ISO/IEC TS 22237-4:2018-05 (E)

Information technology - Data centre facilities and infrastructures - Part 4: Environmental control

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Terms,definitionsandabbreviatedterms 1
3.1 Terms and definitions 1
3.2 Abbreviated terms 3

4 Conformance 3

5 Environmental control within data centres 3
5.1 General 3
5.1.1 Functional elements 3
5.1.2 Requirements 4
5.1.3 Recommendations 4
5.2 Environmental control of data centre spaces 5
5.2.1 Building entrance facilities 5
5.2.2 Personnel entrance(s) 5
5.2.3 Docking/loading bay(s) 5
5.2.4 Generator space(s) including fuel storage 5
5.2.5 Transformer space(s) 5
5.2.6 Electrical distribution space(s) 6
5.2.7 Telecommunication spaces(s) 6
5.2.8 Main distributor spaces(s) 6
5.2.9 Computer room space(s) and associated testing space(s) 6
5.2.10 Electrical space(s) 7
5.2.11 Mechanical space(s) 7
5.2.12 Control room space(s) 7
5.2.13 Office space(s) 7
5.2.14 Storage and holding space(s) 7
5.2.15 Accommodation of UPS equipment 7

6 Availability 8
6.1 General 8
6.2 Design options by space 8
6.2.1 General 8
6.2.2 Spaces excluded from the availability classification 9
6.2.3 Main distributor space(s) 9
6.2.4 Computer room space(s) and associated testing space(s) 10
6.2.5 UPS space 11
6.3 Environmental control system capacity planning with respect to expansion 12
6.4 Environmental control system capacity planning with respect to resilience 12

7 Physical security 12
7.1 General 12
7.2 Access 12

8 Energyefficiencyenablement 12
8.1 General 12
8.2 Measurement of temperature 12
8.2.1 External temperature 12
8.2.2 Computer room temperature 13
8.3 Measurement of relative humidity 14
8.3.1 External relative humidity 14
8.3.2 Computer room relative humidity 14
8.4 Measurement of air pressure 15
8.5 Coolant flow rates 15
8.6 Heat removal 15
8.7 Outside air 15
8.8 Provision of alarms 15
8.9 Measurement requirements by Granularity Level 15

Annex A (normative)Distributionmethodologiesfortemperature-controlledairin computer room space 17

Annex B (informative) Control system concepts 20

Bibliography 21