edibon

Innovating Technical Education

100% OWN DESIGN AND OWN MANUFACTURING



+

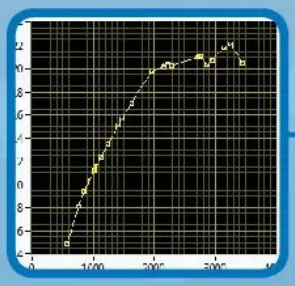
EDIBON PATENT

SCADA

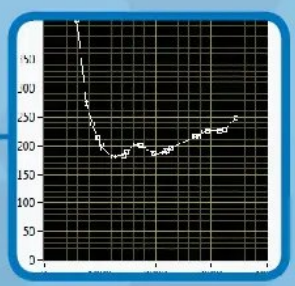
Supervisory Control And Data Acquisition











www.edibon.com

Edition: EDI01/17 Date: December/2017

About Us

more information:
www.edibon.com

Our mission is to provide the proper technological tools for easy, quick and effective **training**.

R&D
service
quality
warranty
SCADA
range
innovation
worldwide

Who we are



- A great team
- more than 120 highly qualified professionals
- more than 50 design engineers

...all at your service!

Our customers

In more than **150** countries

Higher Education Level	Technical and Vocational Training	Engineering and Technical Training Centers
		• Energy, Oil and Gas, ...

Contact us:

+34 91.619.93.63
edibon@edibon.com

Know How

EDIBON offers the most advanced worldwide technology in the field of engineering and technical teaching equipment market.

Own R&D

100% own design

100%own manufacturing

100% own quality control







High Quality certificates

Main Quality Certificates

ISO 9001 · ISO 14001 · OHSAS 18001 · EMAS · CE

Other Quality Certificates:

Our technology

Supervisory · Control · And · Data Acquisition

EDIBON PATENT

SCADA

- PLC — Industrial Control Application
- ESN — EDIBON SCADA-NET (MULTIPOST OPTIONS SCADA-NET)
- ECL — EDIBON Cloud Learning Units in one city, students in other cities (TECHNICAL DISTANCE LEARNING)
- 3D — EDIBON Three Dimensions System
- EWB — Electronic White Board
- LabVIEW kit
- USB kit

SOFTWARE

Interactive Computer Aided Instruction Software System — ICAI

- Classroom Manager
- Student Labsoft: Practices, Calculations, Graphics, Results

DATA ACQUISITION

- FSS — Faults Simulation System
- DAS — Data Acquisition Software

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Products

Teaching Units

10 physics

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140 biomedical engineering

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SCADA expansions

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ALL EDIBON Business Models

"DAY BY DAY" (D/D)

PROJECTS AND COMPLETE LABORATORIES

TECHNICAL EDUCATION TURN KEY PROJECTS (TKP)

EDIBON CLOUD LEARNING (ECL)

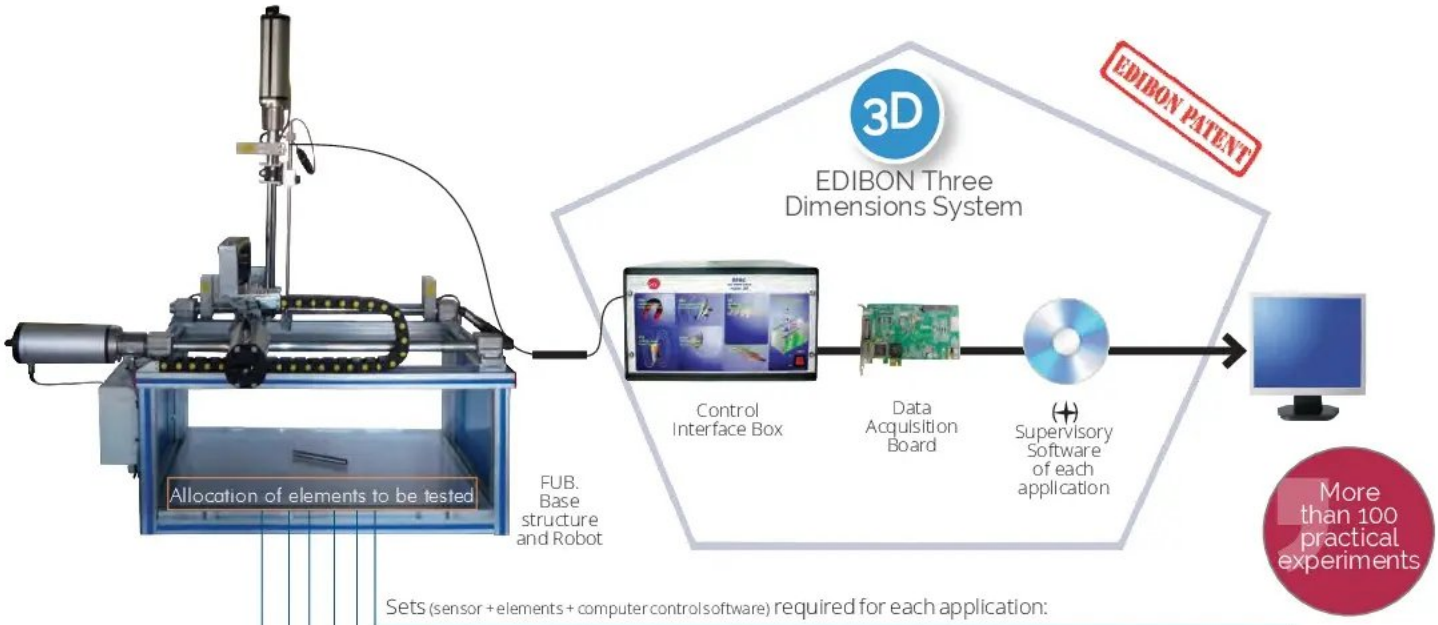
PILOT PLANTS AND CUSTOM MADE UNITS

COURSES

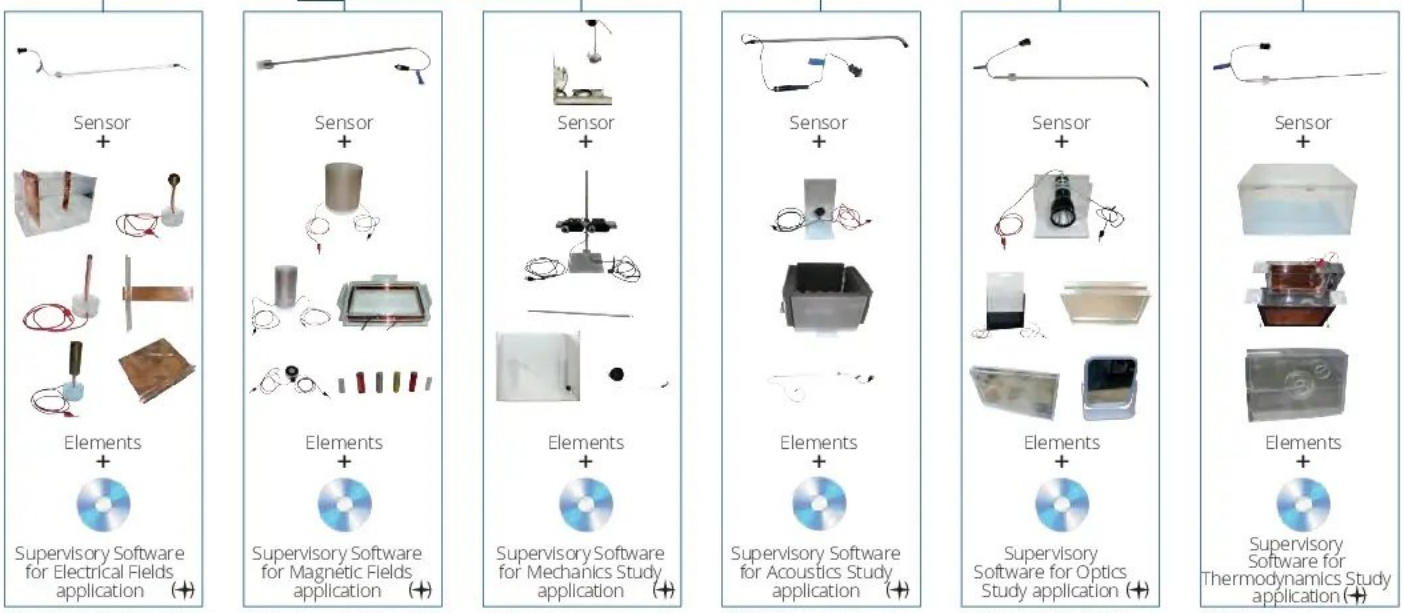
Details in pages: from 105 to 112

11. 3D Physics (three-dimensions)

EFAC Computer Controlled Three Dimensions (3D) Physics Systems



Sets (sensor + elements + computer control software) required for each application:



FCE. Set for **Electrical Fields** application

FCM. Set for **Magnetic Fields** application

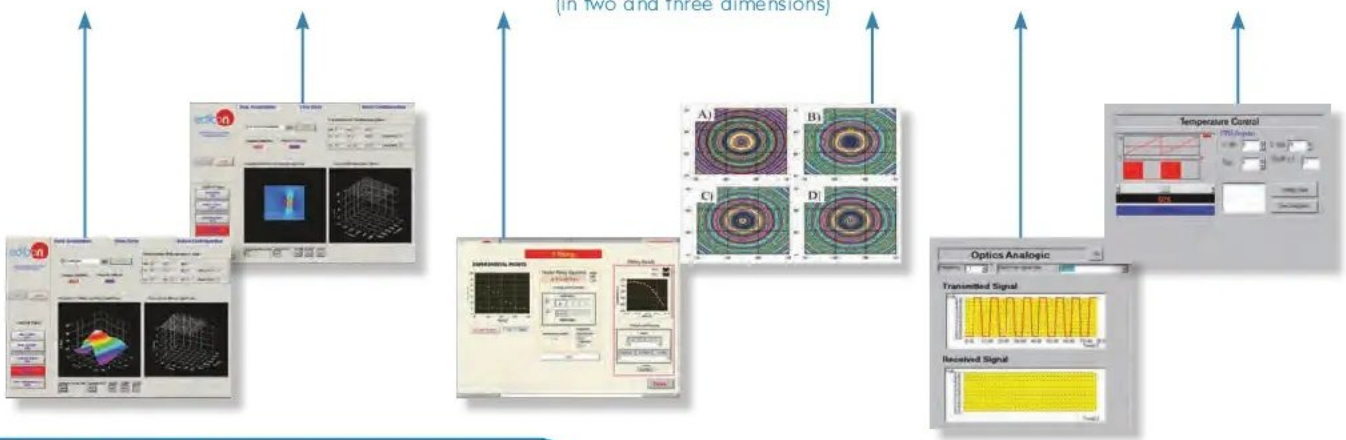
FM. Set for **Mechanics** Study application

FAC. Set for **Acoustics** Study application

FOP. Set for **Optics** Study application

FTT. Set for **Thermodynamics** Study application

Some 3D Results
(in two and three dimensions)



PHYSICS EXPANSIONS AREA 10

All units in this area using SCADA
can additionally use:

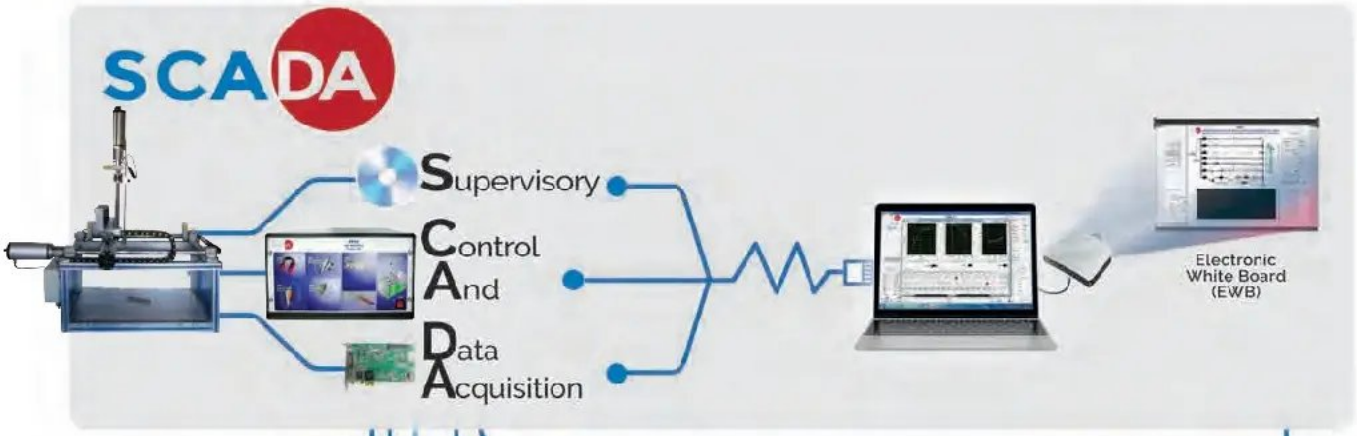
SOFTWARE

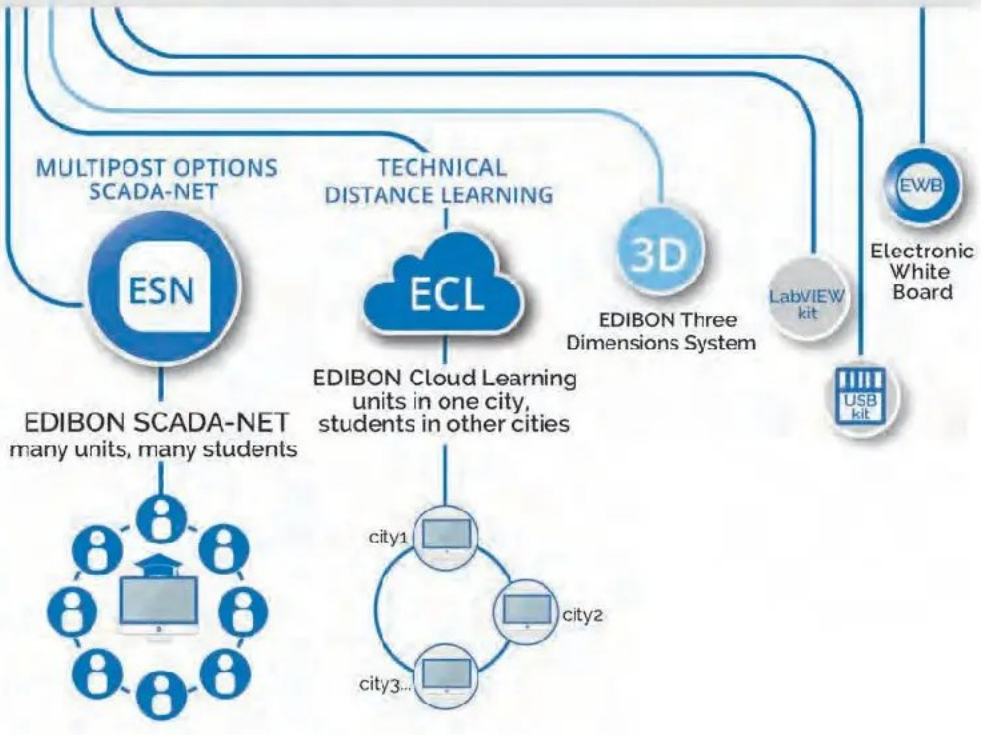
Interactive Computer Aided Instruction Software System

ICAI

Classroom Manager

Student Labsoft
Practices
Calculations
Graphics
Results





Details in pages: 101, 102, 103 and 104

21. Electronics. BASIC CONCEPTS
22. Electronics. KITS
23. Electronics. TRANSDUCERS AND SENSORS
24. Electronics. CONTROL ELECTRONICS
25. Electronics. DIGITAL ELECTRONICS
26. Electronics. INDUSTRIAL ELECTRONICS

21. Electronics. BASIC CONCEPTS

LIEBA Basic Electronics and Electricity Laboratory, with SCADA

NEW





Electrical Compact Module



Electronic Board

+



Module support

Service Units

FACO	Power Supply
EBC100	Base Unit, with built-in power supply



Modules

Basic Electronic Concepts

M3	Semiconductors I
M4	Semiconductors II
M6	Oscillators
M7	Operational Amplifiers
M8	Filters
M9	Power Electronics
M60	Analog/Digital Converters
M61	Digital/Analog Converters
M99	Expansion Unit (modules included: analog multiplexer, analog multiplier, function generator, AM modulator, AM demodulator)
M99-6	Motors, Generators and Control Unit

Digital Electronics

M10	Digital System & Converters
M11	Digital Electronic Fundamentals
M12	Basic Combinational Circuits
M13	Basic Sequential Circuits
M14	Optoelectronics
M41	Resistance Transducers

Basic Electricity Concepts

M5	Power Supplies.
M1	Direct Current (DC) Circuits
M2	Alternating Current (AC) Circuits
M16	Electric Networks
M17	Electromagnetism
M18	Three-phase Circuits

Electronic Applications

M49	Applications of Temperature and Pressure
M44	Applications of Light
M45	Linear Position and Force
M46	Environmental Measurements
M15	Development Module
M48	Sound Measurements

Control

RYC/B	Basic Teaching Unit for the Study of Regulation and Control
M47	Rotational Speed & Position Control

22. Electronics. KITS

M-KITS Basic Electronics and Electricity Assembly Kits



M2/KIT

Service Units

FACO	Power Supply
M15	Development Module



Assembly Kits

Basic Electronic concepts

M3/KIT	Semiconductors I Kit
M4/KIT	Semiconductors II Kit
M6/KIT	Oscillators Kit
M7/KIT	Operational Amplifiers Kit
M8/KIT	Filters Kit
M9/KIT	Power Electronics Kit

Digital Electronics

M10/KIT	Digital Systems and Converters Kit
M11/KIT	Digital Electronic Fundamentals Kit
M12/KIT	Basic Combinational Circuits Kit
M13/KIT	Basic Sequential Circuits Kit
M14/KIT	Optoelectronics Kit

Basic Electricity Concepts

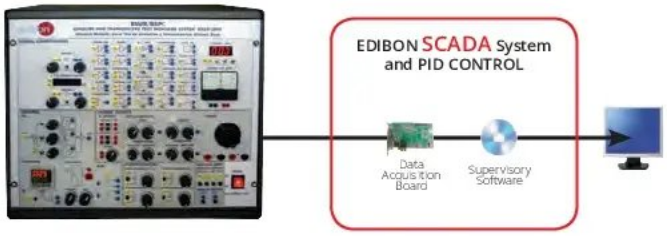
M5/KIT	Power Supplies Kit
M1/KIT	Direct Current (DC) Circuits Kit
M2/KIT	Alternating Current (AC) Circuits Kit
M16/KIT	Electric Networks Kit

23. Electronics. TRANSDUCERS AND SENSORS

SAIT Transducers and Instrumentation Trainer



BS Modular System for the Study of Sensors



Accessories

BSPC	Computer Controlled Basic Unit
BSUB	Base Unit
BS1	Vibration and/or Deformations Test Module
BS2	Temperature Test Module
BS3	Pressure Test Module
BS4	Flow Test Module
BS5	Ovens Test Module
BS6	Liquid Level Test Module
BS7	Tachometer Test Module
BS8	Proximity Test Module
BS9	Pneumatic Test Module
BS10	Light Test Module



Complete Applications

SPC Weighing System, with Computer Data Acquisition



SCSP Pressure Sensors Calibration System



24. Electronics. CONTROL ELECTRONICS

Complete Applications

RYC Computer Controlled Teaching Unit for the Study of Regulation and Control



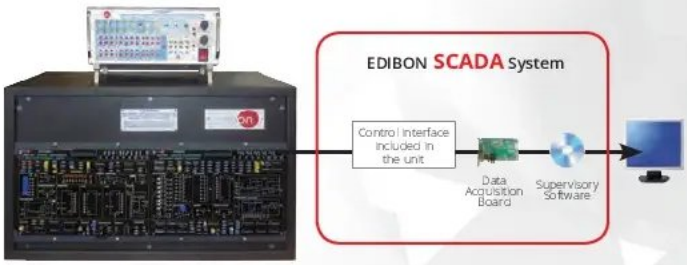
NEW

Available application modules

RYC-BB	Ball and Beam Module	RYC-P	Pressure Control Module
RYC-BP	Ball and Plate Control Module	RYC-pH	pH Control Module
RYC-C	Flow Rate Control Module	RYC-PI	Inverted Pendulum Control M.
RYC-CLM	Magnetic Levitation Control Module	RYC-SM	DC Servo Motor Module
RYC-CP	Position Control Module	RYC-T	Temperature Control Module
RYC-I	Luminosity Control Module	RYC-TAG	Water Flow Temperature Control M.
RYC-N	Level Control Module	RYC-TAR	Air Flow Temperature Control M.



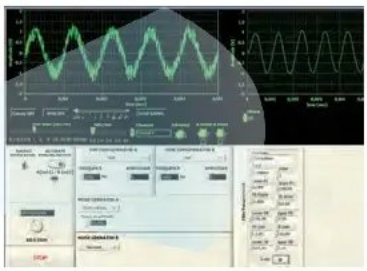
CADDA Computer Controlled Teaching Unit for the Study of Analog/Digital and Digital/Analog Converters



25. Electronics. DIGITAL ELECTRONICS

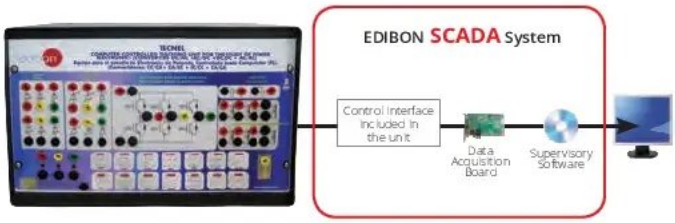
TDS Computer Controlled Teaching Unit for the Study of Digital Signal Processing

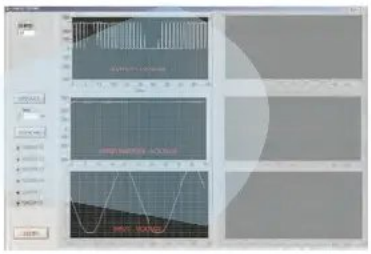




26. Electronics. INDUSTRIAL ELECTRONICS

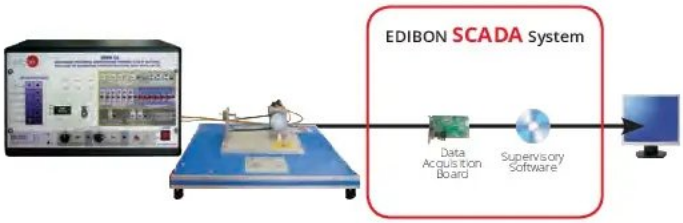
TECNEL Computer Controlled Teaching Unit for the Study of Power Electronics (with IGBTS)





Servosystems

SERIN/CA Computer Controlled Advanced Industrial Servosystems Trainer (for AC Motors)



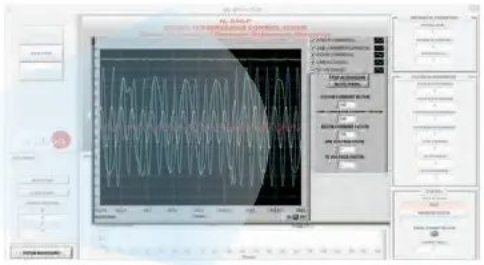
SERIN/CC Computer Controlled Advanced Industrial Servosystems Trainer (for DC Motors)



Advanced Applications

AEL-WPP Wind Power Plants with Double Feed Induction Generator Application





Other available units:

AEL-WPT Wind Power Application with Permanent Magnets Synchronous Generator

AEL-WPPI Wind Power Plants with Induction Generator Application

ELECTRONICS EXPANSIONS

AREA 20

EDIBON PATENT

All units in this area using SCADA
can additionally use:

SOFTWARE

Interactive Computer Aided Instruction Software System

ICAI

- Classroom Manager
- Student Labsoft
  - Practices
  - Calculations
  - Graphics
  - Results

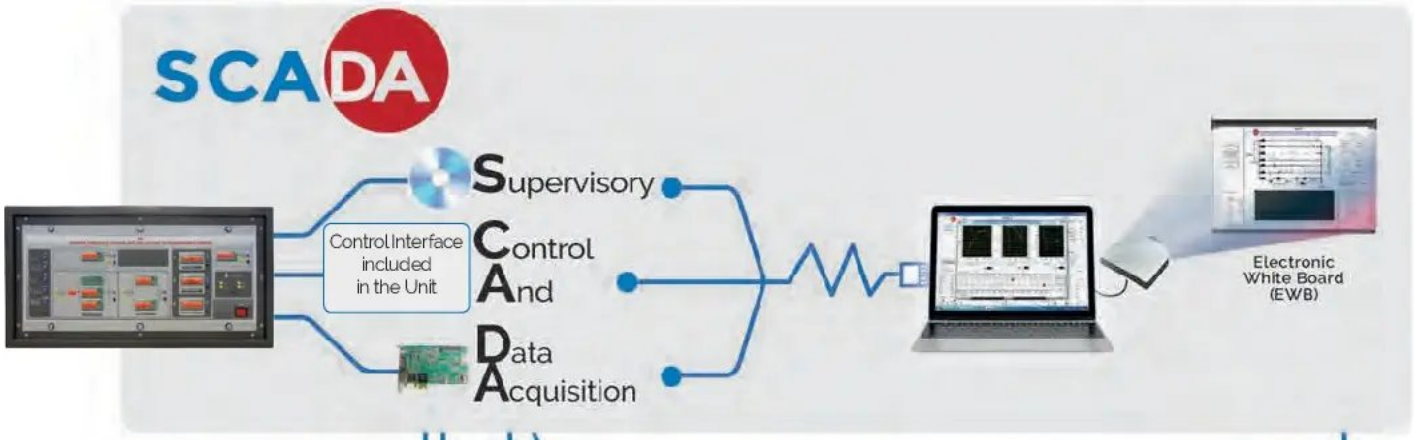
FSS

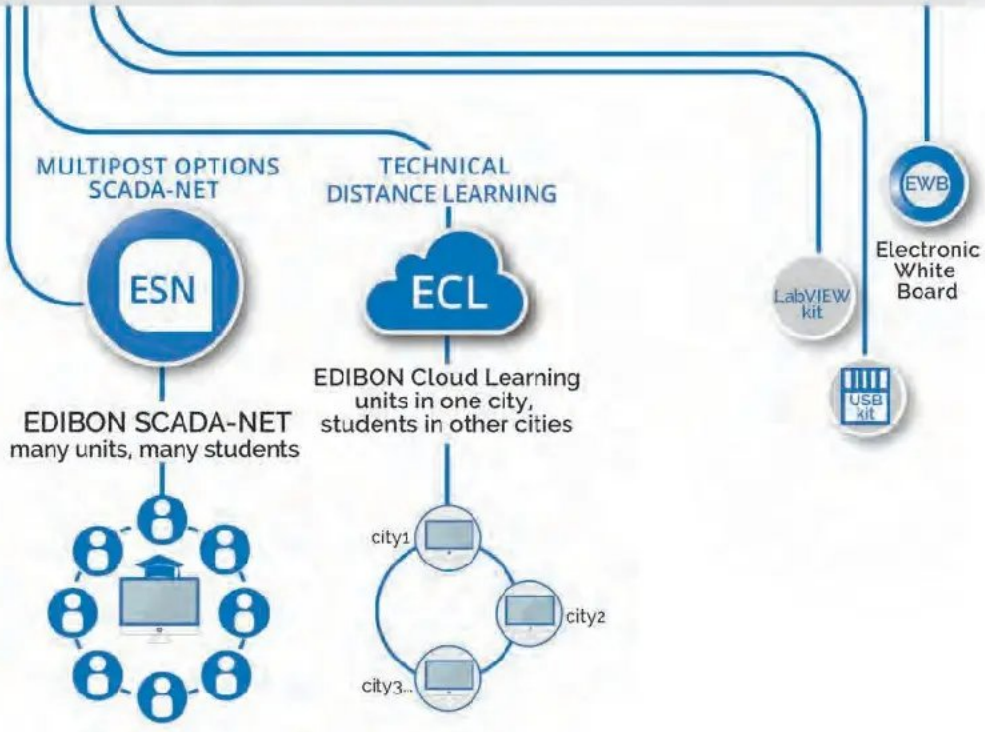
Faults Simulation System

DATA ACQUISITION

DAS

Data Acquisition Software





Details in pages: 101, 102, 103 and 104

more information:
www.edibon.com>products>communications

31. Communications. ANALOG COMMUNICATIONS
32. Communications. DIGITAL COMMUNICATIONS
33. Communications. TELEPHONY
34. Communications. APPLIED COMMUNICATIONS
35. Communications. WI-FI

31. Communications. ANALOG COMMUNICATIONS 32. Communications. DIGITAL COMMUNICATIONS

LICOMBA Communications Laboratory

NEW



Power Supplies

FACO	Power Supply
EBC100	Base Unit, with built-in power supply

Analog Communications Modules

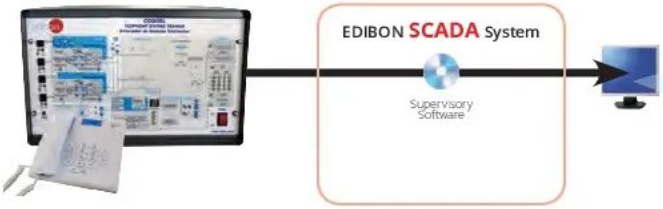
EMDA/A	Analog Modulations Trainer

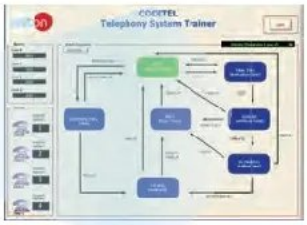
Digital Communications Modules

EDICOM6	Optical Fibre Transmission and Reception
EMDA/D	Digital Modulations Trainer
EMDA/P	Pulse Modulations Trainer

33. Communications. TELEPHONY

CODITEL Telephony Systems Trainer





34. Communications. APPLIED COMMUNICATIONS

Trainers

EGPS GPS Trainer



ELT Transmission Lines Trainer



EANC Computer Controlled Antenna Trainer



ESA Satellite Trainer



EMIC Computer Controlled Microwave Trainer



EBL Bluetooth Trainer



ETM Cellular Mobile Trainer



ERA Radar Trainer



ELAN Lan Trainer

NEW



35. Communications. WI-FI

EDAS/VIS-WF EDIBON Data Acquisition System / Virtual Instrumentation System with WI-FI communication



COMMUNICATIONS EXPANSIONS

AREA 30

EDIBON PATENT

All units in this area using SCADA
can additionally use:

SOFTWARE

Interactive Computer Aided Instruction Software System

ICAI

- Classroom Manager
- Student Labsoft
  - Practices
  - Calculations
  - Graphics
  - Results

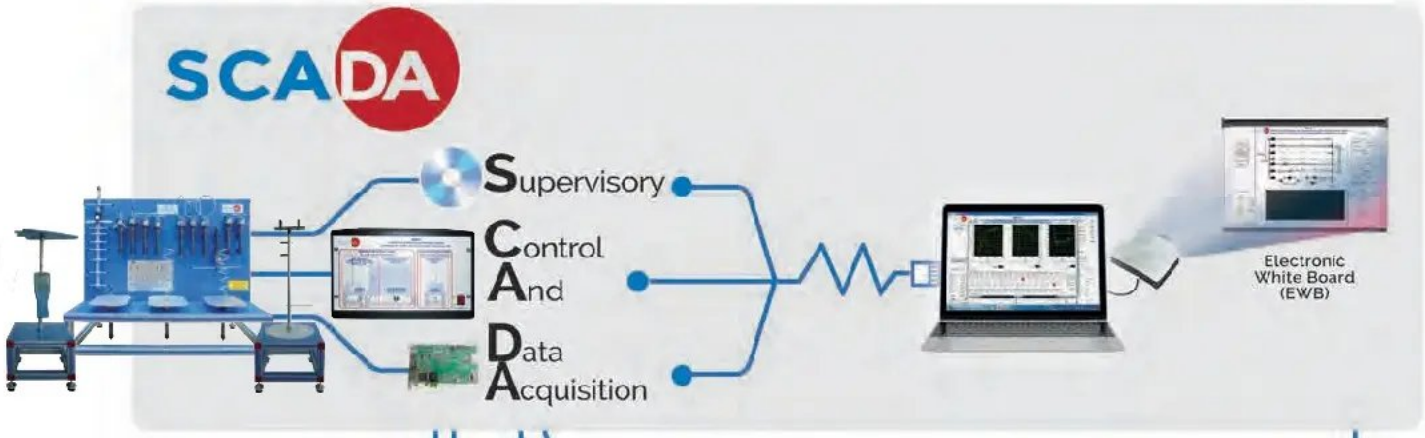
FSS

Faults Simulation System

DATA ACQUISITION

DAS

Data Acquisition Software



MULTIPOST OPTIONS SCADA-NET

ESN

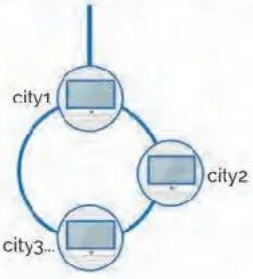
EDIBON SCADA-NET
many units, many students



TECHNICAL DISTANCE LEARNING

ECL

EDIBON Cloud Learning units in one city, students in other cities



EWB

Electronic White Board

LabVIEW kit

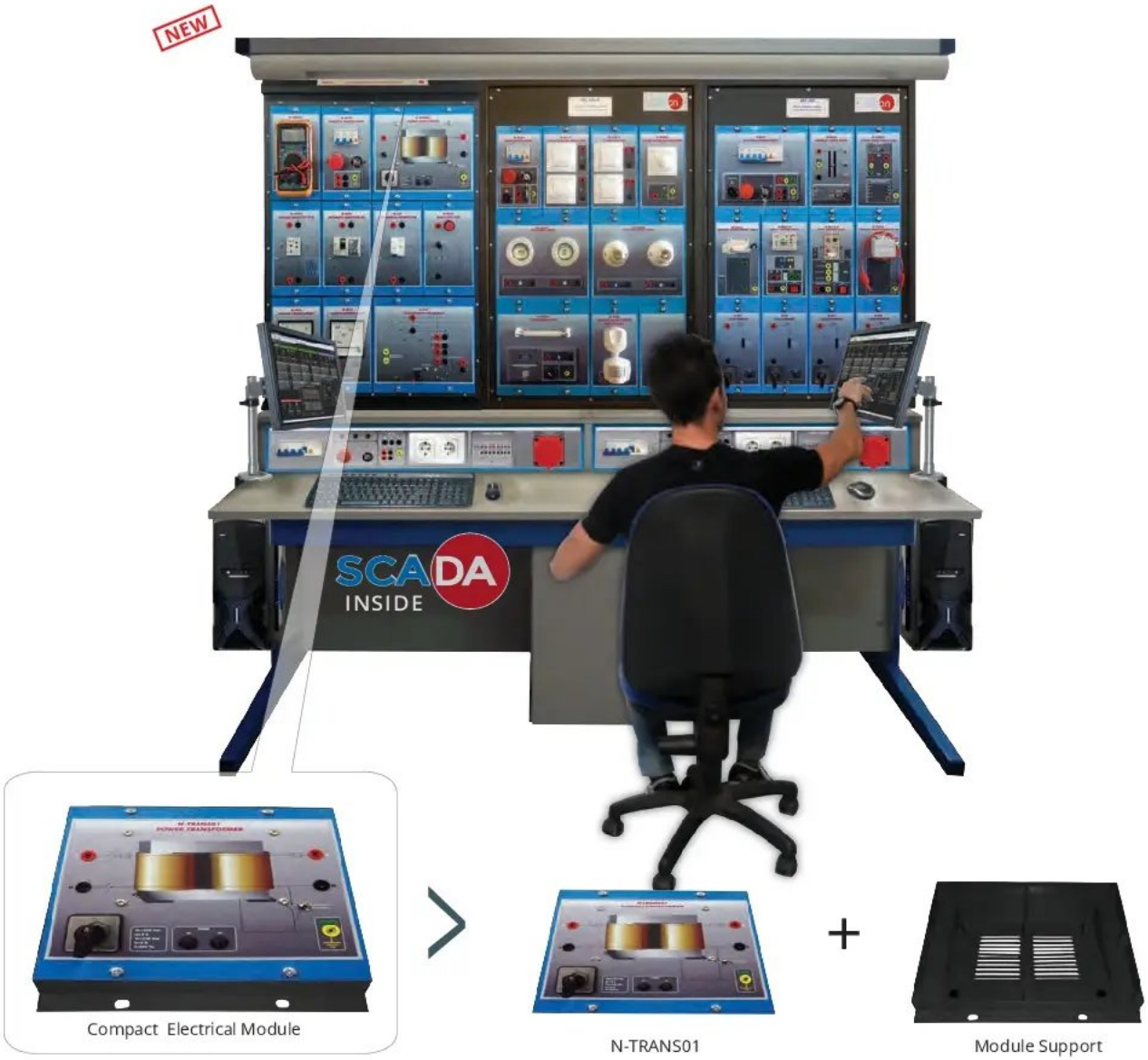
USB kit

Details in pages: 101, 102, 103 and 104

41. Electricity. ELECTRICAL INSTALLATIONS
42. Electricity. HOME AUTOMATION SYSTEMS
43. Electricity. ELECTRICAL MACHINES
44. Electricity. ELECTROMECHANICAL CONSTRUCTIONS
45. Electricity. POWER SYSTEMS AND SMART GRID TECHNOLOGY

41. Electricity. ELECTRICAL INSTALLATIONS

AEL-1 Electrical Installations Laboratory



Home Electrical Installations

Lighting and Control Applications

AEL-AD13	Entry Phone Application
AEL-AD14	Audio and Video Entry Phone Application
AEL-AD6A	Luminosity Control Application
AEL-AD6B	Basic Luminosity Control Application
AEL-AD24	Position Switches Application
AEL-AD5	Lighting Application with Timer Switch
AEL-AI13-E	Electrotechnics Application focused on Lighting
AEL-AE4	Differential Automatic Switches Application

Climatization Applications

AEL-AD9A	Heating Control Application
AEL-AD9B	Basic Heating Control Application

Industrial Electrical Installations

Industrial Control Engineering Applications

AEL-CM1	Logical Control Operations Application
AEL-CM2	Application of Manual Starters and Velocity Commutators with Asynchronous Motors
AEL-CM3	Automatic Control Operations II Application
AEL-CM4	Automatic Control Operations with Contactors and Sensors IV Application
AEL-MED	Industrial Installations Monitoring Application

Faults Applications

AEL-AD33	Single-Phase Installations Faults Application
AEL-AD33T	Three-phase Installations Faults Application

Relays Applications

AEL-AE5	Protection Relays Control Application

Loads Applications

AEL-AI13-A	Electrotechnics Application Focused on RLC Circuits

42. Electricity. HOME AUTOMATION SYSTEMS

AEL-2 Home Automation Systems Laboratory





Compact Electrical Module



N-ALA02



Module Support

Wired Applications

Home Automation General Applications

AEL-AD1A	Robbery Alarm Advanced Application
AEL-AD1B	Robbery Alarm Application
AEL-AD3A	Fire Alarm Advanced Application
AEL-AD3B	Fire Alarm Application
AEL-AD15A	Position Control Advanced Application
AEL-AD15B	Position Control Application
AEL-AD25A	Control Application for Home Electric Service through the telephone
AEL-AD22	Flooding Control Application
AEL-AD30	Gas and Smoke Detection Application
AEL-AD31	Movement and Sound Detection Application
AEL-AD40	Remote Control Application Via Telephone

KNX/EIB Applications

AEL-KNX1	KNX/EIB Shutter Control Application
AEL-KNX2	KNX/EIB Heating Control Application
AEL-KNX3	KNX/EIB Security Control Application
AEL-KNX4	KNX/EIB Lighting Control Application
AEL-KNX5	KNX/EIB Energy Management Application
NEW AEL-BCS	Building Automation and Control Networks BacNet Application
NEW AEL-DALI	DALI Installations Application

Wireless Applications

Home Automation General Applications

AEL-AD28A	Complete Home Automation Application with ZigBee Wireless Protocol
AEL-AD28B	Advanced Home Automation Application with ZigBee Wireless Protocol
AEL-AD28C	Home Automation Application with ZigBee Wireless Protocol
AEL-AD23	Wireless Intrusion Detection Application (RF)

43. Electricity. ELECTRICAL MACHINES

43.1 Electrical Machines Modular Complete Applications

AEL-3 Electrical Machines Laboratory

NEW





Compact Electrical Module



N-ALI01

+



Module Support

Transformers Applications

AEL-SPTT	Single-Phase Transformer Application
AEL-TPTT	Three-Phase Transformer Application
AEL-AI13-D	Modular Application for Electrotechnics (Transformers)

43.2 Motors Applications

AC Electrical Motors Applications

AEL-EEEM	Energy Efficiency in Electrical Motors Application
AEL-EMSS	Electrical Machines Soft Starters Application
AEL-EMCF	Electrical Machines Control through Frequency Controller Application
AEL-AI13	Modular Application for Electrotechnics (RLC Circuits, Electrostatics, Motors, Transformers, Lighting)
AEL-AI13-C	Modular Application for Electrotechnics (Motors)
AEL-EMRP	Electrical Machines Relays Protection Application
AEL-SERIN/CA-1KV	Computer Controlled Advanced Industrial Servo systems Application- 1 kW (for AC Motors)
AEL-MMRT	Motor Management Relays Application
AEL-PRTS	Protective Relaying Application
AEL-ACEMT	AC Electrical Motors Application *(Some options to study: more than 9 motors available)*
AEL-ACINA	Applications of AC Three-Phase Induction Motor of Squirrel Cage
AEL-ACDHA	Application of AC Dahlander Three-Phase Induction Motor
AEL-ACWRA	Application of AC Three-Phase Induction Motor of Wound Rotor
AEL-ACLA	Application of AC Linear Motor Operations
AEL-ACRLA	Application of AC Three-Phase Reluctance Motor
AEL-ACSPA	Applications of Asynchronous Single-Phase Motor with Split Phase
AEL-AI12	Modular Application (AC Motors)
AEL-IMSU	General Application of AC Induction Motor
AEL-ACEMA	AC Electrical Motors Applications *(Some options to study: more than 9 motors available)*
AEL-EEA	Alternators Study Application
AEL-EGMG24	Motor-Generator Group

DC Electrical Motors Applications

AEL-DCEMT	DC Electrical Motors Applications *(Some options to study: more than 5 motors available)*
AEL-DCSHT	DC Shunt Excitation Motor Application
AEL-DCSEA	Application of DC Series Excitation Motor
AEL-DCSHA	Applications of DC Shunt Excitation Motor
AEL-DCCOA	Applications of DC Compound Excitation Motor
AEL-DCSPA	Applications of DC Separately Excited Motor
AEL-DCGEA	Applications of DC Generators
AEL-DCPMA	Applications of DC Permanent Magnet Motor
AEL-DCBRA	DC Brushless Motor Application
AEL-DCEMA	DC Electrical Motors Applications *(Some options to study: more than 6 motors available)*
AEL-UMA	Universal Motor Application
AEL-STMA	Stepper Motor Application

Electrical Motors Faults Applications

AEL-ESAM	Faults Simulation Application in Electrical Motors
AEL-ESAT	Faults Simulation Application in Transformers

43.3 Ancient units. Electrical Machines Individual Units, to be configured by the end customer (CONFIGURABLE)

EMT-E Motors (Available several types of D.C. Motors and A.C. Motors)



EMT-E

Motors D.C.

EMT1	D.C. Independent Excitation Motor-Generator
EMT2	D.C. Series Excitation Motor-Generator
EMT3	D.C. Shunt Excitation Motor-Generator
EMT4	D.C. Compound Excitation Motor-Generator
EMT5	D.C. Shunt-Series Compound Excitation Motor
EMT12	Universal Motor (single-phase)
EMT15	D.C. Permanent Magnet Motor
EMT18	D.C. Brushless Motor
EMT19	Stepper Motor

Motors A.C.

EMT6	A.C. Synchronous Three-Phase Motor Alternator
EMT6B	Permanent magnets synchronous three-phase generator (24 Vac)
EMT7	Asynchronous Three-Phase Motor of squirrel cage
EMT7B	Asynchronous three-phase motor of squirrel cage (4 poles)
EMT7C	Asynchronous three-phase motor of squirrel cage (8 poles)
EMT8	Asynchronous Three-Phase Motor with Wound Rotor
EMT9	Dahlander Three-Phase Motor (two speeds)
EMT10	Asynchronous Three-Phase Motor of two Independent Speeds
EMT11	Asynchronous Single-Phase Motor with Starting Capacitor
EMT14	Repulsion motor, single-phase with short-circuited brushes
EMT16	Asynchronous Single-Phase Motor with Starting and Running Capacitor
EMT17	Three-phase motor of squirrel cage with "Y" connection
EMT20	Asynchronous Single-Phase Motor with Split Phase
EMT21	Three-Phase Reluctance Motor
EMT22	Single-Phase Shaded Pole Motor

AEL-4 Electromechanical Construction Laboratory

NEW




Compact Electrical Module


N-ALI01


Module Support

Transformers Construction

Dissectible and Configurable Electrical Motors Application

NEW AEL-EMT-KIT Advanced Dissectible and Configurable Electrical Machines

Wiring & Construction of Motors, Generators and Transformers

NEW AEL-MGTC Motors, Generators and Transformers Construction Application

AEL-TPTC Three-Phase Transformer Construction Application

Disassembly Motors

AEL-DMG-KIT Disassembly Motors-Generators Application

AEL-DIM-KIT 4 Disassembly Induction Motors Application



Electrical Motors Construction

Cut Away Electrical Motors

EMT1-S	Cut away DC independent excitation motor-generator
EMT2-S	Cut away DC series excitation motor-generator
EMT3-S	Cut away DC shunt excitation motor-generator
EMT4-S	Cut away DC compound excitation motor-generator
EMT5-S	Cut away DC shunt-series compound excitation motor
EMT6-S	Cut away AC synchronous three-phase motor alternator
EMT7-S	Cut away asynchronous three-phase motor of squirrel cage (single)
EMT8-S	Cut away asynchronous three-phase motor with wound rotor
EMT9-S	Cut away Dahlander three-phase motor
EMT10-S	Cut away asynchronous three-phase motor of two independent speeds
EMT11-S	Cut away asynchronous single-phase motor with starting capacitor
EMT12-S	Cut away universal single-phase motor
EMT14-S	Cut away repulsion motor, single-phase with short circuited brushes
EMT15-S	Cut away DC permanent magnet motor
EMT16-S	Cut away asynchronous single-phase motor with starting and running capacitor
EMT17-S	Cut away asynchronous three-phase motor of squirrel cage with "Y" connection
EMT18-S	Cut away DC Brushless motor
EMT19-S	Cut away stepper motor
EMT20-S	Cut away asynchronous single-phase motor with split phase
EMT21-S	Cut away three-phase reluctance motor
EMT22-S	Cut away single-phase shaded pole motor

Transparent and Functional Electrical Motors

AEL-FTM	Transparent and Functional Motors Application
AEL-EMT1-T	Transparent and functional DC independent excitation motor-generator
AEL-EMT2-T	Transparent and functional DC series excitation motor-generator
AEL-EMT3-T	Transparent and functional DC shunt excitation motor-generator
AEL-EMT4-T	Transparent and functional DC compound excitation motor-generator
AEL-EMT5-T	Transparent and functional DC shunt-series compound excitation motor-generator
AEL-EMT6-T	Transparent and functional AC synchronous three-phase motor alternator
AEL-EMT7-T	Transparent and functional asynchronous three-phase motor of squirrel cage (single)
AEL-EMT8-T	Transparent and functional asynchronous three-phase motor with wound rotor
AEL-EMT9-T	Transparent and functional Dahlander three-phase motor (two speeds)
AEL-EMT10-T	Transparent and functional asynchronous three-phase motor of two independent speeds
AEL-EMT11-T	Transparent and functional asynchronous single-phase motor with starting capacitor
AEL-EMT12-T	Transparent and functional universal single-phase motor.
AEL-EMT14-T	Transparent and functional repulsion motor, single-phase with short circuited brushes
AEL-EMT16-T	Transparent and functional asynchronous single-phase motor with starting and running capacitor
AEL-EMT17-T	Transparent and functional asynchronous three-phase motor of squirrel cage with "Y" connection
AEL-EMT20-T	Transparent and functional asynchronous single-phase motor with split phase
AEL-EMT21-T	Transparent and functional three-phase reluctance motor
AEL-EMT22-T	Transparent and functional single-phase shaded pole motor

45. Electricity. POWER SYSTEMS AND SMART GRID TECHNOLOGY

AEL-5 Power Systems and Smart Grid Technology Laboratory



Power Generation and Renewable Energies Applications

Basic Synchronization Applications

AEL-MOSC	Manual Synchronization Application

Advanced Synchronization Applications

AEL-EESD	Automatic Digital Synchronization Application

Wind Energy Applications

AEL-WPP	Wind Power Plants with Double Feed Induction Generator Application
AEL-WPT	Wind Power Application with Permanent Magnets Synchronous Generator
AEL-WPPI	Wind Power Plants with Induction Generator Application

Photovoltaic Energy Applications

NEW AEL-SAPV	Stand-Alone Photovoltaic Application
NEW SAPUC	Computer Controlled Stand-Alone Water Pumping Application
AEL-PHVG	Photovoltaic Application with Connection to Grid

Fuell Cell Energy Applications

AEL-FCLL	Fuel Cell Energy Application
NEW AEL-SGSB	Smart Grids Battery Storage Application

Power Plants Applications

AEL-EPP	Energy Power Plants Application
NEW AEL-HPPP	Hydroelectric Power Plants Application with Pelton Turbine
NEW AEL-MEPD	Marine Electrical Power Distribution Application
TDEGC	Computer Controlled Diesel Engine Electrical Generator Application

Basic Smart Grid Power Systems

AEL-BSG	Basic Smart Grid Application
AEL-BSGC	Computer Controlled Smart Grids Application

Microgrid Series

AEL-MGR	Micro-Grids Power Application

Distribution and Transmission Applications

Distribution and Transmission Applications

AEL-AE1A	Aerial Line Model Application
AEL-TI-01	Analysis of Three-phase Power Lines Application
AEL-TI-02	Distribution Transformer with Motor Regulation Application
AEL-TI-03	Arc suppression Coil Application
AEL-TI-04	Underground Transmission lines Application
AEL-TI-05	Parallel and Series Transmission Lines Application
AEL-TI-06	Analysis of flow power on Transmission Lines Application
AEL-TI-07	Transmission Application with Synchronous Generator
AEL-STT-01	Switching in Transmission and Distribution Substations Application
AEL-STT-02	Switching Substation Protection Application
AEL-HVDC	High Voltage DC Transmission Lines

Loads Applications

Basic Load Controller Applications

AEL-MRPC	Manual Reactive Power Compensation Application
AEL-ARPC	Automatic Reactive Power Compensation Application
AEL-AE6	Energy Counters Control Trainer
AEL-EECFP	Advanced Power Factor Compensation Application
AEL-APFC	Single-phase Automatic Power Factor Compensation Application
AEL-DLT	Dynamic Loads Application

Advanced Loads Control

AEL-FUSG	Final User Smart Grid Application
AEL-FUSG-M	Final User Smart Grid-Smart Meter Application
AEL-FUSG-E	Final User Smart Grid-Smart Energy Application
AEL-FUSG-N	Final User Smart Grid-Net Metering Application
AEL-FUSG-LO	Smart Grid Loads

Protection Relays Applications

Fundamental Concepts

AEL-CTFP	Current Transformer Fundaments Application for Protections Devices
AEL-VTFP	Voltage Transformer Fundaments Application for Protection Devices

Protection Relays Applications

AEL-ERP	Protection Relays Test Application
ERP-CBM	Cybersecurity Application

Protection Systems for Generators

AEL-GPRE	Generator Protection Relay Application

Protection Systems for Transmission and Distribution Lines

AEL-TPT-01	Overcurrent Time Protection Relay Application for Lines
AEL-TPT-02	Directional Overcurrent Protection Relay Application for Transmission Lines
AEL-TPT-03	Overvoltage and Undervoltage Protection Relay Application
AEL-TPT-04	Directional Power Protection Relay Application
AEL-TPT-05	Earth-Fault Voltage Protection Relay Application
AEL-TPT-06	Parallel Transmission Lines Protection Relay Application
AEL-TPT-07	High Speed Distance Protection Relay Application

Cybersecurity Applications

ERP-CBM	Cybersecurity Application

Available "Smart Grid Power Systems"

APS12	Advanced Mechanical, Electrical and Smart Grid Power Systems (Utilities)
AEL-MPSS	Modular Electrical and Smart Grid Power Systems (Utilities)
AEL-MPSS-01S	Complete Smart Grid Power Systems, with Automatic Control Generation, Transmission Line, Loads and Protection Relays, with SCADA
AEL-MPSS-02S	Complete Smart Grid Power Systems, with Automatic Control Generation, Transmission Line and Loads, with SCADA
AEL-MPSS-03S	Complete Smart Grid Power Systems, with Manual Control Generation, Transmission Line, Loads and Protection Relays, with SCADA
AEL-MPSS-04S	Complete Smart Grid Power Systems, with Manual Control Generation, Transmission Line and Loads, with SCADA
AEL-CPSS-01S	Smart Grid Power Systems Application, with Automatic Control generation, Transmission Line and Loads, with SCADA
AEL-CPSS-02S	Smart Micro-Grids Power Systems Application, with Automatic Control Generation and Loads, with SCADA
AEL-CPSS-03S	Smart Grid Power Systems Application with Two parallel Generators, Two Distribution Lines and Loads, with SCADA

ELECTRICITY EXPANSIONS AREA 40

EDIBON PATENT

All units in this area using SCADA
can additionally use:

SOFTWARE

Interactive Computer Aided Instruction Software System

ICAI

- Classroom Manager
- Student Labsoft
  - Practices
  - Calculations
  - Graphics
  - Results

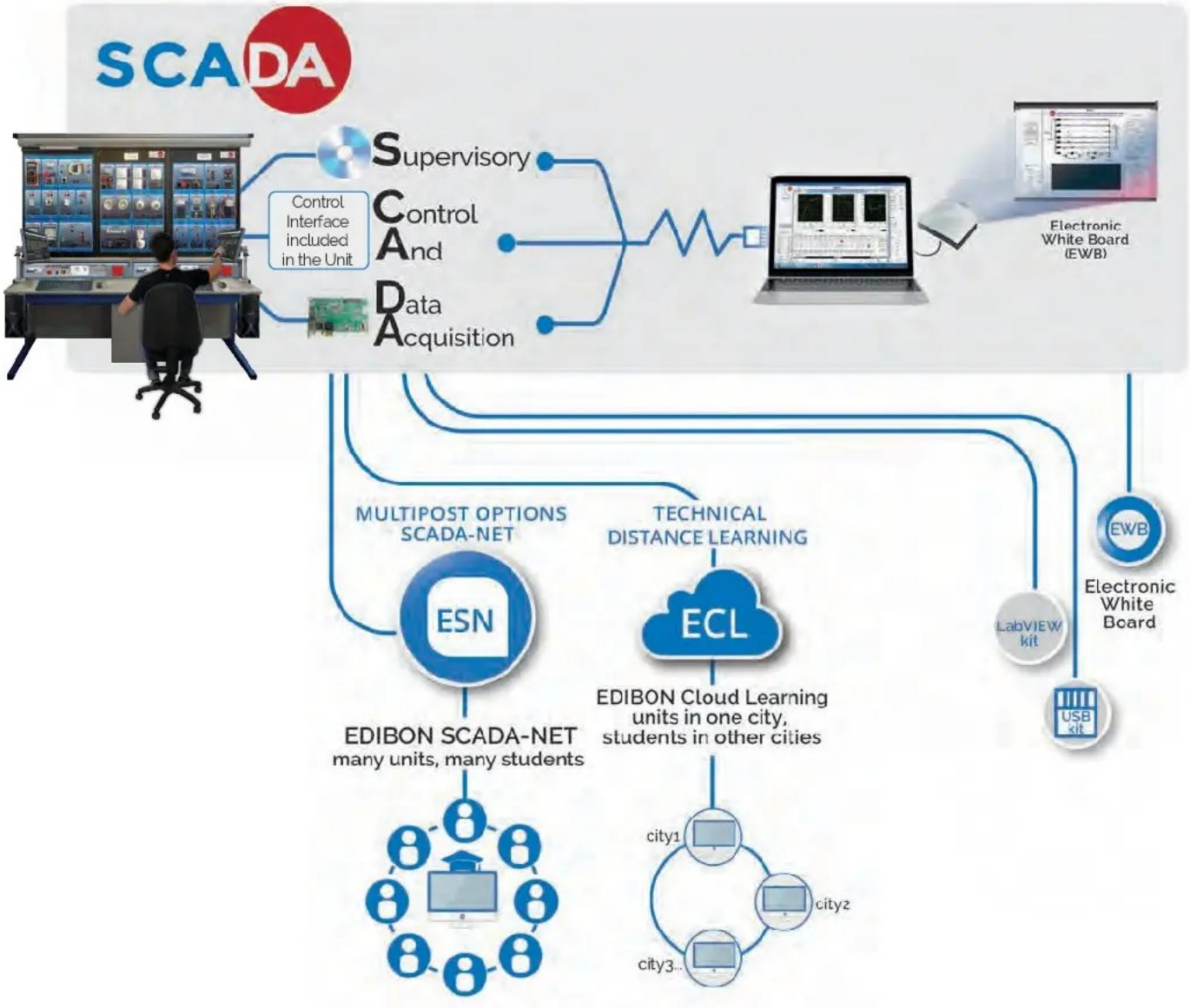
FSS

Faults Simulation System

DATA ACQUISITION

DAS

Data Acquisition Software



Details in pages: 101, 102, 103 and 104

51. Energy. SMART GRID AND POWER SYSTEMS
52. Energy. GRIDS
53. Energy. GENERATION SYSTEMS
54. Energy. PROTECTION RELAYS UNITS
55. Energy. CIBERSECURITY
56. Energy. HIGH VOLTAGE
57. Energy. RENEWABLE ENERGIES
58. Energy. SAVING ENERGY

51. Energy. SMART GRID AND POWER SYSTEMS

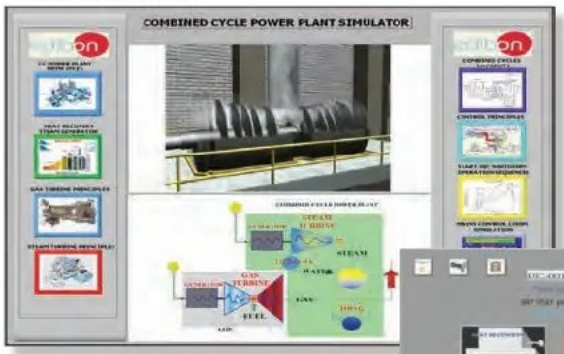
APS12 Advanced Mechanical, Electrical and Smart Grid Power Systems **(Utilities)**

EDIBON PATENT



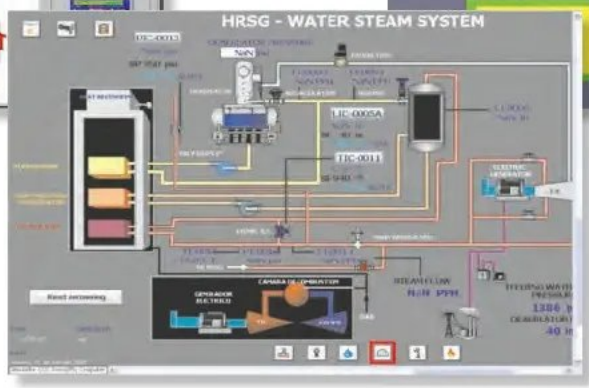
Mechanical Power plants and Energy system with SCADA II

HUB II Screen 1
Main menu screen



HUB II Screen 2
Mains Power Plant Control Loops Simulation



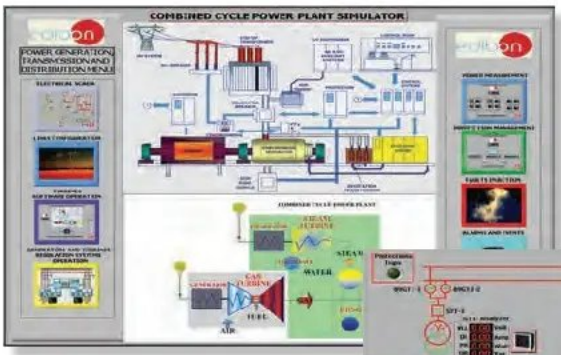


REAL Power System and Smart Grid Operation

HUB II Screen 3
General state Power Plant diagram

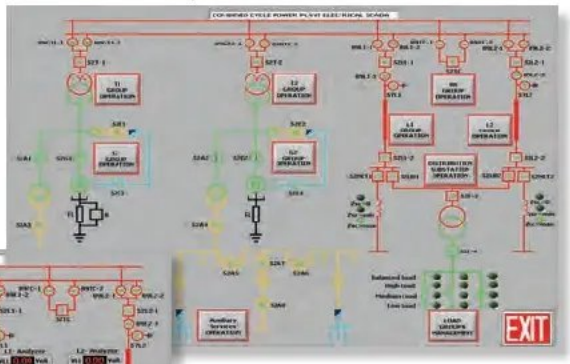
HUB I Screen 1

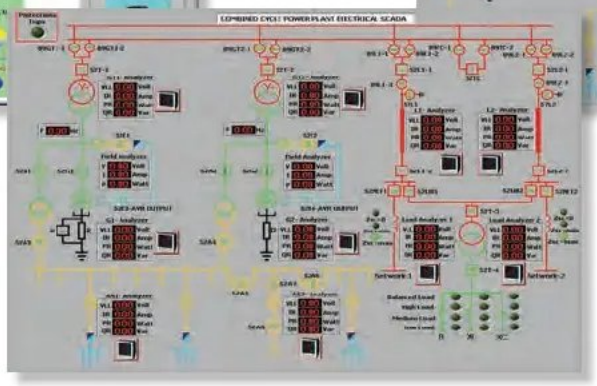
Main menu screen



HUB I Screen 2

Electrical SCADA operation screen

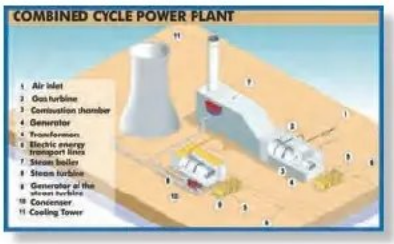


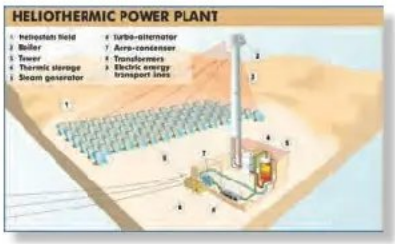


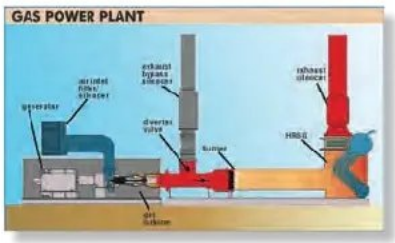
HUB I Screen 3

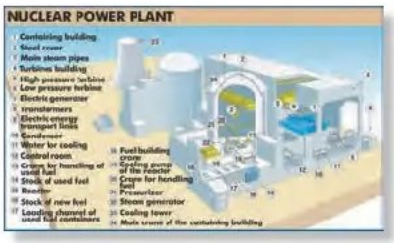
Power plant simulator one line diagram management screen

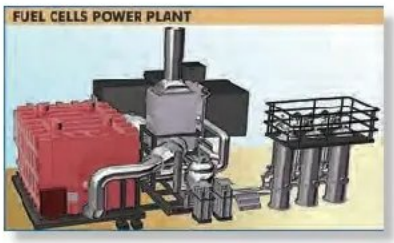
Available Power Plants and Energy Systems Simulation with SCADA

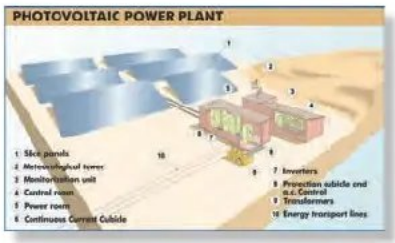


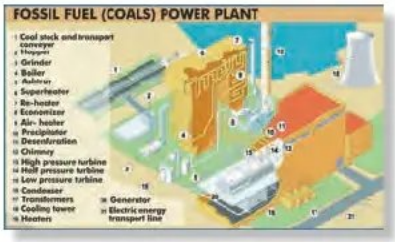


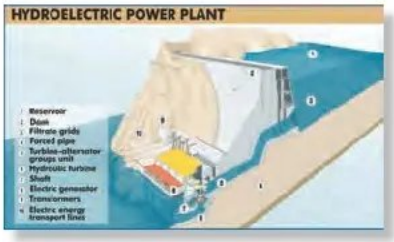


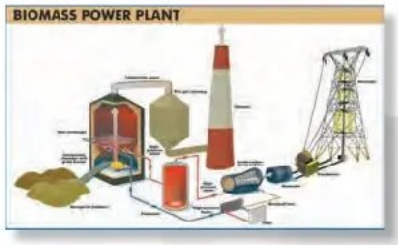


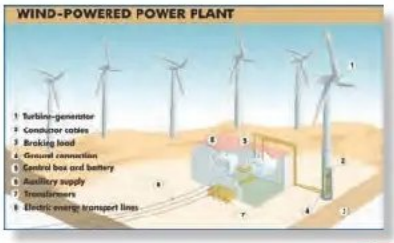




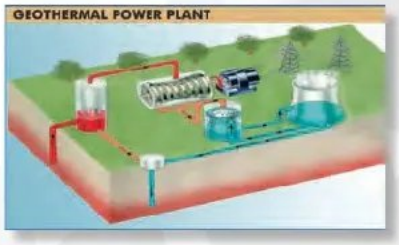












All these SCADA Power Plants can be linked to the Electrical SCADA

Other available unit:

ERP-CBM Cybersecurity Application

51. Energy. SMART GRID AND POWER SYSTEMS

AEL-MPSS Modular Electrical and Smart Grid Power Systems **(Utilities)**

1. Generation Systems
2. Transmission/Distribution Systems
3. Loads Systems



285 variables can be controlled in MPSS unit

Generation Systems

Automatic Control Generation Systems Options

Synchronization Studies

AEL-GCA-P-02S	Generation System with Automatic Control of Synchronous Generator, Synchronization and Protection Relays, with SCADA
AEL-GCA-02S	Generation System with Automatic Control of Synchronous Generator and Synchronization, with SCADA
AEL-GCA-P-03S	Automatic Synchronization System of Synchronous Generator with Servomotor and Protection Relays, with SCADA
AEL-GCA-03S	Automatic Synchronization System of Synchronous Generator with Servomotor, with SCADA

Isolated Grid Studies

AEL-GCA-P-01S	Generation System with Automatic Control of Synchronous Generator in an Isolated Grid and Protection Relays, with SCADA
AEL-GCA-01S	Generation System with Automatic Control of Synchronous Generator in an Isolated Grid, with SCADA

Manual Control Generation Systems Options

Synchronization Studies

AEL-GCM-P-02S	Generation System with Manual Control of Synchronous Generator, Synchronization and Protection Relays, with SCADA
AEL-GCM-02S	Generation System with Manual Control of Synchronous Generator and Synchronization, with SCADA
AEL-GCM-P-03S	Manual Synchronization System of Synchronous Generator with Servomotor and Protection Relays, with SCADA
AEL-GCM-03S	Manual Synchronization System of Synchronous Generator with Servomotor, with SCADA

Isolated Grid Studies

AEL-GCM-P-01S	Generation System with Manual Control of Synchronous Generator in an Isolated Grid and Protection Relays, with SCADA
AEL-GCM-01S	Generation System with Manual Control of Synchronous Generator in an Isolated Grid, with SCADA

Additional Generation Systems Options

AEL-GAD-01S	Pumping Power Plant, with SCADA
TDEGC	Computer Controlled Diesel Engine Electricity Generator
AEL-GAD-03S	Automatic Generation System with Two Parallel Generators, with SCADA
AEL-GAD-04S	Hydroelectric Power Plant, with SCADA

Transmission/Distribution Systems

Transmission and Distribution Power Systems Options

One Line and Regulation Transformer Studies

AEL-T-P-01S	Transmission and Distribution Power Systems with Regulation Transformer and Protection Relays, with SCADA
AEL-T-01S	Transmission and Distribution Power Systems with Regulation Transformer, with SCADA

Two Aerial Line Studies

AEL-T-P-02S	Transmission and Distribution Power Systems with Two Aerial Parallel Lines and Protection Relays, with SCADA
AEL-T-02S	Transmission and Distribution Power Systems with Two Aerial Parallel Lines, with SCADA

Additional Studies Possibilities

AEL-T-P-04S	Electrical Distribution Grids Trainer with Protection Relays, with SCADA.
AEL-T-04S	Electrical Distribution Grids Trainer, with SCADA
AEL-T-03S	Power Flow Control in Meshed Networks, with SCADA

Loads Systems

Conventional Loads options

AEL-C-P-02S	Loads Systems with Automatic Power Factor Compensation and Protection Relays, with SCADA
AEL-C-02S	Loads Systems with Automatic Power Factor Compensation, with SCADA
AEL-C-P-01S	Loads Systems with Manual Power Factor Compensation and Protection Relays, with SCADA
AEL-C-01S	Loads Systems with Manual Power Factor Compensation, with SCADA

Special Loads options

AEL-C-03S	Complex Load, Power Consumption Measurement and Peak Load Monitoring, with SCADA

Modular Smart Grid Power Systems Simulators (complete options)

AEL-MPSS-01	Complete Smart Grid Power Systems, with Automatic Control Generation, Transmission Line, Loads and Protection Relays, with SCADA
AEL-MPSS-02	Complete Smart Grid Power Systems, with Automatic Control Generation, Transmission Line and Loads, with SCADA
AEL-MPSS-03	Complete Smart Grid Power Systems, with Manual Control Generation, Transmission Line, Loads and Protection Relays, with SCADA
AEL-MPSS-04	Complete Smart Grid Power Systems, with Manual Control Generation, Transmission Line and Loads, with SCADA

Other available units:

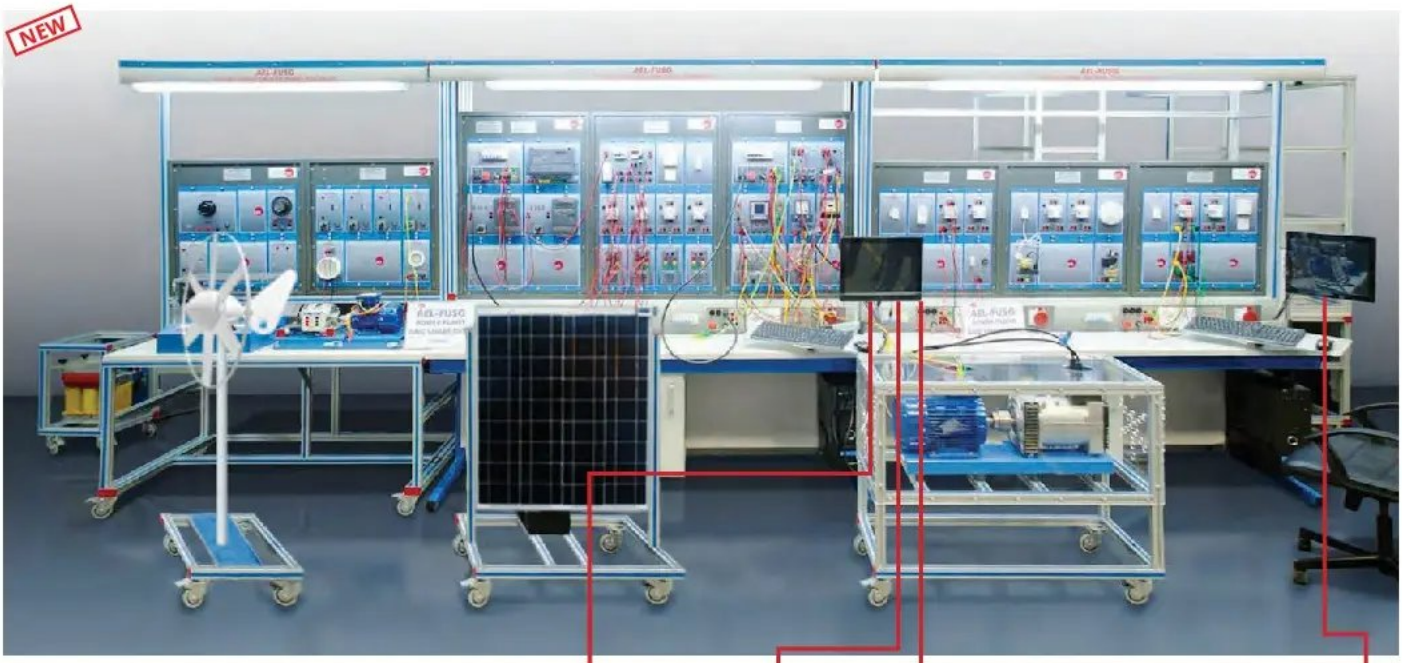
ERP-CBM Cybersecurity Application

TDEGC Computer Controlled Diesel Engine Electrical Generator Application

51. Energy. SMART GRID AND POWER SYSTEMS

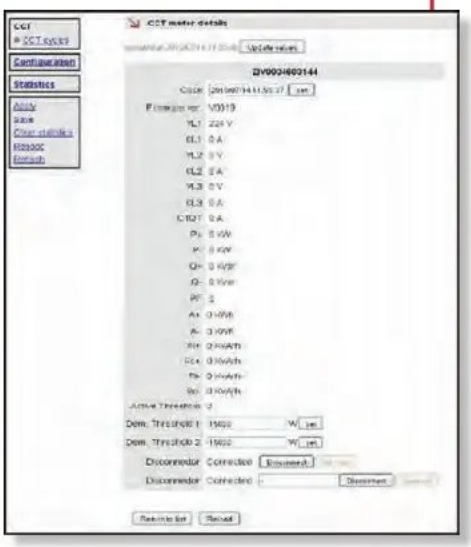
AEL-FUSG Final User Smart Grid Application

NEW

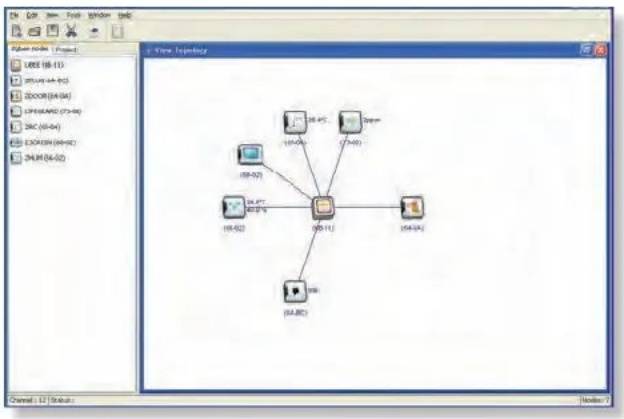




Measurement details, load profiles, monthly billing, inmediate profiles, daily billing

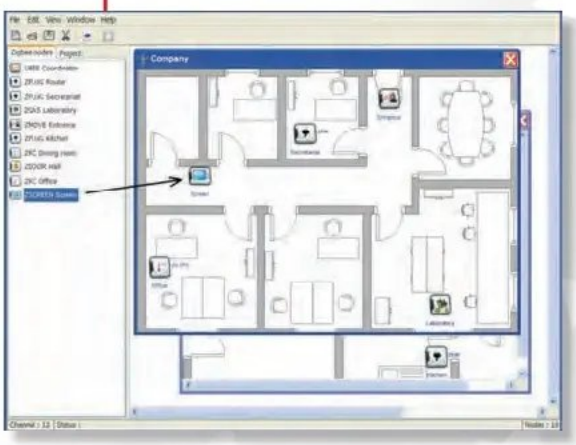


Instantaneous measurements, power demand threshold



This screen shows the virtual devices programming

AEL-FUSG works:
- stand alone
and / or
- with APS12 unit
- with MPSS unit



This screen shows a home virtual plan with the devices distribution

52. Energy. GRIDS

52.1 Cibersecurity

ERP-CBM Cybersecurity Application

52.2 Mechanical Generators

TDEGC Computer Controlled Diesel Engine Electrical Generator Application

52.3 Micro Grid Power System

AEL-CPSS-02S Smart Micro-Grids Power Systems Application, with Automatic Control Generation and Loads, with SCADA

NEW



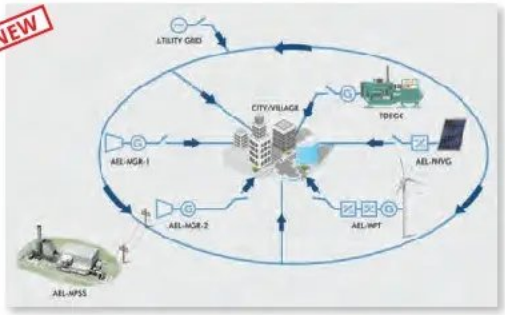
Other available unit:

AEL-MEPD Marine Electrical Power Distribution Application

52.4 Micro Grid Series

AEL-MGR Micro-Grids Power Application, formed by: **AEL-MGR-1, AEL-MGR-2, AEL-WPT, AEL-PHVG, TDEGC**

NEW



Other available units:

AEL-ESS Electrical Synchronization Systems Series

DC GRID Direct Current Grids

FACTS Flexible Alternate Current Transmission Systems

AEL-BSGC Computer Controlled Smart Grids Application

53.Energy. GENERATION SYSTEMS

TDEGC Computer Controlled Diesel Engine Electrical Generator Application

NEW



(for more Generation Systems see: **AEL-5, AEL-MPSS**)

54. Energy. PROTECTION RELAYS UNITS

ERP Protection Relays Test Application



ERP-UB. Protection Relays Test Unit

Protection Relays Modules



ERP-SFT
Overcurrent and Earth Fault Protection Relay Module



ERP-SDND
Directional/Non directional Overcurrent Protection Relay Module



ERP-PDF
Differential Protection Relay Module



ERP-MA
Feeder Management Relay Module



ERP-PD
Distance Protection Relay Module



ERP-GMGPT
Motor-Generator with Protection Relays and Automatic Regulation

NEW



ERP-CBM
Cybersecurity Application

55. Energy. CIBERSECURITY

ERP-CBM Cybersecurity Application

NEW



56. Energy. HIGH VOLTAGE

HVLS High Voltage Laboratory System

NEW



57. Energy. RENEWABLE ENERGIES

57.1 Photovoltaic

EESFC Computer Controlled Photovoltaic Solar Energy Unit



AEL-PHVG Photovoltaic Application with Connection to Grid

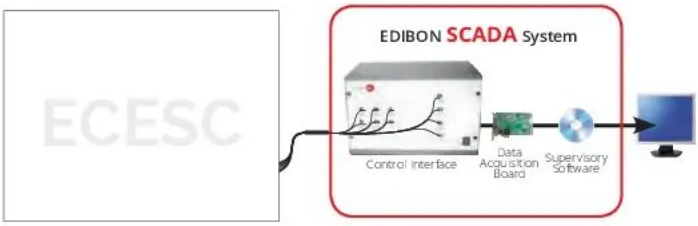


Other available unit:

NEW **SAPUC** Computer Controlled Stand-Alone Water Pumping Application

57.2 Solar Energy Collector

ECESC Computer Controlled Focusing Solar Energy Collector



57.3 Solar Thermal

EESTC Computer Controlled Thermal Solar Energy Unit



57.4 Wind

EEEC Computer Controlled Wind Energy Unit



AEL-WPT Wind Power Application with Permanent Magnets Synchronous Generator

NEW



NEW Other available unit:

AEL-WPPI Wind Power Plants with Induction Generator Application

SAPUC Computer Controlled Stand-Alone Water Pumping Unit

AEL-WPP Wind Power Plants with Double Feed Induction Generator Application

NEW



57.5 Fuell Cells

EC6C Computer Controlled PEM Fuel Cell Advanced Unit



57.6 Biofuells

EBEC Computer Controlled Bioethanol Process Unit



EBGC Computer Controlled Biogas Process Unit



EBDC Computer Controlled Biodiesel Process Unit



EBMC/A Advanced Computer Controlled Biomass Process Unit



57.7 Sea

EOMC Computer Controlled Waves Energy Unit



EMMC Computer Controlled Tidal Energy Unit



ECMC Computer Controlled Submarine Currents Energy Unit



ETMC Computer Controlled Ocean Thermal Energy Unit



57.8 Geothermal

EG5C Computer Controlled Geothermal (low enthalpy) Energy Unit



EG6C Computer Controlled Geothermal (high enthalpy) Energy Unit



58.1 Energy Utilization

THIBAR22C Computer Controlled Heat Pump + Air Conditioning + Refrigeration Unit with Cycle Inversion Valve (two condensers (water and air) and two evaporators (water and air))



SCE Computer Controlled Generating Stations Control and Regulation Simulator



TORC Computer Controlled Organic Rankine Cycle Unit

NEW



TORC/A Advanced Computer Controlled Organic Rankine Cycle Unit

NEW



TVCC Computer Controlled Combustion Laboratory Unit



TMSC Computer Controlled Stirling Motor



58.2 Energy Generation

Hydraulic Turbines (Conventional)

TPC Computer Controlled Pelton Turbine



TFC Computer Controlled Francis Turbine



TKC Computer Controlled Kaplan Turbine



EE-KIT Kit of Conversion and Consumption Simulation (AC)

NEW



Hydraulic Turbines (Special)

TFRC Computer Controlled Radial Flow Turbine



TFAC Computer Controlled Axial Flow Turbine



HTRC Computer Controlled Experimental Reaction Turbine



HTIC Computer Controlled Experimental Impulse Turbine



Thermal Turbines

TGDEC Computer Controlled Two-Shaft Gas Turbine



TGDEPC Computer Controlled Two-Shaft Gas Turbine/Jet Engine



TGFAC Computer Controlled Axial Flow Gas Turbine/Jet Engine



TTVC Computer Controlled Steam Turbine

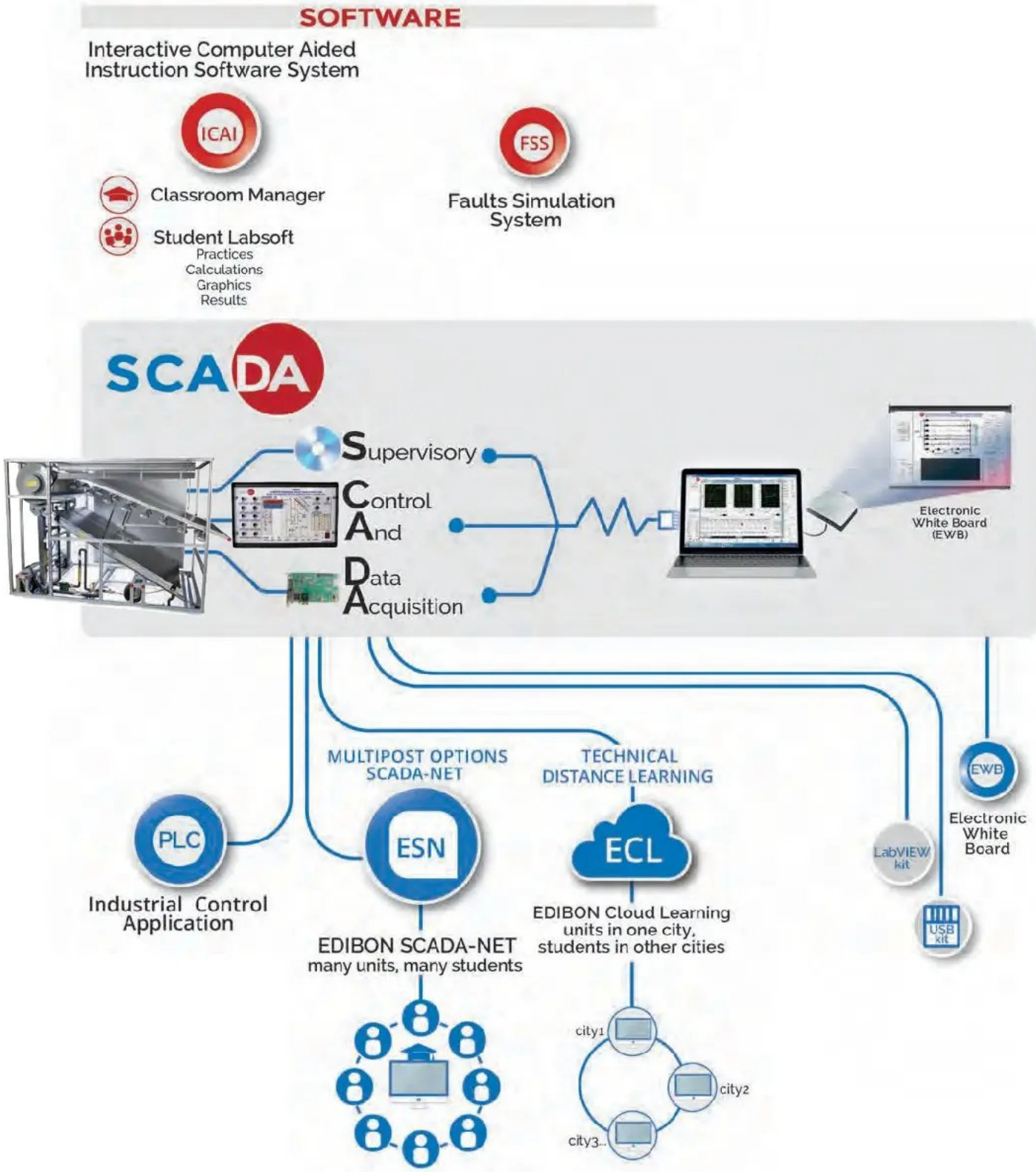


HTVC Computer Controlled Solar/Heat Source Vapour Turbine



ENERGY EXPANSIONS AREA 50

All units in this area using SCADA
can additionally use:



Details in pages: 101, 102, 103 and 104

more information:
www.edibon.com>products>mechatronics

61. Mechatronics. MECHATRONICS
62. Mechatronics. PLC AUTOMATION
63. Mechatronics.PLC COMPUMECHATRONICS

MECHATRONICS, AUTOMATION & COMPUMECHATRONICS

MECHATRONICS

- CONTROL
  - Theoretical Practical Fundamentals
  - Industrial System Applications
  - Industrial Controllers
- ELECTRONICS
  - Sensors & Electronic Instrumentation
  - Power & Industrial Electronics
- HYDRAULICS & PNEUMATICS
  - Pneumatics
  - Hydraulics



PLC AUTOMATION

- PLC OPTIONS
  - AE-PLC
- HARDWARE EMULATORS
  - Traffic & Parking
  - Small Industrial Machines
  - Small Industrial Systems
  - Big Industrial Systems
  - Simple Control Applications
  - Industrial Control Applications
  - Thermal Applications
  - Electrical Machines Control
  - Alarms/Current
- INSTRUMENTATION & CONTROL
  - Vibration & Deformation
  - Temperature
  - Pressure
  - Flow
  - Ovens
  - Level
  - Tachometer
  - Proximity
  - Pneumatics
  - Lights
- PLC WORKSTATIONS APPLICATIONS
  - Pieces Feeding Workstation Applications
  - Processing Workstation Applications
  - Rotary Table Workstation Applications
  - Pieces Manipulator Workstation Applications
  - Robotic Workstation Applications
  - Pieces Identification Workstation Applications
  - CNC Workstation Applications
  - Storing Workstation Applications
- INDUSTRIAL APPLICATIONS
  - Control Applications
  - Renewable Energy Applications
  - Power Applications
  - Smart Grid Applications
- FLEXIBLE MANUFACTURING SYSTEM (FMS)
  - Systems
  - Automation Software





PLC COMPUMECHATRONICS

- ELECTRICITY
- ENERGY
- RENEWABLE ENERGY
- SAVING ENERGY
- MECHANICS
- FLUID MECHANICS
- THERMODYNAMICS & THERMOTECHNICS
- CHEMICAL ENGINEERING
- FOOD & WATER TECHNOLOGIES
- ENVIRONMENT
- PROCESS CONTROL



61. Mechatronics. MECHATRONICS

61.1 Control

Theoretical-Practical Fundamentals

RYC Computer Controlled Teaching Unit for the Study of Regulation and Control



NEW **Available application modules**

RYC-BB Ball and Beam Module	RYC-pH pH Control Module
RYC-BP Ball and Plate Control Module	RYC-PI Inverted Pendulum Control Module
RYC-C Flow Rate Control Module	RYC-SM DC Servo Motor Module
RYC-CLM Magnetic Levitation Control Module	RYC-T Temperature Control Module
RYC-CP Position Control Module	RYC-TAG Water Flow Temperature Control Module
RYC-I Luminosity Control Module	RYC-TAR Air Flow Temperature Control Module
RYC-N Level Control Module	
RYC-P Pressure Control Module	



UCPCNCV Computer Controlled Process Control System (with electronic control valve + pneumatic control valve + speed controller), formed by:



Sets (sensor and elements + computer control software) used with base unit



Available versions:

- **UCP** Computer Controlled Process Control System (with electronic control valve)
- **UCPCN** Computer Controlled Process Control System (with pneumatic control valve)
- **UCPCV** Computer Controlled Process Control System (with speed controller)
- **UCP-P** Computer Controlled Process Control Unit for the study of Pressure (Air)

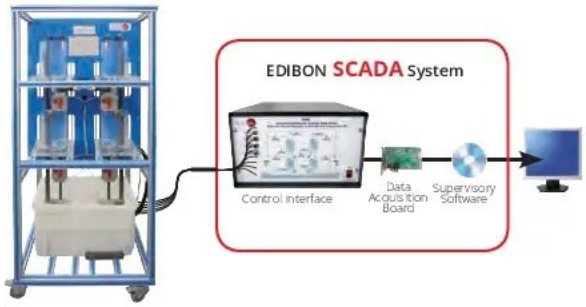
CPIC Computer Controlled Process Control Plant with Industrial Instrumentation and Service Module (Flow, Temperature, Level and Pressure)



Available versions:

- **CPIC-C** Computer Controlled Process Control Plant with Industrial Instrumentation and Service Module (only Flow)
- **CPIC-T** Computer Controlled Process Control Plant with Industrial Instrumentation and Service Module (only Temperature)
- **CPIC-N** Computer Controlled Process Control Plant with Industrial Instrumentation and Service Module (only Level)
- **CPIC-P** Computer Controlled Process Control Plant with Industrial Instrumentation and Service Module (only Pressure)

CTAC Computer Controlled Coupled Tanks System



Other available units:

- **CBFSC** Computer Controlled Fault Finding in Control Systems Unit
- **CMDVC** Computer Controlled Multivariable Control Unit for Vaccum Degassing
- **CMDAC** Computer Controlled Multivariable Control Unit for Stirrer Tank

Industrial Controllers

CECI Industrial Controllers Trainer



CRCI Industrial Controllers Networking



CEAB Trainer for Field Bus Applications



CEAC Controller Tuning Trainer



61.2 Electronics

Sensors & Electronic Instrumentation

SAIT Transducers and Instrumentation Trainer



BS Modular System for the Study of Sensors



Accessories

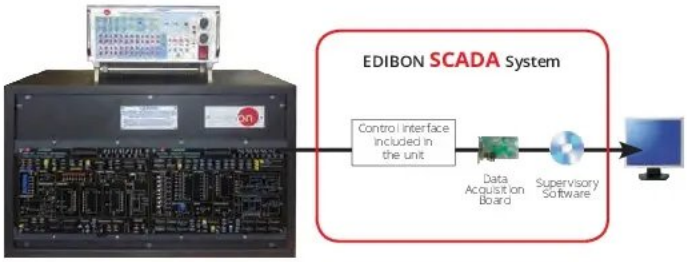
BSPC	Computer Controlled Basic Unit
BSUB	Base Unit
BS1	Vibration and/or Deformations Test Module
BS2	Temperature Test Module
BS3	Pressure Test Module
BS4	Flow Test Module
BS5	Ovens Test Module
BS6	Liquid Level Test Module
BS7	Tachometer Test Module
BS8	Proximity Test Module
BS9	Pneumatic Test Module
BS10	Light Test Module



TDS Computer Controlled Teaching Unit for the Study of Digital Signal Processing



CADDA Computer Controlled Teaching Unit for the Study of Analog/Digital and Digital/Analog Converters

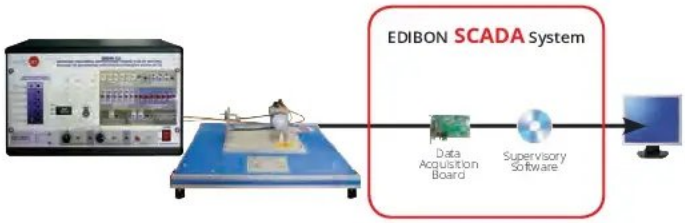


Power & Industrial Electronics

TECNEL Computer Controlled Teaching Unit for the Study of Power Electronics (with IGBTS) (Converters: DC/AC+AC/DC+DC/DC+AC/AC)



SERIN/CA Computer Controlled Advanced Industrial Servosystems Trainer (for AC Motors)



SERIN/CC Computer Controlled Advanced Industrial Servosystem Trainer (for DC Motors)



61.3 Hydraulics & Pneumatics

Pneumatics

AE-NS Pneumatic and Electro-Pneumatic Trainer



AE-V Vacuum Technology Trainer



SAC Silent Air Compressor Unit



Hydraulics

AE-HD Oleo-Hydraulic and Electro-Hydraulic Trainer



HPU Hydraulic Power Unit



62. Mechatronics. PLC AUTOMATION

62.1 PLC Options

AE-PLC

AE-PLC-PAN	PANASONIC PLC Application
AE-PLC-SIE	SIEMENS PLC Application
AE-PLC-AB	ALLEN BRADLEY PLC Application
AE-PLC-MIT	MITSUBISHI PLC Application
AE-PLC-OMR	OMRON PLC Application



62.2 Hardware Emulators



Traffic & Parking

N-EM-CST	Traffic Signal Control
N-EM-AV	Car Parking
N-EM-AG2Z	Two Zones Parking Garage

Small Industrial Machines

N-EM-CA	Elevator Control
N-EM-CLA	Automatic Washing Machine Control
N-EM-MB	Drinks Machine
N-EM-MBC	Hot Drinks Machine
N-EM-CB	Pump Control
N-EM-MA	Embossing Machine

Small Industrial Systems

N-EM-ST	Drilling System
N-EM-SBAR	Dirty-Water Pump System
N-EM-SBP	Pump System (Pressure)
N-EM-SL	Cleaning System
N-EM-SALL	Automatic Filling System
N-EM-SBT	Conveyor Belts System
N-EM-SCCT	Conveyor Charging System
N-EM-SCA	Canalization System
N-EM-SDT	Pipe Bending System
N-EM-PAE	Automatic Stamping Press

Big Industrial System

N-EM-PLLT	Filling Process of Tanks
N-EM-SCC	Collecting Belt Conveyor
N-EM-MCC	Mails Allocation Machine
N-EM-RAC	Compressed Air Network
N-EM-TC	Coal Treatment
N-EM-PELE	Packing Line and Bottling Plant

Simple Control Applications

N-EM-CA2P	Two-Doors Access Control
N-EM-CI	Fire Control
N-EM-CP	Proximity Control (security)
N-EM-CCO	Sluice Gate Control
N-EM-CNC	Level and Flow Control
N-EM-CNTA	Water Tower Level Control
N-EM-CF	Photo Control
N-EM-CMM	Molding Machine Control
N-EM-CPOS	Position Control
N-EM-CS	Silo Control
N-EM-CACV	Vehicle Feeding & Loading Control

Industrial Control Applications

N-EM-ACC	Feeding and Loading Control
N-EM-CML	Liquids Mixing Control
N-EM-CME	Mixer Control
N-EM-CR	Reactor Control
N-EM-CCP	Count and Position Control
N-EM-CL	Rolling Mill Control
N-EM-CTRA	Workcell Application
N-EM-CTI	Tower Lighting Control Module

Thermal Applications

N-EM-AC	Buffer Storage
N-EM-RT	Temperature Regulation
N-EM-CSC	Heating System Control
N-EM-CSV	Ventilation System Control

Electrical Machines Control

N-EM-M	Motor Control
N-EM-MPP	Stepper Motor Control
N-EM-MET	Star-Delta Connection
N-EM-MCETI	Reversing Star-Delta Connection
N-EM-MD	Dahlander Motor Circuit
N-EM-M2BS	Motor with 2 separate Windings
N-EM-MAC	Starting a Wound - Rotor Motor

Alarms / Current

N-EM-AN	Annunciator
N-EM-SLU	Running Lights
N-EM-CPR	Reactive Current Compensation
N-EM-MCI	Reversing Contactor

62.3 Instrumentation & Control



Vibration & Deformation

PLC-BS1	Vibration and/or Deformation Test Module

Temperature

PLC-BS2	Temperature Test Module for PLC

Pressure

PLC-BS3	Pressure Test Module for PLC

Flow

PLC-BS4	Flow Test Module for PLC

Ovens

PLC-BS5	Ovens Test Module for PLC

Level

PLC-BS6	Liquid Level Test Module for PLC

Tachometer

PLC-BS7	Tachometers Test Module for PLC

Proximity

PLC-BS8	Proximity Test Module for PLC

Pneumatics

PLC-BS9	Pneumatic Test Module for PLC

Lights

PLC-BS10	Light Test Module for PLC

62.4 PLC Workstations Applications

Pieces Feeding Workstations Applications

AE-PLC-APS	Pieces Feeder Workstation
AE-PLC-A	Feeding Workstation for Pieces
AE-PLC-MA	Multiple Pieces Feeder Workstation
AE-PLC-DS	Pieces Distributor Workstation

Processing Workstations Applications

AE-PLC-M	Mounting Workstation
AE-PLC-P	Automatic Pressing Workstation
AE-PLC-AT	Automatic Screw Workstation
AE-PLC-MEMB	Bottling Workstation
AE-PLC-MET	Labelling Workstation
AE-PLC-ST	Drilling Workstation
AE-PLC-SMOLD	Molding Workstation
AE-PLC-SCOR	Cutting Workstation
AE-PLC-FT	Filtration Workstation
AE-PLC-MS	Mixing Workstation
AE-PLC-PHD	Punching Workstation
AE-PLC-FS	Filling Workstation
AE-PLC-CRS	Corking Workstation
AE-PLC-APB	Bottle Opening Workstation
AE-PLC-CP	Industrial Control Processes Workstation



Rotary Table Workstations Applications

AE-PLC-MR1	Rotary Table Workstation 1
AE-PLC-MR2	Rotary Table Workstation 2
AE-PLC-MR3	Rotary Table Workstation 3
AE-PLC-MR4	Rotary Table Workstation 4

Pieces Manipulator Workstations Applications

AE-PLC-MPS	Pieces Manipulator Workstation
AE-PLC-T	Linear Transport Workstation
AE-PLC-SPO	Positioning Workstation
AE-PLC-MAE	Electrical Handling Workstation
AE-PLC-MAN	Pneumatic Handling Workstation
AE-PLC-CTCA	AC Conveyor Belt Workstation
AE-PLC-CTCC	CC Conveyor Belt Workstation
AE-PLC-MACT	Pneumatic Handling and Conveyor Belt

Robotic Workstations Applications

AE-BR	Robotic Arm Station
AE-SCA	SCARA Arm Workstation

Pieces Identification Workstations Applications

AE-PLC-SIP	Pieces Identification Workstation
AE-PLC-VS	Quality Control Workstation
AE-PLC-CF	Sorting Workstation
AE-PLC-SLB	Ball Selection Workstation
AE-PLC-RFID	RFID Identification Workstation
AE-PLC-CPD	Defective Pieces Sorter Workstation Application

CNC Workstations Applications

AE-CNCT	CNC Turning Workstation
AE-CNCF	CNC Milling Workstation

Storing Workstations Applications

AE-PLC-AL	Storage Workstation
AE-PLC-ALT	Buffer Workstation
AE-PLC-ALB	Bottling Storage Workstation
AE-PLC-ALV	Vertical Storage Workstation

62.5 Industrial Applications



AE-PLC-SE

Control Applications

AE-PLC-CPI	Industrial Control Processes Application
AE-PLC-PH	pH control Workstation
AE-PLC-AC	Air pressure and flow control Workstation
AE-PLC-CN	Flow and level control Workstation
AE-PLC-RT	Temperature Regulation Application
AE-PLC-CS	Traffic Light Control Application
AE-PLC-INV	Greenhouse Application
AE-PLC-SE	Elevator Control Application
AE-PLC-SPA	Automatic Sectional Door Application
AE-PLC-SA	Industrial Kneader Application

Renewable Energy Applications

AE-PLC-EF	Photovoltaic Energy Application
AE-PLC-EE	Wind Energy Application
AE-PLC-EST	Solar Thermal Energy Application
AE-PLC-SH	Hybrid Energy Application
AE-PLC-MEE	Wind Turbine Trainer

Power Applications

AE-PLC-SP	Power System Application
AE-PLC-ME	Electrical Machines Application

Smart Grid Applications

AE-PLC-SM	Smart Grid System Application

62.6 Flexible Manufacturing Systems (FMS)



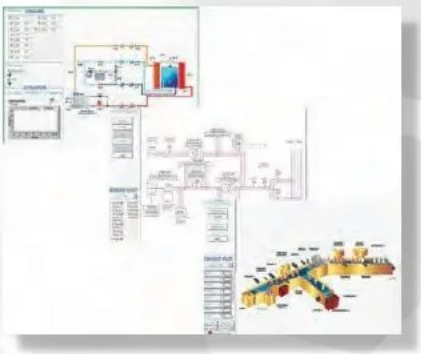
AE-PLC-FMS5

Systems

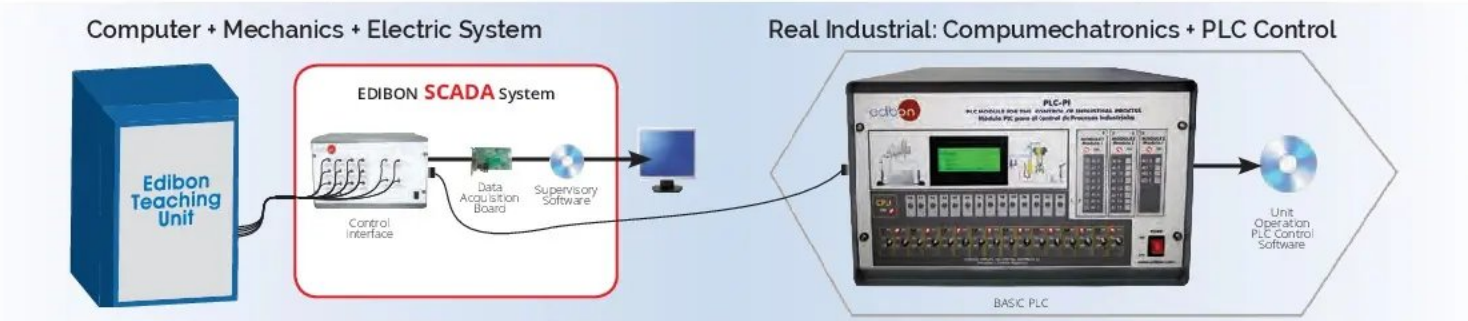
AE-PLC-FMS1	Flexible Manufacturing System 1
AE-PLC-FMS2	Flexible Manufacturing System 2
AE-PLC-FMS3	Flexible Manufacturing System 3
AE-PLC-FMS4	Flexible Manufacturing System 4
AE-PLC-FMS5	Flexible Manufacturing System 5
AE-PLC-FMS6	Flexible Manufacturing System 6
AE-PLC-FMS7	Flexible Manufacturing System 7
AE-PLC-FMS8	Flexible Manufacturing System 8
AE-PLC-FMS9	Flexible Manufacturing System 9
AE-PLC-FMS10	Flexible Manufacturing System 10
AE-PLC-FMS11	Flexible Manufacturing System 11
AE-PLC-FMS12	Flexible Manufacturing System 12
AE-PLC-FMS13	Flexible Manufacturing System 13
AE-PLC-FMS14	Flexible Manufacturing System 14

Automation Software

AE-AS	Automation System Simulation Software



63. Mechatronics.PLC COMPUMECHATRONICS



PLC MODULE FOR THE CONTROL OF INDUSTRIAL PROCESSES (PLC-PI) TO BE USED WITH MANY SCADA UNITS:

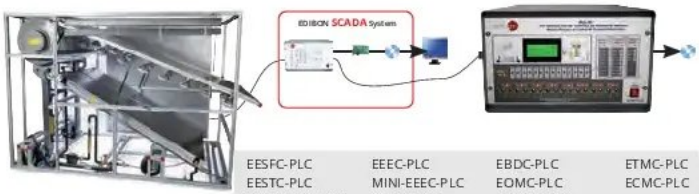
63.1 Electricity



63.2 Energy

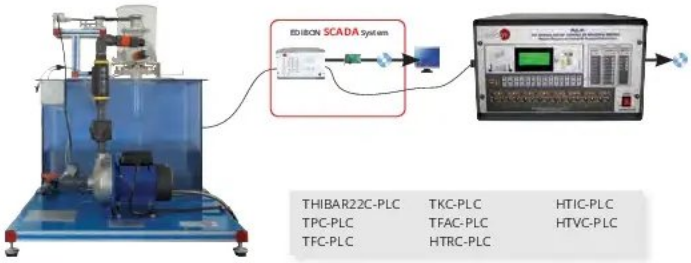


63.3 Renewable



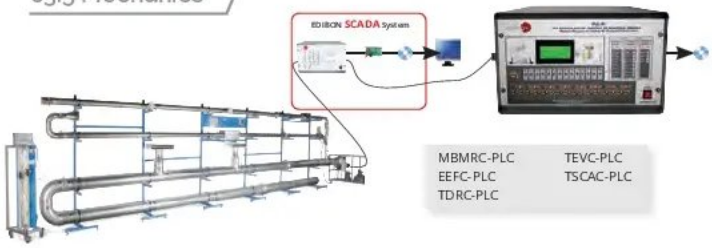
EESFC-PLC	EEEC-PLC	EBDC-PLC	ETMC-PLC
EESTC-PLC	MINI-EEEC-PLC	EOMC-PLC	ECMC-PLC
MINI-EESTC-PLC	ECESC-PLC	EMMC-PLC	

63.4 Saving Energy



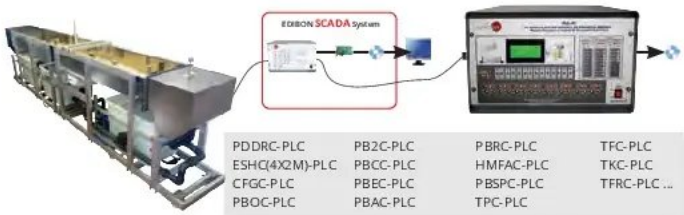
THIBAR22C-PLC	TKC-PLC	HTIC-PLC
TPC-PLC	TFAC-PLC	HTVC-PLC
TFC-PLC	HTRC-PLC	

63.5 Mechanics



MBMRC-PLC	TEVC-PLC
EEFC-PLC	TSCAC-PLC
TDRC-PLC	

63.6 Fluid Mechanics



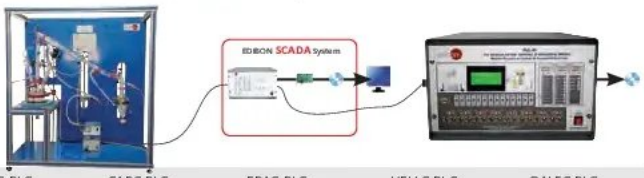
PDDRC-PLC	PB2C-PLC	PBRC-PLC	TFC-PLC
ESHC(4X2M)-PLC	PBCC-PLC	HMFAC-PLC	TKC-PLC
CFGC-PLC	PBEC-PLC	PBSPC-PLC	TFRC-PLC ...
PBOC-PLC	PBAC-PLC	TPC-PLC	

63.7 Thermodynamics & Thermotechnics



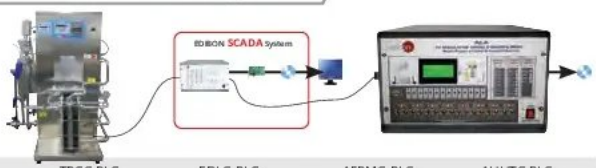
TCRC-PLC	TRCAC-PLC	THALAC/1-PLC	TEVC-PLC	TAAC-PLC
TPVC-PLC	TRCVC-PLC	TPCC-PLC	THIBAR22C-PLC	TARC-PLC
TRRC-PLC	TRCC-PLC	TSCAC-PLC	THIBAR44C-PLC	TAAUC-PLC ...

63.8 Chemical Engineering



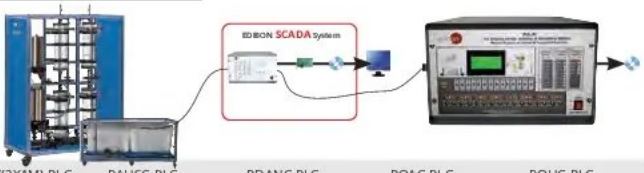
UDCC-PLC	CAPC-PLC	EPAC-PLC	UELLC-PLC	QALFC-PLC
UDDC-PLC	EPDC-PLC	EDPAC-PLC	EPDC/C-PLC	QSAC-PLC
CAGC-PLC	EDPDC-PLC	EPFC-PLC	TTEC-PLC	QCCC-PLC ...

63.9 Food & Water Technologies



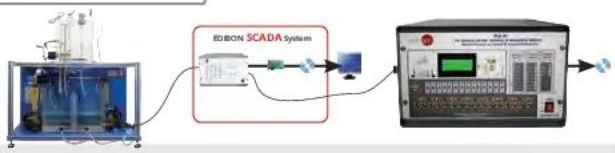
PASC-PLC	TPCC-PLC	EDLC-PLC	AFPMC-PLC	AUHTC-PLC
ROUC-PLC	SBANC-PLC	TFDC-PLC	SDCC-PLC	CCDC-PLC
VPMC-PLC	SSPC-PLC	EDSC-PLC	EMANC-PLC	PVQC-PLC ...

63.10 Environment



ESHC(2X1M)-PLC	PAHSC-PLC	PDANC-PLC	POAC-PLC	ROUC-PLC
PDFDC-PLC	PDSC-PLC	PEFC-PLC	PEAC-PLC	PCCAC-PLC
PDDRC-PLC	PDAC-PLC	PEAIC-PLC	EFLPC-PLC	PPTAC/1-PLC ...

63.11 Process Control



UCP-PLC	UCPCV-PLC	UCP-P-PLC	CMDVC-PLC	CPIC-PLC
UCPCN-PLC	UCPCNCV-PLC	CTAC-PLC	CMDAC-PLC	

MECHATRONICS, AUTOMATION & COMPUMECHATRONICS EXPANSIONS

AREA 60

All units in this area using SCADA **can additionally use:**

SOFTWARE

Interactive Computer Aided Instruction Software System

ICAI

Classroom Manager

Student Labsoft
Practices
Calculations
Graphics
Results

FSS

Faults Simulation System

SCADA

Supervisory

Control And Data Acquisition

Control Interface included in the unit

Electronic White Board (EWB)

MULTIPOST OPTIONS SCADA-NET

ESN

EDIBON SCADA-NET
many units, many students

TECHNICAL DISTANCE LEARNING

ECL

EDIBON Cloud Learning units in one city, students in other cities

city1

city2

city3...

EWB

Electronic White Board

Details in pages: 101, 102, 103 and 104

more information:
www.edibon.com>products>mechanics

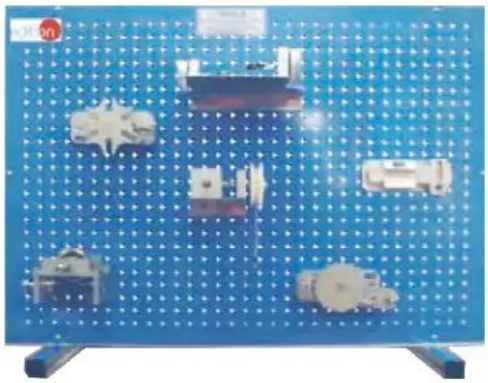
71. Mechanics. MECHANICAL ENGINEERING
72. Mechanics. AUTOMOTIVE ENGINEERING
73. Void
74. Mechanics. CIM
75. Mechanics. HYDROPNEUMATICS AND ROBOTICS
76. Void
77. Mechanics. STRENGTH OF MATERIALS
78. Mechanics. MATERIALS

71. Mechanics. MECHANICAL ENGINEERING

71.1 Basic concepts

LIMEBA Basic Mechanics Integrated Laboratory

NEW





MECA1



MECA2



MECA3



MECA4



MECA5



MECA6

71.2 Basic Units

MTSF Worm and Wheel Unit



MRYE1 Wheel and Axle Unit



MRYE2 Wheel and Differential Axle Unit



MDC Differential-Crownwhell and Pinion



MAE Acceleration of Geared System Unit



MCD Thin Cylinder Unit

NEW



NEW

Other available units:

MSDA Unit to Study Simple Drives Assembly
MCDA Unit to Study Combined Drives Assembly
MGTA Unit to Study Gear Train Assembly
MIF Inertia Flywheel Unit

71.3 Mechanisms

MBD Slider Crank Mechanism



MYE Scotch Yoke Mechanism



MBM1 Slotted Link Mechanism

NEW



MBM2 Whitworth Quick Return Mechanism



MCA Four-bar Mechanism

NEW



MME Geneva Stop Mechanism



MAC Coupling Mechanism

NEW



MUN Hook's Joint Mechanism

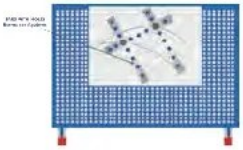


MDA Ackermann Steering Mechanism

NEW



MBLU Bar Linkages Unit



MEX Cam and Follower Mechanism

NEW



MBI Crank Mechanism



MMEL Winch Mechanism



71.4 Dynamics

MVCC Computer Controlled Critical Speed Investigation Unit

NEW



MBMRC Computer Controlled Balance of Reciprocating Masses Unit

NEW



MEER Whirling of Shafts Unit

NEW



MEAL Cam Analysis Unit

NEW



MDFC Coriolis Force Demonstration Unit



MFCE Centrifugal Force Unit



MGI Gyroscope

NEW



MED Static and Dynamic Balancing Unit



MES Simple Balancing Unit



71.5 Vibrations

MEVTC Computer Controlled Torsional Vibration Unit

NEW



MVRE Vibration of Coil Spring Unit



MVL Free Vibration Unit.



MVLF Free & Forced Vibration Unit.



MEVLB Unit for Studying Free Vibration of a Bar.

NEW



71.6 Friction

MCF Belt Friction Unit



MEF Friction Study Unit



71.7 Tribology

MPCO Journal Bearing Unit

NEW



MEMT Tribology Modular Trainer

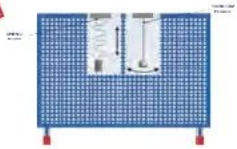
NEW



71.8 Oscillations

MSHU Simple Harmonic Motion Unit

NEW



72. Mechanics. AUTOMOTIVE ENGINEERING

72.1 Brakes and Clutches

MFT Drum Brake System



MFD Disk Brake



MFF Braking and Accelerating Forces Unit

NEW



MEM Plate Clutch

NEW



72.2 Gears and Differential

MCC Gearbox



MTE3 Epicyclic Gear Unit (3 element)

NEW



MESE Geared Systems Study Unit



72.3 Transmissions

MEC Overdrive Unit



MBW Borg-Warner Automatic Transmission

NEW



MDC Differential-Crownwheel and Pinion



72.4 Engines Test Benches

TBMC3 Computer Controlled Test Bench for Single-Cylinder Engines, 2.2kW



TBMC8 Computer Controlled Test Bench for Single-Cylinder Engines, 7.5 kW



TBMC12 Computer Controlled Test Bench for Single-Cylinder and Two-Cylinders Engines, 11kW

NEW



TBMC75 Computer Controlled Test Bench for Four-Cylinders Engines, 75 kW

NEW



TBMC-CG Computer Controlled Exhaust Gas Calorimeter

NEW



TMHC Computer Controlled Test Bench for Hybrid Engine

NEW



TBMC-AGE Exhaust Gas Analyzer

NEW



72.5 Miscellaneous

MEE Geared Lifting Machine



MSH Simple Hydraulic System



MGE Gear Generation Unit



74. Mechanics. CIM

AE-PLC-FMS1 Flexible Manufacturing System 1

NEW



75. Mechanics. HYDROPNEUMATICS AND ROBOTICS

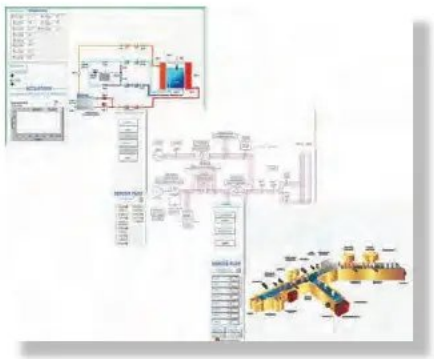
75.1 Oleohydraulics

AE-HD Oleo-Hydraulic and Electro-Hydraulic Trainer

NEW



AE-AS Automation System Simulation Software



75.2 Pneumatic

AE-NS Pneumatic and Electro-Pneumatic Trainer

NEW



Other available units

AE-V Vacuum Technology Trainer

SAC Silent Air Compressor Unit

Accessories

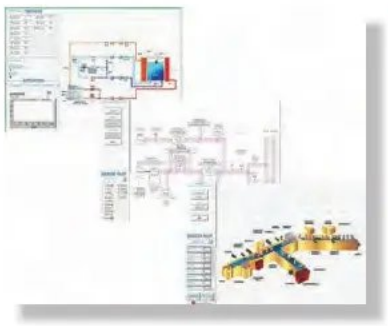
AE-PLC-APS Pieces Feeder Workstation



AE-PLC-MPS Pieces Manipulator Workstation

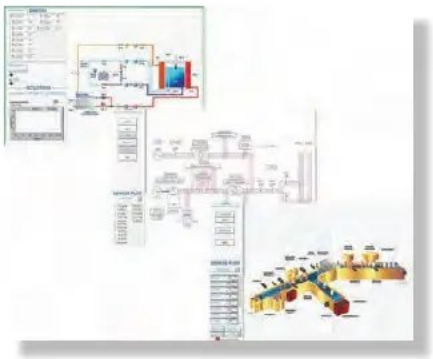


AE-AS Automation System Simulation Software



75.3 Hydropneumatic

AE-AS Automation System Simulation Software

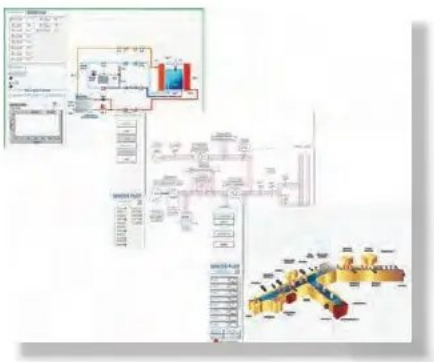


75.4 Robotic

AE-BR Robotic Arm Station



AE-AS Automation System Simulation Software



77. Mechanics. STRENGTH OF MATERIALS

77.1 Photoelasticity (Traction, Flexion, Torsion, Bending, etc)

EFOC Photoelasticity Unit with Strain Gauges Measurement System



Photoelastictiy units:

- EFO Photoelasticity Unit
- EFOV Photoelasticity Unit with Artificial Vision System

77.2 Traction. Flexion. Bending. Torsion

EEU/20KN Universal Material Testing Unit-20KN

NEW



EEFCR Creep Testing Unit

NEW



MVV Unsymmetrical Cantilever Unit

NEW



MUP Universal Buckling Unit



MTP Twist and Bend Machine



MFV Beam Deflection Unit

NEW



MTB Torsion Unit.

NEW



MFLT Strut Buckling Unit

NEW



MDB Deflection of Curved Bars Unit

NEW



MMF Shear Force and Bending Momentum Unit

NEW



MOT Torsional Oscillations Unit

NEW



MELH Unit for studying Hooke,s Law

NEW



MTTU Tensile Tester Unit

NEW



77.3 Fatigue. Hardness. Impact

EEFC Computer Controlled Fatigue Testing Unit

NEW



EEICI Charpy and Izod Impact Testing Unit

NEW



EEDB Brinell Hardness Testing Unit



EBVR Brinell, Vickers & Rockwell Hardnees Testing Unit



77.4 Structures

MFPG Unit for studying Forces in a Jib Crane

NEW



MEMB2 Unit for studying Equilibrium of Moments on a Two Arm Lever

NEW



MVS Suspension Bridge Unit

NEW



MARP Parabolic Arch Unit

NEW



MART Three-Hinged Arch Unit

NEW



MFBS Unit for Studying Forces in a Simple Bar Structure

NEW



MFCS1 Unit for studying Forces in Different Single Plane Trusses

NEW



MFCS2 Unit for studying Forces in an Overdeterminate Truss

NEW



MFCS3 Unit for studying Deformation of Trusses

NEW



MFL Two Hinged Arch Unit

NEW



MPO Portal Frame Unit

NEW



77.5 Miscellaneous

MEGE Strain Gauge Training Unit

NEW



MFGE Unit for determining the Gauge Factor of Strain Gauges

NEW



MEPE Simple Stability Problems Study Unit

NEW



MDLE Unit for studying Methods to Determine the Elastic Line

NEW



MBU Universal Bench Mounted Frame



78. Mechanics. MATERIALS

78.1 Foundry

MCAM Bell Casting Basic Training Set



MCLA Foundry, Building-up Training Set 1



MCEN Centrifugal Casting, Building-up Training Set 2



78.2 Building

TIAC Computer Controlled Acoustic Impedance Tube/ Acoustic Insulation Test Unit

NEW



TDRC Computer Controlled Noise Control Demonstration Unit

NEW



TEVC Computer Controlled Ventilation Trainer

NEW



TCMC Computer Controlled Thermal Conductivity of Building and Insulating Materials Unit

NEW



TSCAC Computer Controlled Air Duct Systems Unit

NEW



78.3 Testing

MECHANICS EXPANSIONS AREA 70

edibon

EDIBON PATENT

All units in this area using SCADA
can additionally use:

SOFTWARE

Interactive Computer Aided Instruction Software System

ICAI

- Classroom Manager
- Student Labsoft
  - Practices
  - Calculations
  - Graphics
  - Results

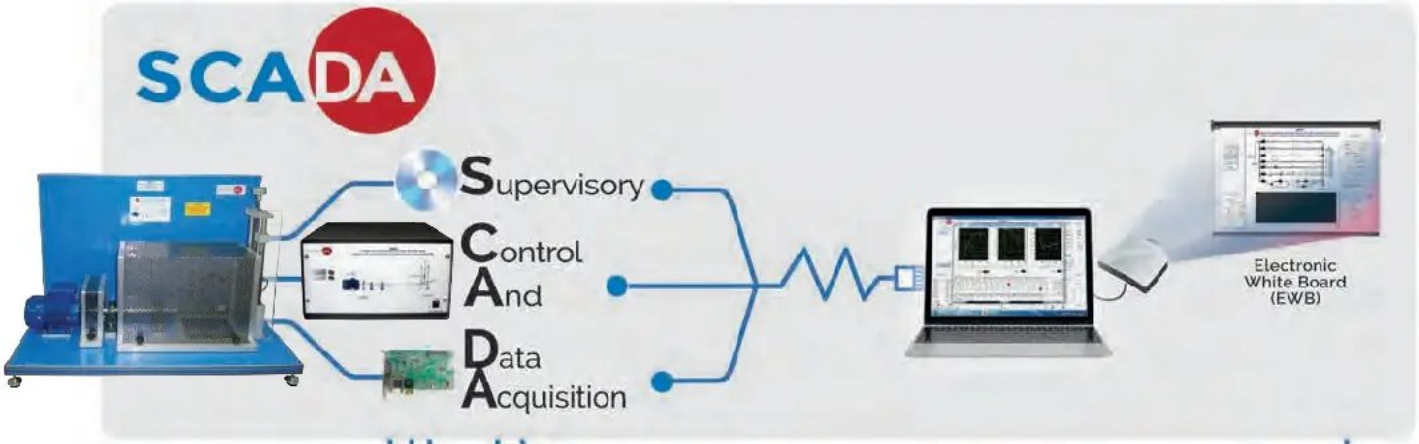
FSS

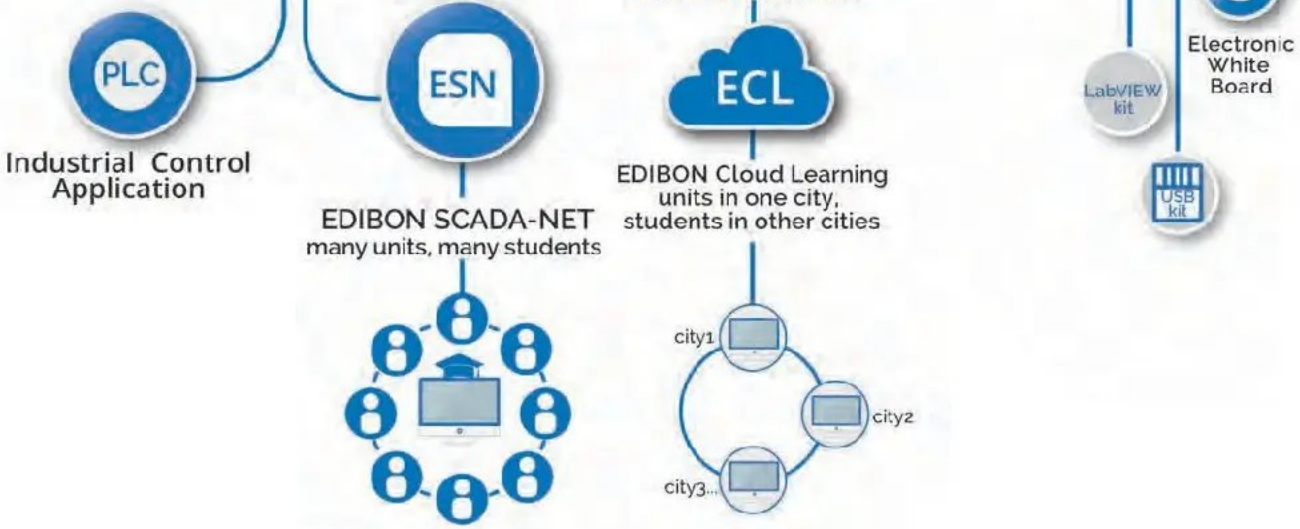
Faults Simulation System

DATA ACQUISITION

DAS

Data Acquisition Software





Details in pages: 101, 102, 103 and 104

81. Fluid Mechanics. BASIC CONCEPTS
82. Fluid Mechanics. DEMONSTRATION
83. Fluid Mechanics. PIPES
84. Fluid Mechanics. FLOW, PRESSURE AND METERS
85. Fluid Mechanics. HYDROLOGY
86. Fluid Mechanics. FLOW CHANNELS
87. Fluid Mechanics. HYDRAULIC MACHINES (Pumps. Turbines. Fans. Compressors)
88. Fluid Mechanics. AERODYNAMICS

81. Fluid Mechanics. BASIC CONCEPTS

LIFLUBA Basic Fluids Mechanics Integrated Laboratory

81.1 Service Units

FME00 Hydraulics Bench



FME00/B Basic Hydraulic Feed System



81.2 Fluid Concepts

FME02



Flow over Weirs

FME04



Orifice Discharge

FME14



Free and Forced Vortex

FME34 NEW



Fluid Statics and Manometry

FME35 NEW



Fluid Properties

FME36



Rotameter

81.3 General Fluid Applications

FME01



Impact of a Jet

FME08



Hydrostatic Pressure

FME10



Dead Weight Calibrator

FME11



Metacentric Height

FME26



Depression Measurement System (vacuum gauge)

FME32



Pitot Static Tube Module

81.4 Hydraulic Laws

FME03



Bernoulli's Theorem Demonstration

FME22 NEW



Venturi, Bernoulli and Cavitation Unit

FME06



Osborne - Reynolds' Demonstration

FME31 NEW



Horizontal Osborne-Reynolds Demonstration

FME24



Unit for the Study of Porous Beds in Venturi Tubes (Darcy's Equation)

FME33



Pascal's Module

81.5 Hydraulic Demonstration

FME09



Flow Visualization in Channels

FME20



Laminar Flow Demonstration

FME30

NEW



Vortex Flow Meter

FME15



Water Hammer

FME19



Cavitation Phenomenon Demonstration

FME25



Flow channel, 1 m. lenght

FME18



Flow Meter Demonstration

FME17



Orifice and Free Jet Flow

NEW

Other available unit:

USSB Unit to study Stability in Boats

81.6 Pipes

FME05



Energy Losses in Bends

FME07



Energy Losses in Pipes

FME23

NEW



Basic Pipe Network Unit

81.7 Hydraulic Machines: Pumps

FME12



Series/Parallel Pumps

FME13



Centrifugal Pump Characteristics

81.8 Hydraulic Machines: Turbines

FME27



Axial Flow Turbine

FME16



Pelton Turbine

FME28



Francis Turbine

FME29



Kaplan Turbine

FME21



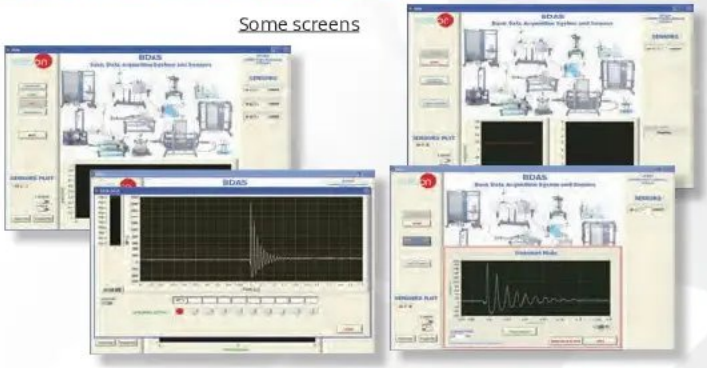
Radial Flow Turbine

BDAS. Basic Data Acquisition System from computer and Sensors for being used with EDIBON FME series

NEW



Some screens



82. Fluid Mechanics. DEMONSTRATION

EGAC Computer Controlled Water Hammer Unit



BHI Hydrostatics Bench & Fluid Properties



LFA Laminar Flow Visualization and Analysis Unit



UVF Hydrogen Bubble Flow Visualization Unit

NEW



83. Fluid Mechanics. PIPES

AFTC Computer Controlled Fluid Friction in Pipes, with Hydraulics Bench (FME00)



AMTC Computer Controlled Pipe Network Unit, with Hydraulics Bench (FME00)



NEW Other available units:

- PVFA Pipes, Valves and Fittings Assembly Unit
- AMCP Assembly and Maintenance of a Centrifugal Pump Unit
- ASV Assembly of a Shut-Off Valve Unit
- MRST Measurement and Regulation Station Trainer
- GHST Gas Home Supply Trainer
- WFPC Computer Controlled Unit to Study Water Flow Principles

84. Fluid Mechanics. FLOW, PRESSURE AND METERS

84.1 Flow

HFCC Computer Controlled Flow of Compressible Fluids Unit

NEW



FPCC Computer Controlled Unit to Study Flow through Packed Columns

NEW



FMDU Flow Meters Demonstration Unit



HECA Air Flow Studies Unit

NEW



84.2 Pressure

HMM Manometers & Multimanometers (several types)



HEMP Pressure Measurement Unit

NEW



HCMP Precision Pressure Gauge Calibrator



TMCP Pressure Measurement and Calibration Unit



SCSP Pressure Sensors Calibration System



HSMAP Air Pressure Maintained Water System Trainer

NEW



84.3 Viscosity

HVB Falling Sphere Viscometer and Drag Coefficient

NEW



85. Fluid Mechanics. HYDROLOGY

PDDRC Computer Controlled Unit for Transient Drainage Processes in Storage Reservoirs

NEW



NEW

Other available unit:

RFS River Flow Simulator

ESHC (4x2m) Computer Controlled Hydrologic Systems, Rain Simulator and Irrigation Systems Unit (4x2m)



86. Fluid Mechanics. FLOW CHANNELS

CFC Computer Controlled Flow Channels (section: 80 x 300 mm.)



CFGC Computer Controlled Flow Channels



CAS Sediment Transport Demonstration Channel



HVFLM-4 Mobile Bed and Flow Visualization Unit (working section: 4000 x 610 mm)

NEW



NEW

Other available unit:

WFPC Computer Controlled Unit to Study Water Flow Principles

87. Fluid Mechanics. HYDRAULIC MACHINES (Pumps. Turbines. Fans. Compressors)

87.1 Pumps

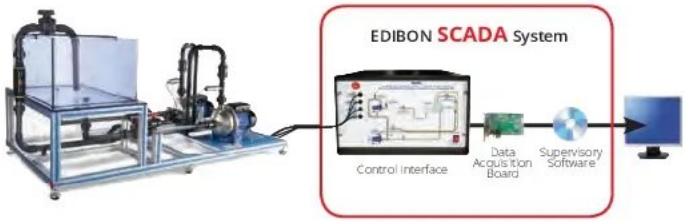
PBOC Computer Controlled Multipump Testing Bench



Individual Hydraulic Machines Pumps:

- PB2C Computer Controlled Multipump Testing Bench
- PBCC Computer Controlled Centrifugal Pump Bench
- PBEC Computer Controlled Gear Pump Bench
- PBAC Computer Controlled Axial Pump Bench
- PBRC Computer Controlled Piston Pump Bench
- HMFAC Computer Controlled Axial Flow Turbomachines Unit

PBSPC Computer Controlled Series/Parallel Pumps Bench



PBEAB Pumps Alignment and Study Bench

Turbines (conventional)

TPC Computer Controlled Pelton Turbine



TKC Computer Controlled Kaplan Turbine



TFC Computer Controlled Francis Turbine



Turbines (special)

TFRC Computer Controlled Radial Flow Turbine



HTRC Computer Controlled Experimental Reaction Turbine



TFAC Computer Controlled Axial Flow Turbine



HTIC Computer Controlled Experimental Impulse Turbine



87.3 Fans

HVCC Computer Controlled Centrifugal Fan Teaching Trainer



HVAC Computer Controlled Axial Fan Teaching Trainer



87.4 Compressors

HCCC Computer Controlled Centrifugal Compressor Demonstration Unit



HCDEC Computer Controlled Two-Stage Compressor Test Unit

NEW



HCRC Computer Controlled Reciprocating Compressor Unit

NEW



88. Fluid Mechanics. AERODYNAMICS

Aerodynamics. BASIC

TA50/250C Computer Controlled Aerodynamic Tunnel, 50 x 250 mm

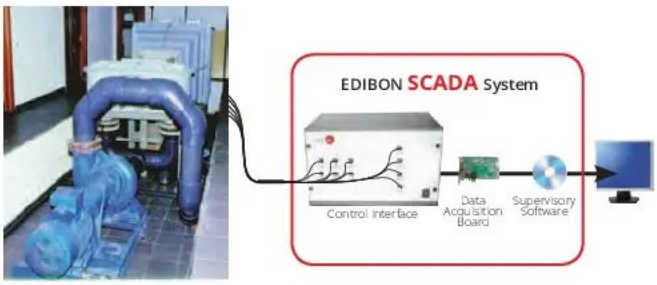


Aerodynamics. ADVANCED

TA1200/1200 Computer Controlled Aerodynamic Tunnel, 1200 x 1200 mm



TA500/500 Computer Controlled Water Tunnel, 500 x 500 mm

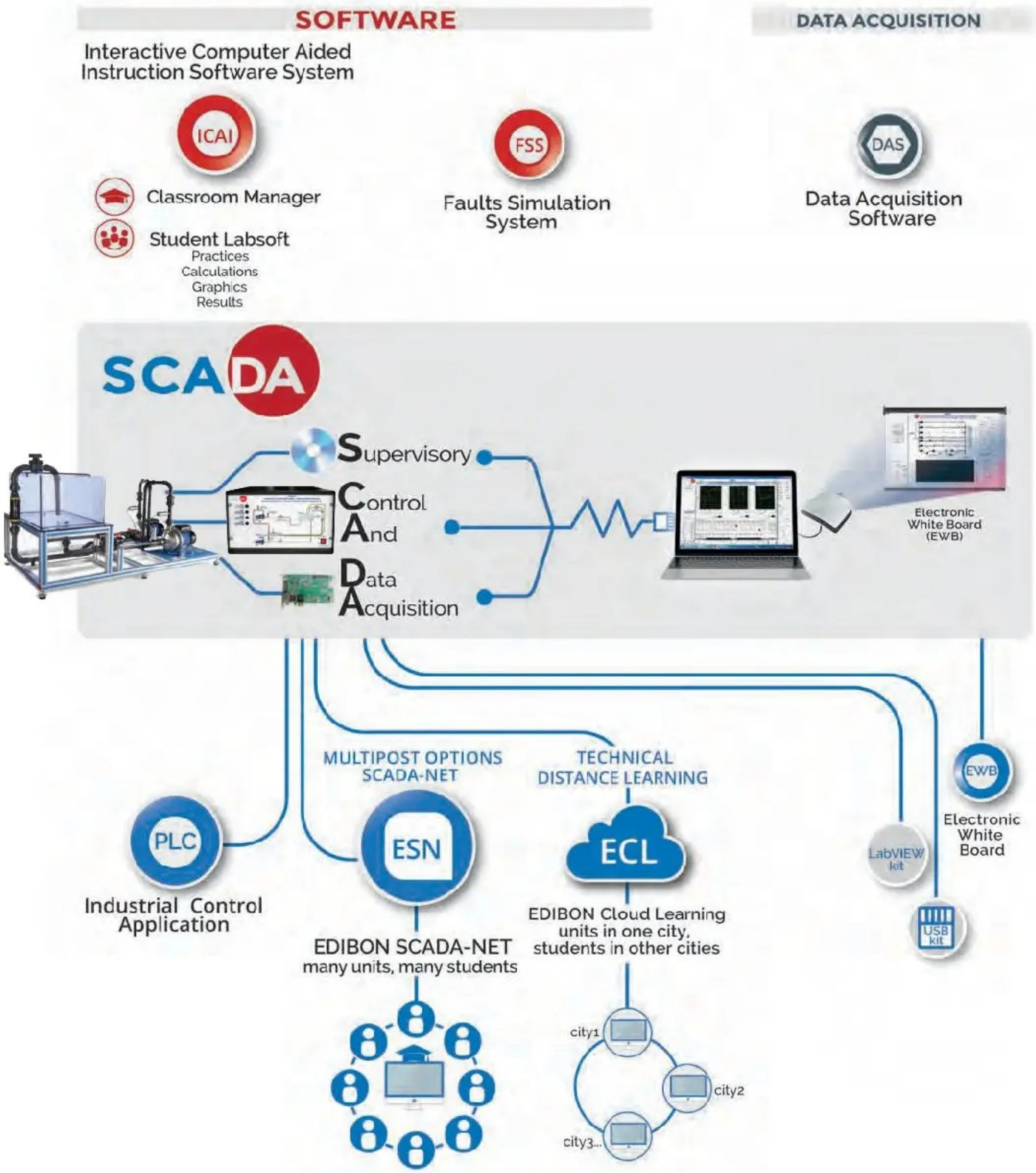


FLUID MECHANICS EXPANSIONS

AREA 80

EDIBON PATENT

All units in this area using SCADA
can additionally use:



Details in pages: 101, 102, 103 and 104

91. Thermodynamics. HVAC
92. Thermodynamics. HEAT EXCHANGERS
93. Thermodynamics. HEAT TRANSFER
94. Thermodynamics. COMBUSTION. NOZZLES. STEAM
95. Thermodynamics. ENGINES TEST BENCHES. GENERATORS. CALORIMETERS
96. Thermodynamics. THERMAL TURBINES
97. Thermodynamics. OIL EXTRACTION
98. Thermodynamics. SANITARY

91. Thermodynamics. HVAC (Refrigeration. Air Conditioning. Heat Pumps. Cooling Towers. Heating.)

91.1 Refrigeration

Basic Units

TIR Introduction to Refrigeration Unit

NEW



TSCR Simple Compression Refrigeration Circuit Unit

NEW

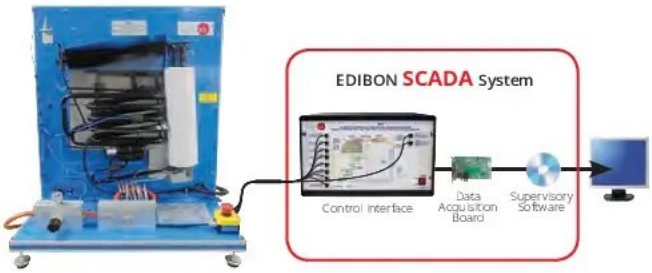


Refrigeration. MAIN CYCLES

TCRC Computer Controlled Refrigeration Cycle Demonstration Unit



TRAC Computer Controlled Absorption Refrigeration Unit



TPVC Computer Controlled Vortex Tube Refrigerator Unit



Refrigeration. SPECIAL APPLICATIONS

TRRC Computer Controlled Refrigeration Unit with Refrigeration and Freezing Chamber

NEW



TRCAC Computer Controlled Unit for the Study of a Refrigeration Circuit with Variable Load

NEW



THARA2C/2 Computer Controlled Double Chamber Refrigerator Module

NEW



TRCVC Computer Controlled Vapour-Compression Refrigeration Unit

NEW



TRCC Computer Controlled Refrigeration Unit with Open Compressor

NEW



THALAC/1 Computer Controlled Multiple Compressor Refrigeration Control

NEW



TRD2PC Two Doors Domestic Refrigeration System Trainer



TCRCT Compression Refrigeration Unit with Different Capillary Tubes

NEW



THER Heat Exchangers in the Refrigeration Unit

NEW



Refrigeration. MAINTENANCE AND FAULTS

TCFR Computer Controlled Capacity Control and Faults in Refrigeration Systems Unit

NEW



TAMR Assembly and Maintenance in Refrigeration Systems Unit

NEW



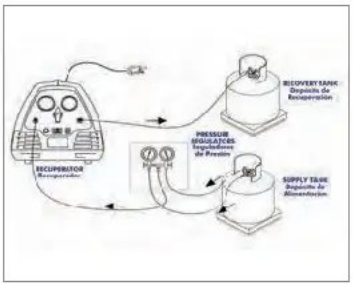
TECR Electrical Connection of Refrigerant Compressors Unit

NEW



T/KIT3 Recovery – Evacuating and Charging Module

NEW



TEIR Electrical Installations in Refrigeration Systems Unit

NEW



Freezers, Cooling and Ventilation

TPCC Computer Controlled Contact Plate Freezer

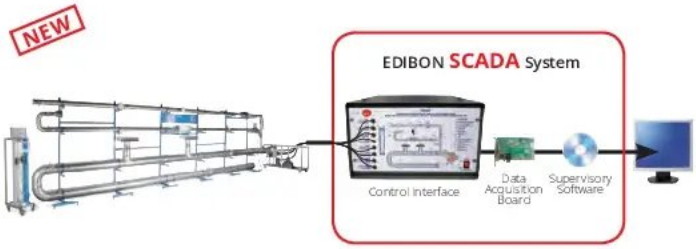


TCPISC Computer Controlled Cooling Plant with Ice Store

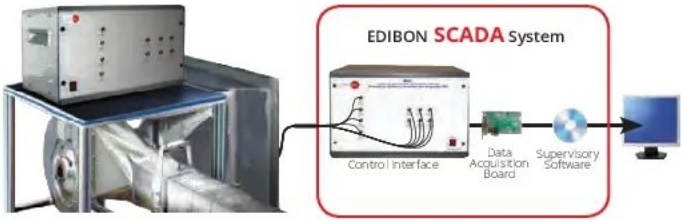


TSCAC Computer Controlled Air Duct Systems Unit

NEW



TEVC Computer Controlled Ventilation Trainer



TERA Refrigeration Water Recirculation Unit

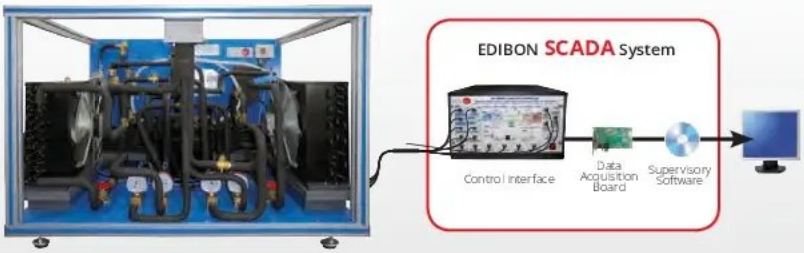


TERA/A Refrigeration Water Recirculation Advanced Unit



Refrigeration + Air Conditioning + Heat Pump

THIBAR22C Computer Controlled Heat Pump + Air Conditioning + Refrigeration Unit with Cycle Inversion Valve (two condensers (water and air) and two evaporators (water and air))



THIBAR44C Computer Controlled Heat Pump + Air Conditioning + Refrigeration Unit with Cycle Inversion Valve (four condensers (water and air) and four evaporators (water and air))

NEW



Refrigeration + Air Conditioning

TRAMC Computer Controlled Refrigeration and Air Conditioning Modular Unit

NEW



91.2 Air Conditioning

Air Conditioning. CYCLES

TAAC Computer Controlled Air Conditioning Laboratory Unit



TARC Computer Controlled Recirculating Air Conditioning Unit



Air Conditioning. SPECIAL APPLICATIONS

TAAUC Computer Controlled Automobile Air Conditioning Trainer



TACC Computer Controlled Air Conditioning Unit with Climatic Chamber and Water Chiller



Air Conditioning. INDUSTRIAL SYSTEMS

TSAC Computer Controlled Air Conditioning System with Climatic Chamber



TACS Split Air Conditioner Unit



TSCAC Computer Controlled Air Duct Systems Unit



Air Aconditioning. MAINTENANCE AND FAULTS

TEFA Electrical Faults in Air Conditioning Systems Unit



Air Conditioning. SEVERAL EVAPORATOR AND CONDENSER OPTIONS

THAAAC Computer Controlled Air Conditioning Unit (one condenser (air) and one evaporator (air))



THALAC Computer Controlled Air Conditioning Unit (one condenser (water) and one evaporator (air))



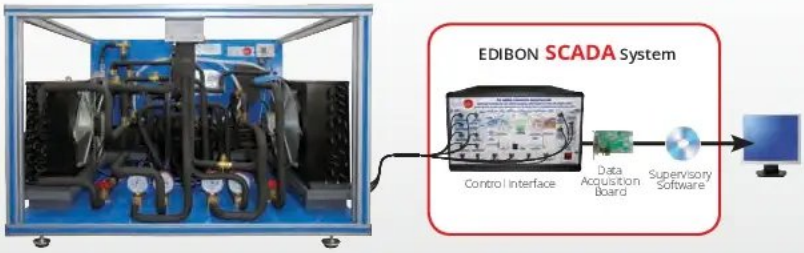
THA2AC Computer Controlled Air Conditioning Unit (two condensers (water and air) and one evaporator (air))



91.3 Heat Pumps

Heat Pumps + Air Conditioning + Refrigeration

THIBAR22C Computer Controlled Heat Pump + Air Conditioning + Refrigeration Unit with Cycle Inversion Valve (two condensers (water and air) and two evaporators (water and air))



THIBAR44C Computer Controlled Heat Pump + Air Conditioning + Refrigeration Unit with Cycle Inversion Valve (four condensers (water and air) and four evaporators (water and air))

NEW



Heat Pumps. SPECIAL

TBTC Computer Controlled Thermo-Electric Heat Pump



TBCF Bomb Calorimeter Set for Testing Calorific Value of Fuels

NEW



91.4 Cooling Towers

TTEC Computer Controlled Bench Top Cooling Tower



91.5 Heating

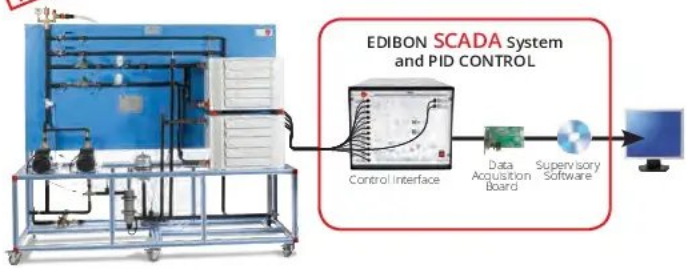
EACC Computer Controlled Hot Water Production and Heating Teaching Unit

NEW



TEHSC Computer Controlled Unit to Study the Efficiency of a Heating System

NEW



TEDT Thermal Expansion Training Unit



TGAC Hot Water Generator Unit



TEV3V Three-Way Mixing Valve Training Unit

NEW



TEV4V Four-Way Mixing Valve Training Unit

NEW



IGHT Instantaneous Gas Heater Trainer

NEW



GBT Forced Air Gas Burner Trainer

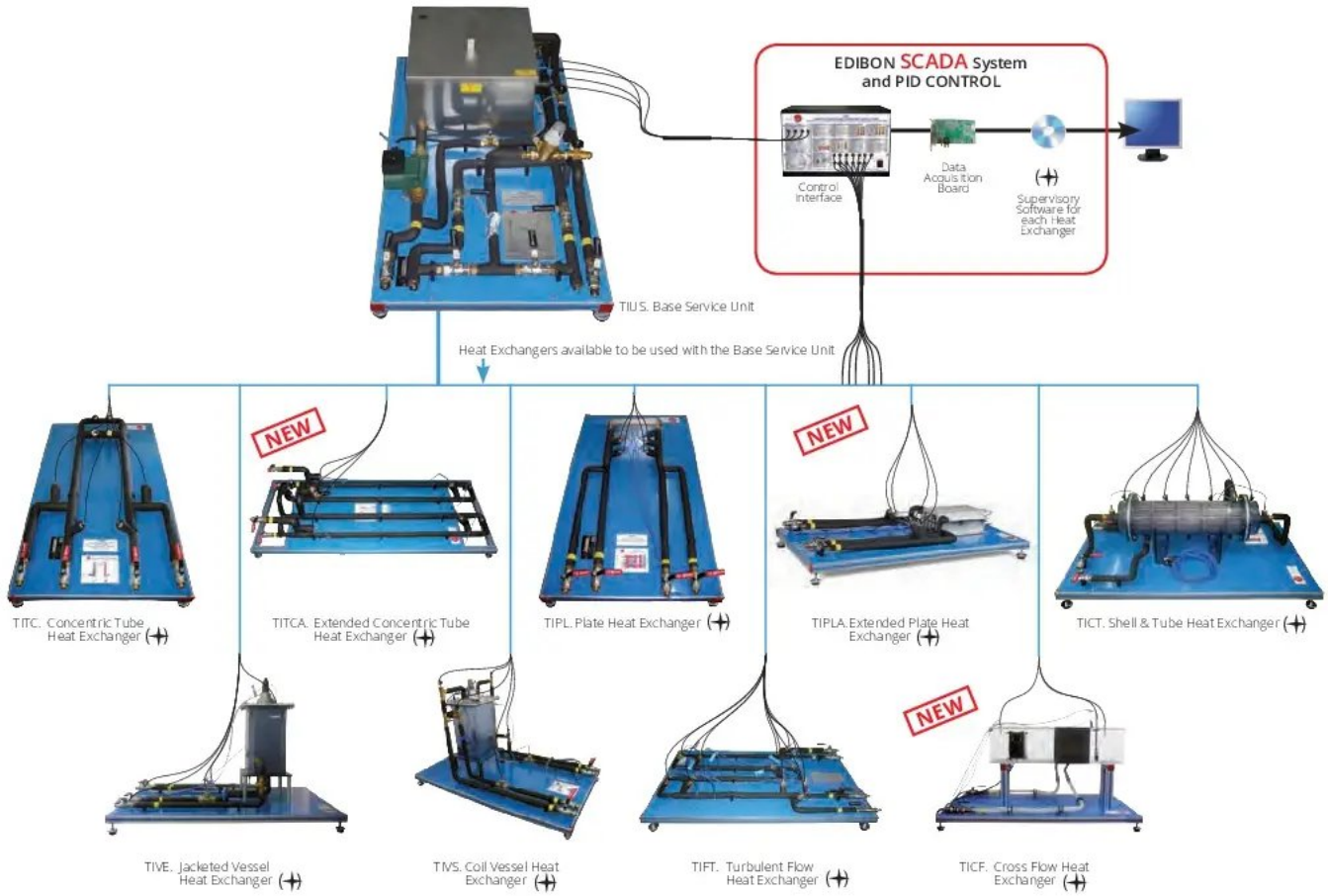
NEW



92. Thermodynamics. HEAT EXCHANGERS

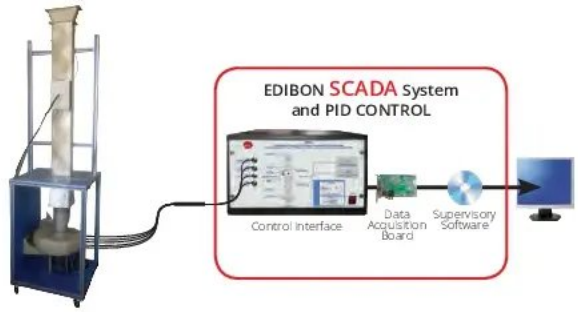
92.1 Modular Basic options

TICC Computer Controlled Heat Exchangers Training System



92.2 Compact options

TIFCC Computer Controlled Cross Flow Heat Exchanger



TIVAC Computer Controlled Steam to Water Heat Exchanger



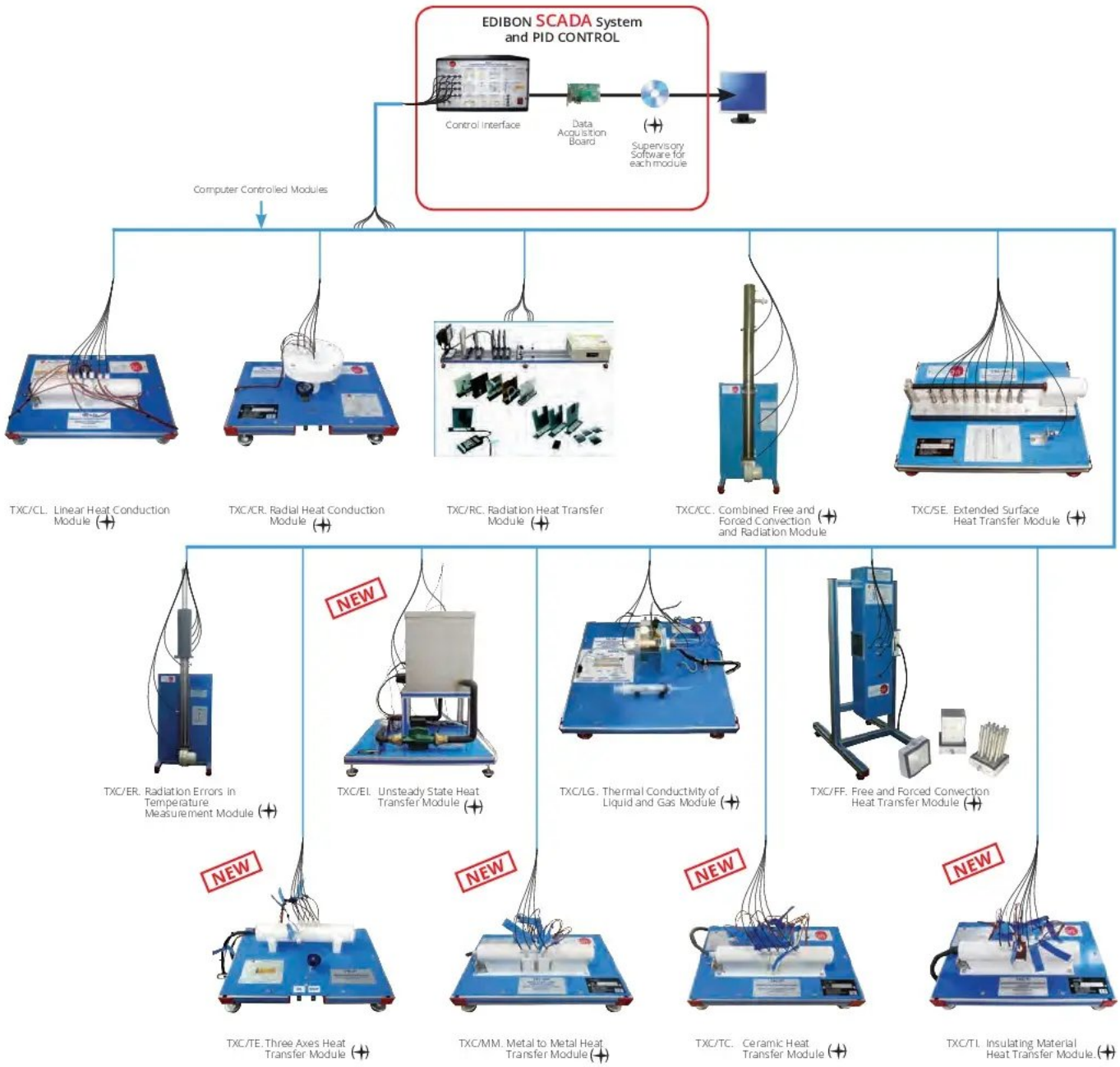
TIAAC Computer Controlled Water-to-Air Heat Exchanger Unit



93. Thermodynamics. HEAT TRANSFER

93.1 Modular Basic options

TSTCC Computer Controlled Heat Transfer Series

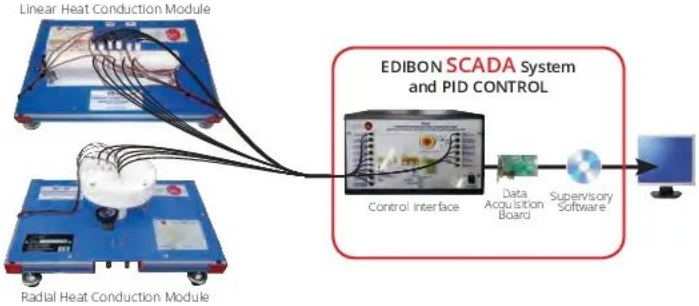


93.2 Compact options

Basic options

Heat Conduction

TCCC Computer Controlled Heat Conduction Unit



Conductivity

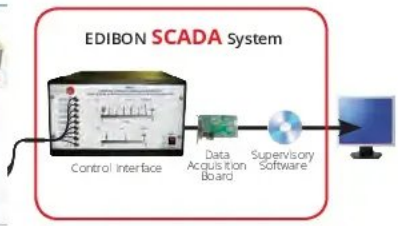
TCLGC Computer Controlled Thermal Conductivity of Liquids and Gases Unit



Radiation

TRTC Computer Controlled Thermal Radiation and Light Radiation Unit





Convection

TCLFC Computer Controlled Free and Forced Convection Heat Transfer Unit



TMT Temperature Measurement Unit



TEMT Temperature Measurement Training Unit

NEW



Advanced options

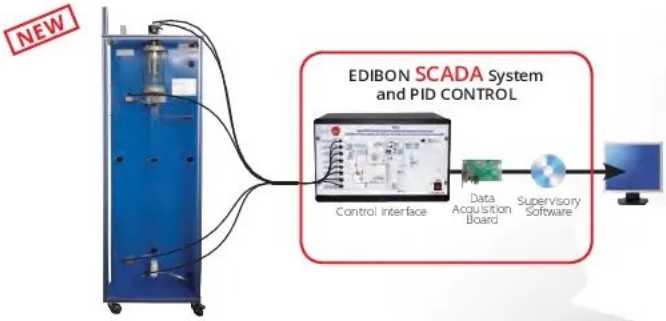
Boiling

TCEC Computer Controlled Boiling Heat Transfer Unit



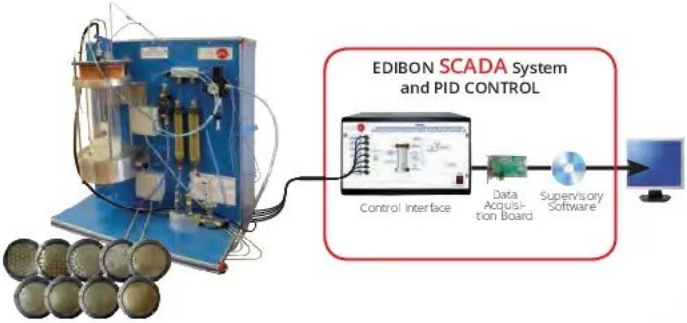
TFEC Computer Controlled Flow Boiling Demonstration Unit

NEW



Fluidisation

TTLFC Computer Controlled Fluidisation and Fluid Bed Heat Transfer Unit



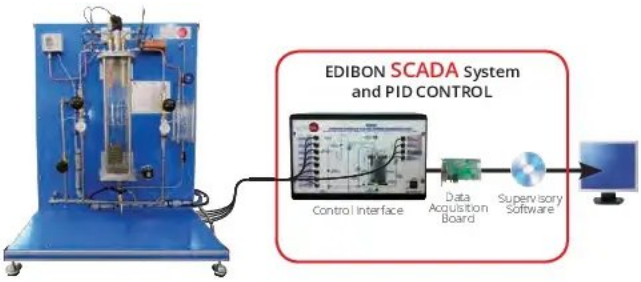
LFFC Computer Controlled Fixed and Fluidised Bed Unit

NEW



Special options

TCPGC Computer Controlled Film and Dropwise Condensation Unit



TLBGC Computer Controlled Gas Laws Unit (Boyle and Gay-Lussac Laws)

NEW



TFLVC Computer Controlled Laminar/Viscous Flow Heat Transfer Unit

NEW



TRLC Computer Controlled Recycle Loops Unit



TSPC Computer Controlled Saturation Pressure Unit

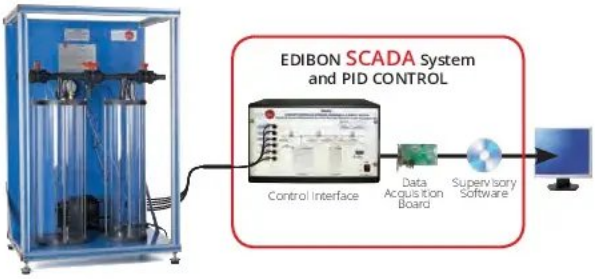


TFUC Computer Controlled Continuous and Batch Filtration Unit

NEW



TEPGC Computer Controlled Expansion Processes of a Perfect Gas Unit



TCMC Computer Controlled Thermal Conductivity of Building and Insulating Materials Unit

NEW



TMCP Pressure Measurement and Calibration Unit



TMHA Air Humidity Measurement Unit

NEW



94. Thermodynamics. COMBUSTION. NOZZLES. STEAM

94.1 Combustion

TVCC Computer Controlled Combustion Laboratory Unit



TVPLC Computer Controlled Flame Propagation and Stability Unit



94.2 Nozzles

TFTC Computer Controlled Nozzle Performance Test Unit



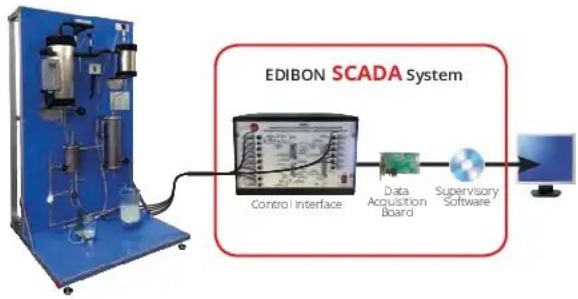
TPT Nozzle Pressure Distributon Unit



94.3 Steam

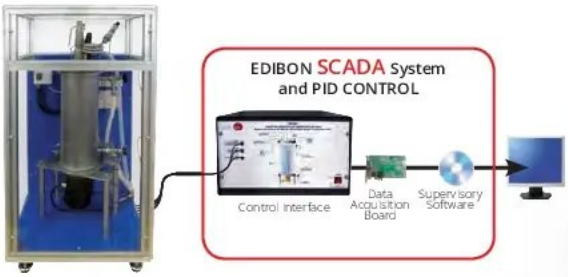
TCESC Computer Controlled Separating and Throttling Calorimeter

NEW

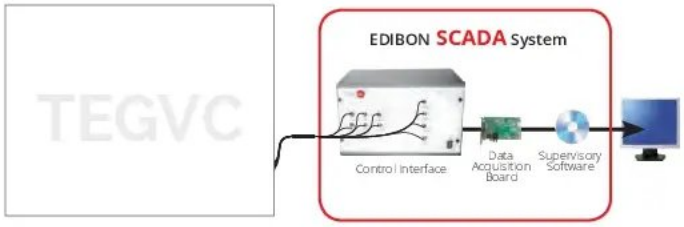


TECMC Computer Controlled Marcet Boiler Unit

NEW

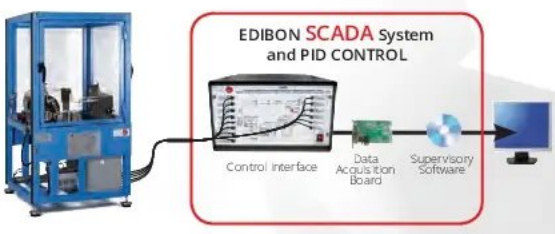


TEGVC Computer Controlled Steam Generation Unit



TSMEC Computer Controlled Steam Motor and Energy Conversion Unit

NEW



TGV/6KW Steam Generator (6 kW)



TGV-6KWA Steam Generator (6 kW) (for high pressures and high temperatures)

NEW



95. Thermodynamics. ENGINES TEST BENCHES. GENERATORS. CALORIMETERS

95.1 Engines Test Benches

TBMC3 Computer Controlled Test Bench for Single-Cylinder Engines, 2.2kW



TBMC8 Computer Controlled Test Bench for Single-Cylinder Engines, 7.5kW



TBMC12 Computer Controlled Test Bench for Single-Cylinder and Two-Cylinders Engines, 11kW



TBMC75 Computer Controlled Test Bench for Four-Cylinders Engines, 75kW

NEW



95.2 Hybrid Test Benches

TMHC Computer Controlled Test Bench for Hybrid Engine



95.3 Generators

TMSC Computer Controlled Stirling Motor



TORC/A Advanced Computer Controlled Organic Rankine Cycle Unit

NEW



TDEGC Computer Controlled Diesel Engine Electricity Generator

NEW



95.4 Calorimeters

TBMC-CG Computer Controlled Exhaust Gas Calorimeter

NEW



TBMC-AGE Exhaust Gas Analyzer



PFGA Portable Flue Gas Analyzer



96. Thermodynamics. THERMAL TURBINES

TGDEC Computer Controlled Two-Shaft Gas Turbine



TGDEPC Computer Controlled Two-Shaft Gas Turbine/Jet Engine



TGFAC Computer Controlled Axial Flow Gas Turbine/Jet Engine



TTVC Computer Controlled Steam Turbine



TPTVC/20KW Computer Controlled Steam Power Plant Adjustable up to 20 kW

NEW

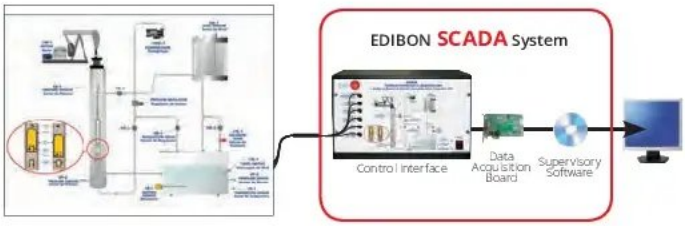


HTVC Computer Controlled Solar/Heat Source Vapour Turbine

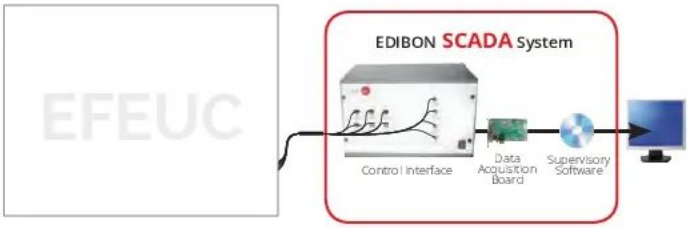


97. Thermodynamics. OIL EXTRACTION

EOEUC Computer Controlled Oil Extraction Unit



EFEUC Computer Controlled Fracking Extraction Unit



98. Thermodynamics. SANITARY

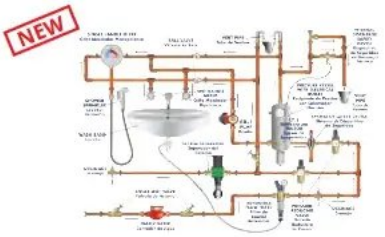
TEIS Sanitary Fittings Training Unit

NEW



TIAP Drinking Water Installation Unit

NEW



TPAP Protection of Drinking Water Training Unit



TELT Pipe Cleaning Training Unit



TSID Sewerage System Unit

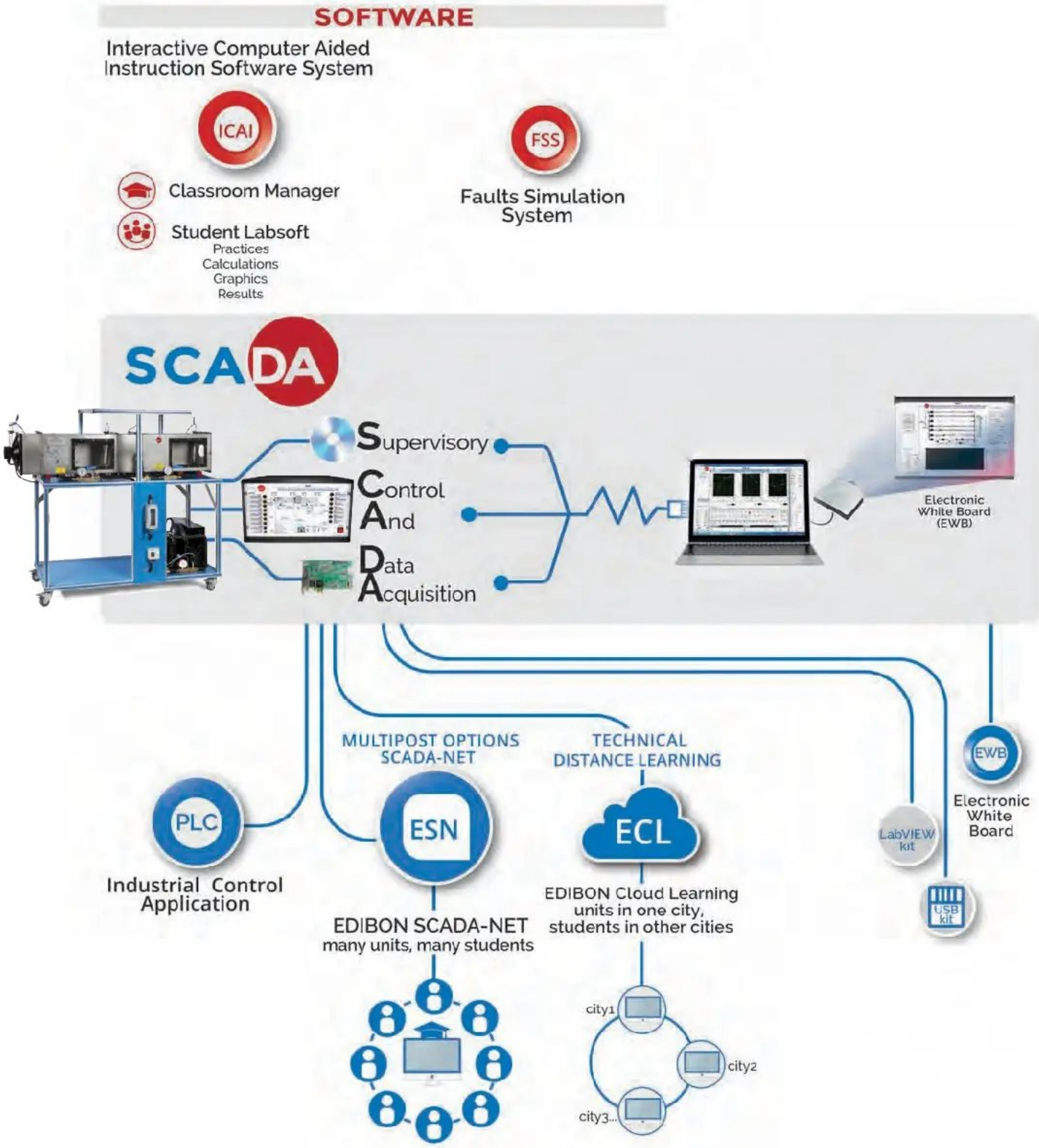


THERMODYNAMICS & THERMOTECHNICS EXPANSIONS

AREA 90

EDIBON PATENT

All units in this area using SCADA
can additionally use:



Details in pages: 101, 102, 103 and 104

more information:
www.edibon.com>products>process control

101. Process Control. FUNDAMENTALS
102. Process Control. APPLICATIONS
103. Process Control. CONTROLLERS
104. Process Control. INDUSTRIAL SYSTEMS

PROCESS CONTROL

FUNDAMENTALS

SAIT
BS
RYC
RYC-SM
RYC-BB
RYC-TAR
RYC-TAG
RYC-T
RYC-P
RYC-N
RYC-C
RYC-I
RYC-pH
RYC-CP
RYC-PI
RYC-CLM
RYC-BP

APPLICATIONS

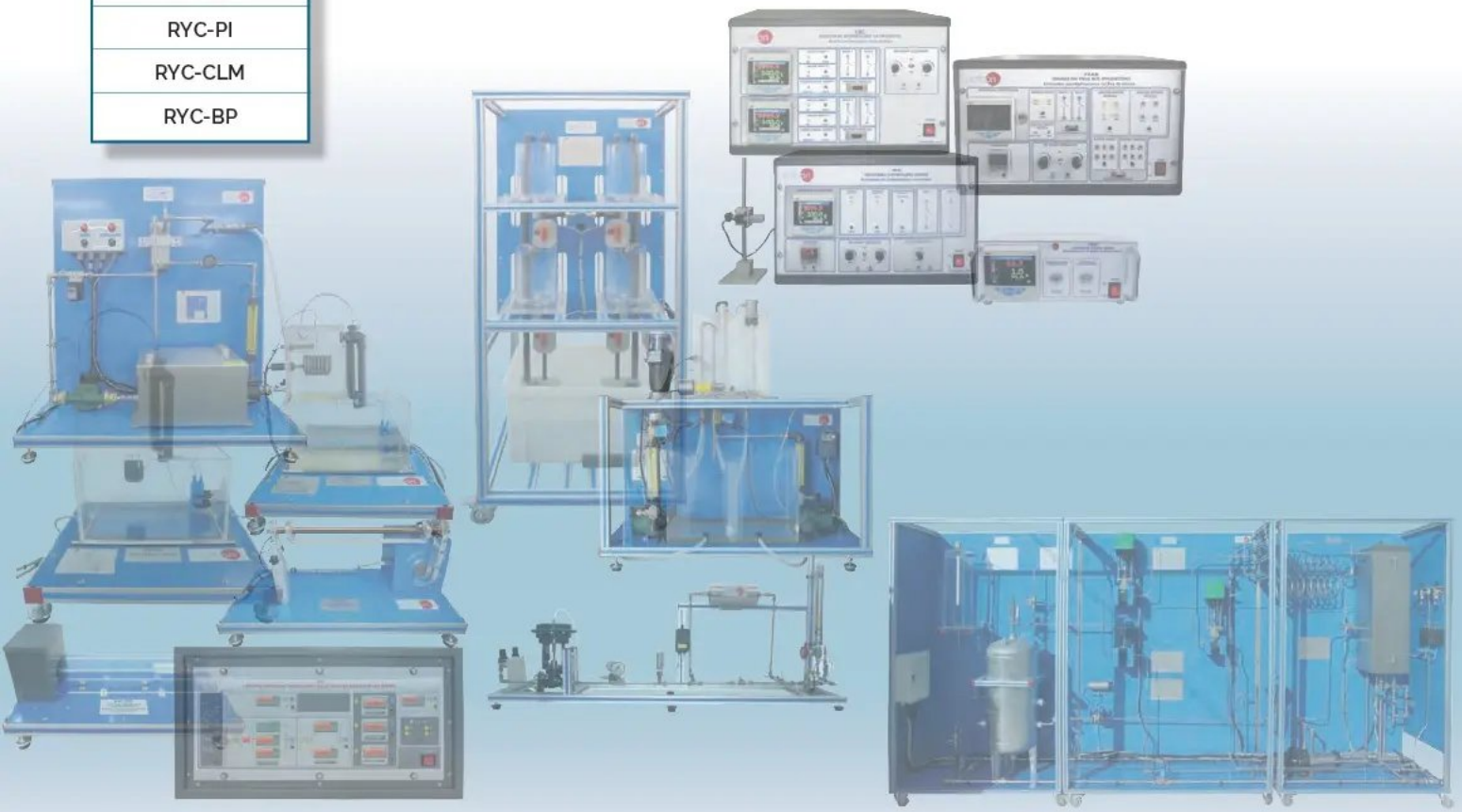
UCP
UCPCN
UCPCV
UCP-P
UCPCNCV
CBFSC
CTAC
CMDVC
CMDAC

CONTROLLERS

CECI
CRCI
CEAB
CEAC

INDUSTRIAL SYSTEMS

CPIC
CPIC-C
CPIC-T
CPIC-N
CPIC-P

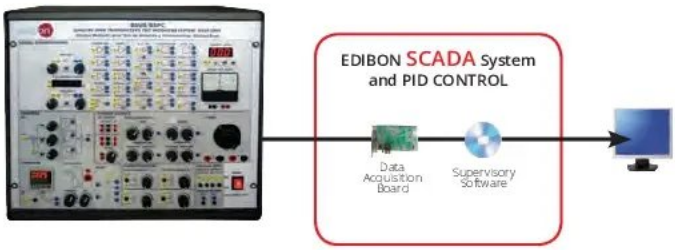


101. Process Control. FUNDAMENTALS

SAIT Transducers and Instrumentation Trainer



BS Modular System for the Study of Sensors



Accessories

BSPC	Computer Controlled Basic Unit
BSUB	Base Unit
BS1	Vibration and/or Deformations Test Module
BS2	Temperature Test Module
BS3	Pressure Test Module
BS4	Flow Test Module
BS5	Ovens Test Module
BS6	Liquid Level Test Module
BS7	Tachometer Test Module
BS8	Proximity Test Module
BS9	Pneumatic Test Module
BS10	Light Test Module



RYC Computer Controlled Teaching Unit for the Study of Regulation and Control



NEW

Available application modules

RYC-BB	Ball and Beam Module
RYC-BP	Ball and Plate Control Module
RYC-C	Flow Rate Control Module
RYC-CLM	Magnetic Levitation Control Module
RYC-CP	Position Control Module
RYC-I	Luminosity Control Module
RYC-N	Level Control Module
RYC-P	Pressure Control Module
RYC-pH	pH Control Module
RYC-PI	Inverted Pendulum Control Module
RYC-SM	DC Servo Motor Module
RYC-T	Temperature Control Module
RYC-TAG	Water Flow Temperature Control Module
RYC-TAR	Air Flow Temperature Control Module



102. Process Control. APPLICATIONS

UCPCNCV Computer Controlled Process Control System (with electronic control valve + pneumatic control valve + speed controller)



Sets (sensor + elements + computer control software) required for each application:



Available versions:

- **UCP** Computer Controlled Process Control System (with electronic control valve)
- **UCPCN** Computer Controlled Process Control System (with pneumatic control valve)
- **UCPCV** Computer Controlled Process Control System (with speed controller)

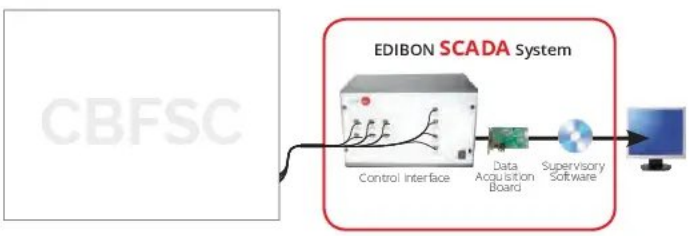
Pneumatic Control

UCP-P Computer Controlled Process Control Unit for the study of Pressure (Air)



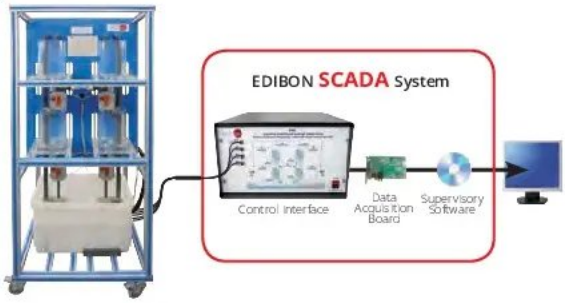
Faults Finding

CBFSC Computer Controlled Fault Finding in Control Systems Unit

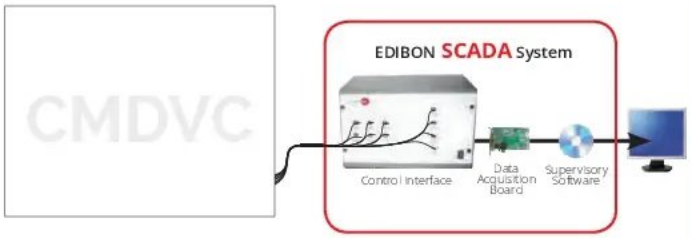


CTAC Computer Controlled Coupled Tanks System

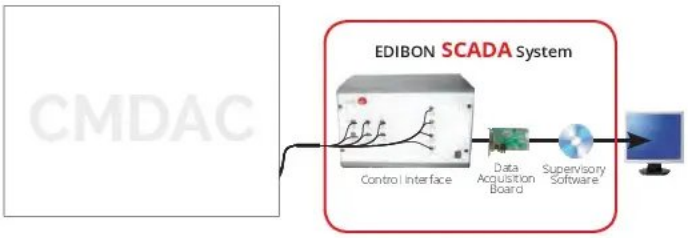
NEW



CMDVC Computer Controlled Multivariable Control Unit for Vaccum Degassing



CMDAC Computer Controlled Multivariable Control Unit for Stirrer Tank



103. Process Control. CONTROLLERS

CECI Industrial Controllers Trainer

NEW



CRCI Industrial Controllers Networking

NEW



CEAB Trainer for Field Bus Applications

NEW



CEAC Controller Tuning Trainer

NEW



104. Process Control. INDUSTRIAL SYSTEMS

CPIC Computer Controlled Process Control Plant with Industrial Instrumentation and Service Module (Flow, Temperature, Level and Pressure)



Available versions:

CPIC-C Computer Controlled Process Control Plant with Industrial Instrumentation and Service Module (only Flow)

CPIC-T Computer Controlled Process Control Plant with Industrial Instrumentation and Service Module (only Temperature)

CPIC-N Computer Controlled Process Control Plant with Industrial Instrumentation and Service Module (only Level)

CPIC-P Computer Controlled Process Control Plant with Industrial Instrumentation and Service Module (only Pressure)

PROCESS CONTROL EXPANSIONS

AREA 100

EDIBON PATENT

All units in this area using SCADA
can additionally use:

SOFTWARE

Interactive Computer Aided Instruction Software System

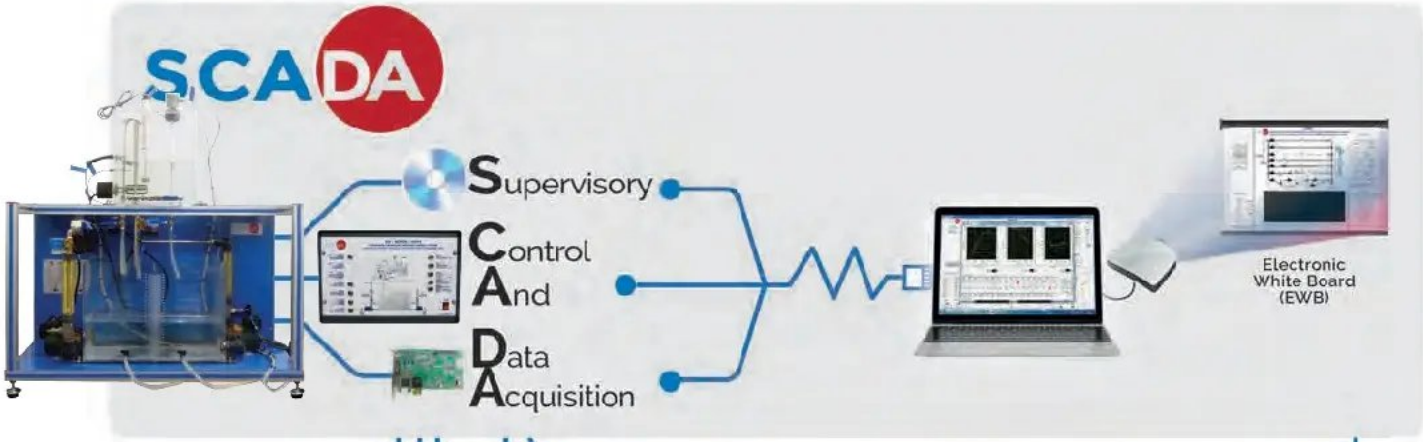
ICAI

Classroom Manager

Student Labsoft
Practices
Calculations
Graphics
Results

FSS

Faults Simulation System



PLC

Industrial Control Application

MULTIPOST OPTIONS SCADA-NET

ESN

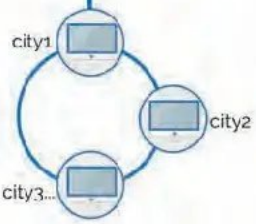
EDIBON SCADA-NET
many units, many students



TECHNICAL DISTANCE LEARNING

ECL

EDIBON Cloud Learning units in one city, students in other cities



EWB

Electronic White Board

LabVIEW kit

USB kit

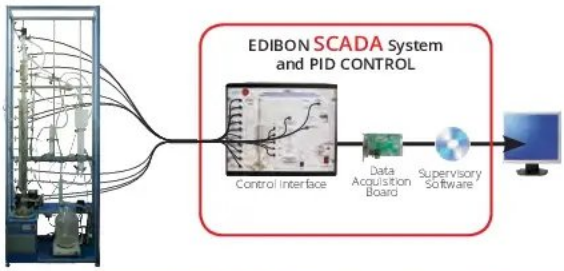
Details in pages: 101, 102, 103 and 104

111. Chemical Engineering. BASIC UNIT OPERATIONS
112. Chemical Engineering. GENERAL UNIT OPERATIONS
113. Chemical Engineering. CHEMICAL REACTORS
114. Chemical Engineering. CHEMICAL PROCESS
115. Chemical Engineering. MASS TRANSFER

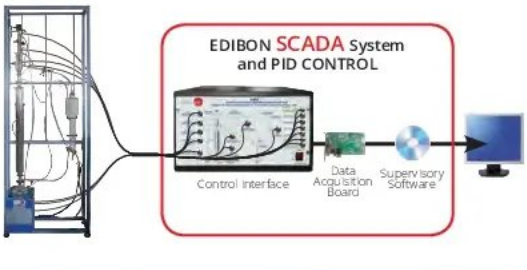
111. Chemical Engineering. BASIC UNIT OPERATIONS

111.1 Distillation

UDCC Computer Controlled Continuous Distillation Unit

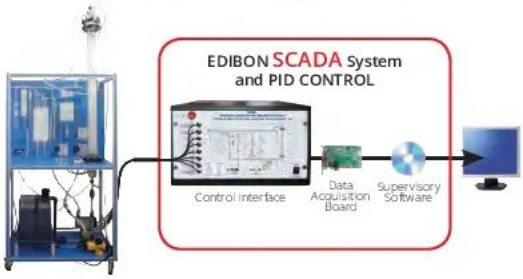


UDDC Computer Controlled Batch Distillation Unit

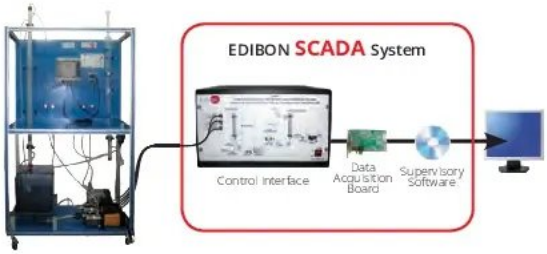


111.2 Absorption

CAGC Computer Controlled Gas Absorption Column

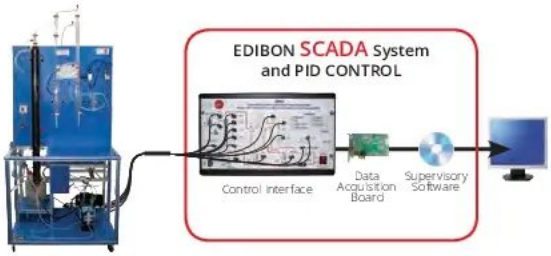


CAPC Computer Controlled Wetted Wall Gas Absorption Column



111.3 Evaporation

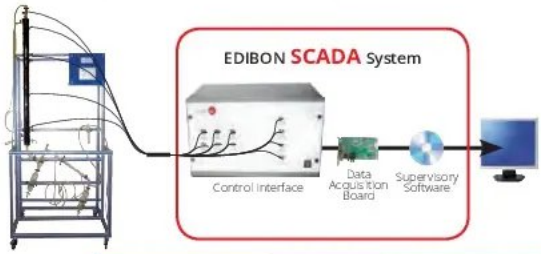
EPAC Computer Controlled Rising Film Evaporator



EDPAC Computer Controlled Double Effect Rising Film Evaporator

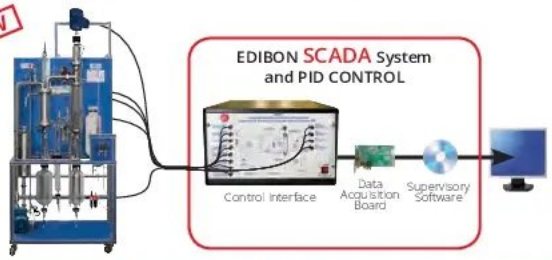


EDPDC Computer Controlled Double Effect Falling Film Evaporator. (Accessory to EDPAC)



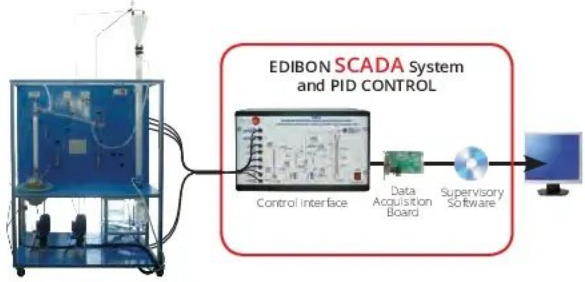
EPFC Computer Controlled Thin Film Evaporator

NEW

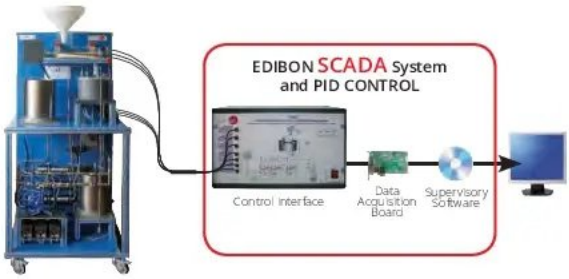


111.4 Extraction

UELLC Computer Controlled Liquid-Liquid Extraction Unit



UESLC Computer Controlled Solid-Liquid Extraction Unit



112. Chemical Engineering. GENERAL UNIT OPERATIONS

112.1 Mass Transfer

QDTLC Computer Controlled Liquid Mass Transfer and Diffusion Coefficient Unit



QDTGC Computer Controlled Gaseous Mass Transfer and Diffusion Coefficient Unit



TTEC Computer Controlled Bench Top Cooling Tower



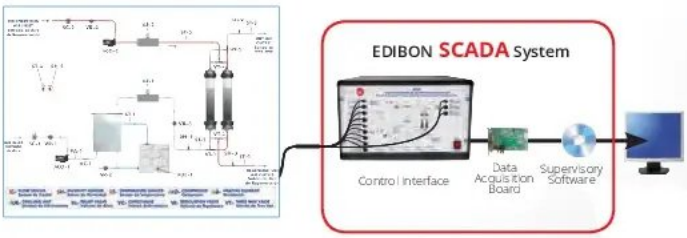
112.2 Adsorption

QALFC Computer Controlled Fixed Bed Adsorption Unit

NEW



QSAC Computer Controlled Adsorptive Air Drying Unit



112.3 Physical Processes

QCCC Computer Controlled Cracking Column



QUCC Computer Controlled Crystallization Unit

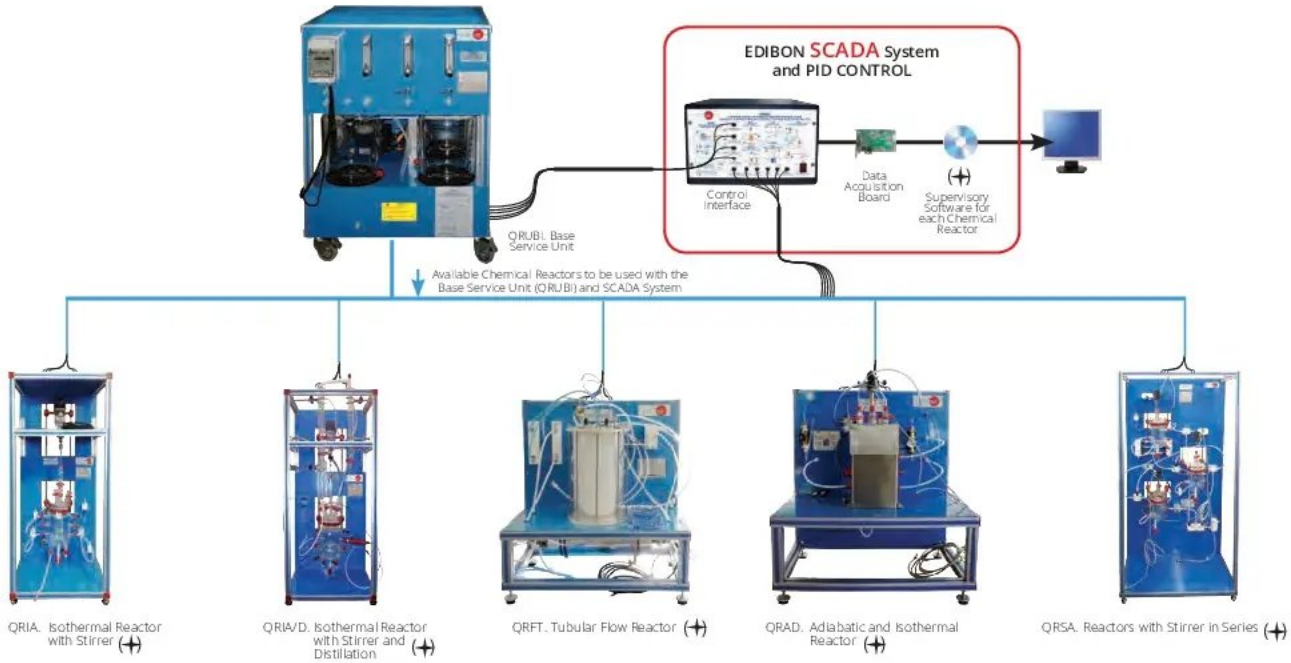
NEW



113. Chemical Engineering. CHEMICAL REACTORS

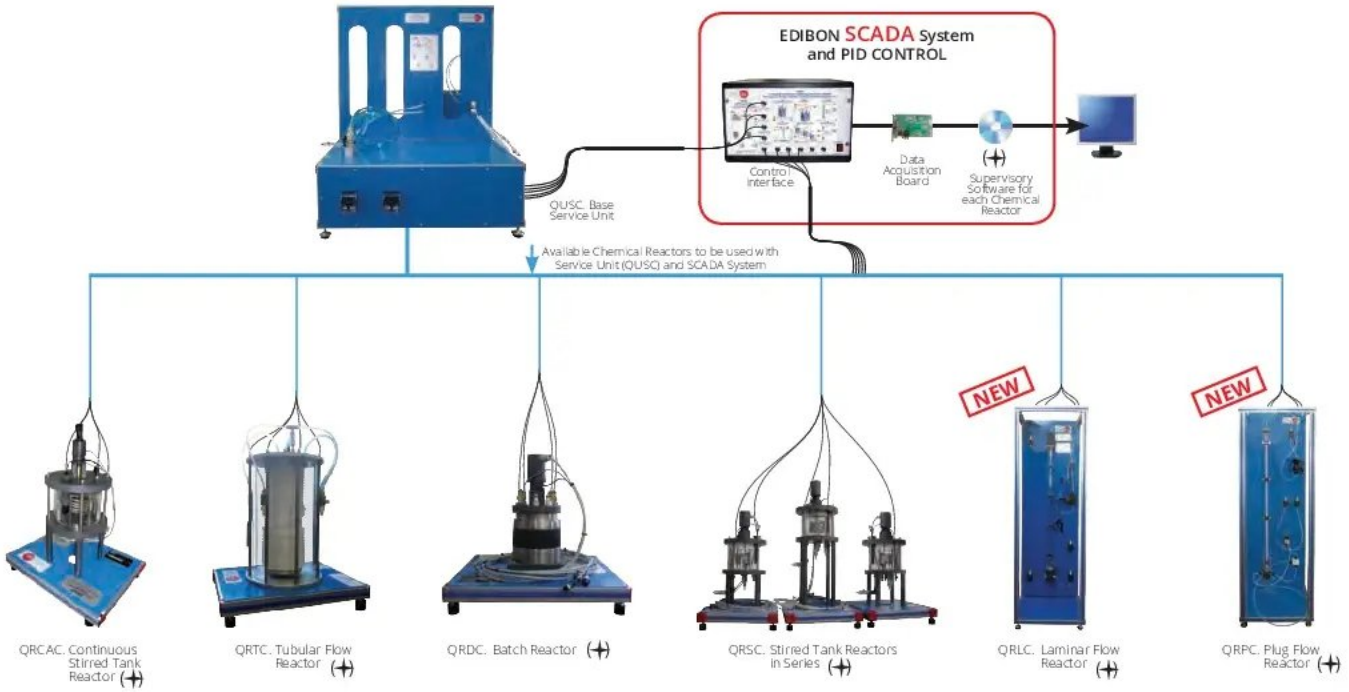
113.1 Modular and Big Reactors

QRQC Computer Controlled Chemical Reactors Training System



113.2 Modular and Small Reactors

QRC Computer Controlled Chemical Reactors Trainer



113.3 Compact Reactors

QRCC Computer Controlled Catalytic Reactors

NEW



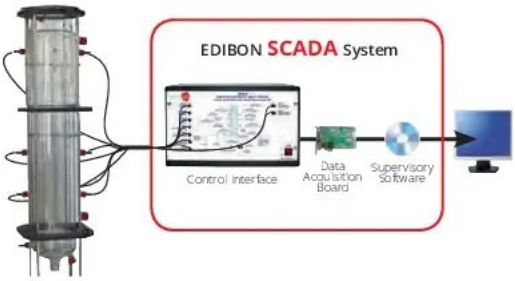
QREC Computer Controlled Batch Enzyme Reactor

NEW



QRALC Computer Controlled Airlift Reactor

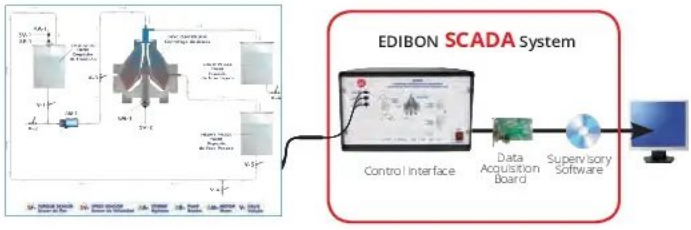
NEW



114. Chemical Engineering. CHEMICAL PROCESS

114.1 Physical-Chemical Process

QCDIC Computer Controlled Disc Centrifuge



PSMC Computer Controlled Magnetic Separation Unit



EMLS Liquid/Solid Mixing Unit



EEC Corrosion Study Unit



ESED Sedimentation Study Unit



QMS Solids Handling Study Unit



EII Ion Exchange Unit



114.2 Filtering

TFUC Computer Controlled Continuous and Batch Filtration Unit

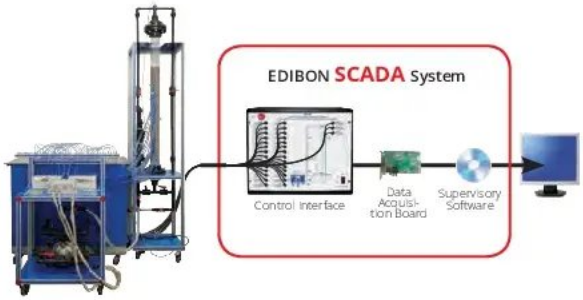
NEW



PFTC Computer Controlled Drum Cell Filter



EFLPC Computer Controlled Deep Bed Filter Unit



114.3 Solvent

QEDC Computer Controlled Batch Solvent Extraction and Desolventising Unit



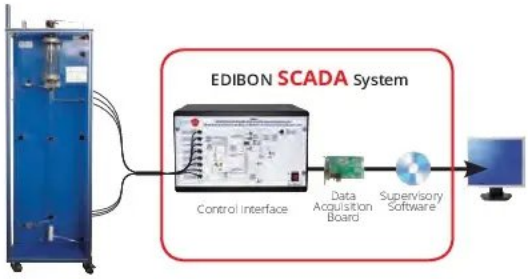
114.4 Heat Transfer

LFFC Computer Controlled Fixed and Fluidised Bed Unit

NEW



TFEC Computer Controlled Flow Boiling Demonstration Unit



TCEC Computer Controlled Boiling Heat Transfer Unit



TTLFC Computer Controlled Fluidisation and Fluid Bed Heat Transfer Unit

NEW

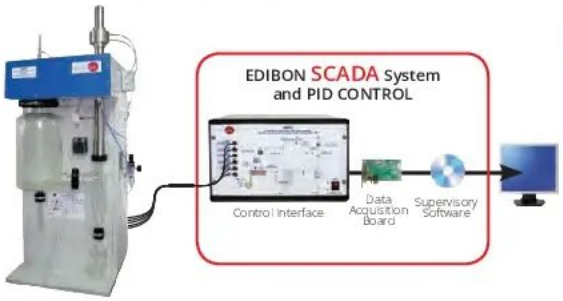


114.5 Food Technology

SBANC Computer Controlled Tray Drier



SSPC Computer Controlled Spray Drier



SDCC Computer Controlled Spray Dryer and Chiller Unit

NEW

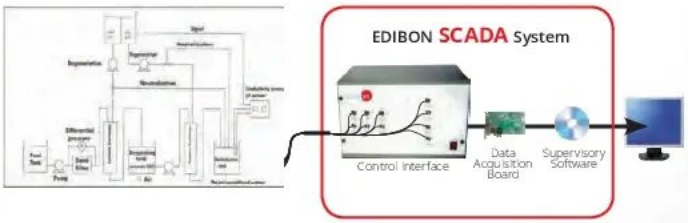


114.6 Environment

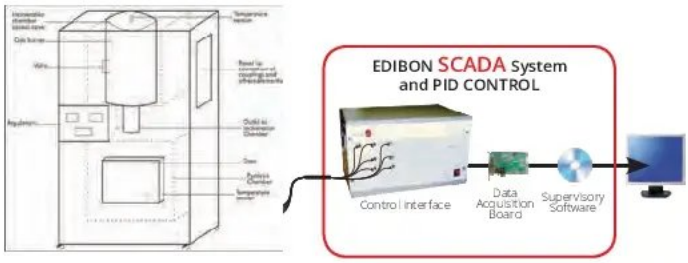
PLGC Computer Controlled Gas Washing Processing Plant



PPDAC Computer Controlled Water Demineralization and Processing Plant



EPIRC Computer Controlled Pyrolysis Unit



115. Mass Transfer

TTEC Computer Controlled Bench Top Cooling Tower



FPCC Computer Controlled Unit to Study Flow through Packed Columns



CHEMICAL ENGINEERING EXPANSIONS

AREA 110

All units in this area using SCADA
can additionally use:

SOFTWARE

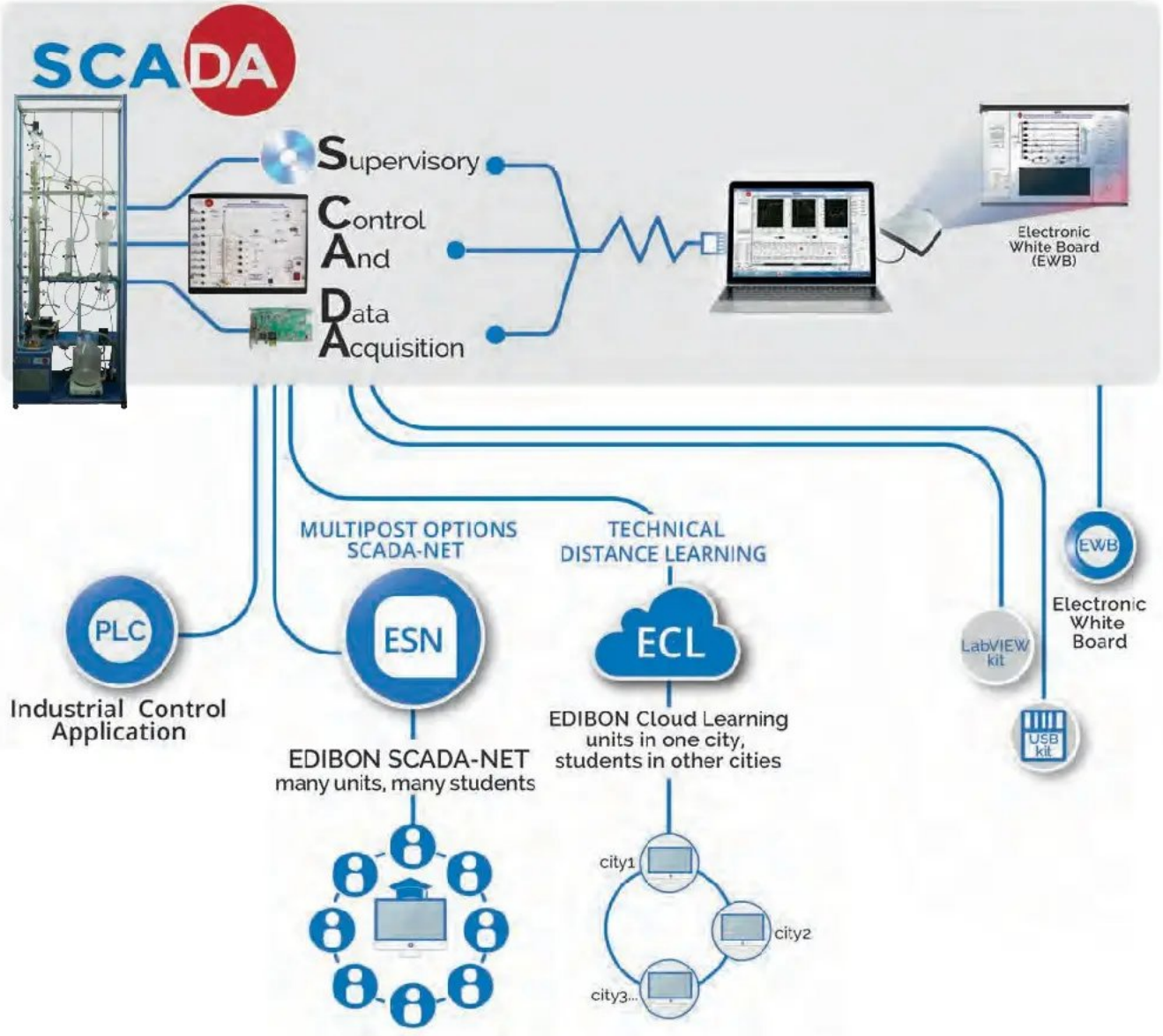
Interactive Computer Aided Instruction Software System

ICAI

- Classroom Manager
- Student Labsoft
  - Practices
  - Calculations
  - Graphics
  - Results

FSS

Faults Simulation System



Details in pages: 101, 102, 103 and 104

121. Food Technology. UNIT OPERATIONS
122. Food Technology. MILK PROCESS
123. Food Technology. OIL PROCESS
124. Food Technology. PILOT PLANTS

121. Food Technology. UNIT OPERATIONS

121.1 Basic Units Operations

Pasteurizers

PADC Computer Controlled Teaching Autonomous Pasteurization Unit



PASC Computer Controlled Laboratory Pasteuriser

NEW

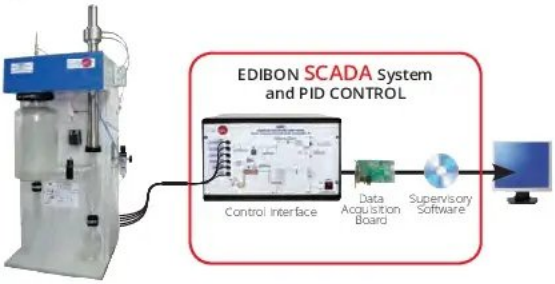


Driers

SBANC Computer Controlled Tray Drier



SSPC Computer Controlled Spray Drier



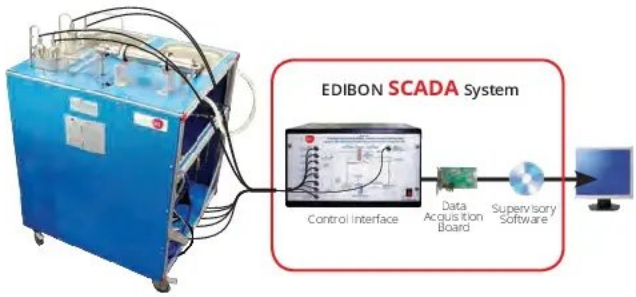
SDCC Computer Controlled Spray Dryer and Chiller Unit

NEW



Miscellaneous

ROUC Computer Controlled Reverse Osmosis/ Ultrafiltration Unit



VPMC Computer Controlled Multipurpose Processing Vessel

NEW



TPCC. Computer Controlled Contact Plate Freezer.



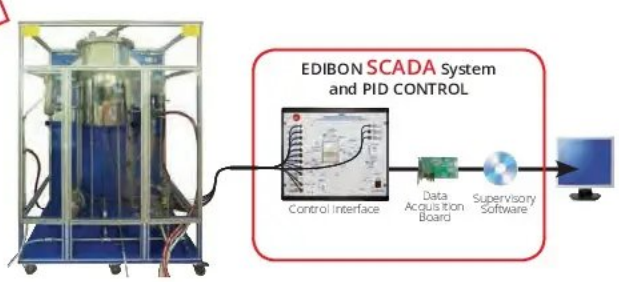
121.2 General Pilot Plants

AEHC Computer Controlled Hydrogenation Unit



AEDC Computer Controlled Deodorizing Unit

NEW



TFDC Computer Controlled Teaching Frigorific Tank

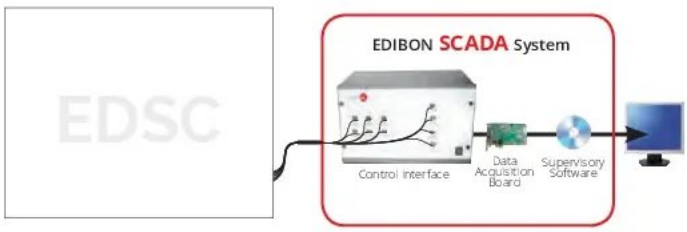


EDLC Computer Controlled Teaching Unit for Packing Liquids

NEW



EDSC Computer Controlled Teaching Machine for Putting into a Container Solids



QEDC Computer Controlled Batch Solvent Extraction and Desolventising Unit

NEW



AFPMC Computer Controlled Plate and Frame Filter Press

NEW



122. Food Technology. MILK PROCESS

DSNC Computer Controlled Teaching Cream Separator



EMANC Computer Controlled Butter Maker Teaching Unit



PADC Computer Controlled Teaching Autonomous Pasteurization Unit



PASC Computer Controlled Laboratory Pasteuriser



AUHTC Computer Controlled UHT Unit



CCDC Computer Controlled Teaching Curdling Tank

NEW



PVQC Computer Controlled Teaching Cheese Press

NEW



IYDC Computer Controlled Teaching Yogurt Incubator



RDC Computer Controlled Teaching Cottage Cheese Maker

NEW



AEQC Computer Controlled Cheese Vat

NEW



FQDC Computer Controlled Teaching Cheese Melter



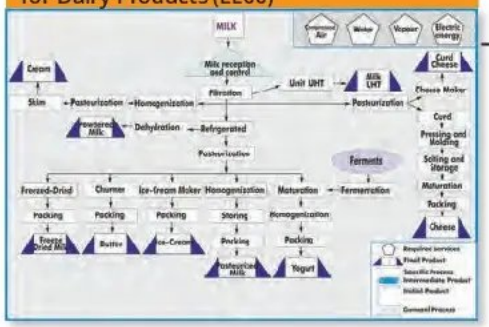
123. Food Technology. OIL PROCESS

PACC Computer Controlled Continuous Cycle Oil Production Plant



124. Food Technology. PILOT PLANTS

for Dairy Products (LE00)



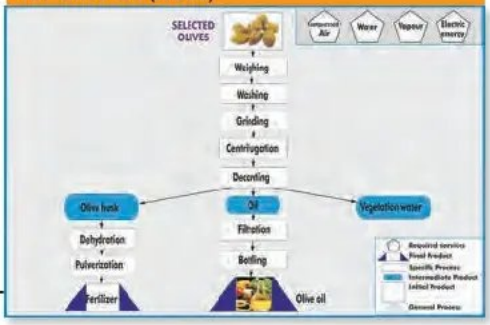
for Cereals (CE00)



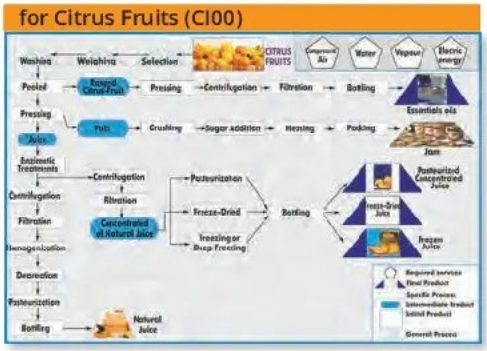
for Meat (CA00)



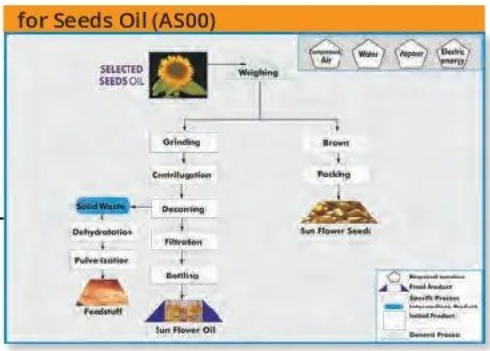
for Olive Oil (AC00)



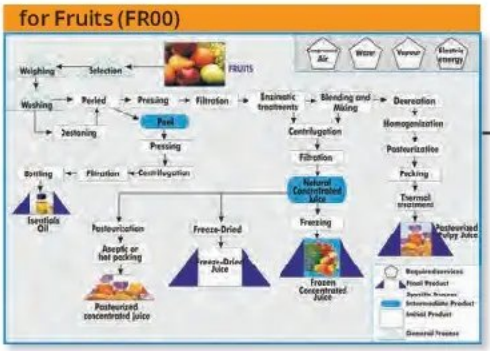
for Citrus Fruits (CI00)



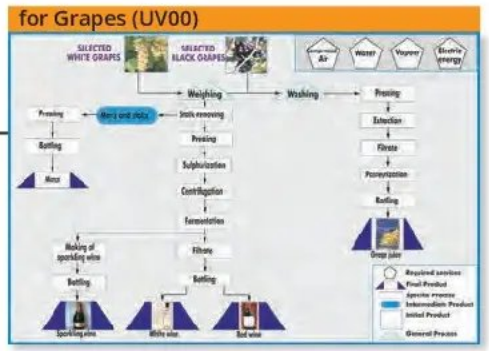
for Seeds Oil (AS00)



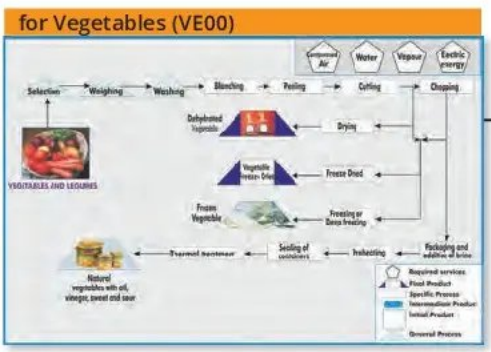
for Fruits (FR00)



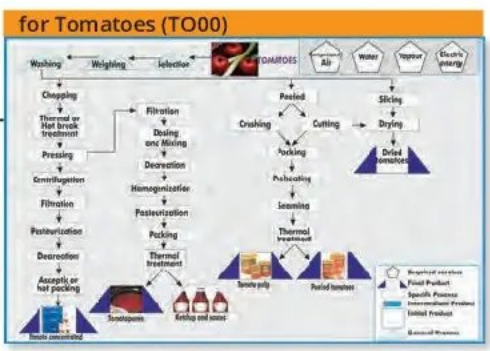
for Grapes (UV00)



for Vegetables (VE00)



for Tomatoes (TO00)



MULTIPOST OPTIONS SCADA-NET

ESN

EDIBON SCADA-NET
many units, many students

FOOD & WATER TECHNOLOGIES
EXPANSIONS

AREA 120

All units in this area using SCADA
can additionally use:

SOFTWARE

Interactive Computer Aided Instruction Software System

ICAI

Classroom Manager

Student Labsoft
Practices
Calculations
Graphics
Results

FSS

Faults Simulation System

SCADA



Supervisory

Control And

Data Acquisition



PLC

Industrial Control Application

MULTIPOST OPTIONS SCADA-NET

ESN

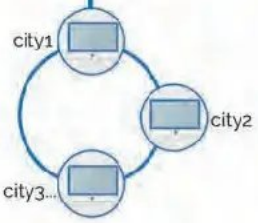
EDIBON SCADA-NET
many units, many students



TECHNICAL DISTANCE LEARNING

ECL

EDIBON Cloud Learning units in one city, students in other cities



EWB

Electronic White Board

LabVIEW kit

USB kit

Details in pages: 101, 102, 103 and 104

131. Environment. WATER HANDLING
132. Environment. WATER TREATMENT
133. Environment. POLLUTION

131. Environment. WATER HANDLING

131.1 Hydrology

ESHC (2x1m) Computer Controlled Hydrologic Systems, Rain Simulator and Irrigation Systems Unit (2x1 m)



PDFDC Computer Controlled Drainage and Seepage Tank

NEW



PDDRC Computer Controlled Unit for Transient Drainage Processes in Storage Reservoirs

NEW



HVFLM-4 Mobile Bed and Flow Visualisation Unit (working section: 4000 x 610 mm)

NEW



PTSA Soil/Water Model Tank

NEW



EFAS Ground Water Flow Unit



RHU Rainfall Hydrographs Unit

NEW



131.2 Moisture

PAHSC Computer Controlled Soil Moisture Suction Sand Unit



PL Demonstration Lysimeter



PPD Drain Permeameter



PEIF Filterability Index Unit



PEFP Permeability/Fluidisation Studies Unit



PEDI Demonstration Infiltration Unit



131.3 Sedimentation

PDSC Computer Controlled Sedimentation Tank



ESED Sedimentation Study Unit



SPFB Sedimentation, Precipitation and Flocculation Unit



132. Environment. WATER TREATMENT

132.1 Digesters

PDAC Computer Controlled Aerobic Digester



PDANC Computer Controlled Anaerobic Digester



132.2 Flocculation and Aeration

PEFC Computer Controlled Flocculation Test Unit

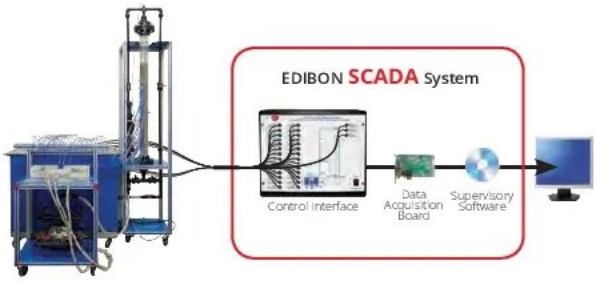


PEAIC Computer Controlled Aeration Unit



132.3 Water Treatment Unit Operations

EFLPC Computer Controlled Deep Bed Filter Unit



ROUC Computer Controlled Reverse Osmosis/ Ultrafiltration Unit



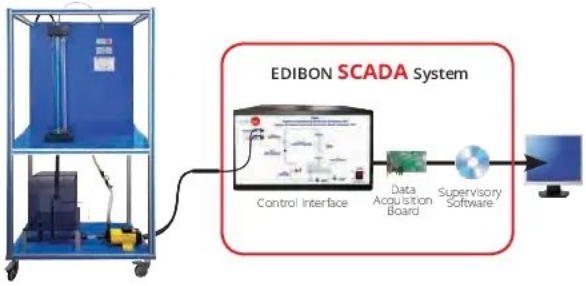
PCCAC Computer Controlled Water Quality Control Unit

NEW



POAC Computer Controlled Advanced Oxidation Unit

NEW



PEAC Computer Controlled Adsorption Unit

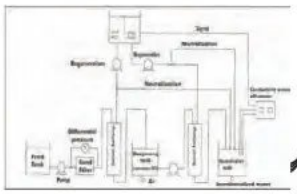


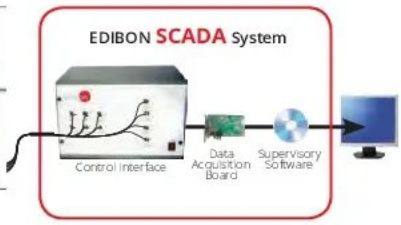
EII Ion Exchange Unit



132.4 Water Treatment Plants

PPDAC Computer Controlled Water Demineralization and Processing Plant

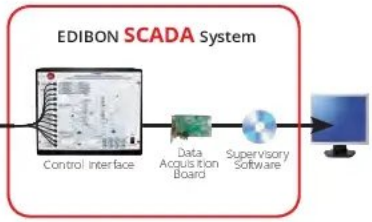




PPTAC/2 Computer Controlled Water Treatment Plant 2

NEW

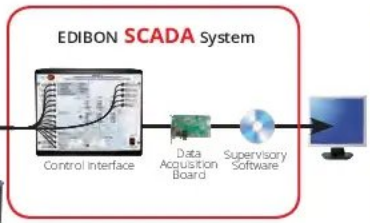




PPTAC/1 Computer Controlled Water Treatment Plant 1

NEW





132.5 Dirty Water

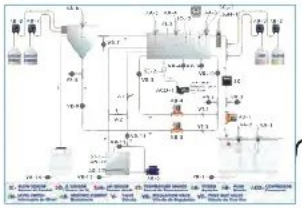
PFADC Computer Controlled Dissolved Air Flotation Unit

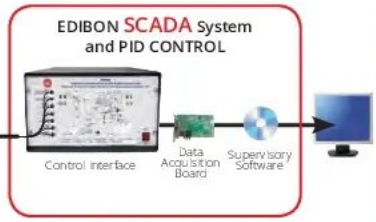




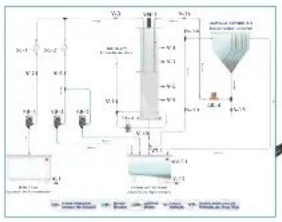
PPFAC Computer Controlled Activated Sludge Process Unit

NEW



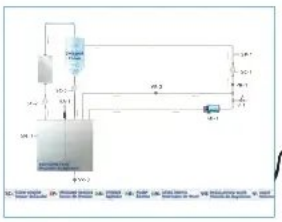


PPBC Computer Controlled Biofilm Process Unit





PHCC Computer Controlled Hydrocylone





133. Environment. POLLUTION

133.1 Ground Pollution

ECASC Computer Controlled Subterranean Water Pollution Unit





133.2 Air Pollution

PSNC Computer Controlled Gas Flow Classification Unit



PSMC Computer Controlled Magnetic Separation Unit



PCGC Computer Controlled Gas Cyclone



PFTC Computer Controlled Drum Cell Filter

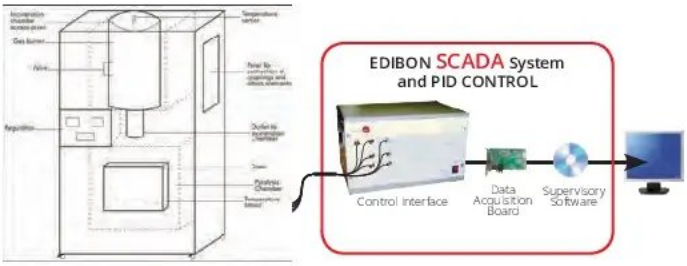


PLGC Computer Controlled Gas Washing Processing Plant

NEW



EPIRC Computer Controlled Pyrolysis Unit



TVCC Computer Controlled Combustion Laboratory Unit



TVPLC Computer Controlled Flame Propagation and Stability Unit



ENVIRONMENT EXPANSIONS

AREA 130

EDIBON PATENT

All units in this area using SCADA
can additionally use:

SOFTWARE

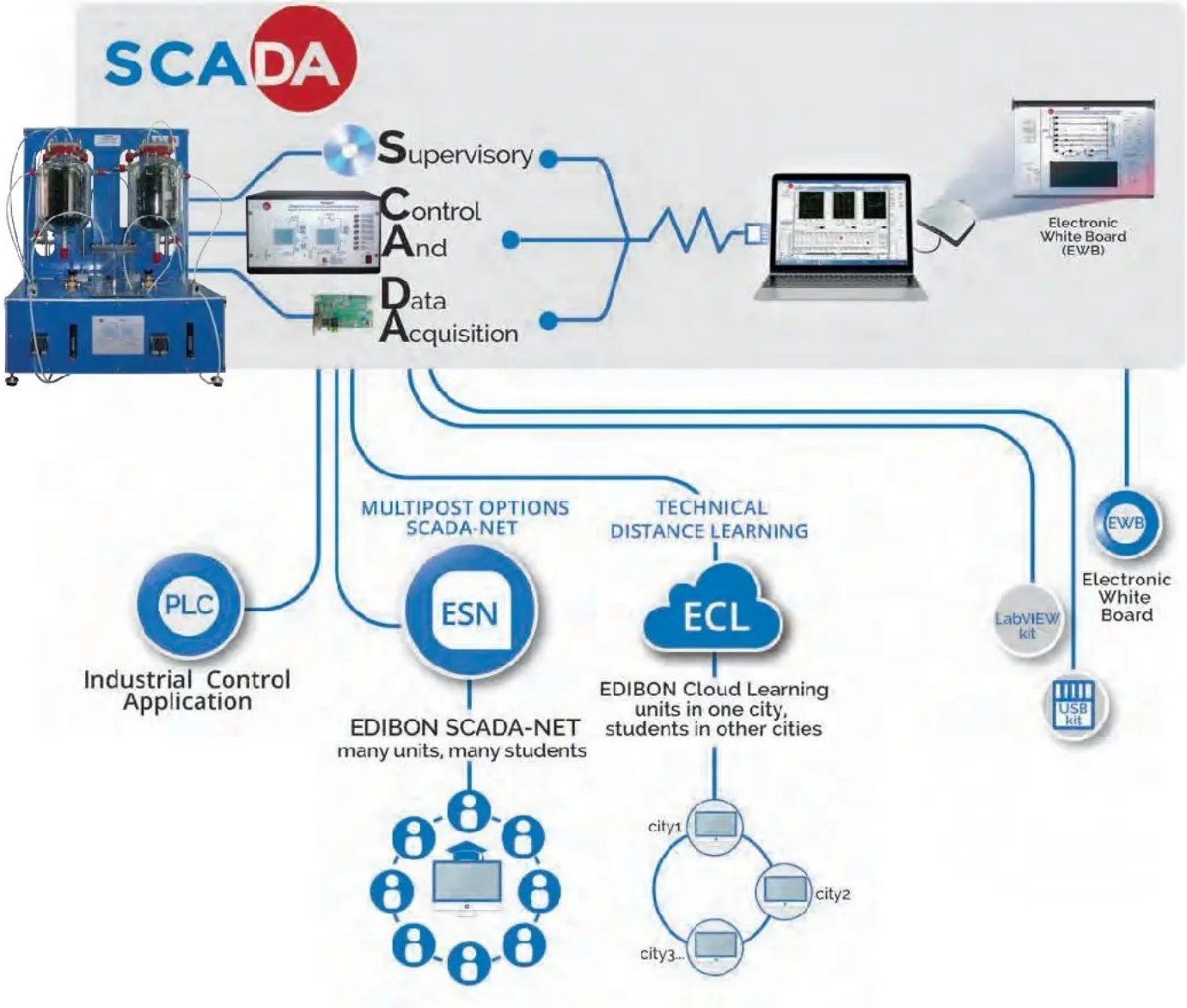
Interactive Computer Aided Instruction Software System

ICAI

- Classroom Manager
- Student Labsoft
  - Practices
  - Calculations
  - Graphics
  - Results

FSS

Faults Simulation System



Details in pages: 101, 102, 103 and 104

141. Biomedical. BIOMEDICAL APPLICATION
142. Biomedical. BIOMEDICAL ENGINEERING CONCEPTS
143. Biomedical. BIOMECHANICS
144. Biomedical. INDUSTRIAL BIOMEDICAL WITH SCADA

141. Biomedical. BIOMEDICAL APPLICATION

BIADC Computer Controlled Biomedical Auditory and Diagnostic Teaching Unit

NEW



BIUTEC Computer Controlled Biomedical Ultrasound Thermal Effects Teaching Unit

NEW



BIHBPC Computer Controlled Biomedical Human Biosignals and Parameters Teaching Unit

NEW



BICSC Computer Controlled Biomedical Circulatory System Teaching Unit

NEW



BISBC Computer Controlled Biomedical Spirometry and Breath Teaching Unit

NEW



BIERC Computer Controlled Biomedical Electric Response Teaching Unit

NEW



BIMAG Biomedical Magnetotherapy Teaching Unit

NEW



BIMTE Biomedical Microwave Thermal Effects Teaching Unit

NEW



BIPBS Biomedical Patient Biosignals Simulator

NEW



Other available units:

BLIO Freeze Dryer

EDILAB-ELEC1
Electrolyzer (3 Nl/h)

EDILAB-ELEC2
Electrolyzer (60 Nl/h)

142. Biomedical. BIOMEDICAL ENGINEERING CONCEPTS

See complete laboratory 14HE and 14TV

143. Biomedical. BIOMECHANICS

144. Biomedical. INDUSTRIAL BIOMEDICAL WITH SCADA

BIEV Computer Controlled Steam Sterilizer

NEW



QRCC-IF Flow Injection Analysis (FIA) Unit



BIOMEDICAL ENGINEERING EXPANSIONS

AREA 140

edibon

EDIBON PATENT

All units in this area using SCADA **can additionally use:**

SOFTWARE

Interactive Computer Aided Instruction Software System

ICAI

- Classroom Manager
- Student Labsoft
  - Practices
  - Calculations
  - Graphics
  - Results

FSS

Faults Simulation System

SCADA



Supervisory

Control And Data Acquisition



PLC

Industrial Control Application

MULTIPOST OPTIONS SCADA-NET

ESN

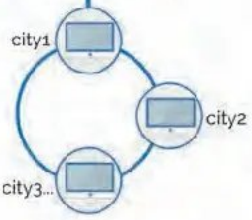
EDIBON SCADA-NET
many units, many students



TECHNICAL DISTANCE LEARNING

ECL

EDIBON Cloud Learning units in one city, students in other cities



EWB

Electronic White Board

LabVIEW kit

USB kit

Details in pages: 101, 102, 103 and 104

more information:
www.edibon.com>know how>expansions

SCADA expansions

EDIBON PATENT

SOFTWARE

Interactive Computer Aided Instruction Software System

ICAI

- Classroom Manager
- Student Labsoft
  - Practices
  - Calculations
  - Graphics
  - Results

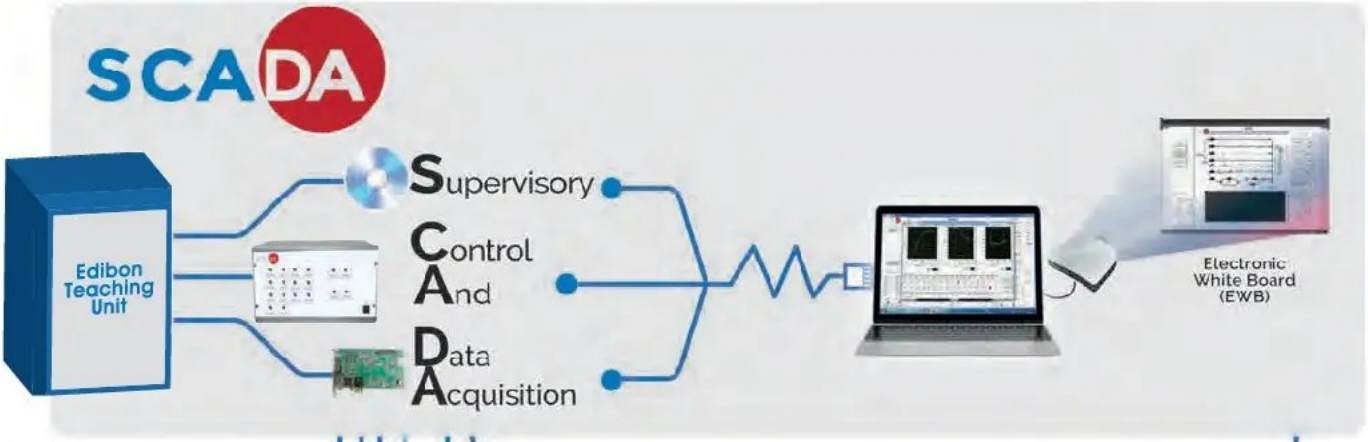
FSS

Faults Simulation System

DATA ACQUISITION

DAS

Data Acquisition Software



PLC

Industrial Control Application

MULTIPOST OPTIONS SCADA-NET

ESN

EDIBON SCADA-NET
many units, many students

TECHNICAL DISTANCE LEARNING

ECL

EDIBON Cloud Learning units in one city, students in other cities

3D

EDIBON Three Dimensions System

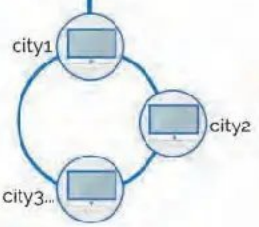
LabVIEW kit

USB kit

EWB

Electronic White Board





ICAI INTERACTIVE COMPUTER AIDED INSTRUCTION SOFTWARE SYSTEM

Teachers and students/units software



The ICAI is available for units in the following areas:

10. Physics
20. Electronics
30. Communications
40. Electricity
50. Energy
60. Mechatronics
70. Mechanics
80. Fluid Mechanics
90. Thermodynamics & Thermotechnics
100. Process Control
110. Chemical Engineering
120. Food & Water Technologies
130. Environment
140. Biomedical Engineering

FSS FAULTS SIMULATION SYSTEM

PID Control + Switch Faults Simulation



The FSS is available for units in the following areas:

10. Physics
20. Electronics
30. Communications
40. Electricity
50. Energy
60. Mechatronics
70. Mechanics
80. Fluid Mechanics
90. Thermodynamics & Thermotechnics
100. Process Control
110. Chemical Engineering
120. Food & Water Technologies
130. Environment
140. Biomedical Engineering

DAS DATA ACQUISITION SOFTWARE

for BASIC units in the following areas



20. Electronics. **EDAS/VIS**. Data Acquisition System/Virtual Instrumentation System (for Basic Electronics).
30. Communications. **EDAS/VIS**. Data Acquisition System/Virtual Instrumentation System (for Basic Communications).
40. Electricity. **EDAS/VIS**. Data Acquisition System/Virtual Instrumentation System (for Basic Electricity).
70. Mechanics. **BDAS**: Basic Data Acquisition System and Sensors (for Basic Mechanics).
80. Fluid Mechanics. **BDAS**: Basic Data Acquisition System and Sensors (for Basic Fluid Mechanics).

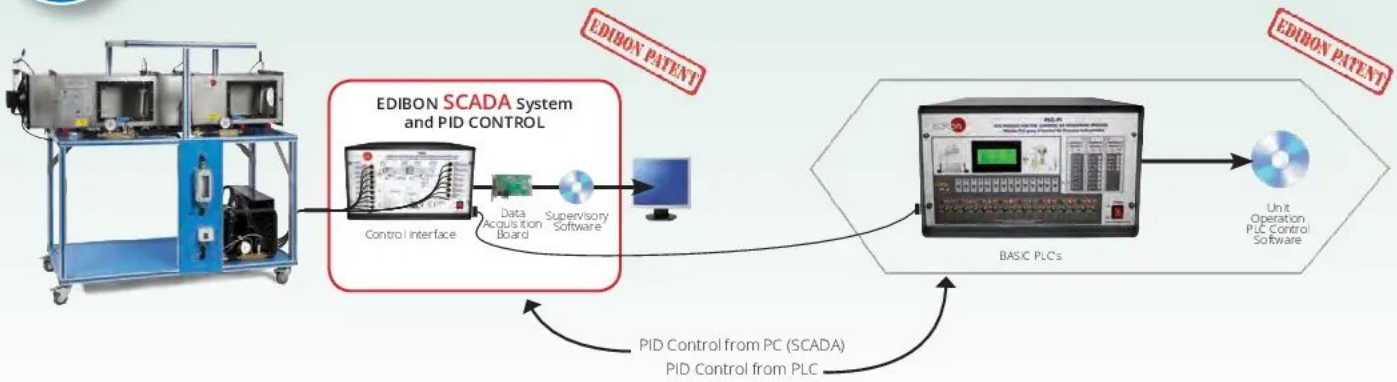
EWB ELECTRONIC WHITE BOARD / 65" screen





SCADA Expansions

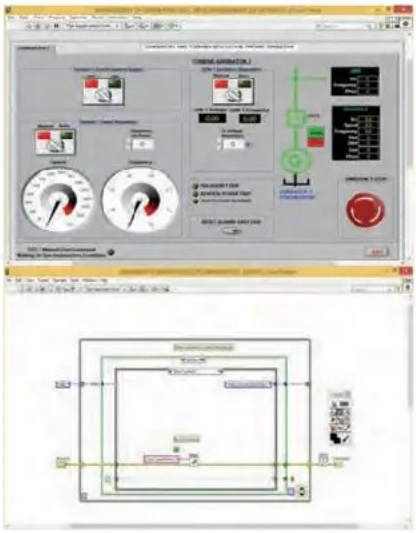
INDUSTRIAL CONTROL APPLICATION



NOTE: This Real Industry System can be used with ANY EDIBON unit that works with SCADA.

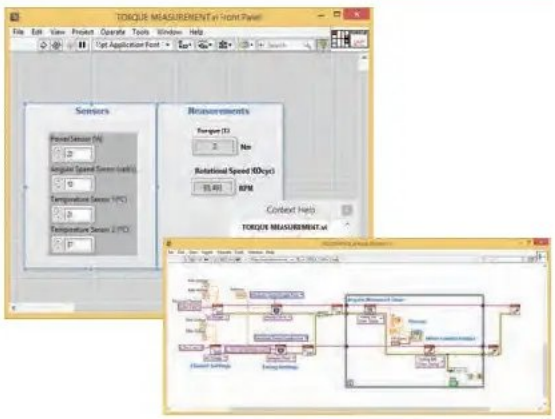
EDIBON Software Development KIT, Powered by NI LabVIEW™

EXAMPLE of unit with EDIBON LabVIEW Kit





LabVIEW Premium suite License Included



LabVIEW

EDIBON USB KIT



EDIBON SCADA-NET SYSTEMS

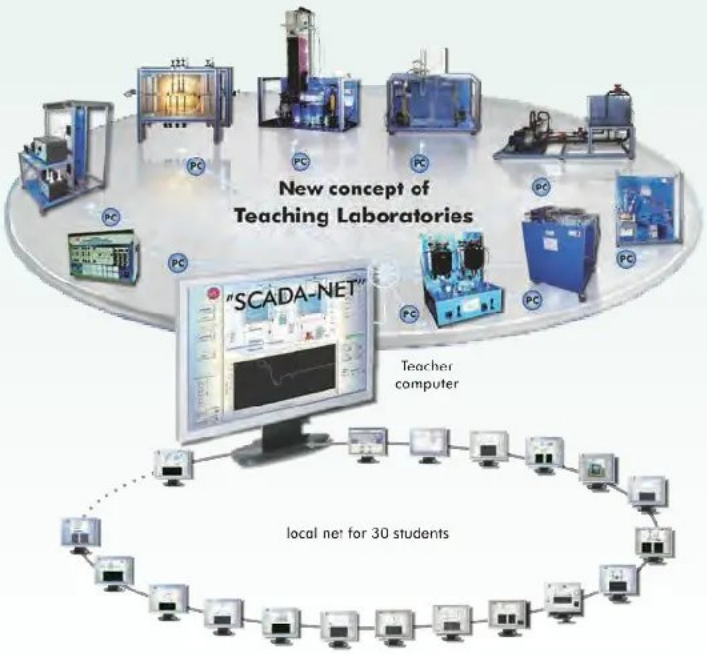


SCADA NET

The complete laboratories supplied by EDIBON allow:

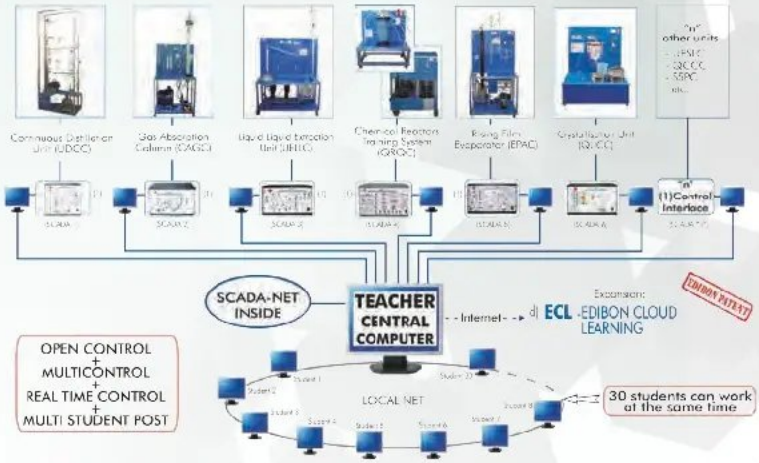
- Having laboratory and classroom at same place.
- Teaching theory and practice at the same time.
- 30 students working simultaneously.
- Students to understand concepts quickly and clearly by using EDIBON Advanced Technology.

... and more.

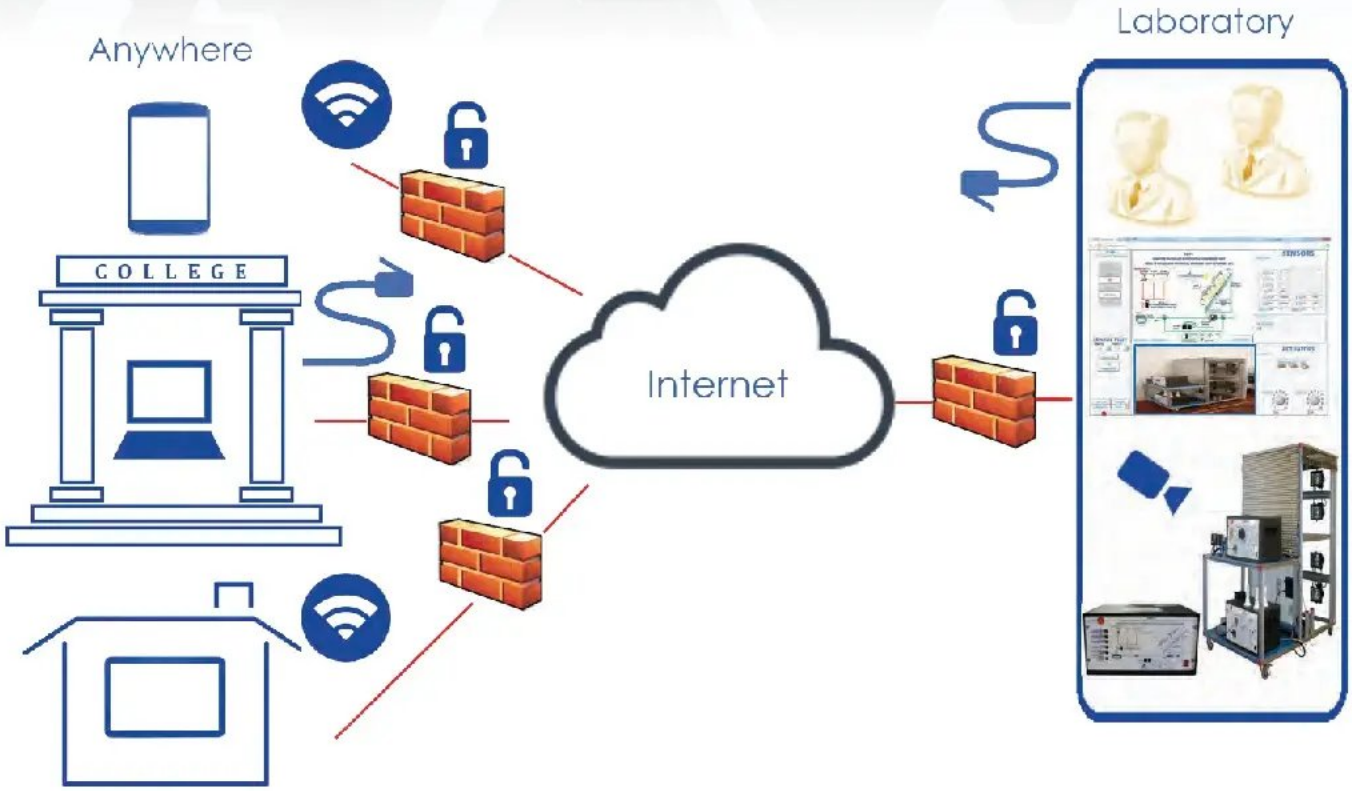


ESN Applications: In all EDIBON 14 areas

REPRESENTATIVE:



ECL EDIBON CLOUD LEARNING



MAIN ADVANTAGES of this Technology

Reliability
Centralized and efficient system

Security & Privacy
Restricted Access and Confidentiality

Flexibility
Location and Device independence

Cost Reduction & Time Saving
Simultaneity. Multiple users can work at the same time

ECL is divided in TWO PLATFORMS

Users Online Platform

The **administrators** have full control over their Laboratories thanks to the powerful Class-Administrator Tool that allows the users management, logs visualization and progression monitoring. It also enables to assign users permissions to let them control EDIBON Units or just display them. Furthermore, the administrator can upload & download Measurements, data and Multimedia resources.

The **users** can learn interactively in a flexible environment as if they were in the Laboratory, accessing through the Remote App to work with EDIBON Units. Several users can work with one unit or one user with several units. The users can also Upload and Download Measurements, data and graphs, Multimedia resources and Reports.

Remote App Platform

Thanks to the Remote App Platform, the users can control EDIBON Units & EDIBON SCADA Software as if they were in the laboratory and share their expertise with the Users Community.

ALL EDIBON Business Models

"DAY BY DAY" (D/D)

PROJECTS AND COMPLETE LABORATORIES

TECHNICAL EDUCATION TURN KEY PROJECTS (TKP)

EDIBON CLOUD LEARNING (ECL)

PILOT PLANTS AND CUSTOM MADE UNITS

COURSES



CONVENTIONAL BUSINESS

- Needs from labs analysis.
- End customer choose Teaching Equipment from available market information.
- Tenders.
- Orders.
- Supply.
- Etc.

PROJECTS AND COMPLETE LABORATORIES

PROJECTS

PMU. Multilateral Projects: THE WORLD BANK · ASIAN DEVELOPMENT BANK · IDB Inter-American Development Bank · etc.

PBI. Bilateral Projects: JICA Japan International Cooperation Agency · KOICA Korea International Cooperation Agency · giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH · aecid · DANIDA Danish International Development Agency · etc.

PP. Projects with own money.

PR. Other projects.

COMPLETE LABORATORIES

10 1HE/1TV. Physics laboratory



20 2HE/2TV. Electronics laboratory



30 3HE/3TV. telecommunications laboratory



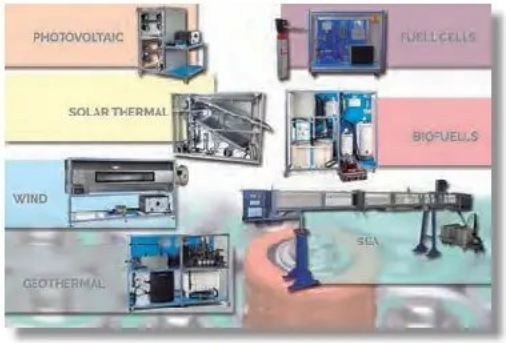
40 4HE/4TV. Electricity laboratory



50 5HE/5TV. Energy laboratory



5RHE/5RTV. Renewable Energy



5TC. Energy training Center



60 6HE/6TV. Mechatronics laboratory



70 7HE/7TV. Mechanics laboratory



80 8HE/8TV. fluid Mechanics laboratory



90 9HE/9TV. thermodynamics & thermotechnics laboratory



100 10HE/10TV. Process Control laboratory



10PCTC. Process Control and Maintenance training Center



110 11HE/11TV. Chemical Engineering laboratory



11PTC. Petroleum training Center



120 12HE/12TV. food technology laboratory



130 13HE/13TV. environment laboratory



140 14HE/14TV. biomedical engineering laboratory



Special Laboratories

20SKILL. new technologies technical skills center



20GREEN. green laboratory



20AIRP. airport laboratory



20TTC. teachers technical training and applied research center



20TDL. technical professional distance learning



SOFT FINANCING AVAILABLE

TECHNICAL EDUCATION TURN KEY PROJECTS (TKP)

TURN-KEY PROJECTS

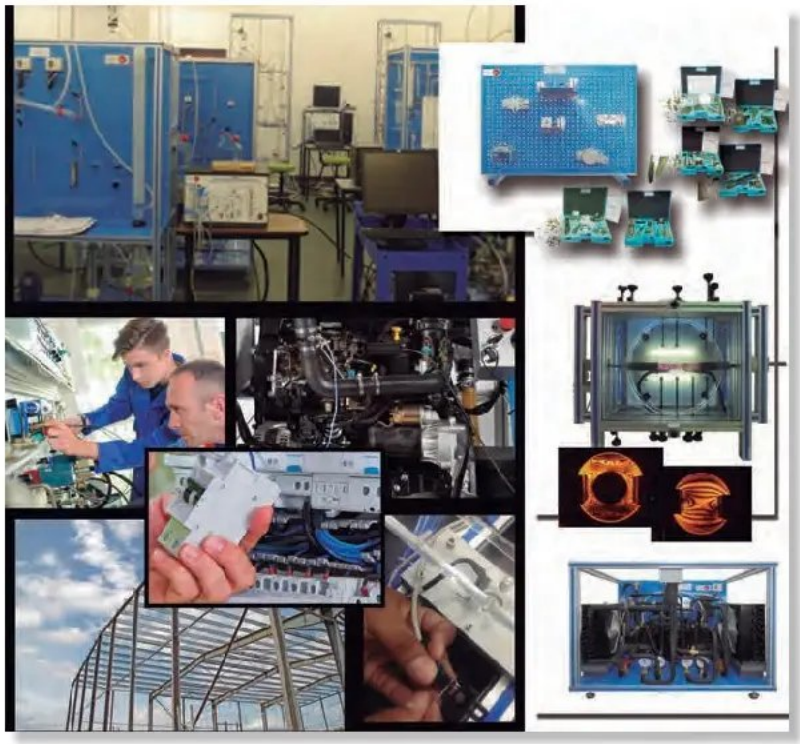
Higher Technical Education Training Center (HTETC)



List of main technical Degrees / Departments / Careers:

- Aeronautics Eng.
- Agricultural Eng.
- Agricultural Industries Eng.
- Architecture.
- Automatic Eng.
- Chemical Eng.
- Chemistry.
- Civil Eng.
- Computer Science and Eng.
- Ecological Eng.
- Electrical Eng.
- Electronics Eng.
- Energetic Eng.
- Environmental Eng.
- Food Eng.
- Forestry Eng.
- Geological, Mines and Oil Eng.
- Geology.
- Industrial Eng.
- Marine Eng.
- Material Eng.
- Mechanical Eng.
- Metallurgy Eng.
- Naval Eng.
- Physics Eng.
- Process Eng.
- Systems Eng.
- Etc...

Technical and Vocational Education Training Center (TVETC)



List of main Technical Specialities:

- Agricultural.
- Agricultural Industries.
- Automotive.
- Chemistry.
- Civil Eng.
- Communications.
- Electrical.
- Electronics.
- Fluid Mechanics.
- Food Eng.
- Industrial Chemical.
- Maintenance.
- Maritime and Fishing.
- Mechanical-Manufacture.
- Mechanical-Metal.
- Refrigeration and Air Conditioning.
- Etc...

EDIBON CLOUD LEARNING (ECL)

EDIBON CLOUD LEARNING



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PILOT PLANTS

Area 110. chemical engineering

See **114.3** Chemical process. SOLVENT *subarea*

QEDC Computer Controlled Disc Centrifuge.

Area 120. food & water technologies

See **121.1** Basic Units Operations *subarea*

PADC Computer Controlled Teaching Autonomous Pasteurization Unit.

See **121.2** Pilot Plants *subarea*

AEHC Computer Controlled Hydrogenation Unit.

AEDC Computer Controlled Deodorizing Unit.

TFDC Computer Controlled Teaching Frigorific Tank.

EDLC Computer Controlled Teaching Unit for Packing Liquids.

EDSC Computer Controlled Teaching Machine for Putting into a Container Solids.

QEDC Computer Controlled Batch Solvent Extraction and Desolventising Unit.

AFPMC Computer Controlled Plate and Frame Filter Press.

See **123.** Food Technology. OIL PROCESS *subarea*

PACC Computer Controlled Continuous Cycle Oil Production Plant.

See **124.** Food Technology. PILOT PLANTS *subarea*

LEoo Process Plant for Dairy Products with Scada-Net System "ESN".

CAoo Process Plant for Meat with Scada-Net System "ESN".

CIoo Process Plant for Citrus Fruits with Scada-Net System "ESN".

FRoo Process Plant for Fruits with Scada-Net System "ESN".

VEoo Process Plant for Vegetables with Scada-Net System "ESN".

ASoo Process Plant for Seeds Oil with Scada-Net System "ESN".

ACoo Process Plant for Olive Oil with Scada-Net System "ESN".

TOoo Process Plant for Tomatoes with Scada-Net System "ESN".

UVoo Process Plant for Grapes with Scada-Net System "ESN".

CEoo Process Plant for Cereals with Scada-Net System "ESN".

CUSTOM MADE PILOT PLANTS

CUSTOMER needs a SPECIAL **PILOT PLANT**

EDIBON has

KNOW HOW | 50 ENGINEERS | 30 YEARS EXPERIENCE | FACILITIES

Customer can get a custom made solution from EDIBON

CUSTOM MADE UNITS

CUSTOMER needs a SPECIAL **UNIT**

EDIBON has

KNOW HOW | 50 ENGINEERS | 30 YEARS EXPERIENCE | FACILITIES

Customer can get a custom made solution from EDIBON



PHOTOELASTICITY

BASIC CONCEPTS AND TEACHING APPLICATIONS WITH EDIBON/EFO UNIT



INSTRUMENTATION, REGULATION AND CONTROL IN LABORATORIES

LEARN THE CONTROL OF THE CONDITIONS OF A LABORATORY PROCESS



Facilities

New and advanced 30.000 m² factory to design, innovate, manufacture and perform quality control procedures.

Manufacturing and Quality Control.

We use the latest technology for that.
Several Quality Certificates.
See Know How

Company sustainability.

Due to technology designed last 30 years.
Due to second generation involved.
...and more.







Manufacturing plants



R&D Department



Quality control

Our services

Before the order arrives to EDIBON, we can do:



- Laboratories and workshops tentative design.
- Custom made financing proposal.
- Custom made units design.
- Advising of Teaching Technology of new Training Centre (Public or Private).
- EDIBON facilities and Research Department.
- Software in any language.

After-sales service

- ✔ Installation, Setting Up, Training and Technology Transfer.
- ✔ ISO9001 for After Sales Service.
- ✔ Continuous update and improvement of all units in our range.
- ✔ Expansions to be added to any unit, at any time.
- ✔ Continuous maintenance support.
- ✔ Cost free, Remote After Sales Service, for all SCADA units.
- ✔ Training Certificates.
- ✔ MOU for working together with top Higher Education Institutions.

So, full customer satisfaction!!

Warranties



More than 50 EDIBON engineers at your disposition.



Where is EDIBON Advanced Teaching Technology used?

In Ministries around the world such as:

MOE
Ministry of Education

MOL
Ministry of Labour

MOD
Ministry of Defence

MOH
Ministry of Health

MOOG
Ministry of Oil and Gas

MOEN
Ministry of Energy

MOA
Ministry of Agriculture

Other Ministries with Technical Schools

Some countries using EDIBON Technology with full success:

Afghanistan
Albania
Algeria
Angola
Argentina
Australia
Austria
Armenia
Azerbaijan
Bahrain
Bangladesh
Barbados
Belarus
Belgium
Belize
Bhutan
Bolivia
Botswana
Brazil
Brunei
Bulgaria
Burkina Faso
Cambodia
Cameroon
Canada
Chile
China
Colombia
Costa Rica
Croatia
Cyprus
Dominica
Dominican Rep.
Ecuador
Egypt
El Salvador
Estonia
Ethiopia
Finland
France
Georgia
Germany
Ghana
Greece
Guatemala
Guinea Ec.
India
Indonesia
Lebanon
Libya
Italy
Irak
Iran
Ireland
Israel
Ivory Coast
Jordan
Kazakhstan
Kuwait
Kyrgyzstan
Latvia
Lithuania
Malaysia
Mauricio
Mauritania
Mexico
Mongolia
Morocco
Mozambique
Myanmar
Netherlands
New Zealand
Nicaragua
Nigeria
Oman
Pakistan
Palestine
Panama
Paraguay
Peru
Philippines
Poland
Portugal
Qatar
Romania
Russia
Saudi Arabia
San Cristobal & N
Serbia
Singapore
Slovakia
South Africa
South Korea
Spain
Sri Lanka
Sudan
Suriname
Switzerland
Syria
Tajikistan
Taiwan
Thailand
Trinidad & Tobago
Tunisia
Turkey
Turkmenistan
UAE
Uganda
Ukraine
UK
Uruguay
USA
Uzbekistan
Venezuela
Vietnam
Yemen
Zambia

Modern Laboratories



SCADA NET

ESN

The complete laboratories supplied by EDIBON allow:

- Having laboratory and classroom at same place.
- Teaching theory and practice at the same time.
- 30 students working simultaneously.
- Students to understand concepts quickly and clearly by using EDIBON Advanced Technology.

... and more.

edibon

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REPRESENTATIVE: