Model 5026 Oxygen Gas Detection Module

- ***Single slot plug-in module which can be inserted into or removed from rack with power on***
- ***Monitors Oxygen sensors via 4-20 mA sink or source input***
- ***Digital 7-segment LED readout in percent volume***
- ***Oxygen deficiency and oxygen enrichment alarm trip points***
- ***Field wiring continually monitored for faults***
- ***Incoming signal digitally filtered to reject transients and line noise***
- ***Module outputs automatically supressed during calibration or test***
- ***Can accept any sensor with 4-20 mA output, regardless of manufacturer***

The SST Model 5026 Oxygen Deficiency/ Enrichment Gas Detection Module monitors the concentration of oxygen in a protected area. The module works with any sensor that has a 4-20 mA output signal.

During normal operation, only the green Power LED and the digital display indicating 20.9% oxygen are visible on the module. Associated with the display are two independent alarm trip circuits. The Low alarm is set to activate when an oxygen deficiency is detected. This alarm is factory set to trip at 19.5% oxygen, but can be changed to any other desired setting below 20.9%. The High alarm trips on oxygen enrichment. It is factory set to 22.0%, but can be reset as desired. When the level of oxygen passes the trip points, the red LOW or HIGH LED will begin flashing, and the modules low or high alarm relay is energized. At the same time, a short pulse signal is sent on the main system alarm bus to initiate an external alarm signal. The lights continue to flash until the module receives an **Acknowledge** signal (typically from an external pushbutton); this causes the flashing lights to change to a steady "on" condition. If the alarm circuits are set to be **"latching,"** alarm indications and outputs remain until the Reset switch is depressed.

During normal operation, the sensor wiring connected to the module input terminals is continuously **"supervised"** for faults. The supervised circuit will cause the yellow fault LED to flash (until acknowledged) if any field wire is open, shorted, or drawing excessive current. Any power failure will be indicated by illumination of the yellow power fault LED.

Depressing the **Mode** switch on the front of the module, when no alarm is in effect, will momentarily display the LOW and HIGH alarm trip point settings in the module. The mode switch can also be used to initiate the module calibration routine. If the calibrating gas is now applied to the gas sensor, the digital readout, alarm LED's and lamp outputs will function normally. However, the alarm relay outputs will not be activated. During calibration, the green CALIB LED flashes, and calibration data is automatically stored in the module's non-volatile memory.

In addition to the features noted above, all LED's will be illuminated when the LAMP TEST bus input is activated. Each module mounts in one plug-in space in the NOVA-5000 Rack Assembly.

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

Oxygen gas detection capability shall be provided by plug-in module(s) with associated oxygen gas detectors, suitable for detecting oxygen in concentrations from 0 to 25% by volume. The module shall utilize a standard 4-20 mA circuit between the module and the sensor devices, and be capable of supplying operating current for these devices. The field installed wiring between the module and field device shall be continuously supervised, and a fault reported upon detection of any open or short circuit. Oxygen deficiency, oxygen enrichment and fault conditions shall be indicated by LED's on the front of the module. The LED's shall flash when activated until an "acknowledge" signal is applied to the module, at which time any flashing LED's shall change to a steady "on" indication. The module shall provide a front panel mounted MODE switch which enables calibration and testing of the alarm circuits in the module without activating the system outputs from the module. It shall be permissible to insert or remove the module from its mounting rack without removing power from the rack, and the manufacturer's literature shall so state. Safety Systems Technology Model 5026 series Oxygen Gas Detection Modules, or approved equivalent, shall be supplied.

MODULE TECHNICAL SPECIFICATIONS

Sensor Input:	4-20 mA current input 0.2 volts maximum voltage drop Suitable for any loop powered sensor that provides a 4-20 mA output.
Alarm Relay Contacts:	1.0 Amp @ 28 VDC Resistive One set for Low Alarm, one set for High Alarm. Connect to 3 screw terminals on backplate, NO, COM, NC.
Solid State Alarm Outputs:	Open Collector current sink, 300 mA max. Follows state of alarm relays on module.
Analog Output:	Module will source 0 to 20 mA DC into a load of 600 ohms or less Can be used to transmit current at sensor input to external equipment.
Digital Readout:	0.00 to 25.0 percent oxygen by volume Display resolution is 0.1%.
Front Panel Indicators:	Power On, Power Fault, Low Alarm, High Alarm, Calibrate running, Mode, Channel Fault All indicators are Light Emitting Diodes (LED's).
Front Panel Switches:	Mode, Reset
Internal Adjustments:	Alarm trip level set up, down Trip levels set digitally and remembered in microprocessor. Extender card required to adjust levels.
Power Required:	24 VDC nominal, 110 mA standby, 125 mA alarm Total for module and associated loop powered sensor.
Size:	0.99" wide x 5.06" high x 7.4" deep Requires 1 mounting space in SST Standard Mounting Rack.
Weight:	7 ounces

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
35026	Model 5026 Oxygen Deficiency/Enrichment Gas Detection Module
35360	Module Calibration and Test Extender Card

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