

Datasheet: K-33 ICB Probe



The K-33 Probe is a low cost, infrared and maintenance-free transmitter module that can monitor CO₂ concentrations. The Probe is designed for students, teachers and indoor greenhouse growers who need a rugged and easy-to-use 0-30% CO₂ meter and data logger.

CO₂ Measurement

Measurement Range	0 – 30%
Sensing Method	non-dispersive infrared (NDIR) waveguide technology with ABC automatic background calibration algorithm
Sampling Method	diffusion
Repeatability	± 0.1 %vol. CO ₂ ± 2 % of measured value
Accuracy	± 0.2 %vol. CO ₂ ± 3 % of measured value
Pressure Dependence.....	+ 1.6 % reading per kPa deviation from normal pressure, 100 kPa

General Performance

Operating Temperature Range	-10 to 50 °C
Storage Temperature Range	-40 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	3.15 x 2.36 x 1.18 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 Rx/D, Tx/D
Baud Rate	9600

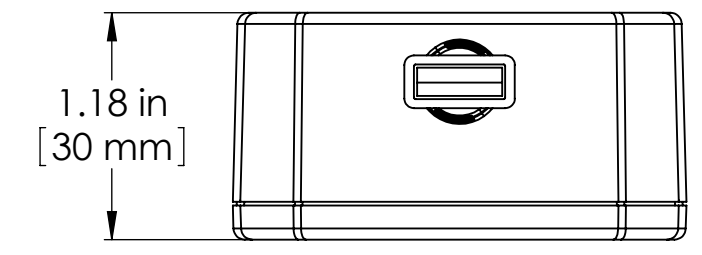
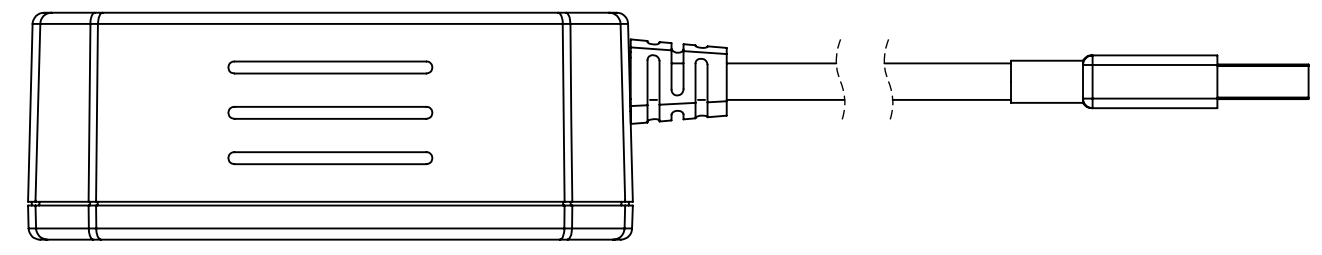
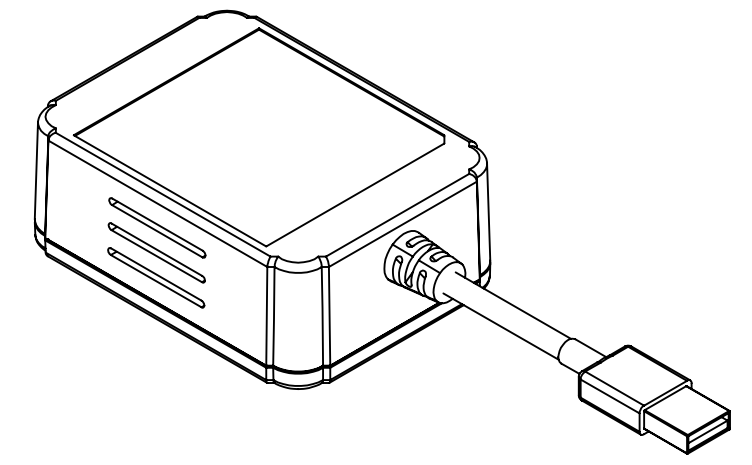
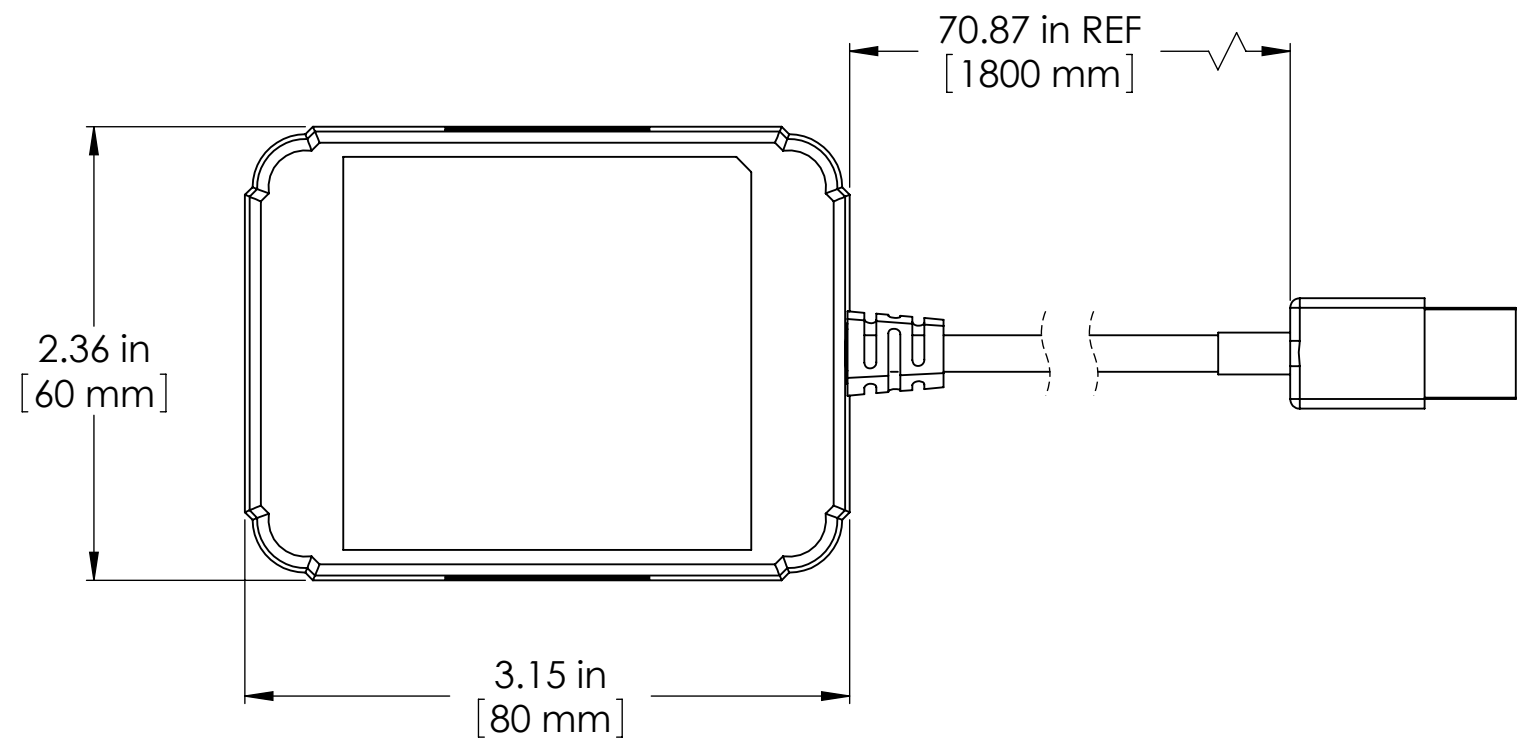
Software Features

- Read and record CO₂ levels on PC
- Stand-alone application
- Libraries for Microsoft Visual Studio Standard or Express Edition
- Exports data in .CSV format
- Data can be posted directly to a URL for integration into web applications

SensorSDK software can be found here: www.co2meter.com/pages/downloads under “1. K-Series Sensors, Development Kits & Data Logger Software”. *It must be downloaded and installed before plugging the probe into your computer.*

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		DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED		DRAWN	JMM			11/30/09
		TOLERANCES:		CHECKED			TITLE: ePROBE PACKAGE DIMENSIONS	
		ANGULAR: ±0.25 DEGREE		ENG APPR.				
		X.XX: ±0.01		MFG APPR.				
		X.XXX: ±0.003		Q.A.			SIZE DWG. NO. B PROBEDIM-A	
		X.XXXX: ±0.0005		COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:					SCALE: 1:1	QTY: 1
		MATERIAL N/A					SHEET 1 OF 1	
		FINISH N/A						
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APPLICATION								

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