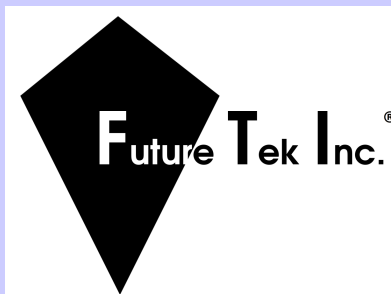
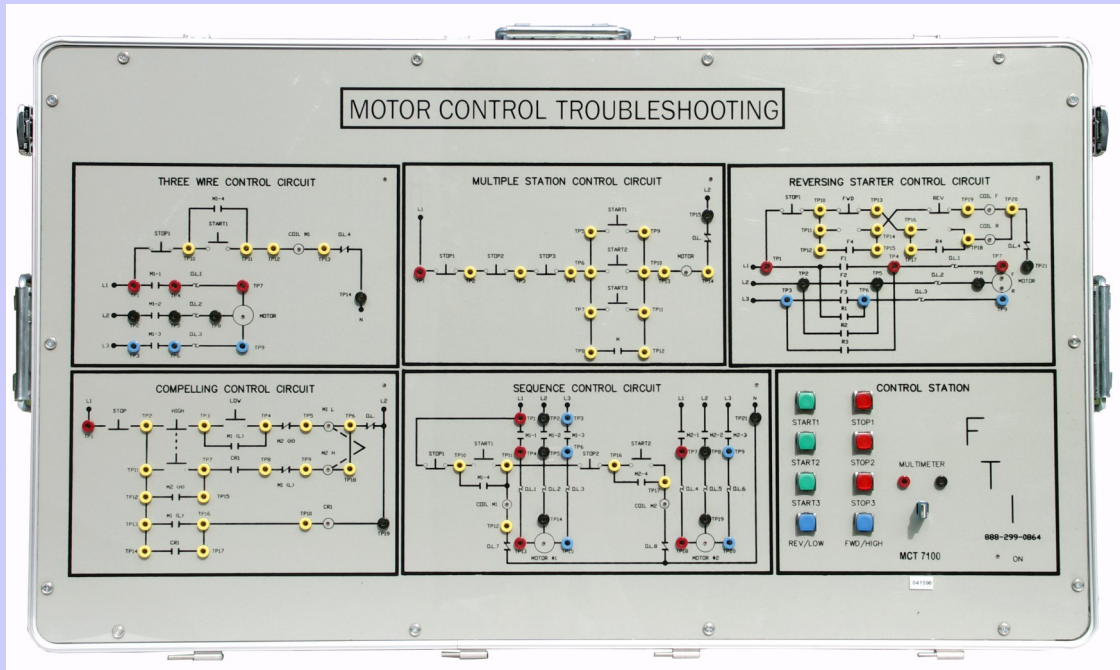


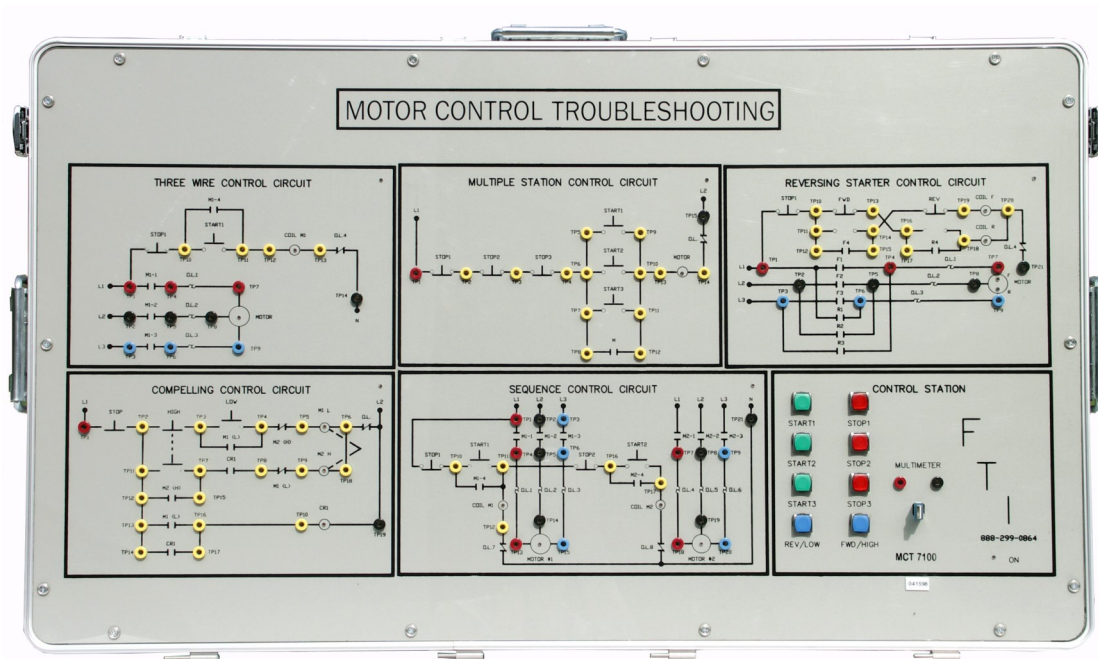


# Troubleshooting Trainers



“Real-World” Trainers for “Real-World” Jobs

# MODEL 7100 Motor Controls Troubleshooting Trainer



**AN INSTRUCTORS DREAM COME TRUE**

***TROUBLESHOOTING AT ITS BEST!***

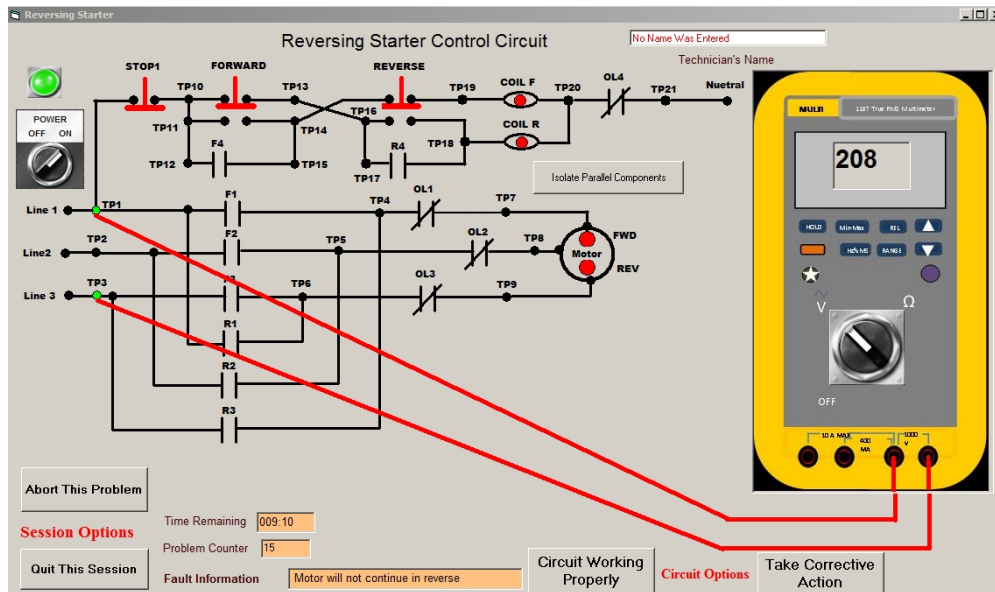
- **152 “Real-World” Troubleshooting Problems and Solutions (Software driven)**
- Voltage and Resistance Measurements required to resolve faults
- Detailed individual student reports provide documentation required for accreditation (Lab documentation is essential for instructors)
- **Generates a “Step-by-Step” report so Instructor can see Students’ Logical Process**
- This versatile trainer meets secondary, post-secondary, and industrial requirements
- Students and instructors love the challenges that this trainer offers
- The ICST 7100 makes Troubleshooting Labs quick and easy for the instructor
- Completely Safe, only requires 5 vdc **power from a USB** from any Windows computer
- Simulates OPEN and SHORT scenarios for contacts as well as Open and SHORTS on Load Devices (**NO OTHER TRAINER CAN SIMULATE SHORT CONDITIONS with POWER ON**)

• **152 “Real-World” Troubleshooting Problems and Solutions**

This 7100 ICST Trainer is based on a computer model of the five most common industrial motor control circuits. Each circuit has test points to check voltage and resistance. The LEDs on each circuit will illuminate indicating which particular device is energized. There are eight pushbutton switches located on the ICST 7100 panel. These serve as the control switches for each circuit. The 152 faults are as real as it gets. For example, if the coil M1 is shorted it will take out the control voltage. If the student just resets the breaker without changing out the bad coil, it will trip the breaker again. The student must ohm out the M1 coil to see if it is bad, and then replace it. After the student has fixed all problems he/she will check to see if the circuit is working properly, then go on to the next fault.

**Voltage and Resistance Measurements required to resolve faults**

To measure voltage or resistance, simply place the test leads in two of the test point banana jacks. Either voltage or resistance values will appear on the screen depending on which mode the multi-meter is in. The student must troubleshoot the active circuit by taking voltage and resistance measurements on the panel. The Green test points seen on the computer monitor represent the location of the meter leads on the ICST 7100 trainer. This trainer has single-phase control, and 3-phase power circuits.



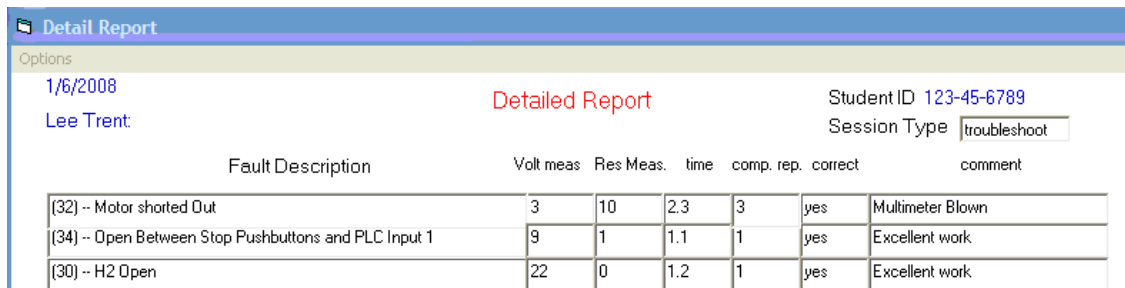
**Detailed individual student reports provide documentation required for accreditation (Lab documentation is essential for instructors)**

The ICST 7100 Detailed Report is A MUST FOR INSTRUCTORS!

It records each fault, voltage check, resistance check, the time required, and components replaced by each student. This allows the instructor to identify areas requiring additional training.

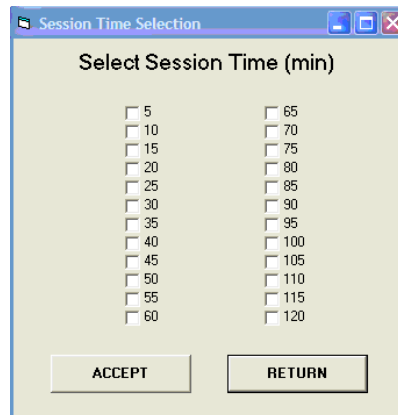
The ICST 7100 makes Troubleshooting Labs quick and easy for the instructor by producing a Detail Report on each individual student, this documentation is required for curriculum and accreditation.

It is used in industry to test new employees in the electrical field, and update existing technicians.



Options	Detailed Report				Student ID 123-45-6789	
1/6/2008					Session Type <input type="text" value="troubleshoot"/>	
Lee Trent						
Fault Description	Volt meas	Res Meas.	time	comp.	rep. correct	comment
(32) -- Motor shorted Out	3	10	2.3	3	yes	Multimeter Blown
(34) -- Open Between Stop Pushbuttons and PLC Input 1	9	1	1.1	1	yes	Excellent work
(30) -- H2 Open	22	0	1.2	1	yes	Excellent work

Detailed Report

Session Time Selection

Select Session Time (min)

<input type="checkbox"/> 5	<input type="checkbox"/> 65
<input type="checkbox"/> 10	<input type="checkbox"/> 70
<input type="checkbox"/> 15	<input type="checkbox"/> 75
<input type="checkbox"/> 20	<input type="checkbox"/> 80
<input type="checkbox"/> 25	<input type="checkbox"/> 85
<input type="checkbox"/> 30	<input type="checkbox"/> 90
<input type="checkbox"/> 35	<input type="checkbox"/> 95
<input type="checkbox"/> 40	<input type="checkbox"/> 100
<input type="checkbox"/> 45	<input type="checkbox"/> 105
<input type="checkbox"/> 50	<input type="checkbox"/> 110
<input type="checkbox"/> 55	<input type="checkbox"/> 115
<input type="checkbox"/> 60	<input type="checkbox"/> 120

Session Summary Report



- **This versatile trainer meets secondary, post-secondary, and industrial curriculum requirements**
- **Students and instructors love the challenges that this trainer offers**
- **The ICST 7100 makes Troubleshooting Labs quick and easy for the instructor**

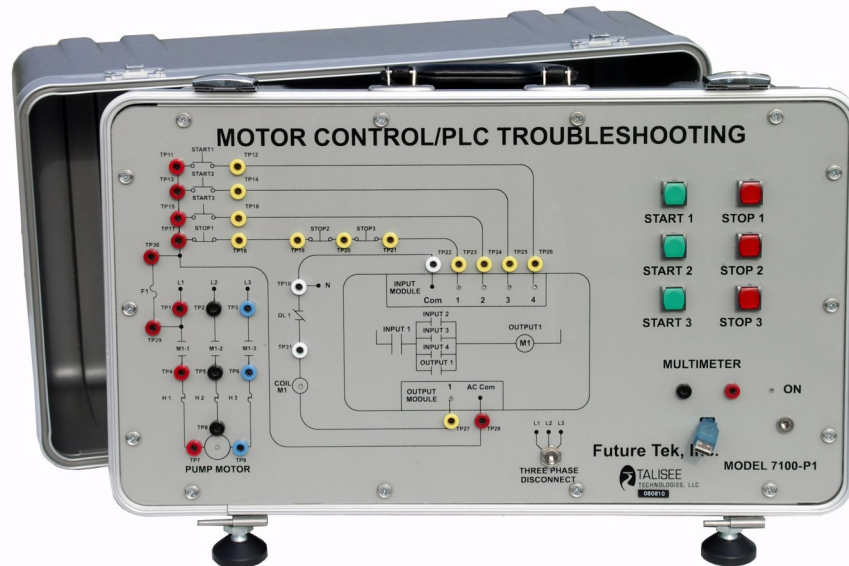
The ICST 7100 is a very versatile troubleshooting trainer that meets most all secondary, post-secondary, and industrial requirements. This trainer challenges the students keeping them motivated and interested in learning. It can be applied to introductory or advanced motor control sessions. The trainer will demonstrate the operation of control circuits and 3 phase power circuits.

If Random is selected six choices will appear. The instructor can select one of the five circuits or all circuits. In the Random mode, the software will randomly select the faults until the time expires.

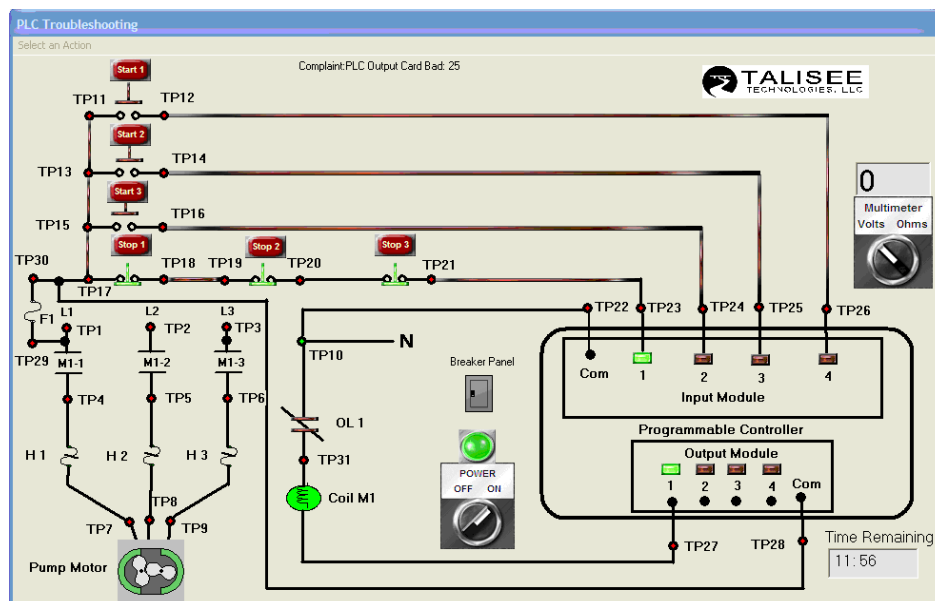
If the Fault Table is selected, the Fault Selection Table appears for all circuits. The instructor can select up to 25 faults in individual circuits or 25 faults in all circuits.

Trainer is completely safe, requires NO EXTERNAL POWER, powered by Windows based computer's (5 volts) USB port only!!

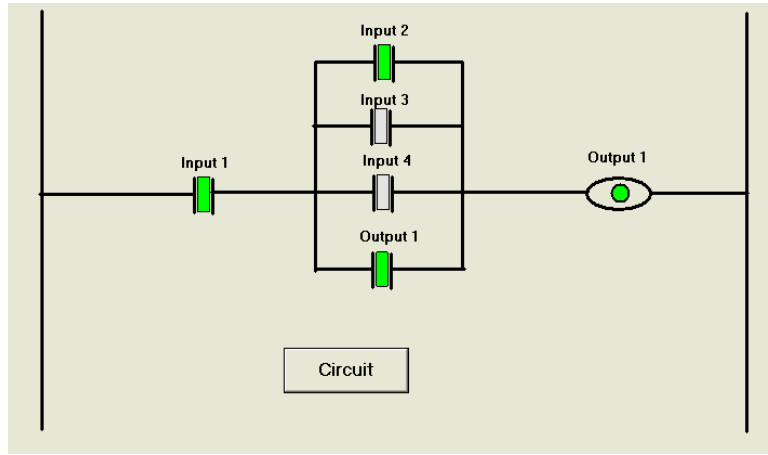
# MODEL 7100-P1 Motor Controls/PLC Troubleshooting Trainer



- 51 Interactive “Real-World” Faults
- Random Fault Generation or Instructor Selected Faults
- Voltage and Resistance Measurements
- ON-SCREEN, Component Testing & Replacement



## View Active Ladder Logic To Make Troubleshooting Easy



51 Faults to Choose From

Improves Troubleshooting Skills

Computer Records All Actions

Tutorial Mode of Operation

Practical Job Format

Computer Generated Faults

No Fault Switches

Computer Emulates Each Circuit

Evaluates Troubleshooting Logic

Generates Progress Report

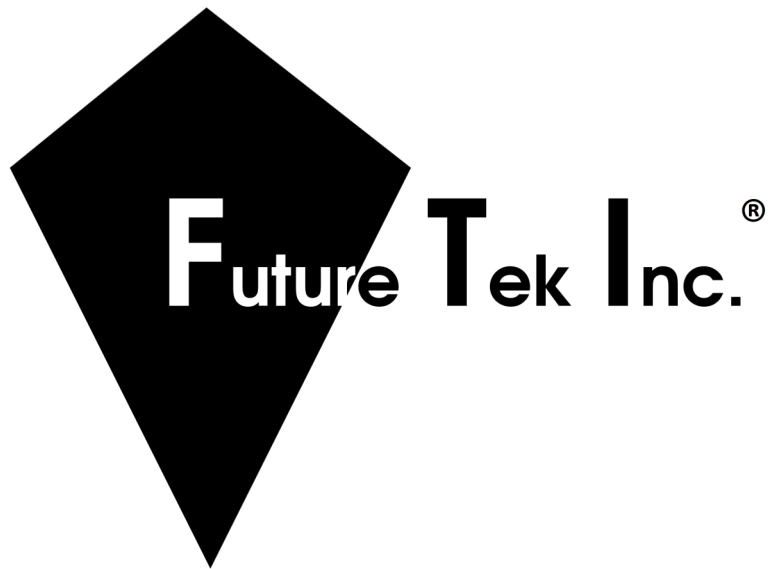
Instructor Generated Faults

Computer Interactive Troubleshooting

- ◆ **If a Student checks Resistance (Ohms) with Power ON, the “Multi-Meter” Blows Fuse and Simply Has to Be Reset**
- ◆ **Computer Emulates Voltage and Resistance Measurements**
- ◆ **Real World Feed Through Voltages and Resistances**
- ◆ **A Great Tool for an Instructor to Start Teaching & Testing Troubleshooting**
- ◆ **Student Can’t Check Resistance or Replace Component With Voltage On**

**"Real-World" Trainers For "Real-World" Jobs**

*Made in the U. S. A.*



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