

ST-774 Porta-Panel

Portable Ultra-Low Fluorescent Dissolved Oxygen Analyzer

Product Description

The ST-774 Porta-Panel (P/N-42096) is a prefabricated panel ideally suited for those desiring to use the ST-774 Ultra-Low DO sensor with local display and data acquisition in a portable fashion for oxygen measurement (ie. deaerator performance studies). The Porta-Panel is pre-mounted on an easy-carry self-standing 316L stainless-steel panel with the ST-774 sensor, flow-cell and appropriate water sample/calibration gas flow hardware. The panel comes equipped with an integrated UC-50 Display/Data Logging Terminal for connected to the ST-774 via RS-485 Modbus offering live data display, calibration interface and data logging of the sensor. The UC-50 offers 1x contact relay output and has RS-485 Modbus and 1x 4-20mA outputs for passing the sensor value onto another device. The UC-50 also offers Bluetooth 5.0 capability for those desiring to use the uPyxis mobile or desktop apps for wireless calibration and diagnostics of the Pyxis sensor connected.



Product Features

- Ideal for Dissolved Oxygen Studies
- Portable Free-Standing Panel – 316L SS
- Fully Integrated Plumbing + Flow Cell
- Measurement of Water Sample or Calibration Gas
- Premounted ST-774 Ultra-Low DO Sensor
- 0.0-2,000 µg/L measurement range
- 0.1 µg/L Limit of Detection (LOD)
- Built-in temperature and pressure sensors
- Premounted UC-50 Data Logger + Display Panel
- Direct RS-485 Modbus Connection to UC-50 Display
- Fully Integrated Zero + Slope Calibration Interface
- Integrated 4-20mA + RS-485 Output
- 1x Contact Alarm Relay and USB Data Logger



ST-774 Porta-Panel Diagram (mm)

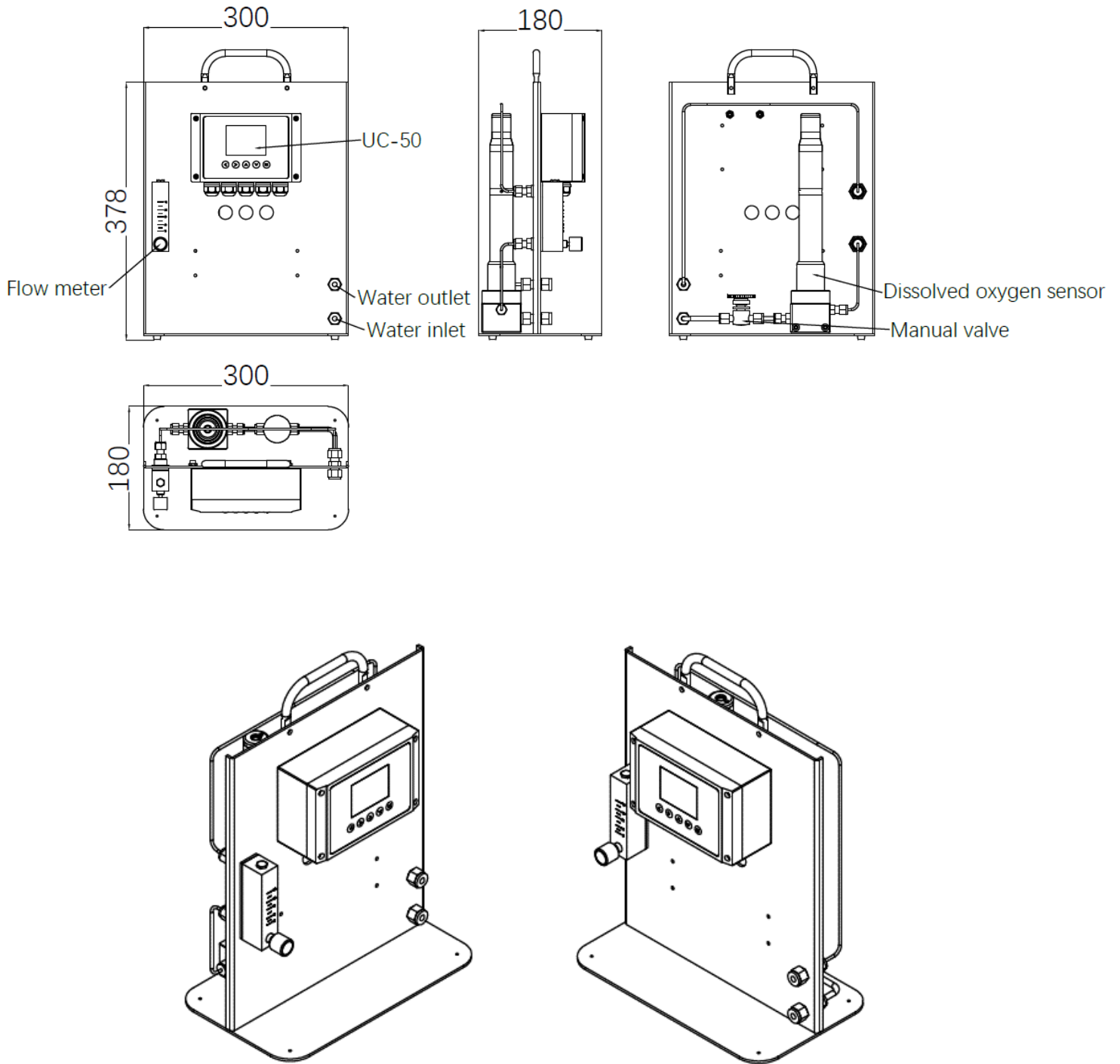


Figure 1 - ST-774 Porta-Panel (P/N-42096)

ST-774 Description

The Pyxis ST-774 is an ultra-low range dissolved oxygen (DO) sensor with a lower limit of detection 0.1 ppb ($\mu\text{g/L}$). Its design is based on the principle of fluorescence quenching to determine the partial pressure of the dissolved oxygen in water and incorporates Pyxis' advanced technology in the field of fluorescence detection. The Pyxis ST-774 offers the robustness associated with optical DO sensor technology while achieving the ultra-low detection limit compatible to an amperometric DO sensor. The ST-774 measures the oxygen partial pressure that is at equilibrium with the dissolved oxygen in water governed by Henry's law ($DO/ppb = K PO_2$). The embedded process control board within the ST-774 uses the latest USGS equations to convert the built-in partial pressure and temperature measured to a DO value in ppb (or $\mu\text{g/L}$).

The ST-774 offers an easily replaceable, front loading DO membrane cap that has been independently developed by Pyxis Lab, with a typical service life of up to two years. The flat front-end design of the ST-774 makes this platform less prone to contamination or fouling and is very easy to clean. The sensor body is composed of 316L stainless steel and is well suited for aggressive industrial application use. The ST-774 sensor is connected via RS-485 Modbus output when packaged on the ST-774 Porta-Panel (P/N 42096) portable dissolved oxygen analyzer.

ST-774 Sensor Specifications



Figure 2
ST-774 DO Sensor
w/Flow Cell

Item	ST-774
P/N	53715
Measuring Range	0.00 - 2,000 $\mu\text{g/L}$ (ppb)
Limit of Detection (LOD)	0.1 $\mu\text{g/L}$ (ppb)
Resolution/Repeatability	0.1 $\mu\text{g/L}$ (ppb)
Accuracy	$\pm 0.3 \mu\text{g/L}$ (ppb) or $\pm 1\%$, whichever is greater
Light Source	Blue Light Exc / Red Light Emm
Response Time (90%)	<30s Liquid Phase / <10s Gas Phase
Operational Temperature	0 °C – 50 °C (32 - 122° F)
Operating Voltage	22 – 26V DC, Power 0.6W
Signal Output	4-20mA analog output / RS-485 digital output
Dimension (L x D)	300 x 60mm (11.8 x 2.36 inches)
Sensor Weight	2150 g (4.74 lb) cable excluded
Total Panel Weight	7257 g (16 lb)
Suggested Flow Range	50 – 500 mL/Minute
Sample Connection Format	Sample Line & Inlet Stainless Steel with Compression Fitting
Material	316L stainless steel
Working Pressure	145psi (10Bar)
Wet Material	316L stainless steel / PVC and polycarbonate
Calibration	High = 0.1% O ₂ in N ₂ Gas / Low = 99.9999% N ₂ Gas
DCC-2 Cartridge Life	2 years
Protection / Regulation	IP-67-IP-68 / CE / RoHS

UC-50

The Pyxis UC-50 is a preconfigured push-button color micro-display and data logging terminal that can connect any Pyxis sensor via RS-485, 4-20mA or BlueTooth 5.0 connectivity. This microprocessor-based display requires no configuration when connected to Pyxis inline sensors. When Pyxis sensors are landed via RS-485 modbus, the UC-50 immediately recognizes the sensor for live sensor value, color trend charts as well as sensor diagnostics and calibration interface while logging data for USB download. The UC-50 provides RS-485 and 1x 4-20 mA outputs as well as one Relay output for connection to additional controllers, PLC or DCS systems. The UC-50 is premounted as part of the ST-774 Porta-Panel Dissolved Oxygen Analyzer.



Specifications

Item	UC-50
P/N	43007
Power	110/220VAC 50/60 Hz, 0.6A
Display	2.8" Color 320 x 240 Resolution
Output	1 x 4-20 mA / RS-485 Modbus-RTU
Input	1 x 4-20 mA / RS-485 Modbus-RTU
Relay Output	One channel relay output – 5Watt Maximum
Data Storage	32M Flash
USB	1 x USB host for data downloading
Dimension	6.3 inch L x 3.9 inch W x 2.6 inch D
Weight	4.6 lbs / 2.1 kg
Operation Temperature	32 – 122 °F (-0 – 50 °C)
Storage Temperature	-4 – 158 °F (-20 – 70 °C)
Humidity	5 – 95% No Condensation
Protection	IP-65
BlueTooth	BlueTooth 5.0 - Capable of Reading Pyxis Bluetooth Sensors
Regulation	CE, RoHS

Order Information

ST-774 Porta-Panel (*Portable Panel Mounted ST-774 w/Flow Cell + UC-50 Data Logger*) **P/N** 42096

Optional Accessories Information

ST-774 Flow Cell Assembly (*316L Flow Cell w/SwageLok For Spare Use or Replacement*) **P/N** 53718

DCC-2 (*Replacement Dissolved Oxygen Membrane Cap for ST-774*) 53716

DCC-3 (*Replacement Nitrogen Gas Cylinder for Zero Calibration / 99.9999% Pure / 58L*) 42059

DCC-4 (*Replacement Oxygen Gas Cylinder for Slope Calibration / 0.1% Oxygen / 58L*) 42060

UC-50 (*UC-50 Micro Display + Data Logging Terminal*) 43007

MA-50CR (*50-foot Extension Cable w 8Pin Quick Adapters*) 50743