NDC Technologies Web Solutions

Engineered for your process
...and supported by a world-class organization

Applications:
- Extruded film and sheet
- Converted products
- Calendered products
- Textiles and nonwovens

Features:
- Total Distributed Intelligence (TDi) system for both straightforward and complex applications
- Modular, seamlessly expandable system
- Open industry standard networking technologies for plantwide connectivity
- Large sensor portfolio
- Fixed-point or scanning measurement configurations

Customer Benefits:
- Higher quality and productivity
- Lower manufacturing costs
- Greater process visibility

NDC Technologies Web Solutions
Introducing NDCT’s 8000TDi Web Gauging System, designed to help our customers produce high-quality products with exceptional results. By combining speed, accuracy, control and information in an intelligent open architecture, this cost-effective system represents an ideal gauging solution for the web businesses.

Innovative Technologies
NDCT offers a diverse range of innovative technologies to ensure that the optimum solution is available for each application. The 8000TDi can be configured for straightforward fixed-point gauges or single or multiple scanning systems for complex processes. Add to that an extensive library of application-matched sensors, controls, operator displays and maintenance utilities and it’s easy to recognize the value of the 8000TDi Web Gauging system.

Solutions Provider
NDCT provides an extensive range of web gauging solutions for the extrusion, converting, calendering, and nonwovens industries. NDCT Web Solutions products deliver real-time measurement and control of key product parameters such as product thickness, coat weight and basis weight. The result is a well thought-through solution based on solid technologies and process knowledge.

Global Presence
NDC is a leading global supplier of productivity-enhancing instrumentation and solutions for on-line process measurement and control. We are renowned for our extensive application experience and after-sales support. With over 45,000 installations in more than 50 countries, our customer base consists of some of the world’s most successful manufacturers of web products.
8000TDi Overview

A robust, cost-effective web gauging system ...designed for a wide range of applications

The 8000TDi Web Gauging System is part of NDC’s family of Total Distributed intelligence (TDi) systems with proven reliability and low cost of ownership.

The 8000TDi system provides substantial benefits including improved product quality, process efficiency and raw material savings.

Intelligent System

NDCT’s 8000TDi architecture comprises several intelligent measurement and control devices based on iSensor™ and iFrame™ technologies. This creates a simple, powerful, reliable system with distributed state-of-the-art processing. A central component of the system is a compact, high-powered processor called the D-BRIC™. These Ethernet-based devices are embedded into each sensor and scanner to capture and process information and share it in real time across the entire system.

Accurate measurement is at the heart of the 8000TDi system. Each distributed intelligent iSensor provides measurement data to a scanner iFrame that performs measurement computations, logic routines and process control.

Secure System

With its EEPROM architecture, the 8000TDi software is completely immune to viruses, worms and malware. This provides a rugged system that does not rely on either PC’s nor hard drives. It prevents external software corruption, line downtime and the requirement for routine software and hardware upgrades and enhancements to the system.

Scalable Architecture

The system can be configured for fixed-point measurement, or can be seamlessly expanded by adding NDCT’s MiniTrak™ or AccuTrak™ scanners, plus additional controls and information products.

The standard 8000TDi system supports the complete line of twelve NDCT sensors including gamma backscatter, infrared, X-ray, optical, laser and beta technologies. With such a complete sensor portfolio, the 8000TDi can measure and control a wide range of applications.

Fast Commissioning

Installing and commissioning the 8000TDi is performed quickly with minimal cable, utility and interface requirements. User confidence is achieved fast through its easy-to-use operator interface, resulting in high availability, low cost of ownership and consistent results.
System summary

Basic specifications

Optional process I/O

Plant LAN

8000 TDi Operator Workstations

► Touch-screen interface
► 17” LCD TFT monitor
► Running embedded WinCE®
► 8000 OWS software

USB Printer (optional)

8000 TDi

► Modular architecture
► Distributed intelligence at every level
► Maximum 3 scanners
► Maximum 4 sensors
► View at each node and level
► Diagnose scanner, sensor or process
► D-BRIC distributed intelligence
  • IEEE standard bus
  • TCP/IP networking
► Immune to viruses, worms etc.

Ethernet CAT 5

Network

Intelligent Sensors and Scanners:

► D-BRIC intelligence:
  • Sensor processing
  • Scanner management
  • Profile management
  • Product recipe’s

Power Management Unit (S)

► Intelligent APC
► Opto-22 controller

Switch/Router (optional)

2 Automatic Profile Controls (APC)

8000 TDi Operator Workstations

MiniTrak S-Frame

MiniTrak O-Frame

AccuTrak® O-Frame

3 Scanners in any Combination

Optional Advanced Reporting and Process Analysis Packages

► Split Roll Reports
► Fast Fourier Transfer
► Roll Defect Map
► Split Roll Report
► 2048 Data Buckets
► Stretch Compensation
► Graphical Roll History
► Statistical Process Control
► Streak Display

Optional Input/Output Capabilities

Inputs:

► External Process Parameter Trending
  ■ 32 external devices

Outputs:

► Isolated analog outputs
► Solid state contact closures
► RS232 serial output

Communications:

► OpenAccess™
► OPC communications
► PLC Links

Optional Input/Output Capabilities

NDC is represented in over 60 countries worldwide. ISO9001:2008  www.ndc.com

NDC Technologies Inc.
Tel: +1 626 960 3300
Email: info@ndc.com

NDC Technologies Ltd
Tel: +44 1621 852244
Email: enquiries@ndc.com

NDC Technologies sa
Tel: +32 4 239 90 10
Email: sales@ndcinfrared.be

NDC China
Tel: +86 20 2887 3860
Email: info@ndcinfrared.com.cn

NDC Germany
Tel: +49 1801 977112
Email: ndcgermany@ndc.com

NDC Italy
Tel: +39 0331 454 207
Email: ndcitaly@ndc.com

NDC Singapore
Tel: +65 91994120
Email: apacsales@ndc.com

NDC India
Tel: +91 9890800697
Email: ndcindia@ndc.com

In line with its policy of continuous improvement, NDC reserves the right to revise or replace its products or services without prior notice. The information contained in this document may not represent the latest specification and is for indicative purposes only.

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Measured by Commitment
Measurement and Control

scanners, sensors and controls

...your tools for producing high-quality products

8000TDi Sensors

<table>
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<tr>
<th>GBS</th>
<th>Beta 301/302</th>
<th>FG710S</th>
<th>NW710S</th>
<th>TFG710S/ER</th>
<th>NDC710S</th>
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<tr>
<td>SR710S</td>
<td>OptiMike™</td>
<td>Laser 170</td>
<td>Laser 172</td>
<td>X-Ray 312A</td>
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</tbody>
</table>

8000TDi Scanners

| MiniTrak-S | MiniTrak-O | AccuTrak-O |

8000TDi Control Options

**Film and Sheet Extrusion Industries:**
- Machine direction (MD) control
- Automatic Profile Control (APC)
- Automatic Target Optimization (ATO)

**Calendering Industries:**
- Machine direction (MD) control
- Gap control
- Cross Axis or Roll Bending control
- Delta Preset control

**Converting Industries:**
- Machine direction (MD) control
- Spot On™:
  - FastStart logic
  - Same Spot logic
  - True Net Coat logic
- Automatic Profile Control (APC)
- Automatic Target Optimization (ATO)
8000TDi Operator Interface

Visualizing quality and eliminating guesswork while...
turning information into results

The 8000TDi Operator Interface provides real-time visibility for both the process and product quality through numerous interactive displays and a standard touchscreen interface. These intuitive displays are easy for the operators to navigate through to find the information they need to effectively run the line.

With its complete library of quality, control and diagnostic displays, the 8000TDi helps customers optimization their process and achieve greater line performance.

The 8000TDi system also supports a powerful viewing product called RemoteView™. This allows all of the system displays to be viewed from any compliant remote PC with an Internet connection, for example:

► From a remote location within the factory
► From another plant or facility
► Using the plant’s maintenance personnel
► Using NDC’s Customer Care personnel

With RemoteView, management and plant personnel can get real time information of product quality and production performance. Maintenance personnel can troubleshoot the system from a remote location and save any changes using NDCT’s Backup Utility. Also, NDCT’s Customer Care team can provide additional support and perform remote troubleshooting from its headquarters.