CO-CX Carbon Monoxide Sensor Suitable for Flue Gas Detection, in Accordance With EN50379

Figure 1 Schematic Diagram of CO-CX

Top view Bottom view Side view

function	sensitivity	Sensitivity in 400ppmCO (nA/ppm)		55~100
	reaction time	Time from zero to 800ppmCO (s)		< 40
	zero current	Equivalent ppm value in zero air		< ±3
	resolution ratio	RMS noise (equivalent ppm value)		< 0.5
	range	CO measurement limit (ppm) that guarantees product performance		2000
	degree of linearity	The ppm value of the full scale error is linear from 0 to 800ppm		< ±40
	overload	Maximum ppm value of gas pulse stabilized reaction		4000
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		< 6
	working life	Number of months to which the output is reduced to 80% of the original signal (24 months guaranteed)		> 24
environment	-20°C sensitivity	400ppm CO when, (output at-20°C/ output at 20°C)%		50~85
	Sensitivity at 0°C	400ppm CO when, (0°C output/20°C output)%		80~95
	Sensitivity at 40°C	400ppm CO when, (40°C output/20°C output)%		100~125
	-20°C when zero point	Change in equivalent ppm values with reference to 20°C zero		< 0~4
	0°C at the zero point	Change in equivalent ppm values with reference to 0°C 20		< 0~3
	50°C at the zero point	Change in equivalent ppm values with reference to 20°C zero		< 0~-10
cross sensitivity	filter capacity	ppm- hour	H_2S	250,000
	filter capacity	ppm- hour	NO_2	500,000
	filter capacity	ppm· hour	NO	400,000
	filter capacity	ppm- hour	SO_2	250,000
	H_2	10°C 900ppmCO in which sensitivity percentage was measured $_2$ at 900ppmH		< 2
	H_2	Sensitivity percentage $_2$ at 900 ppm CO, 900ppmH		< 5
	H_2	30°C 900ppmCO in which the sensitivity percentage was $_2$ measured at 900ppmH		< 6
	H_2S	Gas sensitivity percentage at 20ppmH $_2$ S		< 0.1
	NO_2	Gas sensitivity percentage $_2$ measured at 10ppmNO		< 0.1
	Cl_2	Sensitivity percentage of gas measured $_2$ at 10ppmCl		< 0.1
	NO	Gas sensitivity percentage measured at 50ppmNO		< 0.1
	SO_2	Gas sensitivity percentage $_2$ at 20ppmSO		< 0.1
	C_2H_4	Gas sensitivity percentage measured at 400ppm $_2$ C $_4$		< 2
	NH_3	Percentage sensitivity of gas $_3$ at 20ppmNH		< 0.1
Critical temperature range		℃		-30~50
Parameter pressure range		kPa		80~120
	Humidity range	Percentage of continuous relative humidity		15~90
	Storage period	Number of months for preservation at 0~20°C (to be preserved in a sealed tank)		6
	load resistance	Ω （recommend）		10~47
	weight	g		< 8

Important note: CO-CX needs to ensure that there is no bias between the reference electrode and the working electrode during normal operation, otherwise the sensor will not be able to give full play to its low hydrogen cross sensitivity performance.

Figure 2 Sensitivity Temperature Characteristics

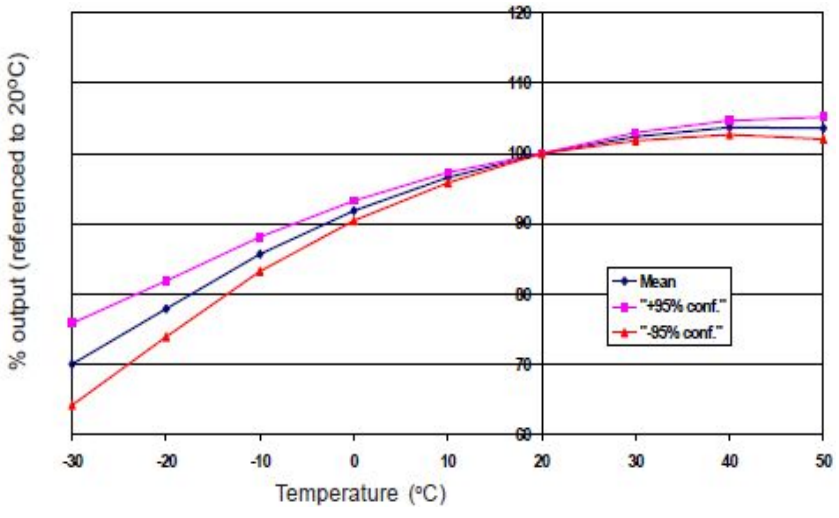

Figure 2 shows the change of sensor sensitivity caused by temperature change.

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

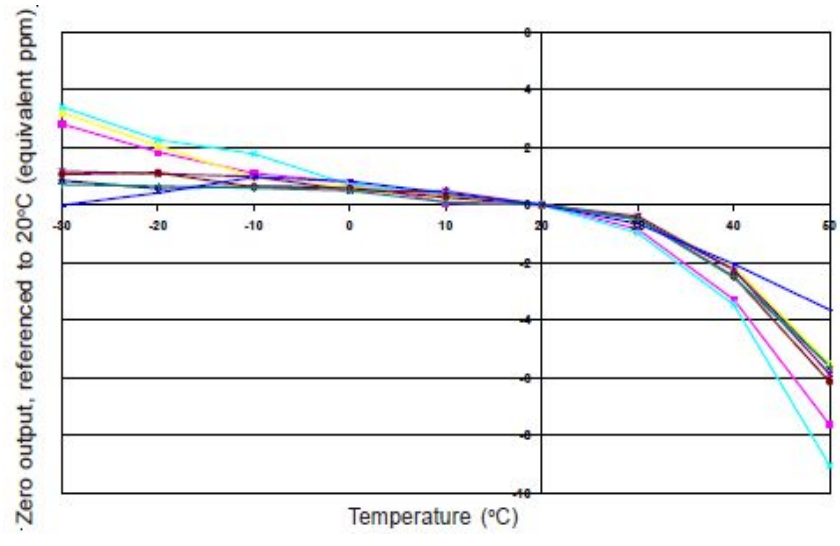

Figure 3 shows the change in zero point output caused by temperature changes, expressed as equivalent ppm values with reference to the zero point at 20℃.

Data is taken from a typical batch of sensors.

Figure 4 Linearity at 1000ppm

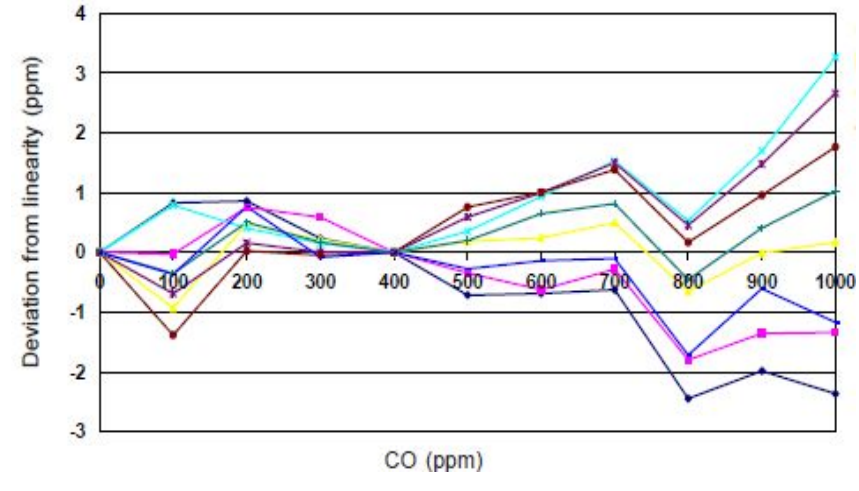

Figure 4 shows the good linearity of CO-CX sensor in 0~1000 ppm CO. In it, the error of CO concentration at 1000ppm is less than ±0.3%.

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