



# Service Information

## Isfet pH Sensors

### Introduction

(ISFET) Ion Sensitive Field Effect Transistors are electronic devices, similar to MOS transistors, that measure pH of solutions. They can be fabricated using microelectronic technologies and, thus, they have advantages of small size and cost compared to standard pH macro electrodes. Biomedical, environmental and analytic process control are attractive applications of ISFET chemical sensors.

CNM has developed a wide range of ISFETs for different applications with different technologies, that can be adapted to continuous and FIA measurement techniques. Smart applications that integrate ISFET sensors and CMOS circuitry have also been developed.

### Technologies

- Standard NMOS based technology
- Back side contacted technologies based on bulk and BESOI substrates
- Fully CMOS compatible technology with on chip circuit integration
- Si<sub>3</sub>N<sub>4</sub>/SiO<sub>2</sub> based sensitive membranes with Nernstian response
- Biocompatible and Organic membranes for biologic applications
- Automatic packaging based on thermocurable and photocurable encapsulant polymers
- Single and Differential measurement set-up
- Special devices adapted to microcells

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