



O2-A2 Oxygen Sensor



Technical Specification

Figure 1 O2-A2 Schematic Diagram

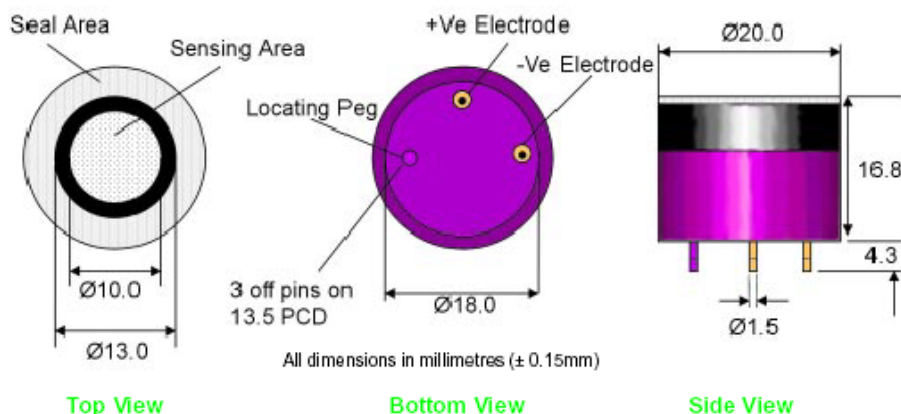


Table 1 O2-A1 Specification

PERFORMANCE	Output	μA @ 22°C, 20.9% O ₂	85 to 120
	Response time	t90 (s) from 20.9% to 0% O ₂ (47Ω)	< 10
	Zero current	μA @ 99.999% N ₂ , 22°C	< 2
	Pressure sensitivity	(% change of output)/(% change of pressure) @ 20kPa	< 0.1
	Linearity	% O ₂ deviation @ 10% O ₂	< 0.6
	Hysteresis	% O ₂ change after 16 cycles: 0 to 20.9% O ₂ @ 22°C	< 0.2
	Hand aspirator response	% O ₂ change during aspiration (typical)	19 to 22.5
LIFETIME	Output drift	% change in output @ 3 months	< 2
	Operating life	months until 85% original output in 20.9% O ₂	> 24
ENVIRONMENTAL	Humidity Sensitivity	% O ₂ change: 0% to 95% rh @ 40°C	< 0.7
	CO ₂ sensitivity	% change in output / % CO ₂ @ 5% CO ₂	< 0.5
PHYSICAL DIMENSIONS	Diameter	mm (including label) ($\pm 0.1\text{mm}$)	20
	Height	mm (including foam ring) ($\pm 0.1\text{mm}$)	16.8
	Weight	g	16
KEY SPECIFICATIONS	Temperature range	°C	-20 to 55
	Pressure range	kPa	80 to 120
	Humidity range	% rh continuous (0 to 99% rh short term)	5 to 95
	Storage period	months @ 3 to 20°C (store in sealed pot)	6
	Load resistor	Ω (recommended)	47 to 100



O2-A2 Performance Data

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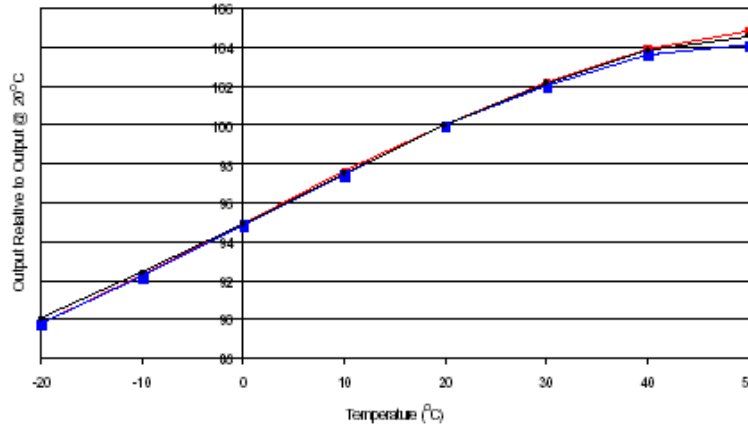


Figure 2 Temperature Performance

Figure 2 shows the variation in sensitivity caused by changes in temperature. All capillary oxygen sensors will show some variation in signal output with temperature and the typical response of an O2-A2 is shown.

(See Application Note AAN 110-01)

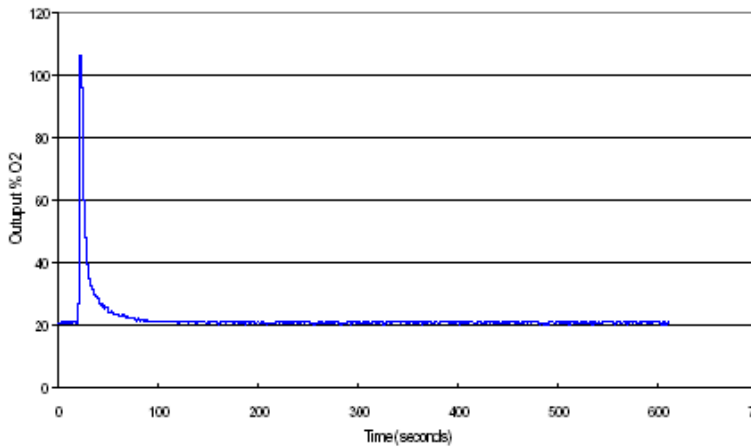


Figure 3 Pressure Pulse Performance

Step changes in pressure can cause a temporary signal transient. Positive pressure gives a output signal increase whilst negative pressure causes the output signal to decrease. Typical transient response for an O2-A2 sensor exposed to a 10kPa pressure pulse is shown. (See Application Note AAN 110-01)

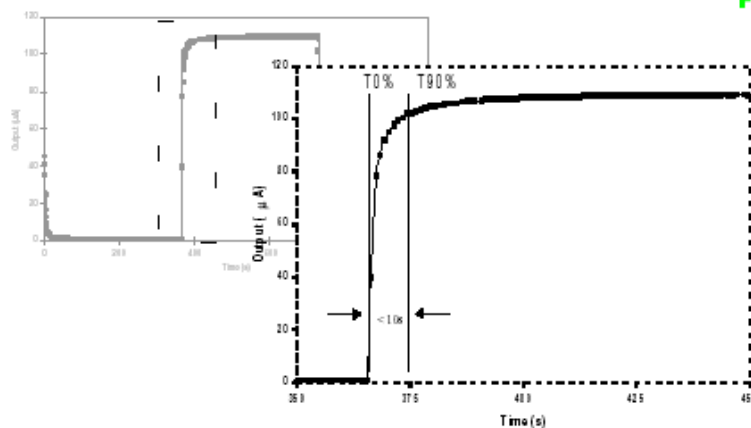


Figure 4 t90 Response

Figure 4 shows the time for an O2-A2 sensor to reach 90% of its maximum output (t_{90} response time). - typical times for O2-A2 sensors are < 10 seconds (47 Ω resistor).