

# DISPLAY AND CONTROL SYSTEMS

High-performance processor systems  
Reliable display and control units



ECOCONTROL 1000

ECOCONTROL 6000

REMOTE 6000



# ECOCONTROL 6000/1000/600

Three ECOCONTROL processor systems form the SIKORA premium segment of display and control devices. Intelligent software technology, clear arrangements and easy usability are their convincing characteristics.

Choose the extremely innovative and powerful ECOCONTROL 6000, the unique ECOCONTROL 1000 or the smart ECOCONTROL 600. Each of these display and control systems exceed all expectations in their class.

The innovative display of the line with pictograms of the connected devices provides a unique overview, while the numeric and graphic display of the measuring values, trend diagrams and statistics fulfill every demand regarding the process visualization.

The 22", 15" and 8.4" TFT monitors and the intuitive touch screen control of the ECOCONTROL 6000, 1000 and 600 processor systems represent an intelligent and cutting-edge technology.

All ECOCONTROL processor systems contain a time or length related trend diagram for all values, combined with a graph of the distribution of the single values (statistical distribution curve), and a comprehensive statistic with the minimum, maximum and mean value, standard deviation, Cp and Cpk values. The operation is intuitive with the menu-driven touch screen.



ECOCONTROL 6000  
with 22" monitor



ECOCONTROL 1000  
with 15" monitor



ECOCONTROL 600  
with 8.4" monitor

## Software packages (optional)

### Automatic diameter/wall thickness control

In combination with the control module SET POINT, the ECOCONTROL systems deliver quality assurance and cost reduction. They ensure a continuous, automatic control of the diameter or wall thickness to the nominal value by controlling either the line speed or the extruder rpm.

### Hot/Cold Module HC 2000 (ECOCONTROL 6000/1000)

With the Hot/Cold Module HC 2000, the material shrinkage is continuously calculated and considered automatically for the control of the diameter and/or wall thickness.

### FFT analysis/Structural Return Loss (SRL)

Optionally, the ECOCONTROL 6000 visualizes periodical variations of the product parameter from an FFT analysis of the measuring values as well as the Structural Return Loss (SRL) data, that is specifically tailored to the requirements of the production of data and RF cables. This software package was developed with the support of competent partners of the industry and detects weak points of the production in time.

### Data storage

The data storage on a SSD medium is a standard for the ECOCONTROL 6000 and 1000. For the ECOCONTROL 600, an external media storage (USB, optional LAN) is available. Time, length or reel related production reports are available for each of the three ECOCONTROL devices (6000, 1000 and 600).

## Technical Data ECOCONTROL

## 6000

## 1000

## 600

Display			
TFT color monitor	22" (vertical) (alternatively 15", horizontal)	15"	8.4"
Inputs/Outputs			
Serial interface RS485 for the connection to measuring devices	8*	4*	1
Electrically isolated digital inputs for the connection to testing devices	8*	4*	4*
Analog inputs 16 Bit, $\pm 10$ V (bipolar)	8*	4*	-
Analog outputs 16 Bit, $\pm 10$ V (bipolar)	8*	4*	-
Contact outputs for tolerance and status messages (max. 30 V, max. 0.5 A)	8*	4*	4*
Communication interface via RS232 or LAN	1*	1*	1*
Interface for printer	1*	1*	1*
Electrically isolated input for rotary pulse generators (0/15 V)	1	1	1
Electrically isolated interface module for control of the diameter (HC 2000)	1*	1*	-
USB customer interface	1	1	1
Industrial fieldbus (e.g. Profinet IO, EtherNet/IP, Profibus-DP, CANopen, DeviceNet )	Yes*	Yes*	No
LAN interface (selectable OPC DA2/UA/SuiteLink)	1*	1*	1*
Wi-Fi	1*	-	-
Data Storage			
	SSD	SSD	External media*
Power Supply			
	100 - 240 V AC $\pm 10$ %, 50/60 Hz		

\* Depending on the equipment

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## Ecocontrol Report

Your Company Name

Start At : 5.5.2022 11:15  
Line : Your Line Number  
Recipe : Product 1  
Operator : a  
Operator : Your Input  
Product ID : Your Input  
Product Name : Your Input  
Job Number : Your Input  
Raw Material Batch : Your Input  
Customer PO : Your Input  
JOB : 34

Settings:

OUTER DIAMETER:  
Nominal Value (mm) : 18.000  
Tolerance (mm) : + 0.050  
Tolerance (mm) : - 0.050

WALL THICKNESS:  
Nominal Value mm : 3.600  
Tolerance mm : + 0.050  
Tolerance mm : - 0.050  
Shrinkage (%) : 0.0

Length m	Speed m/min	OD HOT mm	WT mm	Comment
0	100.0	18.253	3.625	Start
0	100.0	18.253	3.625	Start + Tolerance OD HOT
250	100.0	18.253	3.625	
500	100.0	18.253	3.625	
750	100.0	18.253	3.625	
486	100.0	18.254	3.625	Max. + Tolerance OD HOT
754	100.0	18.253	3.625	End + Tolerance OD HOT
754	100.0	18.253	3.625	Stop

Settings:

OUTER DIAMETER:  
Nominal Value (mm) : 18.000  
Tolerance (mm) : + 0.050  
Tolerance (mm) : - 0.050

WALL THICKNESS:  
Nominal Value mm : 3.600  
Tolerance mm : + 0.050  
Tolerance mm : - 0.050  
Shrinkage (%) : 0.0

Statistic:

Start At : 5.5.2022 11:15  
End At : 5.5.2022 11:23

End Length (m) : 754

OUTER DIAMETER :  
Max. Value (mm) : 18.254  
Min. Value (mm) : 18.253  
Mean Value (mm) : 18.253  
STD Deviation (mm) : 0.0001  
CP : 173.53  
CPK : 0.00  
Above USL (%) : 100.0  
Below LSL (%) : 0.0

## Extrusion Process Report

Line : Your Line Number

Recipe : Product 1 Start At : 5.5.2022 11:15  
Operator : a End At : 5.5.2022 11:23  
JOB : 34 Duration : 00:07 h  
Operator : Your Input Length : 754 m  
Product ID : Your Input  
Product Name : Your Input  
Job Number : Your Input  
Raw Material Batch : Your Input  
Customer PO : Your Input

### - MIN. WALL THICKNESS -

Nominal : 3.600 mm  
LSL : 3.550 mm  
USL : 3.650 mm  
Mean Value : 3.606 mm  
STD Deviation : 0.0020 mm  
Min. Value : 3.601 mm  
Max. Value : 3.610 mm  
Below LSL : 0.0 %  
Above USL : 0.0 %  
CP : 8.4  
CPK : 7.4

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ECOCONTROL Report

# — REMOTE 6000/DISPLAY 2000



DISPLAY 2000

In addition to the premium processor systems, SIKORA offers reliable display and control devices that put basic functionality into focus.

## Standard display and control device REMOTE 6000

The REMOTE 6000 is the standard display and control device, universally applicable for all SIKORA diameter and capacitance measuring devices, lump detectors and spark testers. The measuring values are displayed on a six-digit, 25 mm high, clear LED display. It is suitable for panel mounting or for assembly on the gauge head. The REMOTE 6000 includes a product library for up to 50 cable recipes. Nominal values and tolerances can easily be recalled.

## Automatic Control – Cost Savings

In combination with the control module SET POINT, an automatic control of the line speed or extruder rpm assures optimum process control and cost savings.

## Interfaces

A serial interface for the connection to an external computer is standard for the collection of data or the PLC line control. An Ethernet interface for PLC connection is optionally available.

### Typical features REMOTE 6000

- Large, clearly arranged display and keypad
- Automatic control module SET POINT (optional)
- Easy installation at any distance to the measuring head
- Serial interface for the connection to a measuring head or a PC (optional)

## Applications:

### LASER Series 2000/6000 with the REMOTE 6000

The REMOTE 6000 can be combined with a diameter gauge head of the LASER Series 2000/6000. The average diameter value of the connected measuring device is clearly shown on the LED display. Via a control key, the average diameter of the measuring axis x, y or the ovality is selectable on the display.

### CAPACITANCE 2000 with the REMOTE 6000

In combination with the capacitance measuring device CAPACITANCE 2000, the REMOTE 6000 clearly shows the capacitance measuring values as a decentralized display device.

### LUMP 2000 with the REMOTE 6000

In combination with a LUMP 2000, the REMOTE 6000 shows the number as well as the type of faults. Clear symbols inform the operator if the fault is a lump or neckdown. Lump or neckdown information, such as the height, depth and length of the fault are stored, giving the operator the possibility to view previous faults.

### SPARK 2000/6000 with the REMOTE 6000

The REMOTE 6000 is also available for the connection with the SPARK 2000/6000 to visualize insulation breakdowns. Parameters such as the nominal test voltage can be entered easily. User-friendly symbols and numeric displays clearly show the current test voltage and the number of breakdowns.



Certified according to  
DIN EN ISO 9001

### Basic display device DISPLAY 2000

Interesting is the DISPLAY 2000, a display device for the combination with the SIKORA diameter measuring devices of the LASER Series 2000/6000 or the CAPACITANCE 2000, that shows the diameter and ovality of the measured product. It is suitable for the installation into a control cabinet as well as for the direct mounting at the gauge head.

Especially for applications that require a connection of the measuring system to the line control via a Profibus interface or whenever a clearly visible second display is requested, the DISPLAY 2000 is a reasonable and inexpensive supplement.

### Typical features DISPLAY 2000

- Digital display
- Selectable monitoring parameter (diameter, ovality, capacitance)
- Installation at any distance to the gauge head
- Serial interface for the connection to a gauge head

## Technical Data REMOTE 6000

### Measuring Value Display

Digital, 6-digit e.g. 000.000 ... 500.000 mm  
Position of decimal point is adjustable

### Display Update

Programmable, factory setting 1/sec

### Nominal Value/Tolerance Selection

Via keypad (operation guided via a 4-digit LED display)

### Product Storage

Up to 50 product types, comfortable programming via the diagnosis software

### Tolerance Message/Control Action

- a) In clear text on LED display
- b) 4 potential-free contact outputs (optional)

### Interfaces

RS485 (gauge head), USB (for service)  
Optional: LAN/Ethernet-UDP

### Power Supply

100 - 240 V AC  $\pm$  10 %, 50/60 Hz

## Technical Data DISPLAY 2000

### 5-Digit Display

Digit height of 25 mm  
The bright, big figures are easy to read even from a distance of 12 m

### Interfaces

(Bi-directional serial interface) RS485

### Power Supply

100 - 240 V AC  $\pm$  10 %, 50/60 Hz

Technical data is subject to change

SIKORA AG (Headquarters)  
Bruchweide 2  
28307 Bremen  
Germany

Ph.: +49 421 48900 0  
email: [sales@sikora.net](mailto:sales@sikora.net)

[www.sikora.net](http://www.sikora.net)

BRAZIL  
[sales@sikora-brazil.com](mailto:sales@sikora-brazil.com)

CHINA  
[sales@sikora-china.com](mailto:sales@sikora-china.com)

FRANCE  
[sales@sikora-france.com](mailto:sales@sikora-france.com)

INDIA  
[sales@sikora-india.com](mailto:sales@sikora-india.com)

ITALY  
[sales@sikora-italia.com](mailto:sales@sikora-italia.com)

JAPAN  
[sales@sikora-japan.com](mailto:sales@sikora-japan.com)

KOREA  
[sales@sikora-korea.com](mailto:sales@sikora-korea.com)

MALAYSIA  
[sales@sikora-sea.com](mailto:sales@sikora-sea.com)

MEXICO  
[sales@sikora-mexico.com](mailto:sales@sikora-mexico.com)

POLAND  
[sales@sikora-poland.com](mailto:sales@sikora-poland.com)

RUSSIA  
[sales@sikora-russia.com](mailto:sales@sikora-russia.com)

TURKEY  
[sales@sikora-turkey.com](mailto:sales@sikora-turkey.com)

UKRAINE  
[sales@sikora-ukraine.com](mailto:sales@sikora-ukraine.com)

UNITED ARAB EMIRATES  
[sales@sikora-uae.com](mailto:sales@sikora-uae.com)

USA  
[sales@sikora-usa.com](mailto:sales@sikora-usa.com)