Advanced Monitoring Station by EnviDAS FW

By: David FARHI – Envitech Ltd.
Typical Automatic Monitoring Station

EnviDAS FW software is flexible, easy-to-use, turnkey application software that turns a PC with a data acquisition Card/Module into an intelligent environmental data acquisition system.
Overview of ENVironmental Data Acquisition System

Significant benefits accrue in the EnviDAS FW Software & Hardware Design:

- Multi tasking software – Running under Windows XP pro.
- Handles up to 64 measurement inputs channels.
- Handles up to 16 Digital inputs channels.
- Handles up to 16 Digital outputs channels.
- Handles up to 16 RS232C/RS485/USB Ports.
- LAN Interface 10/100/1000 Support
- Standard PC Keyboard, Mouse & VGA.
- Rugged rack mountable PC-based platform.
- Printer Parallel & USB Port.
- Real time calendar clock
Smart & Simple Numerical Data Collection & Control

- Communication via RS232C/USB/TCPIP to the smart analyzers (multi-drop available).
- Logging up to 48 bits of Digital Monitor Status information per each channel.
- Logging up to 32 diagnostic values per each channel.
- Enhanced QA tools by Digital Monitor Status checking.
- Communications bypass feature for direct analyzer connection from remote locations.
- Support Numerical data collection from the most typical AQM/CEM Analyzers and Meteorological Sensors available in the market.
- Control Smart Calibrator units via RS232 port
The following smart analyzers are supported by ENVIDAS’s RS232C communication protocols:

- Thermo Environment c & i Series, Sharp, DataRam
- Teledyne- API a & e Series
- Environnement s.a. 1M & 2M Series, SANOA
- Monitor Labs 9400 Series
- TE-R&P TEOM, FDMS, Partisol+
- Horiba AQM Series
- Campbell Scientific CR-21X, CR-10X, CR-23
- RM Young Serial Interfaces
- Met One BAM
- Andersen BAM
- Grimm Dust
- Sunset Labs Carbon
- Andersen/McGhee Aethalometer
- Radiance Nephelometer

and much more……
Automatic and Manual Calibration

- 3 Type of automatic calibration available in EFW:
  1. 2 Point Calibration (Zero and Span)
  2. 3 Point Calibration (Zero, Span and Extra Span [Precision])
  3. Multi-Point Calibration (Zero and up to 8 Span points).
- Calibration Schedule can be set from every Day to every interval required like every 3 days, week, month, 45 day’s etc…
- Calibration hour can be shifted by one hour every day if desired.
- Calibration Command via RS232C Port to Analyzers and Calibrators.
- The Following Calibrators are supporting RS232C Control:
  - SABIO
  - TE 146C
  - API
Visualisation, Real Time Charting & Reporting

- Display of current measurement in Volt’s
- or Real Value and dimensional unit’s (ppb/ppm/µg/m³/mg/m³ or any other like deg, °C, m/sec etc…)
- Visualization of data (graphical and tabular) with zoom function facilities.
- Local Reporter program that create daily, weekly, monthly, annual or any From-To period with selectable time-based averages.
## Data Acquisition PC's

<table>
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<tr>
<th>Platform</th>
<th>I/O Subsystem</th>
<th>Serial Port Sub Systems</th>
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<tr>
<td>Biscuit Box</td>
<td>ADAM Remote I/O</td>
<td>7 RS232/485 Available on board USB, Ethernet and wireless connected serial port servers</td>
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<tr>
<td>1/2/3/4U 19&quot; Rack Unit</td>
<td>ADAM Remote I/O And PCI Cards</td>
<td>PCI Cards and USB, Ethernet and wireless connected serial port servers</td>
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EnvidasFW Meteorological Application

TCP/IP Network
Enview2000 ARM

RS232C or RS485

ADAM-4018+
8 analog Inputs

ADAM-4050
8 DO, 7 DI

ADAM-4080
2 Counters

DR DAS
data acquisition systems

www.envitech.co.il
EnvidasFW Emission Application
EnvidasFW Toxic Monitoring Application
Data Transfer, Alerts & Remote Access

- Connection with ENVIEV2000 environmental data management system via TCP/IP, Cellular (GSM, GPRS, EDGE, UMTS, CDMA), Satellite, Telephone, Leased Lines or Radio.
- Complete Remote access to EnvidasFW PC and Smart Analyzers (Remote Access services, PC Anywhere, Go2MyPC)
- User definable alarms and immediate transmission of them to the Central Data Control System by using ASCII protocol or TCPIP via GPRS/GSM Network or direct to the User/Service Engineer By SMS Messages.
- The EnvidasFW supports the following communication protocols for serving data to other systems: Envitech ASCII protocol, Envitech Binary protocol, Device Emulation protocols (ESC, Dasibi and Odessa), database access protocols (ADO, ODBC and OLEDB), Industrial protocols (MODBUS and OPC Server).
- Optional WEB Site, XML and FTP Pushing available.
Internal and External Imaging transfer by using EvidasFW & TCP/IP Communication
Enhanced QA

- Range Detection
- QA Flag per each Channel
- Digital Status from Smart Sensor Validation
- Digital In and Out Validation

- GROSS LIMITS
- FINE LIMITS
- PEAK DETECT
- CONSTANT DETECT

Manual data Validation Tools
RAW Data Tables
Duplicate data insert Protection
Automatic and manual Backups

Communication Management

DATABASE MANAGEMENT

SQL SERVER

DYNAMIC DISPLAYS & GIS
REPORTS
ANALYZE
EDIT DATA VALIDITY
NUMERICAL MODELS
PUBLIC DISTRIB.

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DR DAS
data acquisition systems
Enview2000 ARM Network Structure
Complete Solution with Enview2000 ARM

- Open System Architecture.
- Databases - Microsoft SQL Server 2000/2005 and ORACLE 9i/10g
- Database Servers - Microsoft 2000/2003 and Linux/Unix
- Smart Client and Client/Server models supported for desktop applications.
- Internet and Intranet applications.
- GIS and Mapping integration.