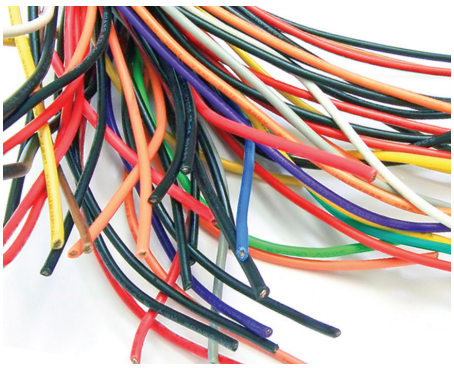
BETA LaserMike

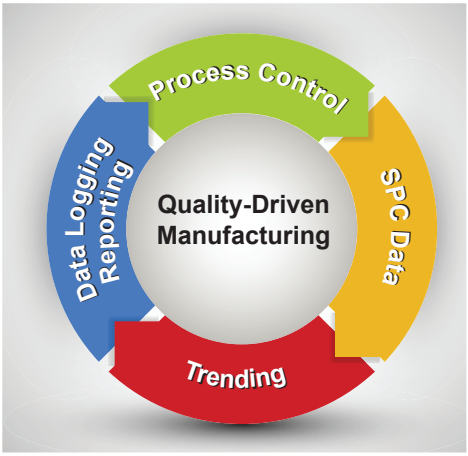
A Brand of NDC Technologies

# DATAPRO SERIES



## Process control and data management systems for wire and cable manufacturing

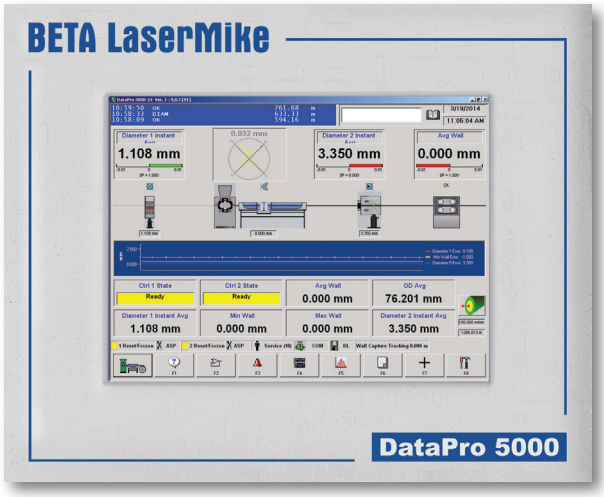
- Capture real-time product and process data from Beta LaserMike gauges during production
- Optimize your process with closed-loop feedback for efficient, quality manufacturing
- Reduce start-up time, downtime and scrap by using live cross-sectional views to instantly make die-centering adjustments
- Use SPC data to improve process trends and enhance your quality documentation



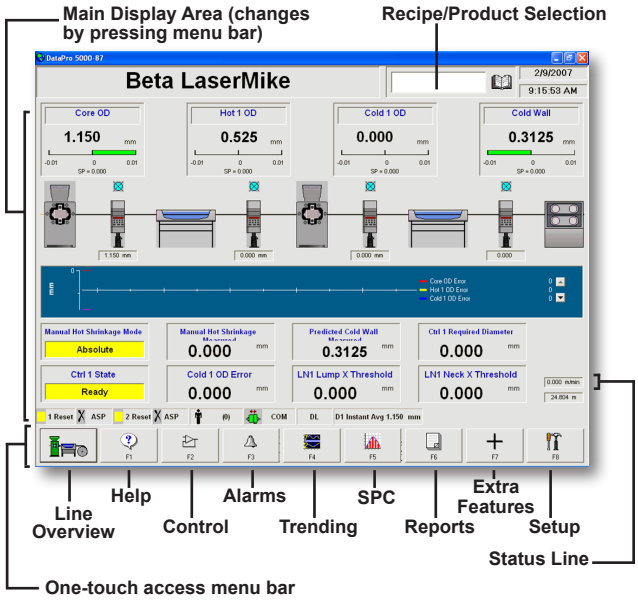
# Comprehensive Process Controller
# & Data Management System

## DataPro 5000

The DataPro 5000 is a high-end, fully featured process controller and data management system. It has an easy-to-use, touch-screen interface that provides an intuitive, color graphical overview of product dimensions and process parameters. DataPro 5000 is designed with various users in mind: operators, supervisors, process engineers, and plant managers. The user interface can be quickly configured to meet your unique informational needs and allows efficient access to data.




### Easy-To-Use Touch Screen Interface




## Broad Range of Inputs/Outputs (I/O)*

- 8 Digital I/O (24 VDC)
- 4 Analog I/O (±10 V, 12 bit) including:
  - Analog summing junction control outputs
- 8 Relays including:
  - Contact alarm outputs
  - Contact control outputs
- Ethernet 10/100 Base T
- Serial (RS-232) and USB
- Parallel port
- USB/Network printer port
- VGA output for additional monitor
- Line speed/length measurement input (via Analog, pulse, or differential inputs A/B)

**The number of inputs/outputs can vary based on application needs. Discuss communication requirements with our application specialists.*

## DataPro 5000 Features:

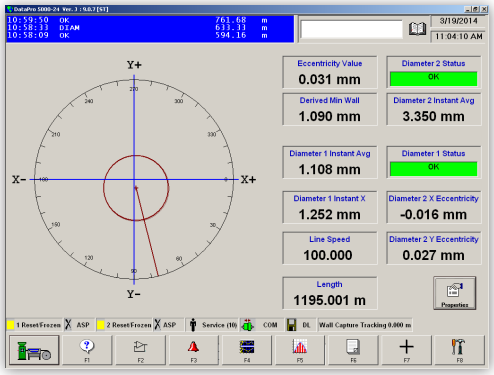
- Color touch-screen display
- Line overview page
- Closed-loop control (2 control loops, auto set-pointing)
- Alarming for warning and tolerance limits, including alarm history log
- Real-time Trending (configurable trend charts)
- Real-time Statistical Process Control (SPC) with on-screen statistics and charts
- Reporting capabilities including customizable printed or electronic reports (product ID/product lot number/ batch reports)
- Data logging (configurable local or network data logging)
- Recipes (unlimited product recipes for quick changeovers)
- Security (10 levels of security for system protection)
- Networking (Ethernet and USB ports allow easy data access)
- Instant support of multiple languages for operation and printing; user-customizable

### Options

- Industrial enclosure – arm or pedestal mountable
- Industrial remote touch-screen – includes VGA extender and industrial enclosure
- Standard remote touch-screen – includes VGA extender, but does not include enclosure
- Pedestal stand for enclosures – controller industrial enclosure or remote touch screen
- Uninterruptable Power Supply (UPS) – with serial output to shut down controller at power loss

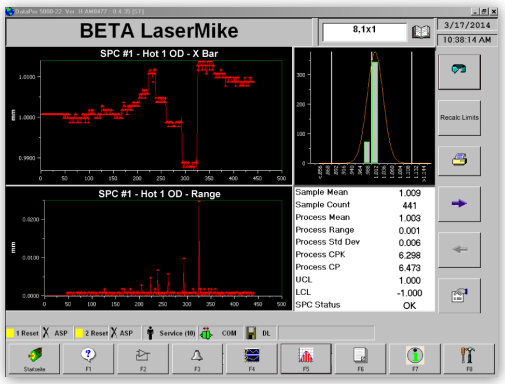
# Real-Time Monitoring of
# Process and Product Quality Data

<< **DataPro 5000 Line Overview Page** provides a complete line overview along with relevant process data. Can be easily customized to meet your unique data set requirements. Dashboard-style view lets you prioritize efforts to continuously enhance the quality of your product and overall process.

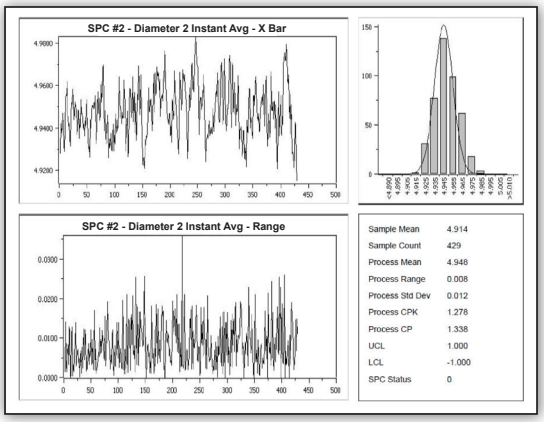



**DataPro 5000 Eccentricity View** enables you to accurately monitor the eccentricity of wire and cable conductors during extrusion and insulation processes to reduce start-up time, avoid material give-away/ waste, and improve product quality. >>

<< **DP5000 Real-Time Trend Charts** allow you to easily select the data set you want to track and record with just the touch of a fingertip.




**DataPro 5000 SPC Data Analysis** feature collects and displays process data on 8 individual channels. Customized SPC calculations help you to improve product trends and the effectiveness of your quality system documentation for customer and auditor compliance efforts. >>




<< **DP5000 Reporting** feature lets you create and print custom error and SPC reports with graphical distribution to document product and process quality. Reports can be triggered manually or automatically, for example, via a production event and stored electronically or printed to hard copy. You can also generate spool reports with critical cable measurement data.

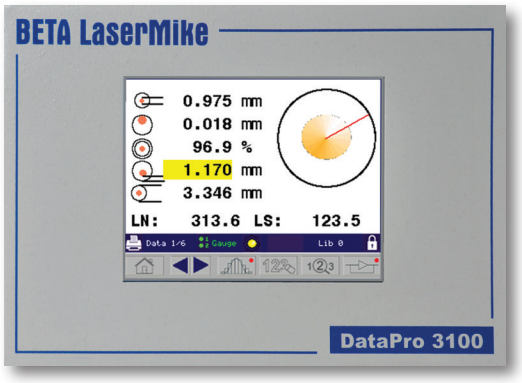
```
*DataPro 5000 Datalog File
Started 14-Mar-14
15:15:01
*DataLog_Line35_14-Mar-14
*Time          OD1       OVALITY1
15:15:31       1.026     0.124
15:16:01       1.027     0.125
15:16:31       1.036     0.134
15:17:01       1.040     0.135
15:17:31       1.035     0.134
15:18:01       1.039     0.137
15:18:31       1.041     0.136
15:19:01       1.029     0.127
15:19:31       1.021     0.119
15:20:01       1.030     0.128
15:20:31       1.029     0.127
```

<< **DP5000 Data Logging** feature allows you to record and analyze process data without having to stand near and observe the extrusion line. Data can be logged manually or automatically to a local drive at the DataPro 5000 or to a network drive away from the plant floor. The time interval can be adjusted from 1 second to 10 minutes.

# High-Quality, Mid-Range
# Process Controller & Data Management System

## DataPro 3100

The DataPro 3100 is a mid-range process controller with integrated data management system. It has a bright, color touch-screen display for easy viewing on the production line. It is simple to use, yet offers power control capabilities in a compact design.




### DataPro 3100 Features:

- Color TFT touch-screen display
- Provides power and communication for up to two gauges
- Magnified display for easy viewing
- Closed-loop control (1 control loop)
- Alarming for warning and tolerance limits
- Statistical Process Control (SPC) with on-screen statistics
- Reporting (fixed hard-copy reports)
- Recipes (100 product recipes for quick changeovers)
- Security (3 levels of security for system protection)
- Instant support of multiple languages for operation and printing

### Variety of Inputs/Outputs (I/O)

- 5 Digital I/O (24 VDC)
- 2 Analog I/O (±10 V, 12 bit):
  - Analog summing junction control outputs
  - Programmable Analog output
- 4 Relays including:
  - Contact alarm outputs
  - Contact control outputs
- Open collector stepper motor control outputs
- Serial (RS-232) port
- USB printer port (True Type font)
- Ethernet configuration & Data I/O
- Line speed/length measurement input (via Analog, pulse, or differential inputs A/B)

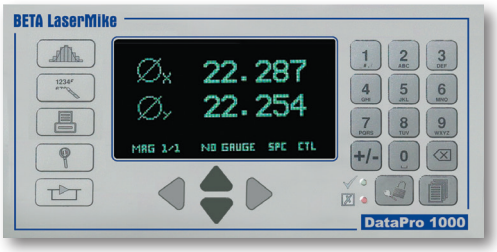
### Option

- Industrial enclosure—pedestal mountable and 48.26 mm (19 in.) rack adapters

# Economical
# Process Controller & Indicator

## DataPro 1000

The DataPro 1000 is an economical process controller, as well as an indicator for diameter control operations. It offers a self-tuning controller display to achieve the best results when capturing product diameter measurements. The DataPro 1000 offers the best of both worlds when looking for a cost effective but powerful package.




### DataPro 1000 Features:

- Ultra-bright, multi-line vacuum fluorescent display
- Magnified display for easy viewing
- Supports 1 diameter gauge
- Closed-loop control (1 control loop)
- Alarming for warning and tolerance limits
- Statistical Process Control (SPC) with on-screen statistics
- Programmable analog output
- Ethernet data transmission
- Reporting (fixed hard-copy reports)
- USB printer port
- Instant support of multiple languages (English, Spanish, German, and Portuguese)
- Security (two levels)

### Array of Inputs/Outputs (I/O):

- 5 Digital I/O (24 VDC)
- 2 Analog I/O (±10 V, 12 bit):
  - Analog summing junction control output
  - Programmable Analog output
- 4 Relays including:
  - Contact alarm outputs
  - Contact control outputs
- Open collector stepper motor control outputs
- Serial (RS-232) port
- USB printer port (True Type font)
- Line speed/length measurement input (via Analog, pulse, or differential inputs A/B)
- Ethernet configuration & Data I/O

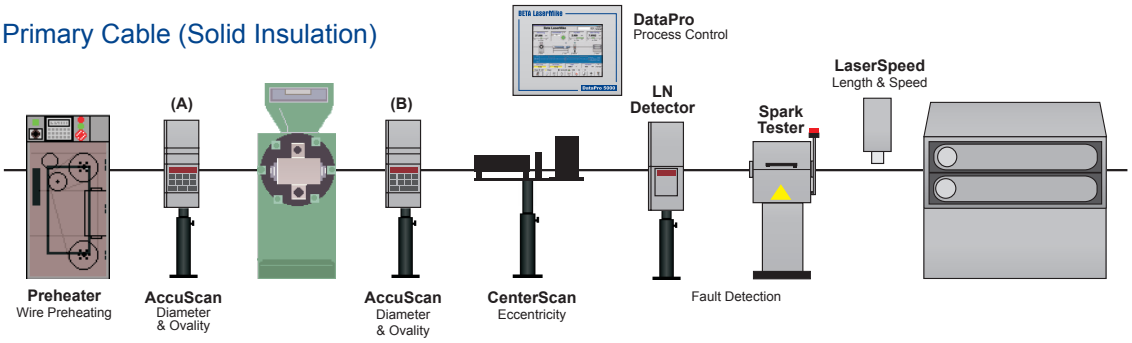
### Option

- Industrial enclosure—pedestal mountable and 48.26 mm (19 in.) rack adapters

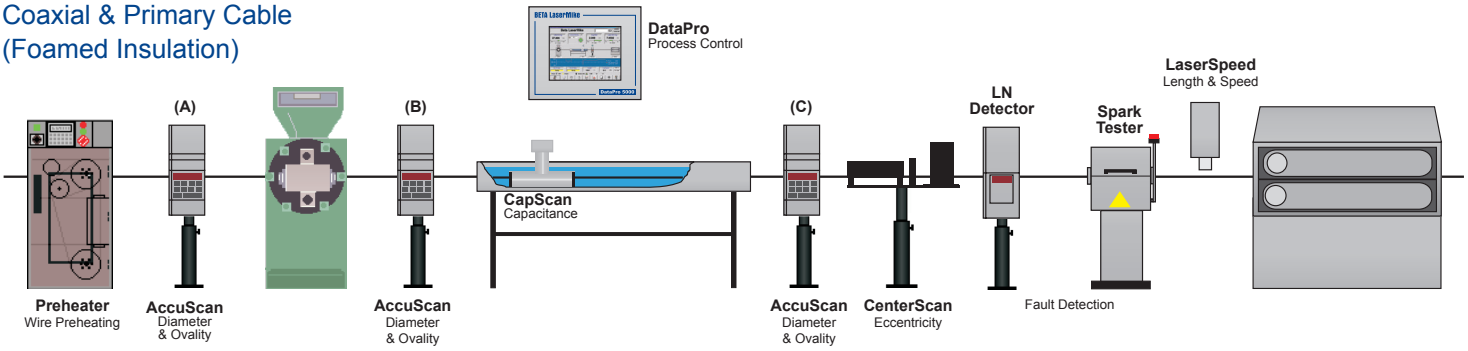
# Integration with In-Process
# Dimensional Measurement Products

DataPro controllers are designed for easy and flexible integration with Beta LaserMike in-process dimensional gauges on pipe and tube extrusion lines, such as Preheaters, AccuScan diameter and ovality gauges, CenterScan eccentricity gauges, CapScan capacitance gauge, LaserSpeed length and speed gauges, LN lump and neckdown detectors, and Spark Testers. DataPro can also be integrated with other devices and systems including the extruder, puller, and air and vacuum control devices. Alarm lights and printers can also be connected. Beta LaserMike DataPro controllers are also available in 27 customized versions to meet your unique application needs.

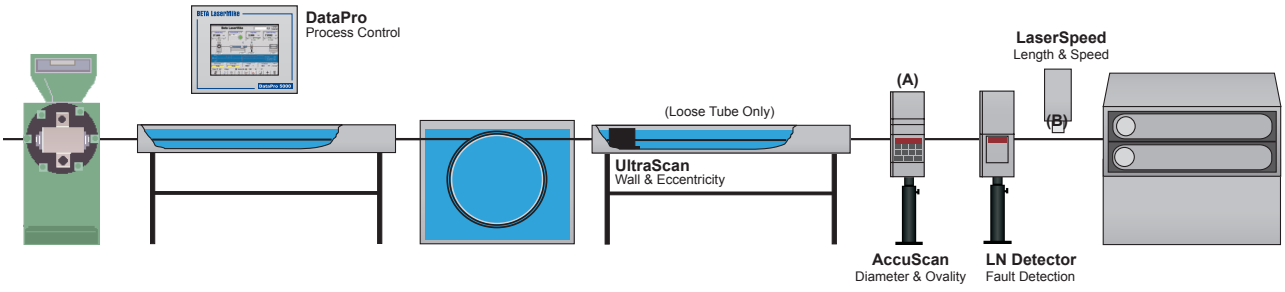
## Primary Cable (Solid Insulation)



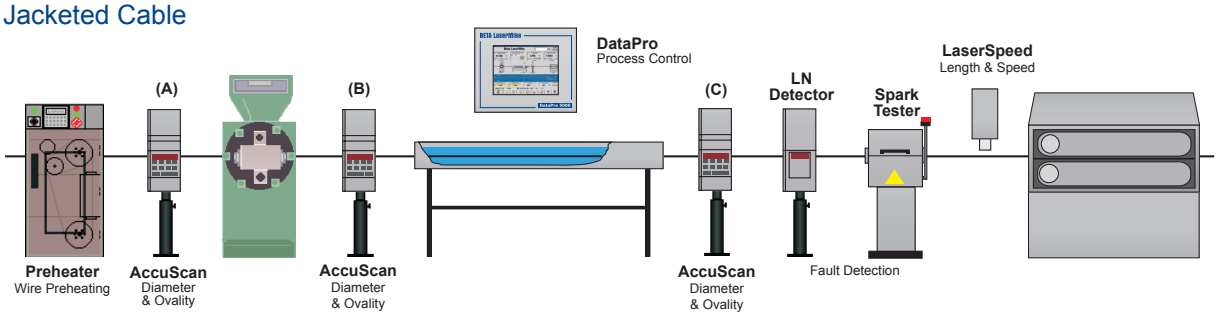

## Coaxial & Primary Cable (Foamed Insulation)



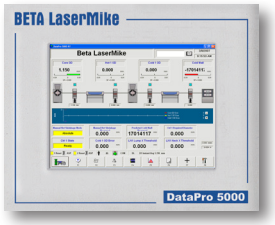

## Tight Buffer & Loose Tube Fiber (Dimensional)




## Jacketed Cable



# DataPro Controller Models



| DataPro Controller Models | | | |
|---|---|---|---|
| **Feature** | **DataPro 5000** | **DataPro 3100** | **DataPro 1000** |
| **Display** | 38.1 cm (15 in.)<br>TFT touch screen | 14.5 cm (5.7 in.)<br>TFT touch screen | 10.4 cm (4.1 in.)<br>Vacuum fluorescent |
| **Gauge support** | AccuScan 4000/5000<br>UltraScan<br>Shaped Products<br>(i.e., sector, overhead)<br>LaserSpeed<br>Lump & Neck<br>CenterScan<br>CapScan<br>Preheater<br>Spark Testers | AccuScan 4000/5000<br>UltraScan<br>Shaped Products<br>(i.e., sector, overhead)<br>LaserSpeed | AccuScan 4000/5000<br>LaserSpeed<br>Shaped Products<br>(i.e., sector, overhead) |
| **Max gauges** | 10 | 2 | 1 |
| **Applications** | Inner/Outer Diameter<br>Wall & Concentricity<br>Length & Speed<br>Fault Detection<br>Eccentricity<br>Capacitance<br>Preheating | Inner/Outer Diameter<br>Wall & Concentricity<br>Length & Speed<br>Eccentricity | Outer Diameter<br>Length & Speed |
| **Cross-section display** | Yes (multi-layer possible) | Yes (1 layer only) | No |
| **Control loops** | 2 | 1 | 1 |
| **Auto setpoint control** | Yes | No | No |
| **SPC** | 8 graphical channels | 2 numeric channels | 1 numeric channel |
| **Trend charts** | 5 channels | Yes (ultrasonic) | No |
| **Printed reports** | Yes (custom) | Yes (fixed) | Yes (fixed) |
| **Data logging** | Yes | No | No |
| **Serial ports** | RS-232 | RS-232 (2) | RS-232 |
| **Ethernet port** | Yes (10/100 Base T) | Configuration & Data Output | Data Output |
| **Alarming** | Yes | Yes | Yes |
| **Product recipes** | Yes (not limited) | Yes (100) | No |
| **Security** | 10 levels (custom) | 3 levels (operator, supervisor, service) | 2 levels (operator, service) |
| **Remote display output** | VGA with optional touch screen | No | No |
| **I/O** | Digital, analog, relay contacts, serial, USB, parallel, Ethernet & VGA | Digital, analog, relay contacts, serial, USB printer & Ethernet | Digital, analog, relay contacts, serial, USB printer & Ethernet |

BETA LaserMike

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## Precision Measurement & Control Solutions

The Beta LaserMike line of measurement and control solutions from NDC Technologies is designed to increase productivity, improve product quality, and reduce manufacturing costs. These solutions provide in-process dimensional monitoring, control, and sample/part inspection of products such as wire and cable, fiber optics, metals, rubber and plastic, flat rolled goods, tube and pipe, and other manufactured goods. Every system is backed by NDC's world-class service and support organization. With offices around the globe, we're committed to serving your unique measurement application needs.

NDC Technologies is represented in over 60 countries worldwide. **www.ndc.com/betalasermike**

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QUALITY SYSTEM CERTIFICATION DNV·GL ISO 9001


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Document #: C-BROC-CTRL-DataPro WC-EN-2016UNE09
Date of Issue: June 2016


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