

**Instructor's Guide to Accompany
Experiments in
*ELECTRICITY***

**for use with
Lab-Volt[®] EMS Equipment
Fifth Edition**

***Lab-Volt*[®]**

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Experiments in Electricity for use
with Lab-Volt, 5th Edition**
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NOTE to the INSTRUCTOR

This guide provides answers to the questions in the laboratory manual *Experiments in Electricity for Use with Lab-Volt® EMS Equipment*. Many answers were obtained by operating the equipment and taking readings with test instruments. Because readings can vary from one meter to another, measurement values should be used as guidelines and not as absolute. Every effort has been made to provide you, the instructor, with as accurate answers as possible.

SAFETY

1. Think
2. To prevent a current path from being established through the heart
3. 0.100–0.200 A
4. The heart vibrates at a high rate and does not pump blood to the rest of the body.
5. It causes the heart to contract and then relax.

EXERCISE 1**THE POWER SUPPLY**

11.

Terminals	Voltage (volts)	AC/DC	Fix/Var (F) (V)	Current (amps)
1-2	208	AC	F	15
1-3	208	AC	F	15
2-3	208	AC	F	15
1-N	120	AC	F	15
2-N	120	AC	F	15
3-N	120	AC	F	15
4-5	208	AC	V	5
4-6	208	AC	V	5
5-6	208	AC	V	5
4-N	120	AC	V	5
5-N	120	AC	V	5
6-N	120	AC	V	5
7-N	120	DC	V	8
8-N	120	DC	F	2

13. No

14. 208 VAC

17. Upscale

19.

Terminals	Voltage (volts)	Fix/Var (F) (V)
1-2	208	F
1-3	208	F
2-3	208	F
1-N	120	F
2-N	120	F
3-N	120	F
4-5	208	V
4-6	208	V
5-6	208	V
4-N	120	V
5-N	120	V
6-N	120	V

23. 140 VDC

25. Yes

27. Yes

28. Polarity-sensitive

31. 145 VDC

33. Fixed

36. 0.4 A

37. 0.4 A

Review Questions

1. 15 A

2. 208 VAC

3. Variable

4. Fixed

5. 120 VAC

6. 2 ADC

7. DC

8. 5 AAC

9. Yes

10. Yes

EXERCISE 2**OHM'S LAW**

3. 1.2 A

4. 144 W

6. 1.2 A

9. 2 A

10. 240 W

12. 2 A

Review Questions

1. 7.5 A

2. 900 W

3. 0.833 A

4. 144 Ω

5. 10 A

EXERCISE 3**SERIES CIRCUITS**3. 740 Ω 4. 740 Ω