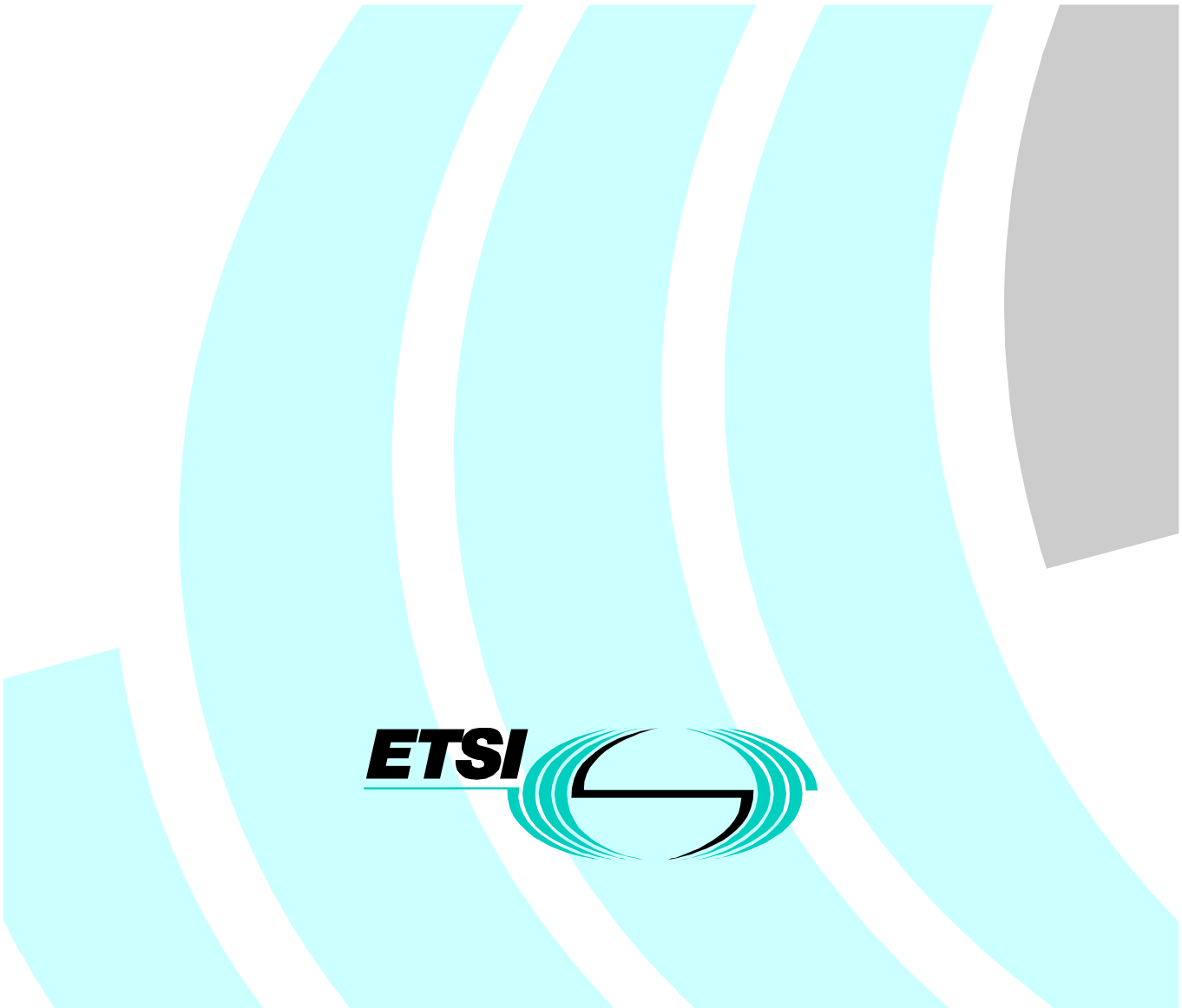
Final draft EN 301 169-1 V1.6.2 (1998-12)

European Standard (Telecommunications series)

Equipment practice;
Engineering requirements for outdoor enclosures;
Part 1: Equipped enclosures



Reference
DEN/EE-00001-1 (ato90k1c.PDF)

Keywords
equipment practice

ETSI

Postal address
F-06921 Sophia Antipolis Cedex - FRANCE

Office address
650 Route des Lucioles - Sophia Antipolis
Valbonne - FRANCE
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16
Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Internet
secretariat@etsi.fr
Individual copies of this ETSI deliverable
can be downloaded from
http://www.etsi.org

Contents

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available **free of charge** from the ETSI Secretariat. Latest updates are available on the ETSI Web server (http://www.etsi.org/ipr).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Equipment Engineering (EE), and is now submitted for the Voting phase of the ETSI standards Two-step Approval Procedure.

The present document is part 1 of a multi-part EN covering Equipment practice; Engineering requirements for outdoor enclosures as identified below:

Part 1: "Equipped enclosures";

Part 2: "Unequipped enclosures".

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

Introduction

The present document is part 1 of a two-part EN, aimed at setting out on a common basis, the installation engineering requirements for telecommunication practice, housing equipment forming part of a telecommunications network. Part 1 specifies the engineering requirements for outdoor enclosures and part 2 the engineering requirements for miscellaneous outdoor enclosures.

The present document shall be referred to when the supplier is asked for a complete solution.

The present document applies to the outdoor enclosures of all telecommunication equipment which forms part of a telecommunications network. The requirements for outdoor enclosures which this part lays down are based on the work of IEC Sub Committee 48D/WG 3 (see subclause 2.1).

Illustrative figures are contained in annex A.

1 Scope

The present document details requirements for outdoor enclosures which are supplied fully equipped. The outdoor enclosures may be used for housing telecommunication equipment, forming part of a telecommunication network, installed outdoors on the ground.

Requirements in the present document do not apply to outdoor enclosures or cabinets that can be entered by maintenance personnel.

The operating authorities should be given the data needed to help them plan infrastructure for outdoor applications. This includes equipment and traffic areas and installation transport (freight elevators, loading ramps, etc.) as well as locations of deployment for the outdoor equipment (streets, pavements, private areas, open public areas etc.).

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] ETS 300 119-1: "Equipment Engineering (EE); European telecommunication standard for equipment practice; part 1: Introduction and terminology".

[2] ETS 300 119-2: "Equipment Engineering (EE); European telecommunication standard for equipment practice; part 2: Engineering requirements for racks and cabinets".

[3] ETS 300 119-3: "Equipment Engineering (EE); European telecommunication standard for equipment practice; part 3: Engineering requirements for miscellaneous racks and cabinets".

[4] ETS 300 119-4: "Equipment Engineering (EE); European telecommunication standard for equipment practice; part 4: Engineering requirements for subracks in miscellaneous racks and cabinets".

[5] EN 301 169-2: "Equipment practice; Engineering requirements for outdoor enclosures; Part 2: Miscellaneous enclosures".

[6] IEC 61969-2: "Sectional specification; Co-ordination dimensions for cases and cabinets; Outdoor enclosures".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

cabinet: A free-standing and self-supporting enclosure for housing electrical and/or electronic equipment. It is usually fitted with doors and/or side panels which may or may not be removable.

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

D	outside depth
D_p	outside depth (plinth)
D_r	depth (top cover)
H	outside height
H_p	outside height (plinth)
W	outside width
W_p	outside width (plinth)
W_r	outside width (top cover)

4 Definition of outdoor enclosures

4.1 Features

Outdoor enclosures in the understanding of the present document are cabinets compliant with the following:

- intended to be used in open air conditions;
- for weather unprotected locations;
- for stationary use.

The present document does not address the aesthetic appearance of the enclosures.

The present document covers applications which are located on the ground, including:

- streets;
- pavements;
- private areas;
- open public areas.

4.2 Internal equipment

Outdoor enclosures in the understanding of the present document comprise fully equipped outdoor cabinets delivered by one supplier.

The contents of the enclosure are not part of the present document.

5 Co-ordination dimensions for outdoor enclosures

5.1 General

The co-ordination dimensions are to be understood as overall dimensions, distinguished between:

- cabinet/top cover;
- plinth.

The plinth is regarded as an option. The top cover is considered to be an integral part of the cabinet.

The co-ordination dimensions apply to outside dimensions and aperture dimensions as defined in ETS 300 119-3 [3], table 1. The principle of specifying values is based on general formulae, described in subclauses 5.2 to 5.4, and tables with a selection of the possible values. The tables shown in subclause 5.5 provide selections of required values.

To define appropriate co-ordination dimensions, the following basic assumption has been made:

- The formulae for outside dimensions in part 1 and part 2 are identical. This is to achieve the same outside dimensions for economic reasons.

5.2 Co-ordination dimensions

All dimensions are in millimetres (mm).

5.2.1 Outside Height (H)

$$H = 600 + n \times 200$$

NOTE: The variable n x 200 mm has been selected according to the IEC draft standard for outdoor enclosures IEC 61969-2 [6].

n = 0, 1, 2, 3, ….

5.2.2 Outside Width (W)

$$W = 600 + n \times 100$$

NOTE: The variable n × 100 mm has been selected according to the IEC draft standard for outdoor enclosures IEC 61969-2 [6].

n = 0, 1, 2, 3, ….

5.2.3 Depth (D)

$$D = 300 + n \times 100$$

NOTE: The variable n × 100 mm has been selected according to the IEC draft standard for outdoor enclosures IEC 61969-2 [6].

n = 0, 1, 2, 3, ….

5.3 Guidelines for plinth dimensions (optional)

The following dimensions are to be considered as guidelines. There are too many variables which depend on the specific application. Thus, standardized dimensions are not applicable.

5.3.1 Outside height (H_p)

HP = n x 25

5.3.2 Outside width (W_p)

WP = W ± n x 25

5.3.3 Outside depth (D_p)

DP = D ± n x 25

NOTE: n = 0, 1, 2.

It is recommended to extend 25 mm beyond each side of the enclosure footprint, which is an additional 50 mm beyond the cabinet width and depth. This is necessary to ensure sufficient cabinet mounting feet support by the plinth and to enable various features like mounting support brackets, AC cable conduits, fittings, etc.

If accommodation of outside AC cable conduits is necessary, the variable n × 25 mm may increase to maximum 150 mm at the entrance side by agreement between supplier and customer.

5.4 Top cover dimensions

Although the top cover is to be considered as an integral part of the outdoor cabinet, in particular with regard to the height dimension, the width and depth may need some more space beyond the max. cabinet cross section for various reasons.

5.4.1 Outside width (W_R)

WR = W + max. 50

5.4.2 Depth (D_R)

DR = D + max. 50

NOTE: The outside width and depth of the top cover may protrude a maximum of 25 mm on each side for the purpose of water outlets, gutters, air vents, dropping edges etc. Smaller elements mounted outside on covers such as door handles, hinges, etc. may also protrude within those limits.

5.5 Cabinet dimension values

The following outside cabinet dimension values are specified. They do not represent all of the values that may derived from the formulae in subclause 5.2 in order to limit cabinet size variants.

The preferred dimensions, shown in bold, should be selected whenever feasible.

H [mm] (see note)	**600**	800	**1000**	**1200**	**1400**	1600	**1800**	2000	2200	2400

W [mm] (see note)	600	**700**	**900**	1100	**1300**	1500	1700	**1900**	2100	2300	2500	2700	2900	3100

D [mm] (see note)	300	**400**	500	600	**700**	800	900	1000	1100	1200	1300

NOTE: Values may be decreased in steps of 25 mm, but this shall not be made a requirement.

Annex A (informative): Illustrative figures

The outdoor enclosure does not have to conform with the figures illustrated; only the dimensions specified have to be applied.

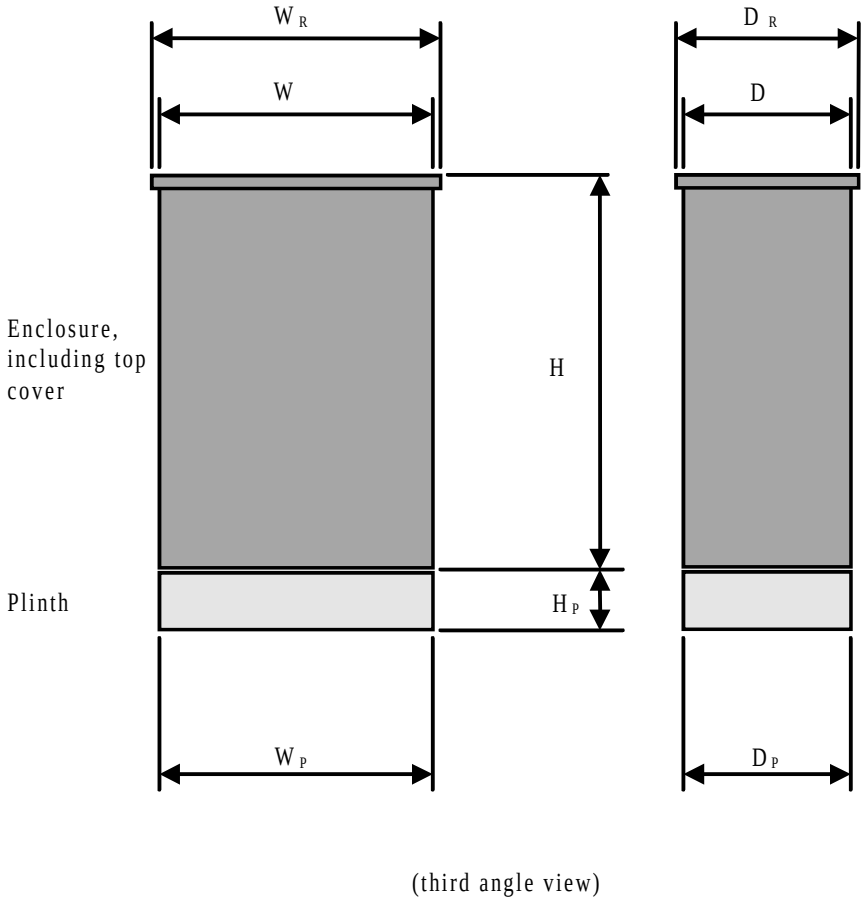


Figure A.1: Co-ordination dimensions of outdoor enclosures/basic views

Bibliography

The following material, though not specifically referenced in the body of the present document (or not yet publicly available), gives supporting information.

- EN 60439-6 (1995): "Low-Voltage Switchgear and Controlgear Assemblies; Part 6: General Requirements for Empty Enclosures".

History

Document history				
V1.5.3	March 1998	Public Enquiry	PE 9829:	1998-03-20 to 1998-07-17
V1.6.2	December 1998	Vote	V 9906:	1998-12-08 to 1999-02-05