date: \_\_\_\_\_

United Automation Corp.  
Firm

Remarks: \_\_\_\_\_

2811 Central Avenue, Charlotte, NC  
Address

704-342-0456 2/5/24  
Telephone Date

Signature shall be by person having authority to legally bind his firm to the above terms. Failure to provide legally binding signature will result in rejection of proposed substitution.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# TC500A-N Commercial Thermostat

## CONNECTED DEVICE FOR COMMERCIAL BUILDINGS

### PRODUCT DATA



## APPLICATION

TC500A-N/TC500A-W Thermostat is an advanced, configurable, connected device for commercial buildings. It controls and monitors Rooftop Unit, Heat Pump equipment, and their configurations. This device communicates over Wi-Fi, Bluetooth, Sylk, and easily integrates with the building automation system.

The built-in intelligent control algorithms of the device help to achieve the perfect balance between Energy Efficiency and Comfort. The device is packaged with numerous presets suitable for most commercial building requirements that enable the easy and quick initial setup.

The firmware of the device can be upgraded via Wi-Fi network. The device has four universal terminals and a pair of Sylk terminals to connect with sensors or other accessories. It also has a built-in temperature sensor, humidity sensor, and proximity sensor.

Users can connect to the thermostat via Wi-Fi with the Honeywell Connect Me app. The Honeywell Connect Me app gives authorized users access to the Honeywell TC500 Thermostats in their commercial buildings. They can remotely monitor sites, schedules, settings, and override controls. Users can add and configure devices, manage users and more – all from a mobile device.

## FEATURES

- Easily customizable and intuitive user interface.
- Multiple, configurable, levels of user privilege access for features such as Occupancy set points, Date/Time, Schedules, Calendars of special events, remote and local Manual Override, remote and local Occupancy Override, Choice of language and units, and screen lockouts to prevent unauthorized settings changes.
- Advanced commercial control algorithms such as auto changeover, pre-occupancy purge, power-up disable time, freeze protection, demand limit controls, and same reliable optimized recovery methods established over decades of use.
- Settings to switch Fahrenheit to Celsius and vice-versa.
- Heat set points are limited automatically between 40°F to 90°F and cool set points are limited automatically between 50°F to 99°F
- Auto display goes into sleep mode when there is no user action.
- A LED indicator to show the operational status of the thermostat when the display goes to sleep mode.
- Real-Time Clock time keeping accuracy with 72 hour retention during power loss.
- Thermostat can be configured via HMI or BACnet IP.
- BACnet settings can be configured via HMI.

## Equipment Control Features

- 5H/3C Heat Pump, 3H/3C Conventional and modulating heat system
- Constant speed Fan, 2-speed Fan, and Variable Speed Fan
- Packaged Economizer Enable Output
- Multiple Dehumidification and Humidification options
- Service mode to manually command the outputs to test the operation of the mechanical equipment
- Auto mode to switch between heating and cooling according to the current space temperature
- Staging control, PID Tuning, CPH, OAT Lockout, DAT Lockout, Modulating control
- Demand Limit Control to save energy
- System Switch Options
- Smoke Monitor

# TECHNICAL SPECIFICATIONS

## Power Characteristics

**Table 1. Power Characteristics**

Power Supply	Rated voltage: 24VAC 50/60Hz, Working voltage range: 20-30VAC, UL listed class-2 transformer or IEC 61558 listed transformer.
Power Consumption (Display ON)	Max. 8.5VA @ 24VAC (355mA @ 24VAC)
Min. Load	4VA (all outputs OFF, No Sylk sensor)
Max. Load	96VA (all outputs ON)

## Display

**Table 2. Display**

Display Type	24 BPP TFT display with CTP
Resolutions	480x480 pixel
Active Display Area	4" diagonally
Backlight	LCD (Dimmable)

## IO Characteristics

**Table 3. IO Characteristics**

UIO x 2	<ul style="list-style-type: none"> <li>• Resistive Input                             <ul style="list-style-type: none"> <li>– For 10K NTC type II, C7021 series</li> <li>– For 10K NTC type III, C7023 series</li> <li>– For 20K NTC, TR21 and C7041 series.</li> </ul> </li> <li>• <math>\pm 0.5^{\circ}\text{C}</math> (<math>\pm 1^{\circ}\text{F}</math>) at 10 – 32°C (50 – 90°F)</li> <li>• <math>\pm 1.1^{\circ}\text{C}</math> (<math>\pm 2^{\circ}\text{F}</math>) at -1.1 – 50°C (30 – 122°F)</li> <li>• Voltage Input, SELV                             <ul style="list-style-type: none"> <li>– 0-10V, <math>\pm 5\%</math> of full scale</li> </ul> </li> <li>• Digital Input                             <ul style="list-style-type: none"> <li>– Dry contact closure</li> <li>– Open circuit (<math>\geq 100\text{Kohms}</math>)</li> <li>– Closed circuit (<math>\leq 100\text{ohms}</math>)</li> </ul> </li> <li>• Voltage Output                             <ul style="list-style-type: none"> <li>– 0-10V, <math>\pm 3\%</math> of full scale @2K ohms</li> </ul> </li> </ul>
---------	---

**Table 3. IO Characteristics (Continued)**

UI x 2	<ul style="list-style-type: none"> <li>• Resistive Input                             <ul style="list-style-type: none"> <li>– for 10K NTC type II, C7021 series</li> <li>– for 10K NTC type III, C7023 series</li> <li>– for 20K NTC, TR21 and C7041 series</li> </ul> </li> <li>• <math>\pm 0.5^{\circ}\text{C}</math> (<math>\pm 1^{\circ}\text{F}</math>) at 10 – 32°C (50 – 90°F)</li> <li>• <math>\pm 1.1^{\circ}\text{C}</math> (<math>\pm 2^{\circ}\text{F}</math>) at -1.1 – 50°C (30 – 122°F)</li> <li>• Voltage Input, SELV                             <ul style="list-style-type: none"> <li>– 0-10V, <math>\pm 5\%</math> of full scale</li> </ul> </li> <li>• Digital Input                             <ul style="list-style-type: none"> <li>– Dry contact closure</li> <li>– Open circuit (<math>\geq 100\text{Kohms}</math>)</li> <li>– Closed circuit (<math>\leq 100\text{ohms}</math>)</li> </ul> </li> </ul>
DO (G, Y1, Y2, Y3, W1, W2, W3)	<ul style="list-style-type: none"> <li>• Relay Output                             <ul style="list-style-type: none"> <li>– 1 Amps Max. at 24VAC</li> </ul> </li> </ul>
DO (AUX)	<ul style="list-style-type: none"> <li>• Relay Dry Contact                             <ul style="list-style-type: none"> <li>– 1 Amps Max. at 24VAC/DC</li> </ul> </li> </ul>

## Operating Environment

**Table 4. Operating Environment**

Ambient Operating Temperature	32 to 122 °F (0 to +50°C)
Ambient Operating Humidity	10 to 90% relative humidity (non-condensing)
Storage Temperature	-40 to 150 °F (-40 to 65.5°C)
Protection Class	IP20

## Compliances

**Table 5. Compliances**

Certificates	CE, FCC, ICES, UL/cUL, RoHs, REACH, California, Title 24, ASHRAE, LEED, and Prop65.
Standards	EN 60730-1, EN 60730-2-9, EN 301489-1, EN 301489-17, EN 300328, EN 301893, EN 62479, UL60730-1, UL60730-2-9, Title 47 part 15 subpart B, Title 47 part 15 subpart C, RSS 210, ICES-003

## Communication Technologies

**Table 6. Communication Technologies**

BACnet IP	Over Wi-Fi
Wi-Fi	802.11 b/g/n
Bluetooth	BLE 4.2 with 1 Mbps Classic Bluetooth with max. 3 Mbps
Sylk™	Honeywell Sylk™

## Electrical Characteristics

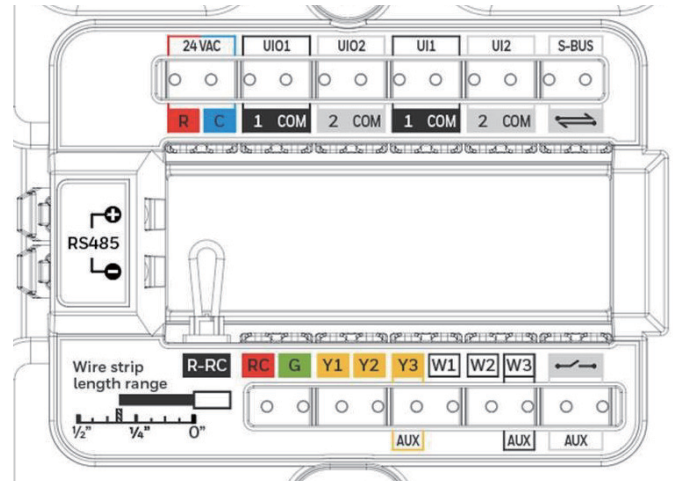
**Table 7. Electrical Characteristics**

Rated Impulse Voltage	500 V
Construction of Control	Independently Mounted Control
Operation Method	Type 1 Action
Pollution Degree	2
Purpose of Control	Operating Control

## Supported Sensors and Functions

- Indoor/Outdoor Air Temp Sensor
- Discharge sensor/Supply air sensor
- CO2 sensor
- Mixed air sensor
- Occupancy sensor
- Dirty filter
- Proof of airflow
- Proof of waterflow
- Sylk Sensor Bus devices (TR40 series)
- Up to four TR40 series room sensors
- Shutdown sensor
- Filter Pressure Sensor
- Compressor Current Sensor
- Fan Current Sensor
- Compressor Discharge Air Temperature Sensor
- Outdoor Air Damper Control

## Terminal Identification





**Fig. 1. Terminals**

**Table 8. Terminal identification**

Terminal	Label	Connection
24VAC	R	24VAC power from heating transformer
	C	24VAC common (Neutral). For 2 transformer systems, use common wire from cooling transformer
UIO1	1	Universal input/output
	COM	Common
UIO2	2	Universal input/output
	COM	Common
UI1	1	Universal input
	COM	Common
UI2	2	Universal input
	COM	Common
Sylk	↔	Sylk bus, master, power output
	↔	Sylk bus, master, power output
RS485	+	BACnet Communications (coming soon)
	-	BACnet Communications (coming soon)
	R-RC	Jumper between R and RC for single transformer system



**Table 8. Terminal identification**

Terminal	Label	Connection
24VAC	RC	24VAC power from cooling transformer
	G	Fan
	Y1	Relay output, Compressor contactor (stage1)
	Y2	Relay output, Compressor contactor (stage2)
	Y3	Relay output, Compressor contactor (stage3)/Configurable Output
	W1	Relay output, Heat (stage1)
	W2	Relay output, Heat (stage2)
	W3	Relay output, heat (stage3)/Configurable Output
Aux		Relay dry contact, Aux-1
		Relay dry contact, Aux-2

## Thermostat Variants

**Table 9. Thermostat Part Numbers**

TC500A-N	Thermostat with North American Wi-Fi conformance
TC500A-W (coming soon)	Thermostat with outside of North American Wi-Fi conformance

## Accessories

**Table 10. Accessories Part Numbers**

Decoplate-N	TC500 deco plate for NA junction boxes
Decoplate-W	TC500 deco plate for Globe junction boxes

## Terminal Assignments

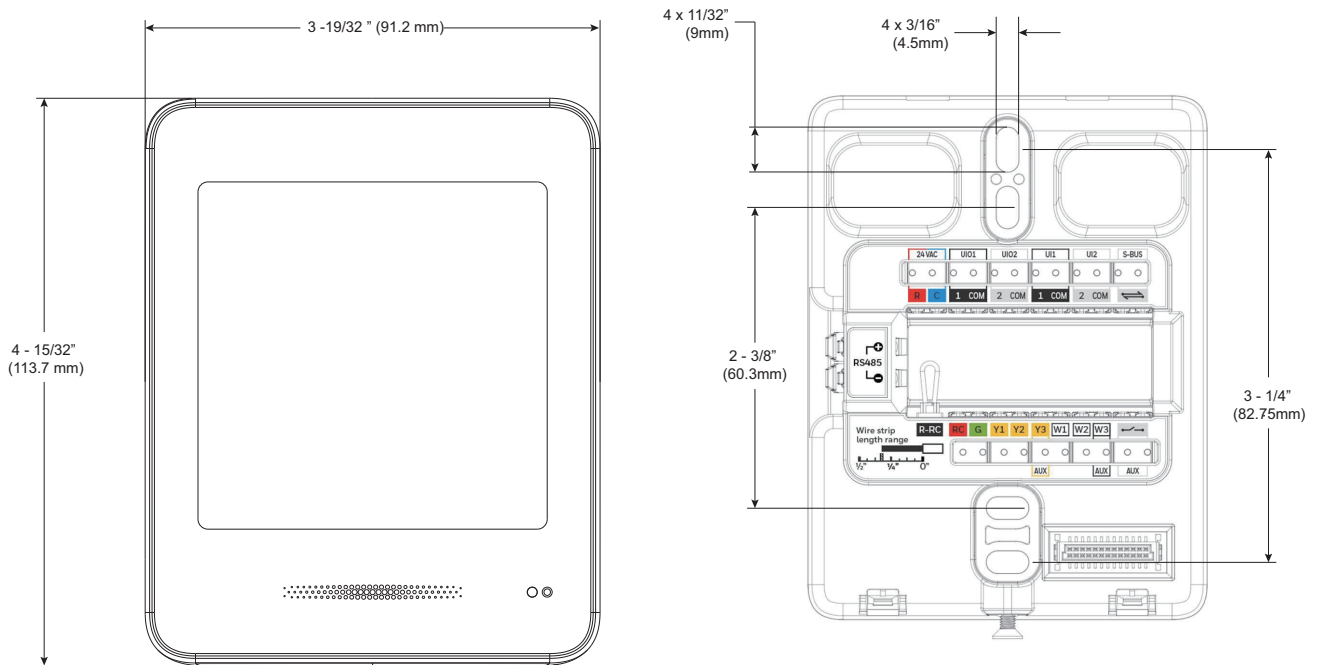
**Table 11. Terminal Assignments**

Type	Terminal	Label	Terminal Assignments (Default & Optional Assignments)		
			DEFAULT	INPUTS	OUTPUTS
Digital Outputs	DO1	G	Supply Fan		High Speed Fan
	DO2	W1	Heat Stage 1		
	DO3	W2	Heat Stage 2		
	DO4	W3 / Aux	Heat Stage 3		Reversing Valve OB, Low Speed Fan, Occupancy, Simple Dehum, and Humidification.
	DO5	Y1	Cool Stage 1		
	DO6	Y2	Cool Stage 2		
	DO7	Y3 / Aux	Cool Stage 3		Economizer (Enable), Low Speed Fan, Occupancy, Simple Dehum, and Humidification.
	DO8 (Dry Contact, 2 terminals)	Aux			Economizer (Enable), Occupancy, Simple Dehum, Low Speed Fan, and Humidification.

**Table 11. Terminal Assignments**

Type	Terminal	Label	Terminal Assignments (Default & Optional Assignments)			
			DEFAULT	INPUTS	OUTPUTS	
Universal Inputs	UI1 (2 terminals)	UI1	NA	Occupancy Sensor, Dirty Filter, Proof of Airflow, Shutdown, Mixed Air Sensor, Outdoor Air Sensor, Discharge Air Sensor, CO2 Sensor, Proof of Waterflow, Space Temp Sensor, Filter Pressure sensor, Compressor Current Sensor, Fan Current Sensor, Compressor Discharge Temperature sensor, and Outdoor air damper control.		
	UI2 (2 terminals)	UI2	NA			
Universal Inputs/ Outputs	UIO1 (2 terminals)	UIO1	NA			Multi-Speed Fan (UIO1)
	UIO2 (2 terminals)	UIO2	NA			Modulating Heat (UIO2)
Power	R	R		24v Power		
	C	C		Common		
	RC	RC		24v Power / Cooling		
Sylk Bus	1	S-Bus		Sylk connection		
	2					

## DIMENSIONS



## GENERAL SAFETY INFORMATION

- When performing any work (installation, mounting, start-up), all manufacturer instructions and in particular the Installation and Commissioning Instructions (MU1B-0208IE10) are to be observed.
- TC500A-N/TC500A-W Thermostat may be installed and mounted only by authorized and trained personnel.
- Rules regarding electrostatic discharge should be followed.
- If TC500A-N/TC500A-W Thermostat is modified in any way, except by the manufacturer, all warranties concerning operation and safety are invalidated.
- Make sure that the local standards and regulations are observed at all times.
- Use only accessory equipment which comes from or has been approved by Honeywell.
- It is recommended that devices be kept at room temperature for at least 24 hours before applying power. This is to allow any condensation resulting from low shipping/storage temperatures to evaporate.
- Investigated according to United States Standard UL-60730-1, and UL60730-2-9.
- Investigated according to Canadian National Standard(s) C22.2, No. 205-M1983 (CNL-listed).
- Do not open TC500A-N/TC500A-W Thermostat, as it contains no user-serviceable parts inside!
- CE declarations according to LVD Directive 2014/35/EU and EMC Directive 2014/30/EU.
- Product standards are EN 60730-1 and EN 60730-2-9.
- TC500A-N/TC500A-W Thermostat is Class B digital apparatus and complies with Canadian ICES-003.
- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- Caution: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
  1. This device may not cause interference.
  2. This device must accept any interference, including interference that may cause undesired operation of the device.
- L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada

applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage;
  2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
    - Reorient or relocate the receiving antenna.
    - Increase the separation between the equipment and receiver.
    - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
    - Consult the dealer or an experienced radio/TV technician for help.
  - To satisfy FCC&IC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.
  - Les antennes installées doivent être situées de façon à ce que la population ne puisse y être exposée à une distance de moins de 20 cm. Installer les antennes de façon à ce que le personnel ne puisse approcher à 20 cm ou moins de la position centrale de l'antenne. Region Selection (for Wi-Fi 2.4G device)
  - Limited by local law regulations, version for North America does not have region selection option.

### Safety Information as per EN60730-1

TC500A-N/TC500A-W Thermostat is intended for residential, commercial environments.

TC500A-N/TC500A-W Thermostat is an independently mounted electronic control system with fixed wiring.

TC500A-N/TC500A-W Thermostat is used for the purpose of building HVAC control and is suitable for use only in non-safety controls for installation on or in appliances.

#### Note

All images used in this document are for illustrative purposes only and may not match the actual product.

### Honeywell Building Technologies

Honeywell

715 Peachtree Street NE

Atlanta, GA 30308

customer.honeywell.com

buildingcontrols.honeywell.com

® U.S. Registered Trademark  
© 2020 Honeywell International Inc.  
31-00398M-02 | Rev. 03-21

THE  
FUTURE  
IS  
WHAT  
WE  
MAKE IT

**Honeywell**