

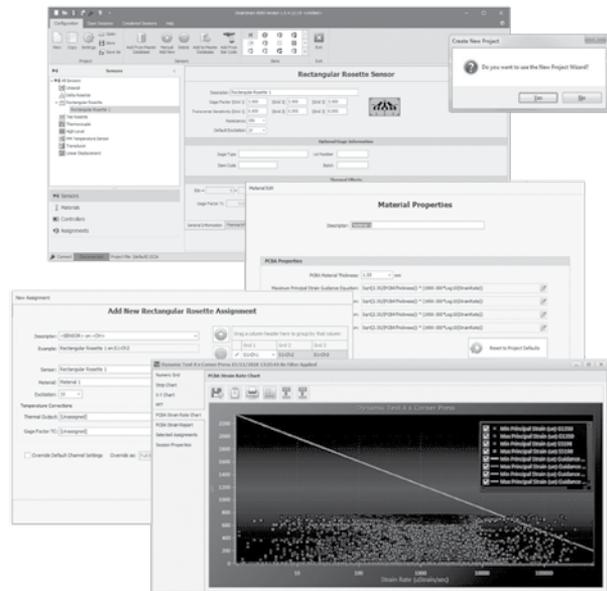
## StrainSmart® Data Acquisition Software

StrainSmart® is a ready-to-use, Windows-based software package for acquiring, reducing, presenting, and storing measurement data from strain gages, strain-gage-based transducers, thermocouples, temperature sensors, LVDTs, potentiometers, piezoelectric sensors, and other commonly used transducers.

And, it is designed to function seamlessly with our StrainSmart® hardware, System 7100, System 8000, and System 9000 as well as our legacy System 7000.

### FEATURES

- Complete Windows-based software designed for the experimental stress analyst
- Easy-to-use StrainSmart® Wizards for fast test setup and for data acquisition, reduction, and presentation
- Sensor-specific assignment of inputs (strain gages, thermocouples, etc.), as well as user-defined assignments for mathematical manipulation of measurement data
- One-touch auto-balance
- Shunt calibration of strain-gage inputs
- Test setup and commonly used parameters available for saving and reuse for subsequent testing
- Data reduction for delta, rectangular, and tee rosettes, including the conversion of principal strains to stresses
- Calculation of equivalent stresses for common failure mode criteria
- Online monitoring of key channels and/or rosettes in fully reduced and corrected numeric and graphic formats
- Offline presentation of all reduced data in numeric and graphical formats
- FFT analysis
- PCBA graphing and reporting according to IPC/JEDEC 9704A
- Thermal output compensation
- Correction for temperature coefficient of gage factor
- Wheatstone bridge nonlinearity correction
- Transverse sensitivity correction
- Thermocouple linearization
- Scaling for number of active bridge arms
- Record on limits or user-defined time intervals
- Automatic project log file
- Barcode input of strain gage datasheet information
- Through StrainSmart® software, the appropriate setup information is entered—gage factor, materials properties, transducer sensitivities, etc. Using these parameters, StrainSmart® automatically outputs the results of test data in engineering units.



### DESCRIPTION

Ready-to-use StrainSmart® software makes test setup fast and easy for strain gages, strain-gage-based transducers, thermocouples, temperature sensors, LVDTs, potentiometers, piezoelectric sensors, and other commonly used transducers. Using the parameters input for sensors, materials, and instrumentation hardware, StrainSmart® automatically outputs the results of the test data in engineering units. Test setups and measurement data can also be permanently stored for offline display or for use in databases, word processors, and spreadsheets.

StrainSmart® has the capability to reduce data in both the time and frequency domains. FFT analysis may be elected for data acquired at scanning rates greater than 100 samples per second.

Accurate strain measurements require attention to the unique characteristics of the strain gage and measurement system—thermal output, temperature coefficient of gage factor, and transverse sensitivity of strain gages, as well as nonlinearity errors inherent in the Wheatstone bridge. StrainSmart® software takes these into account automatically.

All strain-gage bridges are scaled for the number of active bridge arms. Data from measurements with delta, rectangular, and tee rosettes can be reduced to principal strains and stresses, as well as the equivalent stresses for common failure mode criteria.

PCBA reporting to IPC/JEDEC 9704A is integrated into StrainSmart®, with user-definable strain guidance as a formula or fixed microstrain value. Data can be viewed as a strain rate graph or pass/fail report.

Fully reduced and corrected measurement data can be monitored online, and recorded at predetermined limits or at user-defined intervals.

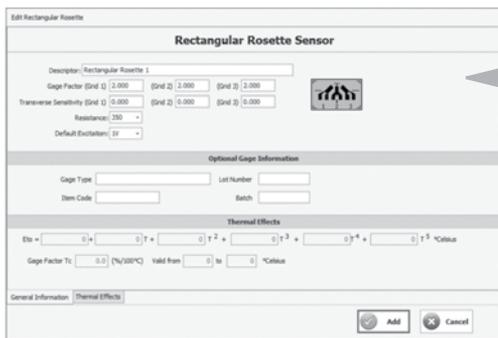
*Windows and Office are trademarks of Microsoft.*

Software for Stress Analysis Testing

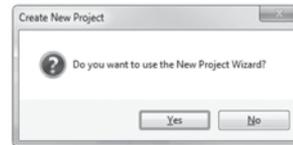
**THE STRAINSMART® ADVANTAGE**

Strain gage technology is the stress/strain measurement technique most widely used around the world. Over the years, we have developed the tools necessary for accurate acquisition and understanding of strain gage measurements. The primary factors affecting strain gage and instrument performance are incorporated into our extensive selection of Tech Notes, Application Notes, Instruction Bulletins, and other technical publications that are recognized and used as the authoritative

references for strain gage measurement by practitioners throughout the world. StrainSmart® software automatically applies the techniques and corrections covered by these publications to your test measurements.

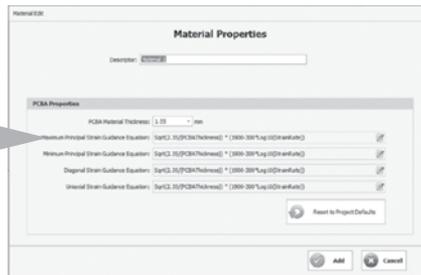


Enter Sensor Information

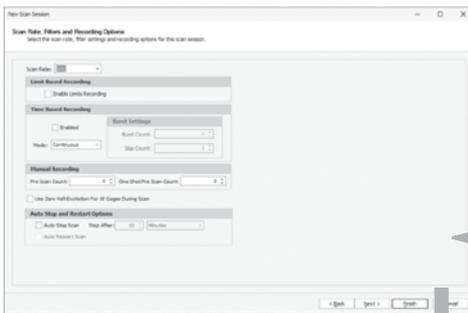


Create Project

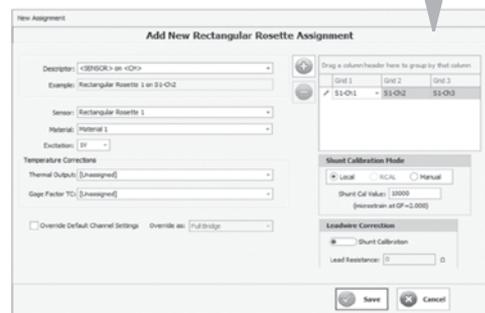
Enter Materials Properties



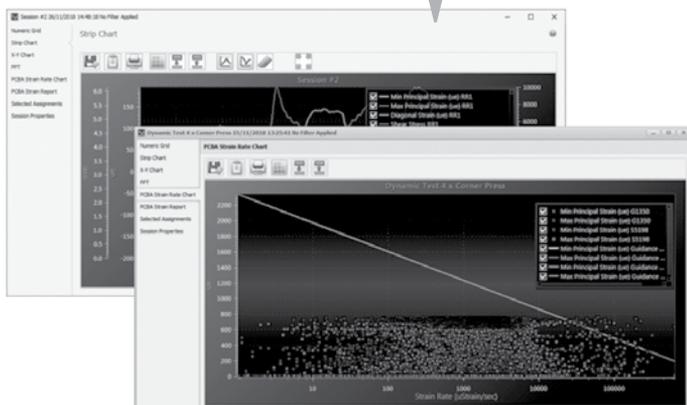
Create Assignments of Sensors, Materials and Channels



Select recording parameters



Scan and Display Fully Corrected Test Data



## Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "VPG"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify VPG's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

VPG makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, VPG disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on VPG's knowledge of typical requirements that are often placed on VPG products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. You should ensure you have the current version of the relevant information by contacting VPG prior to performing installation or use of the product, such as on our website at [vpgsensors.com](http://vpgsensors.com).

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of VPG.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling VPG products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify VPG for any damages arising or resulting from such use or sale. Please contact authorized VPG personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Copyright Vishay Precision Group, Inc., 2014. All rights reserved.