DISPLAY AND CONTROL SYSTEMS

High-performance processor systems
Reliable display and control units

ECOCONTROL 1000   ECOCONTROL 6000   REMOTE 6000

www.sikora.net

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 exceeds all expectations in their class.

The innovative display of the line, including 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/Preventive Maintenance

Optionally, the ECOCONTROL 6000 visualizes periodical variations of the product parameter from an FFT analysis of the measuring values. This software package was developed with the support of competent partners of the industry and detects weak points of the production in time in terms of preventive maintenance.
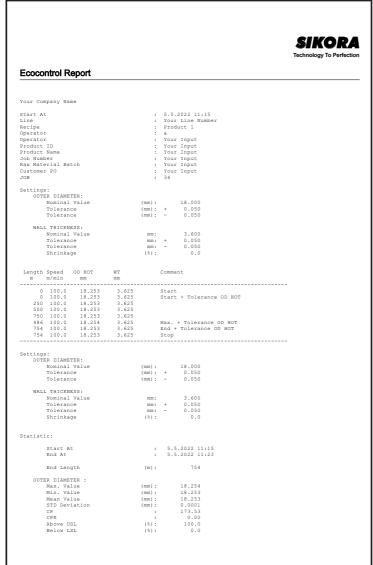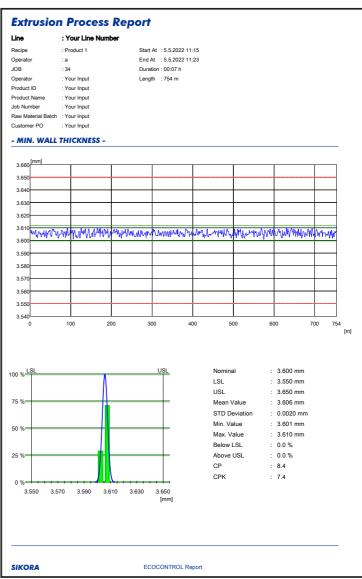
Data storage

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, ± 10 V (bipolar)	8*	4*	-
Analog outputs 16 Bit, ± 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 ± 10 %, 50/60 Hz		

* Depending on the equipment

Examples for production reports

SIKORA
Technology To Perfection

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 Speed  OD HOT    WT              Comment
  m    m/min     mm      mm
-----------------------------------------------------------------
     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

SIKORA   ECOCONTROL Report

www.sikora.net

REMOTE 6000/DISPLAY 2000

REMOTE 6000

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 measuring devices (LASER Series 2000/6000) as well as for LUMP 2000 event devices. 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 hose and tube 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.

LASER Series 2000/6000 with the REMOTE 6000

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

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.

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)

Basic display device DISPLAY 2000

Interesting is the DISPLAY 2000 as a display device for the combination with the SIKORA diameter measuring devices of the LASER Series 2000/6000. It is suitable for the installation into a control cabinet as well as for the direct mounting at the gauge head. The digital display of the measuring value is 5-digit and device-specific configurable. In combination with the diameter measuring head, the DISPLAY 2000 shows the diameter values or the ovality.

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)
- 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-digid 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 ± 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 ± 10 %, 50/60 Hz