

OCS2

Any Oxygen (20.8 to 100%)

Maximum Flow rate - ± 500 LPM

Miniature High Flow rate any Oxygen sensor. OCS2 is powered by 8V to 35V / 7ma Unregulated DC Power Supply. OCS2 outputs: USART & 0-5Vdc O₂ concentration proportional output. Thermal characteristics allow automotive, high altitude and other high Flow rate Oxygen concentration measurement applications. No Flow Alarm output can serve to detect condition of No Flow.



Specification:

Size	4.7" x 0.8" x 0.5" / 25g
Oxygen types	Controlled by J1.4 0V - O ₂ concentrator 5V - air mixtures with pure O ₂
Outputs	USART, LCD, Analog
Analog O ₂ output	0 to 5V DC Linearly proportional to 0—100% O ₂
Power Supply	Unregulated 8V to 35V DC / 14 ma
Display Switch	Performs Field Calibrations
O ₂ Accuracy	$\pm 1.5\%$ @ -5 to +45°C; $\pm 2\%$ @ -45°C to -5°C, 45°C to +70°C
O ₂ Range	20.8% - 95.7%, 20.8% - 100%
Max pressure	30 psig
Thermal change response	1°C per Minute
Thermal Gradient _{max}	50 K/ meter
Operating Temperature	-45 to 70°C
Survival Temperature	-85 to +85°C
RS232 transmit Rate	19200 bits/sec
Calibration Retention	More than 10 years
Calibration	Factory. Optional field calibration is provided.
Flow I/O	Bi-directional via 1/2" male barbs
Response Time	100 mili-seconds
USART Frame content	O ₂ [%]
10Hz Square wave output	J1.6 5V P-P
No Flow Indicator	J1.3—Open Drain

Features

USART / RS-232 output—TTL level
DigiFLO Computer Download Program is available.
Linear Analog outputs
LCD display output

CONNECTORS

J1 – Through Hole

Pin

1. (Square pad) 8 to 30V Unregulated DC Power Supply (+)
2. N/A
3. No Flow Alarm. Open drain output: 0v when No Flow.
4. Oxygen type indicator - If connected to GND (J1.9) - indicates 100% O₂ / Air mix; No Contact indicates Oxygen concentrator gas.
5. N/A
6. Dual Function pin
 - 10Hz 5V 50% DS Square wave output.
 - DigiDISP switch toggles Oxygen or Flow rate display on DigiDISP LCD
7. Oxygen Analog Out. (0 to 5V_{DC} Linearly proportional to 0- 100%)
8. USART TTL level TXD. Provides %O₂
9. 8 to 30V Unregulated DC Power Supply (-) - GND

J2 (RS232) – RS-232 I/O - Board Edge

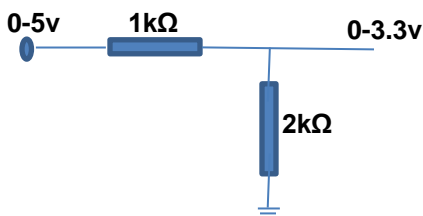
Connects to [DigiRS232](#)
For RS232 protocol see OFS2 User Interface document.

J3 (DISPLAY)—Board Edge

Connect to [DigiDISP](#)

Connecting to a 3.3v Microcontroller

0 to 5v UART and / or Proportional analog outputs need to be reduced to a 0 to 3.3v range. This can be accomplished via a resistor circuit as follows:



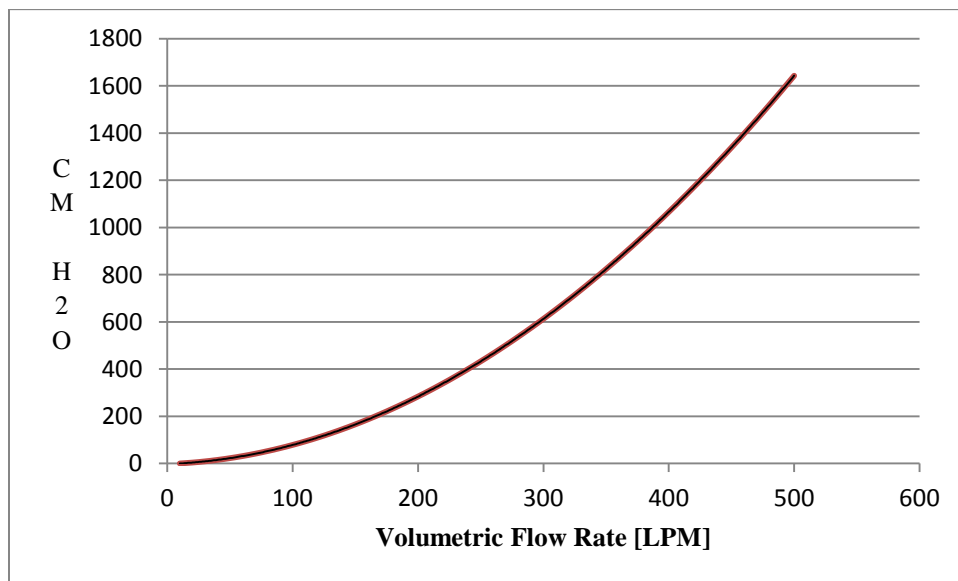
Connecting OFS2 to a computer via a COM port

Via [DigiRS232](#) OFS2 can be connected to a computer COM port, such that OFS2 measured Oxygen content, Flow rate, Temperature and hours of operation can be stored in a file. DigiFLO program is available.

RS232 & Field Calibrations

See OFS1 User Interface document.

Sensor Pressure Drop Vs. Flow Rate



OCS2 Directions of Flow



OCS2 Dimensions Drawing

Mounting holes spacing: 0.58" x 4.5"

