

ENVIDAS Lite VIII

AIR Quality & Continuous Emissions

Real Time and Data Acquire Unit



A typical ENVIDAS Lite system contains the following in a single box:

- PC-based data acquisition
- VIA CPU C7 1GHz, 128K L2 Cache
- 8 serial ports
- Standard PC keyboard/mouse PS2 Connector
- SVGA video display Interface
- Optional 8-16 analog inputs
- Optional 8 digital outputs
- Optional 7 digital inputs
- Solid State Disk 32 GB SATA II
- 2 USB Ports
- 1 LAN Port
- Real Time calendar clock
- Flexible easy-to-use menu driven software
- Rugged embedded PC-based platform
- Store 15 Sec' average data for 31 days
- Store basic average data for more then 10 years
- Data collection of smart analyzers flags and diagnostics via TCP/IP and RS232C

INTRODUCTION

ENVIDAS is an intelligent, multi function, high – performance data acquisition system. It is designed with affordability and versatility in mind.

ENVIDAS is a state-of-the-art system that uses nonproprietary desktop or industrial PC computer components to run flexible, environmental data acquisition software. A wide variety of data acquisition cards may be installed.

ENVIDAS software features pull-down windows based menus. Only basic knowledge of PC software operations is required for system operation.

All hardware components are open stock items available from multiple suppliers.

As the name implies, ENVIDAS is designed to help you automate your environmental data acquisition system projects and make your job easier.

The system requires an initial setup. Then it starts to run automatically, acquiring measurements, controlling processes and transferring data to the central computer room. The system has the capability of detecting errors and autonomously transmitting alarms to the central. Data values can be filtered and collected according to user-defined criteria. Local on screen display and printing is supported.

ENVIDAS has been used in support of data acquisition and control in the following areas:

- Ambient Air Quality Monitoring.
- Continuous Emissions Monitoring.
- Meteorological Monitoring.
- Water Quality Monitoring.
- Hydrological Monitoring.
- Toxic Gas Monitoring.
- Radiation Monitoring.

HARDWARE

ENVIDAS Lite VIII system supports up to 16 measurements channels, 16 digital inputs, 16 digital outputs, 2 USB Ports and 8 RS232C communication ports.

EnviDAQ -8000 Distributed Data Acquisition & Control Modules

EnviDAQ-8000 series is a family of compact, intelligent sensor-to-PC remote data acquisition modules.

The EnviDAQ-8000/485 system conform to the EIA RS-485 communication standard. This is the industry's most widely used, balanced, bidirectional transmission line standard. RS-485 was specifically developed for industrial applications to transmit and receive data at high rates over long distances.

Features/Benefits

- Maximize System Design Flexibility
- Reduce Maintenance Effort
- Easy Installation and Networking
- Proven for Industrial Environments



EnviDAQ-8017 - 8 Channel Analog Inputs

- Connectors: 1 x Plug-in terminal blocks (#14~22 AWG)
- Analog Input Range: : +/-150mV, +/-500mV, +/-1V, +/-5V, +/-10V, +/-20mA
- Effective resolution: 16-bit
- Channels: Eight differential
- Input type: mV, V, mA
- Isolation voltage: 3000 VDC
- Accuracy: +/-0.1% or better
- Power Consumption: 1.2W
- Certification: CE, FM
- Operating Temperature: -10 ~ 70°C
- Power Input: Unregulated 10~30 Vdc w/power reversal protection

EnviDAQ -8050 8 Ch. Dig. Out/7 Ch. Dig. In

- Connectors: 1 x Plug-in terminal blocks (#14~22 AWG)
- Operating Temperature: -10 ~ 70°C
- Digital Input Channels: 7 TTL Level
- Logic Level 0: <= +1Vdc
- Logic Level 1: >= +2.4Vdc
- Digital Outputs Channel: 8 Open Collector 30V, Max Load 30mA
- Isolation voltage: 3000 VDC
- Power Consumption: 300mW
- Power Input: Unregulated 10~30 Vdc w/power reversal protection

EnviDAQ - 8520 RS232C to RS485 Converter

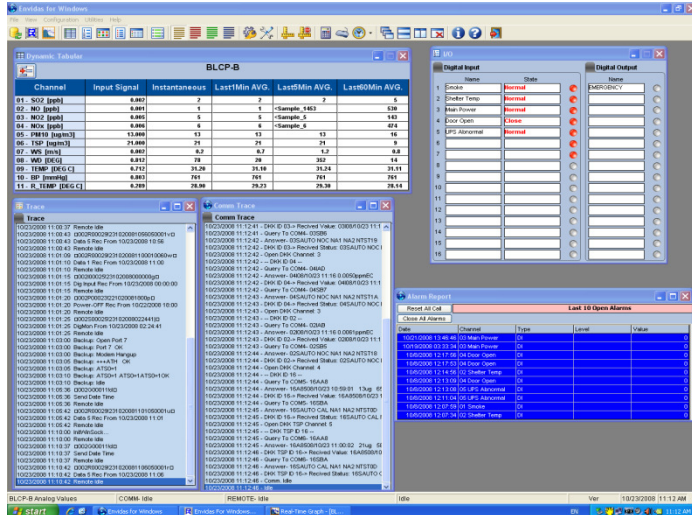
- Connectors: 1 x Plug-in terminal blocks (#14~22 AWG) RS485 & 1 x DB9-F RS232C
- Power Consumption: 1.2W
- Input/Output: One end is RS-232 standard & the other is RS-485
- Isolation: 3000 Volt
- Speed: 300~ 115.2K bps
- Communication distance: 2.1Km/9600bps; 2.7Km/4800bps; 3.6Km/2400bps
- Operating Temperature: -10 ~ 70°C
- Power Input: Unregulated 10 ~ 30 Vdc w/power reversal protection

ENVIDAS Lite Embedded PC

- CPU: VIA C7 1GHz, 128 L2 Cache
- RAM: 1024 MB DDR2
- Thermal Control Technology
- Lite low noise and low power consumption
- Solid State Hard Disk 32GB
- Serial ports: Eight RS-232 on-board
- PS2 KB & Mouse Port
- VGA Controller
- 2 USB ports
- Power: DC 12 ~ 24V Input
- Rated Current 20VA maximum
- Dimensions: (W x D x H) 256 x 158 x 50 mm
- Built-in Two high speed Ethernet 100/10M LAN controller
- Compliance CE, FCC & RoHS
- Operation System: Windows XP pro.
- Operating Temperature: 0 ~ 50 °C

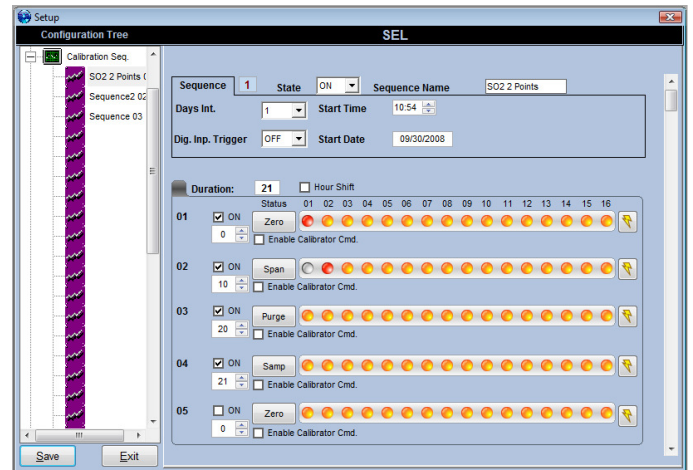
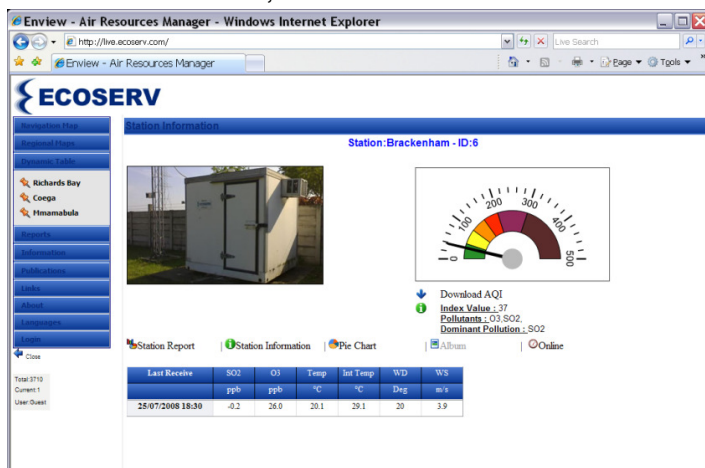
ENVIDAS Lite SOFTWARE MAIN SPECIFICATIONS & FEATURES

ENVIDAS supports automatic calibration control, recording and correction. The software generates calibration and data reports at different time intervals, and can transfer data via several communication devices

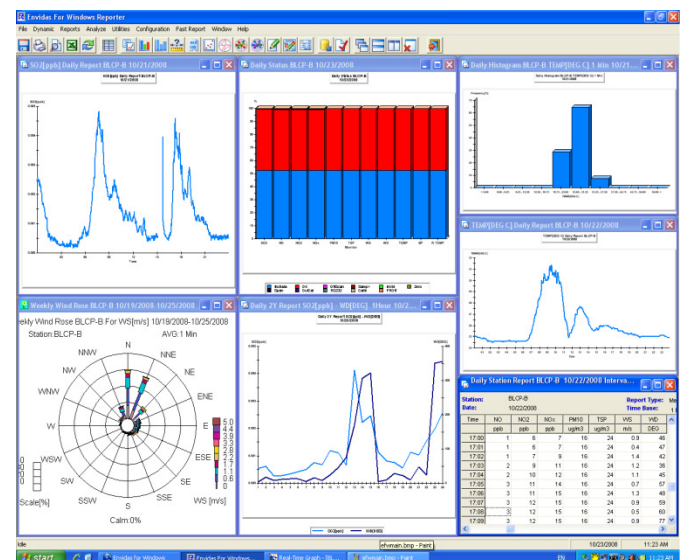


ENVIDAS software is a flexible, easy-to-use, turnkey application software that turns a PC with a data acquisition card into an intelligent environmental data acquisition system. It has the following features:

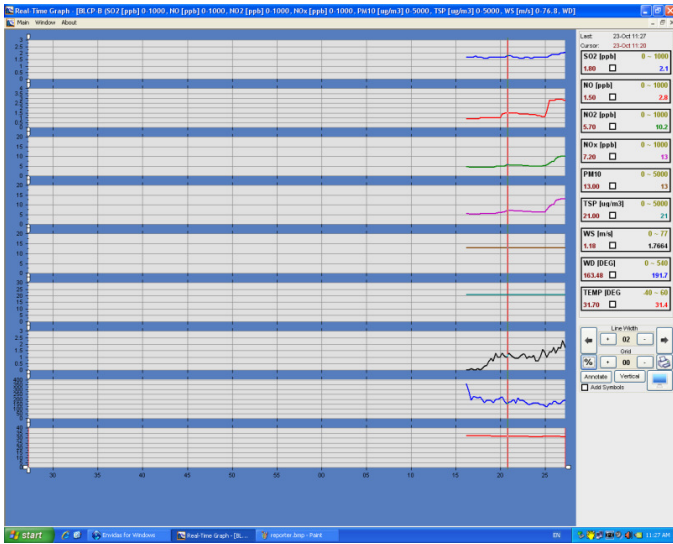
- Multi tasking software - no data is lost during polling
- Multi-tasking software allows user interaction without interrupting data collection
- Run under Windows XP pro. Embedded
- Handles up to 16 measurement inputs
- Handles 16 digital input channels
- Handles 16 digital output channels
- 8 RS232C channels for Smart Data Collection
- TCP/IP Communication via ADSL or GPRS
- Optional Internal and Public Web Site
- Remote access for upload or download of configuration, calibration start, viewing current measurements, and remote control



- A/D Sample rate: every 1, 2, 5, or 10 sec
- User selected averages: 1, 5, 6, 15 or 60 min are typical
- Dynamic display of instantaneous values in engineering units, voltages, or any calculation
- Password protection
- Calculations for math and meteorological statistics
- 15 Sec' average data storage for 31 days
- Automatic calibration correction and control via relays, calibrators or analyzer serial commands



- Daily, weekly, monthly, periodic data listing textual and graphical reports
- Histogram, Wind Rose, Pollution Rose, Polar and Event Analysis reports.
- Calibration report
- System fail report
- Analyzer Digital status information report
- Manual data transfer by using a floppy disk
- SQL Server Express 2005 Database



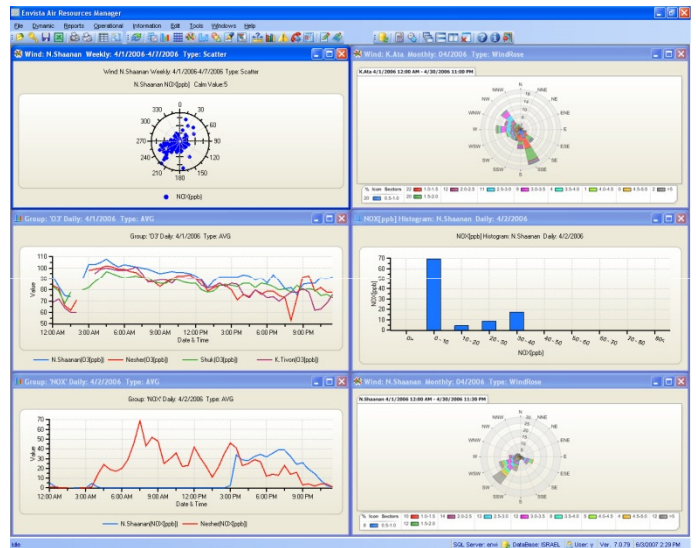
The figure shows the 'Setup' configuration window for a station named 'SEL'. It includes fields for Station Name, Station Number (1), Channels No. (20), Address (ESC / DASIBI), Sample Cycle (2 sec), State (ON), and various alarm and communication settings. There are also fields for Remote Port, Time Out (70 min), and Modem Type.

- Real-Time instantaneous values graph
- Communication via RS232C/TCP/IP to the smart analyzers (Multi-drop & Star connection available)
- Collection and reporting of analyzer status information

- Connection with Envista ARM data management system via telephone line (POTS, cellular, or leased line), direct serial, radio, ADSL, GPRS and EDGE.
- Error checked data transfer to Envista ARM

The figure shows the 'Setup' configuration window for 'Channel: 1'. It includes tabs for General, Calibration, Data Validation, and Alarms. The General tab shows settings for Name (Neph Cal), Units (bscat 10-4), Serial #, Low Range (0), High Range (10), Format (##), State (ON), Valid Th. (75%), and Type (Avg).

- Bypass feature allows the user to have direct analyzer connection from a remote location
- Calibration sequence control via RS232C, TCP/IP and/or digital outputs
- Automatic alarm messages via GSM SMS and/or Terminal Display
- Optional Bill Boards display support
- More than 3 years of Data Base Information



The following smart analyzers are supported by ENVIDAS's RS232C or TCP/IP communication protocols:

- Thermo Environment I & C Series
- Monitor Europe 9400 Series
- Environment S.A. M Series
- Teledyne API 100A, E Series
- TFS R&P TEOM
- Horiba AQM Series
- Campbell CR-10X, CR-23X
- MetOne BAM 1020, eBam and eSampler

Plus many other device protocols.

DR DAS

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