

# MCT360 Liquid Application Systems

## Guardian Moisture Web Profile System Optimizes Water Based Mold Inhibitor and Burn Retardants In Paper Converting Industry

**Key words:** moisture transmitter, liquid application system, mold inhibitor, water based applicator, LAS, moisture meter, moisture sensor, converting control, moisture control, MCT360, Guardian web profile system, moisture gauge, nir transmitter, coat weight, aqueous coatings, impregnation coatings

Converting companies vying for the high quality performance paper market focus on flat and level sheets. Water based fillers and strengtheners are typically clay or chalk, and are used to coat paper for high quality printing. They may be bound to the paper by organic starches or synthetics. This is an ideal application for the GUARDIAN Web Profile System for water based coat weight measurement.

Liquid Applications Systems saturate the web with water based solutions through an applicator roll system. These systems typically employ an applicator roll and a metering roll, and sometimes a third roll to saturate the entire sheet. The MCT360 moisture sensor outputs a 4-20mA analog signal that is used to control roll speed for proper set point. The digital output is sent to a separate PC for product roll archiving.

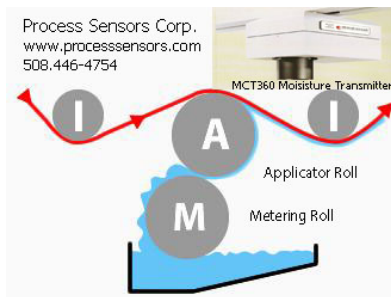
Two Roll Moisture Applicator



3 Roll Paper Moisture Saturation Solution



**Graphic I: Solution Application**  
**(transmitter measures on applicator side of web)**



## Recent Installations

Two recent installations highlight the benefit of moisture measurement and control. The MCT360 successfully measures the addition of *mold inhibitor* and *fire retardant* at separate customer locations. The water based solutions with constant liquid/solids ratios, or selectable recipes, are easily measured with the MCT360 moisture gauge.

The *mold inhibitor* is applied in a 3 roll liquid application system that saturates the paper with the inhibitor and is then wax coated. The cigarette paper *fire retardant* keeps cigarettes from burning without the air exchange in the process of smoking, meaning that without enough oxygen flow, it stops burning, preventing fires. A two roll solution application system may be sufficient.

Both sites employ the [MCT360 Moisture Analyzer](#) to measure and control additive. The MCT360 is accurate, reliable, and rugged. *It does the job.*

## Configuration Options

The power and price of computers, consoles, and transmitters today have significantly lowered the capital investment required to improve chemical saturation in paper. The approaches include stand-alone moisture transmitter, transmitter mounted on simple auto/manual scanning frame, and the Guardian CD Web Profile System.

## Stand Alone MCT360 Moisture Transmitter

The MCT360 NIR Moisture Transmitter is accurate, rugged, and reliable. The transmitter mounts between 6 and 16" from the web and provides digital display, Machine Direction MD trend, analog outputs for control, and digital output for data archiving. The MCT360 can incorporate a temperature measurement within the transmitter, or for separate line locations, provide a [PSC PI Process Imaging Camera](#).

[Click Here for MCT360 Brochure](#)

**Picture I: MCT360 NIR Moisture Transmitter**



**Picture II: MCT360 Operator Interface Digital Display And Trend**



## MCT360 Moisture Transmitter On Auto/Manual Scanning Frame

The MCT360 is mounted on a low cost auto/manual scanning frame. The operator can set it for automatic scanning across the web or jog the transmitter to a fixed position for Machine Direction trending.

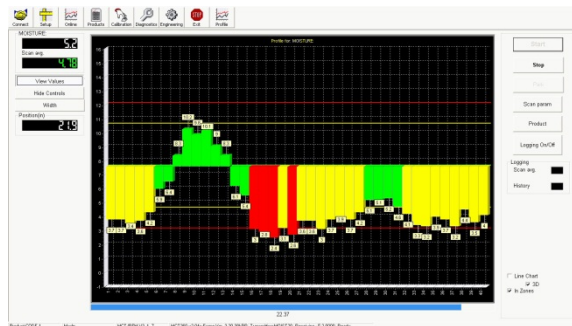
**Picture III: Low Cost Auto/Manual Scanning Frame**



## Guardian CD Web Profile System for Moisture Or Coat Weight

The Guardian CD Web Profile System provides a Cross Direction web profile on a 19" flat panel LCD in an economical and attractive enclosure. The Guardian is fully automated with recipes for web width, scan speed, zone average, and data logging digital outputs. This is a complete system to provide the highest value performance to cost ratio. The system can supply CD Web Profiles and MD Trends for moisture and temperature. Multiple measurements can be mounted on a single screen.

Picture IV: Guardian CD Web Profile Display



Picture V: Guardian CD Scanning Frame System





**Picture VI: Local Operator Console**



## Links Of Interest

[Click Here to view Guardian Brochure](#)

[Click Here to view Guardian Scanning Frame Operation](#)

[Click Here to view MCT360 Moisture Transmitter Brochure](#)

[Click Here to visit Process Sensors website](#)

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## Summary

Chemical Saturation of paper with water based liquid application systems can most reliably be achieved with the incorporation of moisture transmitters into the control scheme.

Please contact us at **508.473-9901** to discuss your application today.