

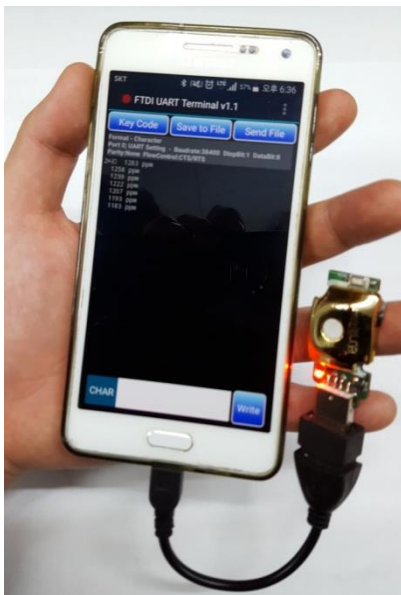
**General**

Version 1.1

MT-200 series is world's smallest USB CO<sub>2</sub> Monitor. MT-200 works with Desk-Top or Notebook, Smart-Phone and others. it gives 4 different level of LED light depending on CO<sub>2</sub> concentration level.

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## ELT SENSOR Data Sheet for MT-200

**Features**

- Non-Dispersive Infrared (NDIR) technology used to measure CO<sub>2</sub> levels.
- The world smallest size USB CO<sub>2</sub> monitor
- Pre-calibrated
- Gold-plated sensor provides long-term calibration stability.
- .Support 2-min Manual Re-Calibration with MCDL Button Switch
- Support to USB 2.0
- Power: USB port of PC USB standard-A, Smart-Phone (Micro-B USB plug), USB Power-Bank etc.
- Size : 19.9mm x 56mm x 10.6mm (USB-A type CO<sub>2</sub> module)
- Weight : 10 gram

## MT-200 Specifications

### General Performance

**Operating Temperature :** -20 ~ 60 °C

**Operating Humidity :** 0 ~ 95% RH (Non-condensing)

**Operating Environment :** ambient air in and out of residential or Commercial buildings.

**Storage Temperature :** -30 °C ~ 70 °C

### CO<sub>2</sub> Measurement

**Sensing Method :** NDIR (Non-dispersive Infrared)

**Measurement Range :** 0 ~ 10,000 ppm (~ 5% , 10% are optional)

**Accuracy :** ±50ppm ±3% of reading for 0~10,000 ppm (option: ±300ppm ± 3% of reading up to 5%, 10%)

**Response Time (1/e) :** 40 seconds (c.f. T<sub>90</sub> : 65 seconds)

**Sampling Interval :** 3 seconds

**Warming-up Time :** < 6 seconds (for Operation), 5 minutes (for Accuracy)

### Electrical Data

**Power Input :** 3.5V ~ 5.2V (USB)

**Current Consumption :** Normal mode : 20mA, Peak : 230mA

### Ordering Code

Code	Specification
<b>MT-200</b>	MT-200 + Micro-5pin-OTG, 'ELT WSD' window program for PC/NoteBook

MT-200 is basic model which gives USB output and it support only 2-min MCDL by users.

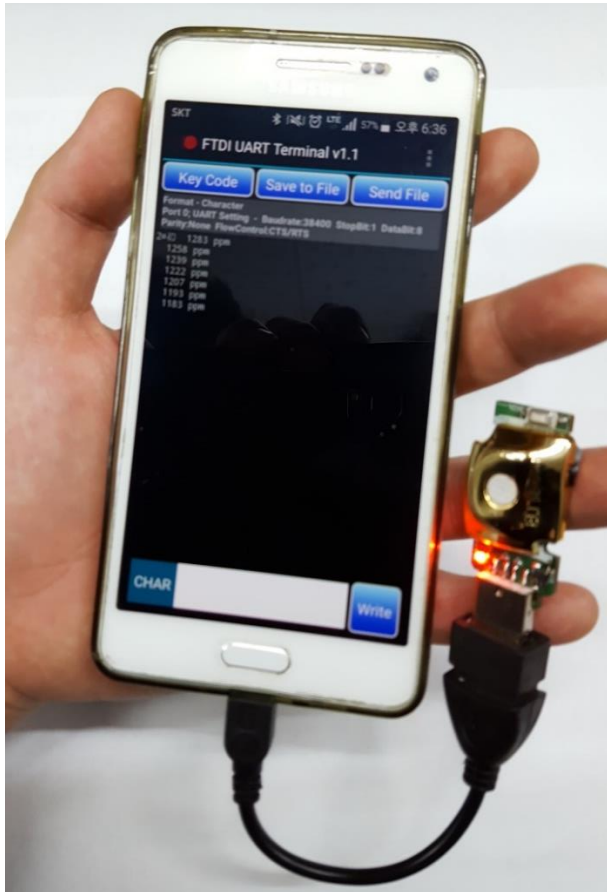
Basically Manual Re-Calibration (2-minutes' MCDL) are executable by users with Button Switch click 1 time. (it should be kept stay over 2min in fresh Air.)

## Demonstration with Smart Phone.

Android App



<http://www.ftdichip.com/Android.htm>



### < App. setting >

1. install FTDI App.
2. Execute FTDI UART App.
3. Setting
  - ① Baud Rate → 38400
  - ② Flow control → CTS/RTS

※ Android USB Serial App. : FTDI UART Terminal, Android USB Serial Monitor, etc...



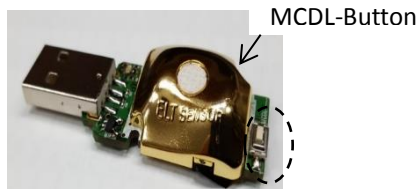
Range	LED
under 1000ppm	<b>Green</b> ON
1000≤[CO2] < 2000ppm	<b>Green</b> Blink



Range	LED
2000≤[CO2] < 3000ppm	<b>RED</b> ON
Over 3000ppm	<b>RED</b> Blink

## 2-minute Manual-Calibration Function Usage.

i. Please locate MT-200 at ambient fresh air, powered via OTG cable from memory bar or phone.

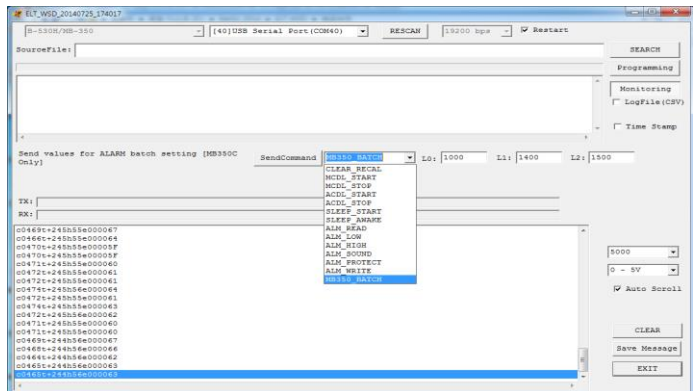


- ii. MCD can be done on both Android smartphone and window application program.
- iii. MCD start and finish by pressing MCDL-Button 3 seconds. LED blinks between **Red** and **Green**



by turns during calibration. Please make sure to check if CO2 measurement became near 400ppm after 2 minutes using 'FTDI UART Terminal'. Please make sure to locate sensor fresh air, near of 400ppm and no one is near sensor during MCDL.

iv. 'MCDL-START' and 'MCDL-END' menu can start / end MCDL on windows program 'ELTWSO'



Monitoring Test with Notebook or Desk-Top (ELTWSO\_EK100 S/W)



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