

Basic Electricity for Irrigation Systems

Student Workbook

By Vince Nolletti and Robert D. von Bernuth

ISBN-13: 978-1-935324-38-6 ISBN-10: 1-935324-38-1

Developed
for the



June 2012

Table of Contents

Introduction & Safety	7
What Is Electricity?	7
Electrical Terms	8
Conductors.....	8
Volts.....	9
Current.....	9
Watts	10
Resistance.....	10
Load.....	12
Circuit	12
Transformers	12
Electrical Circuit Diagrams	12
Typical Irrigation Electrical Circuits	14
Wire Sizing	16
Wire Sizing Using Charts	16
Wire Sizing Using the Resistance Method	17
Temperature Effects on Resistance	17
How Pressure Affects Current.....	17
Wire Sizing Using Voltage Loss	18
Examples of Wire Sizing Using the Resistance Method	19
Practice Problem.....	21
Reference	23
Glossary of Terms.....	23
Please note: Glossary terms are <i>bold italic</i> the first time they appear in text.	
About IA.....	24
About the Foundation	24