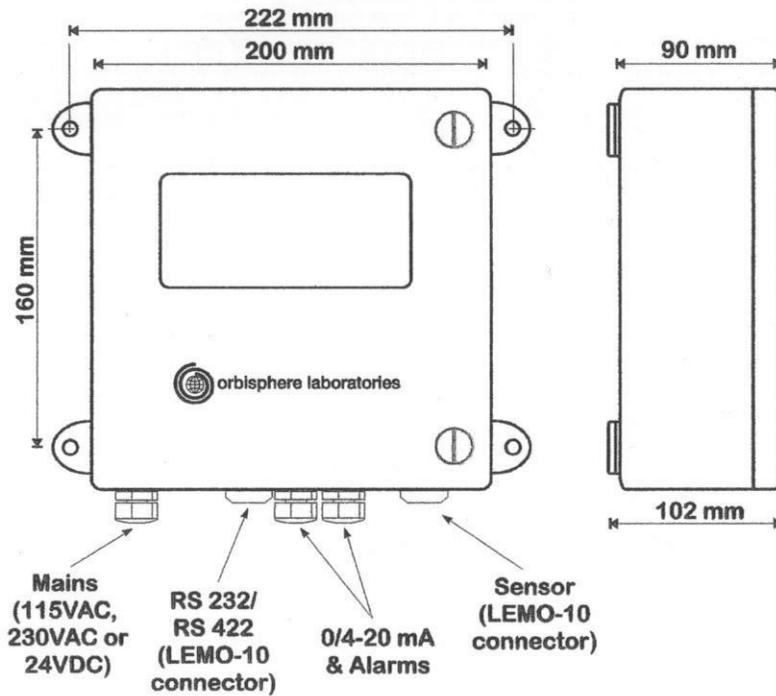




# 3660 Oxygen or Ozone Analyzer



### To Mount the Instrument—

The model 3660 instrument uses four 8-mm bolts to mount directly to a wall. Note that the instrument is hinged at its left side, and that a minimum of 200-mm front panel clearance is required to open completely. The front panel is secured shut by two flat-head screws. It will be necessary to open this panel to operate the instrument's keypad and power on/off switch.

Five possible connection points, for power mains, instrument-to-PC serial port, analog and alarm outputs, and oxygen or ozone sensor, are provided at the instrument's bottom; an additional 150 mm must be permitted for cable access. See pages 2 and 3 for connection and wiring instructions.

Depending on your application, your system may include a sampling device such as a flow chamber or a sensor socket to bring the sensor in contact with the gaseous or liquid sample. See page 4 for sensor mounting instructions.

# Instrument Electrical Connections

Both the sensor and the PC RS-232/RS-422 connections are made via pre-wired LEMO-10 connectors on the bottom of the instrument housing (see illustration on page 1). The sensor uses a detachable cable, model 32502, to connect to the instrument. Make sure the LEMO connector "clicks" when inserting into instrument. The PC connection uses a cable with a 9-pin D-type connector for RS-232 or RS-422 interface. See page 3 for PC wiring information.

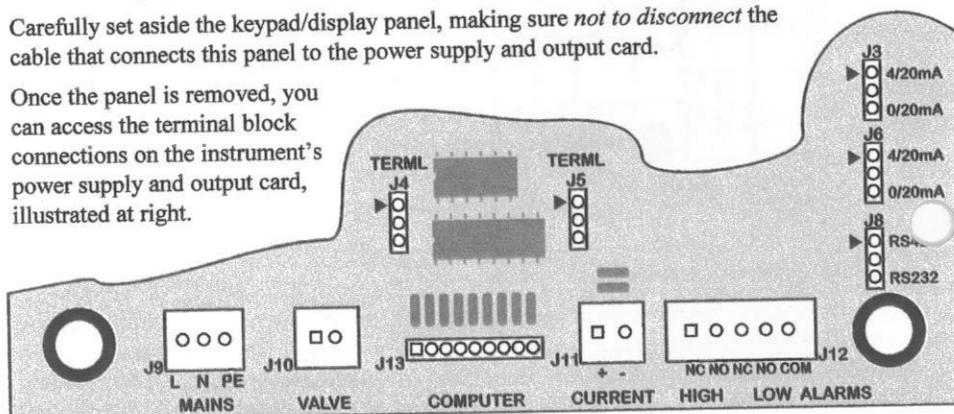
Power mains, analog current outputs, and alarm outputs are connected via stainless steel watertight glands at the bottom of the instrument housing (see page 1) — these connections must be hard-wired to a terminal block inside the instrument, as described below.

## To Connect Power, Analog Output, and Alarm Cables—

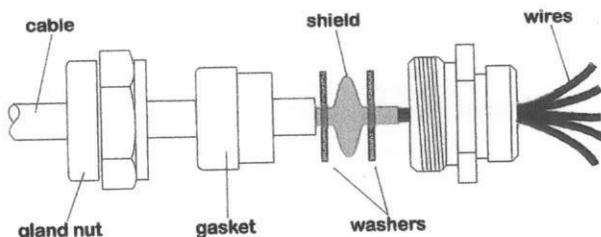
When the front panel is opened, the 3660 instrument's display and keypad are accessible. To make electrical connections or switch between available RS-232 and RS-422 digital connections (page 3), loosen the two flat-head screws holding the keypad and display.

Carefully set aside the keypad/display panel, making sure *not to disconnect* the cable that connects this panel to the power supply and output card.

Once the panel is removed, you can access the terminal block connections on the instrument's power supply and output card, illustrated at right.



The instrument's cable glands are EMC type, designed so that the cable shields can be directly attached to the instrument box. *The cable shield must be grounded to the instrument case, preferably using gland's washers as shown at the right.*



- **Line power (mains)** — attach the wires to the "MAINS" terminal block, J9, as follows:  
115 and 230 volt AC power: PE = Earth; N = Neutral; L = Live.  
10-36 volt DC power: PE = Earth; N = Ground; L = 10-36 VDC.
- **Analog Current Output** — attach the applicable wires to the "+" and "-" terminals of the "CURRENT" terminal block, J11.
- **Alarm Contacts** — attach the "hot" alarm wire to either the NO or NC terminal, and the return wire to the COM terminal of the "HIGH LOW ALARMS" terminal block, J12.

# Instrument to PC Wiring

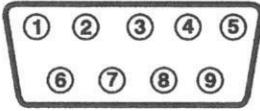
## Connect Instrument to PC—

The 3660 uses a cable with a LEMO-10 connector for RS-232 connections (model 32541) or RS-422 connections (model 32542). Make sure the LEMO connector “clicks” when inserting into the instrument. The PC connection of either cable is via a D-type, 9-pin connector — connector pin identification and wiring information is provided below.

For 3660 instrument-to-PC connections of 12 meters or less, an RS-232 connection is adequate. However, if the distance between the two is greater, use an RS-422 connection, which can run as long as 1 kilometer without loss in signal. The instrument is converted to this type of digital communication via output card jumpers J4, J5, and J8, as shown at the bottom of this page.

If using the RS-422 connection, your PC may require a separate communications port for this purpose. Orbisphere can supply a PC card (model 32906) that can be mounted in a typical 16-bit PC expansion slot, and a mating cable (model 32542) for connection to the LEMO-10 output.

### RS-232 or RS-422 9-pin connector



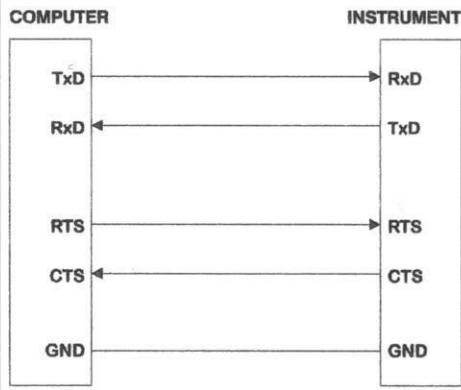
### RS-232/RS-422 Communication Parameters:

Baud rate: 9600, Data Bits: 8, Stop Bit: 1,  
Start Bit: 0, Parity: None

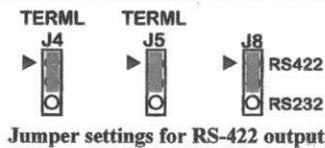
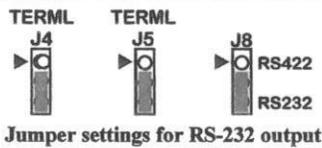
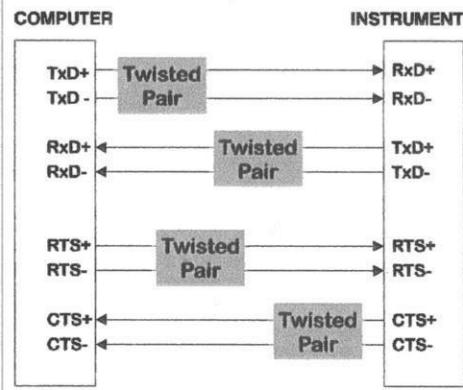
RS-232 pin designations are for model 32541 cable;  
RS-422 pin designations are for model 32542 cable  
and model 32906 RS-422 PC card

Connector Pin	RS-232 Signal (male conn.)	RS-422 Signal (female conn.)
1		
2	TXD	RTS+
3	RXD	RTS-
4		RXD+
5	GND	RXD-
6		CTS-
7	RTS	CTS+
8	CTS	TXD+
9		TXD-

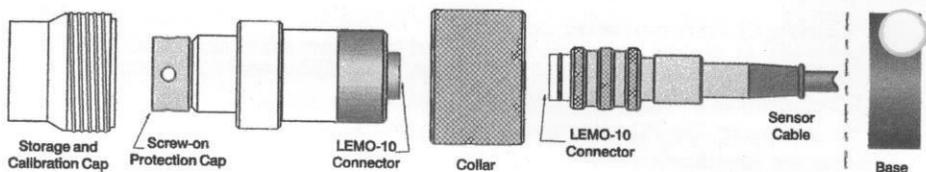
### RS-232 Interface Wiring:



### RS-422 Interface Wiring:

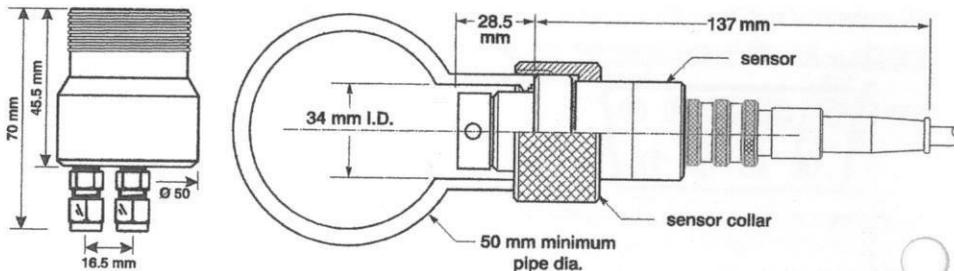


## Mount the Sensor



### To Mount the Sensor—

The oxygen or ozone sensor can be mounted in a flow chamber (connected to 6-mm or ¼-inch tubing) or a sensor socket (inserted directly in a pipe), as illustrated below. The sensor is held in place by its collar, which is screwed into the flow chamber or sensor socket. The sensor uses a detachable cable to connect to the instrument (see page 2).



*Flow chamber*

*Sensor socket, with sensor, as installed in pipe*

For most liquid and gaseous samples, the flow chamber/sensor assembly is mounted vertically, with the Swagelok fittings underneath (as illustrated above). The centrally located fitting is the inlet. For certain measurements (gaseous, with occasional liquid or vapor), it may be mounted horizontally, with the outlet under the inlet, for drainage. Stainless steel tubing is usually sufficient to hold the assembly firmly in place, although a user-supplied U-bolt can mount it to a permanent fixture. A good quality meter/valve should be used which will allow delivery of flow rates within the published requirements for the system.

The sensor socket is mounted perpendicular to the pipe, horizontally, on a horizontal stretch of pipe (or on flow-ascending vertical pipe), on the pump's discharge side, and, if possible, at least 15 meters downstream from the pump. Sensors should not be installed on the suction side of a pump, or close to valves or bends in the pipe.

#### **CE Certification**

The 3660 instrument complies with the following electromagnetic compatibility standards:  
**EN 50081-1 and EN 50082-1**  
 and the safety standard: **EN 61010-1**

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