
Digital Measurement Wireless 2.4 GHz Device Protocol Description

FEATURES

Device supports two operational modes:

- fast two-way BLE 4.0 GATT connection mode with value change notification
- energy-saving mode with value notification using BLE broadcast message

GATT CONNECTION MODE

This is default mode, which device enters after power on by user key.

Following data is accessible via GATT:

- Data service (UUID F000AA10-0451-4000-B000-000000000000)
 1. Data characteristic (UUID 0x0000AA11-0451-4000-B000-000000000000)

Value format:

```
struct {
    uint8 magic1 = 0x1E;
    uint8 magic2 = 0x2C;
    uint8 flags; //1st bit set - inch/unset - mm, 2nd bit set - minus/unset - plus
    uint8 family; //Device family
    uint8 type; //Device type
    uint16 unused;
    uint8 valueLen; //Displayed value len in bytes
    uint8 *value; //Displayed value in ASCII format
    uint8 controlSum; //XORed sum of bytes in packet
};
```
 2. Device configuration characteristic (UUID 0x0000AA12-0451-4000-B000-000000000000)

Writing value 0x02 to this characteristic switches device to energy-saving mode.
- Battery information service (UUID 180F)
- Device information service (UUID 180A)

ENERGY-SAVING MODE

In this mode data is transmitted only after user shortly presses transmission button.

Transmission is performed using BLE broadcast packets, value format is the same as in Data characteristic.