Integrated

Measurement

Technology

EVE®

INTEGRATED
MEASUREMENT
TECHNOLOGY

Measurement Technology

That Eclipses All Others

EVE® – A Bold NEW System Delivering Powerful Data Acquisition and Analysis

Easy-to-Use Interface, Virtually No Software Programming or Scripting Required

EVE is designed to solve your most demanding requirements for test and analysis, minutes after you open the box. It is compatible with virtually all of your sensors along with the entire line of MTI Instruments' precision non-contact displacement sensors, allowing correlation of displacement, temperature, pressure and other physical measurements. And…the captured data can be sent to your desktop for further analysis automatically.

EVE is more than a data acquisition system. Using EVE's powerful recipe concept, you can easily configure EVE to carry out your test protocol automatically. You specify the sensors to be used, their correlation, the signal analysis needed, the sample rates to be employed and the duration of the test. Once configured, EVE saves this information as a recipe or test protocol. There is no reliance on technician interpretation of what you need – you define it and EVE executes it. Need to re-run the test again? Simple. Call up

the recipe and re-run – test repeatability is assured.

EVE also determines if the input channels are present and properly configured. Upon recipe selection, EVE automatically scans the system to determine card types, sensitivities and outputs. Any deviation from what the recipe requires is immediately flagged for correction.

The Sensor I/O, User Interface, Data Collection and Network Connectivity Are EVE's Four Main Elements

Sensor I/O

EVE accepts up to 14 sensor inputs. Virtually every type of signal is supported and input isolation is standard. MTI Instruments' high precision capacitance, laser and fiber-optic sensors are supported along with traditional temperature, strain, pressure, etc., giving you the ability to collect, monitor and analyze multiple channels simultaneously within one cost-effective instrument. Each input can have its own scaling, sample rate, sample duration and alarm limits for any specific test. Calling up another recipe automatically assigns that recipe's related configuration.
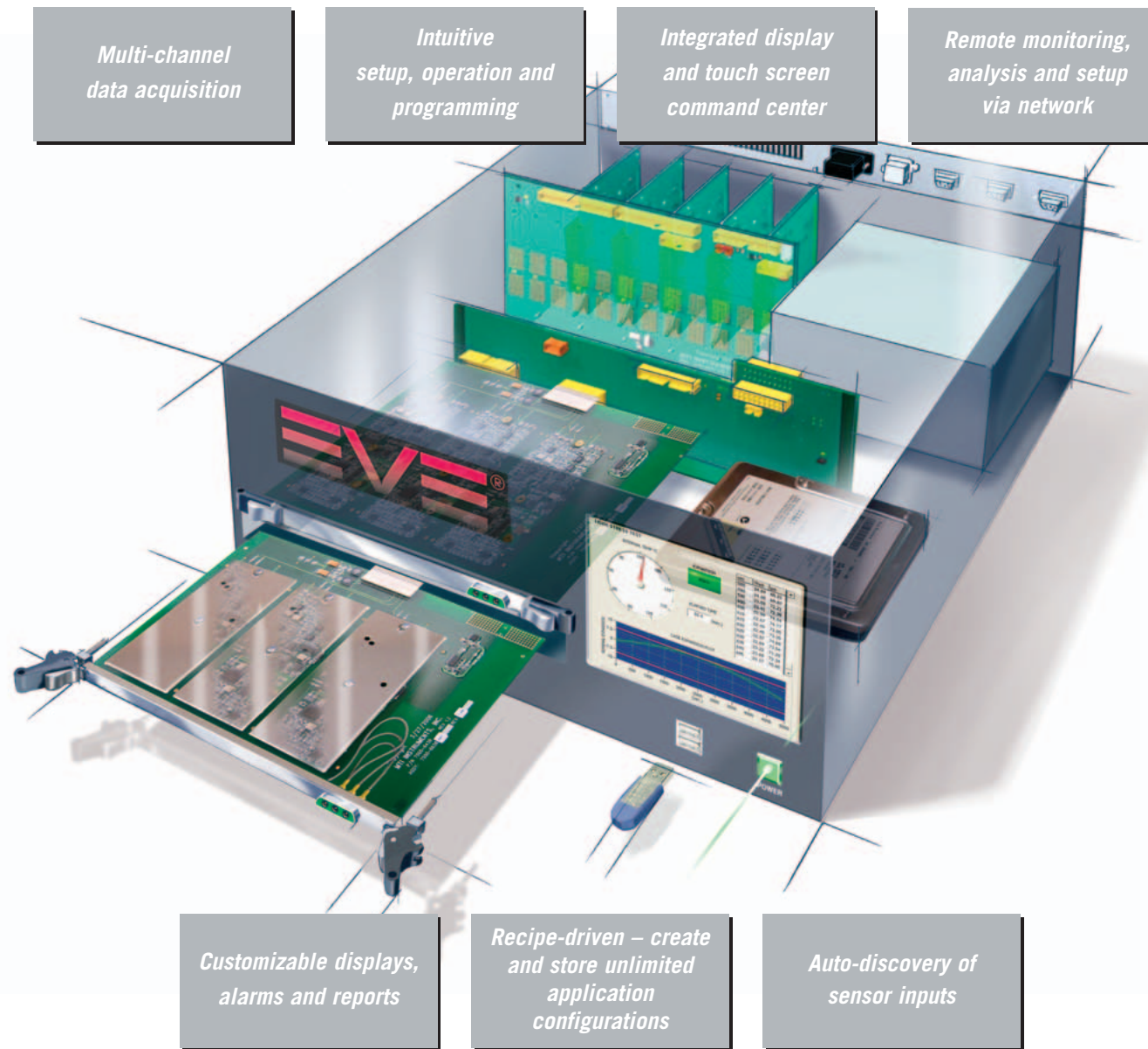
Eight digital inputs and 8 digital outputs are also available for dry contact or TTL interfacing. These can be configured for remote triggering of recipes or for alarming or event notification to other systems.

All sensor input cards have their own technical data stored on board. Once the card is plugged into EVE, the technical data is downloaded into EVE. This inherent capability, "auto-discovery," makes setting up a measurement much simpler than having to manually enter every sensor's unique parameters.

User Interface

EVE's graphical user display is the portal between your requirements and results. The 6.5" color TFT VGA touch screen display features 600 nits of brightness at a contrast ratio of 750:1, making it easily readable under almost any lighting condition and at any angle. The integral touch screen allows for intuitive configuration, algorithm construction and recipe selection and provides real-time graphical and/or numerical results.

A variety of digital and analog display gauges along with alarm indicators and graphs are available. They can be placed anywhere on the screen and even combined to create the exact display you need for any particular test.
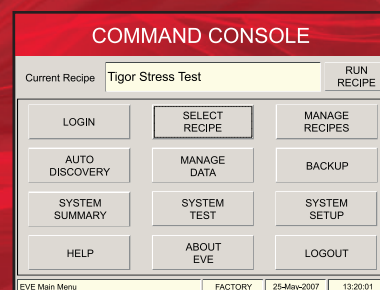
Data Collection

Once a test or recipe is called up, EVE collects and stores sensor data as programmed. This data is stored on EVE's internal 60 GB hard drive in universal CSV format for future analysis, or exported for detailed analysis using other commonly available software packages.
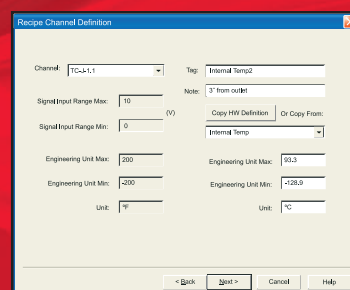
Network Connectivity

Since EVE is built upon the Windows® platform, system configuration and monitoring is available anywhere on your network. Four USB ports are also provided to input configurations and download data if an Ethernet connection is not available. RS-232 and RS-485 are also standard.

Multi-channel data acquisition

Intuitive setup, operation and programming

Integrated display and touch screen command center

Remote monitoring, analysis and setup via network

Customizable displays, alarms and reports

Recipe-driven – create and store unlimited application configurations

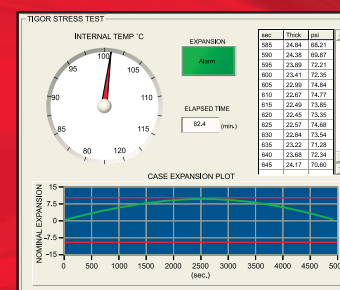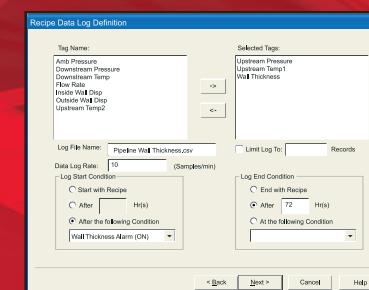Auto-discovery of sensor inputs

Command Console

Recipe Channel Configuration

Graphical Display

Recipe Log Configuration

Specifications

Physical: 400 mm D x 442 mm W x 160 mm H

Power: 100~240 Vac 47-63 Hz , 380 Watts (universal CE compliant autoswitching power supply)

Core processor: Genuine Intel® Processor

Operating system: Windows XPE

Display: 6.5" diagonal color TFT VGA with touch screen control (640 x 480, 600 nits brightness, 750:1 contrast)

Data storage: Internal 60 GB hard drive

I/O: ANALOG

- 2 front-panel MTI proprietary capacitance cards, enabling a total of 6 capacitive displacement channels.

- 4 dual-channel plug-in interface cards that can be any of the following combinations:
  – Voltage input modules, 1 kHz bandwidth
  – Current input modules, 3 Hz
  – Linearized 2- or 3-wire RTD module
  – Linearized 4-wire RTD module
  – Potentiometer input modules
  – Thermocouple input modules
  – Strain gauge input modules
  – Voltage input modules, 3 Hz
  – 2-wire transmitter interface modules
  – Frequency input modules

I/O: DIGITAL

- 1 digital 8-channel I/O card

All cards support auto-discovery that enables EVE to determine what card type is plugged into each slot and its specific configuration.

External I/O:

- 4 USB ports

- Ethernet 100base (external laptop connection to perform complicated HMI configuration in lieu of onboard LCD/touch screen)

- RS-232 configurable serial port

- RS-485 configurable serial port

Chassis configuration:

EVE is housed in a 19" modular desktop chassis with an optional rack mounting kit. The enclosure is EMC-shielded, providing protection from electromagnetic interference and unwanted noise. The rear panel accepts up to 4 3U cards that can accommodate any combination of signal processing modules listed above for a total of 8 signal processing inputs. The 5th slot provides digital 8-bit TTL input and 8-bit TTL output connections. Two additional front panel slots can accommodate MTI proprietary 3-channel capacitive amplifiers cards, providing up to 6 simultaneous measurements of displacement, position or vibration.