

High-voltage prefabricated switchgear and controlgear assemblies — Voltage presence indicating systems

The European Standard EN 61958:2001 has the status of a
British Standard

ICS 13.260; 29.130.10; 29.260.99

National foreword

This British Standard is the official English language version of EN 61958:2001. It is identical with IEC 61958:2000.

The UK participation in its preparation was entrusted to Technical Committee PEL/17/1, High-voltage switchgear and controlgear, which has the responsibility to:

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 26, an inside back cover and a back cover.

The BSI copyright date displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments

© BSI 8 April 2002

ISBN 0 580 39302 X

EUROPEAN STANDARD

EN 61958

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2001

ICS 13.260;29.130.10;29.260.99

English version

**High-voltage prefabricated switchgear and controlgear assemblies -
Voltage presence indicating systems
(IEC 61958:2000)**

Ensembles préfabriqués d'appareillages
haute tension -
Systèmes indicateurs de présence de
tension
(CEI 61958:2000)

Fabrikfertige Hochspannungs-
Schaltanlagen -
Spannungsanzeigesysteme
(IEC 61958:2000)

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European Committee for Electrotechnical Standardization
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Foreword

The text of document 17C/253/FDIS, future edition 1 of IEC 61958, prepared by SC 17C, High-voltage prefabricated switchgear and controlgear assemblies, of IEC TC 17, Switchgear and controlgear, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61958 on 2001-01-01.

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) 2002-03-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2004-01-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative and annex ZB is informative.
Annexes ZA and ZB have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61958:2001 was approved by CENELEC as a European Standard without any modification.

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HIGH-VOLTAGE PREFABRICATED SWITCHGEAR AND CONTROLGEAR ASSEMBLIES – VOLTAGE PRESENCE INDICATING SYSTEMS

1 General

1.1 Scope

This International Standard is applicable to voltage presence indicating systems (VPIS) incorporated in a.c. switchgear and controlgear covered by IEC 60298 or IEC 60466.

Voltage presence indicating systems are devices used to provide information to operators about the voltage condition of the main circuit of the switchgear in which they are installed.

The indication of VPIS alone is not sufficient to prove that the system is dead: if operating procedures make it mandatory, relevant voltage detectors according to IEC 61243 shall be used.

This standard is also applicable to phase comparators specifically designed for use with VPIS.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60050(601), *International Electrotechnical Vocabulary (IEV) – Chapter 601: Generation, transmission and distribution of electricity – General*

IEC 60060-1, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60068-2-14, *Environmental testing – Part 2: Tests – Test N: Change of temperature*

IEC 60068-2-75, *Environmental testing – Part 2: Tests – Test Eh: Hammer tests*

IEC 60298, *A.C. metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV*

IEC 60466, *A.C. insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 38 kV*

IEC 60529, *Degrees of protection provided by enclosures (IP code)*

IEC 60694, *Common specifications for high-voltage switchgear and controlgear standards*

IEC 61243-1, *Live working – Voltage detectors – Part 1: Capacitive type to be used for voltages exceeding 1 kV a.c.*

IEC 61243-2, *Live working – Voltage detectors – Part 2: Resistive type to be used for voltages of 1 kV to 36 kV a.c.*

IEC 61243-5, *Live working – Voltage detectors – Part 5: Voltage detecting systems (VDS)*

2 Service conditions

VPIS are designed to be used under the same service conditions as the switchgear in which they are installed, as defined in clause 2 of IEC 60694.

3 Definitions

For the purpose of this International Standard the following definitions apply.

3.1

voltage presence indicating system (VPIS)

device used to indicate the presence of operating voltage

NOTE 1 VPIS may also be used in conjunction with phase comparators.

NOTE 2 VPIS are not designed to detect reliably the absence of voltage: for this purpose, only voltage detectors or voltage detecting systems (VDS according to IEC 61243-5) should be used.

3.2

coupling element

part of the VPIS connected to the main circuit which transmits to the indicating element a signal related to the voltage condition of this circuit. Different physical principles can be used for the coupling element, for example, capacitive, resistive, optical, etc.

3.3

indicating element

part of the VPIS which gives a visual indication depending on the input signal received from the coupling element

3.4

connecting point

point of the indicating element where a suitable phase comparator may be connected

3.5

phase comparator

apparatus which indicates the phase relationship between the connecting points of two VPIS

3.6

nominal voltage (U_n)

suitable approximate value of voltage used to identify a system or device

[IEV 601-01-21, modified]

NOTE 1 The nominal voltage of the VPIS is the parameter associated with its clear indication. VPIS may have one nominal voltage U_n , or a nominal voltage range. Limit values of the nominal voltage range are named U_{nmin} and U_{nmax} .

NOTE 2 In this standard, the nominal voltage of a three-phase system is the normal phase-to-phase voltage. The nominal voltage of a single-phase system is the normal voltage between lines.

3.7

voltage limiting device

protective device that limits the voltage at the output terminal of the coupling element in the case of insulation failure