

inter  
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The logo for Voltimum features the word "voltimum" in a lowercase, sans-serif font. A blue swoosh underline is positioned below the text, starting under the 'v' and ending under the 'm'. A small red square is placed above the letter 'i'. The entire logo is contained within a white rectangular box with a thin grey border.

voltimum

## **Applying the Building Regulations part L2 to Electrical Distribution**

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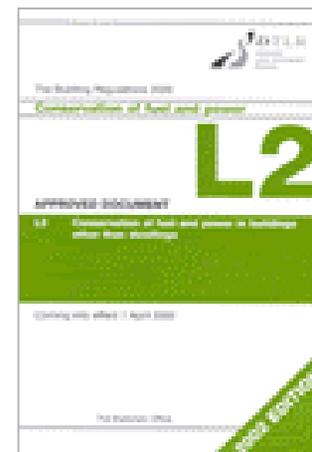
Marketing Manager : Emerging Technologies

## What is approved document L2?

April 2002 saw the legislation of two amendment documents to the Building Regulations in England and Wales\*

*L1 Conservation of fuel and power in dwellings*

*L2 Conservation of fuel and power in buildings other than dwellings*



Why is there a need for such a document?

\* Part J became legislation in Scotland March 2002



## The Key Topics

The amendment document contains guidance and discussion for three key topics....

- Design
  - In order to achieve energy efficiency in practice, the building and its services system should be appropriately designed.
- Construction
  - The document contains guidance upon the building fabric
- Providing Information
  - It recognised that for successful implementation the correct information should be provided pre and post design.

## Section Three :: Providing Information

The aim of section three of the document is to enable the occupiers of a building to assess its performance of their area against established benchmarks.

This introduces two sub topics:

- **Building log book**  
a document designed to be used alongside O&M manuals and the health and safety file
- **Installation of energy meters**  
to provide the information

## Installation of Energy meters

### The purpose of installing energy meters

- To enable owners/occupiers to measure their actual energy consumption, the building engineering services should be provided with sufficient energy meters and sub-meters\*
- Sufficient instructions including an overall metering strategy that shows how to attribute energy consumption to end users and use this information to compare to published benchmarks\*

Guidance is offered by document GIL65, 2001: Sub metering new build non-domestic buildings. Produced and available from BRECSU

## What must be provided?

Section 3.4 states that “**Reasonable provision would be to enable at least 90% of the estimated annual energy consumption of each fuel to be accounted for**”. Techniques to support the provision include:

- Direct metering
- Hours run at a constant known load
- Estimating the energy consumption from know variables
- Estimating consumption by difference
- Estimating non-constant small power loads\*



Section 3.5 states “**Reasonable provision would be incoming meters in every building greater than 500m<sup>2</sup> (including separate buildings on multi-building sites)**” to include

- Meter directly - Electricity, gas, oil and LPG
- Heat meter - total heating and/or cooling energy supplied by district heating/cooling scheme

## Installation of Energy meters

Section 3.6 discusses the provision of sub metering in every building greater than 500m<sup>2</sup> gross floor area, including separate buildings:

- Electricity, gas, oil and LPG to each tenant > 500m<sup>2</sup>
- Energy consumed by plant items equal to or greater than those in table 13 below

**Table 13 Size of plant for which separate metering would be reasonable.**

Plant item	Rated input power (kW)
Boiler installations comprising one or more boilers or CHP plant feeding a common distribution circuit.	50
Chiller installations comprising one or more chiller units feeding a common distribution circuit	20
Electric humidifiers	10
Motor control centres providing power to fans and pumps	10
Final electrical distribution boards	50

## Metering:: What else?

Metering offers further possibility beyond the requirements of the Building Regulations.

- Automatic Meter Reading
  - telephone, data collection systems, integration into BMS, utility collection systems
- Monitoring and Targeting
  - Advanced M&T, profiling, waste management, full analysis, asset management

## Further information

- To obtain a copy of amendment L2
  - [www.safety.dtlr.gov.uk/bregs/brads.htm](http://www.safety.dtlr.gov.uk/bregs/brads.htm)
- Government Climate Change UK programme
  - [www.energy-efficiency.gov.uk/index.htm](http://www.energy-efficiency.gov.uk/index.htm) or
  - [www.detr.gov.uk](http://www.detr.gov.uk)
- Energy Technology List and information site
  - [www.eca.gov.uk](http://www.eca.gov.uk)
- Schneider Electric
  - [www.Schneider.co.uk](http://www.Schneider.co.uk)



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