

The IAC24

The IAC24 auto-calibration unit mounts directly to the Yokogawa ZR22G oxygen detector. The connections are made via 1/4" reference air and calibration gas ports located on the detector and the 1/4" fittings on the IAC24. The IAC24 uses solenoid manifolds that automate the calibration process; the solenoid are powered by the ZR402G analyzer. The analyzer activates the solenoid allowing the calibration and reference gas to flow to the detector; since the manifold has a fixed orifice no flow adjustment is needed.

General Specifications:

Input pressure:	7 psig +/- 2 psig
Output Flow:	
	Ref: 0.8 SLPM
	Cal: 0.6 SLPM
Input Flow:	Min: 3.5 SLPM
Dimensions:	4.5" x 3.5" x 1.9" (w 115mm x h 89mm x t 49mm)
Electrical requirements:	24 V DC
Connections:	2 x 1/4" swage type pneumatics fitting
	3 pin quick connect fitting
Ambient Temp:	158°F (70°C)

1.1 LOCATION

The following guidelines should be used when selecting a location for the calibration unit:

- 1) Easily accessible for maintenance and inspections
- 2) Ambient temperature does not exceed 158°F (70°C)
- 3) Humidity is moderate and no corrosive gases are present
- 4) Instrument air is available

1.2 Calibration/Reference Gas

Zero: Never use pure nitrogen. Typically, 1% instrument grade O₂ balanced in nitrogen is used for zero gas; however, an O₂ mixture between 0.4% and 8% is acceptable. A compressed gas cylinder containing certified gas mixtures fitted with a dual stage regulator should be used.

Span: A clean, dry air source, such as instrument air, is recommended. Install an in-line filter before the calibration unit to remove any moisture or dirt. A regulator must be attached to the instrument air source to provide the appropriate working pressure for the calibration unit.

Reference: Reference air is from the same source as the span gas. The reference air flows to the backside of the zirconia cell and is used at all times. The calibration unit is plumbed to provide a continuous flow rate of reference air, as well as calibration gas flow during calibration.

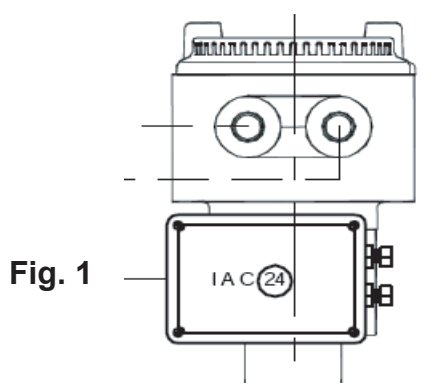
1.3 PIPING

Parts list:

- 2 M1132RR ss male connection fittings 1
- IAC24/22/EA calibration unit
- 1 Instruction sheet

1.4 Mounting the IAC24

- 1) Wrap the threads of the M1132RR with Teflon tape and thread into the ZR22G calibration and reference ports.
- 2) Push the male connectors into the IAC24 device (IAC24/ZR22G assembly should resemble Fig.1)
Tighten the fittings on the IAC24 to seal the IAC24 onto the male connections.
- 3) Connect the 1/4" tube to the IAC24. Instrument air must be 21% air O₂.
- 4) Set the inlet gas pressure to the IAC24 to 7 PSIG +/-2 PSIG.



Important Note: To prevent leakage all threaded fittings should have teflon tape (or suitable alternate).

1.5 Wiring

CAUTION: The IAC24 requires 24VDC. It will fail if 120VAC is used for power. Consult the factory for directions to convert from an AC to a DC autocalibration system.

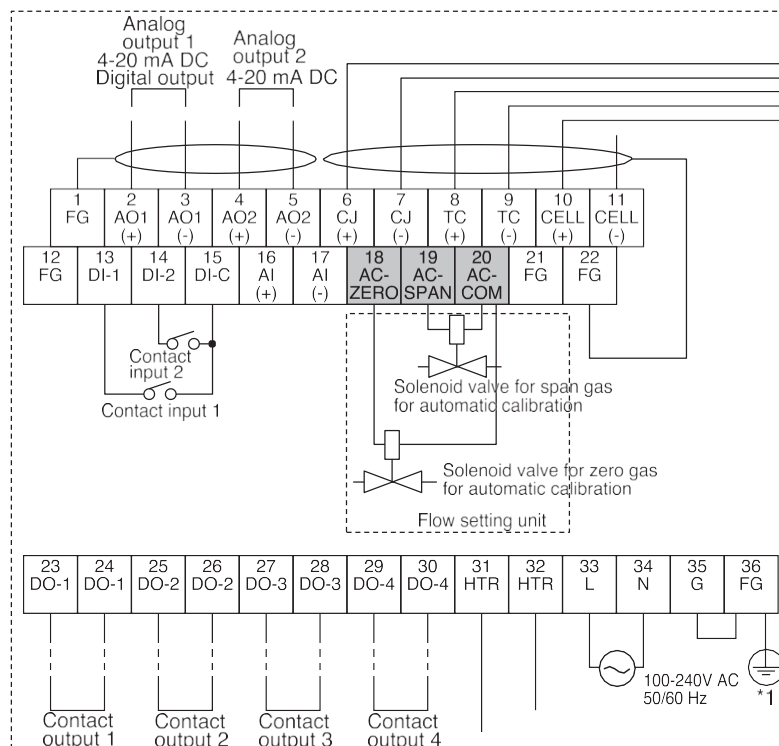
The IAC24 requires a special electrical connector. This is purchased separately as an integral part of the cable. For a new installation of the ZR402G and ZR22G system the WZ-H-6H-[] heater cable should be used with the analyzer/detector combination. This cable has the wire and connections for both the detector heater and the 24VDC autocalibration accessory. This cable may be used with both the ZR402G single point analyzer and the AV550G multipoint analyzer.

ISOLATE THE POWER TO ALL ELECTRICAL EQUIPMENT BEFORE WIRING THE IAC24 AUTOCALIBRATION SYSTEM. ELECTRICAL SHOCK MAY OCCUR IF THE POWER IS NOT ISOLATED.

1.5.1 ZR402G

- 1) Attach the wires labeled Span, Zero, and Common to terminals 18,19, and 20 respectively of the analyzer. (Fig. 2)
- 2) Connect the keyed electrical connector to the mating connector of the IAC24
- 3) Power on the analyzer

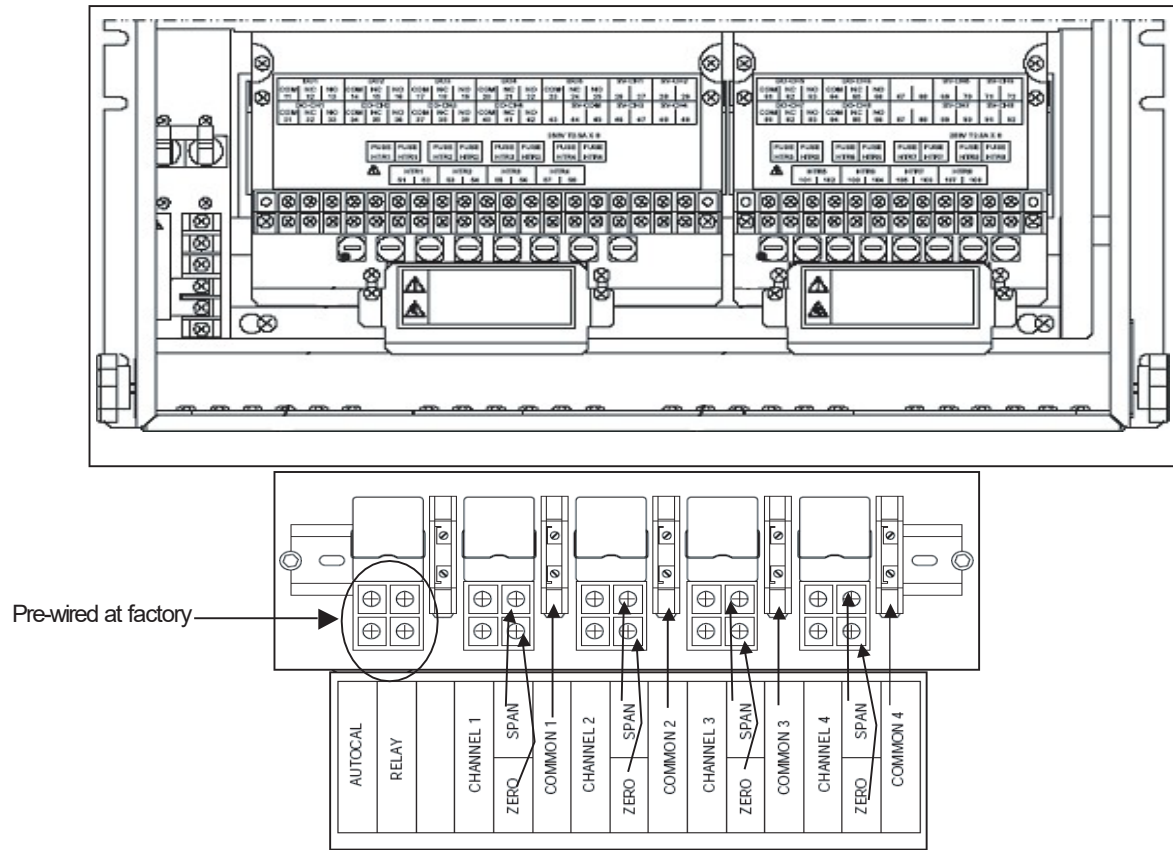
Fig. 2



1.5.2 AV550G

- 1) Attach the wires labeled span, zero, and common of each IAC24 to the AV550G corresponding channel terminals marked span, zero, and common (Fig 3).
- 2) Connect the electrical connector to the bottom of the IAC24 device
- 3) Power on the analyzer

Fig. 3



1.6 Calibration

The IAC24 does not require flow rate adjustment. Set the inlet pressure to 7 psig \pm 2 psig then follow the calibration setup and execution procedures defined section 9 of the ZR402G or AV550G instruction manual.

1.7 Spare

Parts

M1132RR
M1234JW-A

1/4 NPT SS TUBE
ADAPTER
3-pin Anphenol connector