Envista

Refrigerators Temperature Manager

Envista RTM is a Windows 7/Vista/XP Pro., client-server & web application for supervisory control, management and analysis of Temperature, Relative Humidity and other data from Refrigerators, Freezers, Incubators, Warehouses and Cold Room monitoring networks.
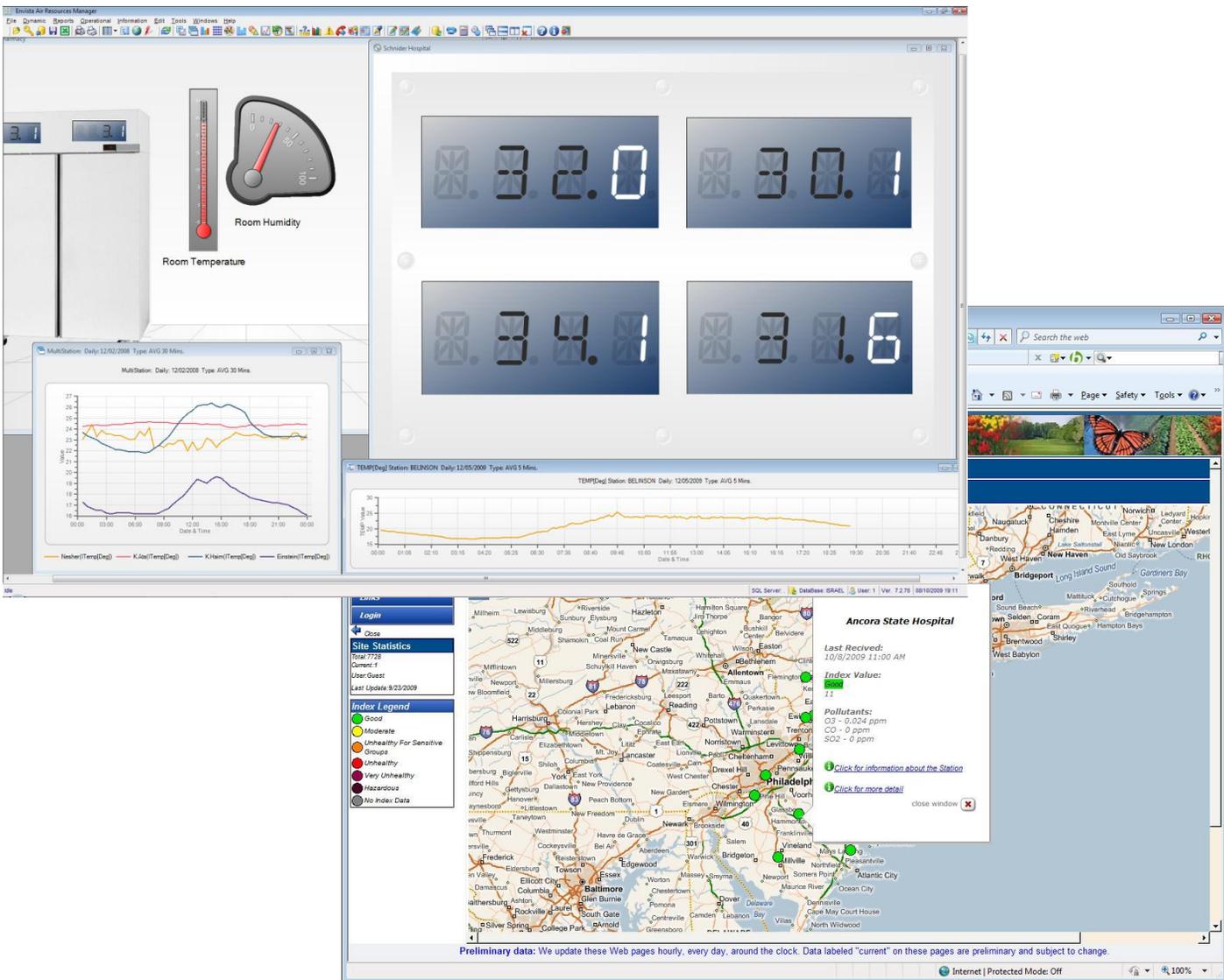

Figure 1 - Envista RTM Overview

Envista RTM allows users to view, analyze, report and distribute temperature level data across the full range of media.

The Envista RTM client application runs under Windows 7/Vista/XP Pro, either locally or remotely. It provides comprehensive access to information collected by the CommCENTER communication application and stored in a SQL or ORACLE Server database on an Windows 2003/8 or Linux Server. Database information is available via standard reports and displays, Envista ad-hoc custom reporting software and various third party applications.

MAIN SOFTWARE FEATURES

- Microsoft .NET C# programs for Windows Vista & XP Pro.
- Windows 2003/8, Linux and Solaris database servers. Client-Server, Smart Client and Web applications.
- SQL Server 2005/8 or Oracle9i/10g DB.
- Multi-threaded communication with data logger units.
- Internet and intranet networking support.
- Open system architecture.
- Multi-lingual design.
- Multi-document interface.
- Interface entirely menu-driven.
- Alert/Alarm transmission via SMS & email.
- Collects data from remote sites at scheduled times or upon request.
- Manages up to 9999 remote sites.
- Dynamic displays.
- GIS dynamic map (SHP Format) viewer.
- Ad-hoc report designer.
- On the fly QA.
- Automatic data backups.
- Data analysis and reporting.
- GMP 211.186 data secure and reporting compliance.
- Data editing/validating, 21 CFR Part 11 Compliance.
- Optional equipment inventory and maintenance system.
- Optional voice alerts system.

DYNAMIC DISPLAYS

The following *Dynamic* displays are available:

- Tabular: Displays current data for one or more stations.
- Last Received: Date/Time of last data and calibration received from each station
- Dashboard Viewer: Design and watch graphical data from any logger or monitoring site
- Dynamic GIS Map Viewer: GIS Viewer interface for data display on user supplied base GIS layer map.

Figure 2 – Dashboard Viewer Dynamic Display

REPORTS & ANALYSIS

By using this feature, the user can produce, print and export textual and graphical reports.

- Site Data Report –Standard tabular and graphical reports for Site values. Day, week, month and user defined (periodic) report intervals are supported. Stored data values may be averaged before being reported. Values reported may be filtered.
- Multi-Site – Similar in function to the "Site Data Report," only designed for more than one site. Also supports multiple parameters.
- Group - Report that reflects a user defined group of monitoring channels related to one or more sites.
- 2Y Time Plot - Two parameters plotted against time.
- XY Time Plot – Correlation between two parameters.
- Events - Creation of an event (over value) report by scanning pre-defined period.
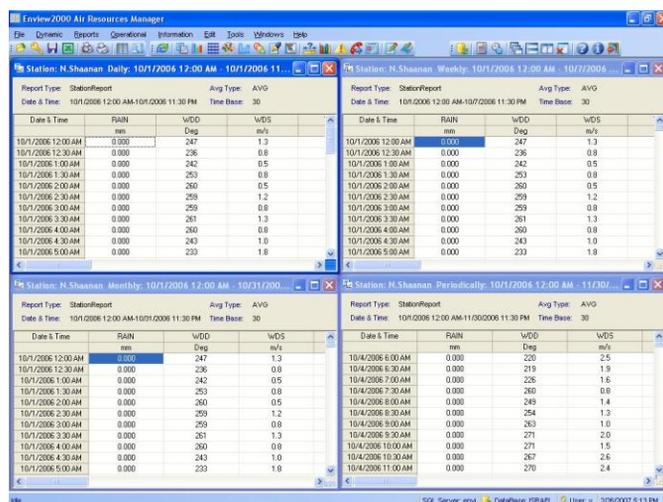- Histogram - The frequency of occurrence of various ranges of a monitor's value.

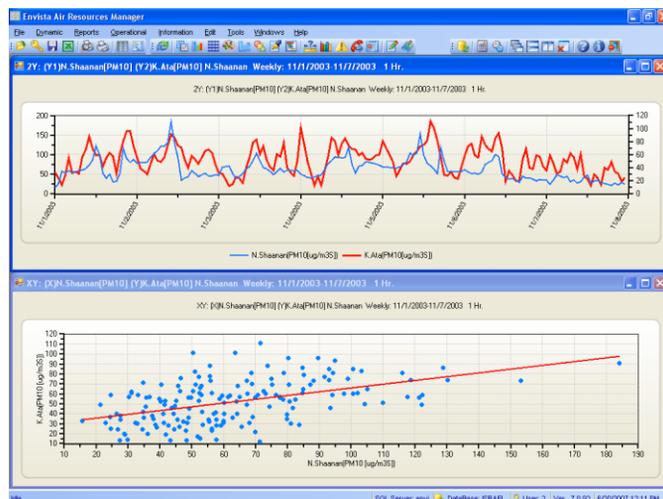Figure 3- Daily Site Textual Report

Figure 4 – Graphical Results

The user has available to them the following *analysis* features:

- Analysis period of day, week, month, or year.
- Average Types: Mean, Running, Running Forward, Maximum and Minimum.
- Data Average Intervals: 1min, 5min, 6min, 10min, 15min,30min,1hr,3hr,6hr,8hr,12hr, or 24hr.
- Output to display, printer, or file (XLS, WMF, JPG and BMP format).

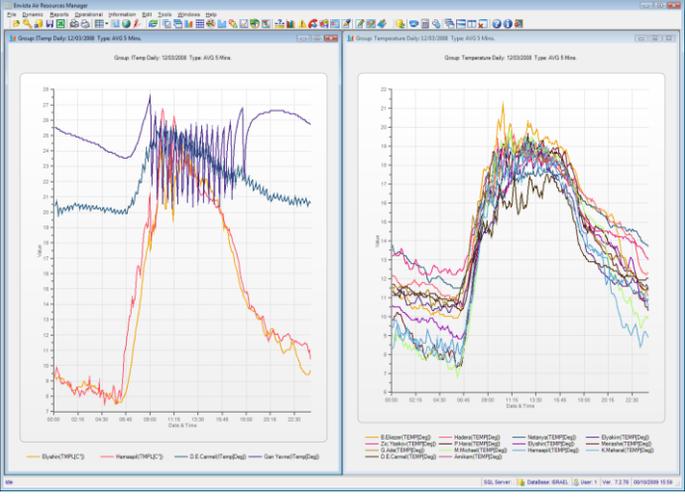
Figure 5 – Example of Chart results
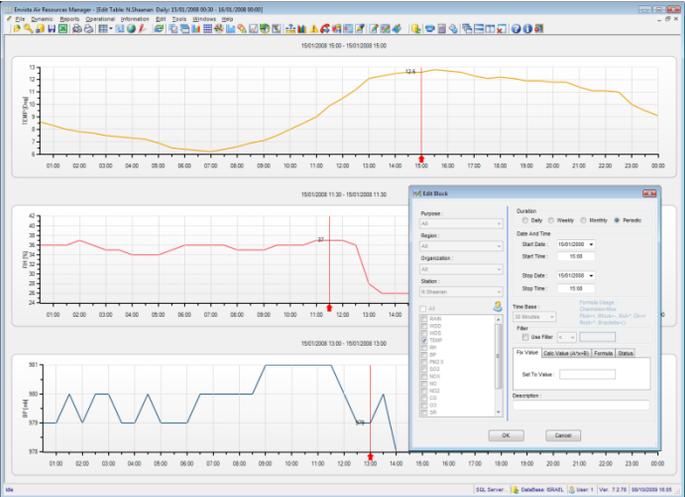

Figure 6 – Example of Group Results

Figure 7 – Edit graphical Interface

OPERATIONAL REPORTS

By using this feature, the user can view the operational quality of the network.

- Status- Displays the % of a selected data set with various status codes.
- Communications - Displays the errors that occur during the data acquisition process by date, station and port according the relevant communication type.
- Missing Data – Displays time periods that a selected monitor has not received data.
- Log Book – Displays technician entered notes related to analyzer service, and allows the user view these notes as a report.
- Edit History - Reports the edits that have been made to raw station data values and/or statuses.
- Validity - Reports validations performed on monitors in two levels; editor or supervisor.
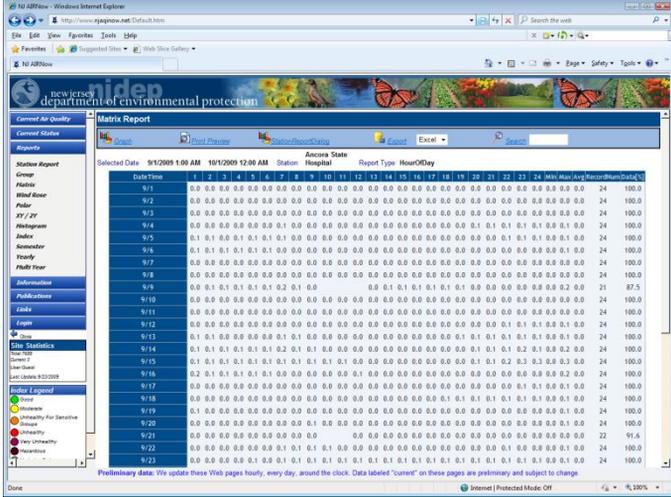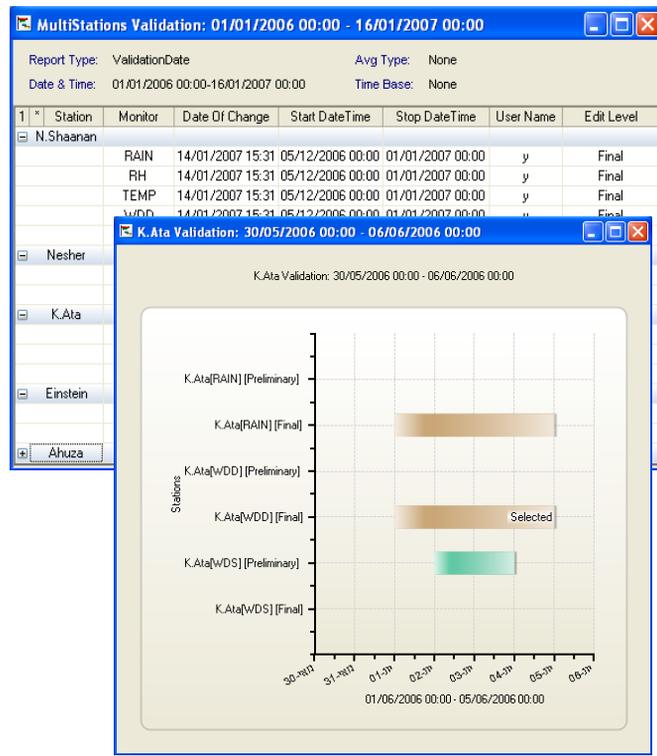

Figure 8 – WEB interface Matrix Report

Figure 9 – Parameter Validation Report

Communication & Alert Center

The Envista CommCENTER module is an intelligent communication controller that can manage large Hospitals/Pharmacies monitoring networks. It can communicate via TCP/IP, Cellular, Telephone and Leased Lines. CommCENTER can simultaneously poll, receive incoming calls from other central systems and log/process event driven incoming messages from remote sites.

The Send Alerts module generate alarm notifications via email or/and text messages (SMS) to cellular phones. Local alarms available by lights and sound for immediate response in case of supervisor in duty.
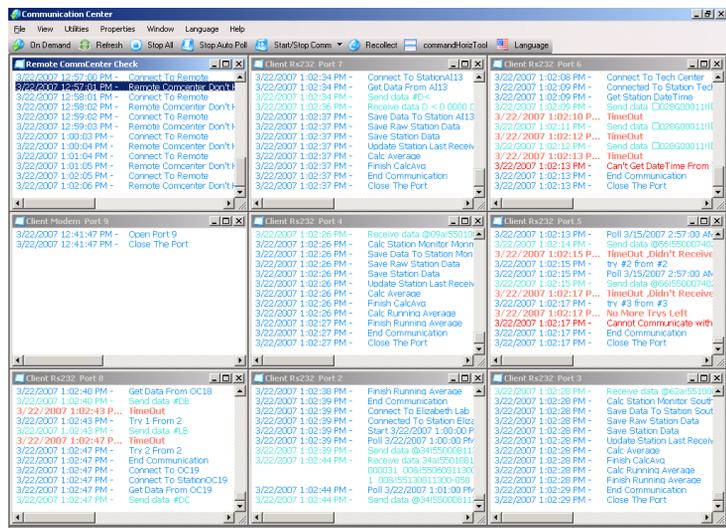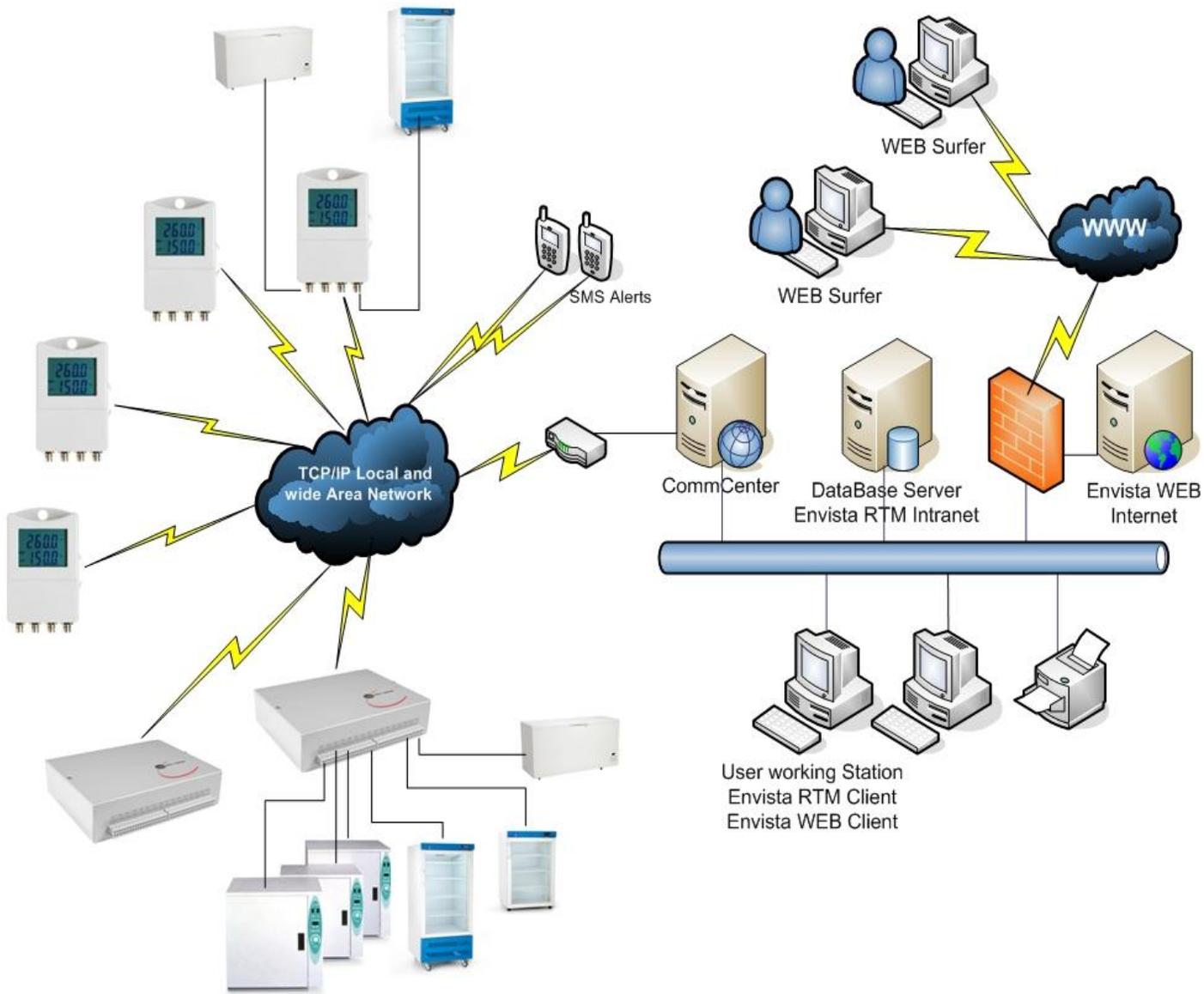

Figure 8 – CommCENTER Trace Display

Figure 9 – Envista RTM Network Structure

Temperature Data Logger S Series

The S Series four Channel Data Loggers are designed for record of two temperature signals together with two mains detector signals. Values are stored to a non volatile electronic memory. Data transfer to the Server Computer for further analysis is performed via Ethernet, RS232, or USB interface.

Features

- Single Ch. to four Ch. thermometer
- Communication via RS232, USB, TCPIP
- Capacity 32,000 recorded values
- Battery life up to 7 years
- Robust watertight case IP67
- Comply EN12830 for transport of food
- Traceable calibration certificate included
- Easy installation, locking enabled
- Large dual line display with special symbols, switchable
- Password protection is enabled to prevent unauthorized manipulation with logger
- Standard temperature sensor is Pt1000/3850ppm
- Indication of remaining battery life, easy replacement of the battery

Figure 10 – Four Channel temperature Logger

Common Specifications

- Operating temperature: -30 – 70°C
- Accuracy: +/- 0.2°C -50 - 100°C
  +/- 0.4°C -90 - -50°C
- Resolution: 0.1°C
- Real time clock: year, leap year, month, day, hour, minute, second
- Data logging interval: adjustable 10s-24h
- Display and alarm refresh: each 10 sec.
- Data logging modes: Cyclic
- Dimensions: 93x64x29mm
- Power: Lithium battery 3,6V, size AA
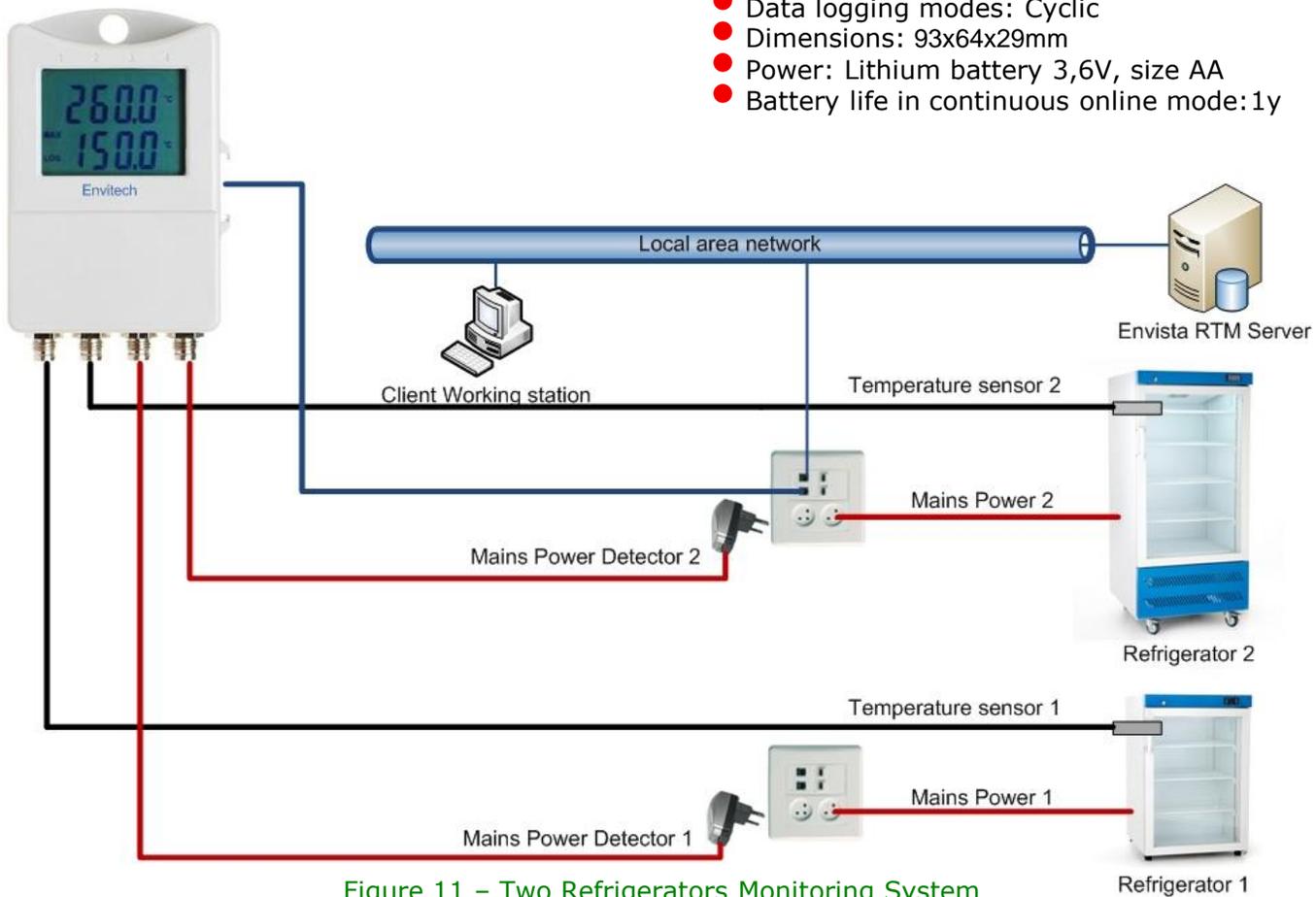- Battery life in continuous online mode:1y

Figure 11 – Two Refrigerators Monitoring System

Temperature Data Acquisition MS Series

The Complete Solution for large scale Refrigerators/Freezers monitoring network. From single-channel to sixteen-channel data loggers are designed for recording of values from transducers of variety of quantities, alarm state indication, and process control. Data logger with transducers configured accordingly to client order can measure analog signals, frequency, count impulses, evaluate two-state quantities and read data from devices compatible with Modbus RTU and ADAM Advantech protocol. Input signals are connected to removable terminal block located on the logger upper side. Data transfer to the Server Computer for further analysis is performed via Ethernet, RS232, or USB interface.
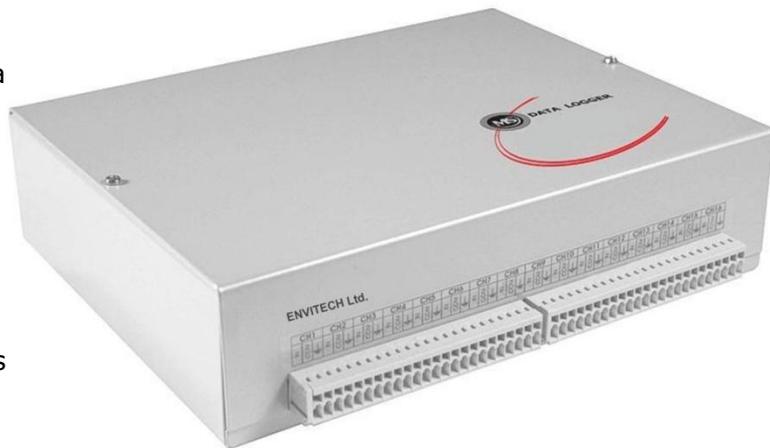
Figure 12 – Sixteen Ch. temperature Logger

Features

New generation data acquisition system especially enables:

- Online data acquisition by means of the Ethernet interface. Communication via: SNMP, SOAP, internet www pages
- To get information from data logger by means of the SMS messages - actual values, alarms, memory occupation and others - as response to SMS request from the user and after alarm creation at the logger. Data logger should be connected via GSM modem supporting SMS.
- To configure individually each input channel for measurement, alarm evaluation and data logging, including individual data logging interval for each input.
- Each input channel can be individually programmed for different modes of record (continuous record, time dependent record, record only if specified logic conditions are matched, record triggered by external signal, etc.). It is enabled to record with shorter interval in case, measured values match previously defined conditions e.g. to map in detail trouble state. It is also enabled to memorize actual value and time if defined time event appears.
- To set up to four different logic conditions for each channel to active alarm. Each condition compares measured values from inputs with set limits. It is possible to set hysteresis and delay of condition validity.
- To assign to each input channel name of actual recorded process to identify monitored object (e.g. type of monitored product). It is enabled to select this name from data logger keyboard during the operation.
- To indicate alarm state after matching defined combination up to four alarms from any inputs.
- Input signals are connected by means of the removeable terminal connector. Each input channel has three terminals - including shielding. Large dual line display with special symbols, switchable

Common Specifications

- Total memory capacity: 2MB (up to 480 000 values)
- Memory type: internal SRAM, backed-up by Lithium battery
- Data logging modes: Cyclic after filling memory oldest data is overwritten by new data
- Real time clock: year, leap year, month, day, hour, minute, second
- Data logging interval: adjustable 1s-24h
- Input measured values (1 to 16 inputs): are defined for each channel by installed input modules accordingly to user requirements
- Resolution of the AD converter: 16 bits, conversion duration approximately 60ms/channel
- Dimensions: 215 x 225 x 60 mm
- Power: 9 to 30Vdc Backup by 12Vdc battery 2 - 12AH power available.
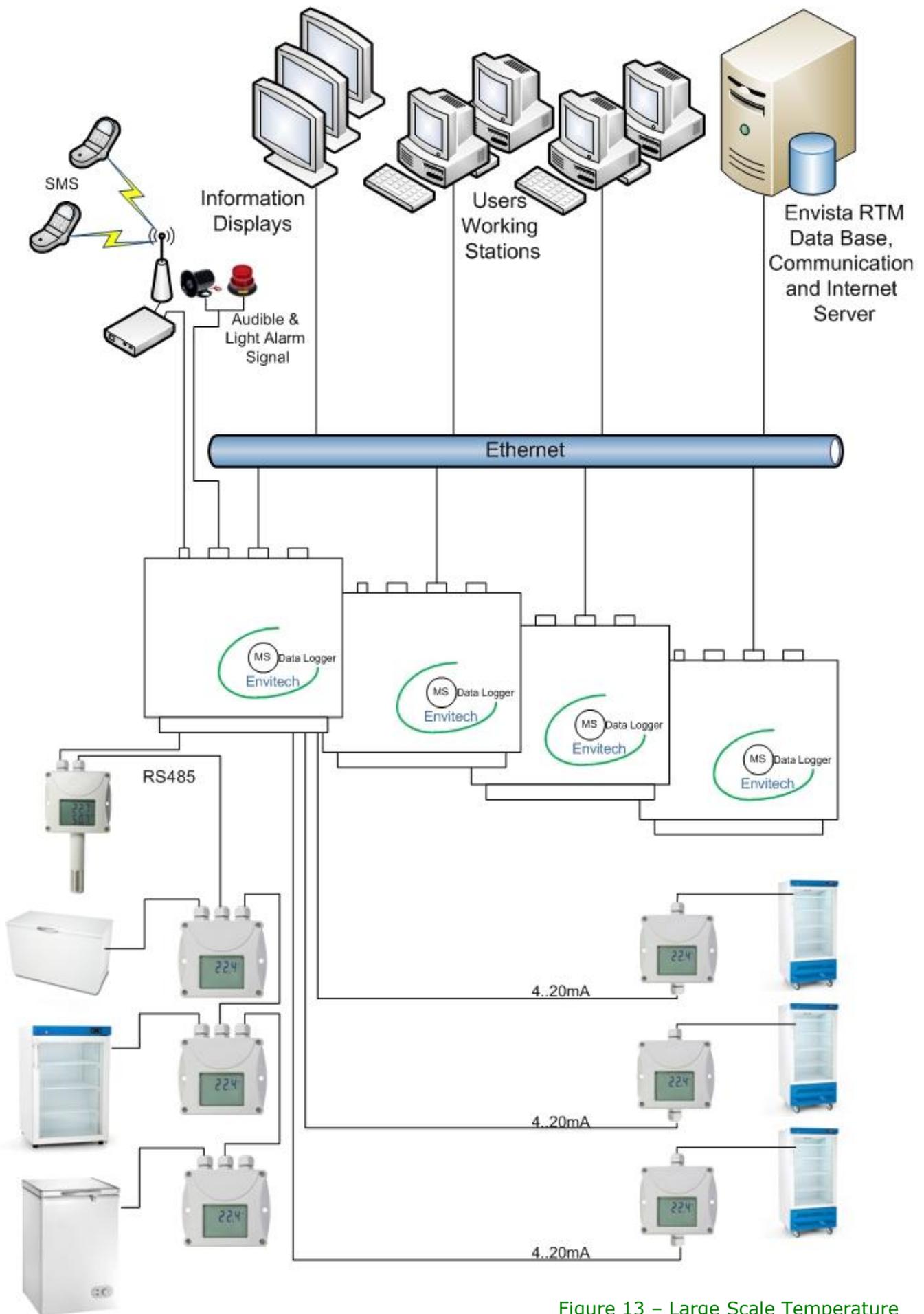- Operating temperature: 0 – 50°C

SMS

Information Displays

Users Working Stations

Envista RTM Data Base, Communication and Internet Server

Audible & Light Alarm Signal

Ethernet

MS Data Logger Envitech

RS485

4..20mA

4..20mA

4..20mA

Figure 13 – Large Scale Temperature Monitoring network