Oxygen 20m long path gas compact absorption cell 700-800nm

Product Description

The oxygen gas long optical path gas absorption cell is used for spectral analysis and detection of oxygen gas. The main body adopts the Herriot Gas Cell with excellent optical stability, and the auxiliary and high-stability optical packaging structure is mainly composed of the gas chamber cavity, concave reflector, standard optical fiber connector, optical detector, gas inlet and outlet, and shockproof base. The unique suspension circuit design has excellent vibration and temperature stability, can work in various

complex environments, and is very suitable for real-time detection of gas lines. It has ultra-low system noise and can be used for trace gas analysis.

Product features

Optical fiber signal input, optical detector electrical signal output、 The gas chamber structure is stable and resistant to vibration, external extrusion, and insensitive to ambient temperature changes 、 The optical fiber collimator and detector are directly integrated in the gas chamber, no optical path adjustment is required, and the operation is simple、 The gas chamber is small in size and compact in structure, easy to carry 、 Long effective optical path and low noise

Part Number

MP-OGC-0708-20-FF-SMA

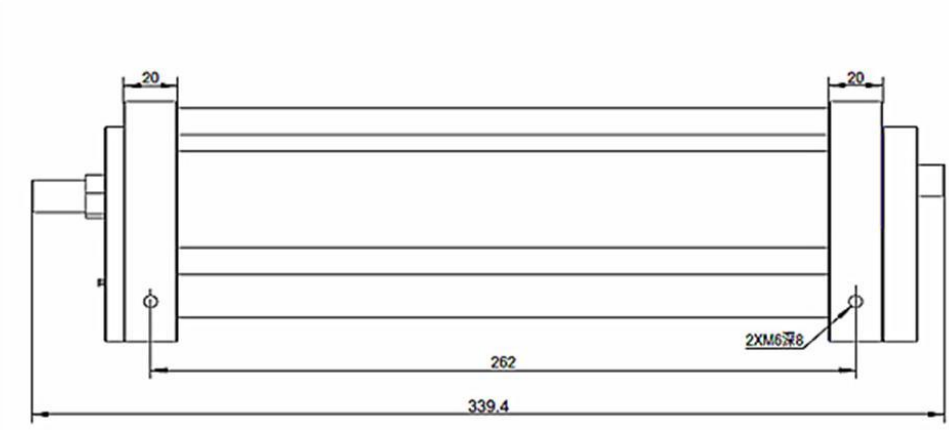
Application area

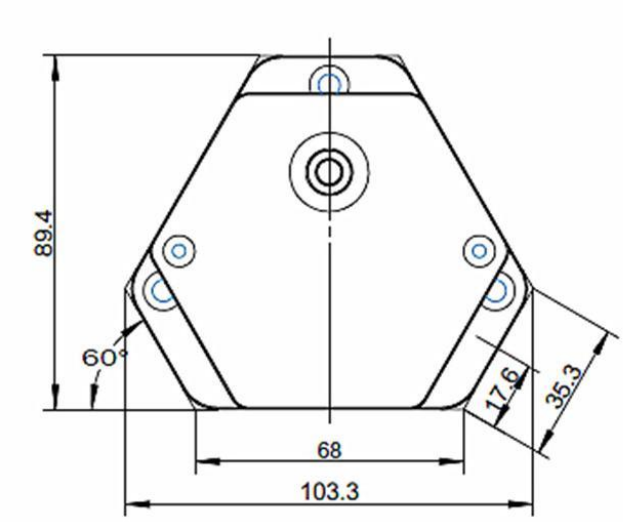
Ultra-high precision gas detection instrument 、 TDLAS extraction analysis

Core parameters

Wavelength Range	Effective Optical Path	Optical Interface
700-800nm	20m	FC/APC

Dimension Drawing





General Parameters

Parameter

Parameter	Technical specification
Effective optical path	20 meters
Gas volume	571ml
Wavelength range	700-800nm

Lens coating	AR dielectric film (>99.8%)
Optical interface	FC/APC
Gas interface	Φ6 quick plug
Insertion loss	⩽3dB@760nm 22℃
Maximum input optical power	500mW@760nm
Operating temperature	-10℃- + 85℃
Dimensions	339mm*89mm*104mm
Total product weight	2700g
Storage temperature	-40℃- + 85℃
Pressure resistance	0.7MPa

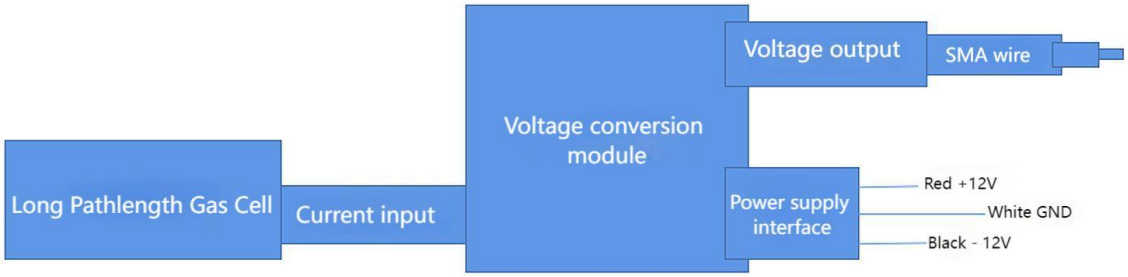
Built-in photodetector parameters

Parameter	Symbol	Condition	Indicator	Unit
Cut-off frequency	Fc	VR=10V	25	MHz
Reverse voltage	Vr	-	⩽20	V
Responsivity	S	750nm 22℃	0.5	A/W
Dark current	ID	Tc=22℃,VR=10V	⩽2	nA
Junction capacitance	Ct	VR=10V,f=1MHz	3	pF

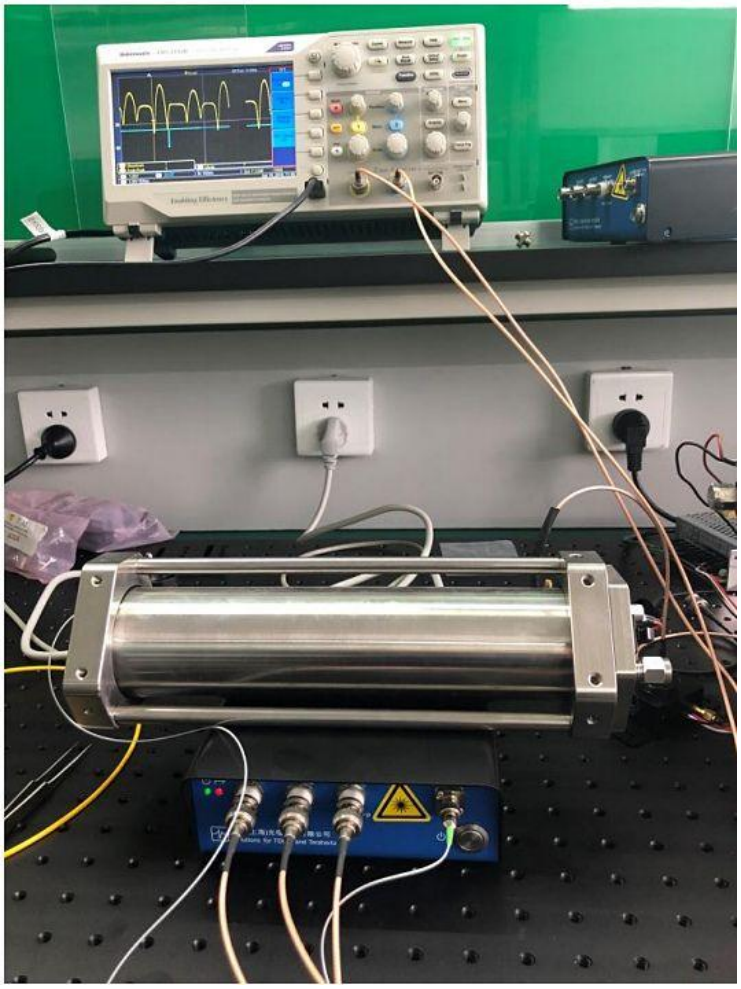
Methods used

Used with our voltage conversion module, the connection is as follows:

The voltage conversion module needs to be loaded with ±12V DC voltage at the same time to work.



Laboratory testing of methane concentration



Line connection:

(1) Connect the power cord and USB cable to the TDLAS control box

(2) Connect the voltage conversion module to the +-12V power supply

(3) Connect the LASER OUT end of the control box to the optical path cell input fiber port

(4) Connect the output end of the optical path cell to the input end of the voltage conversion module

(5) Connect the output end of the voltage conversion module to the PREAMP end of the control box (i.e., the preamplifier end)

(6) Connect TRIG OUT to oscilloscope channel 1

(7) Connect DAC OUT to oscilloscope channel 2

(8) Turn on the laser and observe the second harmonic signal of oxygen absorption on the oscilloscope

Ordering Information

Effective optical path: 20: 20 meters

Working wavelength: 760: 700-800nm,

Lens coating: AR: AR dielectric film (>99.8%), Fiber type and interface: SA: HP780, FC/APC Export: SMA