

PME Supplies and the electricity safety, quality and continuity regulations

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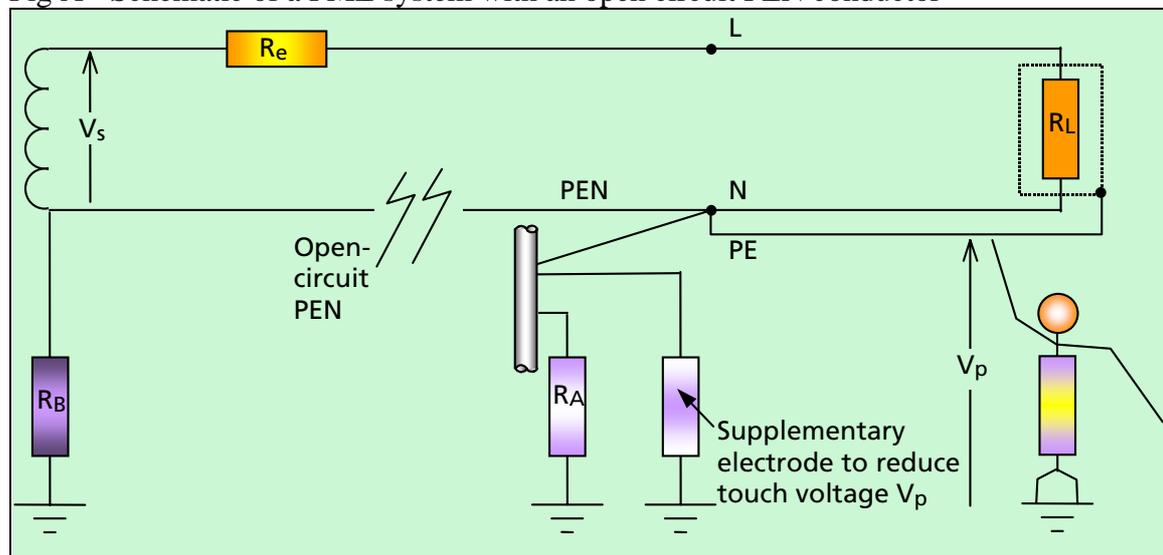
The Electricity Safety, Quality and Continuity Regulations are very much concerned with the safety of the electricity supply and of electrical installations as well as quality and continuity of the supply. They are going to have considerable effect on the work of electricians particularly with respect to PME supplies (and the installation of generators).

The Notes of Guidance published by the DTI advise that PME supplies must not be made available to caravans and boats and that precautions that may be necessary in other locations such as farms, dairies, building sites, swimming pools, etc, but without specific guidance.

The IEE have published a revision of the Commentary on the IEE Wiring Regulations that not only includes changes to the Regulations made in the BS 7671 : 2001 (blue book) and Amendment No 1 2002 (ring circuits), but also provides guidance on The Electricity Safety, Quality and Continuity Regulations and their references to and impact on BS 7671.

The Commentary on the IEE Wiring Regulations includes much more detailed and practical advice including advice prepared at the request of the DTI on further precautions that can be taken to reduce the risk associated with PME supplies. The UK National Committee considered this matter and recommend an earth electrode is connected to the main PME earthing terminal. This is a very practical solution. The Commentary on BS 7671 amongst its comprehensive advice provides specific guidance as to how the maximum earth electrode resistance can be calculated for particular installations e.g. house, swimming pool, farm etc. This approach provides the reliability and security of a PME supply whilst protecting against the loss of PEN continuity (however unlikely an event this may be).

Fig A - Schematic of a PME system with an open circuit PEN conductor



Where:

- V_s is the nominal supply voltage
- V_p is the touch voltage
- R_L is the load resistance ($V_s^2/\text{wattage}$)
- R_A is the resistance to earth of main earth terminal

Reference:

Commentary on the IEE Wiring Regulations
16th Edition BS 7671 : 2001 available from the IEE.

To view the Commentary's contents list go to <http://www.iee.org/Publish/Books/WireAssoc/Ns031c.cfm>

To order from our web shop go to <http://www.iee.org/link.cfm?link=53> .

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