

Fact Sheet on Amendment No 1 to SS CP 5 : 1998 Code of Practice for Electrical Installations

What is CP 5 and what does it cover?

The Singapore Standard CP 5 : 1998 Code of Practice for Electrical Installations (“SS CP5”) covers the design, selection, erection, testing and inspection of fixed electrical installations for facilities such as residential premises, commercial buildings and factories at voltages up to 1,000 V a.c..

All electrical installations taking either or single-phase or three phase supply must comply to SS CP 5. In most residential and small electrical facilities in Singapore, single-phase (230V) electricity supply to an electrical equipment or appliance is normally provided through a wall outlet. Three-phase (400V) electricity supply is usually required for larger electrical equipment with higher power demand used in larger landed properties, offices, commercial and industrial premises.

SS CP 5 is a mandatory requirement for electrical installations under the Electricity (Electrical Installations) Regulations and is regulated by the Energy Market Authority (EMA).

What does the Amendment No 1 to CP 5 cover?

The Amendment No 1 to CP 5 covers the following two main sections:

1. Requirements of new cable colour code for fixed wiring in electrical installations









Colours are used to distinguish the different cables -- “**Live**”, “**Neutral**” and “**Earth**”. For example, under the new colour code, the red, yellow and blue are changed to brown, black and grey for ‘**Live**’ cables. For ‘**Neutral**’ cables, the colour is changed from black to blue.

The change is to align Singapore’s practice with the British Standard BS 7671: 2008 - Requirements for electrical installations, IEE Wiring Regulations, 17th edition. SS CP 5 was based on the 16th edition of IEE Wiring Regulations.

2. Installation requirements for Solar Photovoltaic (PV) Power Supply Systems

This new section has been added to support the growing emphasis for renewable energy to support a greener environment, and to meet the increasing popularity of solar PV power supply systems. These requirements are to ensure that the systems are installed safely and will help solar PV power supply system users in the connection to the electrical grid.







What is the current cable colour code?

Old Cable Colour Code		
	Single Phase	Three Phase
Phase Conductor (Line)	 Red or  Yellow or  Blue	 Line 1 Red  Line 2 Yellow  Line 3 Blue
Neutral Conductor	 Black	
Protective Conductor (Earth)	 Green-and-Yellow	

What is the new cable colour code?

From **1 March 2009**, the new colour cables may be used for all new fixed electrical installations, including the addition and alteration of electrical wiring to existing fixed electrical installations.

From **1 March 2011**, only the new colour cables are allowed to be used.

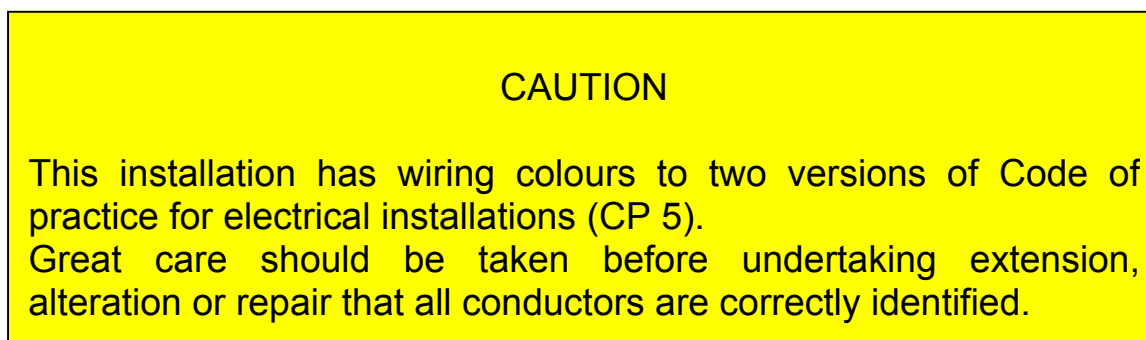
New Cable Colour Code		
	Single Phase	Three Phase
Phase Conductor (Line)	 Brown	 Line 1 Brown  Line 2 Black  Line 3 Grey
Neutral Conductor	 Blue	
Protective Conductor (Earth)	 Green-and-Yellow	

What should the public do?

There is no need to rewire existing fixed electrical installations.

The public has to be aware of the colour code change for the fixed electrical installations and that new electrical appliances are already aligned to the new colour code.

When new cable colour code is used for the new circuits that are added to existing electrical installations, the Licensed Electrical Worker (LEW) will have to do the necessary colour marking on the cables and also place a caution notice (shown below) on the relevant distribution boards.



What is the transition period?

SS CP 5 Amendment No. 1 is effective from **1 March 2009**.

A transition period of two years is given for the change to the new colour code.

During this period, both new and existing colour cables may be used for fixed electrical installations.

From **1 March 2011**, only the new colour cables are allowed for use in new electrical installations and electrical additions and alteration works.

Why is Amendment No 1 to CP 5 important?

1. *Aligning Singapore's requirements to international practices and meeting renewable energy needs*

The adoption of the new cable colour code will align Singapore's practices to international practices. The British standard, which the Singapore's standard is aligned to, has revised and standardised its cable colours with the EU according to the new code. Other countries in the Middle East and Hong Kong have also implemented the change in the cable colours.

In addition, the implementation of the installation requirements of PV supply systems will widely promote the use of renewable energy in Singapore and standardise the installation practices. This will help Singapore grow its clean technology industry and achieve its climate change goals.

2. *Enhances competitiveness of enterprises*

Singapore relies substantially on cable imports. To ensure a steady supply of cables at competitive prices, it is necessary to adopt the new cable colour code which many major countries have adopted. As less countries use the existing colour code, abiding to it may result in a shortage ultimately, causing higher prices for the existing colour cables. The change will help local businesses safeguard against price fluctuations and delivery delays, thus enhancing competitiveness.

Solar PV power supply systems are becoming more popular in Singapore with worldwide concerns over the sustainability of fossil fuels. Standardisation and compliance to installation requirements will help ensure consistency of practices locally. This will ensure that local companies can install the systems safely and also enable them to service both local and overseas customers.

Who uses Amendment No 1 to SS CP 5?

This amendment will be used by contractors, consultants, installers and the regulatory authority in the electrical industry.