

Product Engineering Sheet

Engineering Specification for a Hydrogen Sulphide Addressable Transmitter

General Description

The H₂S detector shall be the Addressable Transmitter type with 0-22mA output and have an integral 3-digit display, capable of reading up to 120% of full scale. Field connection shall be by 3-core screened and armored cable and user interface be made by the application of a magnet externally to activate the menu set-up routine. Calibration shall be the Single Point type (50% FSD) and performed by one man at the location of the transmitter.

The instrument shall be capable of recording the number of successful calibrations, and the sensor resistance in Kohms during calibration and storing in non-volatile memory, along with calibration and set-up parameters.

System Specifications

The instrument shall be capable of measuring 0-20ppm, 0-50ppm or 0-100ppm, as selected by user. The accuracy of the instrument will be 4ppm or 10% of applied gas whichever is greater. The response time of the instrument when exposed to full scale gas concentrations shall be T50 < 2 minutes. Calibration will be completed in less than 5 minutes. All calibration parameters will be tested by advanced software routines before being accepted and any errors will be shown on the digital display. Unless specified otherwise, the following factory default settings shall be used:

Range	0-20ppm
A1 trip level	5ppm
A2 Open collector output	De-energized and non-latching
A2 Trip level	10ppm
A2 Open collector output	De-energized and non-latching
Analog output during calibration	1.5mA
MODBUS Baud rate	19200 Baud
MODBUS format	1 stopbit, no parity, 8 databits
MODBUS Node address	1

Mechanical Specifications

The housing size for the Addressable Transmitter shall be 150mm x 150mm x 95mm (6"x6"x3.75"). The weight of the transmitter, including sensor, shall be 2.5kg (5.5 lbs.). There shall be an EExe II terminal block for field connection.

Electrical Specifications

The operating voltage shall be 24 VDC nominal with a range of 10 VDC/35 VDC. Power consumption (including sensor) shall be 140 mA/200 mA @ 24 VDC, 240 mA/360 mA @ 12 VDC. Analog output during calibration shall be user selectable between 0.0mA, 1.5mA and 2.0mA. Open collector options shall be user selectable Energized/De-energized and Latching/Non-latching. MODBUS baud rate shall be user selectable at 2400, 4800, 9600 or 19200 Baud. The MODBUS communications interface shall be based on the RS-485 standard and shall allow two-way addressable communications.

Environmental Specifications

The operating temperature shall be -50°C to +70°C (-58°F to 158°F). The operating humidity range shall be 5% to 100% RH, non-condensing. The instrument shall meet EN50082 for EMI/RFI susceptibility @ 10V/m. The instrument shall meet EN50081-1/2 in regard to EMI/RFI emission.