

## CO-AF Carbon Monoxide Sensor

Figure 1 schematic diagram of CO-AF



function	sensitivity	Sensitivity in 400ppmCO (nA/ppm)	55~90	
	reaction time	Time from zero to 400ppmCO t90 (s)	< 25	
	zero current	Equivalent ppm value in zero air	-5~+4	
	resolution ratio	RMS noise (equivalent ppm value)	< 0.5	
	range	CO measurement limit (ppm) that guarantees product performance	5000	
	degree of linearity	The ppm value of the full scale error is linear from 0 to 1000ppm	15~25	
	overload	Maximum ppm value of gas pulse stabilized reaction	10000	
life span	zero drift	Equivalent ppm values that change in the laboratory air from year to year	< 0.2	
	sensitivity drift	Percentage change in laboratory air over the year, measured monthly	< 8	
	working life	Number of months to which the output has been reduced to 80% of the original signal (24-month guarantee)	> 24	
environment	-20°C sensitivity	400ppm CO when, (output at -20°C/ output at 20°C)%	63~88	
	Sensitivity at 50°C	400ppm CO when, (50°C output/20°C output)%	102~115	
	-20°C when zero point	Change in equivalent ppm values with reference to 20°C zero	< $\pm 3$	
	50°C at zero point	Change in equivalent ppm values with reference to 20°C zero point	< $\pm 8$	
cross sensitivity	filter capacity	ppm· hour	H <sub>2</sub> S	250,000
	filter capacity	ppm- hour	NO <sub>2</sub>	600,000
	filter capacity	ppm- hour	NO	20,000
	filter capacity	ppm- hour	SO <sub>2</sub>	300,000
	H <sub>2</sub> S	Gas sensitivity percentage at 20ppmH <sub>2</sub>		< 0.1
	NO <sub>2</sub>	Gas sensitivity percentage at 10ppmNO		< 0.1
	Cl <sub>2</sub>	Sensitivity percentage of gas measured at 10ppmCl		< 0.1
	NO	Gas sensitivity percentage measured at 50ppmNO		< 5
	SO <sub>2</sub>	Gas sensitivity percentage at 20ppmSO		< 0.1
	H <sub>2</sub>	Gas sensitivity percentage measured at 400ppmH <sub>2</sub> (20°C)		< 60
	C <sub>2</sub> H <sub>4</sub>	Gas sensitivity percentage measured at 400ppmC <sub>2</sub> H <sub>4</sub>		< 25
NH <sub>3</sub>	Percentage sensitivity of gas at 20ppmNH		< 0.1	
key parameter	temperature range	°C	-30~50	
	pressure limit	kPa	80~120	
	Humidity range	Percentage of continuous relative humidity	15~90	
	Storage period	Number of months for preservation from 3 to 20°C (to be kept in a sealed tank)	6	
	load resistance	$\Omega$ ( recommend )	10~47	
	weight	g	< 6	

Figure 2 Sensitivity Temperature Characteristics

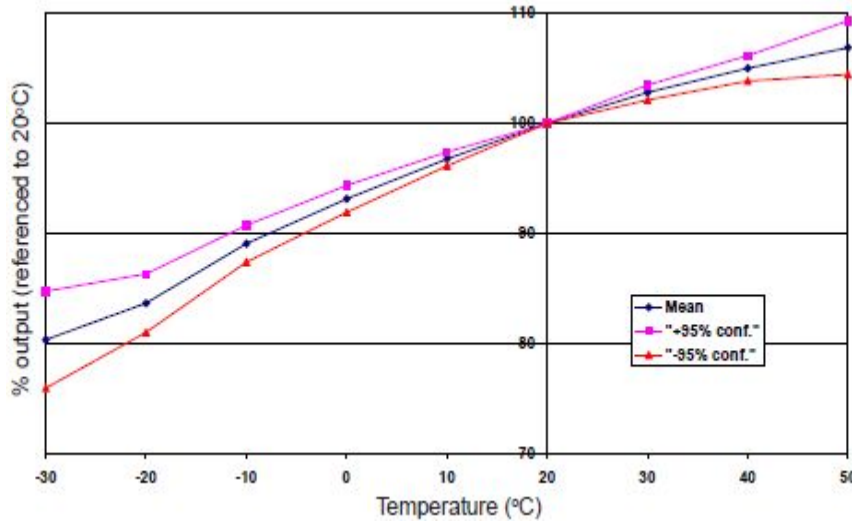


Figure 2 shows the change in sensor sensitivity caused by temperature changes.

The data were collected from a typical batch of sensors. Figure 2 shows the average percentage output (reference 20°C) and  $\pm 95\%$  confidence interval.

Figure 3 Zero Temperature Characteristics

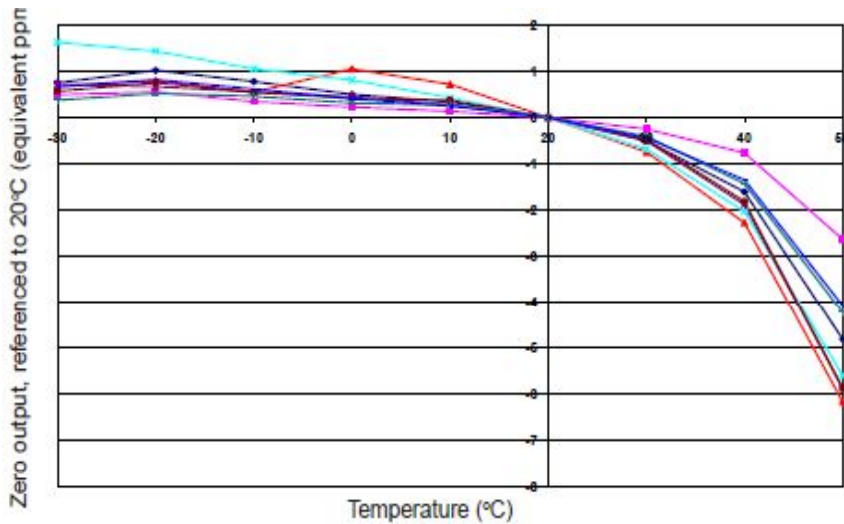


Figure 3 shows the change in zero point output caused by temperature changes, expressed as equivalent ppm values, with reference to the zero point at 20°C.

Data is taken from a typical batch of sensors.

Figure 4 Reaction Exposed to 2% CO

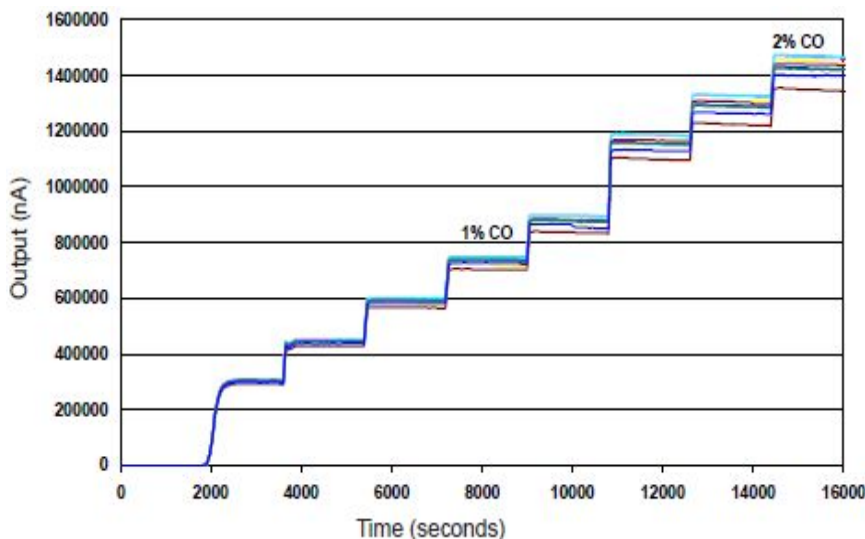


FIG. 4 shows the good response of the sensor output when the CO concentration is increased from 0 to 2%.

This data was taken from a typical batch of sensors.

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