

snags & solutions

A PRACTICAL GUIDE TO EVERYDAY ELECTRICAL PROBLEMS

Neutrals at consumer units and distribution boards

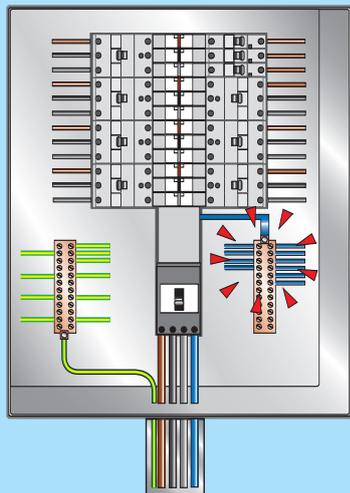
snag **29**

Neutrals at consumer units and distribution boards

Neutral conductors must be clearly identified by position or labelling at a distribution board or consumer unit.

Snag 29

Sometimes it is found that the neutral conductors of outgoing circuits have been indiscriminately connected at a consumer unit or a distribution board. This can lead to danger if, as a result, an incorrect neutral is disconnected



As announced in previous issues of Connections, Snags and Solutions, the NICEIC's most requested problem solving book, is back with two volumes, covering commonly-encountered electrical installation problems.

Part 1 addresses 50 problems relating to earthing and bonding, whilst Part 2 covers 55 problems relating to wiring systems (as well as giving guidance on the application of the new wiring colours). Each book costs only £15. Other volumes of Snags and Solutions may be published in due course.

To give an indication of the value of these books, a snag and its solution is being covered in each successive issue of Connections. The previous (Spring) issue addressed a snag from Part 1 relating to supplementary bonding of equipment in bathrooms. This issue addresses a snag from Part 2 relating to neutrals at consumer units and distribution boards.

Solution

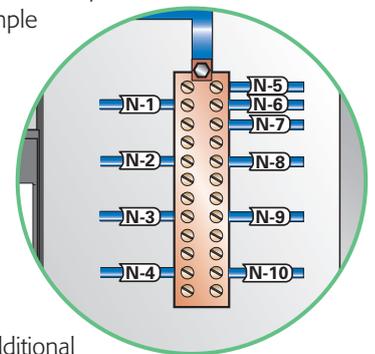
Neutral conductors must be so arranged or marked that they can be identified for inspection, testing, repair or alteration of the installation (Regulations 314-01-04 and 514-01-02 refer).

In a single-phase installation, neutral conductors will normally be connected to the neutral bar in sequence. For example the neutral conductor of the first final circuit will be connected to the first terminal, the second to the second etc., so that additional marking would not be needed.

In a three-phase and neutral installation, identification of neutral conductors can be difficult if the arrangement of terminals on the neutral bar does not correspond exactly with that of the phase terminals. This can lead to danger if, as a result, an incorrect neutral is disconnected. In such a case, additional marking of the conductors by, for example, numbering, would be needed.

Some manufacturers provide a neutral bar chart in addition to the chart for protective devices.

A clear indication of the neutral connections is necessary and should always be provided when the layout of the neutral bar differs from the layout of the protective devices.



Regulation 314-01-04

Where an installation comprises more than one final circuit, each final circuit shall be connected to a separate way in a distribution board. The wiring of each final circuit shall be electrically separate from that of every other final circuit, so as to prevent the indirect energising of a final circuit intended to be isolated.

Regulation 514-01-02

As far as is reasonably practicable, wiring shall be so arranged or marked that it can be identified for inspection, testing, repair or alteration of the installation.