DCT1

SML
COMMUNICATION
PROTOCOL

Internal version

rev. 1.0

July 6th, 2023

1   Introduction

The SML communication protocol works on RS485 serial port.
The device generates a SML message every second
It's possible to change the RS485 configuration in maintenance mode as for modbus (same registers).

2   SML message

The SML message has three parts:
- 101: Open Response
- 701: Get List response
- 201: Close Response

Get List Response
This list contains:
- 1-0:1.8.0*255: Wh+ [Wh]
- 1-0:2.8.0*255: Wh- [Wh]
- 1-0:0.10.2*255: Cable Loss value [mΩ]
- 1-0:1.7.0*255: Power [W]
- 1-0:12.7.0*255: Voltage [V]
- 1-0:11.7.0*255: Current [mA]
- 1-0:128.7.255*255: Temperature 1 [dC°]
- 1-0:129.7.255*255: Temperature 2 [dC°]

Message Example

```
0x1B, 0x1B, 0x1B, 0x1B,
0x01, 0x01, 0x01, 0x01,
0x76,
        0x09,0x17,0xA3,0x5D,0x9B,0x85,0xBF,0x63,0x58,
        0x62,0x01,
        0x62,0x00,
        0x72,
                0x65,0x00,0x00,0x01,0x01,
                0x76,
                        0x01,
                        0x01,
                        0x09,0x00,0x00,0x00,0x00,0x00,0x01,0xBC,0xA5,
                        0x0B,0x09,0x01,0x47,0x41,0x56,0x0A,0x00,0x00,0x00,0x00,
                        0x01,
                        0x62,0x01,
        0x63,0x13,0x06,
        0x00,
0x76,
        0x09,0x17,0xA3,0x5D,0x9B,0x85,0xBF,0x63,0x59,
        0x62,0x01,
        0x62,0x00,
        0x72,
                0x65,0x00,0x00,0x07,0x01,
                0x77,
                        0x01,
                        0x0B,0x09,0x01,0x47,0x41,0x56,0x0A,0x00,0x00,0x00,0x00,
                        0x01,
                        0x01,
                        0x78,
                                0x77,
                                        0x07,0x01,0x00,0x01,0x08,0x00,0xFF,
                                        0x01,
                                        0x01,
                                        0x62,0x1E,
                                        0x52,0x00,
                                        0x69,0x00,0x00,0x00,0x00,0x00,0x03,0x42,0x41,
                                        0x01,
                                0x77,
                                        0x07,0x01,0x00,0x02,0x08,0x00,0xFF,
                                        0x01,
                                        0x01,
                                        0x62,0x1E,
                                        0x52,0x00,
                                        0x69,0x00,0x00,0x00,0x00,0x00,0x00,0x09,0x44,
                                        0x01,
                                0x77,
                                        0x07,0x01,0x00,0x00,0x0A,0x02,0xFF,
                                        0x01,
                                        0x01,
                                        0x62,0x26,
                                        0x52,0xFD,
                                        0x55,0x00,0x00,0x00,0x0A,
                                        0x01,
                                0x77,
                                        0x07,0x01,0x00,0x01,0x07,0x00,0xFF,
                                        0x01,
                                        0x01,
                                        0x62,0x1B,
                                        0x52,0xFF,
                                        0x55,0x00,0x00,0x00,0x00,
                                        0x01,
                                0x77,
                                        0x07,0x01,0x00,0x0C,0x07,0x00,0xFF,
                                        0x01,
                                        0x01,
                                        0x62,0x23,
                                        0x52,0xFF,
                                        0x55,0x00,0x00,0x00,0x00,
                                        0x01,
```

Labels:
- Open response
- Get List Response
- Wh+
- Wh-
- Cable Loss
- Watt
- Voltage

```
0x77,
        0x07,0x01,0x00,0x0B,0x07,0x00,0xFF,
        0x01,
        0x01,
        0x62,0x21,
        0x52,0xFD,
        0x55,0xFF,0xFF,0xFE,0x71,
        0x01,
```
Current

```
0x77,
        0x07,0x00,0x00,0x00,0x00,0x01,0x00,
        0x01,
        0x01,
        0x62,0x09,
        0x52,0xFF,
        0x55,0x00,0x00,0x01,0x17,
        0x01,
```
Temperature1

```
0x77,
        0x07,0xFF,0xFF,0x00,0x00,0x00,0x00,
        0x01,
        0x01,
        0x62,0x09,
        0x52,0xFF,
        0x55,0x00,0x00,0x01,0x01,
        0x01,
```
Temperature2

Signature

```
0x84,0x02,0x69,0xE6,0xE5,0xA6,0xCF,0x08,0x93,0x97,0x7C,0x4C,0x6C,0x88,0x8E,0x16,0x31,0xC7,0xDA,0xA0,0x01,0xDB,0x90,0x
9F,
0x54,0xC3,0x1C,0x43,0xE4,0x55,0x67,0x93,0x30,0xEE,0x09,0xBE,0xF2,0xF3,0xED,0x08,0x80,0xC9,0xC5,0x1D,0x16,0x06,0xC2,0x
74,
0xD5,0xE7,0xC2,0x22,0xB6,0x52,0xF4,0xB0,0x21,0x1E,0x3B,0xB0,0xC6,0x59,0x16,0x9A,0xC2,0xFE,
                0x01,
0x63,0x09,0x67,
0x00,
```

```
0x76,
        0x09,0x17,0xA3,0x5D,0x9B,0x85,0xBF,0x63,0x5A,
        0x62,0x01,
        0x62,0x00,
        0x72,
                0x65,0x00,0x00,0x02,0x01,
                0x71,
                        0x01,
        0x63,0x89,0xA3,
        0x00,
```
Close response

```
0x00,
0x00,
0x1B,0x1B,0x1B,0x1B,
0x1A,0x02,0x8A,0x4A,
```