

# Data Sheet

## MAP Check, PFC

### Process control oxygen analyser

- High process control oxygen analyser with solid state sensor and proportional gas flow control in one box.



The gas flow controller is electronically integrated with the gas analyser MAP Check. The  $O_2$  concentration, which is to be maintained during production, is defined by the operator via the  $O_2$  analyser - or in the remote control software. Based on the  $O_2$  feedback from the analyser the gas flow controller regulates the gasflushing process in order to achieve and maintain the defined  $O_2$  level.

The integration of a gas flow controller secures a smooth, non-oscillating gas flow regulation.

### Features / Advantages

- Extremely fast response time
- Complete self-diagnostics - detection of vital function parameters, such as sample flow
- Broad user interface - menus with many set-up possibilities
- 2 oxygen concentration alarms
- RS 232 and 2 relays for gas alarms and system alarms
- PC compatible software
- Gas savings, less costs of rework and scrapping
- Better end product quality
- Optimal repeatability in the process
- Documentation of the process

### Multiplex measuring

In many processes it is important to measure the oxygen concentration from more than one sampling point, e.g. in a soldering machine (see below) in the soldering zone and in the heating and cooling zones. The multiplex function is an option to MAP Check, PFC, and has 3 sampling points as standard, but more sampling points can be offered.

### Introduction of MAP Check, PFC

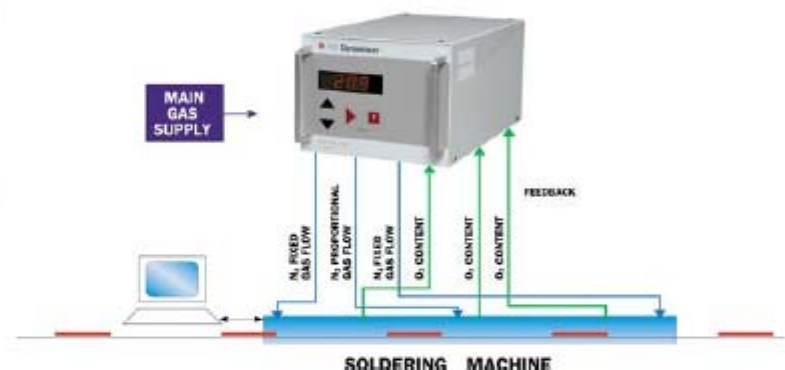
MAP Check and the automatic gas flush unit MAP Con have been merged into MAP Check, PFC with the same high quality and technology. At the same time it has been possible to reduce the price considerably. Two devices in one box and still the same performance and features as before.

The MAP Check line is state-of-the-art oxygen analysers, which especially target the industrial process control applications and the demand for unproblematic, fast responding precision gas analysis.

MAP Check, PFC, is fitted with a solid state sensor and the analyser is digitally controlled, featuring full self-diagnostics with alarm output, user programmable gas concentration alarms and various possibilities for analyser process communication. Operation and monitoring of the analyser is done either directly via the display/keyboard or via PC using a special developed Windows based software, which will simplify your data logging etc.

### Automatic gas flow controller integrated

In the new MAP Check, PFC, the gas flow controller is integrated and built in together with the oxygen analyser. The gas flow controller automatically regulates the gas flow in a process to reach and to maintain a user defined oxygen level. The system offers a unique possibility of maintaining an optimal quality in the protective atmosphere process. The advantage is maximum quality of the end product with a minimum of gas consumption, less scrapping and rework.



Each sampling point - when using the remote control software - features individual record of  $O_2$  concentration, alarm set up, measuring point priority etc.

**PBI Dansensor**

Best choice for gas and permeability instrumentation

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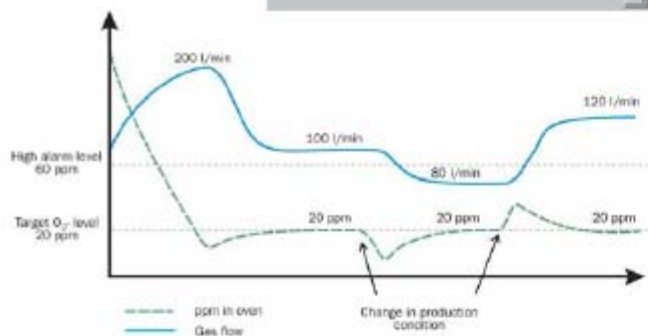
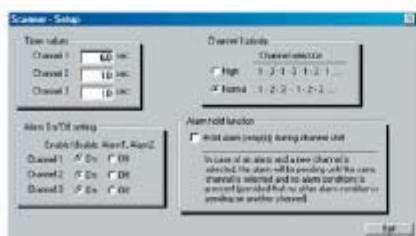
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## MAP Mon 9000 - remote control software

With high accuracy the gas flow controller maintains a user defined oxygen level in a process via a control signal feedback from the analyser. Thus, the oxygen level measured is continuously compared to the required level and the gas purging is adjusted proportionally. The program can be installed on the PC, which e.g. controls the soldering oven, thus offering the operator a single point to control the entire system.

The MAP Mon 9000 software offers a wide range of easily accessible set up possibilities and a good overview. An important feature is the data logging function, which records both the measured values and the conditions of the gas flushing system. This satisfies the requirements for traceability according to ISO 9000 and other quality concepts.

## Illustrations of the scanner set up and gas flow control principle



**Option:** Windows based PC software The user interface for MAP Check can either be via the analyser display and keyboard or via MAP Mon, which is a Windows based PC software for remote control. This software offers a very easy approach to the set up and viewing the analyser, flow controller and multi-plexer together with data logging.



**Option:** Multiplex measuring MAP Check is available with 1 and 3 measuring points, 6 points is optional. Various measuring points can be set up in the analyser - or via the remote PC control software (see below). The multiplexer can be set up as sample per measuring point, switching time between the points and point priorities. In case of an O<sub>2</sub> alarm in a measuring point the alarm will be locked until the next measurement in that specific point.

## Technical specifications

Specifications	
Sensor type:	Ceramic solid state
Measuring range:	100% - 0.1 ppm O <sub>2</sub> , autoranging
Self-diagnostics:	Complete. Monitors vital functional parameters
Calibration intervals:	1 year (if option: "No pump" - 3 years). Semi automatic calibration
Calibration points:	4, plus atmospheric air
Reference gas:	Atmospheric air
Sensor response time:	50 msec.
Operation temperature:	1000K (727 Celsius)
System response time:	20.9% O <sub>2</sub> to 10 ppm in 2 minutes
Accuracy:	Better than +/-1% of reading in cal. range
Sample flow:	200 or 1200 ml/min
Sensor flow detection:	Monitors correct gas flow through sensor
Sample gas supply:	Built-in sample pump - or optional, no pump pressurised sample flow adjusted to 2 bar
Gas-flow range:	0-60 m <sup>3</sup> /hour (2350 SCFH)
Proportional gas regulation:	O <sub>2</sub> feedback signal from the integrated MAP Check 9000 oxygen analyser
User interface:	Menu operated for analyser setup and function monitoring
Display:	4 digit, red LED display
Keyboard:	4 front soft keys
Alarms:	2 gas concentration alarms, 1 system fault alarm, 1 flow alarm
Alarm connections:	Max. 48 VDC, 1 A (common N.O. and N.C.)
Current output:	Optional: 0/4 - 20 mA or 0-10 V, user defined set up of scale
Signal input:	10 - 32 VDC, external measuring control signal. Consumption 10mA
Size:	235x194x420 mm (WxHxD)
Cabinet & display:	Stainless steel. Foil front plate

Distributor:

**PBI Dansensor**

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