Easy, Multi-Vendor Hardware Integration

Test SLATE is a Windows®-based, highly flexible, test measurement and control software that requires no proprietary hardware and works with nearly any control or measurement device or system, regardless of make or model. Test SLATE enables you to seamlessly integrate old and new hardware – even custom legacy components – to make test control, data acquisition, and analysis simple, effective, and efficient.

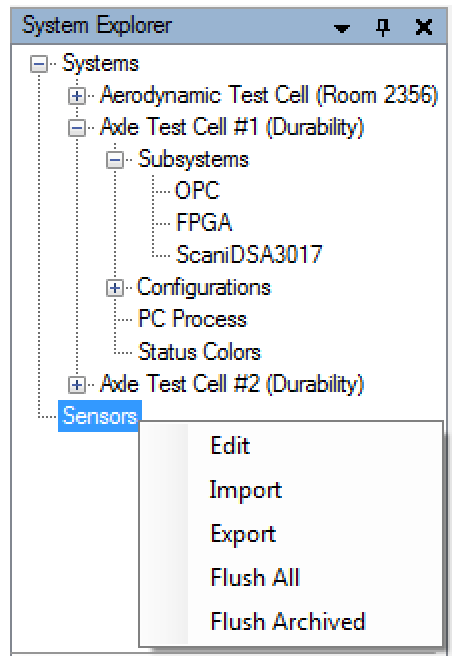
The value of multi-hardware support is that the test system can consist of the best products available for each individual measurement or control function. For example, you may have a facility controller from one supplier, a dynamometer controller from a second supplier, and a test article pressure measurement system from a third supplier. All control and measurement functions from these disparate systems can easily be coordinated through our single software application. Since we don't manufacture hardware, we are able to select hardware that most effectively aligns with the requirements of each customer's application.

Test SLATE Hardware Interfaces

The ability to simultaneously gather data from a wide range of hardware devices and manufacturers is a key strength of Test SLATE. Nearly all standard interface protocols have been used with Test SLATE, including Ethernet, Reflective Memory, GPIB, SCSI, RS-232, RS-422, ControlNet, CAN, and many others.

Hardware systems typically require an interface driver to be developed by Jacobs to connect to the Test SLATE configuration and run-time operations. However, many common hardware platforms – including those from National Instruments, VXI Technology, Pressure Systems Inc., Scanivalve, and Pacific Instruments, to name just a few – are already in the Test SLATE library. To see if an up-to-date interface driver exists for hardware you have or are interested in using, please contact Jacobs. Adding these interface drivers can take from a few days to a few weeks and are often simple enough that many customers have performed this on their own by using our templates and examples.

Hardware systems show up as Subsystems on the Test SLATE System Explorer user interface. Attributes that are hardware specific such as chassis, slots, channels, and other related configuration items are easily accessed and configured through the System Explorer tree.



System Explorer

Test SLATE OPC Interfaces

Many new hardware systems are provided with or are compatible with industry standard OPC communications protocol. OPC-based systems provide easy connectivity to Test SLATE with no programming involved. Test SLATE can be configured to act as a server or client of data using the standard OPC protocol. This allows any off-the-shelf data display or analysis package to connect to active Test SLATE tags such as analog measurements or calculated values.

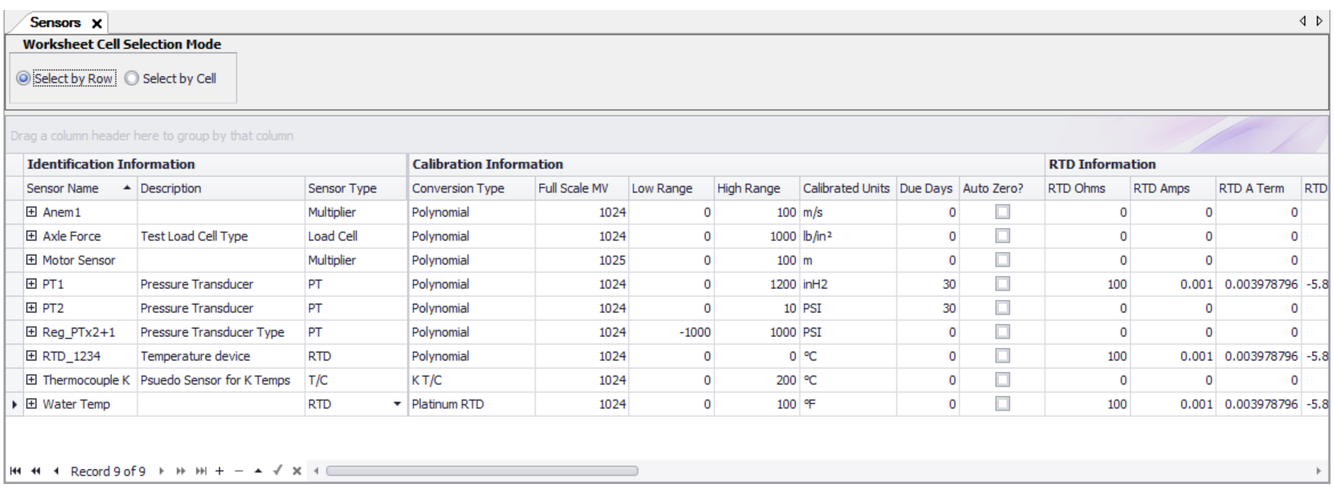
Standard HMI packages allow you to define custom displays or analyses with the software tool of choice as long as it is OPC compliant. This also allows other OPC compliant software packages, such as a programmable logic controller (PLC) to share real-time access to any measurement or control tag in the Test SLATE configuration. Often times, other custom legacy software code can also be encapsulated in an OPC wrapper to enable the user to retain their original software development investment while making it compatible with Test SLATE.

Test SLATE Sensor Database

For Subsystems that provide Test SLATE with data in the form of counts or millivolts, the Sensor Database is used to configure engineering unit conversions, units, sensor identification information, sensor calibration data, etc., for each frequency and analog input sensor. Conversion support for up to a 14th order polynomial; platinum RTD; and B, E, J, K, N, R, S, and T type thermocouples is provided. Thermocouple conversions are based on NIST Monograph 175 polynomials. An optional 14th order polynomial correction is provided for thermocouples.

Calibration functions include the capability to perform end-to-end calibrations on any analog input or frequency input I/O channel. In-place sensor calibration with up to 50 stimulus points can be used to generate up to a 14th order polynomial curve fit for low- level to engineering unit data conversions. As Found calibration polynomial evaluations are provided to determine if sensors are experiencing abnormal drift. Optional reports and plots can be generated with a newly accepted calibration and the Sensor Database is automatically updated. Test SLATE's calibration functions also include the ability to initiate I/O subsystem specific self-calibrations, if available. These may include millivolt insertion calibrations or system pressure calibrations.

A common Sensor Database for all configurations ensures the latest calibration information is used regardless of which configuration is currently in use.



Identification Information			Calibration Information							RTD Information			
Sensor Name	Description	Sensor Type	Conversion Type	Full Scale MV	Low Range	High Range	Calibrated Units	Due Days	Auto Zero?	RTD Ohms	RTD Amps	RTD A Term	RTD
Anem1		Multiplier	Polynomial	1024	0	100	m/s	0	☐	0	0	0	
Axle Force	Test Load Cell Type	Load Cell	Polynomial	1024	0	1000	lb/in²	0	☐	0	0	0	
Motor Sensor		Multiplier	Polynomial	1025	0	100	m	0	☐	0	0	0	
PT1	Pressure Transducer	PT	Polynomial	1024	0	1200	inH2	30	☐	100	0.001	0.003978796	-5.8
PT2	Pressure Transducer	PT	Polynomial	1024	0	10	PSI	30	☐	0	0	0	
Reg_PTx2+1	Pressure Transducer Type	PT	Polynomial	1024	-1000	1000	PSI	0	☐	0	0	0	
RTD_1234	Temperature device	RTD	Polynomial	1024	0	0	°C	0	☐	100	0.001	0.003978796	-5.8
Thermocouple K	Psuedo Sensor for K Temps	T/C	K T/C	1024	0	200	°C	0	☐	0	0	0	
Water Temp		RTD	Platinum RTD	1024	0	100	°F	0	☐	100	0.001	0.003978796	-5.8

Sensor Editor