

Analox Sub MKIIIF Panel mount Hyperbaric Chamber monitor



Real time hyperbaric monitoring of

- Oxygen
- Carbon dioxide
- Depth
- Temperature
- Relative humidity

Real time in chamber information;

- In chamber and out of chamber readouts of the monitored parameters

Infrastructure associated with external analysers;

- All sample lines required

Minimises downtime;

- Oxygen and carbon dioxide sensors are field replaceable
- Temperature and humidity module changed at service intervals

Data outputs as standard;

- Offering real time data on a serial port for logging or displaying on an external system

Description

The Analox Sub MKIIIF is a hyperbaric atmosphere monitoring system capable of measuring oxygen (O₂), carbon dioxide (CO₂), pressure (depth) temperature and relative humidity.

It is ideal for use in hyperbaric chambers for HBOT or diving and for monitoring the atmosphere in Submarine Rescue Vehicles (SRV's).

The Sub MKIIIF can also be configured as an O₂ controller to automatically maintain oxygen concentrations to a preset level. The O₂ controller would typically be used to maintain the chamber oxygen concentration or the oxygen concentration delivered from a bibs system on an SRV.

The Sub MKIIIF consists of a main control panel (operator console) and a number of remote sensor modules (REM's).

A large graphic display on the operator console shows the value of each measured parameter its units of measurement and alarm set points. Two audio/visual alarm channels are available for each measured parameter. The REM's provide local, in chamber displays of the monitored parameters and repeat the audio visual alarm status

Sensor measurement techniques

Parameter	Technology	Location
Oxygen	Electrochemical	REM 1
Carbon dioxide	Infra-red absorption	REM 1
Pressure	Strain gauge	REM 1
Temperature	Platinum resistor	REM 2
Humidity	Capacitive	REM 2

The Sub MKIIIF is powered from a 9 to 24vDC supply, however an option to power from a mains AC is available. The operator console is designed to provide power to the REM's.

5 cores through a penetrator would be required to enable this (2 power, 3 comm's). Alternatively the REM's could be powered locally.

In its standard mode of operation the Sub MKIIIF monitors the atmosphere via diffusion. This removes the need for pumps and their associated maintenance.



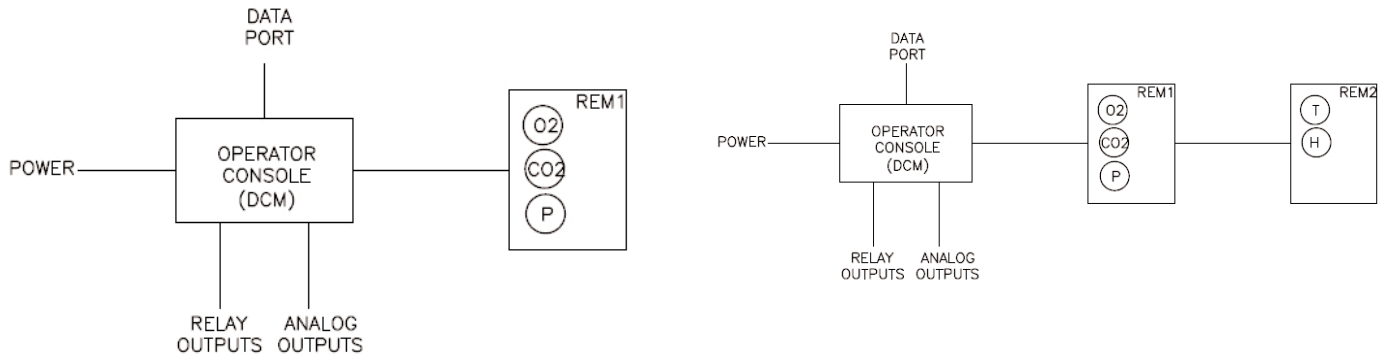
Example of a main control module mounted within a saturation dive panel.

Sub MKIII F variations:

The Sub MKIIIF is factory configurable to suit your individual application and requirements. The part numbers provided are indications of what we offer to suit these different applications.

Medical chambers

Basic installation might consist of an operator console with a REM1 and an optional REM2. Power is 24V as standard with external power supply provided as an optional extra.



Medical chamber part numbers

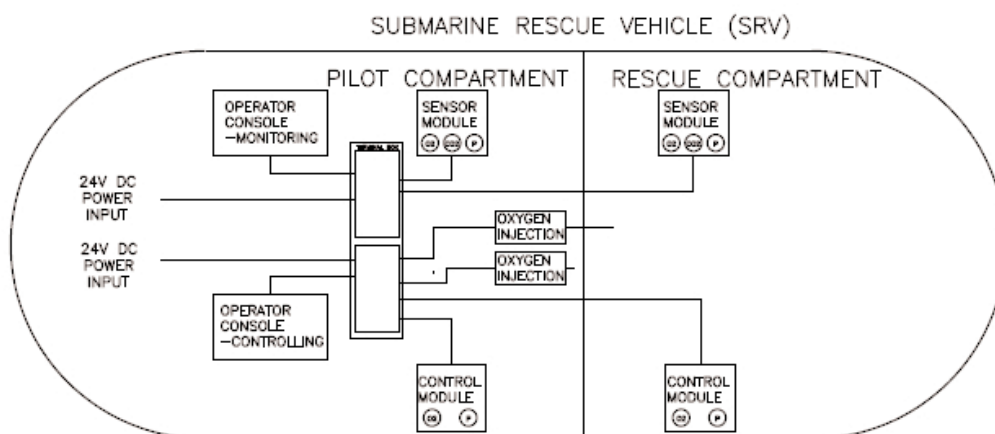
ASF3AEDAXXY 0 to 3000mBar ppO₂
0.00 to 20.00mBar ppCO₂
0.80 to 10.00 BarA

ASF3AEDACY 0 to 3000mBar ppO₂
0.00 20.00mBar ppCO₂
0.80 to 10.00 BarA
0 to 50°C
0 to 100% RH

The quoted part numbers are for a Sub MKIIIF system designed to work up to 3BarA. The O₂ sensor range is ideal for medical chamber use where the CO₂ range is to ensure the CO₂ levels remain below safe levels within a decompression chamber.

Submarine rescue vehicles

Drawing below shows a Sub MKIIIF monitoring system; operator console with 2 REM1 sensor modules, and also a Sub MKIIIF O₂ control system; operator console with 2 REM3 control modules. This provides monitoring and control in two compartments.



Submarine rescue vehicles part numbers

Monitoring System

ASF3BAAAXXY 0 to 1500mBar ppO₂
0.0 to 100.0 mBar ppCO₂
0.80 to 10.00 BarA

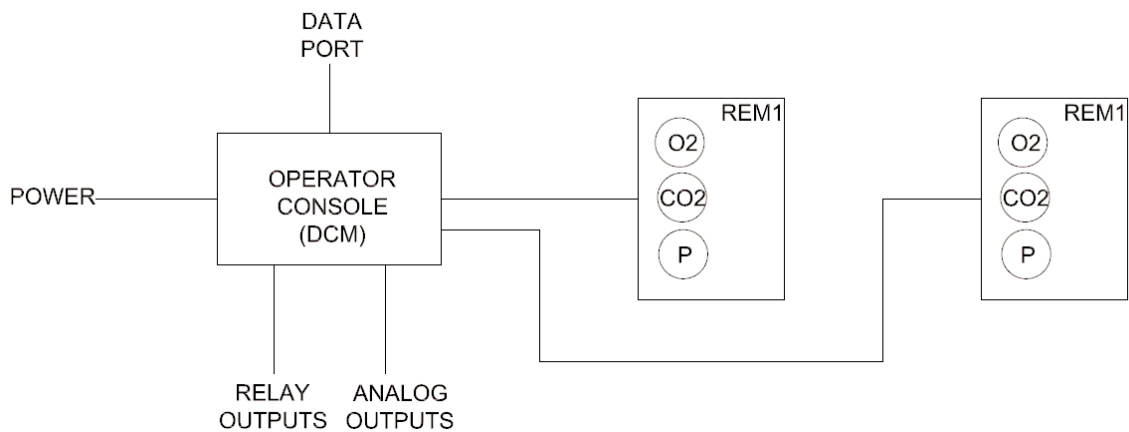
Control System

ASF3OCBAXAXXY 0 to 1500mBar ppO₂
0.80 to 10.00 BarA

The quoted part numbers are for a Sub MKIIIF system is designed to work up to 10BarA. O₂ levels are at ambient concentrations, the 10mBar CO₂ range offered is suitable as personnel will be loacted in compartments for very short periods of time.

Diving chambers

Simple System as per medical chambers above, but this time fitted with a different pressure sensor range and designed for use within a helium environment. Also available with REM2 option.



Diving chambers part numbers:

ASF3AAGJXXY 0 to 1500mBar ppO₂
 0.00 to 20.00mBar ppCO₂
 0.0 to 350.0 MSW

ASF3AAGJCY 0 to 1500mBar ppO₂
 0.00 to 20.00mBar ppCO₂
 0.0 to 350.0 MSW
 0.0 to 50.0 deg C
 0 to 100% RH

The quoted part numbers are for a Sub MKIIIF system working within a reduced O₂ range whilst keeping the CO₂ range is below 5mBar for safe working levels.

Specifications			
Range CO ₂ :	0 to 20.00 mBar, 0 to 100.0 mBar	Outputs:	8 x 4 to 20mA channels Voltage outputs (0 to 10V) (option)
Range O ₂ :	0 to 1500 mBar pO ₂ , 0 to 3000 mBar pO ₂	Alarms:	1 alarm indicator for gas/environment alarms 1 fault indicator for communications, calibration and general system faults
Range Depth:	0.50 to 10.00 BarA, 0.50 to 60.00 BarA	Dimensions mm:	Operator Console 260x160x90 Sensor Modules 90x140x55
Range Temperature:	0 to +50°C	Data output:	Real time data output on serial port for logging or display on external system
Range Humidity:	0 to 100% RH		
Operating Temp:	0 to +50°C		
Power Options:	12 to 30 VDC 110 to 230VAC (option)		

Analox has a policy of continuous improvement and we reserve the right to upgrade or change specifications without prior notice. Full Technical Specifications are available upon request.



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