

## SAFE TO TOUCH

**G**AS ENGINEERS SHALL ensure risks associated with electric shock – i.e., a voltage potential between metallic components of a gas installation (gas appliance, including decorative covers and particularly installation pipework) and a person coming into contact with that component – is mitigated (Clause 8.3 of BS 6891 refers).

Making an assumption that a given part of an installation, particularly installed metallic pipework is safe to touch, i.e., not electrically 'live' is not sufficient to safeguard the well-being of the gas user(s) or engineer. Before making physical contact with any metallic surfaces which can readily conduct electrical current, gas engineers should prove that they are electrically 'dead' by using a suitable test instrument or at the most basic level, by use of an indicator such as a single-pole voltage indicator.

A single-pole voltage indicator is a hand-held 'non-contact' type voltage detector that is easy to use and portable (see Figure 1). To use, the tip of the detector is placed on the conductive part in question. Presence of voltage will cause the lamp within the detector to illuminate warning the gas engineer before making contact.



Figure 1. Typical single-pole voltage indicator

**IMPORTANT:** These indicators can only detect the presence of a voltage, but not its absence and so must not be relied upon as the sole means of proving that electrical equipment has been isolated and is safe to work on. They also cannot provide a measured value which would require a dedicated test instrument.

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*BS 6891: 2015 Specification for the installation and maintenance of low pressure gas installation pipework of up to 35 mm (R1<sup>1</sup>/<sub>4</sub>) on premises.*

Some commercially available non-contact voltage indicators also provide an audible warning when a voltage is detected.

Regardless of their relative simplicity, non-contact voltage indicators must be used in accordance with the manufacturer's instructions. Generally, their use comprises of:

- ❖ A visual check of the indicator's condition before every use to ensure it isn't damaged and is suitable for use.
- ❖ If batteries are removed between uses, insert the required batteries (typically 2 x AAA).
- ❖ Turn on (where an on/off button is provided) and check against a known 'live' source, e.g., back of plug top as shown in Figure 2 - note the illuminated tip indicating the presence of a voltage.
- ❖ Place the indicator's tip against the metallic surface to be tested (such as appliance case or pipework) **without physically handling** the component. If the indicator fails to illuminate, this would indicate that no voltage is detected.
- ❖ BEFORE TOUCHING THE APPLIANCE COVER/GAS PIPEWORK, always retest the indicator on a known 'live' source to confirm that it is still functioning correctly – DO NOT assume that it remains 'fit-for-purpose', as the batteries may have been exhausted during use or shortly thereafter, or the indicator may have developed a fault.

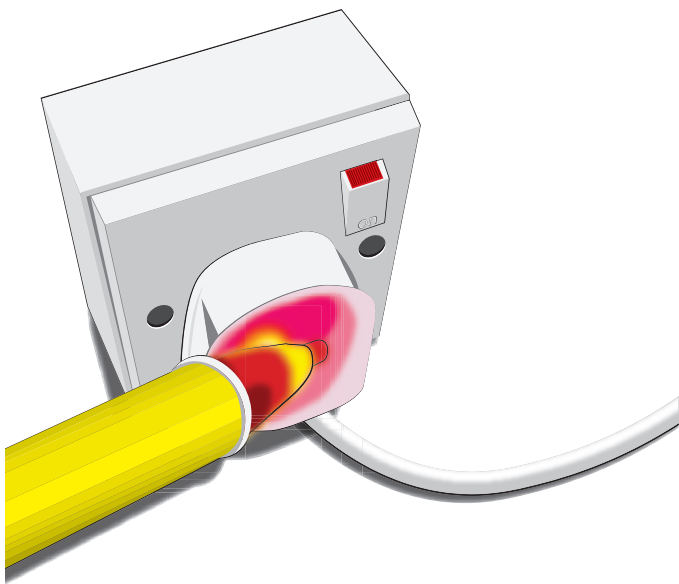


Figure 2. Proving the operation of the indicator on a known live source