

Meters and How to Read Them

Electricity Meters

There are three types of electricity meter in common use – standard (credit), variable rate (credit) and prepayment meters. (see also factsheet 1.f – smart meters)

- *Standard (credit) meters:* A standard meter usually measures electricity consumption in terms of kilowatt-hours – the amount of energy used by a load of one kilowatt over the period of one hour. With this type of meter, all electricity units are charged at the same rate, 24 hours a day.
- *Variable rate (credit) meters:* Variable rate meters operate on the same principle as standard meters, but give more than one reading, i.e. for daytime/standard electricity usage, and for overnight/off-peak electricity usage.
- *Prepayment meters:* Prepayment meters accept tokens/keys or cards that can be 'topped up' at a variety of local outlets. If a customer stops paying for electricity, the electricity supply can be cut off by a relay fitted into the meter. Prepayment meters are for both standard and off-peak supplies.

Gas Meters

There are two types of meter in common use – credit and prepayment meters.

- *Standard (credit) meters:* The majority of gas customers have a credit meter which records the amount of gas used. For many older meters – imperial meters – gas usage is measured in cubic feet. For newer metric meters, gas usage is measured in cubic meters. These gas units need to be converted into kilowatt hours by:
 - multiplying units used by 2.83 to give the number of cubic meters of gas used (**if the meter is a newer metric one measuring gas in cubic meters this part of the calculation is not needed**)
 - multiply by the temperature and pressure figure (1.02264)
 - multiply by calorific value (approximately 39.25, though the exact calorific value can be found on a gas bill)
 - divide by 3.6 to get the number of kilowatt hours (kWh)
- *Prepayment meters:* Prepayment meters accept tokens/keys or cards that can be 'topped up' at a variety of local outlets. If a customer stops paying for gas, the supply can be cut off by a relay fitted into the meter.

Reading Meters

Digital/Electronic Credit Meters:

The majority of meters have an electronic or digital display i.e. a straight row of numbers. These should be read from left to right. Electricity and newer gas metric meters have five numbers in a row whilst old-style gas imperial meters have four numbers in a row. Always ignore a red digit (or any number after a decimal point) when recording a meter reading.

If the householder has electric central heating there will be either one or two meters showing up to three sets of numbers. Electricity is usually charged at two different rates with a night (off peak) rate considerably cheaper than a day (peak) rate. It may be worth using certain electrical appliances, such as the washing machine, during the cheaper night hours. If there are three sets of numbers, all the electricity for heating is recorded separately at a 'control' rate. All the electricity used for lighting and appliances is recorded at day or night rates, depending on time of use. Some variable rate meters only have one digital display. They will either flash up the different rate readings in a cycle or have a button that needs to be pressed to make the display cycle through the readings for the different rates.

Dial Credit Meters:

Some older meters have a 'dial' display - dials with pointers which move from 0 – 9 which should be read from left to right. For electricity read all five dials, ignoring the final (usually red) dial. Older gas dial meters (imperial, recording in cubic feet) should be read in the same way, but for only 4 dials. The dials rotate clockwise and anticlockwise alternately.

- Read along the five dials from left to right
- Write the numbers down from left to right
- If the pointer on any of the dials is between two numbers, record the lower number
- If the pointer is exactly on a number, record the next lowest number - unless the pointer on the dial to its right has passed zero

Prepayment Meters (PPM):

The vast majority of PPMs will constantly display the amount of credit remaining. A range of additional information is available, usually by pressing a button.

Electricity PPMs may show a letter to identify the screen being shown, or will give a text description of the information being shown. Pressing the (usually) blue button will change the display screen. Gas PPMs may show a number to identify the screen being shown. Pressing the (usually) red button will change the display screen. The displays on PPMs will 'scroll' through a cycle which will include:

- fuel used
- fixed charges (if applicable)
- rate(s) per unit of fuel

- credit inserted (meter top-ups)
- current credit
- outstanding debt (if applicable)
- debt repayments per week
- emergency credit level

Different makes and models of PPM may show slightly different ranges of information.

Most PPMs are 'topped up' using:

- an online app
- keys - electronically coded keys which are specific to the meter and contain tariff information which is updated when the card is charged
- smartcards – cards which download information about usage onto the card to send back to the supplier when the smartcard is topped up
- tokens or cards (paper) – these are rarely used now. PPMs that accept these top-ups need to be adjusted manually whenever the tariff changes

For information on Smart Meters, see Factsheet 1.f

