



## **Industrial Motor Control Contest Information**

**Tentative-Information is subject to change, check back often.**

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**NO SUBSTITUTIONS WILL BE ALLOWED AFTER FRIDAY, March 28th, 2025. THERE WILL BE NO SUBSTITUTIONS ALLOWED ON-SITE AT THE CONFERENCE\***

### **PURPOSE**

To evaluate each contestant's preparation for employment and to recognize outstanding students for excellence and professionalism in the field of industrial motor control.

### **TIME/DATE/LOCATIONS**

State SkillsUSA Contests will be held Monday, April 28th, at Arvest Business Center (formerly know as the Cox Business Center). Contest starts at 8am.

Setup and orientation is at 3pm on Sunday April 27<sup>th</sup>. Contestants need to bring all equipment to be approved and set up.

### **LUNCH**

Box lunch is included in contest registration for contestants.

### **TESTING**

Contestants will be judged on their SkillsUSA knowledge through the Professional Development test and knowledge test. Testing will be completed online and proctored through their technology centers. Online testing opens March 14, 2025, and closes April 4, 2025. No provisions are being made for make-up testing on-site.

### **RESUME- Change to submission type please for 2025 please read.**

All contestants will submit a digital resume prior to contest day. Contestants will receive an email to the address used to register the contestant for contest with instructions and link to access the SkillsUSA Competitor Portal page. The email will contain contestant's username and contestant number, which are required to login to the Competitor Portal.

Deadline to submit resume is April 22, 2025.

## **AWARDS CEREMONY**

Winners will be recognized at the General Session on Tuesday morning, April 29th, at 9am at the Arvest Convention Center in the Grand Hall. All competitors must wear official SkillsUSA dress to the Awards Session, where winners are announced. Competitors who are not dressed appropriately or lack official attire will be denied access to the awards stage. Students must be present when their contest is announced. If a student is improperly dressed, absent, or misses their contest being called, the production will not be paused for any reason, and they will forfeit their opportunity to go on stage to receive the award. No exceptions will be made. No hats or sunglasses will be allowed to be worn on stage.

- Official dress for men: Official blazer, jacket or sweater; black dress slacks; white dress shirt; plain black tie with no pattern or SkillsUSA black tie; black socks and black shoes.
- Official dress for women: Official blazer, jacket or sweater; black dress slacks or knee-length skirt with business like white, collarless blouse or white blouse with small, plain collar that may not extend onto the lapels of the blazer, and black dress shoes

## **INDUSTRY AWARD**

As agreed at the August Conference each instructor is requested to secure a minimum of \$50.00 in prizes for each student that you bring to the State SkillsUSA Championships. These awards should be labeled with the name, address, and contact person for the donating industry so that the contestant they are awarded to can send an appropriate expression of his or her appreciation.

**\*\*\* Prizes are the responsibility of the individual contests. Prizes are not guaranteed and are not supplied at the SkillsUSA Oklahoma state level.**

Please contact the chair with prizes that will need to be checked in. **Each participating school is expected to furnish an industry award.** Industry awards should be labeled with the name and address of the award supplier so that an appropriate "Thank you" may be sent, must be accompanied by an *industry award donation information sheet* (available on the Oklahoma SkillsUSA website). **Please bring prizes to the industry awards area at the Arvest Convention Center Conference Hall, Sunday, April 27<sup>th</sup> between 12-4pm or Monday, April 28<sup>th</sup> between 8am-4pm.**

## **TOOLS and SUPPLIES**

Contestants will need to bring the following tools and materials, build the ELECTRO-MECHANICAL CHASSIS described in the attached specifications.

- Standard wiring or "pouch" tools including needle-nose pliers, side cutters, diagonal pliers, conduit reamer, assorted screwdrivers, both slotted and Phillips, wire and strippers.
- Hacksaw
- ½ EMT bender
- 6' folding rule or tape measure
- 60'-14 or 16 AWG THHN solid or stranded in various colors
- 4-3A Fuses for above (ONLY 4, no extras) if applicable
- Straight-edge and/or symbol template for drawing ladder and flow chart
- Volt-Ohm-Milliammeter (VOM or DMM)
- Currently adopted (by the state of Oklahoma) NEC Book
- Eye protection with side shields
- #2 lead Pencils
- Snacks/Bottled Water
- Lock out/Tag out equipment (plug cover, lock, tag)

## **CONTEST DESCRIPTION AND SCORING**

The contest will consist of an online SkillsUSA (PDP) knowledge test, online written test covering knowledge of NEC article 430, 310-16, 240, and other motor, wiring, and control related problems, and a skill test.

For the electro-mechanical component of the contest, the contestants will be given a word problem, required to draw a ladder diagram of the solution, and construct their diagram using the electro-mechanical assembly. If contestants are unable to complete the drawing, a ladder diagram will be provided to test their ability to construct the diagram with a reduction to their overall points. Scoring for this part of the contest will be based on accuracy and neatness of the ladder diagram, neatness of wiring, and efficiency of operation.

The final portion of the contest will be conduit bending. Contestants will have to perform several bends. Contestants are given thirty minutes and two attempts (two, five foot sticks of EMT) to complete the bends. A second attempt will result in a point deduction. The contestants final attempt will then be checked on jigs supplied by the technical committee for fit and neatness.

## **SPECIFIC SCORES:**

- Design Documentation 100 pts
- Wiring/Function 100 pts
- Conduit Bending 100 pts
- Written Test 30 pts
- The SkillsUSA PDP is 2.5% of the contest score.
- The written knowledge test is 10% of the contest score.
- The technical skills portion of the contest is 87.5% of the contest score.
- The above scoring is consistent with the national SkillsUSA competition.

## **ASSEMBLY DESCRIPTION**

Reference Electromechanical assembly packet for a bill of materials, construction, and additional prints.

Unit must have approved power cord (three prong), properly strain-relieved into an enclosure, and must include 3 amp (maximum) single pole circuit breaker. You may use components of equal form/fit/function (any brand) but try to follow the presented assembly layout as closely as possible to simplify troubleshooting for the judges and to ensure the instructions given to contestants match the physical construction of their assembly. The appliance cord may be prewired to a disconnect or breaker. No additional prewiring will be allowed. Contestants will be asked to remove any prewiring before they are allowed to begin the Industrial Motor Control contest if needed.

Terminal blocks are allowed. Judges will use discretion to verify that a trainer adheres to the standardized construction and are allowed to request changes before a contestant is allowed to enter the competition.

The previous electromechanical board design can be used for the 2025 competition. Full implementation of the new design will be required to enter the 2026 competition.

## **Prints and Bill of Materials**

All prints contain a Bill of Materials. PDF versions are available for printable copies and improved formatting.