

ZKA Series System Installation Guide

I. ELECTRONICS

1. Locate the electronics in an ambient temperature of 32 to 113 deg F, General Purpose Electrical classification. The NEMA4X Enclosure is back mountable (Fig. 5).
2. Provide 240 VA of power for the electronics. Power must be 100 to 240 VAC(-15%,+10%), 50/60 Hz(+/-5%).
3. Use standard four conductor signal wire to connect the Electronics to the probe (Fig. 1). Runs up to 2,000 feet may be made if using cable with 18 gauge conductors (two twisted pair with overall shield grounded at one end).
4. Field connections for power and signals are made at the barrier strip located inside the enclosure on the back panel. Conduit / wiring should enter the box through the bottom.

II. PROBE

1. Locate the probe where the combustion gases are 1125 to 2900 deg F during normal operation. Place the probe beyond the maximum flame length but as close to the fire as practical.
2. Dry flash or dust particle buildup on the probe does not cause operational problems.
CAUTION: If the probe is installed where sticky particles or slag can glaze over the probe, consider relocating to a “dry” area or consult the factory for proper installation.
3. Probes may be mounted vertical or horizontal. Stainless steel(SS) and Alloy(HR) sheathed probes require vertical mounting when used in temperatures in the upper range of their respective application temperatures.
4. Normally the probe tip should extend into the vessel 6 to 12 inches beyond the inner wall or refractory face.
5. The probes may be mounted by using the Male NPT (MNPT) fitting on the probe (Fig. 3). Standard systems have a 2” 150# rated ANSI RF flange adapter included(Fig.2).
6. Ensure that the probe is installed such that tramp air around fittings will not adversely affect the system reading. Use gaskets and/or high temperature sealing compound on the sealing surfaces and fitting threads.
7. Clean, dry, oil-free air (20.95% O₂) must be supplied to the 1/4 inch tube fitting on the probe head (Fig. 2) at a flow rate of 50 / 100 cc/min. A small rotometer, with needle valve to set flow, works well. Supply sufficient pressure (normally less than 5 PSI) to the rotometer to maintain a stable flow. Filtered ambient air (instrument air) works fine.
8. The probes may be installed and removed while the vessel is at normal operating temperatures.

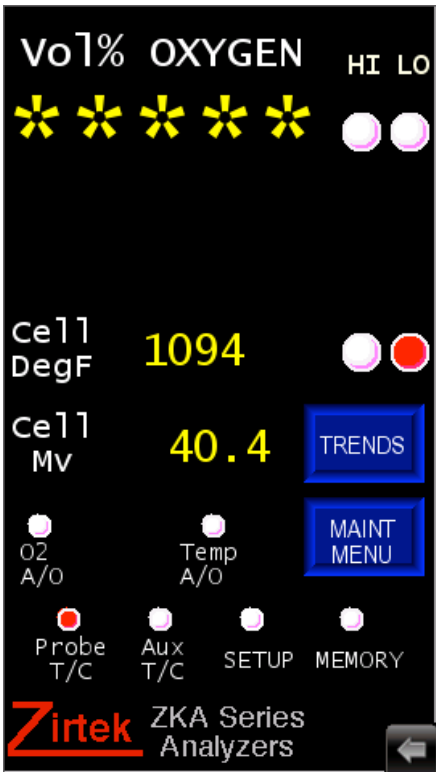
III. ANALYZER STARTUP

1. Upon completion of the physical installation of the probe, electronics and field wiring, check for correct power, signal and ground connections before turning on the power.
2. Set the reference air flow to the 50 - 100 cc/min (~ 0.1 SCFH) range.
3. Turn on the power.
4. The displayed value will have “****” until the probe has reached at least 1125 F. Verify by observing the Temp Value and the Cell Deg F “Lo Lamp” on the Display (D1 - 2).
5. All systems have been accuracy checked, calibrated, etc. in the factory. If the analyzer fails to assume proper operation, follow the trouble shooting procedures in the Reference Manual. Consult the factory if proper operation can not be established.

Note: “Figure” references are on page D2.

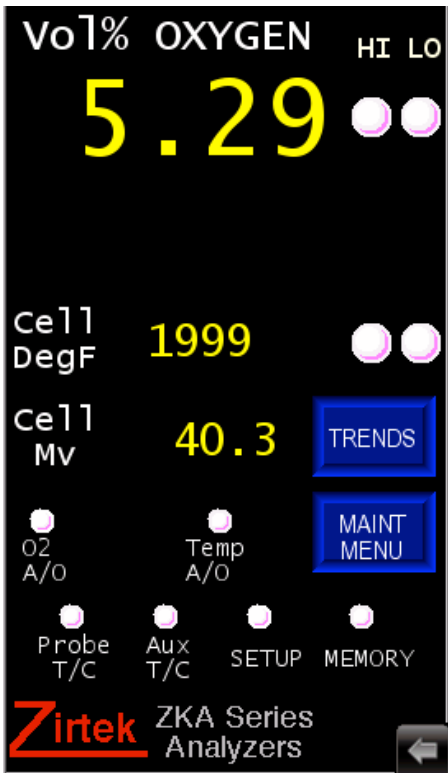
This Display is representative of the **Home Page** when the probe cell temperature is less than 1125 Deg F.

Displayed Value

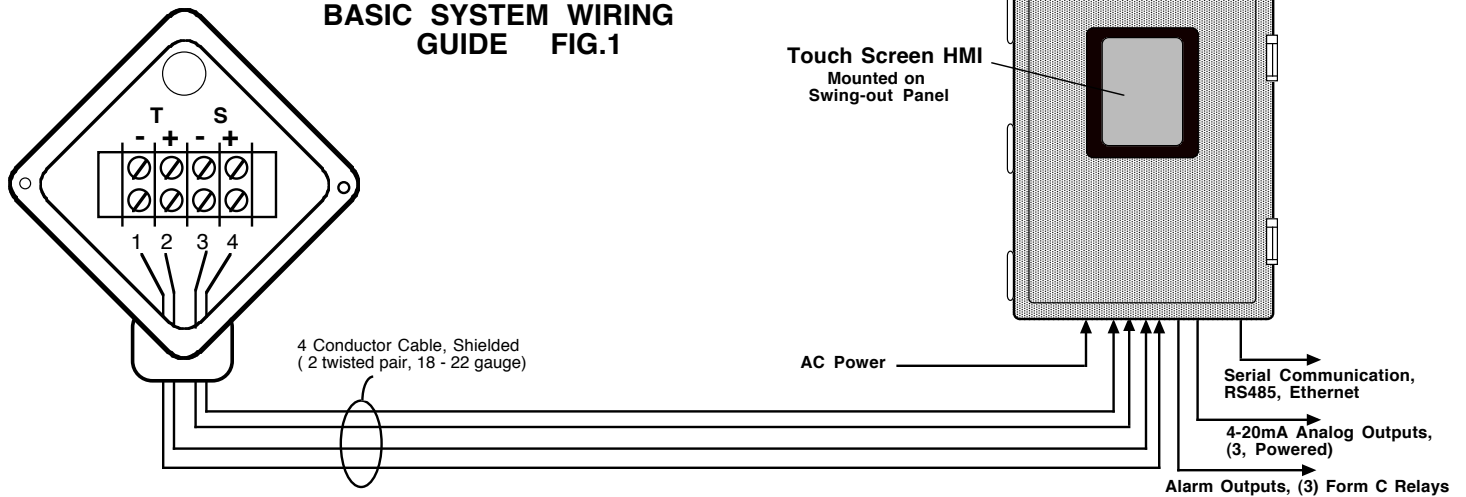


Low Temperature Lamp

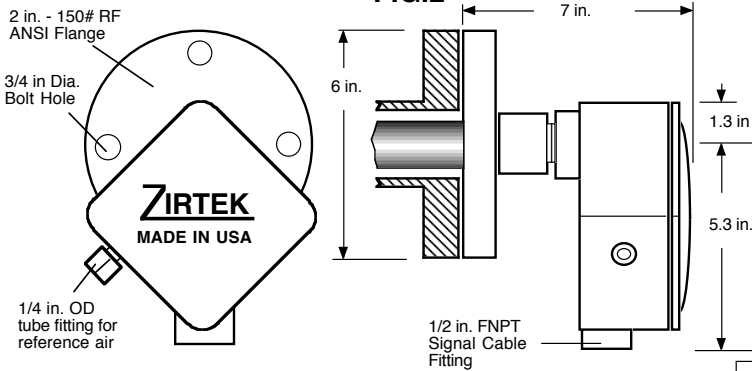
The display below is representative of the **Home Page** display in normal operation.



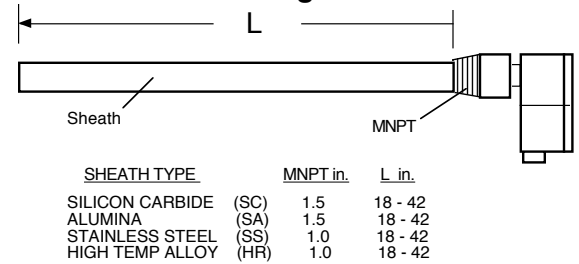
BASIC SYSTEM WIRING GUIDE FIG.1



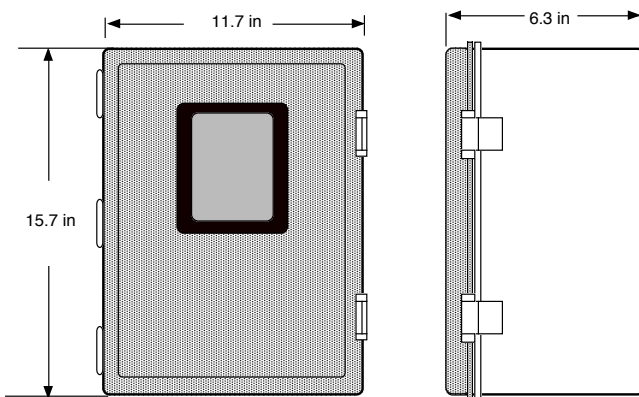
FLANGED PROBE MOUNTING FIG.2



PROBE DIMENSIONS Fig. 3



NEMA4X WEATHER ENCLOSURE Fig. 5



NOTES:

1. Enclosure is a ABS/PC blended material having outstanding chemical and temperature resistance along with excellent weatherability and physical properties. Unit comes with 4 stainless steel wall mounting brackets.
2. The NEMA4X enclosure is light gray with a hinged clear door.
3. Power and Signal cables / conduit should enter the bottom of the enclosure.
4. Field terminations are made on the screw clamp terminal block strip as shown in Fig. 4.

Back Panel Barrier Strips Fig. 4

CAUTION
The Analog Outputs are shipped with 100 ohm resistors installed. The resistor must be removed from each channel that is connected to the user's loop.

○	○
○	○
○	○
○	○
○	○

Ground
Line 2
Line 1
AC Power, 120-240V, 50 - 60 Hz, 1A

○	NO	Form C Relay Output
○	COM	
○	NC	
○	NO	Not Used
○	COM	
○	NC	
○	NO	COM Oxygen Alarm
○	COM	
○	NC	
○	+ Cell Temperature	4 - 20 mA Analog Output
○	- Not Used	
○	+ Vol % Oxygen	
○	○	Probe Input
○	○	
○	○	
○	○	
○	○	
○	Shield Ground	Cell Signal
○	+ 4	
○	- 3	
○	+ 2	Thermocouple
○	- 1	

ZIRTEK OXYGEN ANALYZER INSTALLATION OVERVIEW ZKA Series

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Dewey, Oklahoma USA
DWG 7000.3Bud.OD2