

# TWO-WIRE REMOTE SENSOR / TRANSMITTER

## CEA 420 SERIES



### FEATURES

- **DIGITAL DISPLAY AND NON DISPLAY VERSIONS ARE AVAILABLE**
- **EXPLOSION PROOF HOUSING FOR SENSOR AND TRANSMITTER**  
(CLASS 1, DIVISION 1, GROUPS B, C, AND D HAZARDOUS ATMOSPHERIC AREAS)
- **SINGLE HOUSING FOR 12 VOLT VERSION** (OTHERWISE AS SHOWN ABOVE  
WITH POWER TRANSFORMER IN SERIES FOR 24V OR 115/220VAC REQUIREMENTS)
- **CONTINUOUS 4-20mA SIGNAL FOR OUTPUT TO CONTROLLERS OR PLC**
- **UTILIZES UNIQUE, PATENTED SENSORS** (UNAFFECTED BY MOISTURE,  
TEMPERATURE CHANGE, EXCESSIVE GAS LEVELS OR POISONS)
- **RELIABLE, RAPID RESPONSE, AND HIGHLY SPECIFIC**
- **LOW COST AND EASY TO USE AND MAINTAIN**

The gas detector sensor is an adsorption-desorption type. The principle of detection depends on gas adsorption on the active catalyst surface at a preset temperature. The gas adsorption causes a resistance change between two electrodes embedded in the catalyst element. The resistance change depends on the type of gas-solid interaction and the temperature employed and causes a change in the gain of the operational amplifier providing a 4-20 mA output signal if provided with 12V, 24V, or 115/220VAC 50/60Hz power. Any controller or PLC that accepts a 4-20mA signal can interpret the CEA 420 signal. The sensing element is inside the sensor head together with two porous stainless steel screens, serving as flame arrestors. The sensors are explosion proof and are rated for Class 1, Division 1, Group B-C-D hazardous atmospheres. The sensors are unaffected by humidity or temperature changes. These special patented sensors are also highly poison resistant.



**CEA Instruments, Inc.**

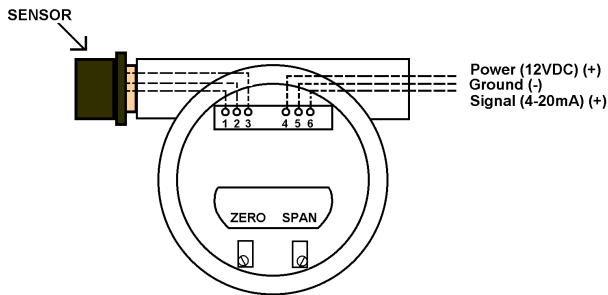
*"EXPERTS IN TOXIC GAS DETECTION"*

# CEA 420 SERIES SPECIFICATIONS

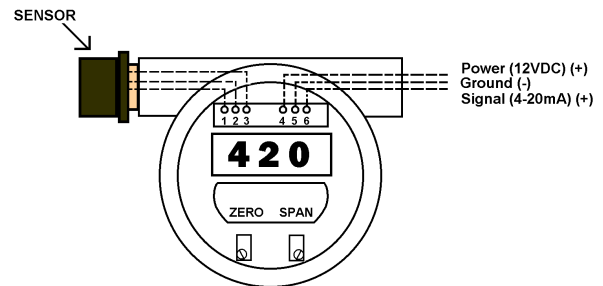
<u>MODEL</u>	<u>GAS</u>	<u>AVAILABLE RANGES (ppm)*</u>
CEA 421	Ethylene Oxide	0-10, 0-50, 0-100, 0-500, 0-1000
CEA 421-F	Formaldehyde	0-10, 0-50, 0-100, 0-500, 0-1000
CEA 422	Hydrogen Sulfide	0-10, 0-50, 0-100, 0-500, 0-1000
CEA 423	Sulfur Dioxide	0-50, 0-100, 0-250, 0-1000
CEA 424	Carbon Monoxide	0-100, 0-250, 0-500, 0-1000, 0-5000
CEA 425	Ammonia	0-100, 0-250, 0-500, 0-1000, 0-5000
CEA 426	Hydrocarbons	0-100, 0-250, 0-500, 0-1000, 0-10,000, 0-100% LEL
CEA 427	Hydrogen	0-1000, 0-5000, 0-20,000 (50% LEL), 0-100% LEL
CEA 428	Combustibles	0-1000, 0-50% LEL, 0-100% LEL
CEA 429	Freons	0-100, 0-250, 0-500, 0-1000, 0-10,000

\*Other ranges and gas sensors are available, consult factory

<b>SENSOR TYPE</b>	Solid State Diffusion Type
<b>OUTPUT SIGNAL</b>	4-20mA (optional 0-1VDC)
<b>DIGITAL DISPLAY (optional)</b>	PPM or %LEL
<b>RESPONSE TIME</b>	Less than 20 second to 90% full scale
<b>REPEATABILITY</b>	+/- 2%
<b>SENSITIVITY</b>	+/- 1% full scale
<b>ZERO DRIFT</b>	Less than 5% per month
<b>ACCURACY</b>	+/- 5% of reading
<b>WARM UP TIME</b>	2 to 3 minutes
<b>CONTROLS</b>	Zero adjust and Span adjust
<b>POWER INPUT</b>	12VDC, 24VDC, or 115/220VAC 50/60Hz
<b>POWER CONSUMPTION</b>	3.5 Watts
<b>TEMPERATURE RANGE</b>	-15°C to 60°C (5°F to 140°F)
<b>HUMIDITY RANGE</b>	Up to 95% relative humidity
<b>DIMENSIONS</b>	5" x 3" x 6" (or 12" Dumbbell Shape with power other than 12VDC)
<b>WEIGHT</b>	3 pounds (add 3 pounds for power transformer when not 12VDC)
<b>WARRANTY</b>	One year under normal operation
<b>ELECTRIC CLASSIFICATION</b>	General purpose area or NEC Requirement of Explosion proof Class 1, Division 1, Group B, C, and D Hazardous Atmospheres
<b>CABLE SIZE</b>	AC power: #18 AWG 3-conductor shielded cable DC power: #18 or #20 AWG 2-conductor shielded cable Signal Output: #20 AWG 2-conductor shielded cable



12 VDC DATA TRANSMITTER



12 VDC DATA TRANSMITTER WITH DIGITAL DISPLAY

(Specifications subject to change without notice.)



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## CEA 420 SERIES PRICE LIST

**REMOTE SENSOR / TRANSMITTER UNITS** enclosed in explosion proof housing rated for Class 1, Division 1, Groups B, C, and D hazardous atmospheric areas with 4-20 mA signal output when provided with 12 VDC, 24 VDC, 115VAC, or 220 VAC power (**specify**)

CEA 420 with single housing (For 12VDC power only)	Non display version	\$ 1095 <sup>1</sup>
	With Digital Display	\$ 1295 <sup>1</sup>
CEA 420 with dual housing in series (For 24VDC, 115VAC, or 220VAC power)	Non display version	\$ 1295 <sup>1</sup>
	With Digital Display	\$ 1495 <sup>1</sup>

<u>MODEL</u>	<u>GAS</u>	<u>AVAILABLE RANGES (ppm)<sup>2</sup></u>
CEA 421-XX	Ethylene Oxide	0-10, 0-50, 0-100, 0-500, 0-1000
CEA 421-F-XX	Formaldehyde	0-10, 0-50, 0-100, 0-500, 0-1000
CEA 422-XX	Hydrogen Sulfide	0-10, 0-50, 0-100, 0-500, 0-1000
CEA 423-XX	Sulfur Dioxide	0-50, 0-100, 0-250, 0-1000
CEA 424-XX	Carbon Monoxide	0-100, 0-250, 0-500, 0-1000, 0-5000
CEA 425-XX	Ammonia	0-100, 0-250, 0-500, 0-1000, 0-5000
CEA 426-XX	Hydrocarbons (No response to Methane)	0-100, 0-250, 0-500, 0-1000, 0-10,000, 0-100% LEL
CEA 427-XX	Hydrogen	0-1000, 0-5000, 0-20000 (50% LEL), 0-100% LEL
CEA 428-XX	Combustibles (As Methane)	0-1000, 0-50% LEL, 0-100% LEL
CEA 429-XX	Freons (Specify)	0-100, 0-250, 0-500, 0-1000, 0-10,000

<sup>1</sup>Freons and SO<sub>2</sub> add \$200

<sup>2</sup>Other ranges may be available, consult factory

Specify gas, model number, measurement range (XX), power requirements, and then add D for digital display versions when ordering. For example: **Hydrogen CEA 427-1000-12V-D** would be for the 12V version of the CEA 427 Hydrogen 0-1000 ppm with digital display.

### SPARES

Replacement Freon or Sulfur Dioxide Sensor (Specify target gas & full range)	\$ 400.00
Other Replacement Sensors (Specify target gas & full range)	\$ 350.00
Calibration / Flow Adapter Cap	\$ 50.00