

**BRITISH STANDARD****BS 142 :  
Part 0 : 1992**

# Electrical protection relays

## Part 0. General introduction and list of Parts

Relais de protection électrique  
Partie 0. Introduction générale et liste de  
parties

Elektrische Schutzrelais  
Teil 0. Allgemeine Einführung und Verzeichnis  
der Teile der Norm

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## Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the General Electrotechnical Standards Policy Committee (GEL/-) to Technical Committee GEL/5, upon which the following bodies were represented:

Association of Consulting Engineers  
British Railways Board  
Electricity Supply Industry in England and Wales  
Electronic Components Industry Federation  
Transmission and Distribution Association (BEAMA Limited)

This British Standard, having been prepared under the direction of the General Electrotechnical Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 31 January 1992

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Committee reference GEL/5  
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### Amendments issued since publication

Amd. No.	Date	Text affected

## Foreword

This Part of BS 142 has been prepared under the direction of the General Electrotechnical Standards Policy Committee. It supersedes BS 142 : Part 0 : 1982 which is withdrawn.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

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## Introduction

### 1 General introduction

This revision collects together all the requirements pertinent to protection relays, both all-or-nothing type relays and measuring type relays, and caters both for the general requirements of the principal types and the particular requirements of specialized types of protection relays.

The arrangement into Sections has been chosen to facilitate future revision or amendment and to take account of new international standards published by the International Electrotechnical Commission (IEC) in this area. It incorporates the changes in concepts that have been made in the field of protection relays since 1982, and is based upon, and is in technical agreement with, the appropriate Parts of IEC Publication 255 'Electrical relays', although it contains supplementary matter that at present has no international counterpart.

All other Parts of IEC Publication 255 not specific to protection relays that are implemented as British Standards form, or will form, Parts of BS 5992 and these may have identical texts to the IEC standards. Some Parts of BS 5992 specify requirements applicable to all relays and some have scopes overlapping the field of protection relays; these Parts of BS 5992 are therefore referred to in this standard where relevant.

This Part lists the other Parts and Sections of BS 142 and also gives the relevant Parts of BS 5992 that are required by the user of protection relays. Further Sections of BS 142 will be issued as quickly as possible after publication of future international texts in this field, together with corresponding supplementary Sections where necessary. As new Sections of the standard are issued, the list of Parts and Sections will be updated to give the current position.

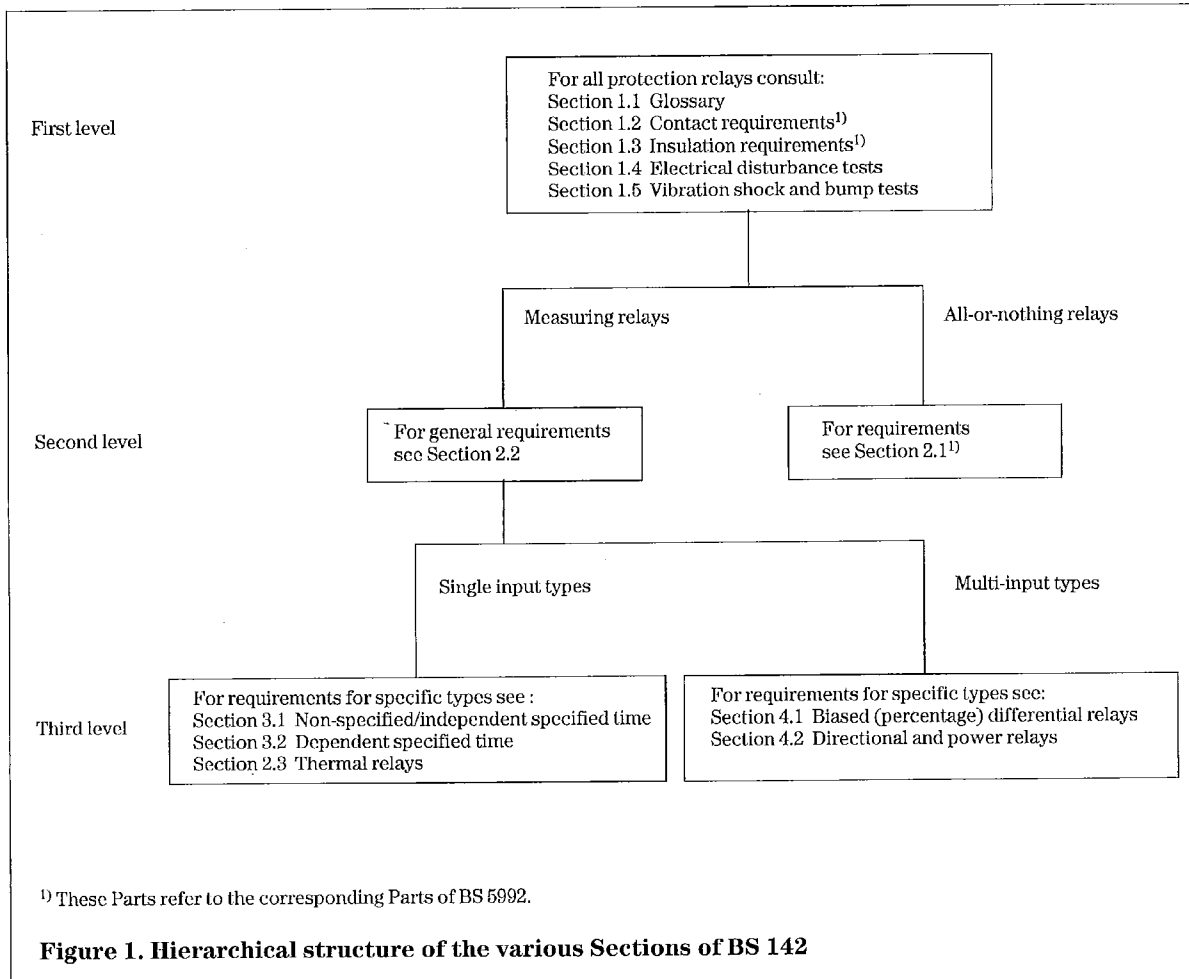
Figure 1 showing the hierarchical structure of BS 142 is included to help the user select the Sections of this standard relevant to his particular requirements.

### 2 Classification of relay standards

Some Parts of IEC Publication 255 are designated first level documents, i.e. they cover the requirements of all relays within the scope of that publication. Other Parts of IEC Publication 255 are designated lower level documents, i.e. they are concerned with the requirements of a family of relays (second level) and of smaller and more specialized groups of relays within such a family (third level). For consistency, these designations have been adopted in this standard.

### 3 List of Parts and separately published Sections

Part/Section no.	Title
Part 1	Information and requirements for all protection relays
Section 1.1	Glossary of protection relay terms
Section 1.2	Specification for contact performance
	NOTE 1. This refers to BS 5992 : Part 1.
Section 1.3	Specification for insulation testing
	NOTE 2. This refers to BS 5992 : Part 3.
Section 1.4	Electrical disturbance tests
Subsection 1.4.1	1 MHz burst disturbance tests
Subsection 1.4.2 <sup>1)</sup>	Electrostatic discharge tests
Subsection 1.4.3 <sup>1)</sup>	Radiated electromagnetic field disturbance tests
Subsection 1.4.4 <sup>1)</sup>	Fast transient disturbance tests
Section 1.5	Vibration, shock, bump and seismic testing
Subsection 1.5.1	Specification for vibration tests (sinusoidal)
Subsection 1.5.2	Specification for shock and bump tests
Subsection 1.5.3 <sup>1)</sup>	Seismic tests
Part 2	Requirements for the principal families of protection relays
Section 2.1	Specification for all-or-nothing electrical protection relays
	NOTE 3. This refers to BS 5992 : Part 2.
Section 2.2	Specification for general requirements for measuring relays used for protection
Section 2.3	Specification for thermal electrical relays
Part 3	Requirements for single input energizing quantity relays
Section 3.1	Specification for single input energizing quantity measuring relays with non-specified time or independent specified time
Section 3.2	Specification for single input energizing quantity measuring relays with dependent specified time
Part 4	Requirements for multi-input energizing quantity relays
Section 4.1	Specification for biased (percentage) differential relays
Section 4.2	Specification for directional relays and power relays
<sup>1)</sup> Will be identical to international standard, which is in preparation.	

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**Publication(s) referred to**

- BS 5992    Electrical relays  
          Part 1 Specification for contact performance of electrical relays  
          Part 2 Specification for all-or-nothing electrical relays  
          Part 3 Specification for the insulation testing of electrical relays

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BSI  
2 Park Street  
London  
W1A 2BS

BSI  
Linford Wood  
Milton Keynes  
MK14 6LE