

## Flexible Common Core Solutions For Automated Test

Aerospace and Defense • Electronics Manufacturing • Environmental Stress Screen



### Overview

A properly architected production test strategy can have a significant impact on the bottom line and reputation of a manufacturing organization. Adoption of a top-level strategy that identifies and prioritizes reduction of capital investment and development costs, minimizing test cycle times and delivering confidence in the accuracy of test results should be a primary goal, helping ensure products leave the manufacturing floor on time, within budget and with a high degree of quality. AMETEK's FlexSys™ series of common core ATE solutions is the result of combining years of experience as a modular instrumentation and power supply manufacturer with that of a systems integration service provider. FlexSys integrated test systems incorporate pre-engineered building blocks at the core that can be easily tailored to meet specific application needs.

**The FlexSys core helps manufacturing teams address challenges associated with creating a common test strategy by:**

- Containing capital investments and development costs
- Sharing of development and training costs across the organization
- Reducing test times to meet production demand
- Increasing yield by delivering confidence and accuracy in test results
- Reducing system footprint to minimize use of floor space
- Mitigating obsolescence by selecting long-term industry standards
- Using a flexible architecture that can grow with future needs



**More than just a collection of racks and instruments,** FlexSys is designed to preserve signal integrity through the entire test system, including cabling and signal switching to the user interface, maximizing the performance of the test instrumentation. The FlexSys core provides a foundation for ATE systems using pre-engineered components to give designers a head start on automated test projects, saving development costs and reducing time-to-readiness. Popular industry standards such as PXI Express and LXI are utilized throughout the core, providing a familiar ecosystem to further accelerate development and integrate optional 3rd party products as required.

In today's global economy, manufacturers are increasingly reliant on engineering teams and production facilities that are spread across the world. By standardizing on the FlexSys automated test core, organizations are able to promote reuse of development and reduce initial investment costs, while creating an infrastructure that can be centrally supported. FlexSys core systems are manufactured to a proven and repeatable process reducing risk associated with new developments. The modular instrumentation platforms used in the core can be easily reconfigured and expanded to meet application specific requirements that are not addressed in the core.



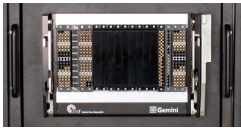
**Racks And Enclosures**

- 25U and 42U pre-configured rack options
- Power control ensures safety of UUT and instruments
- Rear door with lock, vented for optimal air flow
- Power strips and PDU simplify power routing to instrumentation
- Busbar with single point grounding
- Cooling system
- Heavy duty casters for improved maneuverability



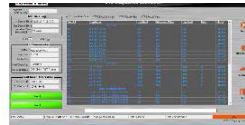
**AC/DC Power Sources**

- 1U, Asterion 1.5 kVA AC Power Supply with iX2 current doubling technology delivers full power over wide voltage ranges
- 1/2 rack 1U XG 33V/25A, 850 W DC Power Supply, easily scalable to increase voltage and/or current range
- Convenient LAN communications interface
- Intuitive front panel controls for manual operation



**Interconnect Panel and Wiring**

- 18-slot mass-interconnect with room for expansion provides robust termination points for Power, RF and Signal I/O
- Ideal for medium to high mix production environments
- Harness assemblies designed for maximum signal integrity and serviceability
- Optional self-test adapter provides verification of end-end functionality of system



**FlexSys Test Operating Software**

- Test sequence generator promotes reuse of common functionality
- Interfaces with many standard application development environments
- Standardized interface requires minimal training to be proficient
- Hardware abstraction layer insulates instrumentation from application code facilitating replacement of obsolete instruments
- Interactive, paperless Flash test procedure instructions, GIF image display
- Auto-verification of calibration effectivity prevents testing if calibration is past due
- Optional plug-in for automating Environmental Stress Screening



**PXI Express And LXI Modular Instrumentation**

- Compact modular instrumentation and switching mainframes provide high-channel density to reduce system footprint
- 9-slot CMX09 PXI Express hybrid chassis delivers 8 GB/s system throughput for data intensive applications (optional)
- 16-slot EX1208A LXI mainframe supports multi-channel scanning to DMM and high-voltage switching and analog outputs
- Application Programmer's Interface through industry standard IVI software drivers simplifies code generation
- Options to expand system capability by adding plug-in modules



**FlexSys42 Standard Configuration\***

- |                               |  |
|-------------------------------|--|
| 16-slot LXI modular mainframe | 18-slot receiver/modules and system wiring harnesses |
| 6.5 digit DMM                 | 42U 19" instrumentation rack                         |
| 8-ch 500 kSa/s AWG/DAC        | Single-phase PDU                                     |
| 256 channel 2-wire mux        | Emergency off panel                                  |
| 40 Form A, 16 A relays        | System status Tower Lamp                             |
| 320 Form A, 2 Amp relays      | Industrial PC/Windows 10                             |
| 4-channel, 100 MHz scope      | 8-port PCI serial interface                          |
| 1.5 kVA AC Source             | FlexSys Test Operating Software                      |
| 850 W DC source               | (OPTION) Self-test adapter and software              |

\*NOTE: FlexSys can be customized to meet specific requirements