



PROCESS SENSORS
MCT460-T

NOVA SERIES

MCT460-T

TOBACCO MOISTURE TRANSMITTER

Online NIR Transmitter for Continuous Real-Time Measurement
and Control in Tobacco Processing

PROCESS SENSORS
CORPORATION 

NOVA SERIES

MCT460-T TOBACCO MOISTURE TRANSMITTER

The Innovative New NOVA Series

The **MCT460-T** measures moisture, the most critical variable in a tobacco processing plant. The MCT 460-T provides accurate, reliable and stable outputs for measurement and control. The MCT 460-T can also be configured to continuously monitor tobacco temperature. Delivered pre-calibrated and with a comprehensive 2-year warranty, the MCT460-T is simple to install and may be used at any stage of tobacco processing.

Specifications: MCT460 NIR Transmitter

Measurement Range: 0 - 60%
Measurement Accuracy: +/- 0.1 to 0.5%
Repeatability: +/- 0.10%
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)
Ambient Temperature: 0-50 °C (32-120°F) with water
or air cooling up to 80°C (160°F)
Enclosure: IP67, Cast Aluminum
Window Purge: Airpurge Diffuser

Specifications: Operator Interface

Display: 5.7 inch Color Touchscreen LCD
Languages: User Selectable
Power: From MCT460-T 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:

FMC Directives FN50081-1 & FN50082-2, FN61010-1
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-T



All Power and Interface
Connections on Rear Panel

Operator Interface



HEADQUARTERS

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NOVA SERIES MCT460-T

Tobacco Moisture Transmitter

Nova Series

Reliable, Proven, Flexible Design

Smart Sensor Technology - The MCT460-T is a true stand-alone NIR Transmitter in a IP67 cast aluminum enclosure. A single, proprietary circuit board drives the measurement along with all analog and digital communication. Includes 4-20 mA, 0-10 volts, RS-232/485 or network interfaces such as Ethernet, Profibus, etc. There is no requirement for any intermediary electronics.

MCT 460-T System - The MCT460-T can be configured to connect directly to an Operator Interface. The Operator Interface will power the MCT 460-T Transmitter. All analog, digital and field bus information is generated by the operator interface.

Wide Spectrum Referencing - The MCT460-T incorporates a unique reference filter to monitor the tobacco reflectance properties across the complete near infrared (NIR) spectrum. The filter minimizes the influence of tobacco color, blend or type on the Transmitter's reading.

Measurement Speed - A proven, reliable high speed filter wheel assembly is combined with a state-of-the-art proprietary single detector optical system. This fast sampling technique reduces measurement noise and produces an accurate and repeatable on-line signal. The filter wheel speed is optimized and adjustable through software.

Product Temperature Monitor - The MCT460-T can be configured to monitor and display tobacco temperature in Fahrenheit or Centigrade. The temperature sensor is contained in the MCT460 T enclosure. No additional hardware or wiring is required.

Cooling Panel & Air Purge - Included as a standard part of the MCT460-T

Accurate, Reliable and Stable Moisture Measurement for all Tobacco Processing Applications

The **MCT460-T** is simple to install and may be used at any stage of tobacco processing, with all types of tobacco applications, including:

- Whole Leaf
- Whole Stems
- Cut Stems
- Lamina Strips
- Cut Lamina
- Reconstituted
- CRS
- Expanded
- Cigar Filler
- Chewing
- Finished Cigarette Tobacco
- Pipe Tobacco
- Cased Burley
- DIET
- Snuff

MCT460-T Improvements

- Processing electronics upgraded and optimized to improve sensor performance and flexibility
- 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
- USB connectivity
- Embedded bootloader allows sensor firmware to be upgraded through USB or serial interface
- Filter wheel speed adjustment through software
- Improved PbS detector temperature control for enhanced stability in arduous environments
- Built in data logger for measured constituents and sensor diagnostics
- IP67 cast aluminum enclosure

Stand Alone MCT460-T 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)



System MCT460-T 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-T 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.

