



## RFL Electronics Inc.

# TRAINING OUTLINE

### RFL 9300 OUTLINE Charge Comparison System

#### 1.0 THEORY:

- 1.1 Introduction / Theory of Operations:
- 1.2 Introduction:
  - 1.2.1 Product overview
- 1.3 Application:
  - 1.3.1 Two terminal
  - 1.3.2 Three terminal
  - 1.3.3 Features / Benefits
- 1.4 Brief Description
- 1.5 System Block and Wiring Diagrams

#### 2.0 EQUIPMENT FAMILIARIZATION:

- 2.1 Module overview:
  - 2.1.1 Configurations:
    - 2.1.1.1 With Single Channel Communications
    - 2.1.1.2 With Dual Channel Communications
    - 2.1.1.3 With Three terminal configuration
  - 2.1.2 Auxiliary Current Transformer (Aux. CT I/O)
  - 2.1.3 Phase Controller Module
  - 2.1.4 Communications Controller Module
  - 2.1.5 Supervisor Controller Module
  - 2.1.6 Display Controller Module
  - 2.1.7 Relay I/O module
  - 2.1.8 Alarm I/O Module
- 2.2 Relay Connections (AC and DC)
- 2.3 Front panel indicators (LEDs)
- 2.4 Display Module LED Display and keypad operation
- 2.5 RS-232 Connections and port Parameters

#### 3.0 QUESTIONS AND ANSWERS

#### 4.0 HANDS-ON TRAINING:

- 4.1 Programming Via Display Controller and RS-232 Port:
  - 4.1.1 Setting Guidelines:
    - 4.1.1.1 Display Controller
    - 4.1.1.2 Programming Mode – Parameters 12-33



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# **T R A I N I N G   O U T L I N E**

- 4.1.1.3 Read Mode – Parameters 1-58
- 4.1.1.4 Alarms
- 4.1.2 RS-232 Port:
  - 4.1.2.1 April Menu
  - 4.1.2.2 Password Protection
  - 4.1.2.3 Changing and Saving Settings
  
- 5.0 SEQUENCE OF EVENTS LOG:**
  - 5.1 Alarm Events menu
  - 5.2 Trip Events menu
  - 5.3 Oscillography Download to disk
  - 5.4 Graphing of Oscillography Events in Excel
  
- 6.0 LABORATORY ACCEPTANCE TESTS:**
  - 6.1 Bench testing
  - 6.2 Troubleshooting
  
- 7.0 FIELD COMMISSIONING**
  - 7.1 Troubleshooting
  - 7.2 Questions and Answers
  
- 8.0 EQUIPMENT LIST:**
  - 8.1 Overhead projector
  - 8.2 2 – RFL 9300s
  - 8.3 Power Supplies for 9300s
  - 8.4 AC Current Source (Dobles)
  - 8.5 Laptop PC
  
- 9.0 CONCLUSION**