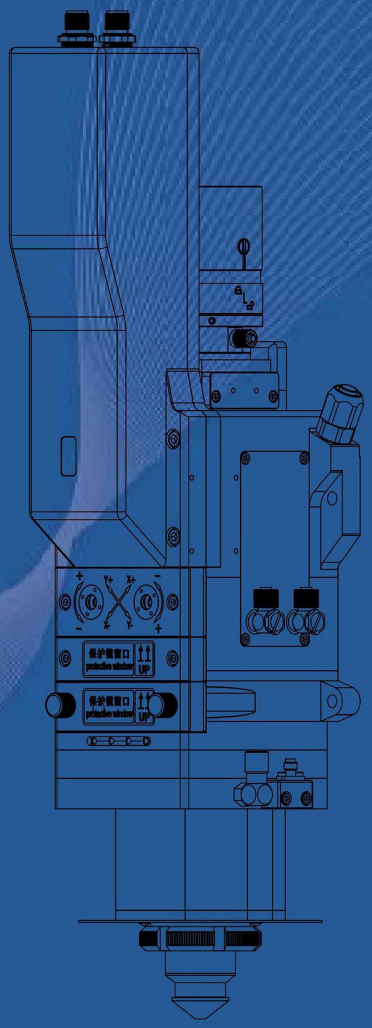
NC150

laser cutting head

PRODUCT
INSTRUCTION
MANUAL



NC150 high power auto-focus fiber laser cutting head

Intelligent Monitoring System

Structure and function introduction

Contents

1. Product structure

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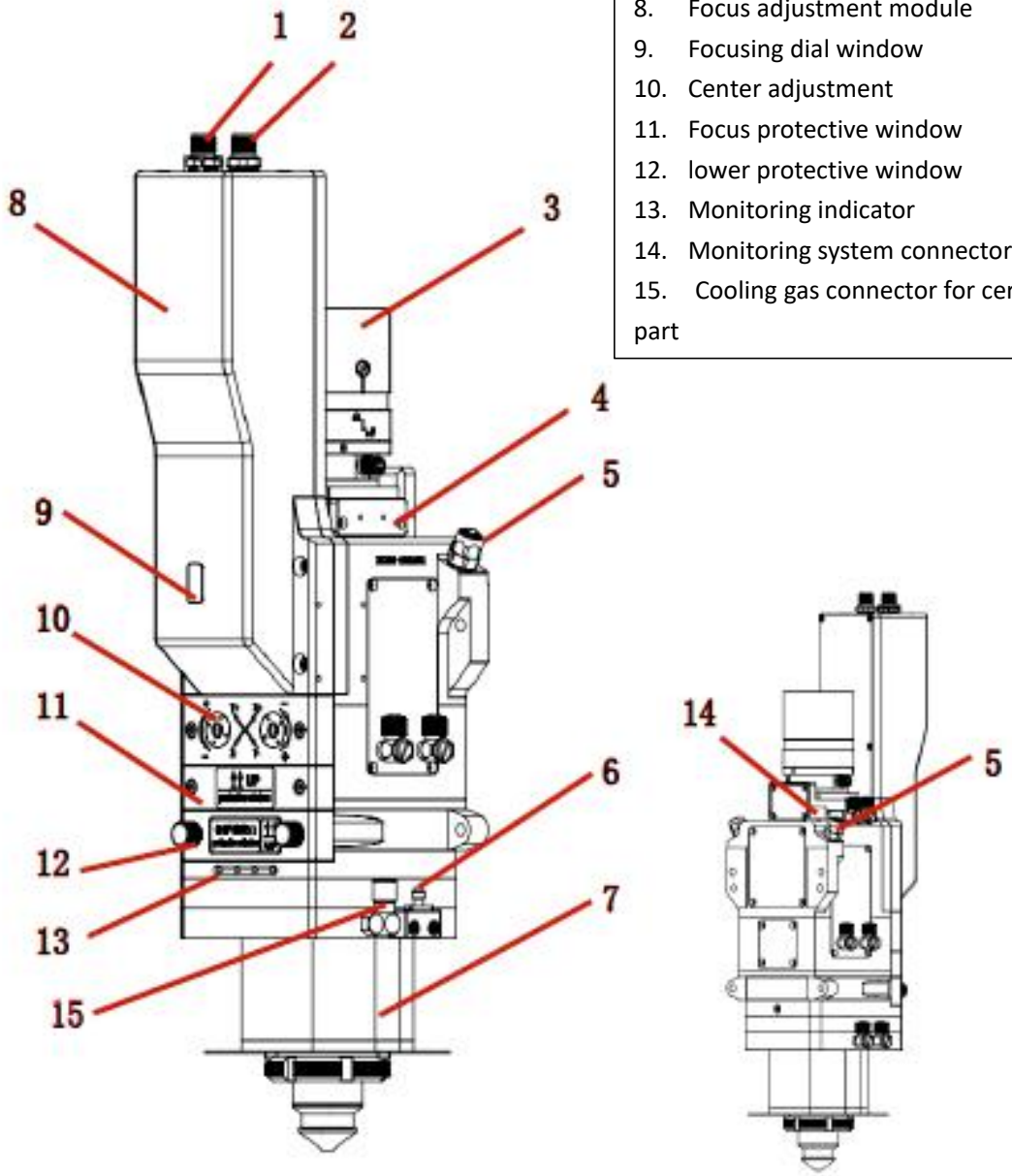
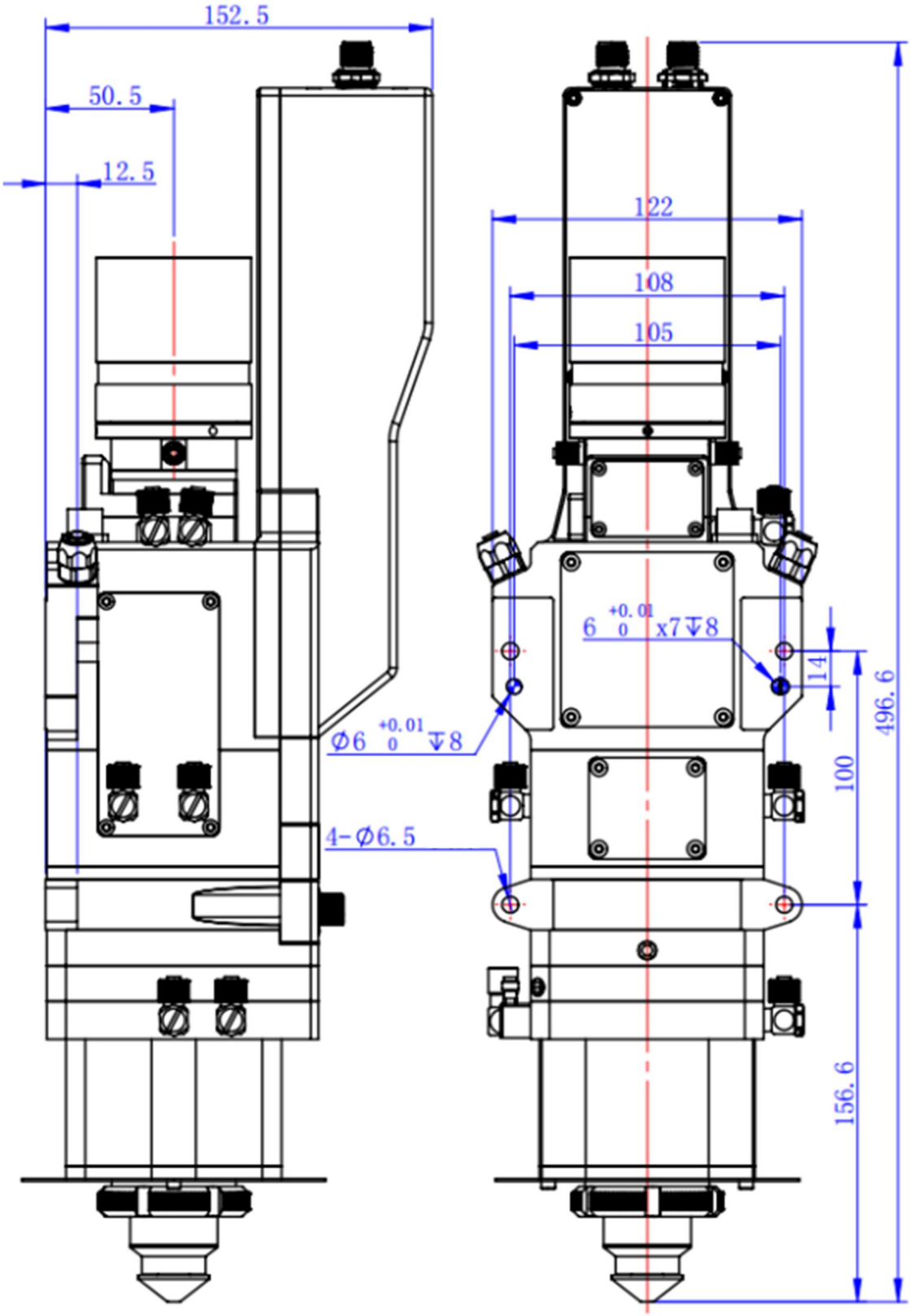


2. Installation size



3. Basic parameters

Model: NC150

Max working power:15kw

Collimation focal length:100mm

Focusing focal length:200mm

Focusing adjustment range:±30mm

Centering adjustment range:±1.5mm

Cutting gas pressure:≤2.5Mpa

Fiber types:QBH, QD, Q+, LOE

Weight:≤8.5kg

Gas pipe connector: Cutting gas connector:ϕ12, Max pressure 25 Bar （2.5Mpa）;

Nozzle cooling gas connector:ϕ6, Max pressure 5 Bar (0.5Mpa)

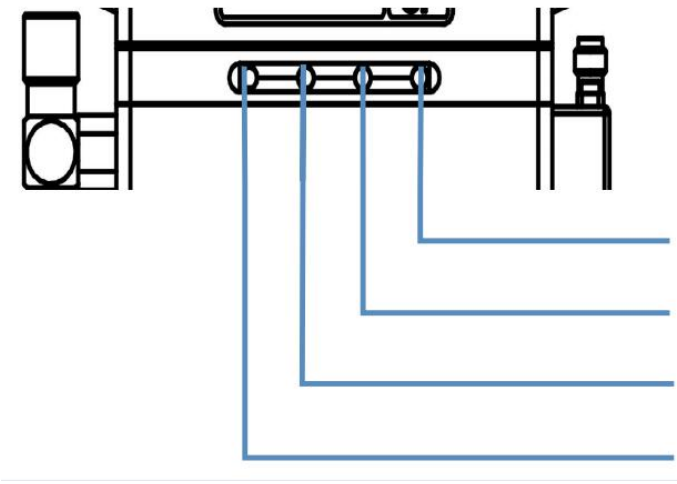
Cooling water connector: ϕ8, Max pressure 5 Bar (0.5Mpa), water flow: minimum 2.0L/min

Working temperature: -25℃ ~ +55℃

Note: To avoid damage during storage and transport: 1. The cutting head should be stored in the proper temperature and humidity; 2. Avoid vibration and shock; 3. Do not put the cutting head in or near magnetic fields (such as permanent magnets or strong alternating fields).

4. Monitoring system

4.1 Cutting head status display light description



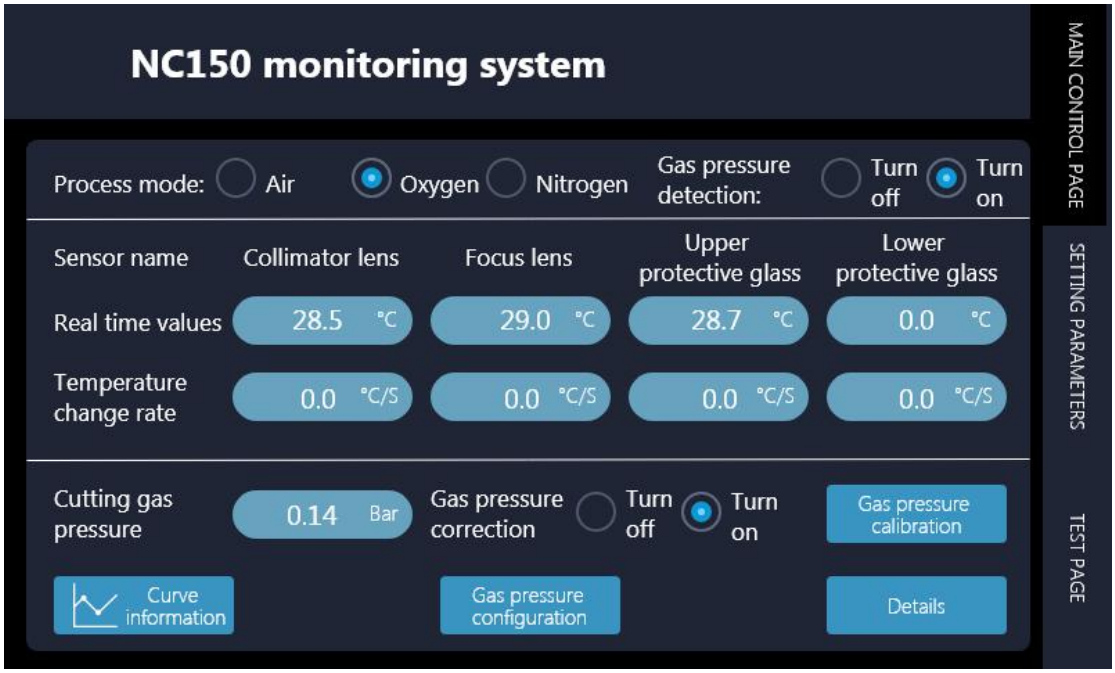
Light 4: Upper and lower protective glass temperature/cutting gas pressure

Light 3: Collimation/focusing lens temperature

Light 2: The connection status of the host computer

Light 1: Running status

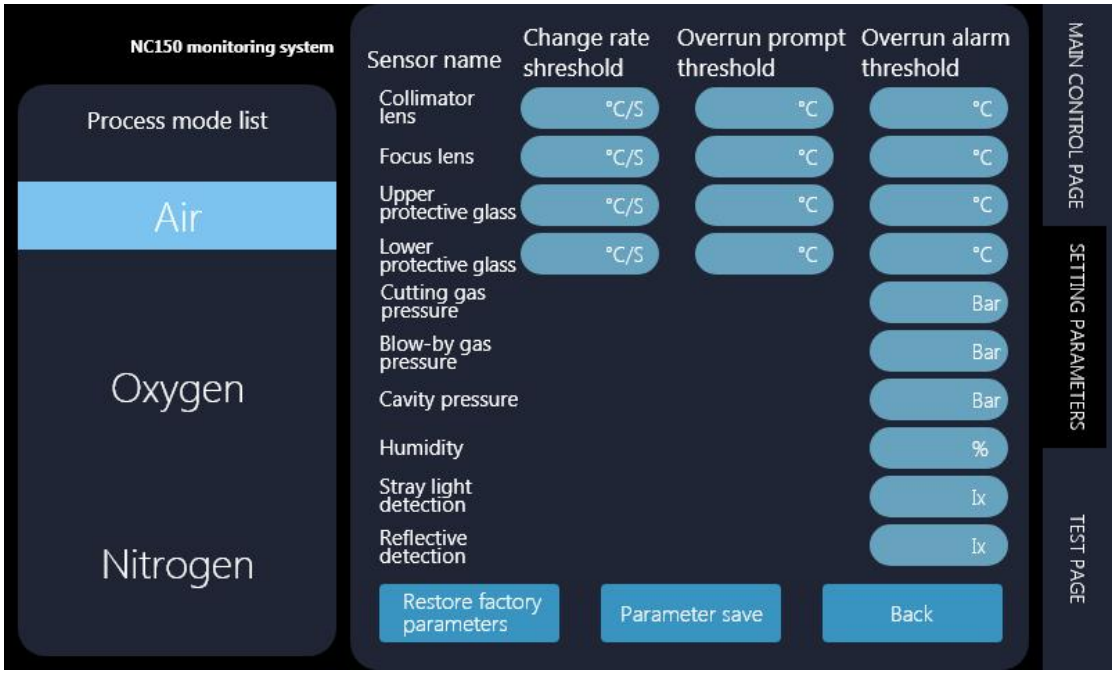
4.2 Cutting head real-time status interface



1. Monitor value column: cutting head real-time monitoring status.

2. Alarm value setting column: the default alarm value has been given (to change the alarm value, user needs to click the "Set Parameters" button and enter the permission password to confirm the change.)

4.3 Monitoring system process mode alarm threshold setting interface



In this interface user can set the process mode related over temperature alarm thresholds and over limit alarm thresholds for the corresponding gases. There are three buttons at the bottom of the function page, which are:

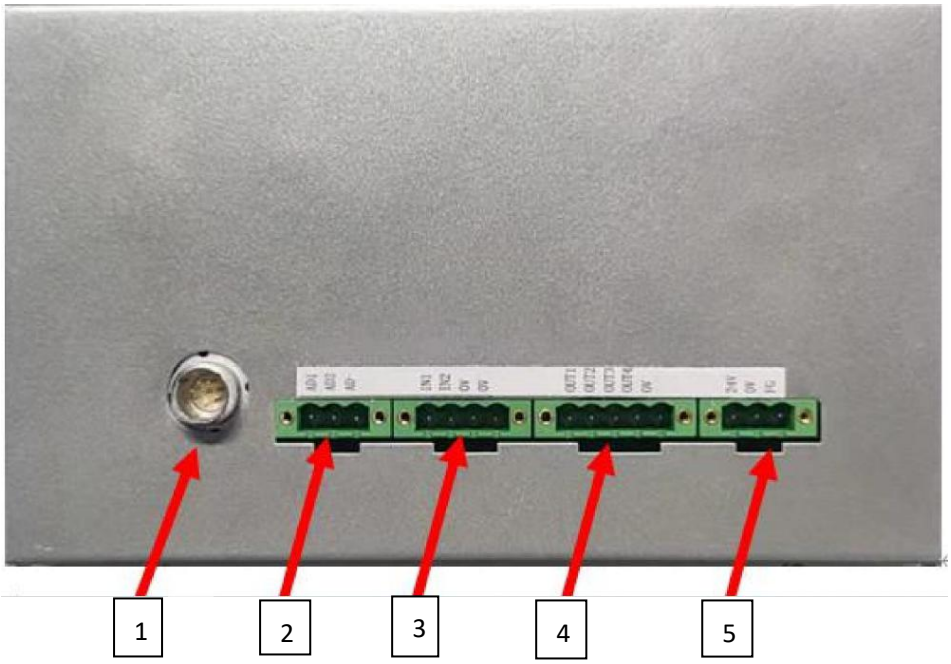
Restore factory parameters - Click this button to restore the factory default alarm threshold setting parameters. Note that to use the factory parameters, user needs to click on the parameter save;

Parameter Save - Clicking Parameter Save saves the data to the cache, and the power-down data page will not be cleared

Back-Return to home page

Note: The monitoring parameters can be generally defaulted, and then changed if there are special needs.

4.4 Electrical wiring



1. Cutting head communication interface: used to connect the cutting head and get the cutting head signal parameters;

2. Analog input: The air pressure alarm comparison interface, AD1 and AD- are connected to the analog output port of the board together with A+ and A- of the proportional valve. So that the board outputs 1V to the proportional valve and the monitoring screen page can get the 1V voltage signal for comparison;

3. Reserved signals: two input IO ports, only as reserved;

4. Alarm output: OUT1 and 0V are a set of alarm signals, OUT1 outputs 24V when the cutting head is alarmed, and 3.3V when it is not (the alarm signal is relayed to the board for use);

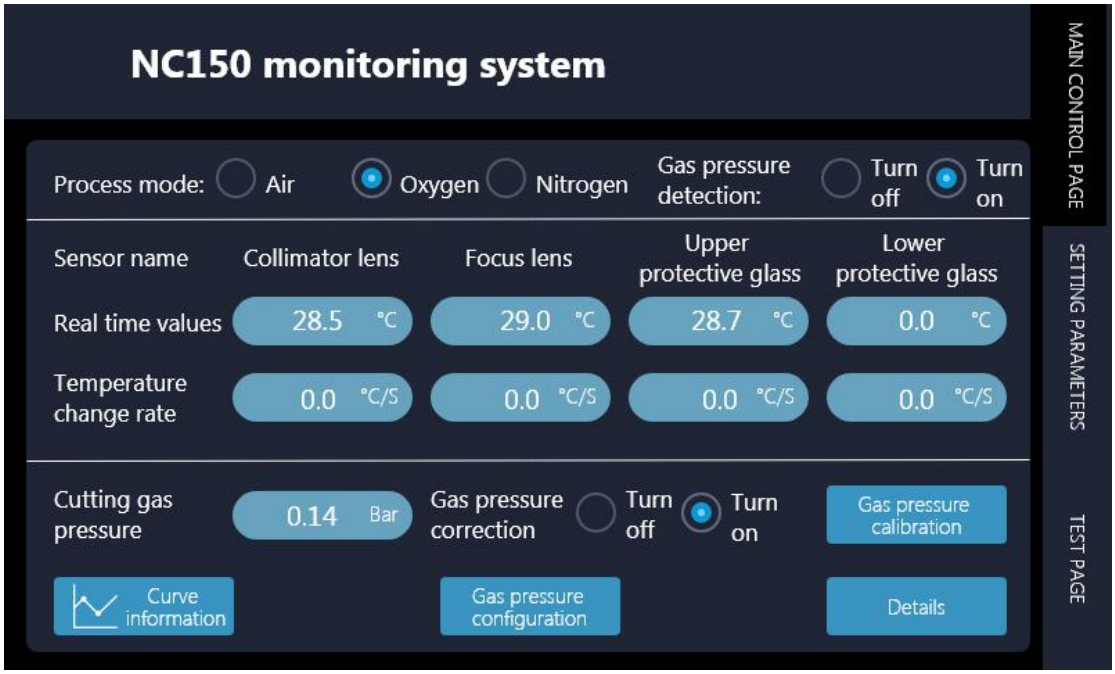
5. Power supply interface: the 24V3A DC switch power supply is recommended for power supply.

4.5 Air pressure correction

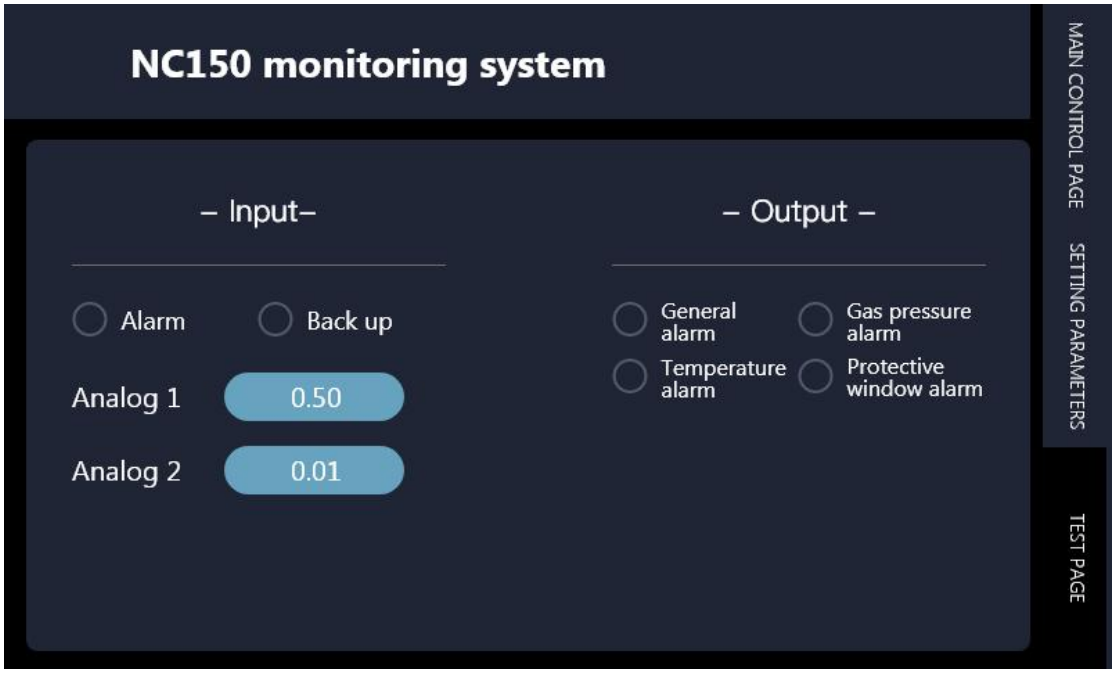
Steps：

1. Set open gas pressure to 0.5 on the upper PC and then open;

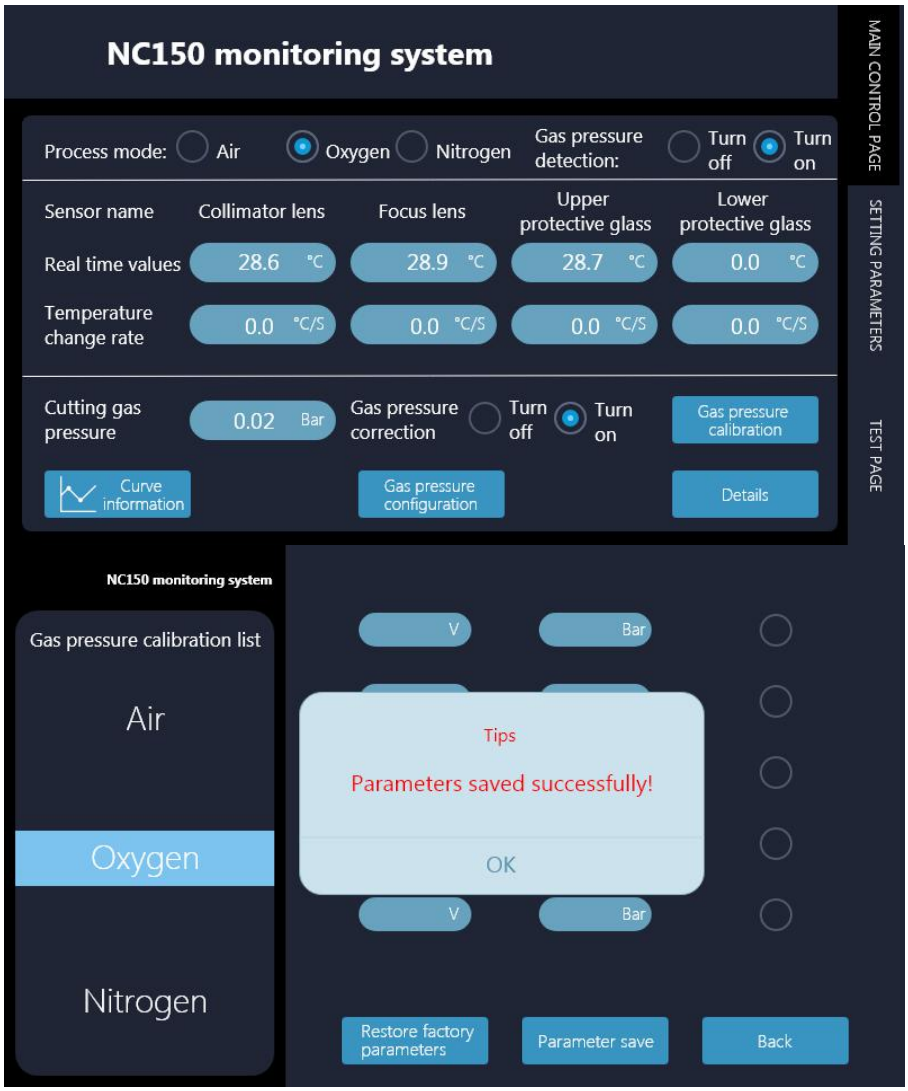
2. Observe the cutting air pressure at the main interface of the monitoring screen, and record the air pressure of 0.14BAR



3. Open the test page-analog volume 1 , and record the voltage of 0.5V



4. Return to the home page, click the air pressure correction, fill in the new set of parameters to the first set, and check the enable, click the parameter to save



5. Set the open gas pressure to 1BAR in the upper PC, and then open the gas

6. Repeat steps 2-4 to record the parameters to the second set

7. Continue to increase the air pressure on the upper PC and record five sets of data (the air pressure is set to 0.5BAR -1BAR -1.5BAR -2BAR -2.5BAR)