

Telchine Energy Technologies Ozone Ambient Monitor

The Telchine Energy Technologies ambient ozone monitor has a bright 3.5" display and an intuitive user interface menu. A built-in 1 LPM sample pump provides continuous sample flow for reliable gas monitoring. A built-in 1-micron sample filter provides protection in harsh or dusty environments.

The gas flow is monitored internally so that users will be notified if the filter is clogged, missing, or if the pump has failed. Dual alarm setpoints with independent SPDT alarm output relays make system integration simple.

An audible alarm horn and visual red strobe are installed to make alarm conditions evident.

The TE-AMB also offers a 4-20mA analog output for remote monitoring. There are two factory voltage options available: 24 VDC or 84-240VAC 50/60Hz.

Sample inlet and exhaust are ¼" OD push-to-connect tubing fittings. Ozone alarm pre-set points are 0.100 PPM to 0.300 PPM. Standard ozone sensor range is 0.060 PPM to 1.000 PPM.

The TE-AMB offers enormous savings regarding required annual maintenance compared to competitive monitors in the market.

Once a year, the sample pump and ozone sensor must be changed. This process takes less than 5 minutes.

POWER CONNECTION

The unit will be factory configured for either 24VDC or 84-240VAC 50/60Hz. This is configured by customer request. Standard configuration is 84-240VAC 50/60Hz. The power connection is made on the lower right terminal strip inside the unit marked "PWR+L", "PWR-N" and "GND".



INITIAL POWER UP

Once the unit is energized there is a 24hr “warm up period” that will occur before the ozone sensor becomes fully activated. The unit will detect ozone during this period, but maximum sensitivity becomes available after 24 hrs. If reading more than zero without ozone, see below.

INTERFERENCES

Certain chemical compounds may cause sensor failure if exposed. Take caution if any construction activities take place in TE-AMB installation locations. Floor epoxies, paints, and certain cleaning chemicals may cause damage. If there is any question that this has occurred, the sensor should be replaced immediately. Replacement sensor’s part number is “TE-AMB-O3-OZS”. Below is a list of compounds that should be avoided.

- Chlorine or other halogen compounds
- Sulphur compounds
- Nitrides of nitrogen (NO_x)
- Urine residues or ammonia compounds
- Acid gases such as sulfuric or nitric acid fumes.

OPERATION

The system menu is accessed by pressing the “MENU/RESET” button on the front of the unit. Scrolling left or right on the dial will access the various menu options. To modify a setting scroll to it and press the menu button. This will highlight the setpoint and scrolling left or right will increase or decrease the value. Press the menu button again to save the new setting.

ALARMS

- If the ambient ozone alarm(s) is activated the horn will sound and the strobe will flash. The associated alarm output relay will change state if the reading is above the ALARM1 and or ALARM2 setpoint. The unit will remain in this state until the reading falls below setpoint. If an alarm has occurred, pressing the menu button once will silence the horn however the strobe will continue to flash until the alarm has cleared.

- Menu item ALARM RELAY FUNCTION for LATCHING provides a feature that keeps the ALARM relay locked on until the MENU/RESET button is pressed. This prevents ozone leakage by cycling the alarm relay on and off.
- NON-LATCHING allows the alarm relay to automatically reset once the ozone reading falls below setpoint.
- RELAY DIRECTION allows the user to keep the relay in one position as long as power is applied or NOT. This feature can be used to disable an ozone system if the monitor power is removed. The relay is “HELD HIGH” with power.

SERVICE

- Before servicing the monitor be sure to remove all power and follow any lockout tagout procedures if required. Dangerous voltages could be present inside. The onboard 1 micron Teflon Luer filter may become clogged over time. The monitor will indicate a filter issue on the display, “LOW FLOW” “MISSING FILTER” or “PUMP FAIL” will pop up on the screen. To change the filter, remove the monitor cover and simply twist the white filter attachment counterclockwise and the filter will detach. The other end of the filter is inserted into the sample tubing and should pull out easily. Be careful when installing a new filter as the Teflon liner inside the tubing may become bunched and cause a flow restriction.
- The sample pump must be changed annually. The service kit (TE-AMB-ANNSERV) will contain a new sample pump, new calibrated ozone sensor, sample filter, and a small zip tie to secure the pump. Cut the zip tie and lift the



pump out of the housing, pay attention to the tubing connections on the pump and be sure to reconnect correctly or the gas flow will be reversed. Use a small flathead screwdriver to pry the wire terminals loose and remove the red and black pump power connections. Installation is reverse of removal. Use the zip tie in the service kit to re-secure the new sample pump.

- The ozone sensor must be changed annually and is included in the service kit (TE-AMB-ANNSERV). Remove the ozone sensor from the board by pulling the white Teflon sensor cap to the left and away from the sensor circuit board. The sensor is pressure fit inside the Teflon cap. Remove the sensor from the cap. Be sure to note the pin orientation on the back of the sensor as the new sensor must be oriented in

the same manner. Reinstall the sensor into the sensor circuit board socket. The new sensor will require 24hrs to warm up before becoming fully activated. If reading more than zero without ozone remove the main cover and press the ZERO button on the ozone sensor circuit board.

PARTS

- 1ea. Sample Filter – TE-AMB-SF
- 1ea. Sample Pump – TE-AMB-SP
- 1ea. Ozone Sensor – TE-AMB-OZS
- Annual Service Kit – TE-AMB-ANNSERV (contains all 3 parts)

