Main stream Anesthesia Multi Gas Module User Manual

AG200	Manual ID	Measurable N2O
AG210	Manual ID	Unmeasured N2O
AG220 （ the customized version）	Automatic ID （ only SEV + ISO）	measured N2O

1.performance index：

1.1 Installation method：Mainstream

1.2 Standard：
Conforming to standards of YY0601 and ISO21647

1.3 Gas concentration measuring accuracy

Gas type	Range	Accuracy
CO_2	0-10 VOL%	$\pm$(0.2 vol% + 2% of reading)
	10-15 VOL%	$\pm$(0.3 vol% + 5% of reading)
N_2O	0-100 VOL%	$\pm$(2.0 vol% + 2% of reading)
ISO	0-8 VOL%	$\pm$(0.15 vol% + 5% of reading)
ENF	0-8 VOL%	$\pm$(0.15 vol% + 5% of reading)
SEV	0-10VOL%	$\pm$(0.15 vol% + 5% of reading)
DES	0-22 VOL%	$\pm$(0.15 vol% + 5% of reading)
HAL	0-8 VOL%	$\pm$(0.15 vol% + 5% of reading)

Note：DES, HAL can be calibrated by the user, who can communicate with the manufacturer.

1.4 Respiration Rate Measuring Accuracy：
3 - 120 BPM   accuracy：$\pm$1BPM

1.5 Calibration Requirement：
No need user calibration, only need to manually return to zero.

1.6 Rise time
CO2   <200ms
N2O   < 200ms
Anesthesia Gas   < 200ms

1.9 Warm up time：1-2minutes

1.10 Adjustable Compensation Parameter：
Pressure Compensation   Range：450 -850mmHg
Oxygen Compensation   Range：0-100%
Balance Gas Compensation   N2O

1.11 Power Supply requirement：
5.0VDC $\pm$5%，average current 210mA   peak current 350mA
Average power consumption less than 1.2W

1.12 Module dimension：4.5cm x 3.3cm x 2.2cm

1.13 Weight：（module only）：80g

1.14 Temp & Humidity：
    Working Environment: Temp   10 - 40℃
                Humidity less than 95% RH
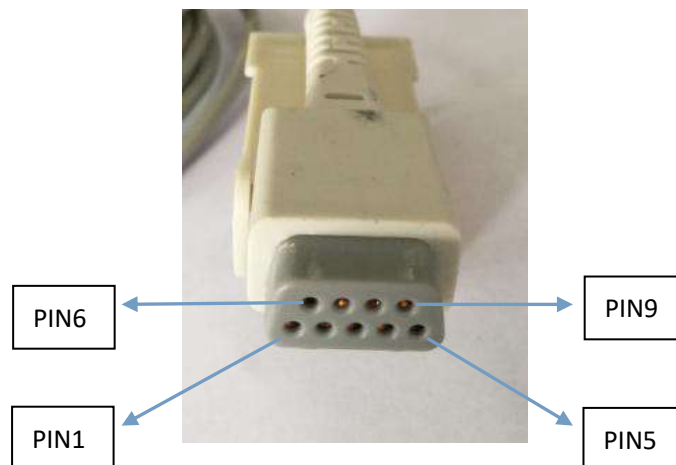   Storage Environment：Temp -20 - 70 ℃

2.Hardware Connector：

2.1 Midestream external Anesthesia Multi Gas Module
Pic 1

2.1.1 connector Definition：

Pic 2

PIN6   PIN9

PIN1   PIN5

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DB9 Female socket(Pic2)definition：

Pin	Description
PIN1	NC
PIN2	TX（Send Data，default RS232 frequency）
PIN3	RX（Receive data，default RS232 frequency）
PIN4	NC
PIN5	GND
PIN6	NC
PIN7	NC
PIN8	NC
PIN9	+5V

3.Precautions：

3.1 Zero Calibration

It is recommended that the user conduct a zero calibration before each use of the module, so as to ensure that the module can achieve the best measurement accuracy,but this is not necessary.

Make sure that the gas sampled by the module is air when the zero calibration operation is performed. When the module reports a choking alarm (" no breath "or" apnea ") and ensures that no CO_2 gas exhaled by the human body is collected, the zero correction operation can be performed.

If the probe needs to return to zero, just long press the button on the cable, then the probe will automatically return to zero without entering the monitor software to set. The five green lights on the cable will blink during the sensor zeroing. Zeroing is complete when the indicator stops blinking. The zeroing process takes about 10-15 seconds.

3.2 When "check adapter" appear, you need to check whether there is water vapor in the adapter or the measuring window is contaminated. If so, it needs to be cleaned or replaced.
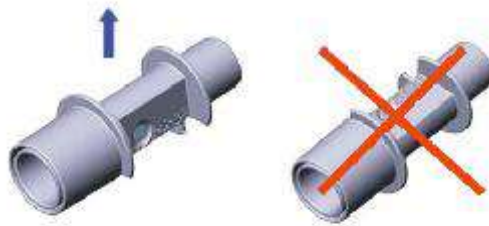
3.3 When the mainstream probe of the new version is connected to the monitor, the red light will always be on, which means that the module is in the warm-up state. When the red light is off, the probe is finished warm-up.

4.Use connection mode：

For the mainstream module, maintain the airway adapter in the correct form, as shown in the following figure：
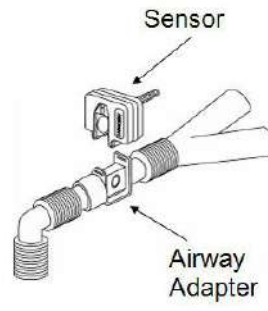
Pic 4.1

Pic 4.2

Appendix 1：Consumable fittings

Att pic1 Adult airway adapter

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