Critical Environment Technologies Canada Inc.

www.critical-environment.com

Installation Manual for *AST-IS14*

Infrared CO_2 Transmitter with LCD Display & Alarm

MANUAL REVISION-B, August 2017

#145, 7391 VANTAGE WAY
DELTA, BC CANADA V4G 1M3
PH: 604-940-8741 TOLL FREE: 877-940-8741

IMPORTANT NOTE
Read and understand this manual prior to using this instrument. Carefully read the warranty policy, service policy, notices, disclaimers and revisions on the following pages.

This product must be installed by a qualified electrician or factory trained technician and according to instructions indicated in this manual. This instrument should be inspected and calibrated regularly by a qualified and trained technician.

This instrument has not been designed to be intrinsically safe. For your safety, **do not** use it in classified hazardous areas (explosion-rated environments).

INSTRUMENT SERIAL NUMBER:

_____

PURCHASE DATE:

_____

PURCHASED FROM:

_____

WARRANTY POLICY
Critical Environment Technologies Canada Inc. (CETCI), also referred to as the manufacturer, warrants this instrument, (excluding sensors, battery packs, batteries, pumps and filters) to be free from defects in materials and workmanship for a period of **two years from the date of purchase from our facility.** The sensors have a warranty period of **one year on a pro-rated basis from the date of purchase from our facility**. If the product should become defective within this warranty period, we will repair or replace it at our discretion.

The warranty status may be affected if the instrument has not been used and maintained as per the instructions in this manual or has been abused, damaged, or modified in any way. This instrument is only to be used for purposes stated herein. The manufacturer is not liable for auxiliary interfaced equipment or consequential damage.

Due to ongoing research, development, and product testing, the manufacturer reserves the right to change specifications without notice. The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data.

All goods must be shipped to the manufacturer by prepaid freight. All returned goods must be pre-authorized by obtaining a Returned Merchandise Authorization (RMA) number. Contact the manufacturer for a number and procedures required for product transport.

SERVICE POLICY

CETCI maintains an instrument service facility at the factory. Some CETCI distributors / agents may also have repair facilities; however, CETCI assumes no liability for service performed by anyone other than CETCI personnel.

Repairs are warranted for 90 days after date of shipment (sensors have individual warranties).

Should your instrument require non-warranty repair, you may contact the distributor from whom it was purchased or you may contact CETCI directly.

Prior to shipping equipment to CETCI, contact our office for an Returned Merchandise Authorization (RMA) number. All returned goods must be accompanied with an RMA number.

If CETCI is to do the repair work, you may send the instrument, prepaid, to:

Attention: Service Department
Critical Environment Technologies Canada Inc.
Unit 145, 7391 Vantage Way
Delta, BC, V4G 1M3

Always include your RMA number, address, telephone number, contact name, shipping / billing information, and a description of the defect as you perceive it. You will be contacted with a cost estimate for expected repairs, prior to the performance of any service work.

For liability reasons, CETCI has a policy of performing all needed repairs to restore the instrument to full operating condition.

Pack the equipment well (in its original packing if possible), as we cannot be held responsible for any damage incurred during shipping to our facility.

COPYRIGHTS

DISCLAIMER

Under no circumstances will CETCI be liable for any claims, losses or damages resulting from or arising out of the repair or modification of this equipment by a party other

than CETCI service technicians, or by operation or use of the equipment other than in accordance with the printed instructions contained within this manual or if the equipment has been improperly maintained or subjected to neglect or accident. Any of the foregoing will void the warranty.

Under most local electrical codes, low voltage wires cannot be run within the same conduit as line voltage wires. It is CETCI policy that all wiring of our products meet this requirement.

It is CETCI policy that all wiring be within properly grounded (earth or safety) conduit.

REVISIONS

This manual was written and published by CETCI. The manufacturer makes no warranty or representation, expressed or implied including any warranty of merchantability or fitness for purpose, with respect to this manual.

All information contained in this manual is believed to be true and accurate at the time of printing. However, as part of its continuing efforts to improve its products and their documentation, the manufacturer reserves the right to make changes at any time without notice. Revised copies of this manual can be obtained by contacting CETCI or visiting www.critical-environment.com

Should you detect any error or omission in this manual, please contact CETCI at the following address:

Critical Environment Technologies Canada Inc.
Unit 145, 7391 Vantage Way, Delta, BC, V4G 1M3, Canada
Toll Free: +1.877.940.8741
Telephone: +1.604.940.8741
Fax: +1.604.940.8745
Email: marketing@cetci.com
Website: www.critical-environment.com

In no event will CETCI, its officers or employees be liable for any direct, special, incidental or consequential damages resulting from any defect in any manual, even if advised of the possibility of such damages.

AST-IS14

The AST-IS14 is an infrared Carbon Dioxide (CO_2) sensor / transmitter that displays the real time value and has an audible alarm when the CO_2 reading is above 1,400 ppm. The alarm can be silenced with the front cover mounted, red push-button.

This device is designed to be connected directly to control system with 0-10 VDC outputs.

HOW TO OPEN THE ENCLOSURE

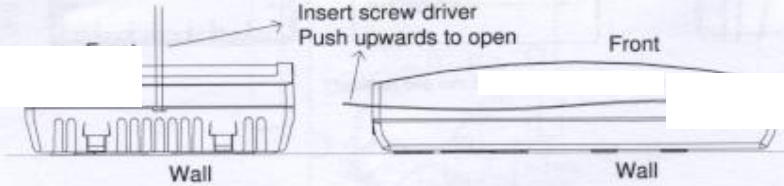


Figure 1. Closed housing seen from the top and the side. The housing is opened by inserting a scre driver and pushing to the front side of the housing. The locking hooks will then be released.

Figure 2. Closed housing seen from the side. The housing is opened by inserting a screw driver and pushing left (to the front side) The locking hooks will then be released.

Figure 3. Closed housing seen from the side. Never push to the right. The locking hooks may break and the housing is damaged

SPECIFICATIONS

	AST-IS14
Measurement Range	0 - 2000 ppm
Power Supply	24 VDC or VAC, 50/60 Hz (half-wave rectifier input)
Power Consumption	<1 W average
Linear Output	0 to 10 VDC
Temperature Sensor Range	No temperature sensor
Accuracy	na
Operating Temperature	0°C to 50°C (32°F to 122°F)
Operating Humidity	0—95% RH non-condensing
Display	Yes
Enclosure Rating	IP50 rated
Dimensions	130 x 85 x 30 mm 5.11 x 3.34 x 1.18 inches
Alarm	Yes, 95 dB
Mute button	Yes, 30 minutes
Relay Output	No
Mounting Type	Wall mount
Probe length	na
Communication	Analog
Certifications	CE and EMC

This product is in accordance with EMC 2004/108/EC, 92/31/EEG including amendments by the CE-marking Directive 93/68/EEC.

This product fulfills the following demands:
EN 61000-4-2 Level 2, EN 61000-4-3 Level 2, EN 61000-4-4 Level 4, EN 61000-4-6, EN 61000-4-8 Level 4, EN 55022 Class B

CE

ELECTRICAL CONNECTIONS

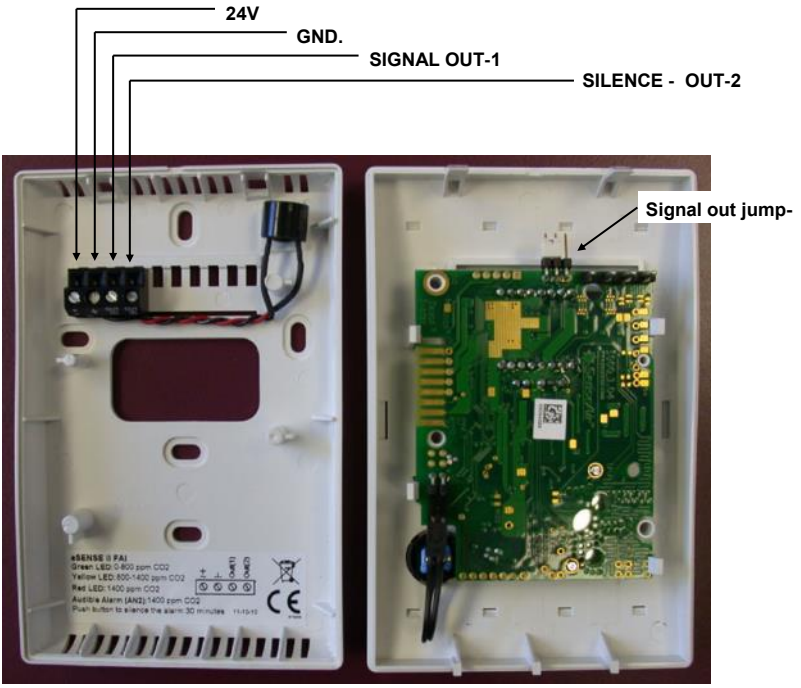
Terminal	Function	Electrical Data	Remarks, Standard Settings
+~	Power (+)	24VAC/DC+ (+/- 20%), 2W	
⏚	Power ground (-)	24VAC/DC-	System voltage reference
OUT-1	Analog output-1 (+)	0-10 VDC	0-2000 ppm CO2
OUT-2	Silences the audible alarm		A push on the push button silences the alarm for 30 minutes

The power supply has to be connected to +~ and ⏚ . ⏚ is considered as system ground.

PLEASE NOTE
The same ground reference has to be used for the AST-IS14 transmitters and for the control system.

LED Colour	Electrical Data	Remarks
Green	0 VDC 10 VDC	Lit between 0-800 ppm CO_2
Yellow	0 VDC 10 VDC	Lit between 800-1400 ppm CO_2
Red	0 VDC 10 VDC	Lit above 1400 ppm CO_2, Buzzer sounds

ELECTRICAL CONNECTIONS CONTINUED



Signal Out Selection

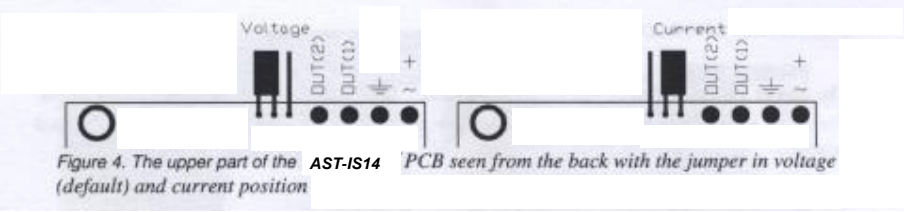


Figure 4. The upper part of the ***AST-IS14*** *PCB seen from the back with the jumper in voltage (default) and current position*

DIMENSIONS

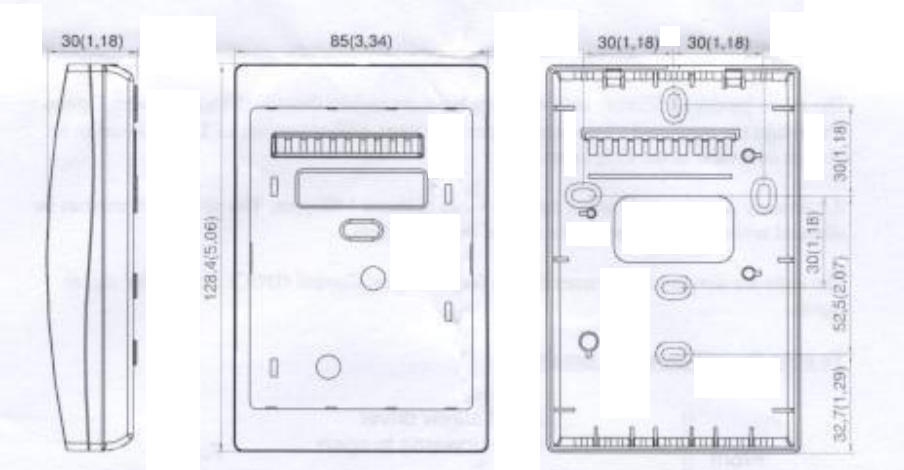


Figure 3. The dimensions of the sensor in mm and (inches)

SELF DIAGNOSIS

The system contains complete self-diagnostic procedures that are executed automatically when the sensor is in operation. Sensors with displays show a *wrench* if an error is found. The wrench is shown during the first seconds after power up and if the measuring range is exceeded.

MAINTENANCE

The AST-IS14 is basically maintenance free in normal environments thanks to the built-in self correcting ABC algorithm. Discuss your application with your distributor in order to get advice for a proper calibration strategy.

PLEASE NOTE
The sensor accuracy is defined at a continuous operation (at least 3-weeks after installation).

Critical Environment Technologies Canada Inc.

Unit 145, 7391 Vantage Way, Delta, BC, V4G 1M3, Canada

Toll Free: +1.877.940.8741

Tel: +1.604.940.8741

Fax: +1.604.940.8745

www.critical-environment.com

Distributed by:

Kenelec Scientific Pty Ltd
1300 73 22 33
sales@kenelec.com.au
www.kenelec.com.au