

Test Equipment Solutions Datasheet

Test Equipment Solutions Ltd specialise in the second user sale, rental and distribution of quality test & measurement (T&M) equipment. We stock all major equipment types such as spectrum analyzers, signal generators, oscilloscopes, power meters, logic analysers etc from all the major suppliers such as Agilent, Tektronix, Anritsu and Rohde & Schwarz.

We are focused at the professional end of the marketplace, primarily working with customers for whom high performance, quality and service are key, whilst realising the cost savings that second user equipment offers. As such, we fully test & refurbish equipment in our in-house, traceable Lab. Items are supplied with manuals, accessories and typically a full no-quibble 2 year warranty. Our staff have extensive backgrounds in T&M, totalling over 150 years of combined experience, which enables us to deliver industry-leading service and support. We endeavour to be customer focused in every way right down to the detail, such as offering free delivery on sales, covering the cost of warranty returns BOTH ways (plus supplying a loan unit, if available) and supplying a free business tool with every order.

As well as the headline benefit of cost saving, second user offers shorter lead times, higher reliability and multivendor solutions. Rental, of course, is ideal for shorter term needs and offers fast delivery, flexibility, try-before-you-buy, zero capital expenditure, lower risk and off balance sheet accounting. Both second user and rental improve the key business measure of Return On Capital Employed.

We are based near Heathrow Airport in the UK from where we supply test equipment worldwide. Our facility incorporates Sales, Support, Admin, Logistics and our own in-house Lab.

All products supplied by Test Equipment Solutions include:

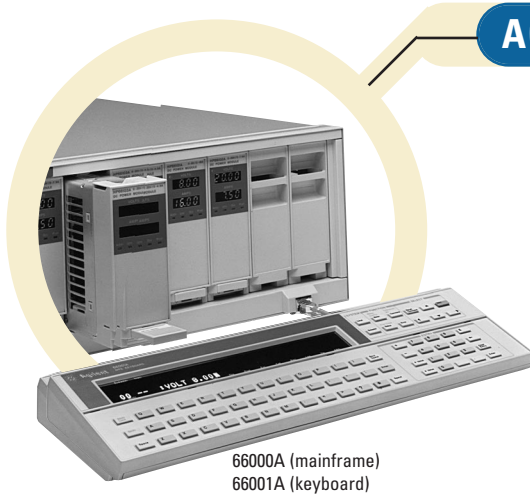
- No-quibble parts & labour warranty (we provide transport for UK mainland addresses).
- Free loan equipment during warranty repair, if available.
- Full electrical, mechanical and safety refurbishment in our in-house Lab.
- Certificate of Conformance (calibration available on request).
- Manuals and accessories required for normal operation.
- Free insured delivery to your UK mainland address (sales).
- Support from our team of seasoned Test & Measurement engineers.
- ISO9001 quality assurance.

Test equipment Solutions Ltd
Unit 8 Elder Way
Waterside Drive
Langley
Berkshire
SL3 6EP

T: +44 (0)1753 596000
F: +44 (0)1753 596001

Email: info@TestEquipmentHQ.com
Web: www.TestEquipmentHQ.com





Modular Power System: 1,200 W per mainframe

- High density: eight slots in 7 inches of rack space
- Output sequencing
- Low ripple and noise
- High-accuracy read-back of voltage and current over GPIB
- Standard Commands for Programmable Instruments (SCPI)
- Optional keyboard and display unit
- Serial link to connect two mainframes at one GPIB address
- Optional isolation and polarity-reversal relays
- Built-in self-test
- VXIplug&play drivers

E

System
dc Power
Supplies

66000 Modular Power System

The Agilent 66000 modular power system simplifies test-system assembly, cabling, programming, debugging and operation. It is ideal for ATE and production test environments, where it can supply bias power and stimulus to subassemblies and final products. The modular power system saves rack space, the 7-inch-high (4-EIA units) mainframe can accommodate up to eight dc power modules.

Key Features

- GPIB-programmable voltage and current
- Programmable over-voltage and over-current protection
- Self-test initiated at power-up or from GPIB command
- Electronic calibration over GPIB or from keyboard
- Over-temperature protection
- Discrete fault indicator/remote inhibit (DFI/RI)
- Five nonvolatile store-recall states per output
- User-definable power-on state

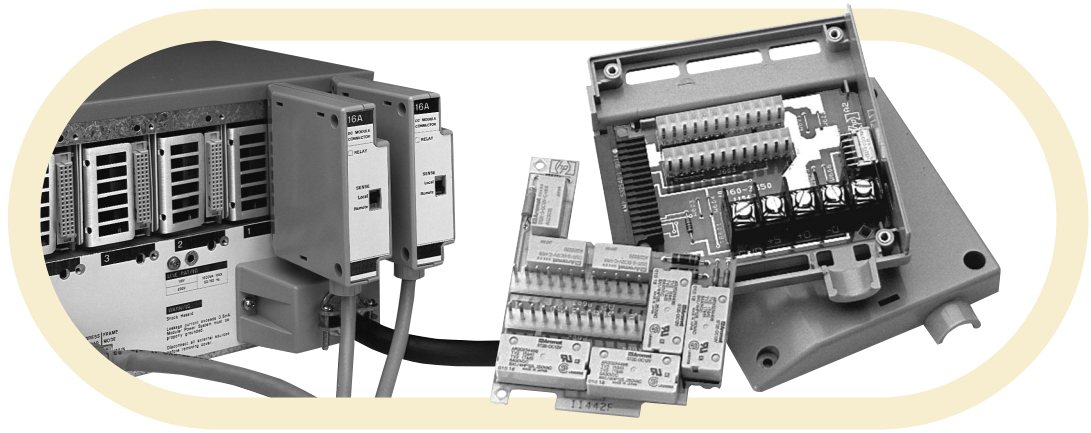
SPECIFICATIONS

(at 0° to 55° C unless otherwise noted)

		66101A	66102A	66103A	66104A	66105A	66106A	
Output ratings (at 40°C)	Output Voltage	0 to 8 V	0 to 20 V	0 to 35 V	0 to 60 V	0 to 120 V	0 to 200 V	
	Output Current	0 to 16 A	0 to 7.5 A	0 to 4.5 A	0 to 2.5 A	0 to 1.25 A	0 to 0.75 A	
	Output Power	128 W	150 W	150 W	150 W	150 W	150 W	
Programming accuracy (at 25°C ±5°C)	Voltage	0.03%+ 3 mV	8 mV	13 mV	27 mV	54 mV	90 mV	
	Current	0.03%+ 6 mA	3 mA	2 mA	1.2 mA	0.6 mA	0.4 mA	
Readback accuracy (via GPIB or keyboard display at 25°C ±5°C)	Voltage	0.02%+ 2 mV	5 mV	8 mV	16 mV	32 mV	54 mV	
	Current	0.02%+ 6 mA	3 mA	2 mA	1 mA	0.6 mA	0.3 mA	
Ripple and noise (20 Hz to 20 MHz)	Constant voltage	rms	2 mV	3 mV	5 mV	9 mV	18 mV	30 mV
		peak to peak	5 mV	7 mV	10 mV	15 mV	25 mV	50 mV
	Constant current	rms	8 mA	4 mA	2 mA	1 mA	1 mA	1 mA
Line regulation	Voltage	0.5 mV	0.5 mV	1 mV	2 mV	3 mV	5 mV	
	Current	0.75 mA	0.5 mA	0.3 mA	0.1 mA	50 µA	30 µA	
Load regulation	Voltage	1 mV	1 mV	1 mV	2 mV	4 mV	7 mV	
	Current	0.5 mA	0.2 mA	0.2 mA	0.1 mA	50 µA	30 µA	
Transient response time	Less than 1 ms for the output voltage to recover within 100 mV of its previous level following any step change in load current up to 10 percent of rated current							
Supplemental Characteristics		(Non-warranted characteristics determined by design that are useful in applying the product)						
Average resolution	Voltage	2.4 mV	5.9 mV	10.4 mV	18.0 mV	36.0 mV	60.0 mV	
	Current	4.6 mA	2.3 mA	1.4 mA	0.75 mA	0.39 mA	0.23 mA	
	Output voltage programming (OVP)	50 mV	120 mV	200 mV	375 mV	750 mV	1.25 mV	
OVP accuracy		250 mV	500 mV	800 mV	1 V	1.5 V	2.5 V	

66000A
66001A
66101A
66102A
66103A
66104A
66105A
66106A

For more information in the U.S.A. call
1-800-452-4844



E

System
dc Power
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dc Floating Voltage: Output terminals can be floated up to ± 240 Vdc from chassis ground

Remote Sensing: Up to half the rated output voltage can be dropped across each load lead. Add 2 mV to the voltage load regulation specification for each 1-V change in the negative output lead caused by a load current change.

Command Processing Time: The average time for the output voltage to change after getting a GPIB command is 20 ms

Output Programming Response Time (with full resistive load): The rise and fall time (10% to 90% and 90% to 10%) of the output voltage is less than 20 ms. The output voltage change settles within 0.1% of the final value in less than 120 ms.

Down Programming: An active down-programmer sinks approximately 10% of the rated output current

Calibration Interval: One year

ac Input of System Mainframe

Voltage	100 Vac	120 Vac	200 Vac	220 Vac	230 Vac	240 Vac
Max. Current	29 A	25 A	16 A	16 A	15 A	15 A

Input Power of System Mainframe: 3200 VA (max.), 1800 W (max.), 1600 W (typ.)

GPIB Capabilities: SH1, AH1, TE6, LE4, SR1, RL1, PP0, DC1, DT1, E1, and C0, and a command set compatible with IEEE-488.2 and SCPI

Regulatory Compliance: Listed to UL 1244; certified to CSA 22.2 No. 231; conforms to IEC 61010-1. See page 73 for more information

Weight: Net, 66000A, 15 kg (33 lb); 66001A, 1.05 kg (2.3 lb); 66101-66106A, 2.8 kg (6 lb). Shipping, 66000A, 19 kg (42 lb); 66001A, 1.34 kg (2.95 lb); 66101-66106A, 4.1 kg (9 lb).

Size: 66000A: 425.7 mm W x 192 mm H x 677.93 mm D (16.76 in x 7.28 in x 26.69 in), including feet and rear connectors (See Page 56 for more details.)

Warranty Period: Three years

Multiple Mainframes at One GPIB Address

The Agilent serial link feature will allow you to control up to 16 outputs at one GPIB address by connecting an auxiliary mainframe. The serial link cable comes standard with the 66000 MPS mainframe. For applications with a broader range of power requirements, one 66000 mainframe can be connected with up to eight of the 6640, 6650, 6670, 6680, or 6030 series of system power supplies. This solution provides power ranges from 150 watts to 5,000 watts at one primary GPIB address.

Output Connections

System assembly is simplified thanks to a quick-disconnect connector assembly on each module. Once your wires are connected to the load, the connector design permits the modules to be removed from the front of the mainframe without disconnecting cabling or removing the mainframe from the rack. One connector assembly is shipped with each module.

Output Sequencing

Increase test throughput by using the output sequencing feature of the 66000 MPS. This powerful feature allows you to download up to 20 voltage, current, and dwell-time parameter sets per output. This sequence can be paced by the programmed

dwell times. As an alternative, triggers can be used to step through the output list. The output sequences can be executed without controller intervention, thereby increasing overall test system throughput. More detailed information on the triggering and output sequencing capabilities can be obtained by ordering the 66000 Modular Power System Product Note (p/n 5091-2497E) described below.

Key Literature

66000 Modular Power System Product Note
p/n 5091-2497E

Ordering Information

66000A MPS Mainframe
***Opt 908** Rack-mount Kit (p/n 5063-9215)

***Opt 909** Rack-mount Kit with Handles
(p/n 5063-9222)

***Note:** Options 908 and 909 require cabinet rails (E3663AC) or a slide kit (p/n 1494-0059) to support the loaded mainframe's weight.

Opt 910 Extra Manual Set (Standard unit is shipped with Installation Guide only.)

A line cord option must be specified. See pages 48-51.

66001A MPS Keyboard includes 2m (6 ft) cables

66002A Rack kit for 66001A keyboard

Module Options

66101A dc Power Module 8 V, 16 A

66102A dc Power Module 20 V, 7.5 A

66103A dc Power Module 35 V, 4.5 A

66104A dc Power Module 60 V, 2.5 A

66105A dc Power Module 120 V, 1.25 A

66106A dc Power Module 200 V, 0.75 A

Opt 760 Open/Close and Polarity Reversal Relays

Opt 910 Service Manual, Extra Programming Guide and Operating Guide

Accessories

p/n 5060-3351 Field-Installable Relay Kit

p/n 5060-3386 Standard Connector Assembly

p/n 5060-3387 Standard Connector Assembly with installed relays (Option 760)

p/n 66000-90001 Mainframe Installation Guide

p/n 5959-3360 dc Power Module User's Guide

p/n 5959-3362 dc Power Module Programming Guide

p/n 66000-90003 Mainframe Service Manual

p/n 5959-3364 dc Power Module Service Manual

p/n 1252-1488 4-Pin FLT/Inhibit Connector

E3663AC Support rails for Agilent rack cabinets

Your Requested Excerpt from the Agilent Power Products Catalog

The preceding page(s) are an excerpt from the *2001-2002 Power Products Catalog*.

We hope that these pages supply the information that you currently need.

If you would like to have further information about the extensive selection of Agilent dc power supplies, ac sources, and dc electronic loads, please visit www.agilent.com/find/power to print a copy of the complete Power Products catalog, or to request that a copy be sent to you. You will also find a lot of other useful information on this web site.

In the full Power Products Catalog, you will find that Agilent offers much more than basic power generation. If you need basic, clean, power for your lab bench, it's there. But in each product category, we've also integrated the capabilities that you need for a complete power solution, including extensive measurement and analysis capabilities.

Please give us a call at your local Agilent Technologies sales office, or call a regional office listed below, for assistance in choosing or using Agilent power products.

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As an Email Update subscriber, you will receive periodic customized email updates that match the areas of interest that you have specified. Your update will include products and services, applications and support information, events, and promotions. Sign up today at www.agilent.com/find/emailupdates.

Check off dc power supplies, ac power sources or electronic loads on your registration form, and we will promptly let you know what's new in power products! Our Privacy Statement at www.agilent.com/go/privacy describes our commitment to you regarding your privacy.

To see a copy of the user's guide, please visit our Web site at www.agilent.com/find/manuals

By internet, phone, or fax, get assistance with all your test & measurement needs

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www.agilent.com/find/assist

Phone or Fax

United States:
(tel) 1 800 452 4844

Canada:
(tel) 1 877 894 4414
(fax) (905) 282-6495

China:
(tel) 800-810-0189
(fax) 1-0800-650-0121

Europe:
(tel) (31 20) 547 2323
(fax) (31 20) 547 2390

Japan:
(tel) (81) 426 56 7832
(fax) (81) 426 56 7840

Korea:
(tel) (82-2) 2004-5004
(fax) (82-2) 2004-5115

Latin America:
(tel) (305) 269 7500
(fax) (305) 269 7599

Taiwan:
(tel) 080-004-7866
(fax) (886-2) 2545-6723

Other Asia Pacific Countries:
(tel) (65) 375-8100
(fax) (65) 836-0252
Email: tm_asia@agilent.com

Product specifications and descriptions in this document subject to change without notice.