

XML Report Field Structure

By: Tech Support

Dated: July 05, 2008 – Updated: August 20th 2015.

Purpose: This document provides greater understanding of key XML fields contained in the ftp and web service reports. Please contact technical support if you require additional details at support@energytracking.com

Tag	Description
<XML id = "meter">	XML Starting Tag
<DATA>	DATA Starting Tag
<Email_Sch>	Primary Email Recipient
<Email_Alarm>	Email CC:
<SRL_NUM>1111111111110103</SRL_NUM>	Meter Serial Number
<METER_ID>111111111111111110103</METER_ID>	Meter Identification Number
<METER_ADDR>WEM Location</METER_ADDR>	Meter Address
<METER_TIME>02/15/07 15:58 Thursday</METER_TIME>	Meter Time
<IP>192.168.4.98</IP>	Meter's IP Address
<TSF>1</TSF>	Time Stamp Format
<MODEL>WEPM</MODEL>	Product Model
<VER>042808_DLCE_A</VER>	Firmware Version (mmddyy)
<SB>	Summation Counts (WEPM only)
<LPD>	Latest Interval Load Profile Data
<REC id = "xxx">	Historical Load Profile Data
	On Line Minutes

<TSF> - Time Stamp Format.

Values: 1 – US format. 2 – UK format.

<SB> - Summation Counts:

The WEPM will report the total pulse counts for each channel. Not provided in WEM-MX.

<TS> - Date Time Stamp

<LPD> - Latest load profile interval. This is the last load profile interval that was logged before the report was sent.

<REC id="xxx"> Historical load profile data where the id = Hours X 60 + Minutes.

- <C0> - Channel 1 pulse counts or (WEM-MX: kWh_Delivered)
- <C1> - Channel 2 pulse counts or (WEM-MX: kWh_Received)
- <C2> - Channel 3 pulse counts or (WEM-MX: kVARh_Delivered)
- <C3> - Channel 4 pulse counts or (WEM-MX: kVARh_Received)

WEM-MX Tags:

Tag	Description
<MAC>00:40:9D:27:44:3E</MAC>	Network MAC Address
<IP>192.168.4.98</IP>	Meter's IP Address
<CT>1</CT>	Current Transformer Ratio
<PT>1</PT>	Potential Transformer Ratio

The WEM-MX updates key registers once every second. These registers are sent via ftp or web services to provide a 1-second snapshot of the measurement values. The following fields need to be multiplied by 3600 to convert them from watt-second to watt-hour. Divide these values by 1000 to convert to kilo-watt. The resulting multiplier is $3600/1000 = 3.6$

Tag	Description
<I_KW_DEL>23.430</I_KW_DEL>	Watts Delivered
<I_KW_REC>0.000</I_KW_REC>	Watts Received
<I_KVAR_DEL>0.000</I_KVAR_DEL>	VARs Delivered
<I_KVAR_REC>0.200</I_KVAR_REC>	VARs Received

In the above table, the instantaneous kW would be $23.43 \times 3.6 = 84.384$ kW.

The I_KVA value is the volt-amps without applying the power factor.

<I_KVA>23.430</I_KVA>

The WEM is a four quadrant meter and can measure both energy delivered and received from the Utility grid.

<I_KW_SUM>23.430</I_KW_SUM>
<I_KVAR_SUM>0.200</I_KVAR_SUM>
<I_KW_NET>23.430</I_KW_NET>
<I_KVAR_NET>0.200</I_KVAR_NET>

Where...

$I_KW_SUM = I_KW_DEL + I_KW_REC$
 $I_KVAR_SUM = I_KVAR_DEL + I_KVAR_REC$
 $I_KW_NET = I_KW_DEL - I_KW_REC$
 $I_KVAR_NET = I_KVAR_DEL - I_KVAR_REC$

The following fields **do not** require any multiplier.

Tag	Description
<I PH1 V>119.540</I PH1 V>	Phase A Voltage
<I PH2 V>119.090</I PH2 V>	Phase B Voltage
<I PH3 V>119.490</I PH3 V>	Phase C Voltage
<I PH1 I>226.000</I PH1 I>	Phase A Current
<I PH2 I>238.000</I PH2 I>	Phase B Current
<I PH3 I>239.000</I PH3 I>	Phase C Current
<I PF>0.990</I PF>	Average Power Factor
<I FRQ>60.000</I FRQ>	Frequency
<I PH1 PF>1.000</I PH1 PF>	Phase A Power Factor
<I PH2 PF>1.000</I PH2 PF>	Phase B Power Factor
<I PH3 PF>0.990</I PH3 PF>	Phase C Power Factor

Identifying kW Demand Values from Report:

The WEM-MX continuously keeps track and records the highest peak demand kW. However, it may be necessary to identify the peak demand kW from the Load Profile report.

While the above referenced XML tag **<I_KW_DEL>** can be used, it would not be accurate as it is a 1 second snap shot reading. The peak demand can be acquired in two ways.

Acquire the value from the below tag in the report. Note: No multiplier is required and will represent the peak demand (kW) value for the last interval's reported time stamp.

```
<LAST_INT_KW> 84.349</LAST_INT_KW>
```

Alternatively, the peak demand can be calculated from the load profile data.

Math:

kW (for interval) = Interval Value X (60 minutes/hour) / Interval Length

```
<PD>
    <TS>16/02/2007 00:45:00</TS>
    <C0>21.10</C0>
    <C1>0.00</C1>
    <C2>0.00</C2>
    <C3>0.18</C3>
</PD>
```

Thus, the kW for the above interval is: 21.10 X (60 / 15) = 84.4 kW.

Energy Consumption Data:

This is the cumulative energy consumption data reported from the 'Current Month' energy registers. These two registers are cumulative and never cleared.

```
<KWH_DEL>15558.620</KWH_DEL>  
<KWH_REC>0.000</KWH_REC>
```

Usage Current Month:

The following fields show the energy usage since the last demand reset. Specifically, this is the difference between the current month's usage and last month's usage registers at the time the report was generated.

```
<MONTH>  
  <KWH_DEL>14434.398</KWH_DEL>  
  <KVARH_DEL>0.000</KVARH_DEL>  
</MONTH>
```

Usage Last Month:

The following fields show the total energy usage of the previous month. The information provides the total energy consumption <KWH>, the peak demand <KW> and time at which the peak demand occurred <TS> and the reactive energy usage <KVARH>.

```
<LMONTH>  
  <KWH>9824.509</KWH>  
  <DMD>  
    <KW>84.753</KW>  
    <TS>11/08/06 05:35 </TS>  
  </DMD>  
  <KVARH>0.000</KVARH>  
</LMONTH>
```

Metered Demand:

This is the demand computed prior to sending the mail. This does not represent the highest demand that occurred during the billing month. It is a value that represents the most recent demand seen by the meter.

```
<PRESENT_KW>0.00</PRESENT_KW>
```

Peak Metered Demand:

```
<HKW>182.45</HKW> - Highest kW since demand reset.  
<HKWT>03/16/15 14:05</HKWT> - Time Stamp of highest kW since demand reset.
```

Direct Web Access API:

The WEM-MX meter can be directly accessed over the network. Energy Tracking's Android and Apple mobile Apps are using this API.

URL Path: <http://xxx.xxx.xxx.xxx/rtdatxml.htm> (case sensitive).

```
<XML id = "meter">
<DATA>
<SRL_NUM>111100409D78DD1A</SRL_NUM>
<METER_ID>1111111100409D78DD1A</METER_ID>
<MAC>00:4D:9A:78:FD:1A</MAC>
<METER_ADDR>XYZ Location</METER_ADDR>
<METER_TIME>08/20/15 19:54 Thu</METER_TIME>
<IP>192.168.5.215</IP>
<CT>300</CT>
<PT>1</PT>
<TSF>1</TSF>
<MODEL>WEM-MX 333mV</MODEL>
<VER>051115_MX3_A</VER>
<I_KW_DEL>0.000</I_KW_DEL>
<I_KW_REC>0.000</I_KW_REC>
<I_KVAR_DEL>0.228</I_KVAR_DEL>
<I_KVAR_REC>0.000</I_KVAR_REC>
<I_KVA>0.228</I_KVA>
<I_KW_SUM>0.000</I_KW_SUM>
<I_KVAR_SUM>0.228</I_KVAR_SUM>
<I_KW_NET>0.000</I_KW_NET>
<I_KVAR_NET>0.228</I_KVAR_NET>
<I_PH1_V>121.880</I_PH1_V>
<I_PH2_V>119.940</I_PH2_V>
<I_PH3_V>123.140</I_PH3_V>
<I_PH1_I>2.300</I_PH1_I>
<I_PH2_I>2.400</I_PH2_I>
<I_PH3_I>2.190</I_PH3_I>
<I_PF>1.000</I_PF>
<I_FRQ>60.000</I_FRQ>
<I_PH1_PF>1.000</I_PH1_PF>
<I_PH2_PF>1.000</I_PH2_PF>
<I_PH3_PF>1.000</I_PH3_PF>
<KWH_DEL>49081.870</KWH_DEL>
<KVARH_DEL>6856.054</KVARH_DEL>
<MONTH>
<KWH_DEL>5989.987</KWH_DEL>
<KVARH_DEL>623.338</KVARH_DEL>
</MONTH>
<LMONTH>
<KWH>8919.245</KWH>
<DMD>
<KW>60.118</KW>
<TS>07/15/15 14:05 </TS>
</DMD>
<KVARH>976.595</KVARH></LMONTH>
```

<PRESENT_KW>0.000</PRESENT_KW>
<LAST_INT_KW>0.073</LAST_INT_KW>
<HKW>59.40</HKW>
<HKWT>08/05/15 15:07</HKWT>
71259
<LPD><TS>08/20/2015 19:45:00</TS><C0>0.008</C0><C1>0.000</C1><C2>0.205</C2><C3>0.000</C3></LPD>
</DATA>
</XML>