



Combustible Gas Transmitter Model 505

DESCRIPTION

The Model 505 Transmitter is used with Det-Tronics constant voltage catalytic bead sensors to provide a linear 4 to 20 ma output signal that corresponds to a 0 to 100% LFL gas concentration. The Model 505 is compatible with virtually any control device capable of accepting a 4 to 20 ma signal input.

The transmitter is furnished with an explosion-proof junction box with removable cover (available in aluminum or stainless steel). Two, three or five port models are offered with 3/4 inch NPT or M20 threads.

The Model 505 Transmitter is available with two output loop resistance options. Option A is designed for a 0 to 125 ohm load (including wire resistance) and a 10 to 30 volt dc power supply. Option B is designed for a 0 to 500 ohm load (including wire resistance) and a 17 to 30 volt dc power supply.

Calibration and sensor sensitivity check can be performed by one person using a standard digital voltmeter (not included).

FEATURES AND BENEFITS

- Linear 4 to 20 milliampere dc output.
- Current level indicates fault condition and calibrate mode.
- Sensor sensitivity check.
- Suitable for use in a wide variety of combustible gas detection applications.
- Compatible with all Det-Tronics catalytic sensors.
- Direct field replacement for Det-Tronics K Series and Model 500 Transmitters utilizing existing wiring and junction boxes.
- Explosion-proof junction box available in aluminum or stainless steel with up to five ports — two port model available in 90° or 180° configuration.
- FMRC, CSA and CENELEC Certified.

ACCESSORIES

- Sensor Separation Kit to enable remote sensor mounting.
- Sensor Rain Shield and Dust Cover for sensor protection.
- Duct Mount Assembly for sensor mounting to duct.
- Sample Draw Assembly for extractive systems.
- Calibration Kits in various gas types and concentrations.

SPECIFICATIONS

Input Voltage	With loop resistance option A: 10 to 30 vdc. With loop resistance option B: 17 to 30 vdc. Linear, regulated, filtered 24 vdc power source is recommended.
Power Consumption	4.0 watts maximum.
Peak Startup Current	Less than 0.5 ampere for < 0.2 second at 10 vdc input. Less than 0.2 ampere for < 0.2 second at 24 vdc input.
Output Current	Linear 4 to 20 milliamperes.
Current Level	Fault: < 2.0 ma. Cal. Mode: 3.5 ma (non-adjustable).
Load Resistance	Option A: 125 ohms maximum. Option B: 500 ohms maximum.
Temperature Range	Operating: -40°F to +167°F (-40°C to +75°C). Storage: -67°F to +185°F (-55°C to +85°C).
Humidity Range	0 to 99% RH, non-condensing.
RFI/EMI Immunity	Output varies < ± 0.5 ma with a 5 watt 157 Mhz or 451 Mhz walkie-talkie keyed at distances > 1 foot from the Model 505 with junction box cover installed. Complies with EN50081-1, EN50082-2.
Dimensions	2 Port (90°): L = 4.1 in. (10.4 cm) W = 4.5 in. (11.4 cm) H = 3.7 in. (9.4 cm) 2 Port (180°): L = 5.8 in. (14.7 cm) W = 4.7 in. (11.8 cm) H = 3.7 in. (9.4 cm). Thread size = 3/4 NPT or M20.

SPECIFICATIONS (continued)

Certification	FMRC/CSA: Direct Sensor Mount: Class I, Div. 1, Groups B, C & D. Remote Sensor Mount: Class I, Div. 1, Groups B, C & D Class II, Div. 1, Groups E, F & G Class III; NEMA Type 4X.
	CENELEC: EEx d IIC T6 (T _{amb} = -55°C to +40°C) EEx d IIC T5 (T _{amb} = -55°C to +75°C).
	NOTE: Ensure sensor hazardous (classified) location rating is applicable for the intended use.

ORDERING INFORMATION

When ordering, please specify:

Model	Description
505A2A2A1A	Alum, 2 port (180°), 3/4 inch, 125 ohm, FM/CSA
505A3A2A1A	Alum, 2 port (90°), 3/4 inch, 125 ohm, FM/CSA
505A2C2A1E	Alum, 2 port (180°), M20, 125 ohm, CENELEC
505A3C2A1E	Alum, 2 port (90°), M20, 125 ohm, CENELEC
505A2A2B1A	Alum, 2 port (180°), 3/4 inch, 500 ohm, FM/CSA
505A3A2B1A	Alum, 2 port (90°), 3/4 inch, 500 ohm, FM/CSA
505A2C2B1E	Alum, 2 port (180°), M20, 500 ohm, CENELEC
505A3C2B1E	Alum, 2 port (90°), M20, 500 ohm, CENELEC
505S3A2A1A	SS, 2 port (90°), 3/4 inch, 125 ohm, FM/CSA
505S3C2A1E	SS, 2 port (90°), M20, 125 ohm, CENELEC
505S3A2B1A	SS, 2 port (90°), 3/4 inch, 500 ohm, FM/CSA
505S3C2B1E	SS, 2 port (90°), M20, 500 ohm, CENELEC

Please refer to form number 90-1041 for Det-Tronics catalytic combustible gas sensor specification data.



Detector Electronics Corporation

6901 West 110th Street • Minneapolis, Minnesota 55438 USA
(612) 941-5665 or (800) 765-FIRE • Fax (612) 829-8750
<http://www.detronics.com> • E-mail: detronics@detronics.com

Specifications subject to change without notice.