

Terminal markings for electrical machinery and apparatus

Part 6: Lead colours for rotating electrical machinery

ICS 01.070; 29.160.01

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee PEL/2, Rotating electrical machinery, upon which the following bodies were represented:

Association of Consulting Engineers
Association of Electrical and Mechanical Trades
Association of Manufacturers of Power Generating Systems
Electrical Insulation Association
Electricity Association
GAMBICA Association Limited
Institution of Incorporated Executive Engineers
Ministry of Defence – UK Defence Standardization
Rotating Electrical Machines Association (BEAMA Ltd.)
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Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
<hr/>	
1 Scope	1
2 A.C. generators and motors	1
3 D.C. generators and motors	2
<hr/>	
Bibliography	7
<hr/>	
Figure 1 — Single-phase winding, both ends of phase winding and auxiliary winding brought out	3
Figure 2 — Permanently-connected single-phase main and auxiliary windings	3
Figure 3 — Two-terminal, single-phase machine	3
Figure 4 — Three-phase winding, permanently delta-connected	4
Figure 5 — Three-phase winding, permanently star-connected	4
Figure 6 — Three-phase winding, both ends of each phase brought out	4
Figure 7 — Armature, shunt and series windings	5
Figure 8 — Armature, shunt, series and compole windings	5
Figure 9 — Two lead d.c. machine	5
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Foreword

This part of BS 822 has been prepared by Technical Committee PEL/2. Together with BS EN 60034-8:2002, it supersedes BS 822-6:1964 which is withdrawn.

The 1964 edition of BS 822-6 gave terminal markings and loose lead colours to be used in small-power rotating electrical machines. BS EN 60034-8:2002 now specifies terminal markings for all rotating electrical machines. Consequently, in this new edition of BS 822-6 all text relating to terminal marking has been deleted and only the colour code for loose lead identification has been retained.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 7 and a back cover.

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1 Scope

This standard applies to small-power electric motors and generators, both a.c. and d.c., that are supplied with loose leads and without terminals. It details lead colours to be used when the leads are identified by their colour.

2 A.C. generators and motors

The colour marking of leads given in this clause may be used as an alternative or in addition to the use of symbols. This is particularly applicable to machines conforming to BS 5000-11, when they are fitted with loose leads. The lead colours to be used are as follows.

NOTE The symbols, which are in accordance with BS EN 60034-8:2002, are those which would be applicable if terminals were provided.

a) Single-phase 4-lead (see Figure 1)

U1	Red	Z1	Yellow
U2	Black	Z2	Blue

b) Single-phase 3-lead (see Figure 2)

U1	Red	Z	Yellow
U2	Black		

c) Single-phase 2-lead (see Figure 3)

U1	Red or Black	U2	Black
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d) 3-phase 3-lead (see Figure 4 and Figure 5)

U	Red	W	Blue
V	Yellow		

e) 3-phase 6-lead (see Figure 6)

U1	Red	V2	Brown
U2	Black	W1	Blue
V1	Yellow	W2	White

3 D.C. generators and motors

The colour marking of leads given in this clause may be used as an alternative or in addition to the use of symbols. This is particularly applicable to machines conforming to BS 5000-11, when they are fitted with loose leads. The lead colours to be used are as follows.

NOTE The symbols, which are in accordance with BS EN 60034-8:2002, are those which would be applicable if terminals were provided.

a) Where all the leads are brought out (see Figure 7 and Figure 8)

Armature (including composites, where fitted)

A1	Red
A2	Black

Series field

B1	Yellow
B2	Brown

Shunt field

F1	White
F2	Blue

b) Where only two leads are brought out (see Figure 9)

A1	Red or Black
A2	Black

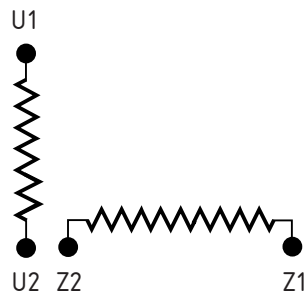


Figure 1 — Single-phase winding, both ends of phase winding and auxiliary winding brought out

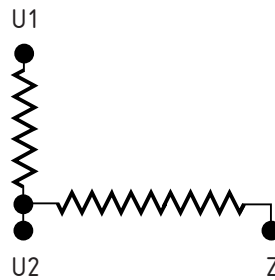


Figure 2 — Permanently-connected single-phase main and auxiliary windings



Figure 3 — Two-terminal, single-phase machine

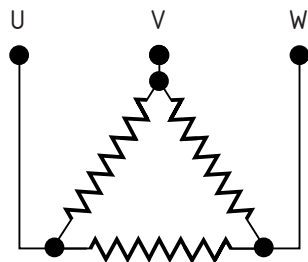


Figure 4 — Three-phase winding, permanently delta-connected

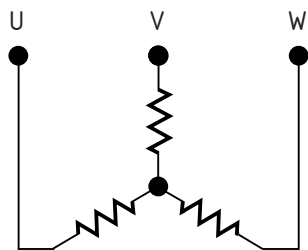


Figure 5 — Three-phase winding, permanently star-connected

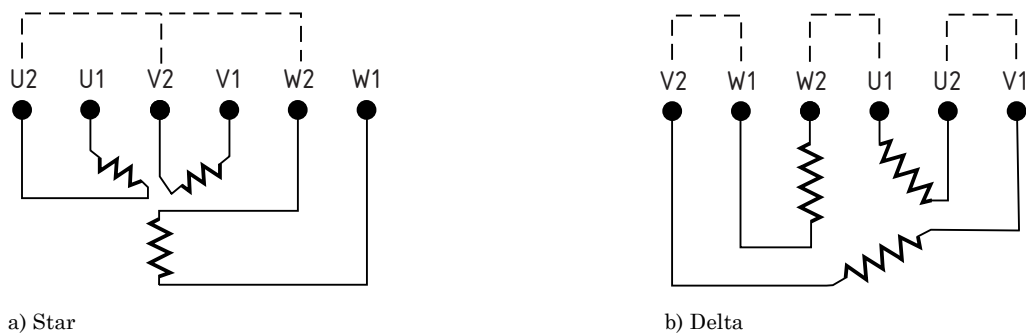
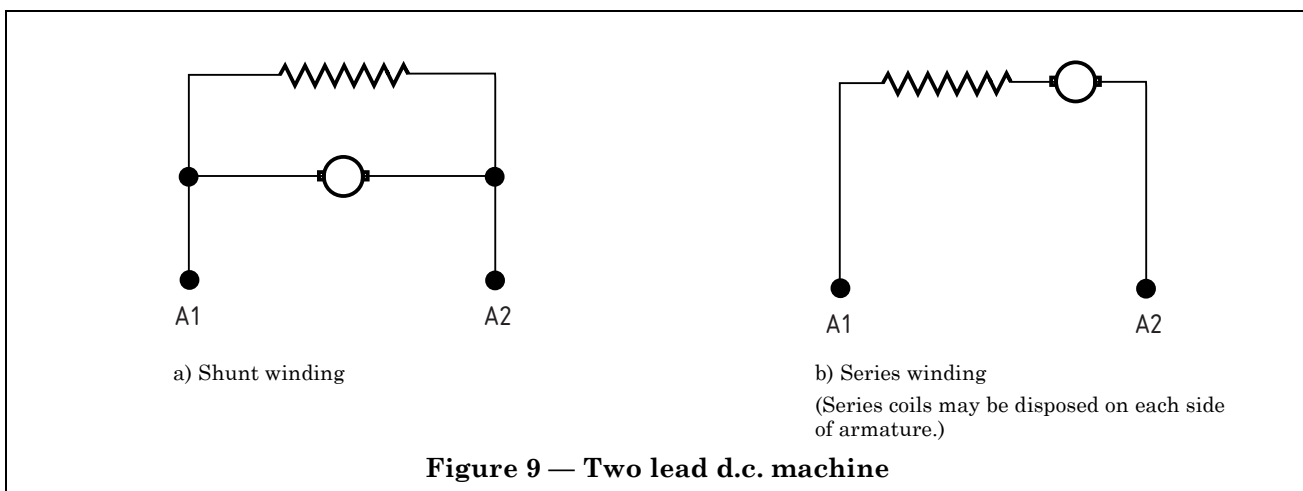
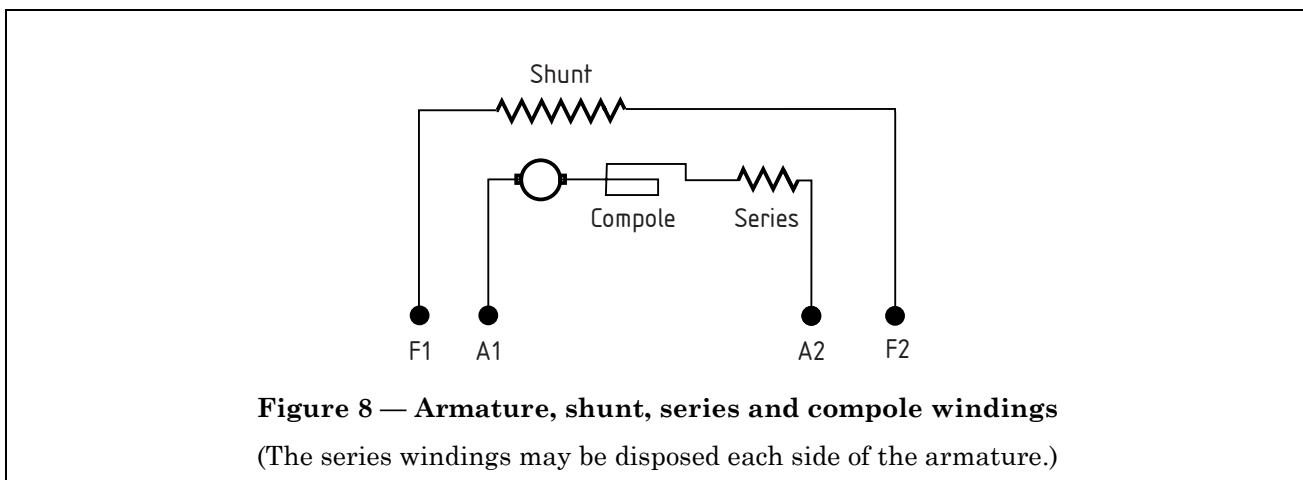
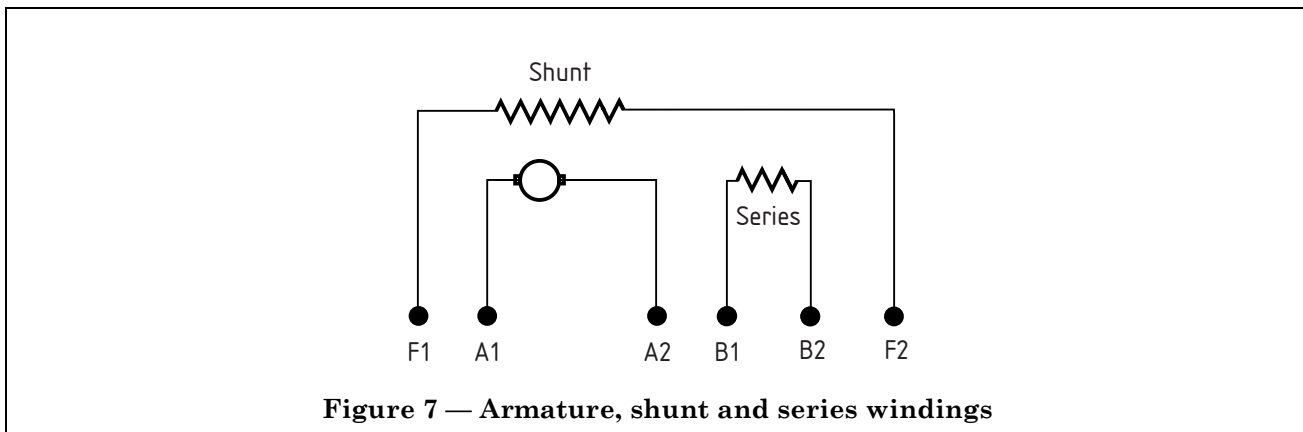


Figure 6 — Three-phase winding, both ends of each phase brought out



Bibliography

BS 5000-11:1973, *Specification for rotating electrical machines of particular types or for particular applications — Part 11: Small-power electric motors and generators.*

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