

With regard to single-phase installations the colour change is viewed as a natural progression to the colours already used in flexible cables connected to these systems. However there is concern over the use of the colour blue as a neutral in three-phase systems. To enable a safe transition to the harmonised colours -

- The period for the introduction of the new colours in the UK is 2 years to enable the industry to adjust.
- There is a requirement in three-phase systems to clearly identify both sets of cables with alphanumeric marking where the new colours are used in an alteration or addition to an existing installation.
- Warning notices must be fixed at the appropriate distribution board or consumer unit stating that the installation has two different versions of wiring colours.
- The BSI and IEE have set up a committee L/12 that will co-ordinate publicity to bring the change to the attention of the industry.
- For safety, all operatives must be made aware of the changes.



Further Information

Further information can be obtained from the IEE website www.iee.org/cablecolours and the ECA at www.eca.co.uk or from the NICEIC website www.niceic.org.uk. The information in this article has been produced using material from the IEE.



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Technical Bulletin

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Fixed wiring colour change

SUMMER 2004

After long debate changes have been made to the colour identification of conductors in fixed wiring systems. These are specified by Amendment 2 to BS7671:2001 (the IEE Wiring Regulations 16th Edition) – introduced on 31 March 2004. The new 'harmonised' colours will bring the UK more closely in line with Europe.

Timescales

Installation work commencing on site after **31 March 2004** may use the new or existing cable colours but not both. Installations commencing after **31 March 2006** are required to use the new colours.

Summary of Colour Change

The cable colour changes are summarised as follows

Single-phase installations

The fixed installation colours of red phase and black neutral are replaced by brown phase and blue neutral, respectively. These are the colours that have been used in appliance flexible cables for many years. The protective conductor is still identified by the colour combination green-and-yellow.

Existing

Cannot be used after 31 March 2006



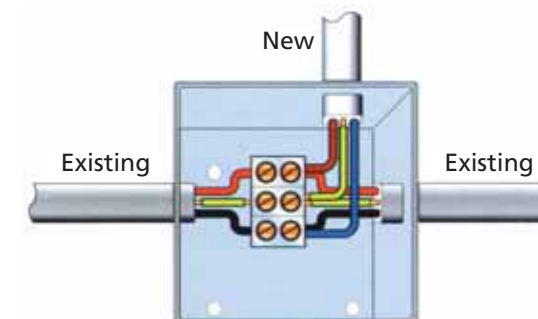
New (harmonised)

May be used from 31 March 2004



Extensions or alterations to existing single-phase installations

Alterations or additions to a single-phase installation do not require marking at the interface between old and new cabling providing that they are correctly coloured. However a warning notice must be fixed at the distribution board or consumer unit, like this:



CAUTION

This installation has wiring colours to two versions of BS 7671.

Great care should be taken before undertaking extension, alteration or repair that all conductors are correctly identified.

Three-phase Installations

For three-phase cables the phase colours are brown, black and grey, instead of red, yellow and blue, respectively, and the neutral colour is now blue instead of black. Again the protective conductor is identified by the colour combination green-and-yellow. Alternatively all three of the phase conductor cores may be the same colour and marked L1, L2 and L3 at the terminations.

Existing

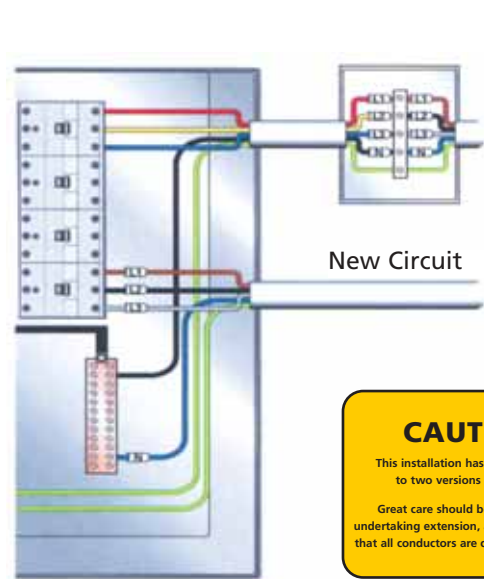


New (harmonised)



Extensions or alterations to existing three-phase installations

For alterations or extensions to three-phase installations, old and new cables should be marked at the interface L1, L2, L3 for the phases and N for the neutral. The marking should be made to both the new and old cables and is preferred to the use of coloured tape. A caution notice is again required at the distribution board



CAUTION
This installation has wiring colours to two versions of BS 7671.
Great care should be taken before undertaking extension, alteration or repair that all conductors are correctly identified.

Schematic of alternative interfaces

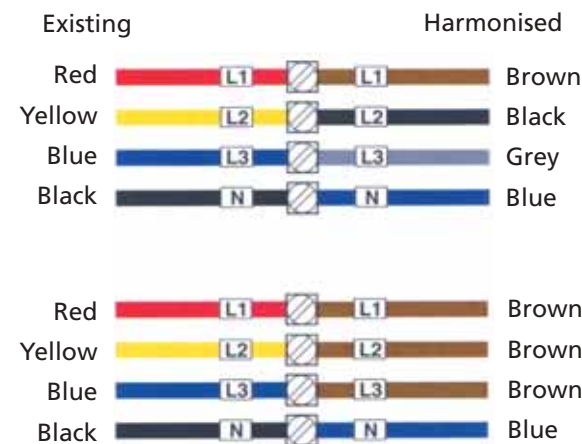


TABLE 51 - Identification of conductors

Function	Alpha numeric	Colour
Protective conductors		Green-and-yellow
Functional earthing conductor		Cream
a.c. power circuit⁽¹⁾		
Phase of single-phase circuit	L	Brown
Neutral of single-or three-phase circuit	N	Blue
Phase 1 of three-phase circuit	L1	Brown
Phase 2 of three-phase circuit	L2	Black
Phase 3 of three-phase circuit	L3	Grey
Two-wire unearthed d.c. power circuit		
Positive of two-wire circuit	L+	Brown
Negative of two-wire circuit	L-	Grey
Two-wire earthed d.c. power circuit		
Positive (of negative earthed) circuit	L+	Brown
Negative (of negative earthed) circuit ⁽²⁾	M	Blue
Positive (of positive earthed) circuit ⁽²⁾	M	Blue
Negative (of positive earthed) circuit	L-	Grey
Three-wire d.c. power circuit		
Outer positive of two-wire circuit derived from three-wire system	L+	Brown
Outer negative of two-wire circuit derived from three-wire system	L-	Grey
Positive of three-wire circuit	L+	Brown
Mid-wire of three-wire circuit ⁽²⁾⁽³⁾	M	Blue
Negative of three-wire circuit	L-	Grey
Control circuits, ELV and other applications		
Phase conductor	L	Brown Black Red Orange Yellow Violet Grey White Pink, or Turquoise
Neutral or mid-wire ⁽⁴⁾	N or M	Blue

NOTES: (1) Power circuits include lighting circuits. (2) M identifies either the mid wire of a three wire d.c. circuit, or the earthed conductor of a two wire earthed dc circuit. (3) Only the middle wire of three-wire circuits may be earthed. (4) An earthed PELV conductor is blue.



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