ISO/IEC 22237-3:2021-10 (E)

Information technology - Data centre facilities and infrastructures - Part 3: Power distribution

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Terms,definitionsandabbreviatedterms 2
3.1 Terms and definitions 2
3.2 Abbreviated terms 6
3.3 Symbols 6

4 Conformance 7

5 Power supply and distribution within data centres 7
5.1 Functional elements 7
5.1.1 General 7
5.1.2 Power supply to the data centre 8
5.1.3 Power distribution within the data centre 9
5.2 Dimensioning of power distribution systems 10

6 Availability 11
6.1 General requirements 11
6.2 Power supply 11
6.2.1 Capacity planning 11
6.2.2 Availability of the utility supply 13
6.2.3 Power quality 14
6.2.4 Load presented to the utility supply 15
6.2.5 Equipment 15
6.2.6 Availability Class design options 17
6.3 Power distribution 23
6.3.1 Capacity planning 23
6.3.2 Power quality 24
6.3.3 Equipment 25
6.3.4 Availability Class design options 25
6.4 Incorporation of low voltage direct current distribution 29
6.5 Additional considerations 29
6.5.1 Residual current measurement 29
6.5.2 Lightning and surge protection 29
6.5.3 Segregation of power distribution cabling and information technology cabling 30
6.6 Emergency power off (EPO) 30
6.6.1 Requirements 30
6.6.2 Recommendations 30

7 Physical security 30
7.1 General 30
7.2 Access 30
7.2.1 Power supply 30
7.2.2 Power distribution 30
7.2.3 Attachment of unauthorized end-equipment 30

7.3 Internal environmental events 31
7.3.1 Power supply 31
7.3.2 Power distribution 31
7.4 External environmental events 31

8 Energyefficiencyenablementandpowerdistribution 31
8.1 General 31
8.2 Granularity Level 1 32
8.2.1 Requirements 32
8.2.2 Recommendations 33
8.3 Granularity Level 2 33
8.3.1 Requirements 33
8.3.2 Recommendations 33
8.4 Granularity Level 3 34
8.4.1 Requirements 34
8.4.2 Recommendations 34
8.5 Cabling infrastructure to support energy efficiency enablement 34

Bibliography 35