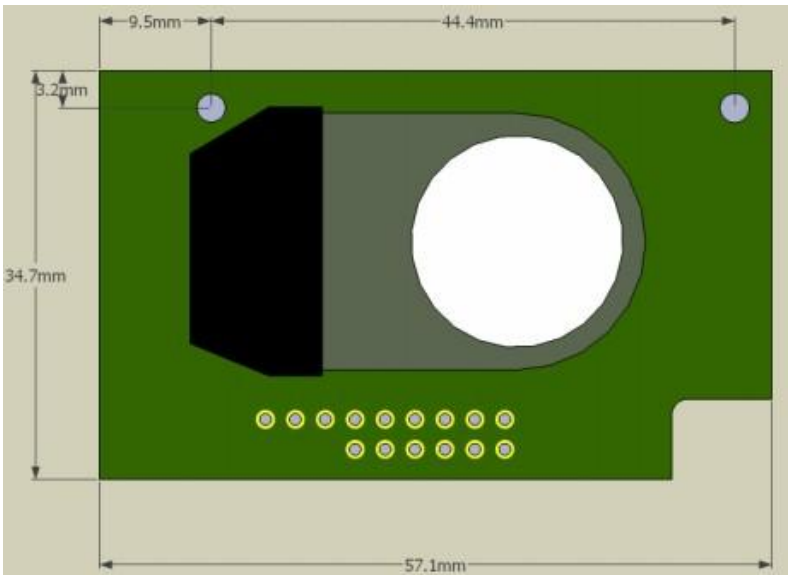
MISIR

HVAC Dedicated Low Power CO2 Sensor

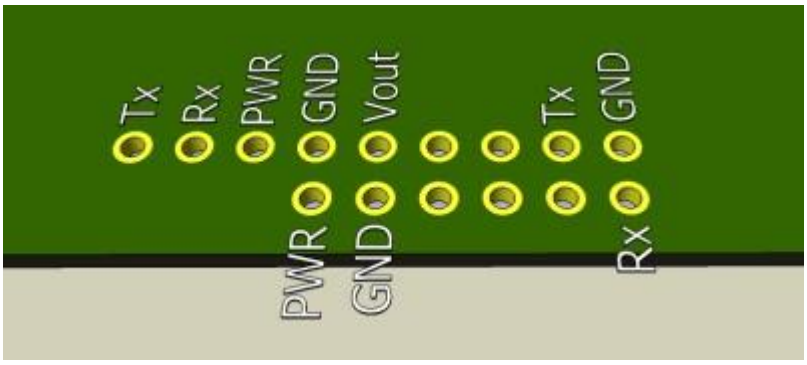
The MISIR sensor delivers excellent performance with low power consumption(20mW [3]) and is fully tailored to the needs of HVAC and fresh air systems based on GSS solid-state IR sensor technology and innovative optical path design.

- Ultra low power 20mW
- The measurement range is from 0 to 1%
- Low noise measurement (<10ppm)
- Power supply voltage 3.3v to 5V
- Digital output (UART) and analog voltage are optional
- Automatic calibration function

technical parameter	
fundamental characteristics	
preheating time	<20s
work environment	0℃ to 50℃ 0 Up to 95% RH, non-condensing
storage temperature	-30℃ to +70℃
CO2 measurement	
Sensing methods	Non-dispersive infrared absorption technique Gold-plated optical path and all-solid-state light source and detector technology
sample mode	gaseous diffusion
measuring range	0-2000ppm，0-5000ppm，0-1%
definition	± 50ppm+/-3% reading [1]
Method of calibration	Automatic calibration
Nonlinearity	<1%FS
Pressure dependency	0.13% reading per mmHg, at normal atmospheric pressure
working pressure range	950mbar to 1100mbar [2]
response time	2 minute
Electrical/mechanical characteristics	
power input	3.25V to 5.25V(3.3V recommended) Peak current 150mA [3] Average current 6mA [3]
power dissipation	20mW[3]
Size and wiring connections	



The sensor height is 15mm at the highest point



pin	description	function
PWR	V_{supply}	3.3-5.25V
GND	0V	Connect only one GND pin
Rx	Sensor receiver (UART)	Max 5V
Tx	Sensor sends (UART)	$V_{oh}=V_{supply}$
V_{out}	Analog voltage output (0-3.3V)	Air Zero Point

explanatory note：

1. All data are measured under standard conditions, unless otherwise specified.
2. External pressure calibration is required
3. The power consumption measured by a standard CO2 sensor when it outputs two readings per second.
4. MISIR automatically initiates self-calibration by default. To ensure proper operation, the sensor must be exposed to fresh air at least once during each calibration cycle. For detailed instructions, refer to the "COZIR Self-Calibration" application note. Additional features are available in the user manual.