



BS 4941 : Part 4 : 1977
IEC 292-4 : 1975

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Specification for

**Motor starters for voltages up to
and including 1000 V a.c. and 1200 V d.c.**

**Part 4. Reduced voltage a.c. starters,
two-step auto-transformer starters**

Spécification des démarreurs de moteur pour les tensions inférieures
et égales à 1000 V en courant alternatif et 1200 V en courant continu
Partie 4. Démarreurs sous tension réduite en courant alternatif,
démarreurs par autotransformateurs à deux étapes

Spezifikation für Motorstarter für Spannungen bis und einschließlich
1000 V Wechselstrom und 1200 V Gleichstrom
Teil 4. Motorstarter zum Einschalten unter verminderter Spannung,
zweistufige Anlasstransformatoren

British Standards Institution

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Foreword

This British Standard has been prepared under the direction of the Power Electrical Engineering Standards Committee. It is identical with Publication 292 'Low-voltage motor starters', Part 4 'Reduced voltage a.c. starters : Two-step auto-transformer starters' published by the International Electrotechnical Commission (IEC). It supersedes those requirements of BS 587 : 1957 'Motor starters and controllers' that relate to reduced voltage a.c. starters, two-step auto-transformer starters for voltages up to and including 1000 V a.c.

Cross references. For each of the following references to other IEC Publications that are given in the text, there is an equivalent British Standard; these are as listed below:

Reference to IEC Publication

IEC Publication 76 : 1967 Power transformers

IEC Publication 144 : 1963 Degrees of protection of enclosures for low-voltage switchgear and controlgear

IEC Publication 158 Low-voltage controlgear
Part 1 : 1970 Contactors

IEC Publication 292 Low-voltage motor starters
Part 1 : 1969 Direct-on-line (full voltage) a.c. starters

IEC Publication 292-1A : 1971 First supplement to Publication 292-1

IEC Publication 337 Control switches (low-voltage switching devices for control and auxiliary circuits, including contactor relays)
Part 1 : 1970 General requirements

Additional information. In 4.8.1 reference is made to a specified-time all-or-nothing relay as a type of automatic change-over device.

The term 'all-or-nothing relay' is defined (number 103 2103) in Group 03, Relay terminology, of Part 1 'Terms common to power, telecommunications and electronics' of BS 4727 'Glossary of electrotechnical, power, telecommunication, electronics, lighting and colour terms' as:

'A relay having no specified accuracy and intended to be energized by a quantity having a value either higher than that at which it picks up or lower than that at which it drops out.'

Furthermore, a specified-time all-or-nothing relay is an all-or-nothing relay of which one or more of the times that characterize it, e.g. the operating time, are subject to specification.

Equivalent British Standard

BS 171 : 1970 Power transformers

BS 5420 : 1977 Degrees of protection of enclosures of switchgear and controlgear for voltages up to and including 1000 V a.c. and 1200 V d.c.

BS 5424 Controlgear for voltages up to and including 1000 V a.c. and 1200 V d.c.
Part 1 : 1977 Contactors

BS 4941 Motor starters for voltages up to and including 1000 V a.c. and 1200 V d.c.

Part 1 : 1973 Direct-on-line (full voltage) a.c. starters

Appendix C to BS 4941 : Part 1 Co-ordination with short-circuit protective devices

BS 4794 Control switches (switching devices, including contactor relays, for control and auxiliary circuits up to and including 1000 V a.c. and 1200 V d.c.)

Part 1 : 1973 General requirements