

NOVA SERIES

# MCT466-SF

**Stainless Steel NIR Moisture Gauge  
for the Food Industry**

Compact, Robust, Reliable in Challenging Environments

PROCESS SENSORS  
CORPORATION 





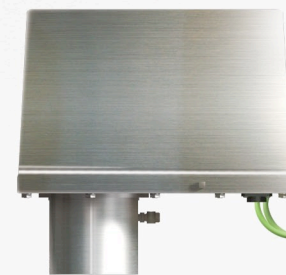
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Stainless Steel NIR Moisture Gauge for the Food Industry

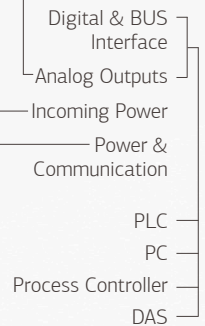
## MCT466-SF Moisture Gauge System

- Gauge connects to Operator Interface with proprietary, heat resistant cable
- Gauge powered from Operator Interface
- All Analog Outputs, Digital Outputs and Bus Interfaces at Operator Interface
- Bright 5.7" high-resolution Touchscreen LCD

Operator Interface  
Color Touch Screen



MCT466-SF Gauge



### Stable & Accurate

Designed and configured for the demanding heat and wash down conditions in the food and snack food manufacturing industries. The MCT466-SF is simple to install and can be used in different stages of processing from fryer outlet to packaging.

#### Typical applications include:

- Potato Chips
- Corn Chips
- Tortillas
- Cookies
- Crackers
- Breakfast Cereals
- Milk Powders
- Popcorn
- Oil Base Flavorings
- Pork Rinds

## MCT466-SF Features

- 316 Stainless Steel enclosure
- Single proprietary heat resistant cable from gauge to Operator Interface
- Stainless Steel Operator Interface with bright, 5.7" Touchscreen Display
- All current, voltage and bus connections located at Operator Interface
- New micro controller, high performance, dual core architecture. One core dedicated to NIR signal acquisition, the other programmed to manage computations and communications options
- Samples entire NIR signal train for increased measurement accuracy
- Embedded bootloader allows sensor firmware to be upgraded through USB or serial interface
- Filter wheel speed adjustment through software
- Temperature controlled PbS detector for enhanced stability
- Built in cooling panel and air purge assembly



## Nova Series

### **A Reliable, Rugged Moisture Gauge System for the Food Industry**

Each **MCT466-SF** moisture gauge system consists of a stainless steel gauge and a stainless steel Operator Interface. The gauge is normally located over a conveying system and is connected by a proprietary heat resistant cable to the Operator Interface. The Operator Interface produces 4-20mA, 0-10 vdc, RS232/485 outputs, along with bus connection such as Ethernet, Profibus, Modbus, etc.

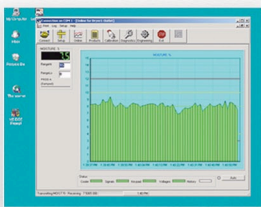
The MCT466-SF is made up of 5 basic components: a quartz halogen lamp, a filter wheel motor, multiple NIR interference filters in a rotating filter wheel assembly, a Lead Sulfide detector and a single "smart" circuit board. The MCT466-SF is fully modular – each of these components can be replaced in the field within minutes.

#### **The Near Infrared (NIR) Operating Principle**

Light from the lamp is directed through the rotating, narrow band-pass NIR filters. The filters separate the light into NIR wavelengths, selected specifically by PSC for the measurement and application being performed. The NIR light is then directed onto the product being measured, normally on a belt or vibrating conveyor.

Subsequently, the light reflected off of the product is captured by a mirror and focused onto a Lead Sulfide detector. The detector's microvolt output is then taken by the on-board "smart" circuit board and converted into percent moisture or percent oil.

#### **Computer Software**



Process Sensors Corporation (PSC) Viewer Software is a proprietary Windows-based package. It monitors all MCT466-SF functions and allows an operator to insert set-up parameters, perform or adjust calibrations, select product codes, examine internal diagnostic values and view trends of moisture and oil.





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# MCT466-SF

**Stainless Steel NIR Moisture Gauge for the Food Industry**

### Applications:

Potato Chips • Corn Chips • Cookies • Crackers • Breakfast Cereals • Milk Powders • Tortillas • Popcorn

### Specifications: MCT466SF 316 Stainless Steel Enclosure

Measured NIR Constituents: 2  
Moisture Range: Min. 0.1% Max 90%  
Fats/Oils: Min. 0.1% Max 50%  
Accuracy (subject to application):  
Moisture: +/- 0.1%  
Fats/Oils: +/- 0.2%  
Product Distance: 8-18 Inches (200-450 mm)  
Calibration Codes: 100  
Response Time: 1-999 seconds. Three modes available:  
Damping, Integrated and Gated  
Power: 24v from Operator Interface  
Weight/SS Gauge: 17 lbs (7.7 Kg)  
Operating Temperature: 0 - 60°, up to 80° with cooling

### Specifications: Operator Interface

Display: 5.7" Bright Touchscreen LCD  
Enclosure: Stainless Steel  
Weight: 7 lbs. (3.2 Kg)  
Outputs: 4-20 mA or 0-10V, RS232/485  
Bus Interfaces (optional): ProfiNet, ProfiBus, Ethernet IP, Modbus TCP, DeviceNet  
Power: 110/220/240 volts, 24vdc Optional  
Interconnecting Cable: 10 feet (standard)

### Maintenance:

Warranty: 24 months Parts/Labor  
Routine Cleaning: During scheduled plant maintenance  
Calibration Confirmation: Calibration Check Standards

### CE Compliance:

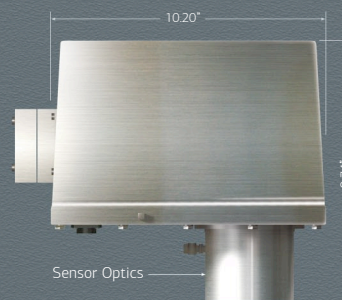
EMC Directives EN50081-1 & EN50082-2, EN61010-1  
Low Voltage Directive

### Databus & Software Interfaces:

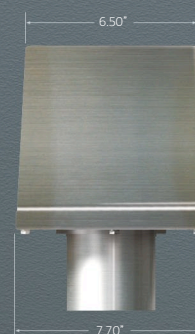
Optional Bus Interfaces: ProfiNet, ProfiBus, Ethernet IP, Modbus TCP, DeviceNet  
Software: Window-based Stand-alone Program or OPC-DDE Server

### MCT466-SF Gauge

Side View



Front View



### Operator Interface

Front View



All Power and Interface Connections on Bottom

### HEADQUARTERS

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