



Document title: Protocol Specification

Doc responsible:  
Piotr Grabarczyk

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TECH-16-20187-  
EN

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# Protocol Specification

## BLUE P1 - XML data specification

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## 1. Revision information:


Rev	Date	Prepared	Info
PA1	2014-10-21	Piotr Grabarczyk	First draft of the document
B	2015-05-15	Piotr Grabarczyk	Final version
C	2016-06-26	Piotr Grabarczyk	Specification for new HW BP1-605
D	2017-07-24	Piotr Grabarczyk	Specification update for new HW BP1-605-L
E	2021-11-14	Piotr Grabarczyk	Update for new HW BP1-805

Table 1

## 2. Introduction:

This document describes XML tags used by P1 Bluetooth reader devices for data transmission via Bluetooth.

The BP1 device sends the P1 data every time period, as specified by Smart Meter standard. In case of DSMR 2.2 and DSMR 4.0 it is 10 seconds, in case of DSMR 5.0 it is 1 second.

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### 3. XML Data structure:

The data structure is the following:

```

<?xml version="1.0" encoding="UTF-8"?>
<P1MESSAGE>
<RAWDATA>
/XMX5LGBBF2345246053
1-3:0.2.8(40)
0-0:1.0.0(1405897631058S)
0-0:96.1.1(453030398756403031363134383133343134)
1-0:1.8.1(002328.679*kWh)
1-0:2.8.1(000000.000*kWh)
1-0:1.8.2(001183.250*kWh)
1-0:2.8.2(000000.000*kWh)
...
...
1-0:22.7.0(00.000*kW)
!D322
</RAWDATA>
<CRC16>
D322
</CRC16>
<CRC_COMPARISON>
OK
</CRC_COMPARISON >
<VER>
605L_HW_R1_SW_2.10
</VER>
</P1MESSAGE>
@

```

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#### 4. TAGs description:

All the data sent by BP1 device is encapsulated within **<P1MESSAGE>** tag.

**<CRC16>** tag contains the results of P1 message CRC calculation done by the BP1 device.

E.g: **4DF1**

**<CRC\_COMPARISON>** tag contains the results of P1 message CRC comparison.


Possible results are: **OK**, and **ERROR**

**<VER>** tag contains BP1 hardware and firmware version number.

E.g: **605L\_HW\_R1\_SW\_2.10**

All the data sent by the Smart Meter (without any modification) is encapsulated in **<RAWDATA>** tag.

For backward compatibility reasons, at the end of the data frame, an “@” character is added.

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## 5. Example:

```

<?xml version="1.0" encoding="UTF-8"?>
<P1MESSAGE>
<RAWDATA>
/KFM5KAIFA-METER

1-3:0.2.8(40)
0-0:1.0.0(001002012109W)
0-0:96.1.1(4530303039303030303130353037383134)
1-0:1.8.1(000331.411*kWh)
1-0:1.8.2(000000.000*kWh)
1-0:2.8.1(000000.000*kWh)
1-0:2.8.2(000000.000*kWh)
0-0:96.14.0(0001)
1-0:1.7.0(00.122*kW)
1-0:2.7.0(00.000*kW)
0-0:17.0.0(999.9*kW)
0-0:96.3.10(1)
0-0:96.7.21(00023)
0-0:96.7.9(00016)
1-0:99.97.0(10)(0-
0:96.7.19)(000211165422W)(0000688458*s)(000126212729W)(0000014407*s)(000111021
643W)(0000001571*s)(000101000001W)(2147483647*s)(000101000001W)(2147483647*s)(
000101000001W)(2147483647*s)(000103071147W)(0000195720*s)(000101000001W)(21474
83647*s)(000101000001W)(2147483647*s)(000101000001W)(2147483647*s)
1-0:32.32.0(00141)
1-0:32.36.0(00000)
0-0:96.13.1()
0-0:96.13.0()
1-0:31.7.0(000*A)
1-0:21.7.0(00.118*kW)
1-0:22.7.0(00.000*kW)
0-1:24.1.0(003)
0-1:96.1.0()
0-2:24.1.0(003)
0-2:96.1.0(4730303032333430313835373035373134)
0-2:24.2.1(080208140000W)(00000.000*m3)
0-2:24.4.0(1)
!FAEC
</RAWDATA>
<CRC16>
FAEC
</CRC16>
<CRC_COMPARISON>
OK
</CRC_COMPARISON>
<VER>
0605L_HW_R1_SW_2.10
</VER>
</P1MESSAGE>
@

```



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## 6. References

[1]	20140527	P1 Companion Standard	Version 5.0
[2]	UG-13-200063-EN	User Guide – BLUE PI1 “Universal”	Rev B
[3]	UG-21142-EN	User Guide – P1 Bluetooth reader	Rev A

## 7. Abbreviation List

DSMR	Dutch Smart Meter Requirements
BP1-605-L	BLUE PI1 “Universal” device – product code
BP1-805	P1 Bluetooth reader