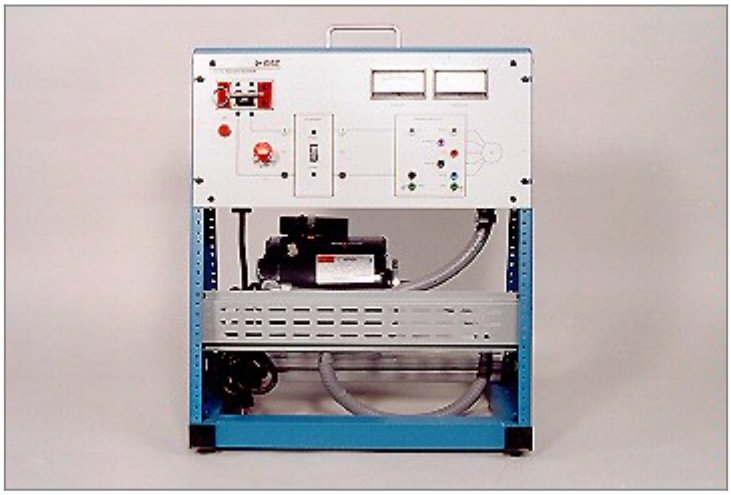
Permanent Split Capacitor Start (PSC) AC Motor Training System



Model: 411-000

DAC Worldwide’s Permanent Split Capacitor Start (PSC) AC Motor Training System (411-000) is one in a comprehensive series of stand-alone, motor-related training aids that offers an introduction to a range of common motor types used in industry. This unique training aid introduces learners to the terminology, operating characteristics, wiring, and troubleshooting of PSC motors used in industry and commercially. This self-contained, tabletop training system provides a safe, inexpensive, yet realistic alternative to paper-based learning without the danger of full-voltage field experience.

The permanent split capacitor training system includes a commercial-duty 56Z frame PSC motor, as well as other UL and CE certified industrial electrical components throughout. The device, coupled with a comprehensive student manual, creates a complete, self-paced learning system that reflects realistic industrial and commercial applications.

Useful within industrial training programs or in an educational setting, the PSC AC Motor Training System will help make this fundamental part of electrical maintenance training more memorable and effective.

Practice Hands-On Electrical Instrumentation Skills for Various Applications

This permanent split capacitor training system includes a welded tubular-aluminum mounting baseplate, steel control box support structure, and a steel control and wiring enclosure. All motor wiring and troubleshooting is accomplished through banana jack receptacles on the control enclosure’s front panel. The steel frame provides durability to stand up to frequent use, and to aide learners in becoming better prepared for the tasks they will encounter on the job. Learners will get first-hand experience using banana jacks, plugs, ground/primary connections, and secondary connections using an AC motor.

This electrical training system utilizes a welded 1/8”-wall on an aluminum baseplate, which allows for attachment to base assembly or associated mounting bench products. It includes a circuit breaker for lock-out/tag-out, an on-board analog voltmeter and ammeter, a front cover safety kill switch, and T-slotted aluminum motor and accessory mounting rails, which allows for attachment of modular guard, and connection to optional adjacent accessories and training aids.

An optional motor loading module or prony brake also attaches to the motor unit for testing purposes using a flexible coupling, which is provided with the training system.

Hands-On Exercises and Learning Activities Lead to Realistic Results

DAC Worldwide's Transformer Wiring Training System also features exercises and learning activities that focus more on results and less on secondary academic background information. This comprehensive training system offers content in electrical principles, with individual learning activities provided in a self-paced or instructor-led format.

Using the course content, learners will study topics like motor control terminology and construction, interpreting motor nameplate data, an introduction into troubleshooting, and much more. Along with DAC Worldwide's courseware, students will also get hands-on skills training, including wiring a permanent split capacitor-start AC motor, troubleshooting a split-phase AC motor, wiring a series-wound DC motor, and much more. Overall, the courseware offers 21 illustrated, hands-on exercises to better prepare learners for real-world scenarios.

In addition to the courseware, students will benefit from four (4) instructor fault switches in the rear of the control enclosure, which simulates failure conditions and allow real-time assessment and troubleshooting for students.

Student Training Manual Available to Enhance Learning

A copy of this course's Student Training Manual is available with the training system. The Student Training Manual takes the technical content contained in the learning objectives, and combines it into one perfectly-bound book. If you would like to inquire about purchasing additional Student Training Manuals for your program, please contact your local DAC Worldwide Representative for more information.

FEATURES & SPECIFICATIONS

- Welded 1/8"-wall tubular aluminum baseplate assembly allowing for stand-alone tabletop use
- Provision for direct mounting of upper frame assembly and integration on related workstation, and integration bench products
- T-slotted aluminum motor and accessory mounting rails. (Allows for attachment of modular guard, and connection to optional adjacent accessories and other training aids)
- Commercial-duty 56Z frame PSC motor, with connection teather
- Master circuit breaker with simulated lock-out / tag-out capability
- Silk-screened 1/8" aluminum front panel face with identification of line and motor lead numbers
- 16-gauge, formed-steel and powder-coated support structure and electrical enclosure
- Color-coded banana-jack patch cord receptacles
- On-board analog voltmeter and ammeter
- Permanent internal tamper-proof grounding of all elements for safety
- Enclosure front cover safety interlock (kill) switch

- Four instructor fault insertion switches (on rear of control enclosure)
- Large system emergency stop switch
- Keyed instructor power switch (on rear of control enclosure)
- Large pilot light and on-board manual motor-starting switch
- Use of UL and CE certified electrical components throughout
- Packaging for shipment via motor freight

PRODUCT DIMENSIONS

- **Product Dimensions**
  (L x W x H)
  19" x 19" x 25" (475 x 475 x 630 mm)
  45 lbs. (20kg)

- **Shipping Dimensions**
  (L x W x H)
  20.75" x 23.75" x 30" (525 x 600 x 760 mm)
  85 lbs. (38.5 kg)

UTILITIES

110 VAC or 240 VAC, single-phase, based on destination country

ACCESSORIES

- Patch cords
- Use/Exercise Guide
- Fault switch access tool
- Instructor and student wiring diagrams
- Related textbook (with purchase of four or more devices)

OPTIONS

- #560-000 - Electrical Trades Training Manual (IPT)
- #560-001 - Electrical Trades Handbook (IPT)
- #562-000 - Electric Motor Repair
- #902 - Electromechanical Workstation
- #902V - Mobile Display Stand
- #903 - Electromechanical Workstation, Extended
- #040-747 - Video series, 2-part, titled, *AC Motor Control & Troubleshooting* (Industrial Text & Video)

- #040-749 - Videos, two-part series titled *DC Motor Control & Troubleshooting* (Industrial Text & Video)
- #410-001 - Portable digital multimeter
- #410-001E - Portable Multimeter, Economy
- #410-002 - Non-Contact Tachometer
- #410-100 - Prony Brake Assembly
- #410-500 - Use/Exercise Guide (additional)

COURSE CONTENT The courseware, useful in both an instructor-led or self-directed format, includes a textbook on motors and motor control, and twenty-one (21) illustrated, hands-on exercises.

Exercises include:

- Introduction to motor control terminology and construction
- Interpreting motor nameplate data
- Wiring the split-phase, capacitorstart AC motor
- Wiring the permanent split capacitor-start AC motor
- Wiring the three-phase, wye/star configured squirrel cage rotor AC motor
- Wiring the three-phase, delta configured squirrel cage rotor AC motor
- Introduction to troubleshooting
- Troubleshooting the split-phase, capacitor-start AC motor
- Troubleshooting the permanent split, capacitor-start AC motor
- Troubleshooting the threephase, wye/star configured squirrel cage rotor AC motor
- Troubleshooting the threephase, delta configured squirrel cage rotor AC motor
- Wiring the shunt-wound DC motor
- Wiring the Series-wound DC motor
- Wiring the compound, cumulatively-wound DC motor
- Wiring the permanent magnet DC motor
- Troubleshooting the shunt-wound DC motor
- Troubleshooting the series-wound DC motor
- Troubleshooting the compound, cumulatively-wound DC motor
- Troubleshooting the permanent magnet DC motor

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