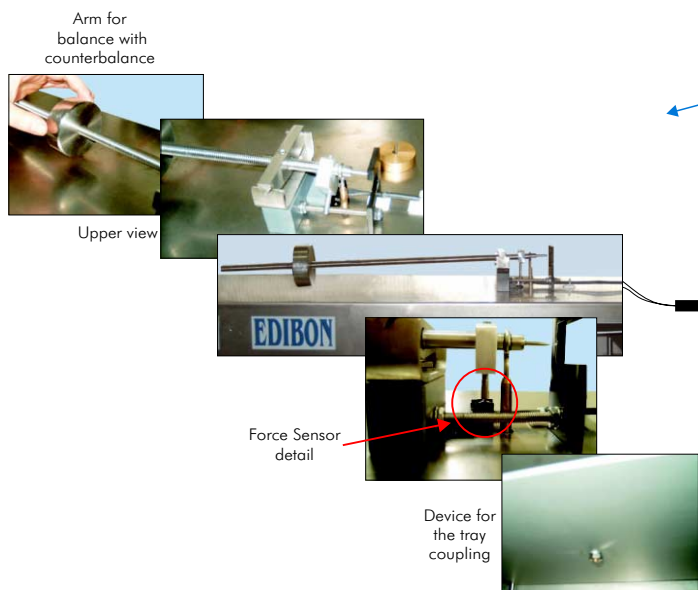


EDIBON PATENT



① Unit: SPC. Weighing System

Always included in the supply:

Teaching Technique used

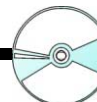
SACED. EDIBON Computer Control System



② Control Interface Box



③ Data Acquisition Board



④ Software for:
- Computer Control
- Data Acquisition
- Data Management

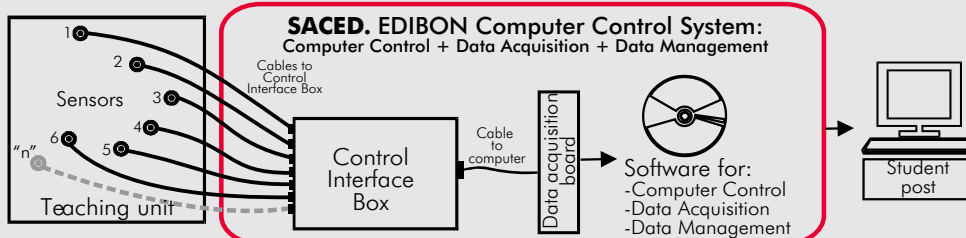


Computer (not included in the supply)

⑤ Cables and Accessories
⑥ Manuals

**OPEN CONTROL
+
MULTICONTROL
+
REAL TIME CONTROL**

Unitary Process Configuration



www.edibon.com

Products
Products range
Units
2.-Electronics



ISO:9001-2000 Certificate of Approval. Reg. No. E204034



European Union Certificate



Certificates ISO 14001: 2004 and ECO-Management and Audit Scheme (environmental management)



Worlddidac Quality Charter Certificate Worlddidac Member

Items supplied as standard**① SPC. Unit:**

Anodized aluminium structure. Panels and main metallic elements in stainless steel.
 Diagram in the front panel with similar distribution that the elements in the real unit.
 Stainless steel arm for balance.
 Counterbalance of 0.5 and 1 Kg.
 Anodized aluminium tray.
 High precision force sensor of 0-10N.

② SPC/CIB. Control Interface Box :

Control interface box with process diagram in the front panel and with the same distribution that the different elements located in the unit, for an easy understanding by the student.
 All sensors, with their respective signals, are properly manipulated for -10V. to +10V. computer output.
 Sensors connectors in the interface have different pins numbers (from 2 to 16), to avoid connection errors.
 Single cable between the control interface box and computer.
The unit control elements are permanently computer controlled, without necessity of changes or connections during the whole process test procedure.
Simultaneously visualization in the computer of all parameters involved in the process.
Calibration of all sensors involved in the process.
Real time curves representation about system responses.
 Storage of all the process data and results in a file.
 Graphic representation, in real time, of all the process/system responses.
All the actuators' values can be changed at any time from the keyboard allowing the analysis about curves and responses of the whole process.
 All the actuators and sensors values and their responses are placed in only one computer screen.
Shield and filtered signals to avoid external interferences.
Real time computer control with flexibility of modifications from the computer keyboard of the parameters, at any moment during the process.
 Real time computer control for pumps, compressors, resistances, control valves, etc.
Open control allowing modifications, at any time and in a real time, of parameters involved in the process simultaneously.
Three safety levels, one mechanical in the unit, other electronic in control interface and the third one in the control software.

③ DAB. Data Acquisition Board:

PCI Data acquisition board (National Instruments) to be placed in a computer slot. Bus PCI.

Analog input:

Number of **channels= 16** single-ended or 8 differential.
Resolution= 16 bits, 1 in 65536.
Sampling rate up to: 250 KS/s (Kilo samples per second).
 Input range (V)= $\pm 0V$.
 Data transfers=DMA, interrupts, programmed I/O. Number of DMA channels=6.

Analog output:

Number of **channels=2**.
Resolution= 16 bits, 1 in 65536.
 Maximum output rate up to: 833 KS/s.
 Output range(V)= $\pm 0V$.
 Data transfers=DMA, interrupts, programmed I/O.

Digital Input/Output:

Number of **channels=24 inputs/outputs**.
 DO or DI Sample Clock frequency: 0 to 1 MHz.

Timing:

Counter/timers=2.
 Resolution: Counter/timers: 32 bits.

④ SPC/CCSOF.Computer Control+Data Acquisition+Data Management Software:

Compatible with actual Windows operating systems. Graphic and intuitive simulation of the process in screen.
Compatible with the industry standards.
 Registration and visualization of all process variables in an automatic and simultaneously way.
Flexible, open and multicontrol software, developed with actual windows graphic systems, acting simultaneously on all process parameters.
Management, processing, comparison and storage of data.
Sampling velocity up to 250,000 data per second guaranteed.
Student calibration system for all sensors involved in the process.
It allows the registration of the alarms state and the graphic representation in real time.
 Comparative analysis of the obtained data, after to the process and modification of the conditions during the process.
Open software, allowing to the teacher to modify texts, instructions. Teacher's and student's passwords to facilitate the teacher's control on the student, and allowing the access at different work levels.
This unit allows that the 30 students of the classroom can visualize simultaneously all results and manipulation of the unit, during the process, by using a projector.

⑤ Cables and Accessories.**⑥ Manuals:**

This unit is **supplied with 8 manuals**: Required Services, Assembly and Installation, Interface and Control Software, Starting-up, Safety, Maintenance, Calibration & Practices Manuals.

* References 1 to 6: SPC + SPC/CIB + DAB + SPC/CCSOF + Cables and Accessories + Manuals are included in the minimum supply, enabling a normal operation.

EXERCISES AND PRACTICAL POSSIBILITIES

Practical Possibilities of the Unit:

- 1.- Sensor Calibration.
- 2.- Hysteresis study.
- 3.- Weight high precision measurement.

ORDER INFORMATION

Items supplied as standard

Minimum configuration for normal operation includes:

- ① Unit: SPC. Weighing System.
- ② SPC/CIB. Control Interface Box.
- ③ DAB. Data Acquisition Board.
- ④ SPC/CCSOF. Computer Control + Data Acquisition + Data Management Software.
- ⑤ Cables and Accessories.
- ⑥ Manuals.

* **IMPORTANT:** Under SPC we always supply all the elements for immediate running as 1, 2, 3, 4, 5 and 6.

REQUIRED SERVICES

- Electrical supply: 220 V / 50 Hz or 110 V / 60 Hz.
- Computer(PC).

DIMENSIONS & WEIGHTS

- | | |
|------------------------|--|
| SPC Unit: | -Dimensions: 700 x 400 x 400 mm. approx. |
| | -Weight : 20 Kg. approx. |
| Control Interface Box: | -Dimensions: 490x330x310 mm. approx. |
| | -Weight: 10 Kg. approx. |

*Specifications subject to change without previous notice, due to the convenience of improvements of the product.

EDIBON

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