



Web Services Specifications

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1. Introduction

This document specifies a set of web services that allows customers to access data from the eMonitor database. In order to access eMonitor data, a user must be a registered customer with a username and password and their eMonitor device must have been registered by completing the eMonitor registration process. <https://emonitor.us/register>.

All parameters passed as part of the http requests should be URL encoded.

2. getHistoricalData

Provides hourly historical energy usage for an eMonitor.

Usage: `https://emonitor.us/WSD/getHistoricalData.php?<<key=value >>&<<key=value>>...&<<key=value>>`

2.1.Required Parameters:

Note: If parameters include special characters or spaces, they should be URL encoded.

serial=<serial number>

<serial number> = middle 6 digit serial number from eMonitor label or setting-channel page on website.
E.g. See picture below:

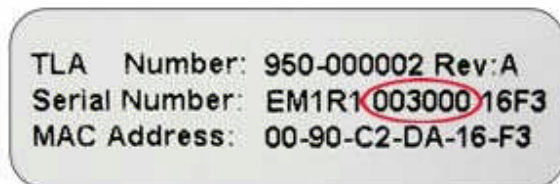


Figure 1 Example Serial Number Label

username = <username>

<username> = user login for website, note serial number entered must be associated with account that registered the eMonitor device

Password =<password>

<password> = password associated with username. Password and username are required to authenticate that requestor has right to view data

startTime=<startTime>

<startTime> = beginning time period for data sample that is requested. Format can be any standard date/time string. E.g. 2010-04-01 23:20. Samples are provided on an hourly basis, so sample will begin from the next whole hour after the time provided. Time is in local time of the device.

2.2.Optional Parameters:

endTime=<endTime> [default = current time]

<endTime> = Ending time period for data sample that is requested. Format can be any standard date/time string. E.g. 2010-04-01 23:20. Samples are provided on an hourly basis, so sample will at the first whole hour previous to the <endTime>.

2.3.Data Returned:

The data returned is an XML file with the following tags:

<history> - denotes historical data

<channels> - start of list of channels being returned

<channel > - Detailed information per channel

Attributes: <number> = Channel number (port on eMonitor)

<description> = Channel description (“entered by user during registration”)

<time> - Time Stamps of Samples

Attributes: <sampleTime> = ending hour of hour being sampled

<wattHours> = energy in watt hours consumed by channel over hour ending with <sampleTime>

2.4.Example getHistorical Data XML File

<https://emonitor.us/WSD/getHistoricalData.php?serial=3003&startTime=2010-04-14 10:00&username=testuser&password=XXXXXX>

```
<?xml version="1.0" encoding="iso-8859-1" ?>
= <history>
= <channels>
= <channel number="1" description="Main Power">
  <time sampleTime="2010-04-14 10:00:00" wattHours="471" />
  <time sampleTime="2010-04-14 11:00:00" wattHours="549" />
  <time sampleTime="2010-04-14 12:00:00" wattHours="516" />
  <time sampleTime="2010-04-14 13:00:00" wattHours="439" />
  <time sampleTime="2010-04-14 14:00:00" wattHours="428" />
  <time sampleTime="2010-04-14 15:00:00" wattHours="666" />
  </channel>
= <channel number="2" description="Main Power">
  <time sampleTime="2010-04-14 10:00:00" wattHours="519" />
  <time sampleTime="2010-04-14 11:00:00" wattHours="550" />
  <time sampleTime="2010-04-14 12:00:00" wattHours="615" />
  <time sampleTime="2010-04-14 13:00:00" wattHours="522" />
  <time sampleTime="2010-04-14 14:00:00" wattHours="586" />
  <time sampleTime="2010-04-14 15:00:00" wattHours="567" />
  </channel>
= <channel number="3" description="Kitchen - Microwave">
```

```
<time sampleTime="2010-04-14 10:00:00" wattHours="12" />
<time sampleTime="2010-04-14 11:00:00" wattHours="12" />
<time sampleTime="2010-04-14 12:00:00" wattHours="12" />
<time sampleTime="2010-04-14 13:00:00" wattHours="12" />
<time sampleTime="2010-04-14 14:00:00" wattHours="12" />
<time sampleTime="2010-04-14 15:00:00" wattHours="12" />
```

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```
= <channel number="22" description="Basement Lights">
```

```
<time sampleTime="2010-04-14 10:00:00" wattHours="0" />
<time sampleTime="2010-04-14 11:00:00" wattHours="14" />
<time sampleTime="2010-04-14 12:00:00" wattHours="31" />
<time sampleTime="2010-04-14 13:00:00" wattHours="0" />
<time sampleTime="2010-04-14 14:00:00" wattHours="3" />
<time sampleTime="2010-04-14 15:00:00" wattHours="0" />
</channel>
```

```
= <channel number="23" description="Computers, Basement Outlets">
```

```
<time sampleTime="2010-04-14 10:00:00" wattHours="297" />
<time sampleTime="2010-04-14 11:00:00" wattHours="310" />
<time sampleTime="2010-04-14 12:00:00" wattHours="344" />
<time sampleTime="2010-04-14 13:00:00" wattHours="309" />
<time sampleTime="2010-04-14 14:00:00" wattHours="319" />
<time sampleTime="2010-04-14 15:00:00" wattHours="297" />
</channel>
```

```
= <channel number="24" description="Basement TV and Printer">
```

```
<time sampleTime="2010-04-14 10:00:00" wattHours="36" />
<time sampleTime="2010-04-14 11:00:00" wattHours="36" />
<time sampleTime="2010-04-14 12:00:00" wattHours="35" />
<time sampleTime="2010-04-14 13:00:00" wattHours="35" />
<time sampleTime="2010-04-14 14:00:00" wattHours="34" />
<time sampleTime="2010-04-14 15:00:00" wattHours="34" />

</channel>
</channels>
</history>
```

3. getCurrentData

Provides last reported power for each eMonitor channel.

Usage: <https://emonitor.us/WSD/getCurrentData.php?<<key=value>>&<<key=value>>...&<<key=value>>>

3.1.Required Parameters:

Note: If parameters include special characters or spaces, they should be URL encoded.

serial=<serial number>

<serial number> = middle 6 digit serial number from eMonitor label or setting-channel page on website.
E.g. See picture below:

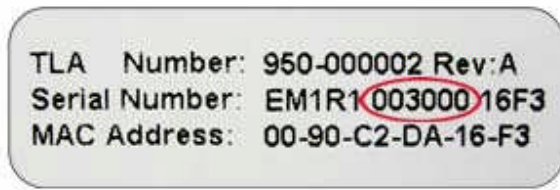


Figure 2 Example Serial Number Label

username = <username>

<username> = user login for website, note serial number entered must be associated with account that registered the eMonitor device

Password =<password>

<password> = password associated with username. Password and username are required to authenticate that requestor has right to view data

3.2.Data Returned:

The data returned is an XML file with the following tags:

<current> - denotes current data

<channels> - start of list of channels being returned

<channel > - Detailed information per channel

Attributes: <number> = Channel number (port on eMonitor)

<description> = Channel description (“entered by user during registration”)

<time> - Time Stamps of Samples

Attributes: <sampleTime> = time of last sample reading (device local time)

<watts> = instantaneous power reading at time of last <sampleTime>

3.3.Example getCurrentData xml file

<https://emonitor.us/WSD/getCurrentData.php?serial=3003&username=testuser&password=XXXXXX>

```
<?xml version="1.0" encoding="iso-8859-1" ?>
=<current>
=<channels>
=<channel number="1" description="Main Power">
  <time sampleTime="2010-04-15 08:16:00" watts="388" />
  </channel>
=<channel number="2" description="Main Power">
  <time sampleTime="2010-04-15 08:16:00" watts="481" />
  </channel>
=<channel number="3" description="Kitchen - Microwave">
  <time sampleTime="2010-04-15 08:16:00" watts="12" />
  </channel>
=<channel number="4" description="Utility Room - Refrigerator, Laundry Lights">
  <time sampleTime="2010-04-15 08:16:00" watts="69" />
  </channel>
=<channel number="5" description="Backyard Lights - GFCI Outlets">
  <time sampleTime="2010-04-15 08:16:00" watts="2" />
  </channel>
=<channel number="6" description="Kitchen Outlets">
  <time sampleTime="2010-04-15 08:16:00" watts="0" />
  </channel>
=<channel number="7" description="Dryer">
```

```
<time sampleTime="2010-04-15 08:16:00" watts="0" />
</channel>
= <channel number="8" description="Dryer">
<time sampleTime="2010-04-15 08:16:00" watts="0" />
</channel>
= <channel number="9" description="Furnace">
<time sampleTime="2010-04-15 08:16:00" watts="113" />
</channel>
= <channel number="10" description="Refrigerator">
<time sampleTime="2010-04-15 08:16:00" watts="285" />
</channel>
= <channel number="11" description="Kitchen & Dining Room Outlets">
<time sampleTime="2010-04-15 08:16:00" watts="0" />
</channel>
= <channel number="12" description="Bathroom Fans, Dave's Room and Hall Lights">
<time sampleTime="2010-04-15 08:16:00" watts="0" />
</channel>
= <channel number="13" description="Dishwasher">
<time sampleTime="2010-04-15 08:16:00" watts="0" />
</channel>
= <channel number="14" description="Dining Room and Kitchen Lights">
<time sampleTime="2010-04-15 08:16:00" watts="0" />
</channel>
= <channel number="15" description="Bedroom Outlets">
<time sampleTime="2010-04-15 08:16:00" watts="12" />
</channel>
```

```
= <channel number="16" description="Bedroom Outlets">
  <time sampleTime="2010-04-15 08:16:00" watts="7" />
  </channel>
= <channel number="17" description="Stove">
  <time sampleTime="2010-04-15 08:16:00" watts="0" />
  </channel>
= <channel number="18" description="Family Room Lights +">
  <time sampleTime="2010-04-15 08:16:00" watts="0" />
  </channel>
= <channel number="19" description="TV, Outlets and Front Lights">
  <time sampleTime="2010-04-15 08:16:00" watts="88" />
  </channel>
= <channel number="20" description="Washing Machine">
  <time sampleTime="2010-04-15 08:16:00" watts="0" />
  </channel>
= <channel number="21" description="Garage">
  <time sampleTime="2010-04-15 08:16:00" watts="6" />
  </channel>
= <channel number="22" description="Basement Lights">
  <time sampleTime="2010-04-15 08:16:00" watts="0" />
  </channel>
= <channel number="23" description="Computers, Basement Outlets">
  <time sampleTime="2010-04-15 08:16:00" watts="266" />
  </channel>
= <channel number="24" description="Basement TV and Printer">
  <time sampleTime="2010-04-15 08:16:00" watts="34" />
```

</channel>

</channels>

</current>