

## PLUG AND PLAY NETWORK TECHNOLOGY PAPERMACHINE QUALITY CONTROL SYSTEM

The plug-and-play Quality Control System (QCS) offers a cost-effective tool for monitoring and control of the papermachine manufacturing process. The system consists of a smart scanner driven by a programmable logic controller (PLC), network-ready measurement sensors and operator stations connected to a high speed Industrial Ethernet network. The open architecture provides unlimited connectivity to configure the system for standalone applications, or as part of a mill wide distributed control system (DCS) for full integration into the mill business network. The standalone system features an off-the-shelf SCADA software suite configured for high resolution cross machine profiles, historical trends, statistics, reports and MD/CD supervisory controls. The system is built with industry standard components to provide a generic installation designed for mill self maintenance. Scanner and sensors are selected and specified for various applications including tissue, fine paper, paperboard and pulp machines. Proven scanner design, industrial grade PLC and microcontroller modules ensure reliable performance in the paper mill environment with minimum maintenance requirements. Built-in Internet access allows for remote diagnostics and technical support.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Fully enclosed smart scanner, ceramic linear bearings, automatic head separation</li> </ul>	<ul style="list-style-type: none"> <li>Variable speed, best position accuracy, impervious to hostile environmental conditions, easy maintenance</li> </ul>
<ul style="list-style-type: none"> <li>Smart, network-ready sensors</li> </ul>	<ul style="list-style-type: none"> <li>High measurement resolution, optimum reliability</li> </ul>
<ul style="list-style-type: none"> <li>Open architecture</li> </ul>	<ul style="list-style-type: none"> <li>Unlimited connectivity to DCS and business networks</li> </ul>
<ul style="list-style-type: none"> <li>Remote access</li> </ul>	<ul style="list-style-type: none"> <li>Fast response technical support</li> </ul>
<ul style="list-style-type: none"> <li>Standard hardware and software</li> </ul>	<ul style="list-style-type: none"> <li>Lowest cost of ownership</li> </ul>

**Plug and play QCS technology**

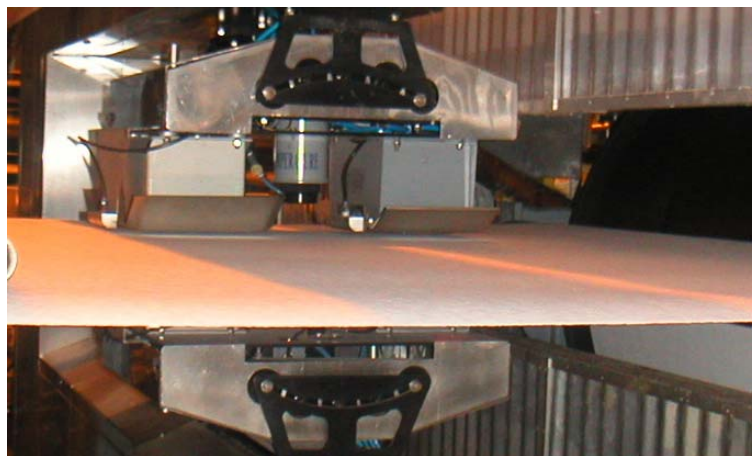
Unlike the use of proprietary electronics of traditional papermachine quality control systems (QCS), the scanner is driven by an off-the-shelf programmable logic controller (PLC) which performs the scan, off sheet, fixed point, sensor standardization and service functions of the scanning platform. Measurement sensors consists of fully intelligent, network-ready gauges using a microcontroller-based signal processing and data communications controller. High speed 16-bit analog to digital conversion ensures fast sensor response while delivering optimum signal to noise ratio. Sensor heads are equipped with Vortex™ cooling and air knives for applications where hostile environmental conditions prevail. The use of Industrial Ethernet communication protocols makes the scanner and sensors the basic building blocks for plug-and-play connectivity to a human-machine interface (HMI), such as standard PC platforms or distributed control systems (DCS). Several protocols are supported including ModBus Ethernet and Ethernet/IP. Cross machine direction profiles and measurement data calibrated in engineering units are processed in the sensors and transferred to the computer for display, control and archiving. The sensor controller supports a variety of gauges including nuclear gauges for basis weight and ash measurement, infrared and microwave gauges for moisture measurement and magnetic reluctance or laser gauges for caliper measurement.

**Operator Station**

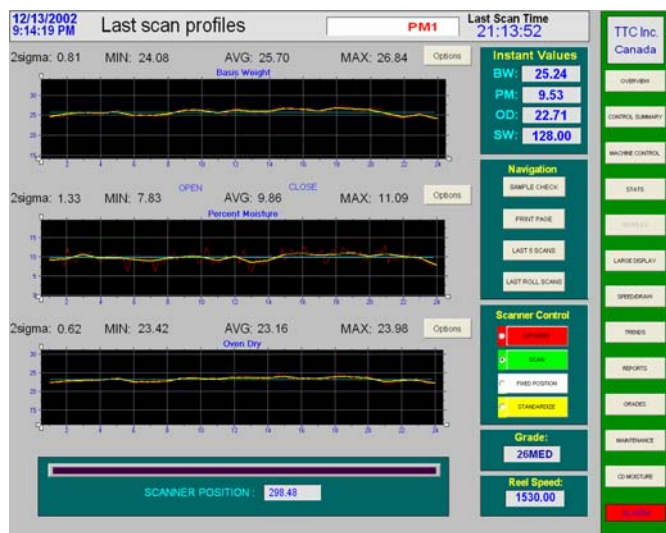
The QCS can be integrated with a industrial SCADA system and control PLC panels to form a PC/PLC automation platform for operator display, data archiving, reporting, supervisory control of the machine and connectivity to external systems. The papermachine application software uses iFIX Dynamics™, one of many suites of programs available to create industrial automation systems. iFIX runs under Microsoft Windows XP™ Professional a multitasking and network operating system.

**Specifications**

Input:	Machine speed signal Digital inputs from break detectors Reel turn up signal
Output:	OPC, Ethernet I/P, Modbus Ethernet, Serial communication protocols
Profile resolution:	Standard 256 points
Temperature:	85°C
Power requirements:	230VAC, 50/60Hz, UPS required



*Typical installation*



*Cross Direction Profile*