





• Technical Data

Description	Parameter	Unit
Detection range	5000(customizable)	ppm
Detection accuracy	±50ppm±5% of reading	/
Response time T ₉₀	< 90	second
Warm-Up time	Set to work < 90	second
	Precision reached < 120	second
Working voltage	5±0.5	V
Working current	I _{average} : 60	mA

• PWM Output

PIN 12 is the PWM output, definition is: Concentration range : 0ppm to 100000ppm CO₂

Cycle: 1000.02 ms ±5%

High level output of initial period:0.01ms (nominally)

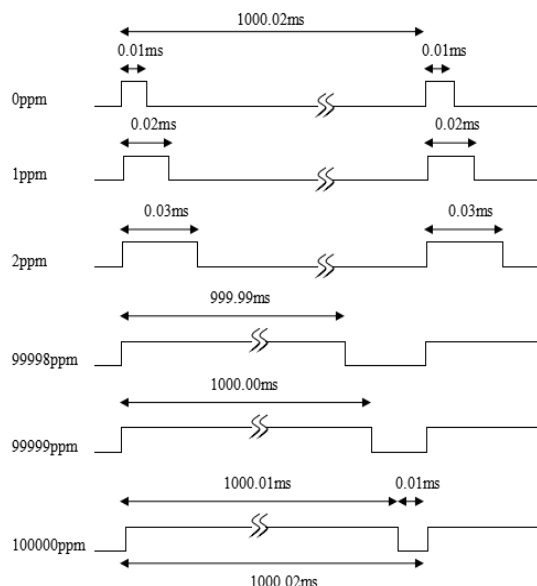
Central period:1000.00ms ±2%

Low level output of end period:0.01ms (nominally)

Formula to calculate the CO₂ concentration in PWM:

$C_{ppm} = 100000 \times (TH - 0.01ms) / (TH + TL - 0.02ms)$ where C_{ppm} is the CO₂ concentration, unit in ppm ;

TH is the time of high level in one cycle. TL is the time of low level in one cycle.



• UART Protocol

Baud rate : 19200bps, 8 bytes, first byte is stop, no check byte. The reading and return data is hexadecimal.

Concentration uploaded automatically in ASCII with the format :

32	32	x	x	x	x	x	32	p	p	m	\r	\n
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For example : output of 12345 ppm :

		1	2	3	4	5	p	p	m	
0x20,	0x20,	0x31,	0x32,	0x33,	0x34,	0x35,	0x20,	0x70,	0x70,	0x6d,

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