

2606B 시스템 소스미터® SMU 계측기

데이터 시트



2606B 시스템 소스 미터 소스 측정기 (SMU) 계측기는 1U 높은 폼 팩터 새시에서 4 개의 20 와트 SMU 채널을 제공합니다. 키슬리의 3 세대 SMU 기술로 구축된 2606B는 정밀 전원 공급 장치, 실제 전류 소스, 6½ 자리 DMM, 임의 파형 발생기 및 펄스 발생기의 결합된 기능을 하나의 긴밀하게 통합된 계측기에 제공합니다. 소비자 제품과 자동차에 사용되는 3D 센싱·통신·LED에 사용되는 VCSEL/레이저 다이오드 등 광전자 소자와 아날로그 IC·ASIC·SOC 소자 등 집적 장치에 대한 자동화된 자격심사·생산시험 요구 생산성을 대폭 높인 강력한 솔루션입니다. 높은 SMU 채널 수가 필요한 경우 장치간 열 간격 없이 여러 개의 2606B 장치를 서로 쌓을 수 있습니다.

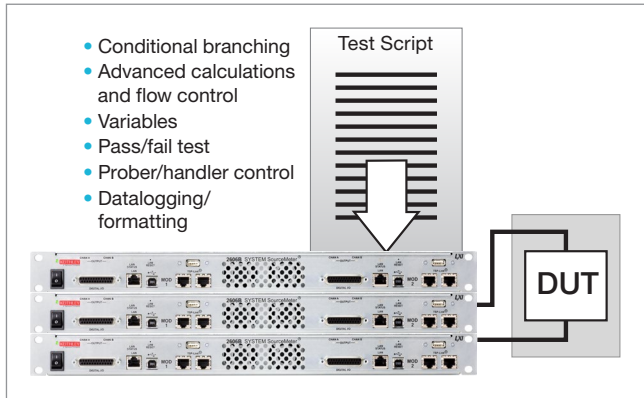
내장 웹 브라우저 기반 소프트웨어를 사용하면 전세계 어디에서나 모든 컴퓨터를 통해 2606B와 통신 할 수 있습니다. 자동화 시스템 애플리케이션의 경우 2606B의 테스트 스크립트 프로세서 (TSP®) 기술은 업계 최고의 처리량을 위해 계측기 내부에서 완벽한 테스트 프로그램을 실행합니다. 더 큰 다중 채널 응용 프로그램에서 키슬리의 TSP-Link® 기술은 TSP 기술과 함께 작동하여 고속의 핀당 SMU 병렬 테스트를 지원합니다. 각 2606B SMU는 새로운 범위를 사용할 때 업계 최고의 키슬리 2602B 시스템 소스 미터 SMU 계측기와 코드 호환됩니다.

주요 특징

- 단일 1U 전체 랙 새시의 4채널 SMU 기기
- 적층 가능, 유닛 간 1U 간격 요구사항 없음
- 긴밀하게 통합된 전압/전류 소스 및 측정 기기는 6½자리의 분해능으로 동급 최고의 성능을 제공
- 20V @ 1A 및 6V @ 3A 전원 봉투, 20와트
- 0.015% DCV 기본 정확도
- 최대 28개의 개방 드레인 디지털 I/O 비트
- 2602B 시스템 소스미터 SMU 계측기와 상관된 결과
- TSP 기술은 동급 최고의 시스템 수준의 처리량을 위해 계측기 내부에 완전한 테스트 프로그램 내장
- 메인프레임 없이 다채널 병렬 테스트를 위한 TSP-Link 확장 기술
- 전면 패널 LAN(LXI-C), USB 2.0 TMC488 프로토콜 및 디지털 I/O 인터페이스
- 내장된 웹 브라우저 기반 소프트웨어로 전 세계 어디에서나 모든 컴퓨터에서 브라우저를 통해 원격 제어 가능

TSP 기술을 사용한 자동 테스트에서 비교할 수 없는 처리량

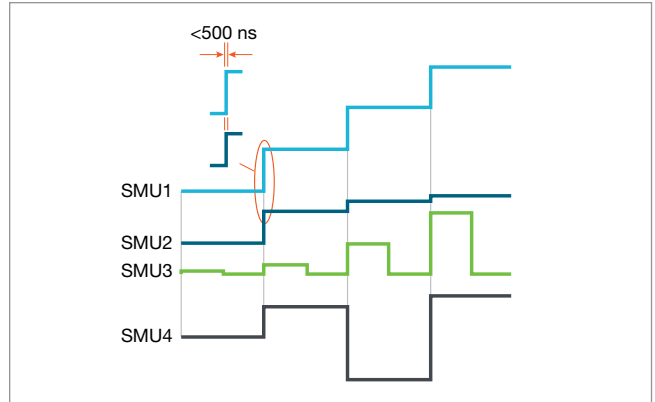
2606B의 TSP 기술은 가장 높은 수준의 자동화 및 처리량을 요구하는 테스트 애플리케이션의 경우 업계 최고의 성능을 제공합니다. TSP 기술은 전통적인 테스트 명령 시퀀서를 훨씬 능가하며, SMU 기기 자체 내에서 완전한 테스트 프로그램을 구현합니다. 이를 통해 PC 컨트롤러와 주고받는데 시간이 많이 걸리는 버스 통신이 사실상 없어져 전반적인 테스트 시간이 획기적으로 단축됩니다.



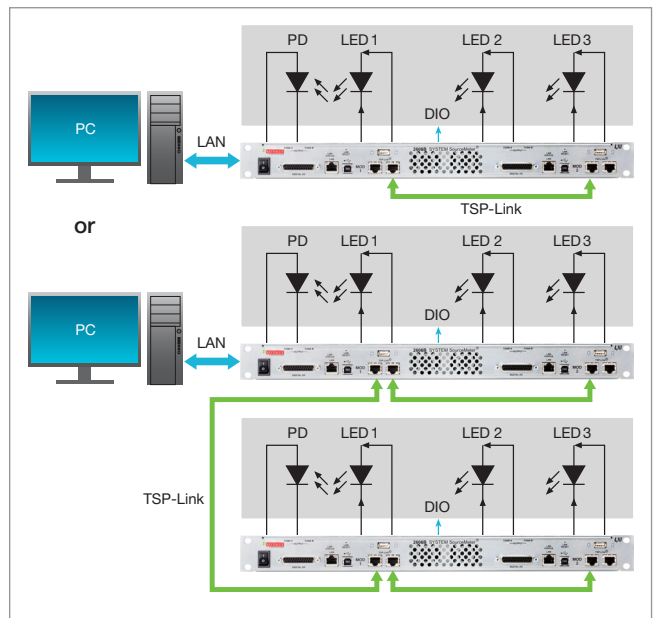
TSP 기술은 2606B의 비휘발성 메모리에서 완전한 테스트 프로그램을 실행한다.

TSP-Link 기술을 이용한 SMU-Per-PIN 병렬 테스트

TSP-Link는 다수의 시리즈 2606B를 다른 키슬리 TSP 지원 기기와 상호 연결하거나 연결할 수 있는 채널 확장 버스로, 긴 밀하게 동기화된 단일 멀티 채널 시스템으로서 기능합니다. 2606B의 TSP-Link Technology는 TSP 기술과 함께 작동하여 고속의 핀당 SMU-Parallel 테스트를 가능하게 합니다. 2606B는 대형 AET 시스템 등 다른 고속 솔루션과 달리 메인프레임의 비용이나 부담 없이 병렬 테스트 성능을 구현합니다. 또한 TSP-Link 기반 시스템은 뛰어난 유연성을 가능하게 하여 시험 요구사항의 변화에 따라 빠르고 쉬운 시스템 재구성이 가능합니다.

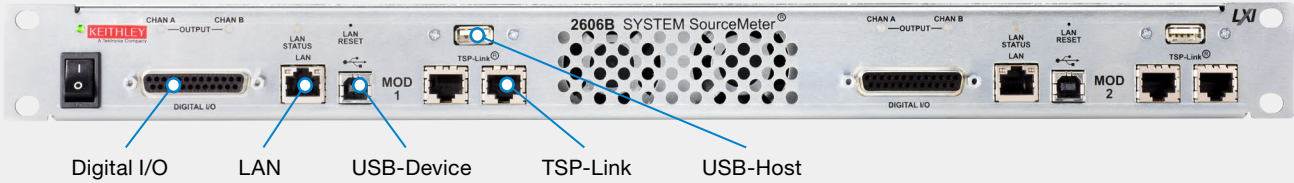


TSP-Link 시스템의 모든 채널은 500ns 미만으로 동기화됩니다.



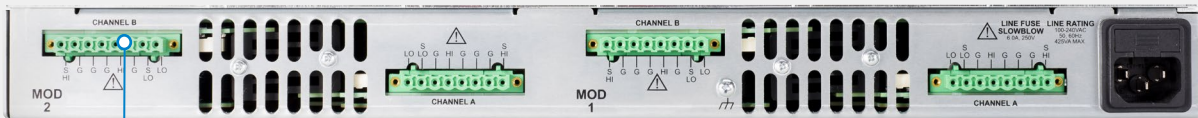
TSP 및 TSP-Link 기술을 사용한 SMU-per-pin 병렬 또는 멀티핀 장치 테스트는 테스트 처리량을 향상시키고 테스트 비용을 절감합니다.

2606B Front Panel



Digital I/O LAN USB-Device TSP-Link USB-Host

2606B Rear Panel



Analog I/O



2606B SMU 계측기는 최소 레일 깊이가 27인치(0.686m)인 랙 시스템에 쉽게 랙을 장착하고 쌓을 수 있습니다.

3세대 SMU 기기 설계로 테스트 시간 단축

입증된 Series 2600B 계측기 아키텍처를 기반으로 2606B의 SMU 계측기 설계는 여러 가지 방법으로 테스트 속도를 향상 시켜 드립니다. 예를 들어 2606B는 특허 받은 시리즈 범위 지정 토폴로지를 사용하여 더 빠르고 부드러운 범위 변경과 더 빨리 안착되는 출력을 제공합니다. 2606B SMU 기기 설계는 다양한 부하와 함께 사용할 수 있는 두 가지 작동 모드를 지원합니다. 정상 모드에서 SMU 계측기는 최대 처리량을 위해 높은 대역폭 성능을 제공합니다. 높은 캐패시턴스(High-C) 모드에서 SMU 계측기는 더 느린 대역폭을 사용하여 더 높은 용량성 부하로 강력한 성능을 제공합니다.

전형적인 응용분야

다음에 포함한 광범위한 장치의 I-V 기능 테스트 및 특성 분석에 쓰입니다:

- 광전자 장치
 - VCSEL (수직 공동 표면 방출 레이저), 레이저 다이오드 (3D 감지 시스템에 사용)
 - 고휘도 (HBLLED), 발광 다이오드 (LED)
 - 디스플레이
- 통합 장치 소규모 통합 (SSI) 및 대규모 통합 (LSI)
 - 아날로그 IC
 - 무선 주파수 집적 회로 (RFIC)
 - 주문형 집적 회로 (ASIC)
 - 시스템 온 칩 (SOC) 장치
- 개별 및 수동 부품
 - 2 리드 센서, 디스크 드라이브 헤드, 금속 산화물 배리스터 (MOV), 다이오드, 제너 다이오드, 센서, 커패시터, 서미스터
 - 3 리드 소 신호 바이폴라 접합 트랜지스터 (BJT), 전계 효과 트랜지스터 (FET) 등
- 간단한 IC 옵토, 드라이버, 스위치, 센서, 컨버터, 레귤레이터



사양 조건

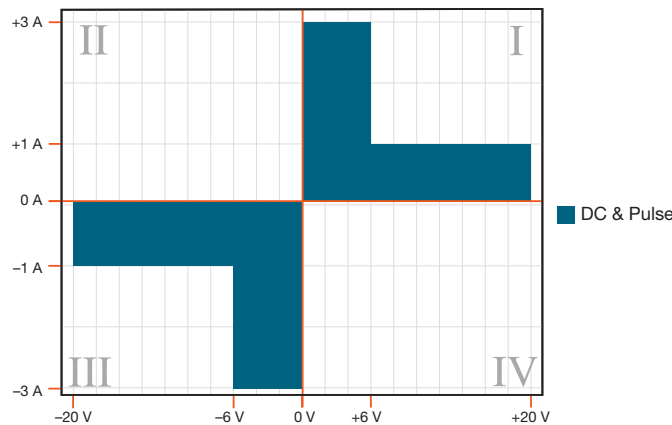
이 문서에는 2606B 시스템 소스미터 SMU 계측기의 사양 및 보증 정보가 포함되어 있습니다. 사양은 2606B를 테스트하는 표준입니다. 출고시 2606B 장비는 이러한 사양을 충족합니다. 보증 및 일반적인 값은 보증되지 않으며 23°C에서 적용되며 유용한 정보로만 제공됩니다. 개별 모듈에 대한 사양입니다.

다음 조건 하에서 소스 및 측정 정확도는 2606B 터미널에서 지정됩니다.

1. 23°C ±5°C, <70 percent relative humidity
2. After a two-hour warm-up period
3. Speed normal (1 NPLC)
4. A/D autozero enabled
5. Remote sense operation or properly zeroed local operation
6. Calibration period: One year

DC Power Specifications

| | Voltage | Current |
|---|--|--|
| Maximum output power and source limits ^{1,2} | 20.2 W maximum 20.2 V at 1.0 A, -20.2 V at -1.0 A 6.06 V at 3.0 A, -6.06 V at -3.0 A | 20.2 W maximum 1.01 A at 20 V, -1.01 A at -20 V 3.03 A at 6 V, -3.03 A at -6 V |



Voltage Accuracy Specifications ^{3, 4}

| Range | Source | | | Measure | |
|--------|------------------------|-------------------------------|--|--------------------|-------------------------------|
| | Programming Resolution | Accuracy ±(% reading + volts) | Typical Noise (peak to peak) 0.1 Hz to 10 Hz | Display Resolution | Accuracy ±(% reading + volts) |
| 100 mV | 5 µV | 0.02% + 250 µV | 20 µV | 100 nV | 0.015% + 150 µV |
| 1 V | 50 µV | 0.02% + 400 µV | 50 µV | 1 µV | 0.015% + 200 µV |
| 6 V | 50 µV | 0.02% + 1.8 mV | 100 µV | 1 µV | 0.015% + 1 mV |
| 20 V | 500 µV | 0.02% + 12 mV | 500 µV | 10 µV | 0.015% + 8 mV |

Notes

1. For additional power derating information for various load and temperature conditions, refer to "Operating Boundaries" in the Series 2606B Reference Manual.
2. The System SourceMeter® will allow quadrant II and quadrant IV operation, however, it is intended for low power or short transient behavior. Operation in quadrant II and quadrant IV could result in an overtemperature error.
3. For temperatures 0°C to 18°C and 28°C to 50°C, accuracy is degraded by ±(0.15 × accuracy specification)/°C.
4. Add 50 µV to source accuracy specifications per volt of HI lead drop.

Current Accuracy Specifications ³

| Range | Source | | | Measure | |
|-------------|------------------------|--------------------------------------|--|--------------------|---|
| | Programming Resolution | Accuracy \pm (% reading + amperes) | Typical Noise (peak to peak) 0.1 Hz to 10 Hz | Display Resolution | Accuracy ⁵ \pm (% reading + amperes) |
| 100 nA | 2 pA | 0.06% + 100 pA | 5 pA | 100 fA | 0.05% + 100 pA |
| 1 μ A | 20 pA | 0.03% + 800 pA | 25 pA | 1 pA | 0.025% + 500 pA |
| 10 μ A | 200 pA | 0.03% + 5 nA | 60 pA | 10 pA | 0.025% + 1.5 nA |
| 100 μ A | 2 nA | 0.03% + 60 nA | 3 nA | 100 pA | 0.02% + 25 nA |
| 1 mA | 20 nA | 0.03% + 300 nA | 6 nA | 1 nA | 0.02% + 200 nA |
| 10 mA | 200 nA | 0.03% + 6 μ A | 250 nA | 10 nA | 0.02% + 2.5 μ A |
| 100 mA | 2 μ A | 0.03% + 30 μ A | 600 nA | 100 nA | 0.02% + 20 μ A |
| 1 A | 20 μ A | 0.05% + 1.8 mA | 70 μ A | 1 μ A | 0.03% + 1.5 mA |
| 3 A | 20 μ A | 0.06% + 4 mA | 150 μ A | 1 μ A | 0.05% + 3.5 mA |

Supplemental Characteristics

The following specifications are supplemental characteristics that provide additional information about instrument functions and performance. These characteristics are nonwarranted specifications; they describe the typical performance of the 2606B.

Additional Source Characteristics

Noise 10 Hz to 20 MHz < 20 mV peak-peak, < 3 mV RMS, 6 V range

Minimum Programmable Pulse Width ^{6,7}
100 μ s

Note: Minimum pulse width for settled source at a given I/V output and load can be longer than 100 ms.

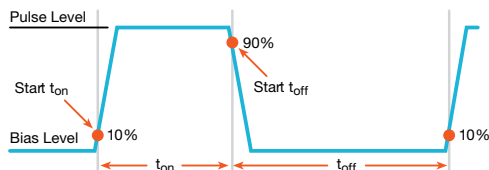
| Source value | Load | Source settling time (% of range) | Minimum pulse width |
|--------------|------------|-----------------------------------|---------------------|
| 6 V | 2 Ω | 0.2% | 150 μ s |
| 3 A | 2 Ω | 0.2% | 150 μ s |

Notes

- For temperatures 0°C to 18°C and 28°C to 50°C, accuracy is degraded by $\pm(0.15 \times \text{accuracy specification})/^\circ\text{C}$.
- Derate accuracy specification for NPLC setting <1 by increasing the error term. Add appropriate typical percent of reading term for resistive loads using the table below.

| NPLC Setting | 200 mV Range | 2 V–200 V Ranges | 100 nA Range | 1 μ A–100 mA Ranges | 1 A–1.5 A Ranges |
|--------------|--------------|------------------|--------------|-------------------------|------------------|
| 0.1 | 0.01% | 0.01% | 0.01% | 0.01% | 0.01% |
| 0.01 | 0.08% | 0.07% | 0.1% | 0.05% | 0.05% |
| 0.001 | 0.8% | 0.6% | 1% | 0.5% | 1.1% |

- Times measured from the start of pulse to the start off-time; see figure below.



- With source settling set to SETTLE_SMOOTH_100NA

| | |
|--|---|
| Pulse Width Programming Resolution | 1 μ s |
| Pulse Width Programming Accuracy | ± 5 μ s |
| Pulse Width Jitter | 2 μ s |
| Transient Response Time | <70 μ s for the output to recover to within 0.1% for a 10% to 90% step change in load. |
| Overshoot | Voltage: < $\pm 0.1\%$ of range + 10 mV. Step size = 10% to 90% of range, resistive load, maximum current limit/compliance Current: < $\pm 0.1\%$ of range. Step size = 10% to 90% of range, resistive load. See Current Source Output Settling Time for additional test conditions. |
| Range Change Overshoot | Voltage: <300 mV + 0.1% of larger range. Overshoot into a 100 k Ω load, 20 MHz bandwidth. Current: <300 mV/R _{LOAD} + 5% of larger range |
| Guard Offset Voltage | <4 mV, current <10 mA |
| Remote Sense Operating Range ⁸ | Maximum voltage between HI and SENSE HI = 3 V Maximum voltage between LO and SENSE LO = 3 V |
| Voltage Output Headroom | 20 V Range: Maximum output voltage = 22 V – (total voltage drop across source leads). Maximum 1 Ω source lead. 6 V Range: Maximum output voltage = 8 V – (total voltage drop across source leads). Maximum 1 Ω source lead. |
| Overtemperature Protection | Internally sensed temperature overload puts the instrument in standby mode |
| Limit/Compliance | Bipolar limit (compliance) set with a single value. Voltage: Minimum value is 10 mV; accuracy is the same as voltage source. Current: Minimum value is 10 nA; accuracy is the same as current source |

Voltage Source Output Settling Time

Time required to reach within 0.1% of final value after source level command is processed on a fixed range.

| Voltage Range | Settling Time |
|-------------------|---------------|
| 100 mV | < 50 μ s |
| 1 V | < 50 μ s |
| 10 V | < 110 μ s |
| 20 V ⁹ | < 150 μ s |

Current Source Output Settling Time

Time required to reach within 0.1% of final value after source level command is processed on a fixed range. Values below for I_{OUT} × R_{LOAD} = 1 V

| Current Range | Settling Time |
|---------------|---|
| 3 A | < 80 μ s (Current < 2.5 A, R _{LOAD} > 2 Ω) |
| 1 A to 10 mA | < 80 μ s (R _{LOAD} > 6 Ω) |
| 1 mA | < 100 μ s |
| 100 μ A | < 150 μ s |
| 10 μ A | < 500 μ s |
| 1 μ A | < 2 ms |
| 100 nA | < 20 ms |

Notes

- With source settling set to SETTLE_SMOOTH_100NA
- Add 50 μ V to source accuracy specifications per volt of HI lead drop.
- Add 150 μ s when measuring on the 1 A range.

Additional Measurement Characteristics

Current Measure Settling Time¹⁰ Time required to reach within 0.1% of final value after source level command is processed on a fixed range. Values below for $V_{out} = 1\text{ V}$

| Current Range | Settling Time |
|---------------|---------------------|
| 1 mA | < 100 μs |

Input Impedance > 10 $\text{G}\Omega$

Additional Characteristics

Maximum load impedance Normal mode 10 nF. High capacitance mode 50 μF .

Common Mode Voltage 250 VDC

Common Mode Isolation >1 $\text{G}\Omega$, < 4500 pF

Sense High Input Impedance >10 $\text{G}\Omega$

Maximum Sense Lead Resistance 1 $\text{k}\Omega$ for rated accuracy

Overrange 101% of source range. 102% of measure range.

Measurement Speed Characteristics^{11, 12}

Maximum Sweep Operations Rates (operations per second) for 60 Hz (50 Hz)

| A/D Converter Speed (NPLC) | Trigger Origin | Measure to Memory (using user scripts) | Measure to USB (using user scripts) | Source Measure to Memory (using user scripts) | Source Measure to USB (using user scripts) | Source Measure to Memory (using sweep API) | Source Measure to USB (using sweep API) |
|----------------------------|----------------|--|-------------------------------------|---|--|--|---|
| 0.001 | Internal | 20000 (20000) | 9800 (9800) | 7000 (7000) | 6200 (6200) | 12000 (12000) | 5900 (5900) |
| 0.001 | Digital I/O | 8100 (8100) | 7100 (7100) | 5500 (5500) | 5100 (5100) | 11200 (11200) | 5700 (5700) |
| 0.01 | Internal | 4900 (4000) | 3900 (3400) | 3400 (3000) | 3200 (2900) | 4200 (3700) | 4000 (3500) |
| 0.01 | Digital I/O | 3500 (3100) | 3400 (3000) | 3000 (2700) | 2900 (2600) | 4150 (3650) | 3800 (3400) |
| 0.1 | Internal | 580 (480) | 560 (470) | 550 (465) | 550 (460) | 560 (470) | 545 (460) |
| 0.1 | Digital I/O | 550 (460) | 550 (460) | 540 (450) | 540 (450) | 560 (470) | 545 (460) |
| 1.0 | Internal | 59 (49) | 59 (49) | 59 (49) | 59 (49) | 59 (49) | 59 (49) |
| 1.0 | Digital I/O | 59 (49) | 59 (49) | 59 (49) | 59 (49) | 59 (49) | 59 (49) |

Notes

10. Compliance equal to 100 mA.

11. Tests performed using the following equipment: Computer hardware — Intel® Core™ i7 at 2.90 GHz, 8 GB RAM; software — Microsoft® Windows® 10 Enterprise 64-bit, Microsoft® Visual Studio® 2010, VISA™ version 5.8.

12. Exclude current measurement ranges less than 1 mA.

Maximum Single Measurement Rates (operations per second) for 60 Hz (50 Hz)

| A/D Converter Speed (NPLC) | Trigger Origin | Measure to USB | Source Measure to USB | Source Measure Pass/Fail to USB |
|----------------------------|----------------|----------------|-----------------------|---------------------------------|
| 0.001 | Internal | 1900 (1800) | 1400 (1400) | 1400 (1400) |
| 0.01 | Internal | 1450 (1400) | 1200 (1200) | 1100 (1100) |
| 0.1 | Internal | 450 (390) | 425 (370) | 425 (375) |
| 1.0 | Internal | 58 (48) | 57 (48) | 57 (48) |

Maximum Measurement Range Change Rate

>7000 per second for >10 μ A. When changing to or from a range \geq 1 A, maximum rate is >2200/second.

Maximum Source Range Change Rate

>400 per second >10 μ A. When changing to or from a range \geq 1 A, maximum rate is >190/second.

Maximum Source Function Change Rate

>1000 per second

Command Processing Time

<1 ms. Maximum time required for the output to begin to change after receiving the `smua.source.levelv` or `smua.source.leveli` command.

Triggering and Synchronization Characteristics

Triggering

| | |
|---|-----------------|
| Trigger In to Trigger Out | 0.5 μ s |
| Trigger In to Source Change ¹³ | 10 μ s |
| Trigger Timer Accuracy | \pm 2 μ s |
| Source Change After LXI Trigger | 280 μ s |

Synchronization

Multi-node Synchronized Source Change¹³
< 0.5 μ s

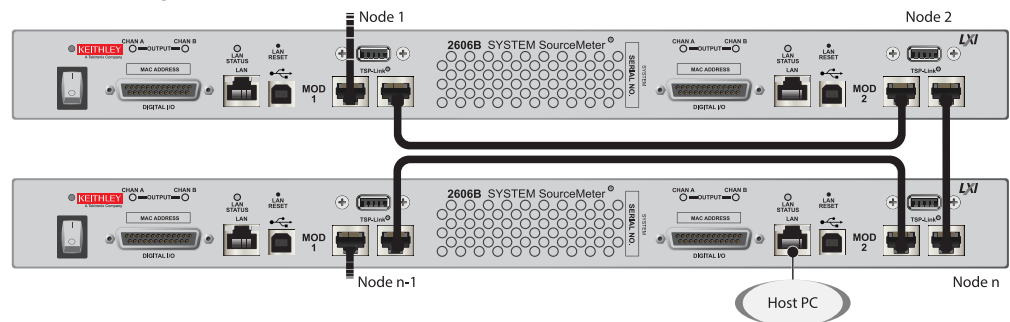
Single-node Synchronized Source Change¹³
< 0.5 μ s

Notes

13. Fixed source range with no polarity change

Supplemental Information

| | |
|--|---|
| Programming | <p>Embedded Test Script Processor (TSP®) scripting engine is accessible from any host interface:</p> <ul style="list-style-type: none"> Responds to individual instrument control commands Responds to high-speed test scripts comprised of remote commands and test script language (TSL) statements (for example, branching, looping, and math) Able to execute high-speed test scripts stored in memory without host intervention |
| Minimum User Memory Available | 16 MB (approximately 250,000 lines of TSP code) |
| Test Script Builder | Integrated development environment for building, running, and managing TSP scripts; includes an instrument console for interactive communication with any TSP-enabled instrument. For information on requirements, refer to the Test Script Builder documentation, available at tek.com/keithley . |
| Software Interface | Read/write with Microsoft® Visual Basic®, Visual C/C++®, Visual C#®, LabVIEW™, CEC TestPoint™ Data Acquisition Software Package, NI LabWindows™/CVI, and so on. |
| Reading Buffers | <p>Nonvolatile memory uses dedicated storage areas reserved for measurement data. Reading buffers are arrays of measurement elements. Each element can store the following items:</p> <ul style="list-style-type: none"> Measurement Source setting (at the time the measurement was taken) Measurement status Range information Timestamp <p>Reading buffers can be filled using the front-panel STORE key, and retrieved using the RECALL key or host interface.</p> |
| Buffer Size, With Timestamp and Source Setting | >60,000 samples |
| Buffer Size, Without Timestamp and Source Setting | >140,000 samples |
| System Expansion | The TSP-Link expansion interface allows TSP-enabled instruments to trigger and communicate with each other. See the figure below. |



The 2606B has four TSP-Link connectors (two on each module) to make it easier to connect instruments in a sequence.

Once source-measure instruments are interconnected through the TSP-Link expansion interface, a computer can access all of the resources of each source measure instrument through the host interface of any System SourceMeter.

A maximum of 32 TSP-Link nodes can be interconnected. Each source-measure module uses one TSP-Link node.

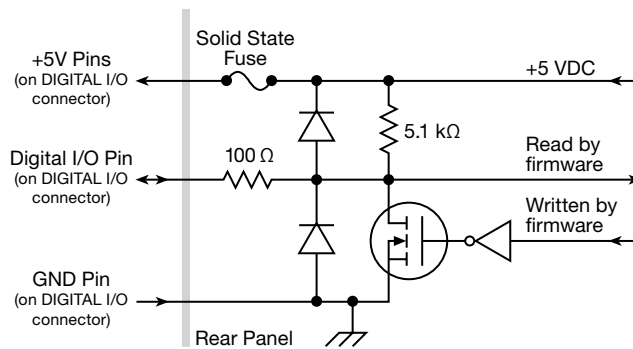
Timing

| | |
|--------------------|--|
| Timer | Free-running 47-bit counter with 1 MHz clock input. Reset each time instrument power is turned on. If the instrument is not turned off, the timer is automatically reset to zero (0) every four years. |
| Timestamp | TIMER value is automatically saved when each measurement is triggered |
| Resolution | 1 μ s |
| Timestamp Accuracy | \pm 100 ppm |

General Specifications

| | |
|---------------------|---|
| Ethernet | RJ-45 connector, LXI version 1.4 Core 2011, 10/100BaseT, Auto-MDIX |
| LXI compliance | LXI version 1.4 Core 2011 |
| Expansion interface | The TSP-Link® expansion interface allows TSP-enabled instruments to trigger and communicate with each other. Cable Type: Category 5e or higher LAN crossover cable. 9.84 ft (3 m) maximum between each TSP-enabled instrument. |
| USB Control | USB 2.0 Device: USB-TMC488 protocol |
| USB File System | USB 2.0 Host: Mass storage class device |
| Power Supply | 100 VAC to 240 VAC, 50 Hz or 60 Hz (auto sensing), 425 VA maximum |
| Cooling | Forced air; front and side intakes and rear exhaust |
| Warranty | 1 year |
| EMC | Conforms to European Union EMC Directive |
| Safety | NRTL Listed to UL61010-1, and CSA C22.2 No 61010-1. Conforms with European Union Low Voltage Directive. |
| Environment | For indoor use only Altitude: Maximum 6562 ft (2000 m) above sea level Operating: 0°C to 50°C, 70% relative humidity up to 35°C. Derate 3% relative humidity/°C, 35°C to 50°C Storage: -25°C to 65°C |
| Dimensions | Rack Mount: 1.7 in. high x 19 in. wide x 26.8 in. deep (44 mm x 483 mm x 680 mm) |
| Weight | 13.6 kg (30 lb.) |

Digital I/O Interface



Connector: 25-pin female D

Input/Output Pins: 14 open drain I/O bits

Absolute Maximum Input Voltage: 5.25 V

Absolute Minimum Input Voltage: -0.25 V

Maximum Logic Low Input Voltage: 0.7 V, +850 μ A max

Minimum Logic High Input Voltage: 2.1 V, +570 μ A

Maximum Source Current (flowing out of digital I/O bit): +960 μ A

Maximum Sink Current at Maximum Logic Low Voltage (0.7 V): -5.0 mA

Absolute Maximum Sink Current (flowing into digital I/O pin): -11 mA

5 V Power Supply Pin: Limited to 250 mA, solid-state fuse protected

Output Enable: Active high input pulled down internally to ground with a 10 k Ω resistor; when the output enable input function has been activated, each SourceMeter channel will not turn on unless the output enable pin is driven to >2.1 V (nominal current = 2.1 V / 10 k Ω = 210 μ A).

Ordering Information

2606B

Four-channel System SourceMeter SMU Instrument

Supplied Accessories

Operators and Programming Manuals

| | |
|------------------------------|--|
| CA-180-16 | LAN crossover cable, 0.41 m (16 in.) (2 included) |
| 174710700 | Shielded CAT5 Crossover Cable for TSP-Link and direct Ethernet connection, 1.5 m (5 ft.) |
| CA-568 | Green and yellow ground cable, 3 m (120 in.) |
| 2600-KIT | Eight-pin custom cable connector, cable housing, and strain relief (4 included) |
| 7709-308A | 25-pin D-shell connector kit (for Digital I/O port) (2 included) |
| 4299-13 | 1U Fixed Rack Mount Kit (Minimum 0.686m (27 inches) rail depth required) |
| Power Line Cord | Country Dependent |
| Test Script Builder Software | (Available download from www.tek.com) |
| LabVIEW Driver | (Available download from www.tek.com) |
| User's Manual | (Available download from www.tek.com) |

Available Accessories

Cables and Connectors

| | |
|----------------|--|
| 2600-BAN | Banana Test Leads/Adapter Cable. |
| 2600-KIT | Extra screw terminal connector, strain relief, and cover |
| 2600-FIX-TRIAX | Phoenix-to-Triax Adapter for 2 wire sensing |
| 2600-TRIAX | Phoenix-to-Triax Adapter for 4 wire sensing |
| 7078-TRX-* | 3-Slot, Low Noise Triax Cable, 0.3 m–6.1 m. For use with 2600-TRIAX Adapter * = 1, 3, 5, 10, 12, 20 (for 0.3 m, 0.9 m, 1.5 m, 3.0 m, 3.5 m, 6.0 m respectively) |
| 7078-TRX-GND | 3-Slot Male Triax to BNC adapter (guard removed) |
| 7709-308A | Digital I/O Connector (model specific) |
| 8606 | High Performance Modular Probe Kit. For use with 2600B-BAN |

Digital I/O, Trigger Link, and TSP-Link

| | |
|------------|--|
| 2600-TLINK | Digital I/O to TLINK Adapter Cable, 1 m |
| CA-126-1A | Digital I/O and Trigger Cable, 1.5 m |
| 174710700 | Shielded CAT5 Crossover Cable for TSP-Link and direct Ethernet connection, 1.5 m (5 ft.) |

Available Services

Extended Warranties

| | |
|-------------|---|
| 2606B-EW | 1 Year Factory Warranty extended to 2 years |
| 2606B-3Y-EW | 1 Year Factory Warranty extended to 3 years |
| 2606B-5Y-EW | 1 Year Factory Warranty extended to 5 years |

Calibration Contracts

| | |
|------------------|---|
| C/2606B-3Y-STD | 3 Calibrations within 3 years |
| C/2606B-5Y-STD | 5 Calibrations within 5 years |
| C/2606B-3Y-DATA | 3 Calibrations within 3 years and includes calibration data before and after adjustment |
| C/2606B-5Y-DATA | 5 Calibrations within 5 years and includes calibration data before and after adjustment |
| C/2606B-3Y-17025 | 3 ISO-17025 accredited calibrations within 3 years |
| C/2606B-5Y-17025 | 5 ISO-17025 accredited calibrations within 5 years |

Warranty Information

| | |
|--------------------------|--|
| Warranty Summary | This section summarizes the warranties of the Series 2606B. For complete warranty information, refer to the Series 2606B Reference Manual. Any portion of the product that is not manufactured by Keithley is not covered by this warranty and Keithley will have no duty to enforce any other manufacturer's warranties. |
| Hardware Warranty | Keithley Instruments, Inc. warrants the Keithley manufactured portion of the hardware for a period of one year from defects in materials or workmanship; provided that such defect has not been caused by use of the Keithley hardware which is not in accordance with the hardware instructions. The warranty does not apply upon any modification of Keithley hardware made by the customer or operation of the hardware outside the environmental specifications. |
| Software Warranty | Keithley warrants for the Keithley produced portion of the software or firmware will conform in all material respects with the published specifications for a period of ninety (90) days; provided the software is used on the product for which it is intended in accordance with the software instructions. Keithley does not warrant that operation of the software will be uninterrupted or error-free, or that the software will be adequate for the customer's intended application. The warranty does not apply upon any modification of the software made by the customer. |

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