NOVA SERIES

MCT460

NEAR INFRARED (NIR) TRANSMITTER

The First and Best Choice for Near Infrared (NIR) Measurement

PROCESS SENSORS
CORPORATION

NOVA SERIES MCT460

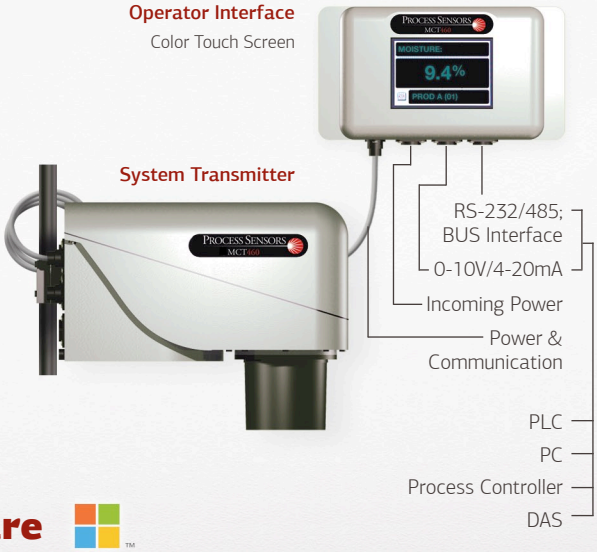
Near Infrared (NIR) Transmitter

MCT460
Stand Alone Configuration

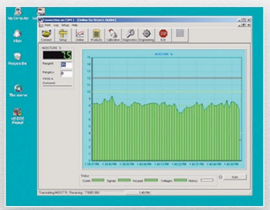
- Connects directly to PLC
- No Operator Interface required
- Powered at the MCT460 Transmitter
- All Analog Outputs, Digital and Bus interfaces directly from the Transmitter
- 5.7" Operator Interface/Display (optional)

MCT460
System Configuration

- Transmitter connects to Operator Interface
- Transmitter powered from Operator Interface
- All Analog Outputs, Digital and Bus interfaces from Operator Interface
- Large 5.7" high resolution Touchscreen



Computer Software



Process Sensors Corporation (PSC) Viewer Software is a proprietary Windows-based package. It monitors all MCT460 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 temperature.

Nova Series

A Reliable, Rugged and Accurate Transmitter

Each **MCT460** measurement produces analog and digital outputs for control. Bus Interfaces, such as Ethernet, Modbus, Profibus, etc are also available.

The MCT460 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 MCT460 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 conveyor belt or moving web.

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 other engineering units.

MCT460 Features & Improvements

- 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
- Ergonomically sound IP67 cast aluminum enclosure

Typical constituents include:

O–H for Moisture & Alcohol
C–H for Oils, Fats, Adhesives & Plastics
N–H for Proteins, Ammonia & Amines

Typical applications include:

Wood Products

- Particle board
- Fiberboard
- Hardboard
- Hog Fuels
- Medium Density Fiberboard
- Oriented Strandboard

Food Products

- Snack Foods
- Pet Foods
- Coffee
- Starches
- Cereals
- Soy Bean & Corn Meals
- Milk powders
- Cookies & Crackers

Tobacco Products

- Whole Leaf
- Lamina Strips
- Stems
- Cut
- Reconstituted
- Expanded
- Chewing Tobacco

Paper Converting

- Moisture & Coatweights
- Re-moisturizing
- Hot Melts
- Extruded Plastics
- Pressure Sensitive Adhesives
- Carbonless Coatings
- PVB Films

Chemicals & Minerals

- Crumb Rubber
- PVC Powders
- Ceramics
- Fertilizers
- Plastic Chips
- Detergents
- Soaps
- Ores

PROCESS SENSORS CORPORATION

For more information on Process Sensors instruments and accessories, visit our website at: **www.processsensors.com**

NOVA SERIES

MCT460 NEAR INFRARED (NIR) TRANSMITTER

The Innovative New NOVA Series

The **MCT460** can be configured to perform up to three NIR measurements. The MCT460 provides accurate, reliable and stable outputs for measurement and control. The MCT460 can also provide a product temperature measurement. Simple to install and virtually maintenance free.

Specifications: MCT460 NIR Transmitter

Measured NIR Constituents: 1, 2 or 3 simultaneously
- Moisture Range: Min. 0.1%, Max. 95%
- Coatings Range: Min. 0.1gr./m, Max. 200 gr./m
- Fats/Oils: Min. 0.1%, Max. 50%

Accuracy: (subject to application and product type)
- Moisture +/- 0.1%
- Coatings +/- 0.1 gr./m
- Fats/Oils: +/- 0.2%

Repeatability: +/- 0.2%
Product Distance: 8-18 inches (200-450mm)
Calibration Codes: 100
Response Time: 1-999 seconds. Three modes available Damping, integration and gated.
Power: 90-260VAC, 50/60 Hz, 40 watts
Outputs: 4-20mA, 0-10V (isolated), RS-232 & RS485
Weight/Enclosure: 19 lbs. (8.6kg)/IP67, Cast Aluminum
Ambient Temperature: 0-50 °C (32-120°F) with water or air cooling up to 80°C (160°F)
Window Purge: Airpurge Diffuser

Specifications: Operator Interface

Display: 5.7 inch Color Touchscreen LCD
Languages: User Selectable
Power: From MCT460 Sensor or Local
Cable: 10 ft (3 meters) standard
Enclosure: Cast Aluminum

Maintenance:

Warranty: 24 months Parts/Labor
Routine Cleaning: None Required
Calibration Verification: Calibration Check Standard
Cooling: Vortex Air Cooler (optional)

CE Compliance:

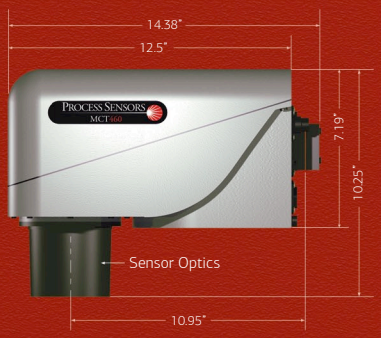
EMC Directives EN50081-1 & EN50082-2, EN61010-1
Low Voltage Directive

Databus & Software Interfaces:

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

Dimensions: MCT460

Front View

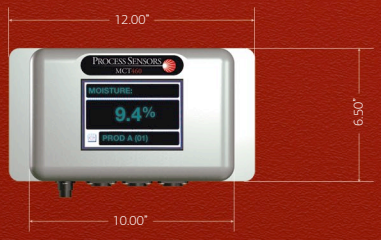


Bottom View

All Power and Interface Connections on Rear Panel

Operator Interface

Front View



Bottom View

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