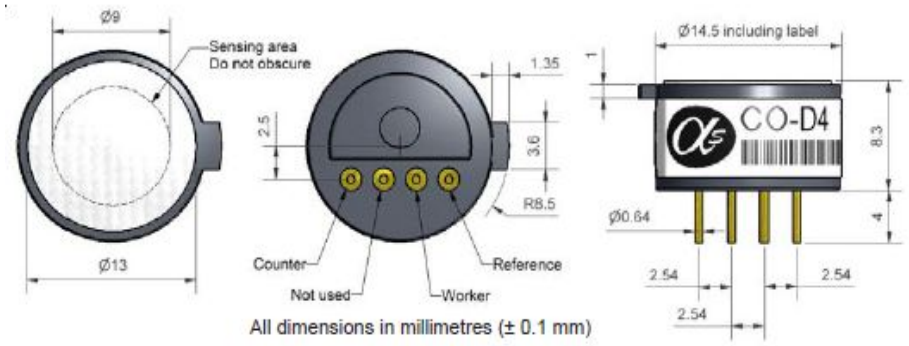
CO-D4 Carbon Mono-xide Sensor Micro

Figure 1 Schematic Diagram of CO-D4



Vertical view upward view lateral view

(Alphasense is available in a three-pin version, model CO-DF, if required by the customer)

function	sensitivity	Sensitivity in 400ppmCO (nA/ppm)	30~55
	reaction time	From zero to 400ppmCO t90 time (s) (22℃	< 25
	zero current	Equivalent ppm value of zero air	< ±3
	resolution ratio	RMS noise (equivalent ppm value)	< 1.5
	range	CO measurement limit (ppm) that guarantees product performance	1000
	degree of linearity	The ppm value of the full scale error is linear from 0 to 400ppm	±40
	overload	Maximum ppm value of gas pulse stabilized reaction	2000
life span	zero drift	Equivalent ppb values that change in the laboratory air from year to year	< 0.5
	sensitivity drift	Percentage change in laboratory air over the year, measured monthly	< 6
	working life	Number of months to which the output is reduced to 80% of the original signal (warranty 24 months)	> 24
environment	-20°C sensitivity	400ppm CO when, (output at-20°C/ output at 20°C)%	45~70
	Sensitivity at 50°C	400ppm CO when, (50°C output/20°C output)%	105~125
	-20°C when zero point	Change in equivalent ppm values with reference to 20°C zero	< ±2
	50°C at zero point	Change in equivalent ppm values with reference to 20°C zero	< ±4
cross sensitivity	filter capacity	ppm· hour H_2S	20,000
	H_2S	Gas sensitivity percentage at 20ppmH_2S	< 0.1
	NO_2	Gas sensitivity percentage measured at 10ppmNO_2	< 0.1
	Cl_2	Sensitivity percentage of gas measured at 10ppmCl_2	< 0.1
	NO	Gas sensitivity percentage measured at 50ppmNO	< 50
	SO_2	Gas sensitivity percentage at 20ppmSO_2	< 0.1
	H_2	Gas sensitivity percentage measured at 400ppmH_2 (20℃)	< 70
	C_2H_4	Gas sensitivity percentage measured at 400ppmC_2H_4	< 100
	NH_3	Percentage sensitivity of gas at 20ppmNH_3	< 0.1
Critical temperature range		℃	-20~50
Parameter pressure range		kPa	80~120
	Humidity range	Percentage of continuous relative humidity (see below)	15~90
	Storage period	Number of months for preservation from 3 to 20℃ (to be kept in a sealed tank)	6
	load resistance	Ω （recommend）	10~47
	weight	g	< 2

Note: Using the sensor in an environment with humidity exceeding 85% RH and temperature above 40℃ will only ensure 10 days of continuous product performance. If such conditions exist, please place the sensor in a low-humidity and low-temperature environment for several days until its electrolyte level returns to normal before use.

Figure 2 Sensitivity Temperature Characteristics

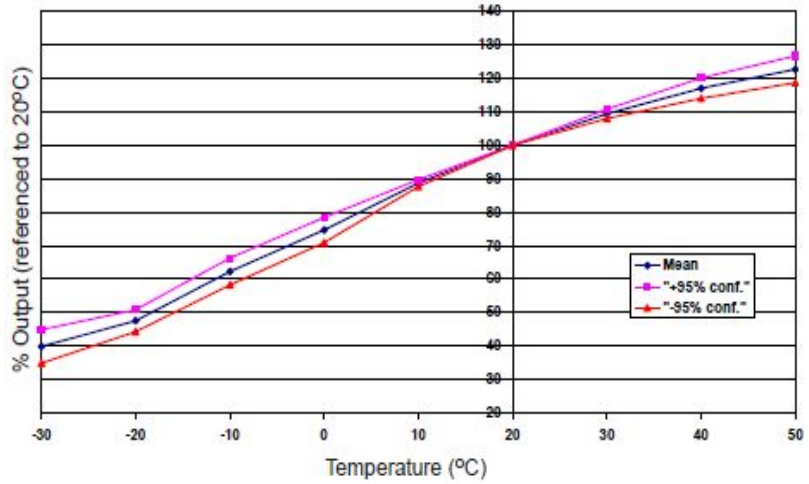


Figure 2 shows the sensitivity changes caused by temperature changes. During the heating process, the output shows a repeatable temperature characteristic, allowing us to make more precise compensation for temperature.

The data were collected from a typical batch of sensors. Figure 2 shows the average and± 95% confidence interval of the output percentage (reference 20℃).

Figure 3 Zero Temperature Characteristics

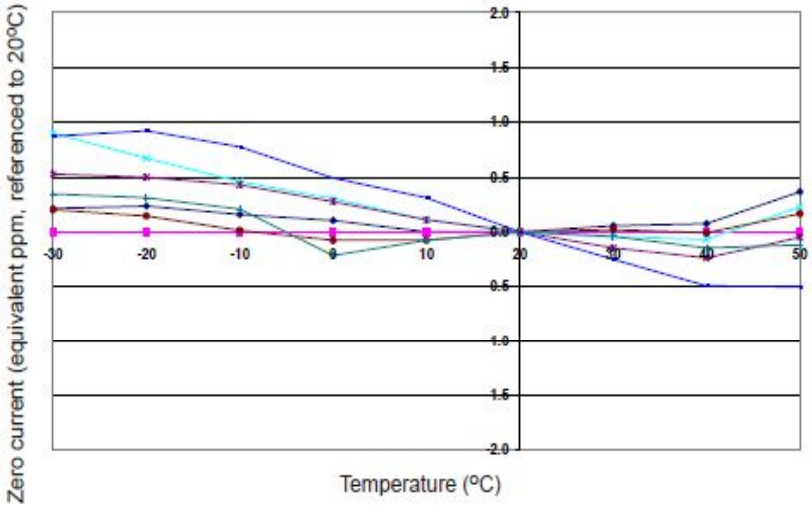
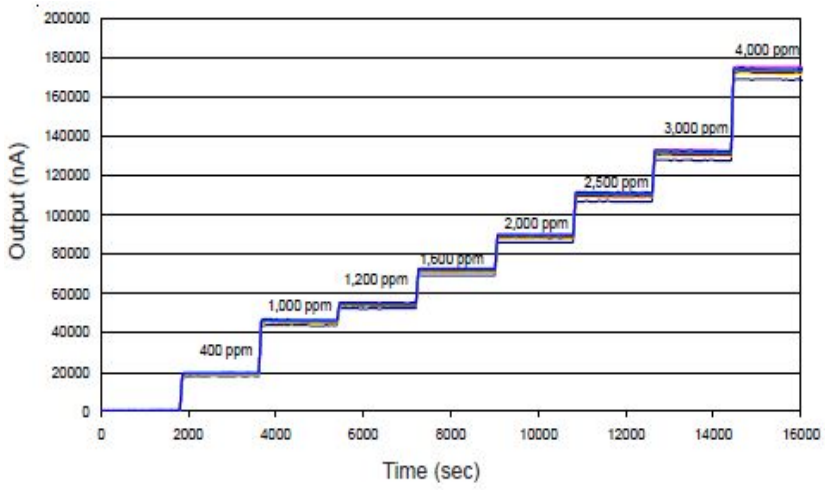


Figure 3 shows the change in zero point output caused by temperature changes, expressed as equivalent ppm values, with reference to the zero point at 20℃.

Data was taken from a typical batch of sensors.

Figure 4 Reaction at 4000ppm CO

Figure 4 Shows the Concentration of CO



The sensor's output changes as the concentration gradually increases to twice the specified overload CO concentration. The data comes from sensors in eight typical batches.

This stepped overload gas test demonstrates the robustness of the sensor quality, as well as its rapid response and stable output at each CO concentration step.