



UV-Portable



Operation Manual

UV-Portable Introduction

The UV-Portable from Ozone Solutions, is a water tight carry-case which contains all of the components necessary to measure high ozone concentrations from an industrial ozone generator. These components include the following:

- Teledyne API 452 Process Ozone Analyzer
- Lithium Ion Rechargeable Battery and Charger
- Flow restrictor .47 LPM
- Ozone Destruct Unit
- Panel Meter
- Indicator lights
- Zero Calibration Button

The Manual for the Teledyne API 452 Process Ozone Analyzer can be found at the address below:

http://www.teledyne-api.com/manuals/02852E_452.pdf

Specifications:

Accuracy:	±1% of Full Scale
Repeatability:	1% of Full Scale
Response Time:	2 sec. To 95%
Zero Drift:	1% Full Scale/month (non –cumulative)
Measurement Range:	0-400 g/Nm ³
Power Requirements:	220/120 VAC, 50/60Hz input to 14.8 VDC Output
Temperature Range:	41 to 113°F (5 to 45°C)
Dimensions:	18.5 x 6.5 x 14 inches (47 x 16.5 x 35.6 cm)
Weight:	18 lbs. (8.16 kg)
Battery Life:	4-5 hour run time
Warranty:	1 year (12 months)

Charging the UV Portable:

The UV Portable is equipped with a lithium Ion battery. Below are some recommended steps for charging.

1. Plug charging adapter into the charge port once plugged into a 220/120 VAC, 50/60Hz Source. It does not matter if the switch is on or off.
2. Unit Charges approximately 3-4 hours.
3. The charger has an LED Indicator, **Red** = Charging, **Green** = Fully Charged
4. Charger and Battery have built in overcharge & discharge protection.

Caution:

- Remove charger immediately after charging.
- Do not leave the unit unattended while charging.
- If not regularly used, battery should be fully charged and discharged once every 3 months.

Operation:

The UV Portable was designed to be a plug and play operation. Once the battery has a proper charge and the analyzer has been on and warming up for at least 15 minutes, it is ready for operation. Below are some recommended steps for start-up and zero-calibration:

1. Allow the UV Portable to warm up for at least 15 minutes.
2. Purge the analyzer with zero gas (usually oxygen) at a minimum flow rate of 0.1 LPM for at least 2 minutes.
3. Check that the Status Outputs are in their normal states and no errors are indicated.
4. Press the zero calibration button for a minimum of 1 second to perform the automatic zero calibration.
5. Re-check the Status Outputs to ensure that no errors are indicated.
6. Verify the screen is reading zero
7. The UV Portable is now ready for operation

Gas Connections:

The "Ozone In" Gas connection to the UV Portable are made using a ¼" compression tube fitting. The ¼" compression fitting can be used with ¼" O.D. Stainless Steel or Teflon™ tubing.

Status LEDs:

The UV Portable is equipped with 4 Status LEDs. Below is the description for each Indicator light.

Sensor O.K. The normal state for the Sensor O.K. output is ON. During the warm-up period on start-up this output will stay off until the UV lamp reaches a minimum intensity. If this output remains off after the 15 minute warm-up period, or goes off during normal operation, then the analyzer is in need of servicing. If the Sensor O.K. output turns off AND the Lamp Low output is on, this indicates that the lamp intensity has below the minimum level required for proper operation. If the Sensor O.K. output turns off and the Lamp Low output is also off, then one of the analog voltages in the sensor has exceeded the range of the internal A/D converter. Adjustment by qualified service personnel is required.

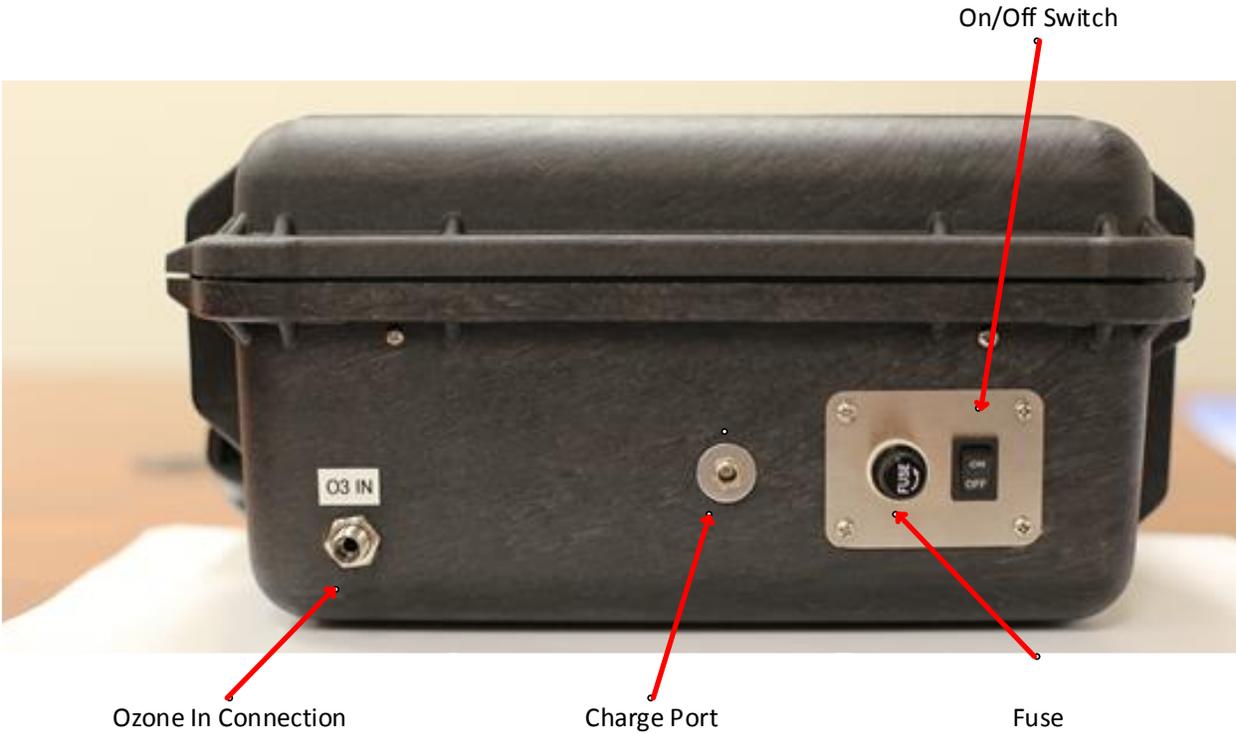
Invalid Reading - The normal state for the Invalid Reading output is OFF. If this output turns on, this indicates that the analyzer is still operational, but a system fault or calibration fault exists that may make the current ozone reading invalid. The Invalid Reading output is turned on for any of the following conditions:

1. When the measured pressure in the analyzer exceeds 45 psia.
2. When the measured concentration has exceeded the full-scale concentration range of the sensor. Check the serial number tag for the full-scale concentration range.
3. The sensor is indicating an excessive negative reading.

Lamp Low - The normal state for the Lamp Low output is OFF. If this output turns on, this indicates that the UV lamp intensity as measured by the reference detector has dropped below 600mV. If the Lamp Low output turns ON and the Sensor O.K. output is ON, this indicates that the lamp intensity is still adequate for measurement, but adjustment should be made when possible. If the Lamp Low output turns ON and the Sensor O.K. output is OFF, this indicates a failure condition and accurate measurement is no longer possible.

Cell Dirty - The normal state for the Cell Dirty output is OFF. If this output turns on, then the ratio of the measure detector to the reference detector (at zero) is < 0.5 . This value is calculated when the zero calibration is performed. When this output is on, it indicates a loss of optical transmission through the windows in the absorption cell or a calibration fault.

UV Portable Side



For more information regarding the UV Portable, please contact Ozone Solutions.

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