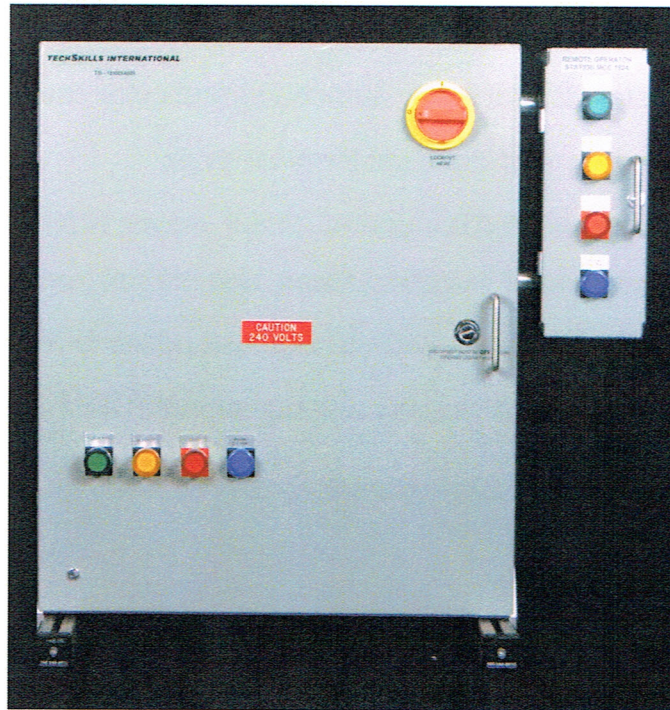


TECHSKILLS INTERNATIONAL

The **Leading Edge** in Industrial Controls Training

**ELECTRIC MOTOR CONTROL • HVAC CONTROLS • FLUID POWER CONTROLS •
MECHANICAL CONTROLS • AUTOMATION & DIGITAL CONTROLS**

TROUBLESHOOT ELECTRIC MOTOR CONTROLS



The TSI **Troubleshoot Electric Motor Controls** course provides competency-based, hands-on training for testing and troubleshooting common motor control circuit faults.

THE TSI **LEADING EDGE** ADVANTAGES

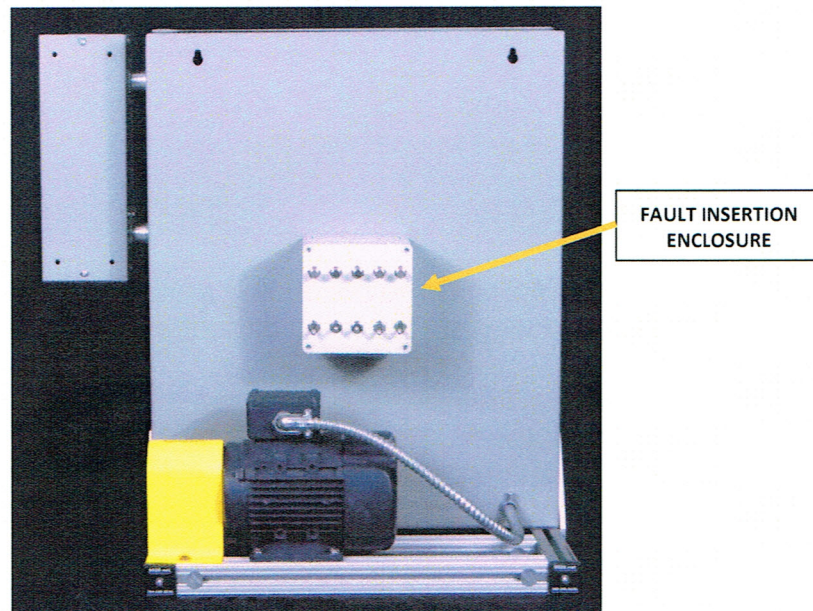
1. TSI is the leader in providing authentic training solutions. TSI training hardware is authentic because it is UL Listed under UL508A for *Industrial Control Panels*. Effective training must duplicate the equipment, tools and technical job requirements the student will encounter on the job. This didactic ensures the student transitions quickly from the classroom to the plant floor.
2. Testing and troubleshooting procedures are driven by authentic job Work Orders. TSI E-learning content can be delivered via print media, standard school/industrial computer systems, and all current tablet formats.
3. TSI equipment enclosures are standard NEMA 1. All control components are UL listed/recognized and replacements are readily available from many sources.
4. TSI provides industrial schematics and wiring diagrams using NEMA symbology. IEC/DIN schematic symbology is provided upon special request.
5. TSI *Reading and Drawing NEMA and IEC/DIN Schematics* E-learning course is a suggested pre-requisite to this course.

TRAINING SYSTEM

The training system duplicates a typical industrial motor control application. This consists of NEMA 1 equipment enclosure and an installed reversing three-phase motor starter. Included are illuminated local and remote Forward-Stop-Reverse stations. This common industrial application presents real testing and troubleshooting jobs for the student.

Troubleshooting skills include:

- reading standard industry wiring diagrams and schematics
- tracing circuits using industry standard wire numbering and color codes
- manipulating covered wireways and standard terminal strips
- identifying and locating faults inserted on: control circuit, power circuit, multiple control stations, motor, contactor, O.L. relay, control switches, fuses, and control transformer.
- working safely (lockout and tagout) with 240-volt 3-phase power is required.
- testing and measuring with standard industry test equipment (DMM & MEGGER – not supplied)



FAULT INSERTION

Faults are inserted by the instructor using multiple switches in the fault insertion enclosure on the back of the equipment enclosure. Optional defective components are available for manual fault insertion.

CERTIFICATION

Certification of hands-on performance to recognized standards is available upon completion of this course.

Recognized standards include; UL 508A, NEC 409, NFPA 70, and OSHA.