

# Selector Guide

# Source and Measure Products

| MODEL                                 | 2400<br>2400-C<br>2400-LV   | 2410<br>2410-C   | 2420<br>2420-C  | 2425<br>2425-C   | 2430<br>2430-C   | 2440<br>2440-C   |
|---------------------------------------|---|--|---|--|--|--|
| Page                                  | 208   | 208  | 208   | 208  | 208  | 208  |
| Description                           | General purpose   | High voltage   | 3 A   | High power   | Pulse  | 5 A  |
| Current Source/Sink                   | •   | •  | •   | •  | •  | •  |
| Voltage Source/Sink                   | •   | •  | •   | •  | •  | •  |
| <b>POWER OUTPUT</b>                   | 22 W  | 22 W   | 66 W  | 110W   | 1100 W*  | 55 W   |
| <b>CURRENT CAPABILITY</b>             |   |  |   |  |  |  |
| Min.                                  | ±10 pA  | ±10 pA   | ±100 pA   | ±100 pA  | ±100 pA  | ±100 pA  |
| Max.                                  | ±1.05 A   | ±1.05 A  | ±3.15 A   | ±3.15 A  | ±10.5 A*   | ±5.25 A  |
| <b>VOLTAGE CAPABILITY</b>             |   |  |   |  |  |  |
| Min.                                  | ±1 μV   | ±1 μV  | ±1 μV   | ±1 μV  | ±1 μV  | ±1 μV  |
| Max.                                  | ±21/±210 V  | ±1100 V  | ±63 V   | ±105 V   | ±105 V   | ±42 V  |
| <b>OHMS RANGE</b>                     | <0.2 Ω to >200 MΩ   | <0.2 Ω to >200 MΩ  | <0.2 Ω to >200 MΩ   | <0.2 Ω to >200 MΩ  | <0.2 Ω to >200 MΩ  | <2.0 Ω to >200 MΩ  |
| <b>BASIC ACCURACY</b>                 |   |  |   |  |  |  |
| I                                     | 0.035%  | 0.035%   | 0.035%  | 0.035%   | 0.035%   | 0.035%   |
| V                                     | 0.015%  | 0.015%   | 0.015%  | 0.015%   | 0.015%   | 0.015%   |
| Ω                                     | 0.06 %  | 0.07 %   | 0.06 %  | 0.06 %   | 0.06 %   | 0.06 %   |
| <b>APPLICATIONS</b>                   |   |  |   |  |  |  |
|                                       | <ul style="list-style-type: none"> <li>Resistive devices</li> <li>Diodes</li> <li>Optoelectronic components</li> <li>IDDDQ testing</li> </ul> | <ul style="list-style-type: none"> <li>Voltage coefficient</li> <li>Varistors</li> <li>High voltage diodes and protection devices</li> <li>Airbag inflators</li> </ul> | <ul style="list-style-type: none"> <li>Power resistors</li> <li>Thermistors</li> <li>Solar cells</li> <li>Batteries</li> <li>Diodes</li> <li>IDDDQ testing</li> </ul> | <ul style="list-style-type: none"> <li>Power semiconductors</li> <li>DC/DC converters</li> <li>High power components</li> <li>IDDDQ testing</li> </ul> | <ul style="list-style-type: none"> <li>High power pulse testing</li> <li>Varistors and other circuit protection devices</li> </ul> | <ul style="list-style-type: none"> <li>5A pump laser diodes</li> </ul> |
| <b>FEATURE SUMMARY</b>                |   |  |   |  |  |  |
| Pulse Mode                            | No  | No   | No  | No   | Yes  | No   |
| Linear/Log/Custom Sweeps              | Yes   | Yes  | Yes   | Yes  | Yes  | Yes  |
| Embedded Execution                    | Yes   | Yes  | Yes   | Yes  | Yes  | Yes  |
| Embedded Scripting                    | No  | No   | No  | No   | No   | No   |
| Contact Check                         | Optional  | Optional   | Optional  | Optional   | Optional   | Optional   |
| Selectable Front/Rear Inputs          | Yes   | Yes  | Yes   | Yes  | Yes  | Yes  |
| Connections                           | Banana  | Banana   | Banana  | Banana   | Banana   | Banana   |
| Limit Inspection                      | Yes   | Yes  | Yes   | Yes  | Yes  | Yes  |
| Selectable Output-Off Impedance State | Yes   | Yes  | Yes   | Yes  | Yes  | Yes  |
| Remote or 4W Voltage Sense            | Yes   | Yes  | Yes   | Yes  | Yes  | Yes  |
| Source Readback                       | Yes   | Yes  | Yes   | Yes  | Yes  | Yes  |
| Command Language Protocol             | SCPI  | SCPI   | SCPI  | SCPI   | SCPI   | SCPI   |
| Programming                           | IEEE-488, RS-232  |  |   |  |  |  |
| Memory/Buffer                         | 5000 point, 2500 point reading buffer   |  |   |  |  |  |
| Trigger                               | Trigger Link with 6 In/Out  |  |   |  |  |  |
| Guard                                 | Ohms (high current) and cable   |  |   |  |  |  |
| Digital I/O                           | 1 In/4 Out with built-in component handler interfaces.  |  |   |  |  |  |
| Other                                 | 5½-digit measure capability. Handler interface. 500μs pass/fail test. Optional contact check capability.                                      |  |   |  |  |  |
| Compliance                            | CE, UL  | CE   | CE  | CE   | CE   | CE   |

\* In pulse mode.

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| 2601A<br>2602A   | 2611A<br>2612A  | 2635A<br>2636A                               | 6430   | 4200-SCS   | 237  |
|--|---|--|--|--|--|
| 192  | 192   | 192  | 216  | 220, 293   | 221  |
| Scalable, high throughput  | High voltage and pulsed output  | Low current and pulsed output                | Ultra-low current  | Multi-channel I-V characterization   | Low current, 1100 V  |
| •  | •   |  | •  | •  | •  |
| •  | •   |  | •  | •  | •  |
| 40.4 W/channel   | 30.3 W/channel  | 30.3 W/channel                               | 2 W  | Up to 96.8 W   | 11 W   |
| ±1 pA  | ±1 pA   | ±1 fA  | ±10 aA**   | ±10 aA w/preamp**  | ±100 fA  |
| ±3.03 A DC and pulsed/10 A pulsed per channel  | ±1.5 A DC and pulsed/10 A pulsed per channel  | ±1.5 A DC and pulsed/10 A pulsed per channel | ±105 mA  | ±1 A w/4210-SMU  | ±100 mA  |
| ±1 μV  | ±1 μV   | ±1 μV  | ±1 μV  | ±1 μV  | ±100 μV  |
| ±40.4 V/channel  | ±202 V  | ±202 V                                       | ±210 V   | ±210 V   | ±1100 V  |
|  |   |  | <2.0 Ω to >20 TΩ   |  |  |
| 0.02%  | 0.02%   | 0.02%  | 0.035%   | 0.05 %***  | 0.05%  |
| 0.015%   | 0.015%  | 0.015%                                       | 0.015%   | 0.012 %***   | 0.03%  |
|  |   |  | 0.06 %   |  |  |
| <ul style="list-style-type: none"> <li>I-V functional test and characterization</li> <li>Wafer level reliability test</li> <li>Testing integrated devices such as RFICs, ASICs, SOCs</li> <li>Testing opto devices such as LEDs, VCSELs, and displays</li> <li>Testing nano-devices and materials</li> </ul> |   |  | <ul style="list-style-type: none"> <li>Particle beam experiments</li> <li>SET (single electron transistor) testing</li> <li>Ultra-high resistance testing (up to 10<sup>15</sup>Ω)</li> <li>Nano materials testing</li> <li>Experimental nanostructures</li> </ul> | <ul style="list-style-type: none"> <li>Semiconductor laser diode DC/CW characterization</li> <li>DC/CW characterization of transceiver modules</li> <li>PIN and APD characterization</li> <li>Carbon nanotube characterization</li> <li>Materials research</li> <li>Nanoelectronics</li> </ul> | <ul style="list-style-type: none"> <li>Semiconductor laser diode DC/CW characterization</li> <li>DC/CW characterization of transceiver modules</li> <li>PIN and APD characterization</li> <li>Carbon nanotube characterization</li> <li>Materials research</li> <li>Nanoelectronics</li> </ul> |
|  | Yes   |  | No   | Yes  | Yes  |
|  | Yes   |  | Yes  | Yes  | Yes (linear/log/pulse, fixed, stair, custom)   |
|  | Yes   |  | Yes  | No   | No   |
|  | Yes   |  | No   | No   | No   |
|  | Yes   |  | No   | No   | No   |
|  | Rear only   |  | Rear and Preamp  | Rear   | Rear only  |
|  | Screw terminal, adapters for banana and triax   |  | Triax  | Lemo triax, standard triax in Preamp   | 3-lug triax  |
|  | Yes   |  | Yes  | No   | No   |
|  | Yes   |  | Yes  | No   |  |
|  | Yes   |  | Yes  | Yes  | Yes  |
|  | Yes   |  | Yes  | Yes  | No   |
|  | ICL   |  | SCPI   | SCPI in PXCI   | DDC  |
|  | Ethernet/LXI, IEEE-488, RS-232 communication with embedded Test Script Processor (TSP) capability |  | IEEE-488, RS-232   | Embedded GUI   | IEEE-488   |
|  | >100,000 rdgs/buffer  |  | 5000 point, 2500 point reading buffer  | 4096 sample memory per card  | 1000 pt.   |
|  | 14 digital I/O-trigger lines, 3 TSP-Link trigger lines  |  | Trigger Link with 6 In/Out   | Internal only  | In/Out   |
|  | Cable   |  | Ohms (high current) and cable  | Cable  | Cable  |
|  | 14 digital I/O-trigger lines  |  | 1 In/4 Out with built-in component handler interfaces  | N/A  | No   |
|  | Scalable to 64+ channels with TSP-Link®   |  | 5½-digit measure capability. Handler interface. 500μs pass/fail test.  | Optimized for front panel operation  |  |
|  | CE, UL  |  | CE   | CE   | CE   |

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