ASENSE-GH-LCD
CO2 Sensor for Greenhouses / Indoor Agriculture

The ASENSE-GH is a device that is designed for monitoring carbon dioxide (CO2) and temperature in areas that have higher Carbon Dioxide levels such as greenhouses and breweries. It has a conformally coated PCB and filter equipped housing to protect against dust and high humidity. The ASENSE-GH-LCD uses State-of-the-art non-dispersive infrared (NDIR) technology and has a membrane covered sample chamber that gives a stable and reliable CO2 reading. There are three (3) outputs on the ASENSE-GH: Output 1 for CO2: 0/2-10V or 0/4-20 mA 0-2000 ppm, Output 2 temperature: 0/2-10V or 0/4-20 mA 0-50ºC, and Output 3 is a relay for fan control. An optional RS485 interface for Modbus communication is available.

Applications: Greenhouses, Grow Houses, Breweries, Indoor Agriculture, Mushroom Farms & Horticultural

The ASENSE-GH-LCD Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC/VDC ±20%; 50/60 Hz, 10.5 to 40 VDC maximum (Half-wave rectified)
Power Consumption:	<3W Average
Electrical Connections:	0.00232 in^2 (1.5 mm^2) screw terminals
Operating Temperature:	32ºF to 122ºF (0ºC to 50ºC)
Operating RH:	0 to 85% RH Non-condensing
Warm-Up Time:	< 1 minute (@ full specs 15 minutes)
Sensing Range; CO2 | Temperature:	0 to 2000 ppm | -4º to 140ºF (-20º to 50ºC)
Extended CO2 Ranges:	2000 to 10,000 ppm (factory set or programming cable required)
Accuracy; CO2 | Temperature:	±30 ppm ±3% of reading | ±1.8ºF (1ºC)
Extended Range Accuracy:	+/- 30 ppm and +/- 5% of reading
Annual Zero Drift:	<+/-10 ppm
Operating Pressure:	+1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmosphere = 14.7 psi (1.013 KPa))
Sensing Method:	Non-dispersive infrared (NDIR) with EQC (Eternal Quality Coating)
Sensor Life [1]:	> 15 years
Diffusion Time (T1/e):	< 3 minutes
Coverage Area:	7500 sq. ft maximum
Mounting Height:	4-6' off the floor
Display:	4 digits, 7 segments LCD with ppm / ºF
Status LED Indicators:	Yellow = Maintenance Support | Red = Closed Relay
Calibration:	Recommended annually
Outputs [2]:	**Out 1 (CO2):** 0/2-10V, 0/4-20 mA, 0-2000 ppm **Out 2 (Temp):** 0/2-10V, 0/4-20 mA, 32º to 122ºF / 0º to 50ºC **Out 3 Relay:** N.O.; 1A @ 50 VAC / 24 VDC
Protection:	PTC fuse (auto reset) on signal return M, short-circuit safe
Output Limits:	MIN & MAX limits may be individually set to all outputs Linear
OUT1 & OUT2:	0/2-10 VDC, ROUT < 100Ω, RLOAD > 5kΩ (0/1-5 VDC optional) 0/4-20 mA, RLOAD < 500Ω
D/A Resolution:	10 bits, 10 mV / 0.016 mA
D/A Conversion Accuracy:	Voltage mode: ± 2% of reading ± 50 mV current loop : ± 2% of reading ± 0.3 mA
Relay Trip Point [3]:	1000 ppm (factory set)
Relay Deadband / Hysteresis:	100 ppm (factory set)
Agency Approvals:	RoHS directive 2011/65/EU, EMC 2004/108/EC, 92/31/EEG including amendments by the CE-marking Directive 93/68/EEC
Storage:	-40º to 158ºF (-40º to 70ºC) Non-display, -4º to 122ºF (-20 to 50ºC) Display 0 to 85% RH Non-condensing
Enclosure:	Box; PC & ABS blend IP65 Rating, Flammability UL94V-0 Cover; Makrolon® 6555 plastic, Flammability rating UL94V-0
Product Dimensions:	(H) 5.95" (151.9 mm) x (W) 3.33" (84.6 mm) x (D) 1.85" (47 mm)

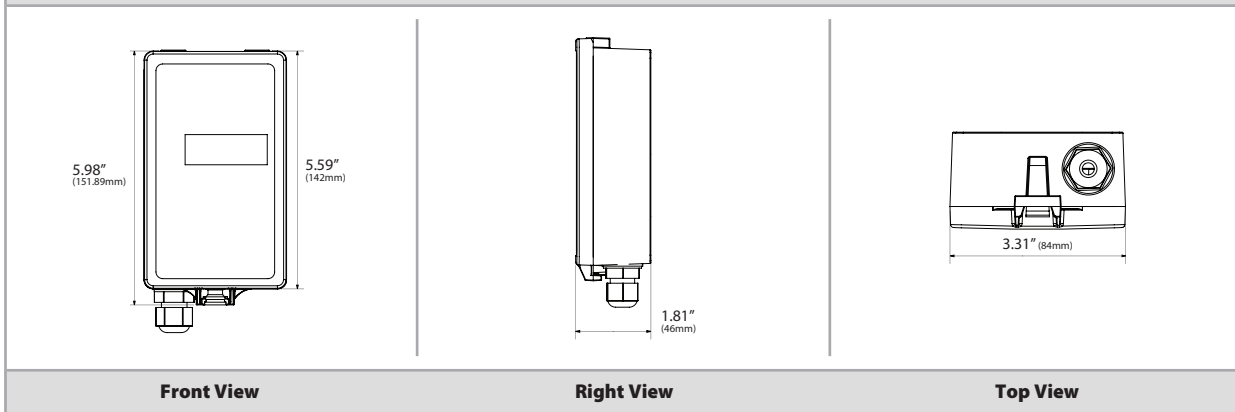**Note [1]:** In normal Indoor Air Quality (IAQ) applications | Corrosive environments are excluded
Note [2]: Optional Modbus RS485 communication board available
Note [3]: Changes can be made using TTL-232R-3V3 cable and UIP5 software downloaded from Senseair

DIMENSIONAL DRAWING

Front View	Right View	Top View
5.98" (151.89mm) / 5.59" (142mm)	1.81" (46mm)	3.31" (84mm)

STANDARD ORDERING

Model # Example: ASENSE-GH-LCD -OR- 144119

Model #	Item #	Description
ASENSE-GH-LCD	144119	ASENSE Greehouse, CO2, Temperature, Relay, With Display

ACCESSORIES ORDERING

Model # Example: A/CUSTOM CAL GAS -OR- 140970

Model #	Item #	Description
A/CUSTOM CAL GAS*	140970	Custom Calibration
TTL-232R-3V3	134207	Programming Cable
UIP5	----	Free Software Download (Contact ACI)

Note*: Contact ACI's Technical Support for custom calibration ranges

Call: 1-888-967-5224 | Web: www.workaci.com

RoHS COMPLIANT 2002/95/EC