

## NOVA SERIES

# MCT460-WP

Wood Products Moisture Transmitter

### The Innovative New NOVA Series

The **MCT 460-WP** provides accurate, reliable and stable outputs for measurement and control. It can also be configured to continuously monitor wood products temperature. Delivered pre-calibrated and with a comprehensive 2-year warranty, the MCT460-WP is simple to install and may be used at any stage of wood products processing.

#### Specifications: MCT460-WP NIR Transmitter

Measured NIR Constituents: \_\_\_\_\_ 1, 2 or 3 simultaneously  
Accuracy: (subject to application)  
Moisture: \_\_\_\_\_ +/- 0.1%  
Resins: \_\_\_\_\_ +/- 0.2%  
Moisture Range:  
Wet Basis: \_\_\_\_\_ Min. 0.1% Max. 60%  
Dry Basis: \_\_\_\_\_ Min. 0.1% Max. 400%  
Transmitter/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: \_\_\_\_\_ 19 lbs. (8.6kg)  
Construction: \_\_\_\_\_ Cast Aluminum, IP67  
Window Purge: \_\_\_\_\_ Airpurge Diffuser, requires 5 psi

#### 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)

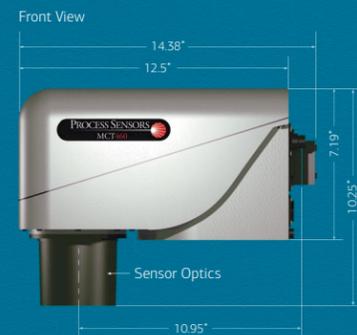
#### CE Compliance:

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



#### Operator Interface



#### HEADQUARTERS

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## NOVA SERIES

# MCT460-WP

Wood Products Moisture Transmitter

The First Choice for Near Infrared (NIR) Moisture Measurement  
in the Wood Products Industry

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# NOVA SERIES MCT460-WP

Near Infrared (NIR) Moisture Transmitter  
for the Wood Products Industry

## MCT460-WP Stand Alone Configuration

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

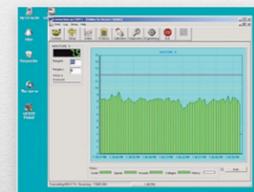


## MCT460-WP System Configuration

- 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-WP 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 Robust, Flexible & Accurate Transmitter

#### How does the MCT460-WP Measure Moisture?

Water molecules contain O-H bonds which absorb light energy in a specific region of the NIR spectrum. The more water that is present, the greater the energy that is absorbed.

The MCT460-WP houses a quartz halogen lamp which channels energy through a rotating wheel containing NIR filters, one positioned at a wavelength where water absorbs and others positioned at reference wavelengths where there's no absorption by water.

Pulses of light illuminate the product and the diffused reflected light is collected by a concave mirror and focused onto a single temperature controlled detector. Detector signals are processed to give a read-out proportional to the concentration of water. Resin measurements are based upon the O-H and C-H bonds.

#### Simple & Reliable

The MCT460-WP remains a total hands-off gauge. Upon installation, simply adjust the zero and put the gauge to work! There is no routine maintenance or re-calibration. Calibration check standards are available for confirmation of long term gauge stability.

### MCT460-WP Features

- 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
- Proprietary Filter combination and algorithm for wood products
- Embedded bootloader allows sensor firmware to be upgraded through USB or serial interface
- Ergonomically sound IP67 cast aluminum enclosure
- Temperature controlled PbS detector for enhanced stability
- Built in cooling panel and Air Purge Assembly

### Stable & Accurate

Designed and configured specifically for the wood products industry, the MCT460-WP is easy to install, and may be used at any stage of processing with all types of wood products applications.

#### Typical applications include:

- Oriented Strand Board
- Particle Board
- Fiberboard
- Wood Based Panelboard
- Sawdust
- Wood Pellets
- Hog Fuels

### Moisture Measurements

| Product            | Range  | Accuracy |
|--------------------|--------|----------|
| Particle Board:    |        |          |
| Dryer Input        | 40-60% | 0.3%     |
| Dryer Output       | 0-10%  | 0.1%     |
| Blender Input      | 5-15%  | 0.2%     |
| Blender Output     | 1-10%  | 0.2-0.4% |
| OSB                | 0-5%   | 0.3%     |
| MDF:               |        |          |
| Dryer Input        | 25-35% | 0.5%     |
| Dryer Output       | 0-5%   | 0.1%     |
| Douglas Fir        | 0-70%  | 0.5-2%   |
| Various Wood Chips | 30-60% | 0.5-1.5% |
| Cedar Sawdust      | 15-70% | 0.3-1.0% |
| Sawdust            | 0-40%  | 0.3%     |
| Hog Fuel           | 20-60% | 0.5-0.7% |

Ranges are quoted on a wet weight basis.