



# INDUSTRIAL MOTOR CONTROL



**Pennsylvania - District 2**  
*Education . . . with a competitive side*

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## **Clothing Requirements**

Official SkillsUSA khaki work shirt and pants, black or brown leather work shoes, and safety glasses with side shields or goggles. (Prescription glasses can be used only if they are equipped with side shields. If not, they must be covered with goggles.)

*Note:* At the district level if a student is not able to wear the official SkillsUSA attire he/she may wear an outfit that would be acceptable in their specific field of study. *Please keep in mind that official SkillsUSA attire will be required at the state and national level.*

## **Eligibility**

Open to active SkillsUSA members enrolled in programs with industrial motor control as the occupational objective.

## **Equipment and Materials: Supplied by host school:**

All wiring panels, electrical supplies and materials as required by the problem assigned

## **Equipment and Materials: Supplied by contestant:**

1. All students must have a one-page, typewritten résumé
2. Safety Glasses
3. Hard Hat
4. Work Shoes
5. Diagonal pliers
6. Side-cutter/Line-man Pliers
7. Long-nose pliers
8. Pump pliers
9. Wire strippers
10. Electrician's knife/Utility knife
11. Assorted flat blade and Phillips screwdrivers
12. Tape measure/Folding Ruler
13. Electricians hammer
14. Hacksaw
15. Torpedo level
16. Pencils
17. Crimping tools
18. ½" EMT conduit bender
19. ½" EMT conduit reamer
20. Multi-meter (VOLT, OHM, AMP) or equivalent voltage and continuity testers
21. Current National Electrical Code Book
22. Calculator (NO CELL PHONES)
23. Cordless Drill with batteries and charger allowed

**SkillsUSA: Career-Ready Starts Here.**

<http://padistrict2skillsusa.com/>



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## **Scope of the Contest** – *(Defined by the National Competition Regulations)*

*(District Competitions are meant to be a scaled down version of National Competition. It is important for the students to participate in a competition that will reflect a cross-section of the industry skills)*

The contest will assess the ability to perform jobs or skills selected from the following list of competencies.

## **Knowledge Performance**

The contest will include a written knowledge exam assessing general knowledge of industrial wiring. Written portions may also exist during the skills portion of the contest. Knowledge of terms and principles used in industrial wiring will be required for the skill demonstration portion of the contest.

## **Skill Performance**

The contest will include a series of testing stations designed to test the ability to perform jobs or skills selected from the following list of competencies as determined by the SkillsUSA Championships technical committee.

## **Standards and Competencies** – *(Summary of national technical standards list)*

1. Demonstrate knowledge/application of basic academic, physical and employability skills
2. Follow OSHA rules and safety regulations to ensure job site and equipment safety
3. Apply knowledge of the National Electric Code
4. Interpret and draw wiring and diagrams
5. Read and interpret written and oral customer and manufacturer specifications/instructions
6. Perform electrical calculations, i.e.: sizing of circuits and conductors, and calculate conduit fill
7. Select materials and equipment to meet customer needs
8. Select and utilize hand, electrical and cutting tools properly
9. Select and install proper wiring methods, boxes and enclosures
10. Demonstrate the ability to properly install and connect devices and equipment
11. Troubleshoot and repair power and control circuits

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## Industrial Motor Control Competition Rating Sheet

Item Evaluated	Possible points
Written Test	50
Parts ID	25
National Electrical Code	30
Box Heights and Mounting	30
Device Locations	30
Wiring Methods	50
Grounding, Splices and Termination	30
Overall Neatness	30
EMT — Pipe Bending	30
Function and Operation Test	30
Job Site Material Acquisition	15
Troubleshooting	50
Safety Penalty	-10
Resume Penalty	-10
Clothing Penalty	-10
Total	400

*Note: No cell phones or other electronic devices may be used at any time during a competition; this includes using a calculator function on a cell phone for competitions in which calculators are permitted.*