MCO 27, MCO 90C, MCO 906CP

Measure indoor CO2, temperature, humidity, PM

Measuring principle

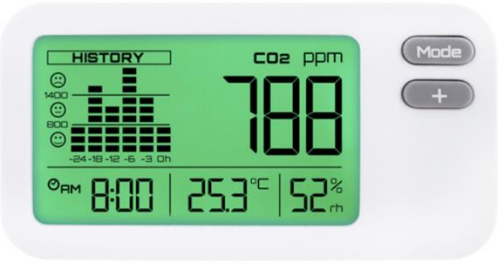
NDIR (Non-Dispersive Infrared) sensors are used to measure CO2 concentration in air. An IR lamp generates radiation, specific to CO2 absorption, which can be measured to estimate the concentration of CO2 molecules in a sample of air. Our meters use Dual beam NDIR sensor, which helps in maintaining the accuracy of readings over a long time, as drift might occur in single beam NDIR sensor due to degradation.

Applications

CO2 Monitors help in estimating the quality of air indoors by measuring CO2 concentration, temperature, humidity, Temperature-Humidity Index, PM2.5, PM10. Exposure to air with higher CO2 concentration is toxic and affects health adversely. IAQ meters are essential in every setting like HVAC, buildings, homes, offices, labs, hospitals, industrial, commercial, agricultural, etc to monitor air quality, and ensure clean air.

Features

- Dual beam NDIR technology is used to measure CO2 concentration and improve long term stability
- Different LCD colors to indicate air quality with time
- Temperature-Humidity Index(Thi) to indicare comfort conditions (only in 90C model)
- Data logging, storage and RS485 options
- External power supply and inbuilt battery options



MCO 27



MCO 90C

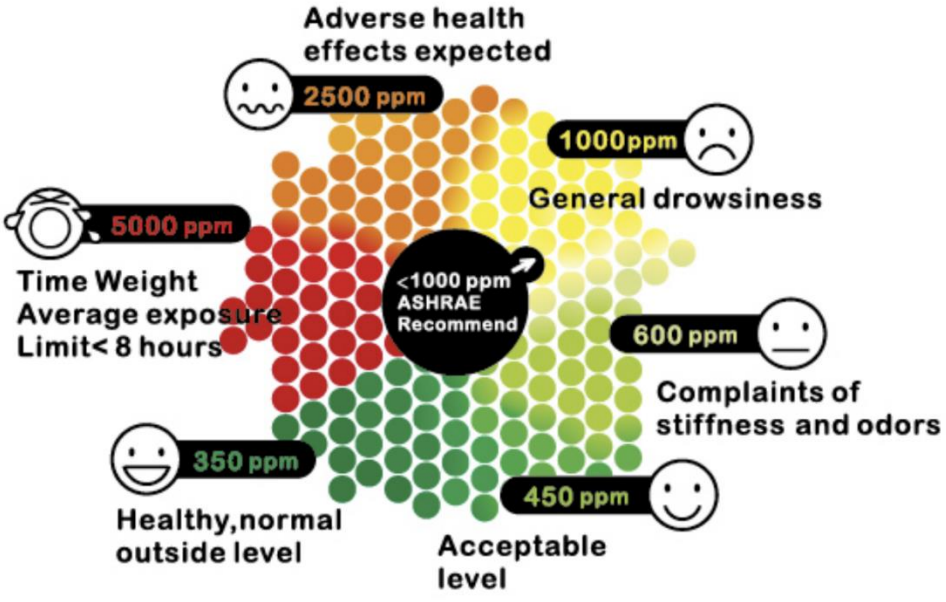


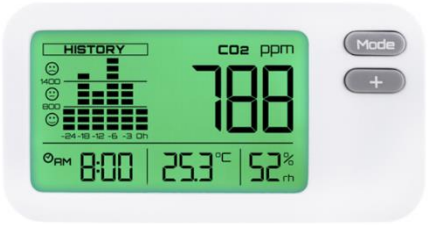
MCO 906CP

Technical Specifications

Model	*Metrix+* MCO 27	*Metrix+* MCO 90C	*Metrix+* MCO 906CP
Measurement parameters	CO2, Temp, RH	CO2, Temp, RH, THi (Temperature Humidity Index)	CO2, Temp, RH, PM2.5, PM10, barometer
Measurement range	**CO2**: 0 ~ 9,999 PPM **Temp**: 0 ~ 50C **RH**: 0 ~ 99% RH	**CO2**: 0 ~ 5,000 PPM **Temp**: 0 ~ 50C **RH**: 0 ~ 100% RH	**CO2**: 0 ~ 9,999 PPM **Temp**: 0 ~ 50C **RH**: 0 ~ 100% RH **PM2.5/ 10**: 999ug/m^3 **Barometer**: 50 ~ 110kPa
Measurement accuracy	**CO2**: <3000PPM ±100PPM or 7%, whichever is greater >3000PPM, ±10% **Temp**: ±1C or ±1.5C **RH**: ±(3 ~ 5)%	**CO2**: <3000PPM ±50PPM or 5%, whichever is greater >3000PPM, ±7% **Temp**: ±1C or ±1.5C **RH**: ±(3 ~ 5)%	**CO2**: <5000 PPM ±(50PPM + 3%d) **Temp**: ±1C **RH**: ±(3 ~ 5)% **PM2.5/ 10**: ±15% or ±15ug/m^3, whichever is greater **Barometer**: ±0.4kPa
Display resolution	**CO2**: 1PPM **Temp**: 0.1C **RH**: 1%	**CO2**: 1PPM **Temp**: 0.1C **RH**: 1%	**CO2**: 1PPM **Temp**: 0.01C **RH**: 0.01% **PM2.5/ 10**: 1ug/m^3 **Barometer**: 0.1mmHg
Features	3 color LCD, 7 color backlight option, history of CO2 records	THi index, SD card storage, built in RTC, 8 days background calibration	Backlit LCD, SD card storage, RS485 comm, alarms
Power Supply	USB or 5V external (not included)	Li-ion rechargeable battery 18650 x 1 or USB or 5V external (not included)	Li-ion rechargeable battery 18650 x 3 or USB or 5V external (not included)
Operating conditions	Temp: 0~50C RH: 0 ~ 95%	Temp: 0~50C (w/o battery), 0~40C (w/ battery) RH: 0 ~ 95%	
Std accessories	Main unit, manual, case		

**It takes approx. 20mins for the sensor to stabilize readings after switching on*



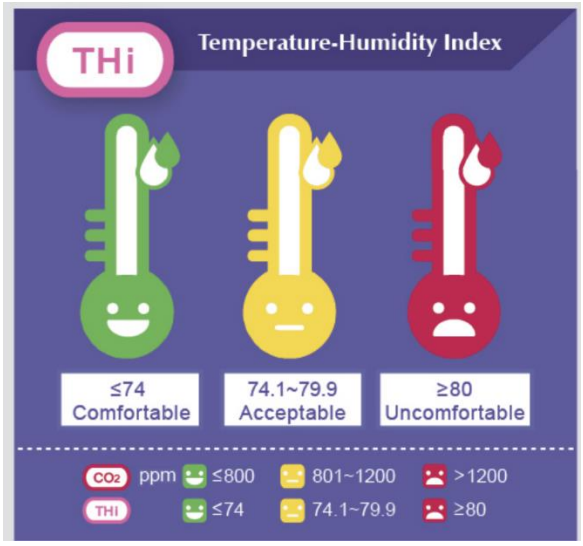


MCO 27

CO_2 Status	<800 ppm	800~1400 ppm	>1400 ppm
3-Color Backlight			
3 Emotions	☺	😐	☹



MCO 90C





MCO 906CP

How does our sensor ensure long term stability of CO2 measurement?

Many sensors experience long-term drift which may result from various causes including gradual chemical changes, exposure to water vapor, smoke, dust; and variations in the electrical power supply like battery degradation, etc.

The problem of uncompensated drift is especially serious in NDIR sensors. For carbon dioxide sensors that are used in fire detectors and in ventilation monitors the difficulty is much higher because these devices are expected to operate for long periods of time, even for years, without attention. These applications require long-term stability to avoid excessive false alarm rates and erratic ventilation.

The classic approach to solve this problem is to provide within the sensor a reference channel that specifically measures the degradation caused by above mentioned factors. This increases the cost and complexity of the sensor. We use dual-channel design, the sensor drift is <15ppm/year, which helps to compensate the drift to maintain the long-term stability.

Model and Specifications subject to change without notice.