

Powershop API

Developer Documentation

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Getting Access to the API

Before you can use the Powershop API, you must sign up for an API account for your product. Send an e-mail to api@powershop.co.nz asking for access. Please include your product name and the e-mail address you used to sign up to Powershop.

All API accounts have a controlled number of requests per hour that they may submit. If you feel that your application will be submitting many requests, please mention this to the Powershop team.

Technical Overview

The Powershop API is available over HTTPS. It returns responses in JSON or XML format.

This API uses the OAuth protocol. This allows users to authenticate themselves without entering their password into your application. OAuth libraries are available for all major development platforms, including PHP, Ruby and the iPhone.

For information about OAuth, visit:

<http://oauth.net/>

It is a condition of using the Powershop API that you are never able to directly capture the user's password. This includes, for example, using a web control on the iPhone inside your application. Please search for "iphone oauth" to see how others have implemented OAuth for iPhone apps.

OAuth Configuration

Your OAuth library will require several URLs to be configured. For Powershop, these are:

Request Token URL:

https://secure.powershop.co.nz/external_api/oauth/request_token

Authorize URL:

https://secure.powershop.co.nz/external_api/oauth/authorize

Access Token URL:

https://secure.powershop.co.nz/external_api/oauth/access_token

For the test environment, replace "https://secure.powershop.co.nz" with "http://supliertest.youdo.co.nz".

A callback URL passed to the request token URL is required, as per the OAuth 1.0a specification. Note that your OAuth library may not require this parameter; you must manually specify it in this case or update the library to the latest version.

API Documentation

URL Format

Once you have received an access token using OAuth, use your OAuth library to call the API you are interested in. The format of API URLs is:

`https://secure.powershop.co.nz/external_api/v1/apiname.format`

where ***apiname*** is one of **customer**, **meter_readings**, **products** or **top_up**
where ***format*** is one of **js** or **xml**.

If you use format **js**, the response will be a JSON string. If you use format **xml**, the response will be in XML.

Parameters supplied to the calls should be passed URL-encoded. For example, a request to find meter readings for ICP 0123456789 between the 1st and 30th of September 2009, with a JSON response requested, would look like:

`https://secure.powershop.co.nz/external_api/v1/meter_readings.js?icp_number=0123456789&start_date=2009-09-01&end_date=2009-09-30`

Your OAuth library will add OAuth token information and a signature before passing it to the Powershop server.

See below for details about each of the different API calls. Note that calls that get information require you use an HTTP GET, and calls that update information require you use an HTTP POST.

Response Codes

A successful call to the API will return an HTTP 200 status code, and either JSON or XML-encoded data.

An unsuccessful call will return HTTP status codes 400, 401 or 503, depending on the error. A single line of text describing the error will also be returned. Error messages common to all API calls are:

- [E900] Invalid OAuth signature or consumer key
- [E901] Unknown OAuth signature method
- [E902] The application has exceeded the request rate limit for this hour
- [E903] Invalid OAuth token
- [E904] OAuth consumer is disabled
- [E905] Expired request token
- [E906] Invalid verifier
- [E907] oauth_token not found
- [E908] oauth_callback must be supplied

As the text of error messages may change, please use the [Exxx] error number to detect a particular error message.

customer API call

HTTP method:

GET

API URL:

https://secure.powershop.co.nz/external_api/v1/customer.format

Parameters:

none

Description:

The customer API call returns information about the currently authenticated customer. It does not take any parameters.

Returns:

version = 1.0

result =

properties [Array] =

icp_number

the property's ICP number

address =

the address of the property

property_name

flat_number

street_number

street_name

suburb

district

region

start_date

yyyy-mm-dd; date property went online

end_date

yyyy-mm-dd or nil; date property offline

unit_balance

customer's unit balance; may be negative

daily_consumption

number of kWh currently used per day

last_account_review_at

yyyy-mm-dd hh:mm:ss

registers [Array] =

register_number

description

customer-supplied description

dials

number of dials that the register has

hidden

1 if hidden; 0 otherwise

last_reading_at

yyyy-mm-dd hh:mm:ss

last_reading_value

last_reading_type

actual, customer, estimated, derived

estimated_reading_value

estimated reading as of now

Errors:

No specific errors returned by this method.

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Notes:

The `unit_balance` field shows the current kWh balance of the account. A negative value means that the customer is that many units in arrears and will have to purchase power to make up the deficit at the next account review. A positive value means the customer has purchased more power than they have currently used.

A customer may hide a register if it is a “low use” register. This means you should generally not display it on your user interface.

Note that a customer may have several properties on the same account. Your user interface should allow for this possibility by letting the user select which property they wish to work with, if they have more than one.

meter_readings GET API call

HTTP method:

GET

API URL:

https://secure.powershop.co.nz/external_api/v1/meter_readings.format

Parameters:

icp_number	<i>the ICP number of the property</i>
start_date	<i>yyyy-mm-dd; retrieve readings from this date</i>
end_date	<i>yyyy-mm-dd; retrieve readings up until this date</i>

Description:

The GET meter_readings API call returns readings for the given ICP.

They may be “actual” – retrieved from a meter reading company, “customer” – supplied by the customer, “estimated” – estimated by Powershop, normally for account review purposes, or “derived” – calculated using smart meter data.

Returns:

version = 1.0

result **[Array]** =

register_number	<i>reading was taken on this register number</i>
read_at	<i>yyyy-mm-dd hh:mm:ss</i>
reading_type	<i>actual, customer, estimated, derived</i>
reading_value	<i>the reading</i>

Errors:

- [E000] The icp_number parameter must be specified for this call
- [E000] The start_date parameter must be specified for this call
- [E000] The end_date parameter must be specified for this call
- [E001] Dates must be in YYYY-MM-DD format
- [E008] icp_number specified not found for this customer
- [E009] This property is not active

meter_readings POST API call

HTTP method:

POST

API URL:

https://secure.powershop.co.nz/external_api/v1/meter_readings.format

Parameters:

icp_number	<i>the ICP number of the property</i>
readings[register_number]	<i>the reading for register_number</i>

Description:

The POST meter_readings API call allows users to enter a reading for the specified ICP.

Note that a full set of readings must be specified, otherwise all readings will be rejected. A full set means that all non-hidden registers must have a valid reading. The reading may not be less than the previous actual reading, and must not exceed the daily usage thresholds that Powershop calculates for the ICP. If it does, an failure message will be returned.

Returns:

version = 1.0

result =

result	<i>"success" or "failure"</i>
message	<i>if result is "failure", a message describing the failure</i>

Errors:

- [E000] The icp_number parameter must be specified for this call
- [E002] Readings must be in an array format
- [E003] Register number not found
- [E004] Only numbers may be present in the reading value
- [E005] A reading for each active register must be supplied
- [E008] icp_number specified not found for this customer
- [E009] This property is not active

Notes:

It is recommended that you use the "dials" number, found in the results of the customer API call against each register, to show how the user many dials the register has and allow entry of exactly that many digits. Note also that under some cases the "dials" number may not be specified, in which case a UI handling up to 8 digits should be provided.

products API call

HTTP method:

GET

API URL:

https://secure.powershop.co.nz/external_api/v1/products.format

Parameters:

icp_number *the ICP number of the property*

Description:

The products API call returns the products available for purchase from the specified property, and the per unit price of the products.

Returns:

version = 1.0

result **[Array]** =

name	<i>the name of the product</i>
description	<i>a long HTML-formatted description of the product</i>
type	<i>nominated, special, powerpack</i>
price_per_unit	<i>unit price to 4d.p.</i>
image_url	<i>URL for 130x130 or 165x130 pixel product image</i>

Errors:

[E000] The icp_number parameter must be specified for this call

[E008] icp_number specified not found for this customer

[E009] This property is not active

Notes:

Under usual circumstances, a price returned by this call will be valid for purchase through the Powershop web site until midnight.

The image_url parameter will not be present if there is no image associated with the product. The image URL supports the HTTP If-Modified-Since header, so you may wish to speed up your user's experience by caching the image. Note that the image may change if the product is out of stock.

top_up GET API call

HTTP method:

GET

API URL:

https://secure.powershop.co.nz/external_api/v1/top_up.format

Parameters:

icp_number *the ICP number of the property*

Description:

The top_up GET API call returns an offer of how much it will cost the user to top up their account with their default preferred product (or the cheapest product currently on offer if they have not selected a preferred product.)

This call does not make the purchase; it just returns a price. The price must be displayed to the user and their consent granted before the purchase is made. See the top_up POST API call.

Returns:

version = 1.0

result =

unit_balance	<i>the current unit balance for this property</i>
product_name	<i>the name of the product that will be purchased</i>
price_per_unit	<i>the price per unit</i>
total_price	<i>the total price of the purchase</i>
offer_key	<i>a key that must be passed to the top_up POST API</i>

Errors:

[E000] The icp_number parameter must be specified for this call

[E008] icp_number specified not found for this customer

[E009] This property is not active

Notes:

If the customer's unit balance is zero or positive, only the "unit_balance" key will be returned.

top_up POST API call

HTTP method:

POST

API URL:

https://secure.powershop.co.nz/external_api/v1/top_up.format

Parameters:

icp_number	<i>the ICP number of the property</i>
offer_key	<i>the offer key returned by the top_up GET API call</i>

Description:

The top_up POST API call makes a purchase of power, topping up the customer's unit balance to 0. The top_up GET API must be called before calling this.

Returns:

version = 1.0

result =

result	<i>"success" or "failure"</i>
message	<i>if result is "failure", a description of the failure</i>

Errors:

- [E000] The icp_number parameter must be specified for this call
- [E008] icp_number specified not found for this customer
- [E006] Invalid offer_key value
- [E009] This property is not active

Notes:

If the result is "failure", the message field may be displayed to the user to inform them why the purchase failed.