



TABLE OF CONTENTS

Chapter 1 - Getting Started

| | |
|-----------------------------------------------------|------|
| Introduction | 1-2 |
| Conventions Used..... | 1-3 |
| Before you begin... .. | 1-4 |
| Step 1: Install Software | 1-5 |
| Step 2: Launch Programming Software..... | 1-7 |
| Step 3: Set Up User Account..... | 1-9 |
| Step 4: Create a Project..... | 1-10 |
| Step 5: Compile and Save Project..... | 1-16 |
| Step 6: Apply Power | 1-17 |
| Step 7: Establish PC to PLC Communications..... | 1-18 |
| Step 8: Write Project into PLC | 1-30 |
| Step 9: Place PLC in RUN Mode..... | 1-31 |
| Step 10: Test Project using Data View Monitor | 1-32 |
| Step 11: Y001 Output On? | 1-33 |
| Additional Training Resources..... | 1-34 |
| Overview of PLC System | 2-2 |
| Regulatory and Standards Compliance | 2-3 |
| CLICK PLUS PLC Units | 2-4 |
| Option Slot I/O Modules | 2-6 |
| Option Slot Intelligent Modules | 2-8 |
| Stackable I/O Modules | 2-9 |
| Power Budgeting..... | 2-13 |

| | |
|-----------------------------------------------------|-------|
| PLC Unit Specifications..... | 2-16 |
| Option Slot I/O Module Specifications..... | 2-31 |
| Option Slot Intelligent Module Specifications | 2-84 |
| Stackable I/O Module Specifications | 2-87 |
| Power Supply Specifications | 2-123 |
| Programming Software | 2-126 |
| Data Types, Memory, and Numbering System | 2-127 |
| PLC Operation | 2-131 |
| Accessories..... | 2-135 |

Chapter 3 - Installation and Wiring

| | |
|------------------------------------------------------------|------|
| Safety Guidelines | 3-2 |
| Introduction to the CLICK PLUS PLC Mechanical Design | 3-5 |
| Mounting Guidelines..... | 3-10 |
| Installing the CLICK PLUS PLC | 3-19 |
| Wiring Guidelines | 3-21 |
| I/O Wiring Checklist | 3-29 |
| System Wiring Strategies | 3-30 |
| LAN Provisioning over Bluetooth..... | 3-41 |
| Option Slot Analog I/O Configuration | 3-45 |
| High-Speed Input/Output Configuration | 3-52 |
| Setting Up and Using an SD Card | 3-57 |

Chapter 4 - PLC Communications

| | |
|-------------------------------------------------------------------|-----|
| Introduction..... | 4-2 |
| PLC Communication Ports Specifications | 4-3 |
| LED Status Indicators..... | 4-4 |
| C2-DCM Intelligent Module Communication Ports Specifications..... | 4-6 |
| 3 Steps to Using the CLICK PLC Communications | 4-7 |
| Typical Communication Applications..... | 4-8 |

W-1: USB Port Wiring 4-12

W-2: Com Port 2 (RS-232) Wiring..... 4-13

W-3: Com Port 1 (Ethernet) Wiring..... 4-17

W-4: Com Port 3 Wiring 4-19

W-5: C2-DCM Com Port RS-232 Wiring..... 4-20

W-6: C2-DCM Com Port RS-485 Wiring..... 4-21

C-1: USB Port Setup..... 4-22

C-2: Com Port 1 (Ethernet) Setup 4-23

C-3: Wireless LAN (WLAN) Setup..... 4-24

C-4: Bluetooth Setup 4-25

C-5: Com Port 2 Setup (Modbus RTU) 4-26

C-6: Com Port 2 Setup (ASCII)..... 4-27

C-7: Com Port 3 Setup (Modbus RTU) 4-28

C-8: Com Port 3 Setup (ASCII)..... 4-29

C-9: C2-DCM Com Port 1 or 2 Setup (ASCII) 4-30

C-10: C2-DCM Com Port 1 or 2 Setup (Modbus RTU)..... 4-31

P-1: Modbus Slave (Server) Programming 4-32

P-2: Modbus Master Programming (Modbus RTU) 4-36

P-3: Modbus Client (Modbus TCP) Programming 4-41

P-4: ASCII Receive Programming 4-47

P-5: ASCII Send Programming 4-50

Chapter 5 - Maintenance

PLC Maintenance..... 5-2

Chapter 6 - Troubleshooting

Troubleshooting Direction 6-2

PLC unit Troubleshooting..... 6-3

Bluetooth Troubleshooting 6-5

Wireless LAN Troubleshooting 6-6

Table of Contents

| | |
|-------------------------------------------------|------|
| USB Troubleshooting..... | 6-7 |
| SD Card Troubleshooting..... | 6-8 |
| Power Supply Troubleshooting..... | 6-9 |
| I/O Module Troubleshooting | 6-10 |
| Resetting to Factory Defaults..... | 6-14 |
| Troubleshooting Electrical Noise Problems | 6-15 |
| Error Codes | 6-16 |

Appendix A - Security Considerations for Control Systems Networks

| | |
|-----------------------------------------------------------|-----|
| Security Considerations for Control Systems Networks..... | A-2 |
|-----------------------------------------------------------|-----|