



Products **Moisture** Transmitter

MCT **360-WP** Wood

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

PROCESS SENSORS
CORPORATION 



MCT360-WP Wood Products Moisture Transmitter

Typical applications include:

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

How does the MCT-360-WP measure moisture?

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

The MCT360-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.

The Next Generation

WOOD PRODUCTS MOISTURE TRANSMITTER

Enhanced Performance

Robust But Flexible - The MCT360-WP uses a well proven algorithm which works on a wide range of wood varieties and forms. You choose the mode of operation, stand-alone or networked, but you're never locked in because the network interface module can be fitted retrospectively.

Choose measurement output through either a user friendly Operator Interface or PC/PLC Software via RS 232-485 Ethernet, Profibus, Modbus or DeviceNet.

Economical Yet Durable - The MCT360-WP is economical due to its well constructed SMART internal design. It eliminates the need for multiple boards and the accompanying sensor-CPU cabling and conduit without compromising the exterior build quality required for harsh production environments.

Simple and Reliable - The MCT360-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.

Put the Gauge to Work

Dryer Input - To adjust feed rate and/or dryer temperature.

Benefits: Operation safety, prevents flash fires. Smooth process operation, no dryer overload. Decreased fuel costs.

Dryer Output - To regulate dryer temperature-manual or closed loop control. To alter the set point in a feed-forward loop. Optimum efficiency is obtained from holding moisture +/-0.2% target prior to storage or resin addition.

Benefits: Cost benefits derived from lower usage of fuel and resin.

Blender Input - To control resin addition. Volume of resin required depends upon dry weight of incoming wood fibers.

Benefits: More efficient use of costly resin. Consistent high board quality.

Blender Output - To monitor resin distribution.

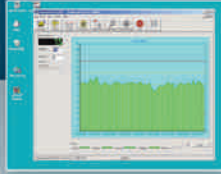
Benefits: Enables quick diagnosis of nozzle and filter blockages. Prevents blown boards, saving on production costs.

Forming Line - A final QC check on the mat means sub-standard mats can be diverted before reaching the press and processing errors can be rectified more quickly.



Computer Software

Process Sensors Corporation (PSC) Viewer Software is a proprietary Windows-based package. It monitors all MCT360-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.



Advanced Features

Fully committed to technical innovation and product versatility, the improved MCT360-WP continues to offer the industry's most useful and advanced features:

- True Stand-Alone Robust Transmitter Design
- Single High Quality PbS Detector
- Automatic Temperature Control Circuit
- Highest Quality NIR Interference Filters
- Dual Beam Wavelength Compensation
- 5-Year Lamp Warranty
- 2-Year Component Warranty
- Proven, Long-Life Motor
- Multi-Language Operator Interface (English, Spanish, Chinese, Russian, German, French, Portuguese, Italian, Polish, etc.)

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.

Transmitter Improvements

- Single board solution
- All surface mount electronics
- Software driven adjustable motor speed
- Supports Profibus, Ethernet, Devicenet, Profinet, Modbus TCP/IP, Modbus RTU, Wireless
- Dual Micro Technology
- Dual Gain Filter Processing
- 4 Measurements, including Product Temperature
- Improved A/D converters...increased signal to noise ratio
- Touch Screen Operator Interface

For Multi-Component Capability: **Moisture • Resin • Wax**

MCT360

- True Stand-Alone Transmitter
- Multiple Constituent Transmitter
- Moisture
- Temperature
- Resin (upon request)
- Wax (upon request)



MCT600

- Bench-top Off-Line Tester
- Simple, Push Button Operation
- 1 to 99 Second Analysis Time
- Moisture
- Rotating Sample Bowl Minimizes Sampling Error
- Resin (upon request)
- Wax (upon request)



MCT360-WP Wood Products Moisture Transmitter

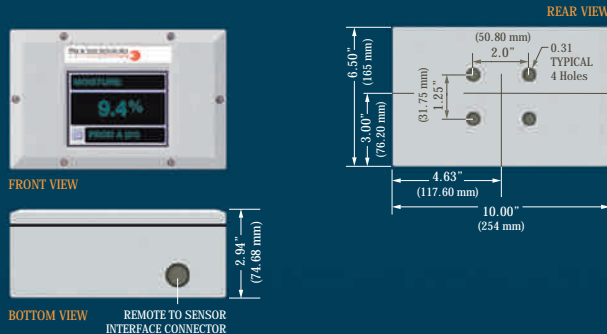
SPECIFICATIONS: MCT360-WP TRANSMITTER

Measured NIR Constituents:	1, 2 or 3 simultaneously
Accuracy: (subject to application and product type)	
Moisture:	+/- 0.1%
Moisture Range:	
Wet Basis:	Min. 0.1%, Max. 60%
Dry Basis:	Min. 0.1%, Max. 400%
Repeatability:	+/- 0.2%
Transmitter/Product Distance:	6-16 inches (150-400mm)
Calibration Codes:	50 standard, up to 300 on request
Response Time:	1-99 seconds. Three modes available Damping, Integration and Gated.
Power:	90-260VAC 50/60 Hz, 40 watts 24VDC optional
Outputs:	Four 4-20 mA & 0-10 V (isolated), RS232 & RS485
Weight:	20 lbs. (9 Kg)
Ambient Temperature:	0-50° C (32-120°F, to 80°C (160°F) with water or air cooling panel.
Enclosure:	Cast Aluminum, IP65
Window Purge:	Airpurge Diffuser requires 5 psi and 2 l/m

Operator Interface: Wall or Post Mounting

Display:	Color Touch Screen LCD
Languages:	English, plus one local, user selectable (Spanish, French German, Portuguese, Italian, Polish, Russian, Swedish & Chinese)
Power:	From MCT360-WP Transmitter
Cable:	10 ft (3 meters) standard, maximum 100 ft (30 meters)
Touch Screen:	Access to MCT360-WP settings, including calibrations, product codes and diagnostics.
Enclosure:	Cast Aluminum

DIMENSIONS: Touch Screen Operator Interface



Options and Accessories:

Sight Window:	4" diameter glass with duct mounting flange 2" diameter sapphire with duct mounting flange
Cooling Panels:	Air or Water Cooling Panels for installations above 50° C (120° F)
Product Loss Sensors:	Detection of product presence/absence
Samplers:	Stainless Auto Sampler for gravity or pneumatically conveyed products.
Optional Plug In Interfaces:	Ethernet TCP/IP, DeviceNet, Profibus, Modbus.

Maintenance:

Warranty:	24 months for all parts and labor.
Routine:	None required.
Calibration:	Pre-calibrated, no recalibration needed.
Calibration Verification:	Calibration Check Standards

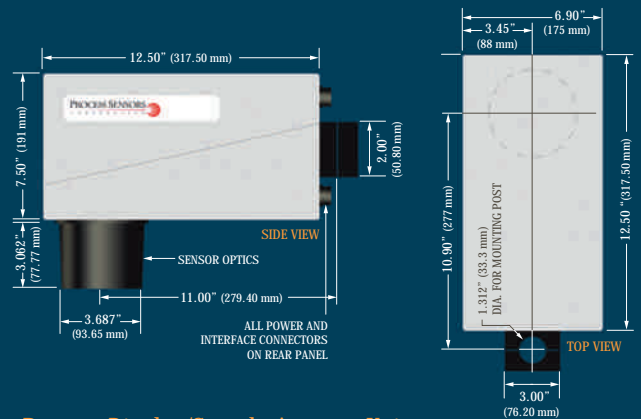
CE Compliance:

EMC directives EN50081-1 & EN50082-2, EN61010-1 Low Voltage directive.

Data Bus & Software Interfaces:

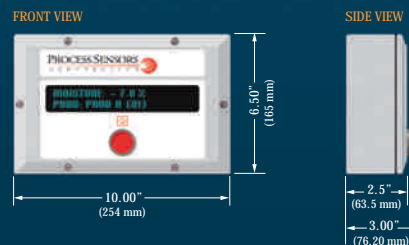
Software: Windows-based *stand-alone* program or OPC-DDE server

DIMENSIONS: MCT360-WP Transmitter



Remote Display/Sample Average Unit

Display:	Alpha-Numeric VFD
Pushbutton:	Grab Sample Average
Enclosure:	Cast Aluminum



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

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