ADOS®
est. 1900

Instrumentation and Control

LOWCOST GASTRANSMITTER

LCTR 903

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Application

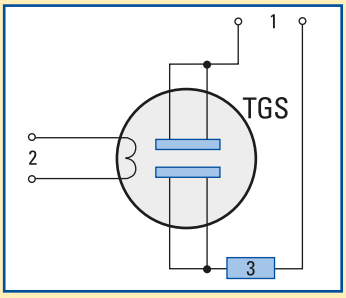
The gas transmitter ADOS LCTR 903 is suitable for the detection of combustible gases, for example hydrogen, methane (natural gas) or propane/butane (LPG) in air in the LEL region.

Fields of Application

- Gas fired boiler systems
- Gas distribution station
- Gas transfer station
- Battery-charging station

The TGS sensor

The **TGS sensor** contains a semiconductor sensor, which is constructed on SnO_2-sintered N-substrate. When combustible or reducing gases are absorbed by the surface of the sensor, the concentration of the test gas is determined by the change in conductivity.

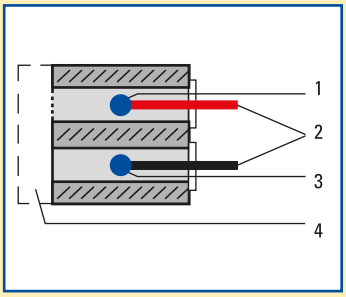


1 = Circuit voltage
2 = Heating voltage
3 = Load resistor

The VQ sensor

The head of the **VQ sensor** functions on the principle of heat reaction. When combustible or reducing gases or vapours come in contact with the measuring element, they are subjected to catalytic combustion, which causes a rise in temperature; this rise causes a change in the resistance of the measuring element which is used as a measure of the component of gas being tested.

The inert element is for compensating the temperature and conductivity of the test gas.



1 = Catalyzer pellistor
2 = Electric connections
3 = Inert pellistor
4 = Diffusion filter

Technical Data

Type	TGS	VQ	IR
Measurement method:	Semiconductor	Heat reduction	Infrared
Measurement range:	ppm ranges to 0–100 % LEL	ppm ranges to 0–100 % LEL	0–100 % LEL CH_4, C_3H_8, C_2H_2 0–100 Vol % CH_4 0–1, 2, 3, 4, 5 Vol % CO_2
Percentage error of f.s.d.:	±15 %	±3%	±3 %
Linearity:	<15 % of f.s.d.	<3 % of f.s.d.	<3 % of f.s.d.
Temperature range:	+4 °F to +113 °F	+4 °F to +113 °F	+4 °F to +113 °F
Temperature effect:	5 %	2 %	approx. 2 %
Response time (t_{90}):	approx. 60 sec.	approx. 60 sec.	< 80 sec.
Pressure effect:	1 %	1 %	1 %
Mounting position:	optional	optional	optional
Application:	Poisonous, combustible and explosive gases in the LEL region	Poisonous, combustible and explosive gases in the LEL region	Poisonous, combustible and explosive gases in the LEL region
Expected operation time for sensor:	> 2 years	> 2 years	approx. 5 years
Supply voltage:	15 – 30 VDC	15 – 30 VDC	15 – 30 VDC
Power:	2 W	2 W	2 W
Interface:	4–20 mA three-wire or LON® four-wire techniques (LCTR 404), galvanically isolated, data transmission 78 kbps	4–20 mA three-wire or LON® four-wire techniques (LCTR 404), galvanically isolated, data transmission 78 kbps	4–20 mA three-wire or LON® four-wire techniques (LCTR 404), galvanically isolated, data transmission 78 kbps
Protection class:	IP 54	IP 54	IP 54
Dimensions: (diameter x height)	3.15 x 3.15 inch	3.15 x 3.15 inch	3.15 x 3.15 inch
Weight:	1.32 lbs	1.32 lbs	1.32 lbs

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