

Preparation of documents used in electrotechnology —

Part 4: Location and installation documents

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British Standard

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National foreword

This British Standard has been prepared by Technical Committee GEL/3 and is the English language version of EN 61082-4:1996, *Preparation of documents used in electrotechnology — Part 4: Location and installation documents*, published by the European Committee for Electrotechnical Standardization (CENELEC). It is identical with IEC 1082-4:1996 published by the International Electrotechnical Commission (IEC).

Cross-references

Publication referred to	Corresponding British Standard
	BS 3939 <i>Graphical symbols for electrical power, telecommunications and electronics diagrams</i>
IEC 617-2:1983	Part 2:1985 <i>Symbol elements, qualifying symbols and other symbols having general application</i>
IEC 617-3:1983	Part 3:1985 <i>Conductors and connecting devices</i>
IEC 617-4:1983	Part 4:1985 <i>Passive components</i>
IEC 617-5:1983	Part 5:1985 <i>Semiconductors and electron tubes</i>
IEC 617-6:1983	Part 6:1985 <i>Production and conversion of electrical energy</i>
IEC 617-7:1993	Part 7:1985 <i>Switchgear, controlgear and protective devices</i>
IEC 617-8:1993	Part 8:1985 <i>Measuring instruments, lamps and signalling devices</i>
IEC 617-9:1993	Part 9:1985 <i>Telecommunications: switching and peripheral equipment</i>
IEC 617-10:1993	Part 10:1985 <i>Telecommunications: transmission</i>
IEC 617-11:1993	Part 11:1985 <i>Architectural and topographical installation plans and diagrams</i>
	BS EN 61082 <i>Preparation of documents used in electrotechnology</i>
EN 61082-1:1993 (IEC 1082-1:1991)	Part 1:1993 <i>General requirements</i>
EN 61082-2:1994 (IEC 1082-2:1993)	Part 2:1994 <i>Function-oriented diagrams</i>
EN 61082-3:1994 (IEC 1082-3:1993)	Part 3:1994 <i>Connection diagrams, tables and lists</i>

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 34, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

ICS 29.020

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English version

Preparation of documents used in electrotechnology Part 4: Location and installation documents

(IEC 1082-4:1996)

Etablissement des documents utilisés en
électrotechnique
Partie 4: Documents d'implantation et
d'installation
(CEI 1082-4:1996)

Dokumente der Elektrotechnik
Teil 4: Ortbezogene- und
Installationsdokumente
(IEC 1082-4:1996)

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European Committee for Electrotechnical Standardization
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Foreword

The text of the document 3B/147/FDIS, future edition 1 of IEC 1082-4, prepared by SC 3B, Documentation, of IEC TC 3, Documentation and graphical symbols, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61082-4 on 1996-03-05.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-12-01

Annexes designated “normative” are part of the body of the standard. Annexes designated “informative” are given for information only. In this standard, annex ZA is normative and annexes A and B are informative. Annex ZA has been added by CENELEC.

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1 General

1.1 Scope

This part of IEC 1082 provides rules for location and installation documents mainly used for installation work. It covers different systems and objects such as arrangement or installation drawings for site, buildings and equipment, installation drawings or diagrams for site or buildings, and drawings for location on or in components.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 1082. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 1082 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 617-2:1983, *Graphical symbols for diagrams — Part 2: Symbol elements, qualifying symbols and other symbols having general application.*

IEC 617-3:1983, *Graphical symbols for diagrams — Part 3: Conductors and connecting devices.*

IEC 617-4:1983, *Graphical symbols for diagrams — Part 4: Passive components.*

IEC 617-6:1983, *Graphical symbols for diagrams — Part 6: Production and conversion of electrical energy.*

IEC 617-7:1983, *Graphical symbols for diagrams — Part 7: Switchgear, controlgear and protective devices.*

IEC 617-8:1983, *Graphical symbols for diagrams — Part 8: Measuring instruments, lamps and signalling devices.*

IEC 617-9:1983, *Graphical symbols for diagrams — Part 9: Telecommunications: Switching and peripheral equipment.*

IEC 617-10:1983, *Graphical symbols for diagrams — Part 10: Telecommunications: Transmission.*

IEC 617-11:1983, *Graphical symbols for diagrams — Part 11: Architectural and topographical installation plans and diagrams.*

IEC 1082-1:1991, *Preparation of documents used in electrotechnology — Part 1: General requirements.*

IEC 1082-2:1993, *Preparation of documents used in electrotechnology — Part 2: Function-oriented diagrams.*

IEC 1082-3:1993, *Preparation of documents used in electrotechnology — Part 3: Connection diagrams, tables and lists.*

IEC 1346-1:1996, *Structuring principles and reference designation — Part 1: Basic rules.*

ISO 10209-1:1992, *Technical product documentation — Part 1: Terms relating to technical drawings: general and types of drawings.*

2 Definitions

For the purpose of this part of IEC 1082, the following definitions apply.

installation

- a) Activities of arranging facilities for electrical equipment and of placing and interconnecting it on site with the purpose of making it ready for functioning together.
- b) Result of these activities, e.g. the lighting system of a house.

NOTE 1 Installation may be part of the manufacturing process of pre-assembled units. Documents for these activities are not the subject of this standard.

NOTE 2 The term “installation” is used for the set-up of computer software. Documents for this activity are not the subject of this standard.

NOTE 3 The term “installation” is often used for an object (e.g., the lighting system of a house).

installation phase

period in the lifetime of a plant or system between delivery and commissioning of electrical equipment during which the installation work (erecting, installing, connecting, etc.) is done (see Figure 1)

NOTE It is considered, as far as the preparation of documents is concerned, that the lifetime begins when the plant or system is designed and planned.

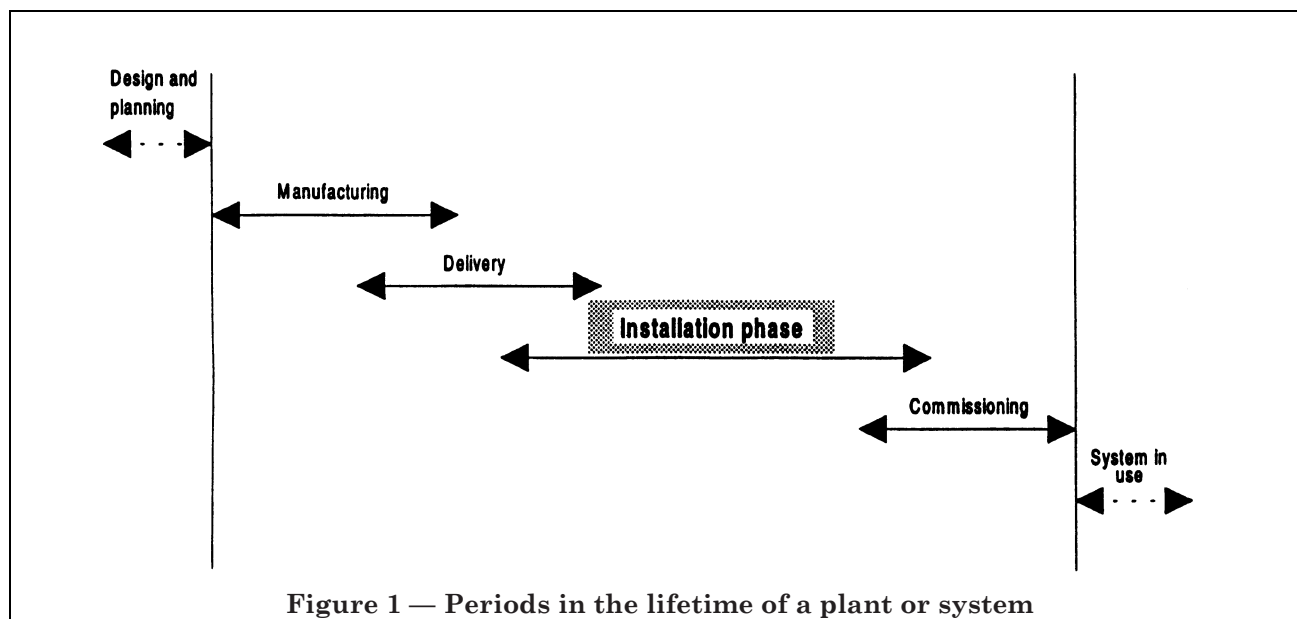


Figure 1 — Periods in the lifetime of a plant or system

installation documents

documents mainly supporting the activities in relation to the installation phase of a project further definitions of terms used in this standard are presented in IEC 1082-1

3 Electrical installations, documents and information

3.1 Kinds of electrical installations

Electrical installations can be divided into separate systems, e.g. lighting, power supply, etc. The systems can be installed in different objects like ships, buildings, mines, etc. (see Table 1). The rules and principles presented in this standard apply basically to all systems and are not restricted to any object. Specific requirements for the different fields of technology or different branches are not treated.

NOTE The definition of kinds of electrical installations or systems is not the subject of this standard.

Table 1 shows examples of systems and objects. Any combination of these is possible. The letters in the table represent examples of different installation projects.

Project A: Telecommunication and security system in a commercial building

Project B: Power and light system in the same commercial building as project A

Project C: Alarm system in a mine

Project D: Control and data system and air-conditioning system in an aircraft

Each system within one installation project should normally be documented separately, taking into account the complexity of the installation. Different systems may have different requirements concerning the information necessary for their installation. A combined presentation shall only be used if the different systems are clearly distinguishable from one another.

Table 1 — Examples of systems and objects

Object	System					
	Lighting	Power supply	Air conditioning ^a	Control and data	Telecommunication	Security, alarm
Networks						
Residential buildings						
Commercial buildings	B	B			A	A
Factories						
Power stations						
Hospitals						
Ships						
Aircraft			D	D		
Trains						
Railways						
Roads/streets						
Airports						
Mines						C
Ports/harbours						
Off-shore platforms						
Spacecraft						
NOTE 1 A system may contain sub-systems (e.g. a heating, ventilation and air-conditioning system consists of a control and power supply system).						
NOTE 2 Objects may be subdivided (e.g. a railway in a mine).						
^a Heating, ventilation and air conditioning systems.						

3.2 Installation documents

Installation documents may serve as a basis for:

- installing conduits, ducts, racks, etc.;
- laying conductors and cables;
- placing equipment;
- interconnecting equipment;
- inspecting the installation;
- etc.

They may also serve as a basis for activities outside the installation phase, e.g.:

- specification and calculation of material and work;
- design of equipment supports (e.g. foundations);
- design of other systems.

In practice supplementary documents may be required for such purposes as manufacturing, operation or maintenance, but they also contain information of importance for installation.

Function-oriented diagrams and connection diagrams, tables and lists are covered in IEC 1082-2 and IEC 1082-3. Parts lists are under consideration as a separate part of this standard.

Rules for the preparation of location documents are presented in clause 4 of this standard.

NOTE Location documents may be combined with other documents, e.g. function-oriented or connection documents.

Which kinds of document are to be prepared and supplied depends on the information required for the specific task or installation project according to its size and complexity. This is subject to agreement between the parties involved.

3.3 Information for installation purposes

For each installation activity a certain amount of information is required. This shall be provided by different kinds of installation documents and supplementary documents to the extent agreed upon, e.g. in a contract.

The amount of information to be presented in the documents may differ considerably according to the complexity of the system to be installed, the availability of established rules, regulations, standards, customer stipulations, etc., or the skill of the installation personnel.

Table 2 shows examples of information needed for different activities, and presents those kinds of documents in which this information may be given.

NOTE Rules and guidelines for communication between parties involved in a project concerning documentation for plants and systems, including the content of information required in documents, are under consideration.

The table may be used as a checklist when contractors are negotiating about the documents necessary for a certain installation project. A certain document to be delivered shall contain the minimum content of information, indicated in the table below by “O”, unless otherwise agreed. Information indicated in the table by “⊕” (additional information) may become mandatory if so agreed. The table can be supplemented by further columns or rows, covering the requirements for a given purpose or project.