



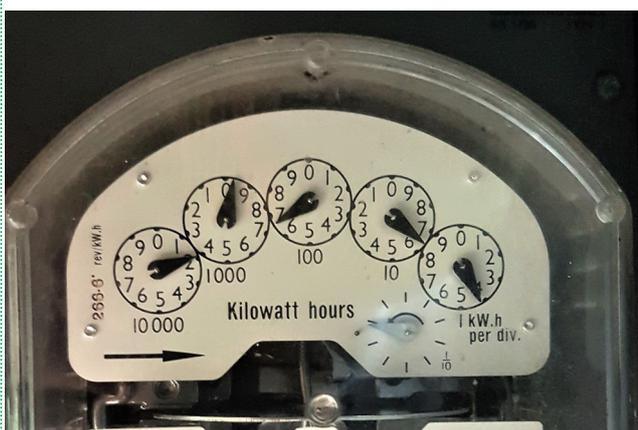
Nursery & Garden Industry  
Queensland

# Reading Electricity Meters

While electricity meters are read regularly by energy providers, a knowledge of how to read meters or obtain more frequent data on electricity consumption can help with monitoring and reducing electricity use in irrigation systems. Closer monitoring of electricity use may identify areas of electricity where simple changes can be made to reduce consumption, e.g. equipment operating when it isn't needed.

There are a range of meters used for measuring electricity use, with each one requiring different reading techniques.

**Accumulation meters**, also known as single rate or flat meters measure the total amount of electricity consumed. These meters can't discern when the electricity is used, so customers are charged the same amount regardless of the time of day. However, some meters are able to record the amount of electricity used during peak and off-peak times. Accumulation meters can be analogue (dial or cyclometer display) or digital display.



## Dial display

These meters have between 4 and 6 dials that alternately move clockwise and anti-clockwise.

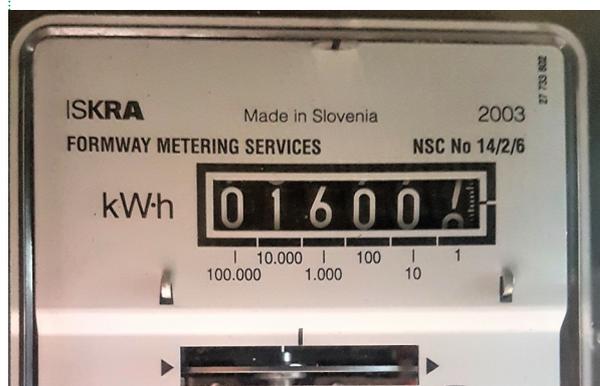
## To read a dial meter:

1. Stand directly in front of the meter so all the dials can be seen.
2. Starting on the left hand side write down each number that the hand points to. If the hand points between two numbers record the lowest number e.g. write down 5 if the hand is between 5 and 6.
3. Do the same with each dial moving to the right, ignoring any red or different style dials.

The reading on the above meter is 19664

## To read a cyclometer display:

The cyclometer is read similar to the odometer in a car. Simply read the numbers from left to right. This meter reads 016007.



## To read a digital display:

Newer accumulation meters have a digital display and the numbers are recorded from left to right as with the cyclometer.

**Interval meters** record electricity usage every 30 minutes allowing different rates to be charged depending on the time of day. Meter readers download the data from the meter before sending



it to the retailer for billing, but it is still possible to read the amount of electricity used manually.

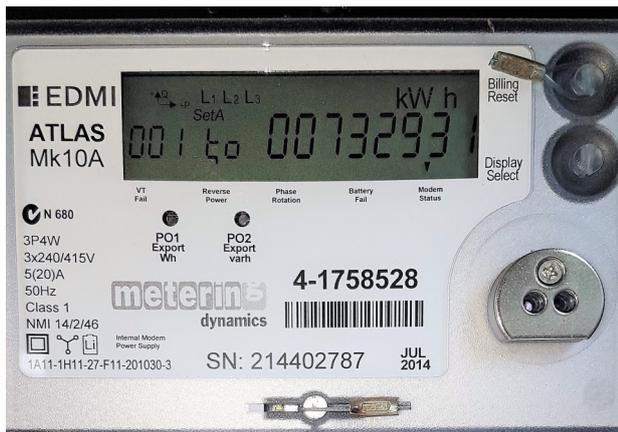
### **To read an interval display:**

These meters enable readings for each tariff used. The meter reading cycles through the available displays on a regular loop. Interval meters always display Eastern Standard Time before cycling through the available options, with the first display being the total kilowatt hours.

**Smart meters** are also commonly referred to as digital meters. These meters record electricity usage in 30 minute intervals, allowing different rates to be charged at different times of the day. The difference between a smart meter and an interval meter is that a smart meter can be accessed remotely, and usage data accessed without a meter reader having to physically read the meter. These meters also allow users to access flexible energy pricing similar to time of use tariffs. In addition to these benefits, these meters allow distributors to identify faults in the distribution system, and reduce connection fees due to readings being done remotely rather than requiring a meter reader. There may be concerns around data use and privacy with these meters.

### **Reading a smart meter:**

Reading the display on a smart meter is the same as reading an interval meter. However, there are usually a large number of menu options that give



access to a range of other data such as electricity usage per phase, and it can take some effort to determine what the numbers are that are being displayed. Some meters cycle through the readings, while others require the reader to press a button, such as Display Select in this example, to access the different readings. In addition, these meters have the ability to send live electricity usage to the distributor, allowing the user to track consumption through an energy monitor or on-line portal. This allows further insights into electricity usage and enables further potential reductions in energy use.

### **Solar meters**

Solar photovoltaic and battery storage systems require a two-way or bi-directional electricity meters so that both incoming and outgoing electricity can be measured. Most interval and smart meters are bidirectional.

Lex McMullin

Farm Management Systems Officer  
Nursery & Garden Industry Queensland

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