

Electrical Notes for Cooling Towers  
QUOTATION xxxx



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Date:  
To: Bidders

Project:  
Location:

While diligence has been exercised in the preparation, quantities are not guaranteed. Typographical, clerical, and quantity errors are subject to revision without notice. Void after 30 days. Taxes are not included. Offered as described, subject to approval. Terms and conditions of the principal noted apply and are available upon request.

The following guidelines for electrical wiring are from the BAC VFD user guide, available at [www.Baltimoreaircoil.com](http://www.Baltimoreaircoil.com).

To ensure proper wiring, follow these guidelines:

- Use heat-resistant copper cables only, + 75 °C or higher.
- Make sure the input line cable and line fuses are sized in accordance with the rated input current of the unit. See **Tables 3-2** and **3-5**.
- For maximum protection of the BAC VFD, use UL-recognized, type RK fuses that are consistent with UL listing requirements.
- If motor temperature sensing is used for overload protection, select the output wire size based on the motor specifications.
- If three or more shielded cables are used in parallel for the output on the larger units, make sure every cable has its own overload protection.
- Avoid placing the motor cables in long parallel lines with other cables.
- If the motor cables run in parallel with other cables, note the minimum distances between the motor cables and other cables given in **Table 3-1**
- Make sure motor cables cross other cables at an angle of 90 degrees.
- Insure the control enclosure is not in direct sunlight. Provide shade with awning.
- **If conduit is used for wiring, use separate conduits for the input power wiring, output power wiring, signal wiring and control wiring.**

. Field motor connections must use the terminal lugs installed by the motor manufacturer. Wire nuts must not be used on motors which have factory installed terminal lugs, or UL will be voided.

Wiring, fittings, and conduit must be routed and sealed to prevent moisture from draining into the electrical components.

Wire runs must be complete; no splicing is acceptable in VFD wiring.

Grounding of VFD must be in a single bonded point external to the VFD enclosure.

Thermistor and others sensors must be in shielded wire, grounded as instructed.

Two-speed or Baltiguard (energy Miser) fan systems must have a minimum fifteen second time delay between high and low speeds.

Wiring or power induced loss of phase is not a warrantable situation.

The use of split bolt connectors to connect power leads in the enclosure trough is recommended.

BAC VFD start-up, commissioning and training are for one visit to be conducted simultaneously and only upon written certification that the installation is ready in accordance with BAC submittal, pre-commissioning sheet and User manual.