

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