

PolyGard® Hydrogen Sulphide H₂S Transmitter ADT53 1197

DESCRIPTION

H₂S transmitter including digital measurement value processing and temperature compensation for the continuous monitoring of the ambient air to detect hydrogen sulphide (H₂S) concentrations. Integrated in the transmitter there is a comfortable calibration routine with selective access release. The ADT-03 is equipped with a standard analog output (0) 4- 20 mA or (0) 2– 10 V DC, and an RS-485 interface. 2 relays with adjustable switching thresholds are available as an option.

APPLICATION

For the detection of hydrogen sulphide within a wide range of industrial and commercial applications. The H₂S transmitter is compatible to the PolyGard Gas Controller series MGC and DGC by MSR-E as well as to any other electronic control or automation system.



Standard enclosure

FEATURES

- Digital processing of the measurement values incl. temperature compensation
- Continuous monitoring
- Low zero point drift
- Good stability to poisoning
- Long-life sensor
- Modular plug-in technology
- Easy maintenance
- Comfortable calibration with selective access release
- Reverse polarity protected, overload and short-circuit proof
- (0) 4 - 20 mA / (0) 2 – 10V analog signal output, selectable
- Serial interface RS-485
- IP65 protected
- Manual calibration via potentiometer (option)
- Manual addressing for RS-485 mode (option)
- 4 – 20 mA analog input for an external AT transmitter (optional)
- Relay output (optional)
- Integrated buzzer (optional)
- LCD display (optional)
- Heating (optional)
- Duct mounting (optional)

SPECIFICATIONS

General sensor performance

| | | |
|----------------------------------|--|---------------------------------|
| Detected gas | Hydrogen sulphide (H ₂ S) | |
| Sensor element | Electrochemical, diffusion | |
| Measuring range (standard) | 0 - 50 ppm or 0-200 ppm (factory set), others on request | |
| Accuracy | < 0,2 ppm | |
| Repeatability | < 2 % of reading | |
| Long-term output drift | < 2% signal loss/month | |
| Response time | t ₉₀ < 35 sec. | |
| Sensor life expectancy | 2 years/normal operating environment | |
| Temperature ranger | -10 °C to 50 °C (14 °F to 122 °F) | |
| Pressure range | Atmospheric ± 10 % | |
| Humidity range | 15 – 90 % RH non-condensing | |
| Storage temperature | 5 °C to 30 °C (41 °F to 86 °F) | |
| Storage time | 6 months | |
| Mounting height | 200 mm above floor | |
| Cross sensitivity ¹ | Concentration (ppm) | Reaction (ppm H ₂ S) |
| Carbon monoxide; CO | 100 | < 2 |
| Sulphur dioxide, SO ₂ | 100 | ~ 20 |
| Nitrogen dioxide NO ₂ | 5 | - 1,0 |
| Nitrogen oxide, NO | 35 | < 2 ppm |
| Hydrogen, H ₂ | 100 | 20 |

Electrical

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| Power supply | 18 - 28 VDC/AC, reverse polarity protected |
| Power consumption (without options) | 22 mA, max. (0,6 VA) |

Output signal

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| Analog output signal | (0) 4 – 20 mA, load ≤ 500 Ω, |
| Selectable: Current / tension | (0) 2 - 10 V; load ≥ 50 k Ω |
| Starting point 0 / 20 % | proportional, overload and short-circuit proof |

Serial interface

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| Transceiver | RS 485 / 19200 Baud (9600 at Modbus) |
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Physical characteristics

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|---------------------------------------|---|
| Enclosure Plastic Type A ² | Polycarbonate |
| Flammability | UL 94 V2 |
| Enclosure color* | RAL 7032 (light grey) |
| Dimensions (W x H x D) | 94 x 130 x 57 mm (3.7 x 5.12 x 2.24 inch.) |
| Weight | Approx. 0.5 kg (1.1 lbs.) |
| Protection class | IP 65 |
| Installation | Wall mounting |
| Cable entry | Standard 1 x M 20 |
| Wire connection | Screw type terminal, min. 0.25 mm ² (24 AWG) max. 2.5 mm ² (14 AWG) |
| Wire distance | Current signal ca. 500 m (1500 ft.) Voltage signal ca. 200 m (600 ft.) |

Guidelines

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| | EMC Directive 89/336/EEC |
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Warranty

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| | 1 year on material (without sensor) |
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¹ The table doesn't claim to be complete. Other gases can have an influence on the sensitivity, too. The mentioned cross sensitivity data are only reference values valid for new sensors.

² For further enclosure types see datasheet AT-DT Enclosure.