

SCRTTC

**Southern California Regional Transit
Training Consortium**

Distance Based Learning

**CTA Annual Fall Conference – Monterey, CA
November 13, 2014**



SCRTTC

**Southern California Regional Transit
Training Consortium**

**David M. Stumpo
Executive Director**



* As of September 30, 2014

The Outline

- What is the SCRTTC
- What is Distance Based Learning
- Show n Tell
- What is next with DBL



SCRTTC Mission Statement

**Advance the skills of our
transit workforce...**

...preparing for the future.



The SCRTTC Overview

- California Corporation and 501 c (3) Non-Profit
- Partnership of **43** members consisting of Transit Systems, Community Colleges, and Affiliate Members
- Provide research to demonstrate feasibility of a new transit workforce development ‘Learning Model’
- Develop and deliver Transit Training providing the workforce knowledge of ITS standards, practices, and procedures.



The SCRTTC Funding History

- Transit & College Membership fees
- Initial federal funds from US DOT FHWA JPO and administered by ITS America – 3 years at \$75k each
- FTA grant funding obtained for 4 years; 2006–2010 \$1.4m (\$1.2 post Katrina)
- Industrial Driven Regional Collaborative (IDRC) 2 years state grant funds with Rio Hondo College (\$500k)
- Reformulated Gas Settlement; \$675k over 3-years
- Private Industry Partnerships



The SCRTTC Funding History

- FTA 5th year continued funding \$450k for 2011
- Caltrans Division of Mass Transportation underwriting of training delivery costs
- Additional funds from Los Angeles County Bus Operators Subcommittee (LA BOS); Member fees of all Los Angeles County transits (\$600k over 3 years)
- FTA Innovative Transit Workforce Development Program (ITWD); \$673,713 over 18 months



SCRTTC Strategic Objectives

- Leadership Sustainability
- Membership Management
- Partnerships
- Financial Health
- Communications Strategy
- Training Effectiveness
- Expansion Strategy



SCRTTC Committees

- Financial
- Administrative
- Education Services
- Government Relations
- James A Ditch Education Fund
- Executive Committee



SCRTTC Transit Members

- Anaheim Transportation Network
- Antelope Valley Transit Authority
- Arcadia Transit
- Beach Cities Transit
- Commerce Municipal Bus Lines
- Culver City Municipal Bus Lines
- Foothill Transit
- Gardena Municipal Bus Lines
- Gold Coast Transit
- La Mirada Transit
- LA DOT
- LA METRO
- Long Beach Transit
- Montebello Bus Lines



SCRTTC Transit Members

- Monterey-Salinas Transit District
- Norwalk Transit
- Orange County Transportation Authority
- Omnitrans
- Pomona Valley Transportation Authority
- Roaring Forks Transit Authority
- San Joaquin RTD
- Santa Clarita Transit
- Santa Monica Big Blue Bus
- Torrance Transit
- Sunline Transit
- UCLA Fleet Services



SCRTTC College Members

- Cerritos College
- Citrus College
- College of the Desert
- Colorado Mountain College
- El Camino College
- Golden West College
- Hartnell College
- Kern County College
- LA Trade Tech College
- Long Beach City College
- Rio Hondo College
- Saddleback College
- San Diego Miramar College
- Santa Ana College



SCRTTC Academic Members

- ATRE - Advanced Transportation and Renewable Energy Sector
- California State University Long Beach (CSULB)



SCRTTC Partners

Sustaining Partner:

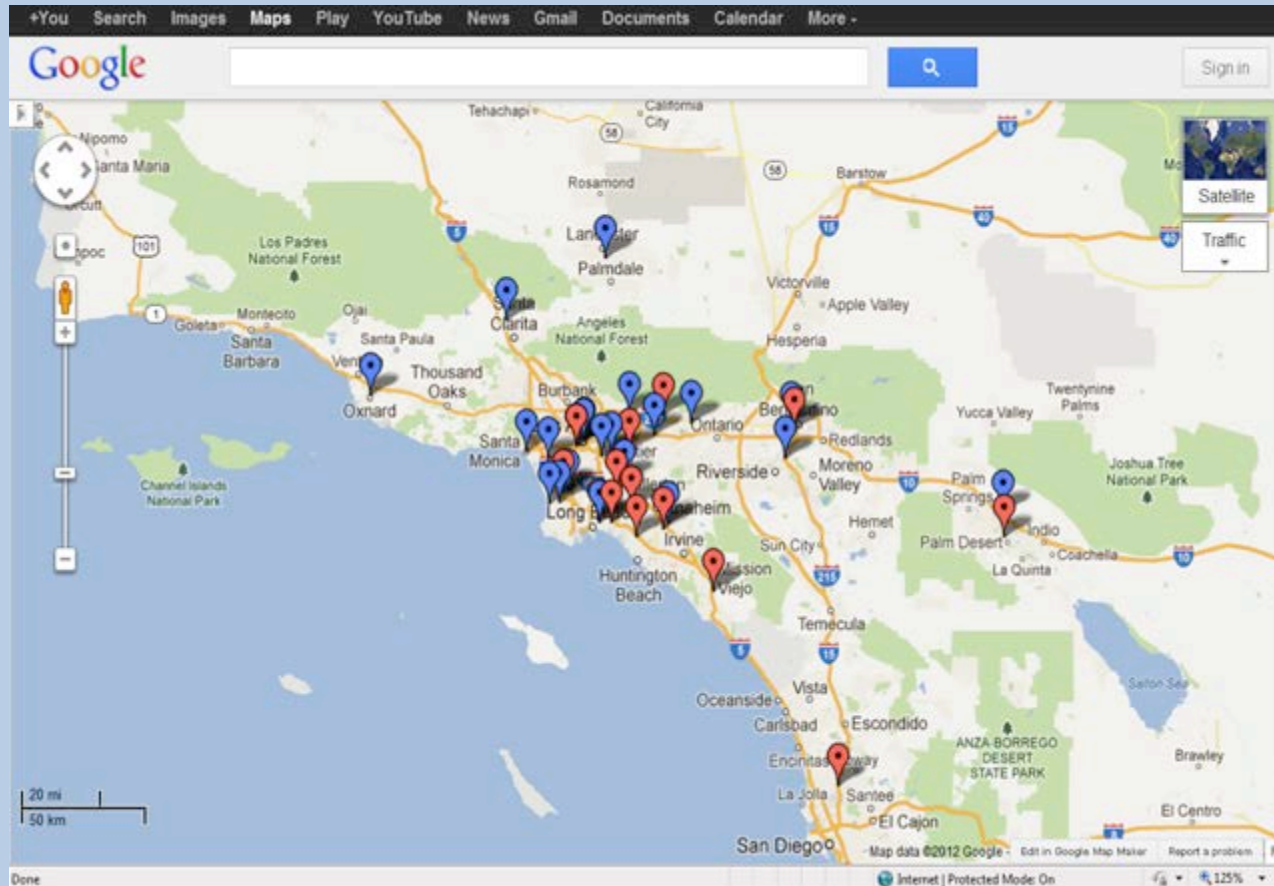
- Clean Energy, Seal Beach CA

Major Partner:

- Complete Coach Works (CCW), Riverside CA



SCRTTC REGIONAL VIEW



* As of September 30, 2014

SCRTTC Technology Training

- Requires constant upgrade of skills in order to remain current with ITS advancements in transit
- Critical for alternative fuels/low emission and Zero Emission Vehicles
- A key component to increased deployment of clean operating vehicles
- Imperative for buses that result in decreased fuel consumption and lower emissions
- Requires computer science skills for integrated ITS transit systems



SCRTTC Training Development Process

- Needs Assessment and Skill Gap Analysis
- Prioritize Training Needs
- Fund, budget, Issue RFP and contract
- Development team; 1 transit & 1 college Subject Matter Experts (SME)
- Beta 1 & Beta 2 contingent on 25% + change in instructional materials
- Final Validation by Development Team
- Train-the-Trainer (T-t-T) results in SCRTTC Certified Instructors; Certificates Issued



SCRTTC Training Delivery Process

- Fund, budget, Issue RFP
- Determine training dates
- Secure training delivery facility site
- Award training delivery contract
- Post on-line registration
- Market courses to be delivered
- Finalize training rosters
- Deliver training; signed rosters and evaluations
- Data Collection and Student Certificates Issued



SCRTTC Training Hours Delivered

As of September 30, 2014:

60,772



* As of September 30, 2014

SCRTTC FTA Project

- FTA - Innovative Workforce Development
- Distance Based Learning
- Why eCourses for Technicians?
- Develop 3 courses and deliver 9 times
- Show n Tell
- What is next for Distance Learning?



For more information on:

**“Training Today for a Better
Tomorrow”**

visit:

www.SCRTTC.com



Distance Based Learning

My Home > Select a course... Mike Brock

Tools Library BEACHBOARD HELP 9/25/2014

BB BEACHBOARD California State University, Long Beach

CSULB Links Log Out

News

Surveys: Class Evaluation
Posted to Master Course for Electrical I
Conditionally Released
We would like your feedback about the course, please take some time to fill out our Class Evaluation Survey.
[Class Evaluation](#)

Surveys: Class Evaluation
Posted to CITT 175 eElectrical I 3108
Conditionally Released
We would like your feedback about the course, please take some time to fill out our Class Evaluation Survey.
[Class Evaluation](#)

Surveys: Class Evaluation
Posted to CITT 175 eElectrical I 3113
Conditionally Released
We would like your feedback about the course, please take some time to fill out our Class Evaluation Survey.
[Class Evaluation](#)

My Courses

Role: Instructor Student

College of Continuing and Professional Education

CCPE Master Courses

[CITT 103 Module 1 - Global Logistics Overview](#)



* As of September 30, 2014

eDVOM

Digital Volt-Ohm Meter and ITS Circuit Diagnosis | Knowledge Activity



Select components on the circuit to the right. The DVOM will display a measurement. You may have to select on either side of a component to get additional readings and NOT all components will display a measurement. After verifying source voltage, the circuit can be energized by the menu selection. If source voltage is 12 volts, assume 12 volts is available to the fuse.

After interpreting all measurements, determine the general type of circuit fault by making a selection below.

- High Resistance
- Open Circuit
- Short Circuit

Please select the best answer.

Check Answer

- Lamp on
- Lamp off
- Lamp dim

The image shows a circuit diagram on the left and a digital multimeter on the right. The circuit consists of a battery, a fuse, a switch, and a lamp connected in series. The multimeter is a yellow Fluke 102 DVOM with a digital display showing 0.00. Below the circuit diagram are two buttons: 'De-energize Circuit' and 'Normal Circuit'.



SECTION PROG.



100%

COURSE PROG.



85%



eINSITE

INSITE Electronic Service Tool

Fault Codes | Fault Code Window



- **Fault Code:** The first column shows the Cummins fault code that identifies the fault and a graphic that shows the lamp status. Each ECM is identified by its source address, and faults for each ECM are listed individually.
- **Status:** The second column displays whether the fault is currently active or inactive. An active fault indicates that the fault condition was not within range when the engine was operated previously. An inactive fault indicates a condition that has occurred since fault data was last cleared.
- **Count:** This column displays the number of times that the fault has occurred since the last time the fault code was cleared. When the fault is expanded, sensor and switch parameter values from the first occurrence of the fault are displayed.
- **Lamp:** The Lamp column shows the color or type of dash warning lamp when active: Amber (warning), Red (stop or shutdown), Blue (maintenance), Gray (inactive), or none (no lamp information available). When the fault is expanded, sensor and switch parameter values from the last occurrence of the fault are displayed.

Fault Code	Status	Count	Lamp	Description
		First	Last	Units
- ECM				
		ECM Time (Key On Time)		HH MM SS
		Engine Hours		HH MM SS
		Keyoffs		
0145	Active	1	Amber	Engine Coolant Temperature 1 Sensor Circuit - Voltage Below Normal or Short Low Source



SECTION PROG.  13%
COURSE PROG.  15%



eINSITE

INSITE Electronic Service Tool
Fault Codes | Clearing Fault Codes Demonstration



Quick Reference

Software Demo

Note: Be sure to familiarize yourself with the content contained within the Quick Reference Card and Software Simulation demonstration video. Final Post Assessment questions come from this material.

Progress indicators and navigation controls:

- Menu icon (three horizontal lines)
- Briefcase icon
- SECTION PROG.  33%
- COURSE PROG.  19%
- Navigation buttons: back, pause, refresh, forward



* As of September 30, 2014

eINSITE

INSITE Electronic Service Tool Fault Codes | Clearing Fault Codes Demonstration



X CLOSE

STEP 01

Fault Code	Status	Count	Lamp	Description	PID	SID	J1587 FMI	J1939 FMI	SPN
Fault Parameters		First	Last	Units					
ECM	ECM Time (Key On Time)	110:25:36		HH:MM:SS					
	Engine Hours	110:24:45		HH:MM:SS					
	Keyoffs	43							
0145	Active	1	Amber	Engine Coolant Temperature 1 Sensor Circuit - Voltage Below Normal or Shorted to Low Source	110		4	4	110
0441	Inactive	3	Amber	Battery 1 Voltage - Data Valid But Below Normal Operating Range - Moderately Severe Level	168		1	18	168
0122	Inactive	300	Amber	Intake Manifold 1 Pressure Sensor Circuit - Voltage Above Normal or Shorted to High Source	102		3	3	102

Engine must be OFF and key ON before you enter Fault Codes.



SECTION PROG. 33%
COURSE PROG. 19%



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eINSITE

INSITE Electronic Service Tool Fault Codes | Clearing Fault Codes Demonstration



STEP 01

Note: To clear fault codes, the engine must be OFF and key ON before you enter Fault Codes or you will not be able to clear fault codes.

To clear a fault code, highlight the code and right-click to open the right-click menu.

(RIGHT-CLICK)

Fault Code	Status	Fault Parameters	1567 FMI	J1939 FMI	SPN			
0122	Inactive	ECM Time (Key On Time) Engine Hours Keyoffs						
0441	Inactive	3	Amber	Battery 1 Voltage - Data Valid But Below Normal Operating Range - Moderately Severe Level	168	1	18	168
0122	Inactive	300	Amber	Intake Manifold 1 Pressure Sensor Circuit - Voltage Above Normal or Shorted to High Source	102	3	3	102



SECTION PROG. 33%
COURSE PROG. 19%



* As of September 30, 2014

eINSITE

STEP 01

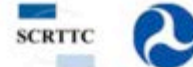
Fault Code	Status	Count	Lamp	Description	PID	SID	J1587 FMI	J1939 FMI	SPN
	Fault Parameters	First	Last	Units					
ECM	ECM Time (Key On Time)	110:25:36		HH MM SS					
	Engine Hours	110:24:45		HH:MM:SS					
	Keyoffs	43							
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0122	Inactive	300	Amber	Intake Manifold 1 Pressure Sensor Circuit - Voltage Above Normal or Shorted to High Source	102		3	3	102

(RIGHT-CLICK)



E1 - eCourse

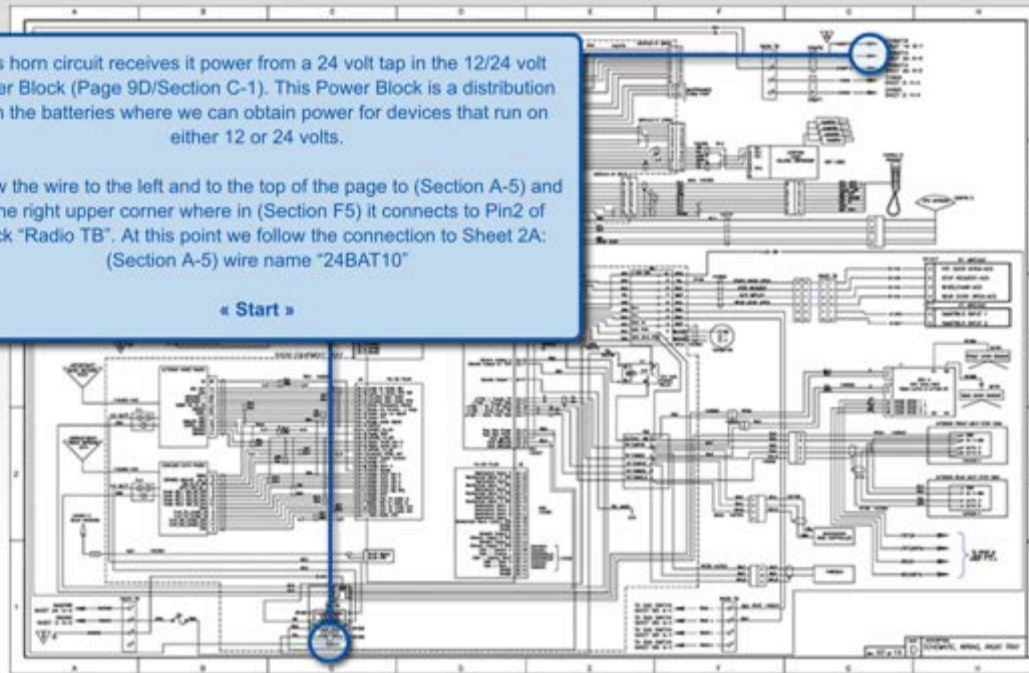
Electrical 1 Schematics | Horn Circuit





This horn circuit receives its power from a 24 volt tap in the 12/24 volt Power Block (Page 9D/Section C-1). This Power Block is a distribution from the batteries where we can obtain power for devices that run on either 12 or 24 volts.

Follow the wire to the left and to the top of the page to (Section A-5) and to the right upper corner where in (Section F5) it connects to Pin2 of block "Radio TB". At this point we follow the connection to Sheet 2A: (Section A-5) wire name "24BAT10"

« Start »



SECTION PROG.  50%
COURSE PROG.  13%



E1 - eCourse

Electrical 1

Circuit Types | Knowledge Activity



What is total circuit resistance?

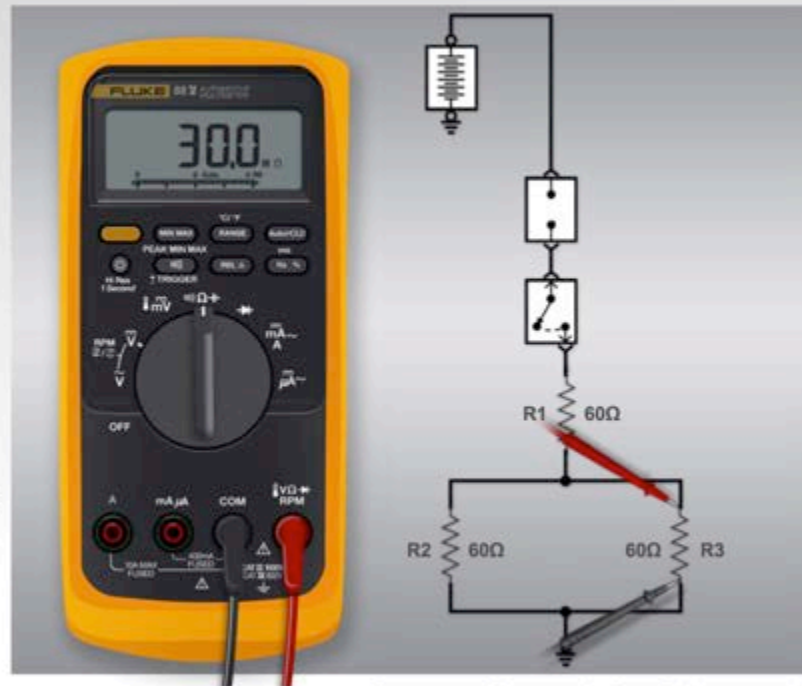
- 30
- 60
- 90
- 120

Please select the best answer.

Check Answer

Select the components to view resistance measurements in a series-parallel circuit.

Remember that Ohm's Law explains the relationship between Voltage, Current and Resistance. For additional information on ohm's law, refer to the 'Basic Electrical Quick Reference Guide'.



SECTION PROG. 100%
COURSE PROG. 42%







E1 - eCourse

Electrical 1 Relays | Knowledge Activity



Select and drag the correct answers on the left to the targets on the right.

	87		input voltage, usually low amperage
85	87a		
86			normally closed, coil not energized
			normally open, coil not energized
Check Answer		30	input voltage, usually high amperage
			grounding signal

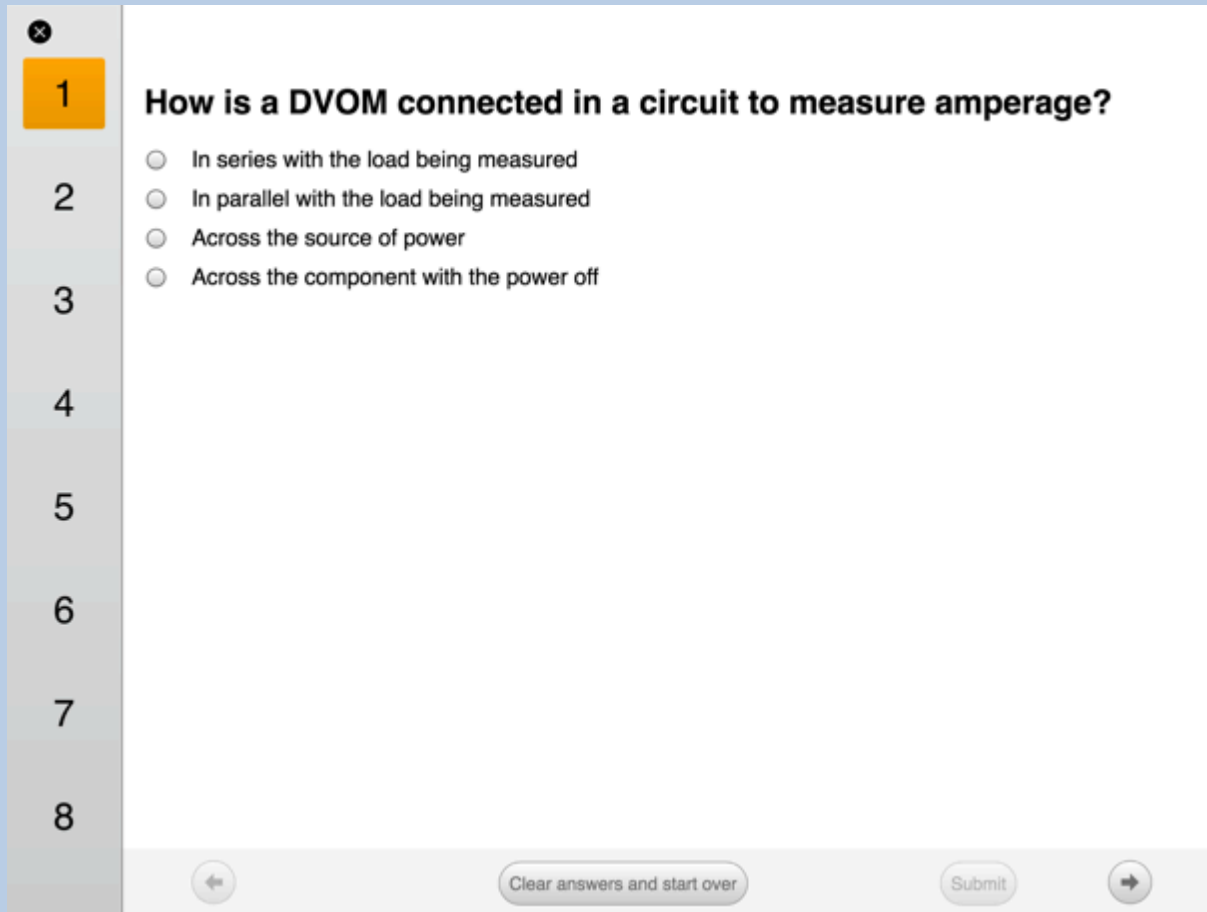
Drag answers to the correct location.

Navigation icons: menu, briefcase, progress bars, and control buttons.

SECTION PROG.  85%	◀		⏪	▶
COURSE PROG.  60%				



E1 – ILT - iPads



The screenshot shows a quiz interface on an iPad. On the left is a vertical sidebar with a close button (X) at the top and a list of question numbers from 1 to 8. Question 1 is highlighted with an orange background. The main area contains the question text and four radio button options. At the bottom, there are navigation arrows, a 'Clear answers and start over' button, a 'Submit' button, and another navigation arrow.

1 **How is a DVOM connected in a circuit to measure amperage?**

- In series with the load being measured
- In parallel with the load being measured
- Across the source of power
- Across the component with the power off

2

3

4

5

6

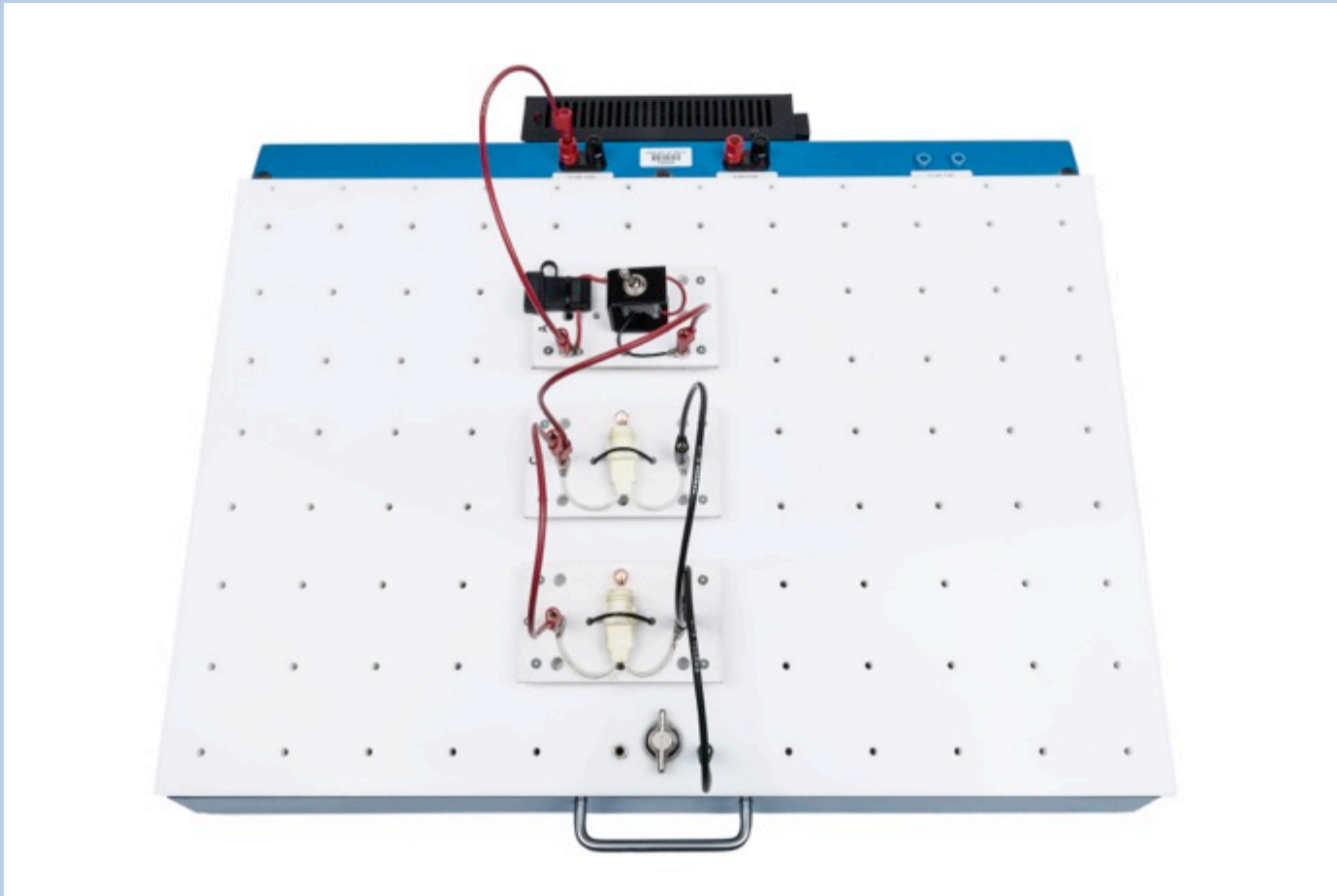
7

8

← Clear answers and start over Submit →



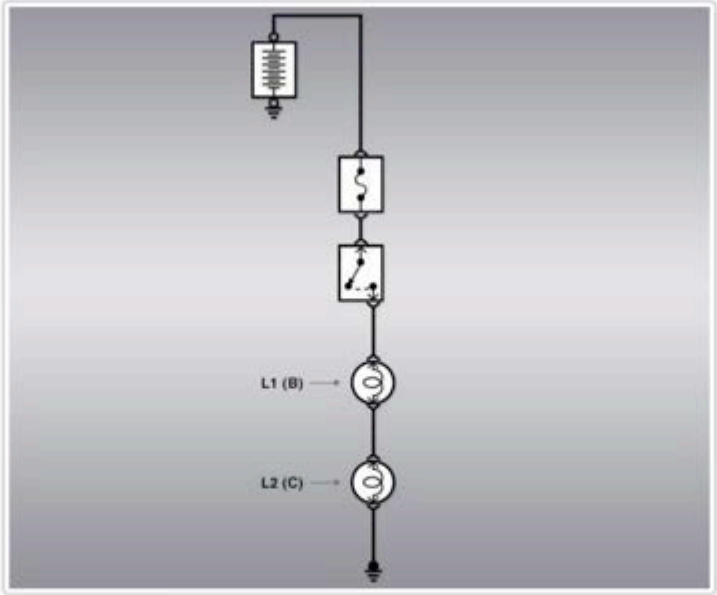
E1 – ILT - iPads



E1 – ILT - iPads

NO

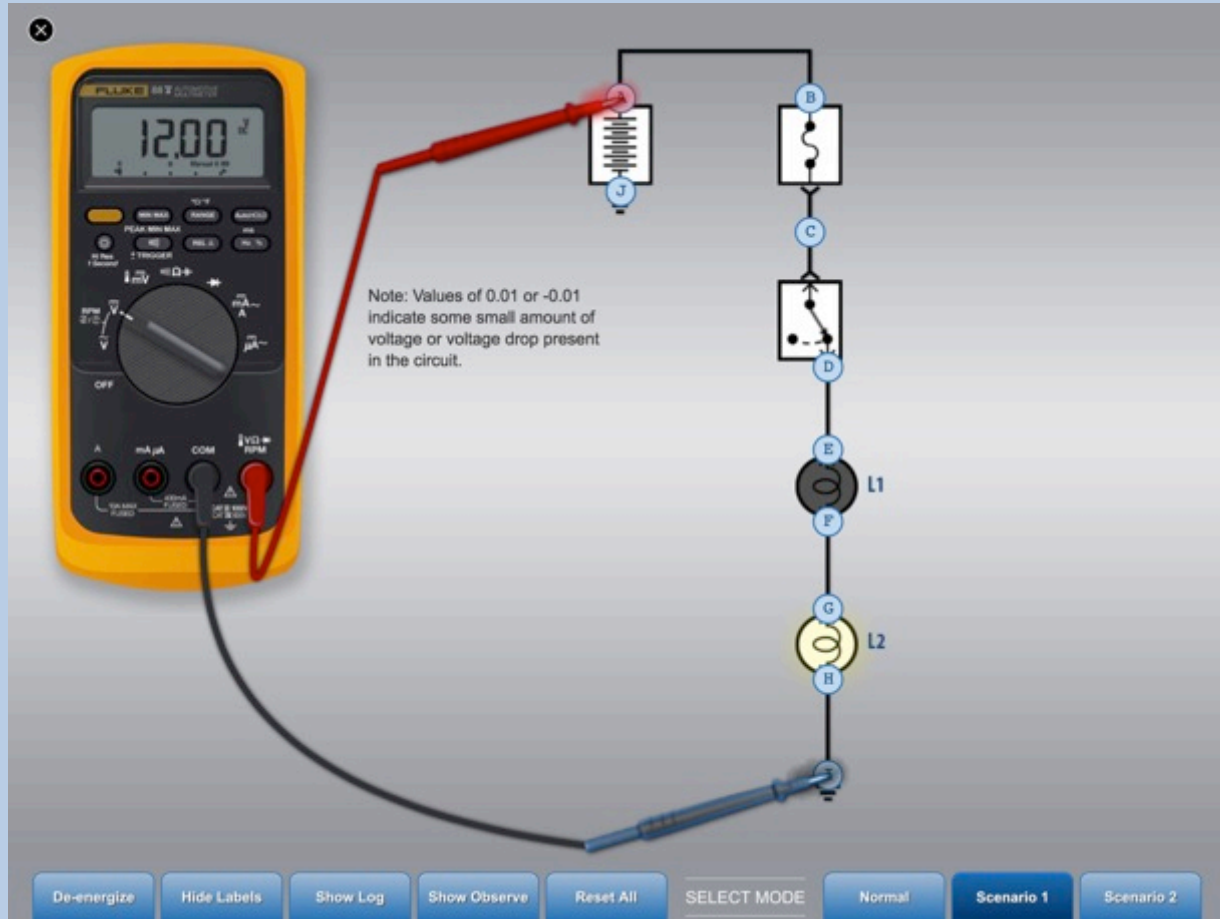
Setup the circuit as shown.



8. Measure source voltage. What is your measurement?

- 5 volts
- 6 volts
- 12 volts

E1 – ILT - iPads



E1 – ILT - iPads

Observations

Q1 Q2 Q3 Q4 Q5 Q6 Q7

Measure from ground side of bulb L2 to common ground. What is your measurement?

0.00V

0.01V

6V

12V

Select Check Answer.

Check Answer

De-energize Hide Labels Show Log Hide Observe Reset All SELECT MODE Normal Scenario 1 Scenario 2



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