MODEL 5000

S E N T R Y

GAS MONITORING SYSTEM

Version 6

Model 4314 Output Expansion Panel

APPLICABILITY & EFFECTIVITY

Effective for all Sentry systems manufactured after September 1, 1995.

Instruction Manual Part Number T12001-A1

Sierra Monitor Corporation
1991 Tarob Court, Milpitas, CA 95035
(408) 262-6611

8.7 APPENDIX G - MODEL 4314 OUTPUT EXPANSION PANEL

8.7.1 EXPANSION PANEL DESCRIPTION

The Model 4314-01 Output Expansion Panel extends Sentry low and high alarm capability by providing individual single pole double throw (SPDT) dry contacts for each alarm level for each module, and also provides eight analog outputs for retransmission of the gas concentration values for each sensor. Model 4314-01 is an alternative option to Model 5392 and requires the firmware enhancement. The panel is designed to be installed as follows:

- Rack, Chassis and Wall Mount Controllers: Mounted on stand-offs on the connector panel of the controller, or installed on the back of spare slots in 19" instrument shelf Model 5331-00.
- NEMA 4X Enclosure: Mounted on swinging connector panel beside the display panel.

The panel connects to the Sentry controller via a ribbon cable and a two conductor wire harness.

8.7.2 EXPANSION PANEL ASSEMBLY

Expansion Panels supplied with original Sentry shipments are factory pre-assembled with the controller. For NEMA enclosures, the panel is fully installed prior to shipment. For other controllers minor final assembly is described below.

Expansion Panels supplied as add-on to original Sentry controllers require that the connector panel of the controller be removed so that threaded stand-offs (supplied) can be installed onto the four corners of the panel.

8.7.3 INSTALLATION

The following are instructions for final installation and wiring of the Output Panel:

1. Perform normal installation of the Sentry controller and modules and perform function checks of the basic system.
2. Power down the system.
3. Plug the Output Expansion Panel connector cable into the connector panel of the controller. See J3 Figure 8-4 not required for NEMA enclosures].
4. Connect the two position DC power connector to Power (P) and Ground (G) on any channel of the Sentry controller.
5. Mount the panel on the four stand-offs on the connector panel of the controller [not required for NEMA enclosures].
6. Make the necessary connections to the HIGH and LOW relays for each of the Modules as required for the particular application. Note that these are dry contact relays and that power must be connected from an external source.
7. Make the necessary connections to the analog output terminals located across the lower side of the panel. The outputs are preconfigured for 4-20 mA proportional to the full scale of the corresponding input sensor module. The outputs can be forced high or low for test purposes by using diagnostic codes. See Section 7.3.5

8.7.4 OPERATION

Figure 8-4 shows the location of the sixteen relays which are (marked as "high" and "low" alarms for the respective modules) and the eight analog outputs marked.

The analog outputs are always active except during calibration when they are locked at 4 mA.

When any module connected to the controller is in alarm it's respective relay will be energized.

To operate alarms or other auxiliary equipment connect to the required relays according to the module number.

Several logic configurations are available:

- The user can configure each alarm as latching or non-latching via the **CHANGE MODULE** menu activity.
- A factory option available with the Enhancement Package allows all high, or all low alarms, or both, to be configured for alarm acknowledge when latched.
- A factory option available with the Enhancement Package allows alarm states to be combined into zones and voting groups for activation of individual relays.

Table 8-2 is helpful for determining the relay actions which will occur under various alarm conditions based on the user's configuration.

8.7.5 OUTPUT EXPANSION PANEL TESTING

The relay outputs can be forced to the energized state by using the front panel **TEST ALARMS** function.

The analog outputs can be forced to 4 mA by using diagnostic code 0012.

The analog outputs can be forced to 20 mA by using diagnostic code 0013.

The analog outputs can be returned to normal operation by using diagnostic code 0000.

8.7.6 INDIVIDUAL RELAY SPECIFICATIONS

- Dimensions 7.0” X 4.2” X 1.2” (HWD)
- Relays

Number of Relays	16 SPDT
Contact Rating	6A
Wire Terminals	Screw Terminals

- Analog Outputs

Number of Outputs	8
Scale	4-20 mA
Loop Resistance (max.)	800 Ohms
Wire Terminals	Compression