ISO/IEC 11801-6:2017-11 (E)

Information technology - Generic cabling for customer premises - Part 6: Distributed building services

CONTENTS

FOREWORD 5
INTRODUCTION 6
1 Scope 9
2 Normative references 9
3 Terms, definitions and abbreviated terms 10
3.1 Terms and definitions 10
3.2 Abbreviated terms 11
4 Conformance 11
5 Structure of the generic cabling system 12
5.1 General 12
5.2 Functional elements 12
5.2.1 Stand-alone structure 12
5.2.2 Overlay structure 13
5.3 General structure and hierarchy 13
5.3.1 Type A generic cabling 13
5.3.2 Type B generic cabling 14
5.4 Cabling subsystems 15
5.4.1 Campus and building backbone cabling subsystem 15
5.4.2 Service distribution cabling subsystem (Type A generic cabling) 15
5.4.3 Service distribution cabling subsystem (Type B generic cabling) 15
5.4.4 Design objectives 16
5.5 Accommodation of functional elements 16
5.5.1 General 16
5.5.2 Accommodation of service outlets 16
5.5.3 Accommodation of service concentration points 17
5.6 Interfaces 17
5.6.1 Equipment interfaces and test interfaces 17
5.6.2 Channels and links 18
5.7 Dimensioning and configuring 19
5.7.1 General 19
5.7.2 Type A generic cabling 21
5.7.3 Type B generic cabling 22
5.7.4 Service concentration point 23
5.7.5 Connecting hardware 23
5.7.6 Telecommunications rooms and equipment rooms 23
5.8 Relevant building services 23

6 Channel performance requirements 23
6.1 General 23
6.2 Environmental performance 25
6.3 Transmission performance 25
6.3.1 General 25
6.3.2 Balanced cabling 25
6.3.3 Optical fibre cabling 26
7 Link performance requirements 26
7.1 General 26
7.2 Balanced cabling 27
7.3 Optical fibre cabling 27
8 Reference implementations 27
8.1 General 27
8.2 Balanced cabling 27
8.2.1 General 27
8.2.2 Service distribution cabling (Type A generic cabling) 28
8.2.3 Service distribution cabling (Type B generic cabling) 31
8.2.4 Campus and building backbone cabling 31
8.3 Optical fibre cabling 31
8.3.1 Service distribution cabling (Type A generic cabling) 31
8.3.2 Service distribution cabling (Type B generic cabling) 32
8.3.3 Campus and building backbone cabling 32
9 Cable requirements 32
9.1 General 32
9.2 Balanced cables 32
9.3 Optical fibre cables 32
10 Connecting hardware requirements 32
10.1 General requirements 32
10.2 Connecting hardware for balanced cabling 32
10.2.1 General requirements 32
10.2.2 Electrical, mechanical and environmental performance 32
10.3 Connecting hardware for optical fibre cabling 33
11 Cords 33
11.1 Jumpers 33
11.2 Balanced cords 33
11.3 Optical fibre cords 33
Annex A (informative) Services and applications 34
A.1 Overview 34
A.2 Service sectors and services 34
A.2.1 Access control 34
A.2.2 Burglar alarms 35
A.2.3 Asset management 35
A.2.4 Audio-visual 35
A.2.5 Building information systems 35
A.2.6 Building well-being and structural sensor systems 35
A.2.7 Energy management 35
A.2.8 Environmental control 36
A.2.9 Fixed information technology services 36
A.2.10 Personal well-being 36
A.2.11 Shared information technology services 36
A.3 Service concentration point grid density 38
A.4 Cabling provision to service concentration points 39

Annex B (informative) Overlay 40
B.1 General 40
B.2 Functional elements 40
B.2.1 Type A generic cabling 40
B.2.2 Type B generic cabling 40
B.3 General structure and hierarchy 40
B.3.1 Type A generic cabling 40
B.3.2 Type B generic cabling 40
Annex C (informative) Optical fibre within the Type B service distribution cabling subsystem 41
C.1 Overview 41
C.2 Implementation recommendations 41
C.2.1 Channel performance 41
C.2.2 Reference implementation 41
C.2.3 Cables 42
C.2.4 Connecting hardware 42
C.2.5 Cords 42
Bibliography 43

Figure 1 – Relationships between the generic cabling documents produced by ISO/IEC JTC 1/SC 25 7
Figure 2 – Structure of Type A generic cabling 13
Figure 3 – Hierarchical structure of Type A generic cabling 14
Figure 4 – Structure of Type B generic cabling 14
Figure 5 – Hierarchical structure of Type B generic cabling 15
Figure 6 – Accommodation of functional elements 16
Figure 7 – Cabling without the use of an SO 17
Figure 8 – Accommodation of TEs (Type B generic cabling) 17
Figure 9 – Test and equipment interfaces (Type A generic cabling) 18
Figure 10 – Test and equipment interfaces (Type B generic cabling) 18
Figure 11 – Example of a Type A generic cabling system with combined BD and SD 20
Figure 12 – Connection of functional elements providing redundancy for Type A generic cabling 20
Figure 13 –Transmission performance of a service distribution channel 24
Figure 14 – Example of a system showing the location of cabling interfaces 25
Figure 15 – Link options 27
Figure 16 – Service distribution cabling models 29
Figure A.1 – Wireless application coverage area grid 38
Figure C.1 – Combined optical fibre backbone and service distribution channels 42

Table 1 – Maximum channel lengths for Type A reference implementations 21
Table 2 – Maximum channel lengths for Type B reference implementations 22
Table 3 – Service distribution channel length formulae in metres 30
Table A.1 – Supported wireless applications 37
Table A.2 – Recommended SCP grid dimensions 39
Table A.3 – Estimated SOs per SCP 39