

# Table of Contents

## 1 Introduction

1.1 Purpose and Scope of Document . . . . .	1-1
1.2 Organization . . . . .	1-1
1.3 Requirements Terminology . . . . .	1-1
1.4 Requirement Labeling Conventions . . . . .	1-2
1.4.1 Numbering of Requirement and Related Objects . . . . .	1-2
1.4.2 Requirement, Conditional Requirement, and Objective Identification . . . . .	1-2
1.5 Summary of Changes . . . . .	1-3

## 2 General Information

2.1 Product Description . . . . .	2-1
2.2 Operating Environment . . . . .	2-1
2.3 Sample Requirements . . . . .	2-1

## 3 Requirements

3.1 General Requirements . . . . .	3-1
3.1.1 Documentation . . . . .	3-1
3.1.2 Marking, Packaging and Shipping . . . . .	3-1
3.1.2.1 Product Marking . . . . .	3-1
3.1.2.2 Packing and Shipping . . . . .	3-1
3.1.3 Listing . . . . .	3-1
3.1.4 Quality Assurance . . . . .	3-2
3.1.4.1 Quality Program Analysis . . . . .	3-2
3.1.4.2 Product Quality Surveillance . . . . .	3-2
3.2 Physical and Mechanical . . . . .	3-3
3.2.1 Wire Termination . . . . .	3-3
3.2.2 Surge Protection . . . . .	3-3
3.2.2.1 Well Characteristics . . . . .	3-4
3.2.2.2 Protector Installation . . . . .	3-5
3.2.2.3 Contact Resistance . . . . .	3-5
3.3 Electrical Requirements . . . . .	3-5
3.3.1 Wire Termination . . . . .	3-5
3.3.2 Crosstalk . . . . .	3-6
3.3.2.1 Attenuation . . . . .	3-6
3.3.2.2 Crosstalk . . . . .	3-6
3.3.3 Dielectric Withstand . . . . .	3-7
3.4 Environmental Requirements . . . . .	3-7
3.4.1 Wire Termination . . . . .	3-7
3.4.2 Surge Protection . . . . .	3-8
3.4.2.1 Aging . . . . .	3-8
3.4.2.2 1kV/ $\mu$ s, 100A; Temperature/Humidity Cycling . . . . .	3-8
3.4.2.3 1A rms, 600-ft Loop; Temperature/Humidity Cycling . . . . .	3-9
3.4.2.4 Backup Device Integrity . . . . .	3-10

**4 Glossary**

**Appendix A: References**

**Requirement-Object Index**

## List of Figures

Figure 3-1	Powering Protectors for Temperature/Humidity Cycling . . . . .	3-10
Figure 3-2	Temperature/Humidity Cycling with Relative Humidity at 90 to 95% . . . . .	3-11



## List of Tables

Table 3-1	Maximum Average Attenuation . . . . .	3-6
Table 3-2	Near End Crosstalk (NEXT) . . . . .	3-6