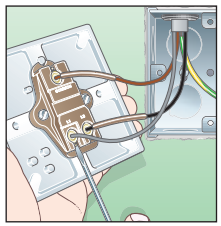
Two-way switching

Changing a two-way switch is similar to a one-way, but there will normally be three cores to the cables, coloured brown, black and grey (old colours: red, blue and yellow). The terminals will be labelled COM (Common), L1, L2 and possibly L3.



1 Isolate the circuit and double-check the power is off with a voltage tester/meter. Remove the faceplate from the existing switch and disconnect the cable cores. Note which colour goes to which terminal on the existing switch and then transfer them to the corresponding terminals on the new switch.

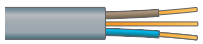
Safety first

Working on multi-way installations

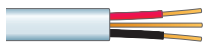
Be very cautious when opening up multi-way switches. The lights they control should all take their power from the same circuit, but if yours are incorrectly wired and take power from different circuits, there will still be live cables at each switch position when one circuit is isolated. Be aware also that there is more than one method of wiring multi-way lights. If yours do not match the system shown here, that doesn't necessarily mean they are unsafe.

Understanding cable colours

Electricity flows to all appliances in the home by means of cable, which is usually hidden behind walls, ceiling and floor. Cable contains conductors, called cores, set side by side within a thick white or grey PVC outer sheath. The core colours in these cables have changed, and all electrical installation work that has commenced since 31 March 2006 has used the new colours. In new two-core-and-earth cable, the live or phase core is separately insulated in brown sheath (in old cable the colour is red); the neutral core is in blue sheath (in old cable, neutral is black). The new colours are the same as those that have been used in flex for many years. The earth core or protective conductor is bare and runs between them. Note also that for switch drops the blue (or black) wire may be used for switched live, rather than neutral. Where this is the case, it is usually identified by wrapping it with a brown (old colour: red) sleeve.

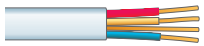


Two-core-and-earth cable



Old colours

Three-core-and-earth cable



Old colours

Carrying out electrical work

You don't need to be a qualified electrician to replace a light switch. You can do this sort of minor electrical work without notifying your Local Authority Building Control Department, but the work must be done in accordance with the standards in the current Building and Electrical Regulations and you should consider having the work checked by a competent electrician to make sure it is safe.

Ideal for the job

Continuity/resistance/ voltage tester (or meter)

This is a battery-powered tool for testing whether a cable is part of a continuous circuit; for measuring the resistance of a component or circuit; and for testing for AC or DC voltages.

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recycle Please remember to recycle this leaflet when you have finished, you could even compost it as the leaflet has been printed using vegetable based inks.

A summary of this leaflet can be made available in Braille, large print and audio cassette. Please ask for details or email us at diversity@b-and-q.co.uk

Every effort has been made to ensure that the instructions given in this leaflet are accurate and will enable you to do the job safely and successfully. Please follow instructions carefully and seek expert advice in the event of difficulty.

All information correct at time of going to print. HOWT0104

how to...
replace a light switch

tools	materials
• voltage tester/meter • screwdrivers • side cutters	• suitable replacement plateswitch (1- or 2-way) • green/yellow earth sleeving • brown PVC electrical tape or sleeving • screws

Light switches are functional items, and many of the cheaper ones look quite plain and unappealing. However, you can choose from a wide range of decorative switches that will add a pleasing finishing touch to any room. If you need to replace a damaged switch, take the opportunity to improve its appearance with a more attractive fitting.

Types of light switch

Wall-mounted light switch fittings (known as plateswitches) may contain one, two, three or even more individual switches (or gangs) to allow control of several separate light fittings from one position. In addition, versions are available to allow two, and multi-way switching. There's a huge range of fittings available, from functional plastic fittings to stylish metallic finishes.

Dimmers allow you to raise and lower the light level. You can choose from a simple rotary dimming control that you turn on and raise the brightness before turning back off. There is also a rotary dial or one with a switch and a dimmer control that clicks on/off at your pre-selected brightness, so that you don't have to readjust the light level every time you turn on the light. They are wired in much the same way as a standard switch. Where space is limited, or for an unobtrusive installation, narrow architrave switches can be fitted into door frames. Switches generally require a 16mm-deep mounting box, although some dimmers may need deeper boxes.
Ceiling-mounted pull-cord switches are required in bathrooms or shower rooms, where you are not allowed to have a wall-mounted switch within reach of anyone using the bath or shower.


Single plastic


Double brushed aluminium


Triple brass


Single brass


Pull-cord switch


Narrow architrave switches


Push on/off with rotary dimmer


Dimmer single plastic

Selecting the right sort of switch

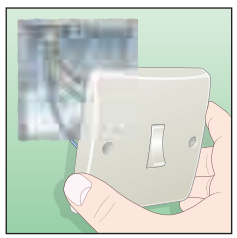
First you need to check whether you need a one-way or two-way switch. Two-way switches are used where more than one switch is connected to the same light (e.g. at either end of a room, or top and bottom of stairs) or to control a light from more than one place. If you are fitting a dimmer, you need to buy one suitable for the total load being switched (Wattage rating) and the type of light (e.g. lights containing transformers may require a special dimmer. Fluorescent lights are not normally dimmable).

Safe electrics

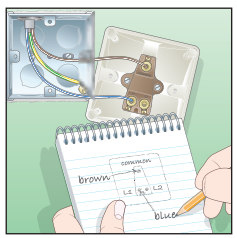
Before you start any kind of electrical work isolate the circuit by removing the circuit fuse from the consumer unit – put it in your pocket so it can't be replaced by accident – or switch off the relevant circuit breaker and lock it if you can. Double-check the circuit is dead with a voltage tester/meter (see IDEAL FOR THE JOB) for a lighting circuit (on a main power circuit you need to use a socket tester). Never take risks with electrical safety.

Replacing a one-way switch

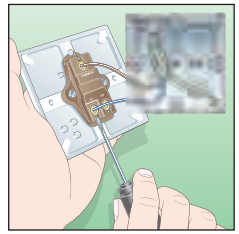
If a switch is damaged, or you simply want to update your fittings, replacing it is a fairly simple task. Just be sure to write down exactly how the old switch was connected before you disconnect it, and connect the new switch in the same way. Keep hold of the original switch fixing screws – you may have to reuse them, since modern fittings come with metric-sized screws and existing fittings may have imperial threads.



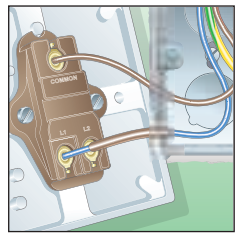
1 Isolate the circuit and confirm that the power is off with a voltage tester/meter. Then unscrew the switch faceplate and pull it forward so that you can see the connections behind. The terminals will normally be marked something like L1, L2 and COM.



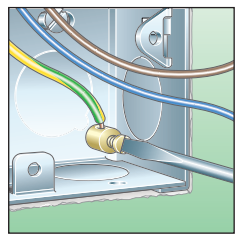
2 Draw a clear diagram showing the colour and number of wires connected to each terminal, then release the terminal screws and pull the cores from the terminals. If the earth core is properly insulated in green/yellow sleeving and connected to the mounting box, leave this attached.



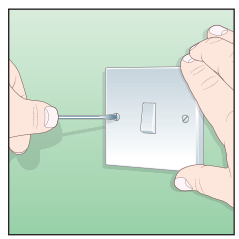
3 Connect the cores to the correct terminals of the new switch, tighten the screws and check that they are clamping the cable cores firmly by giving the wires a slight tug.



4 If there isn't one already, fit a length of brown pvc sleeving over the blue core (or the black core if your wiring is in the old colours) to indicate that it is a switched live (rather than neutral).



5 If not already fitted, run green/yellow PVC sleeving over the bare earth core of the incoming cable and connect it to the earthing terminal of the mounting box. If using a metal switch, be sure to earth the switch faceplate as well (see EARTHING LIGHT SWITCHES, below).



6 Recheck that each connection is secure, then push the cable back into the mounting box and fit the faceplate.

Earthing light switches

The commonest combination is a metal mounting box and plastic faceplate, in which case the earth core or cores must be connected to the earthing terminal of the mounting box. If you have a metal faceplate you must also run a short length of earth core (cut from two-core and earth cable and insulated with green/yellow sleeving) between the earthing terminals on the faceplate and the mounting box. If both mounting box and faceplate are plastic, there's no need to earth them, but it's a good idea to run green/yellow sleeving over the bare cores and clamp their exposed ends with a connector; that way if you decide to change to metal fittings in the future you will be able to earth them safely and easily.