

# GIF++

## ENVIRONMENTAL SENSORS STATUS REPORT

Bari, Frascati

January 14<sup>th</sup>, 2015

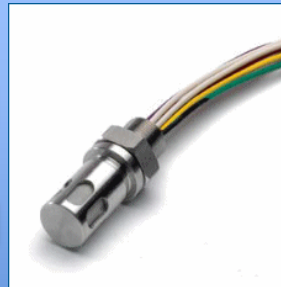
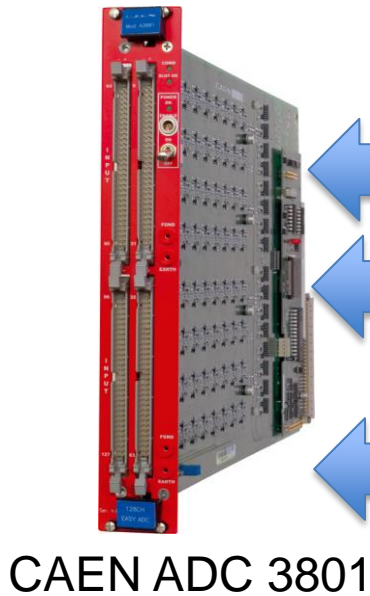
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Laboratori Nazionali di Frascati dell'INFN

- Monitoring (for both atmospheric and gases)
  - Pressure **p**
  - Temperature **T**
  - Relative humidity **H**
- Modular architecture
  - baseline
    - Four gas sampling points
    - Six atmospheric sampling points
- Integrated in PVSS/DCS monitoring system
- Simple Pb shielding for irradiated areas

# Environmental Sensors: specifications

Range	Precision
$5^{\circ}\text{C} < \mathbf{T} < 40^{\circ}\text{C}$	$\Delta\mathbf{T} = \pm 0.2^{\circ}\text{C}$
$0\% < \mathbf{H} < 100\%$	$\Delta\mathbf{H} = \pm 2\%$
$900\text{mbar} < \mathbf{p}_a < 1050\text{mbar}$	$\Delta\mathbf{p}_a = \pm 2\text{mbar}$
$-2\text{mbar} < \mathbf{p}_{g(\text{detector})} < 5\text{mbar}$	$\Delta\mathbf{p}_{g(\text{detector})} = \pm 0.1\text{mbar}$
$0\text{mbar} < \mathbf{p}_{g(\text{off-detector})} < 100\text{mbar}$	$\Delta\mathbf{p}_{g(\text{off-detector})} = \pm 2\text{mbar}$



T, H sensor  
PCMini 70 Michell



p sensor  
TSA Gefran

Stainless steel housing  
for use with F-



# Environmental Sensors: status and tentative plan

- Test system operational at Frascati ... OK
- Sensors coupled to A 3801 ... OK
- Short term accuracy ... OK
- Study long-term stability ... OK
- Freeze design and validate ... OK
- Design of mechanical assembly ... OK
- Readout test in GIF++ DCS temporary setup (Bologna)... OK
- Sensors procurement ... 60% DONE
  - Missing sensors in delivery at CERN
- 10 stations assembly ... 60% DONE
- Cabling in GIF++ ... cables installed
- Complete assembly of missing sensors... February 15
- Connectors on cables and all stations at GIF++... March 1
- Radiation shielding in GIF++... in progress