CO2Meter.com
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Datasheet: AQ100 Meter with Temp. & Humidity Sensor

The AQ100 is a simple to use solution for monitoring CO2 in both wall-powered and PC-connected applications. When plugged into a PC, The AQ100 becomes a powerful data-logging instrument. Data is saved in a universal format, and can be imported into any modern spreadsheet or statistics package. The AQ100 utilizes the same sensing technology present in high-quality commercial products. The maintenance-free precision gas sensor automatically compensates for sensor drift and noise to provide an accurate reading over its entire long lifespan of over 15 years.

CO2 Sensor

Measurement Range	0 - 5 000 $ppm_{vol.}$
Sensing Method	non-dispersive infrared (NDIR) waveguide technology with ABC automatic background calibration algorithm
Sampling Method	diffusion
Response Time ($T_{1/e}$)	20 sec diffusion time
Sensitivity	± 20 ppm ± 1 % of measured value
Accuracy	± 30 ppm ± 5 % of measured value
Pressure Dependence	+ 1.6 % reading per kPa deviation from normal pressure, 100 kPa

Temperature and Humidity Sensor – SHT11

Relative Humidity Range	0 - 100%	
Temperature Range	-40 - 125°C	
Relative Humidity Accuracy	typical condition:	±3.0 %RH
	maximal conditions:	see Figure 1
Temperature Accuracy	typical condition:	±0.4 °C
	maximal conditions:	see Figure 2

General Performance

Operating Temperature Range	0 to 50 °C
Storage Temperature Range	-30 to +70 °C
Operating Humidity Range	0 to 95% RH (non-condensing)
Sensor Life Expectancy	> 15 years
Maintenance Interval	no maintenance required
Self-Diagnostics	complete function check of the sensor module
Warm-up Time	≤ 1 min
Conformance with the standards	Emission: EN61000-6-3:2001 Immunity: EN61000-6-2:2001 RoHS directive 2002/95/EG
Operating Environment	Residential, commercial, industrial spaces and Potentially dusty air ducts used in HVAC (Heating Ventilation and Air-Conditioning) systems.

Electrical/Mechanical

Power Input	Powered by 5-volt USB
Current Consumption	40 mA average < 150 mA peak current (averaged during IR lamp ON, 120 msec) < 300 mA peak power (during IR lamp start-up, the first 50 msec)
Dimensions	3.14 x 2.34 x 2.20 inches (Length x Width x approximate Height)

UART Serial com port

Protocol	MODBUS open protocol, refer specification and registers definitions
Hardware interface	CMOS UART with RxD, TxD
Baud Rate	9600

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LCD

Screen dimensions	2.40 x 0.59 inches
Display	2 lines x 20 characters
Backlight	Transflective

Software

Software can be downloaded here: www.co2meter.com/pages/downloads under "2. AQ100 EZ Desktop CO2 Monitor Software".

Figure 1: Maximal RH-tolerance at 25°C per sensor type.

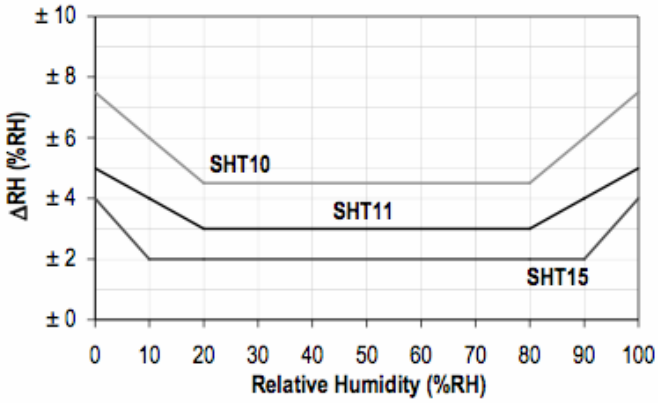
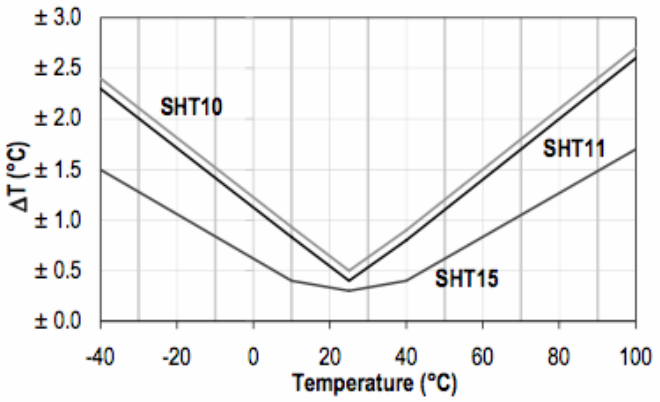
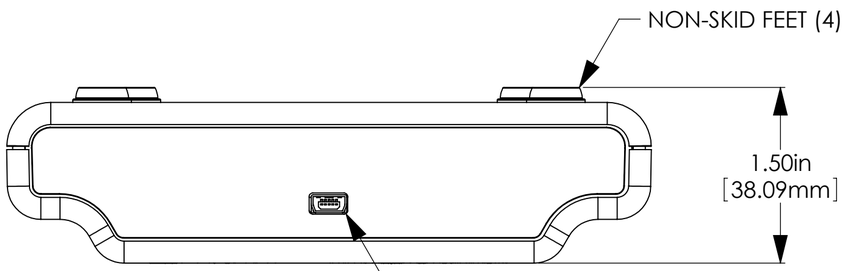
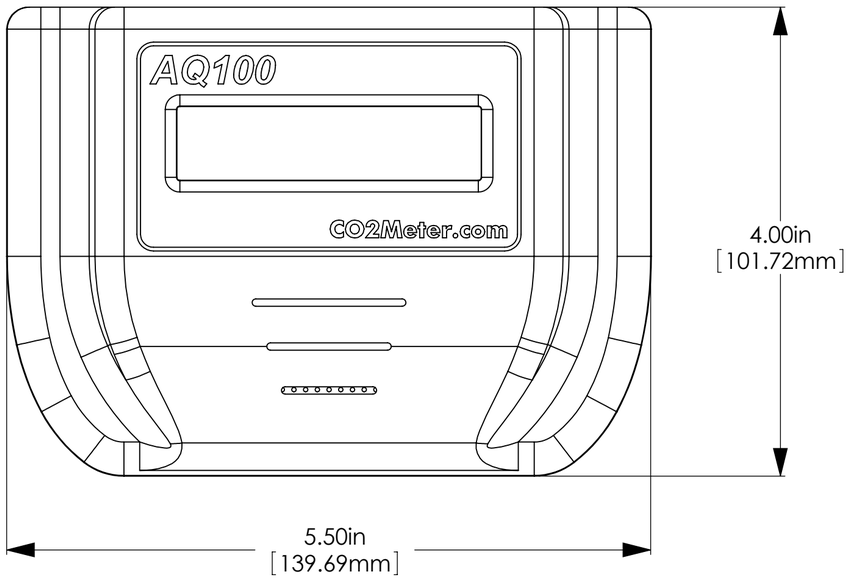
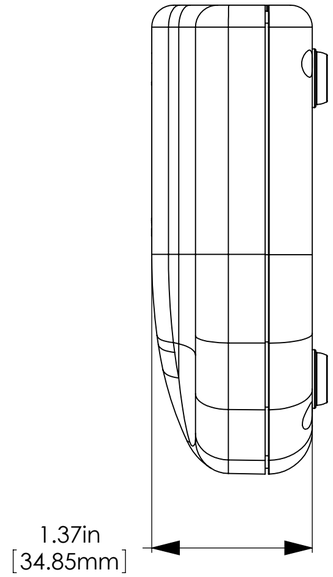


Figure 2: Maximal T-tolerance per sensor type.









		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED TOLERANCES: ANGULAR: ±0.25 DEGREE X.XX: ±0.01 X.XXX: ±0.003 X.XXXX: ±0.0005	DRAWN	JMM	5/16/10
			CHECKED		
			ENG APPR.		
			MFG APPR.		
			Q.A.		
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:		
		MATERIAL N/A			
NEXT ASSY	USED ON	FINISH N/A			
APPLICATION		DO NOT SCALE DRAWING			

CO2Meter.com

TITLE:
AQ100-CO2
AQ100-CO2-TEMP-RH
PACKAGE DIMENSIONS

SIZE	DWG. NO.	
C	AQ100DIM	
SCALE: 1:1	QTY:	SHEET 1 OF 1