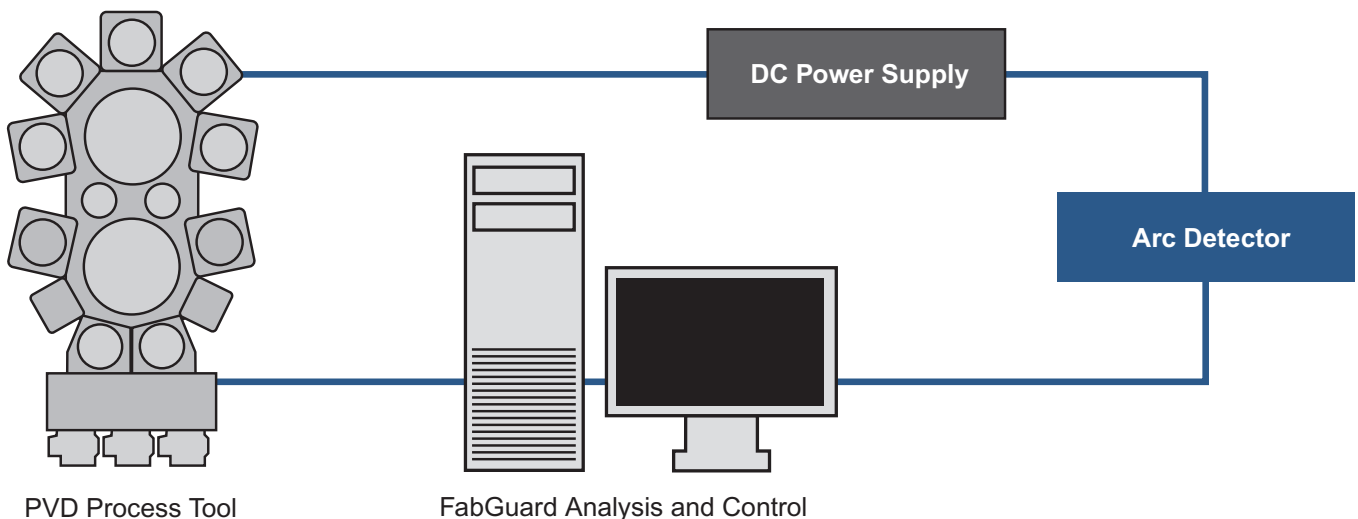INFICON

# ADC100
## DC Arc Detector

## ULTRA-FAST DETECTION TO REDUCE PARTICLE CONTAMINATION

Plasma arcing in physical vapor deposition processes (PVD) can cause damage to the target, the film being deposited and the wafer surface. Particles generated during these arcs can reduce yields, significantly decreasing profitability. The INFICON ADC100 Arc Detection System captures these arcs in real-time, providing the ability to interrupt wafer processing on the tool, and notify process and equipment engineers of potential product and hardware damage.

The ADC100 Arc Detection System connects to your existing DC power generator to collect voltage and power information at sampling frequencies up to 250 kHz per channel. Since arcs are very transient in nature and occur as spikes, the ability to capture and analyze DC generator signals at high sampling frequencies is crucial to providing reliable detection capability.

### FEATURES AT A GLANCE

▊ Software integration to the tool through FabGuard Sensor Integration and Analysis System

▊ Data collection at 250 kHz per channel

▊ Custom cables connect to most DC generators

▊ Detects arcs quickly with pre-defined analysis tools

▊ Also provides endpoint detection capability

▊ Worldwide application support



DC Power Supply

Arc Detector

PVD Process Tool

FabGuard Analysis and Control

Schematic of Arc Detection System

## ANALYZE ARC EVENTS IN REAL-TIME

INFICON FabGuard® Sensor Integration and Analysis System processes high-speed data and performs simple or complex analysis to detect the occurrence of arcing as it happens. FabGuard synchronizes the arc data with other process parameters from the tool (including power, pressures and gas flows), providing the information necessary to identify and isolate potential arcing events.

## TIGHTER CONTROL FOR BETTER YIELDS

Arcs detected by the ADC100 Arc Detection System correlate to particle excursions detected on the wafer surface. FabGuard allows you to put simple SPC limits on the arc indices, so that wafers can be tagged for off-line particle analysis.
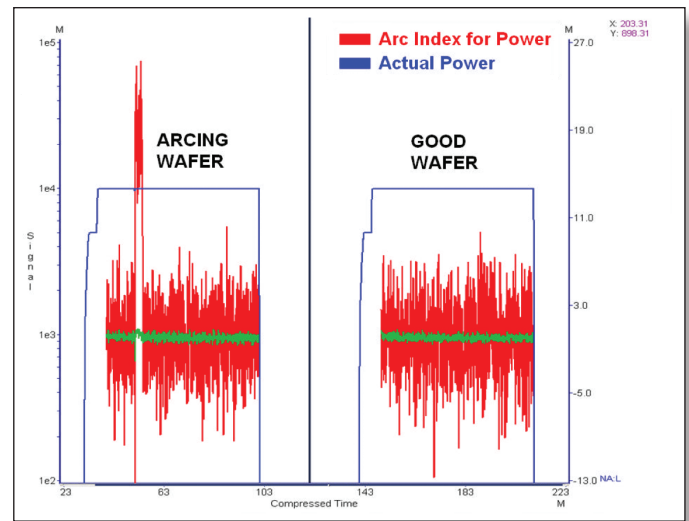
Actual Arc Detection on an Aluminum PVD Process

## SPECIFICATIONS

| | |
|---|---|
| Applications | Arc Detection and Endpoint Detection |
| Maximum Sampling Frequency | 250 kHz per channel, simultaneous |
| Channels per DC Generator | Two (Current and Power) |
| Channels per Computer | Eight |
| Generators per Computer | Four |
| Signal Cable Lengths | 50 ft., 75 ft., longer upon request |

INFICON Instruments for Intelligent Control®