# PRODUCT BULLETIN 4

ONGUARD® 3000

PURAFIL® FIRST IN CLEAN AIR

## FOR INDUSTRIAL APPLICATIONS

**THE PURAFIL ONGUARD 3000 (OG3) ATMOSPHERIC CORROSION MONITOR** helps to solve corrosion problems before severe damage occurs. Reactivity monitoring is an accurate and reliable method of evaluating the quality of air, characterizing the room environment, and evaluating the effectiveness of chemical filters. The OG3 measures, in real-time, corrosion rates on copper and silver sensors caused by contaminant gases present in the surrounding environment. Temperature and relative humidity are also monitored. The data can be stored by an internal data logger for later download or can be transmitted directly to a facility monitoring system for immediate reporting.


ONGUARD 3000

## BENEFITS

- Helps solve corrosion problems before severe damage occurs
- Prevents costly repairs and production downtime
- Track peaks and trends to determine sources of corrosion
- RoHS compliant

## FEATURES

- No need for additonal devices, the backlit LCD and keypad provide a direct interface
- Logs data, or communicates directly with existing facility management systems or distributed control systems (DCS).
- Measures temperature, relative humidity and corrosion on a continuous basis
- Provides incremental and cumulative corrosion data
- Service life of 4000 Angstroms
- Capable of battery operated or hard-wired applications
- Accurate within ± 0.5-1% of full span
- The only corrosion monitor that directly corresponds to ISA Standard S71.04-1985 Classification of Reactive Environments.
- Serial or USB ports and PC software to interface with the unit

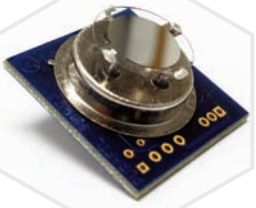
## APPLICATIONS

Manufacturing Plants and Refineries such as:

- Oil / Petrochemical
- Pulp and Paper
- Steel / Smelter
- Textile
- Power Plant
- Mining
- Pharmaceutical

## PRODUCT DESCRIPTION

The OnGuard 3000 utilizes highly sensitive quartz crystal microbalance sensors to provide accurate and reliable corrosion monitoring. Ideal for control rooms, motor control centers, rack rooms, or other areas where corrosion is of concern, the OG3 allows for action to be taken before problems develop. Preventing corrosion related failure of electronics also prevents costly downtime and maintenance repairs.



REPLACEMENT QCM SENSOR

## PRINCIPLE OF OPERATION

The OG3 is the first reactivity monitor to provide real-time data on the level of contaminates present in the local environment. The OG3 comes with two quartz crystal microbalace (QCM) sensors, one that is plated with copper and another with silver. The QCM is used to measure the corrosive film that results from the enviroment. This highly sensitive method of measurement will indicate contaminant levels at or less than one part per billion (1 ppb). The corrosion film thickness is measured and recorded in Angstroms (Å). This measurement corresponds directly to ISA Standard S71.04-1985 and the soon-to-be published revision of the standard (see tables on reverse).

Purafil, Inc. • 2654 Weaver Way, Doraville, Georgia, 30340, U.S.A. • www.purafil.com • tel: (770) 662-8545 • (800)-222-6367

© Purafil 2011 ProdBltn - OG3 - 02

QUALITY MANAGEMENT SYSTEM CERTIFIED BY DNV
ISO 9001:2008

# PURAFIL ONGUARD 3000

## SYSTEM ADVANTAGES

**MAINTENANCE:** The only maintenance necessary of the OG3 is the replacement of the sensor(s), which is required at 4000 angstroms of cumulative corrosion growth, or if a sensor has been damaged, causing the red LED to blink.

**INSTALLATION LOCATION:** Select a clean, dry location free of excess vibration where the temperature will be between -10 and 75° C (14° and 167° F) and the relative humidity will be between 10% and 95% non-condensing.

**PLACEMENT:** Special care should be given to location when installing the OG3. It should be placed near the electronics, or within the protected space, to provide an accurate representation of the air encountering the equipment.

**PC BASED SOFTWARE PROGRAM:** The OG3 can be connected to any PC to view retrieved data via a software program included with the monitor. This software package can be downloaded to your PC and is used for communication and graphing of data stored within the monitor.


ONGUARD 3000
ATMOSPHERIC
CORROSION MONITOR

## CURRENT ISA S71.04

| ISA STANDARD S71.04-1985 | ONGUARD OG3 CORRELATION | EFFECTS |
|---|---|---|
| Class G1: <300 Å/30 days | Class G1: <10Å/24 hours | Mild: Corrosion is not a factor |
| Class G2: <1000 Å/30 days | Class G2: <33 Å/24 hours | Moderate: Corrosion is measureable |
| Class G3: <2000 Å/30 days | Class G3: <66 Å/24 hours | Harsh: High probability that corrosive attacks will occur |
| Class GX: >2000 Å/30 days | Class GX: <67 Å/24 hours | Severe: Electronic/electrical equipment not expected to survive |

* Å = angstroms

## APPROVED CHANGES TO ISA S71.04

| SEVERITY LEVEL | REACTIVITY LEVEL | COPPER CORROSION | COPPER CORROSION |
|---|---|---|---|
| G1 | MILD | <300 Å/ 30 days | <200 Å/ 30 days |
| G2 | MODERATE | <1000 Å/ 30 days | <1000 Å/ 30 days |
| G3 | HARSH | <2000 Å/ 30 days | <2000 Å/ 30 days |
| GX | SEVERE | >2000 Å/ 30 days | >2000 Å/ 30 days |

* Å = angstroms

**CURRENT STATUS OF ISA STANDARD S71.04:** This standard is currently being revised with updates made necessary by the numerous ROHS (lead-free) regulations that have been put into law and by changes recommended by ASHRAE Technical Committee 9.9 on Mission Critical Facilities, Technology Spaces and Electronic Equipment for application into non-industrial environments. Revisions have been approved by the ISA S71 Committee and final approval and publication is pending the results of public review.

Purafil, Inc. • 2654 Weaver Way, Doraville, Georgia, 30340, U.S.A. • www.purafil.com • tel: (770) 662-8545 • (800)-222-6367

© Purafil 2011 ProdBltn - OG3 - 02

QUALITY MANAGEMENT SYSTEM
CERTIFIED BY DNV
ISO 9001:2008