

Energy usage tracker guide: Understanding your large commercial meter



Who this guide is for: Interval metering commercial customers.

This guide explains how to use meter readings to verify the energy consumption shown on your bill and why demand values displayed on your meter may differ from billed demand values.

Understanding your Bill Multiplier

Large commercial meters use Current Transformers (CTs) and Potential Transformers (PTs). Because the meter measures a scaled-down value, a multiplier must be applied to determine actual consumption and demand.

CT Ratio: 1500:5 = 300

PT Ratio: 360:120 = 3

Bill Multiplier: $300 \times 3 = 900$

Calculating energy consumption (kWh)

Example: June 5 Statement (Billing period: April 23 to May 23)

Start kWh Register = 375.31

End kWh Register = 417.93

Difference = 42.62 kWh

Unadjusted Consumption = $42.62 \times 900 \approx 38,358$ kWh

Adjusted Consumption = $38,358 \times 1.0295 \approx 39,490$ kWh

Description	Value
Start kWh reading	375.31
End kWh reading	417.93
Difference	42.62
Bill multiplier	900
Unadjusted consumption	38,358 kWh
Loss factor	1.0295
Adjusted consumption	39,490 kWh

Understanding demand (kW and kVA)

Consumption (kWh) measures total energy used. Demand (kW and kVA) measures the highest rate of electricity use during the billing period.

The values displayed on the meter are shown in Watts (W) and Volt-Amperes (VA) and must be converted using the Bill Multiplier.

Example: MAX W Register

Displayed Value = 130 W

Bill Multiplier = 900

kW Demand = $(130 \div 1000) \times 900 = 117 \text{ kW}$

Example: MAX VA Register

Displayed Value = 141 VA

Bill Multiplier = 900

kVA Demand = $(141 \div 1000) \times 900 = 126.9 \text{ kVA}$

Important: The demand values displayed on your meter are provided as a reference and may not match the demand shown on your bill. Billing demand is calculated using interval data collected from your meter and is based on the **highest applicable demand interval during the billing period**.

Example of a current meter reading

If the meter displays 391.00 kWh, actual cumulative consumption is $391.00 \times 900 = 351,900 \text{ kWh}$ before the Bill Multiplier is applied. The following is an example of what you would see on your meter:

