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.

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XFR 1.2 kW

XFR 1.2 kW Programmable DC Power Supply with Zero Voltage "Soft Switching"

Provides 1.2 kW of DC Power for OEM Applications

The Xantrex XFR 1.2 kW programmable DC power supply provides clean, reliable power for research, product development, production test applications, and OEM applications where high power and a wide adjustment of output voltage or current are required in a 19-inch rack package. The XFR 1.2 kW is packaged in a 1.75-inch (1 U) high chassis and offers twenty percent more power than any competitive product in a similar package.

The supplies have excellent thermal management allowing for units to be stacked in rack mounts without any ventilation space required between each unit. They also offer high reliability with zero voltage, or "soft switching", which virtually eliminates switching transients for high efficiency, decreased heat generation, and reduced stress on the switching transistors.

Product Features

- Zero voltage "Soft Switching"
- Simultaneous front panel display of output voltage and current
- Constant voltage or constant current operation
- Remote sense with 5 V line loss compensation
- LabVIEW® and LabWindows® drivers

Protection Features

- Over voltage protection
- Over temperature protection

Options

- Isolated analog control (ISOL)
- RS-232 interface card
- GPIB interface card
- GPIB-multichannel

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XFR 1.2 kW

xantrex

XFR 1.2 kW Programmable DC Power Supply with Zero Voltage "Soft Switching"

Electrical Specifications [1]

Models	6-200	7.5-140	12-100	20-60	35-35	40-30	60-20	100-12	150-8	300-4	600-2
Output ratings											
Output Voltage	0-6 V	0-7.5 V	0-12 V	0-20 V	0-35 V	0-40 V	0-60 V	0-100 V	0-150 V	0-300 V	0-600 V
Output Current	0-200 A [9]	0-140 A	0-100 A	0-60 A	0-35 A	0-30 A	0-20 A	0-12 A	0-8 A	0-4 A	0-2 A
Output Power	1200 W	1050 W	1200 W	1200 W	1225 W	1200 W	1200 W	1200 W	1200 W	1200 W	1200 W
Line regulation [2]											
Voltage (0.01% of Vmax + 2 mV)	2.6 mV	2.75 mV	3.2 mV	4 mV	5.5 mV	6 mV	8 mV	12 mV	17 mV	32 mV	62 mV
Current (0.01% of Imax + 2 mA)	22 mA	16 mA	12 mA	8 mA	5.5 mA	5 mA	4 mA	3.2 mA	2.8 mA	2.4 mA	2.2 mA
Load regulation [3]											
Voltage (0.02% of Vmax +5 mV)	6.2 mV	6.5 mV	7.4 mV	9 mV	12 mV	13 mV	17 mV	27 mV	35 mV	65 mV	125 mV
Current (0.02% of Imax +5 mA)	45 mA	33 mA	25 mA	17 mA	12 mA	11 mA	9 mA	7.4 mA	6.6 mA	5.8 mA	5.4 mA
Meter accuracy											
Voltage (0.5% of Vmax + 1 count).	0.04 V	0.05 V	0.07 V	0.2 V	0.3 V	0.3 V	0.4 V	0.6 V	0.9 V	3 V	4 V
Current (0.5% of Imax + 1 count)	2 A	0.8 A	0.6 A	0.4 A	0.3 A	0.3 A	0.2 A	0.07 A	0.05 A	0.03 A	0.02 A
Output noise and ripple											
Voltage rms	10 mV	5 mV	5 mV	5 mV	5 mV	5 mV	5 mV	5 mV	7 mV	10 mV	25 mV
Voltage p-p (0-20 mHz)	75 mV	40 mV	40 mV	60 mV	60 mV	60 mV	60 mV	60 mV	60 mV	80 mV	140 mV
Current rms	750 mA	175 mA	100 mA	85 mA	25 mA	25 mA	10 mA	5 mA	3 mA	2 mA	1 mA
Drift (8 hours) [4]											
Voltage (0.05% of Vmax)	3 mV	3.8 mV	6 mV	10 mV	17.5 mV	20 mV	30 mV	50 mV	75 mV	150 mV	300 mV
Current (0.05% of Imax)	100 mA	30 mA	50 mA	30 mA	17.5 mA	15 mA	16 mA	6 mA	4 mA	2 mA	1 mA
Temperature coefficient [5]											
Voltage (0.02% of Vmax/°C)	1.2 mV	1.5 mV	2.4 mV	4 mV	7 mV	8 mV	12 mV	20 mV	30 mV	60 mV	120 mV
Current (0.03% of Imax/°C)	60 mA	42 mA	30 mA	18 mA	10.5 mA	9 mA	6 mA	3.6 mA	2.4 mA	1.2 mA	0.6 mA
Program slew rate [6]											
Rise time	100 ms	100 ms	100 ms	100 ms	100 ms	100 ms	170 ms	170 ms	170 ms	170 ms	170 ms
Fall Time	100 ms	100 ms	100 ms	100 ms	100 ms	100 ms	170 ms	170 ms	170 ms	170 ms	170 ms
OVP adjustment range (5% to 110% of Vmax)	0.3-6.6 V	0.375-8.25 V	0.6-13.2 V	1-22 V	1.75-38.5 V	2-44 V	3-66 V	5-110 V	7.5-165 V	15-330 V	30-660 V
Efficiency:[7]	75%	80%	82%	84%	84%	84%	84%	84%	87%	86%	85%

1 Specifications indicate typical performance at 25° C ±5°C, nominal line input of 120 VAC.
2 For input voltage variation over the AC input voltage range, with constant rated load.
3 For 0-100% load variation, with constant nominal line voltage.
4 Measured at full rated output with a resistive load.
5 Maximum drift over 8 hours with constant line, load, and temperature, after 30-minute warm-up.
6 Change in output per °C change in ambient temperature, with constant line and load.
7 Measured with stepped 0-10 V analog programming source and a resistive load.
8 Typical efficiency at 100 VAC input and rated output power.
9 Derate output current on 6 V model by 1.5 A per °C for operating temperatures 30-50°C.

General Specifications

Operational AC input voltage	190-264 VAC, 1-phase (22.6 A at 208 VAC; 20.5 A at 230 VAC typical), 47-63 Hz
Switching frequency	Nominal 78 kHz (156 kHz output ripple)
Remote analog programming	Voltage and current programming inputs: 0-5 k, 0-10 k (2%) resistances; 0-5 V, 0-10 V (1%) voltage sources (10 V default)
Remote analog monitoring	Voltage and current monitor outputs 0-5 V, 0-10 V (default) ranges for 0-100% of output (1%)
Dimensions (HxWxD)	1.7 x 19.0 x 20.0" (43.2 x 429.4 x 508.1 mm)
Weight	18 lb (8.2 kg)
Warranty	Five years
Regulatory approvals	CE, CSA, UL

Note: Specifications are subject to change without notice.

XFR 2.8 kW

XFR 2.8 kW Programmable DC Power Supply with Zero Voltage "Soft Switching"

Provides 2.8 kW of DC Power for OEM Applications

The Xantrex XFR 2.8 kW programmable DC power supply provides clean, reliable power for research, product development, and production test applications. The supplies are ideal for OEM applications where high power and a wide adjustment of output voltage or current are required in a full 19-inch rack package.

The XFR 2.8 kW has excellent thermal management allowing for units to be stacked in rack mounts without any ventilation space required between each unit. The supplies offer high reliability with zero voltage, or "soft switching", which virtually eliminates switching transients for high efficiency, decreased heat generation, and reduced stress on the switching transistors.

Product Features

- Zero voltage "Soft Switching"
- Simultaneous front panel display of output voltage and current
- Constant voltage or constant current operation
- Standby mode
- Remote sense with 5 V line loss compensation
- LabVIEW® and LabWindows® drivers

Protection Features

- Over voltage protection
- Over temperature protection

Options

- Isolated analog control (ISOL)
- RS-232 interface card
- GPIB interface card
- GPIB-multichannel

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XFR 2.8 kW

XFR 2.8 kW Programmable DC Power Supply with Zero Voltage "Soft Switching"

Electrical Specifications [1]

Models	7.5-300	12-220	20-130	40-70	60-46	80-37	100-28	150-18	300-9	600-4
Output ratings										
Output Voltage	0-75 V	0-12 V	0-20 V	0-40 V	0-60 V	0-80 V	0-100 V	0-150 V	0-300 V	0-600 V
Output Current	0-300 A	0-220 A	0-130 A	0-70 A	0-46 A	0-37 A	0-28 A	0-18 A	0-9 A	0-4 A
Output Power	2250 W	2640 W	2600 W	2800 W	2760 W	2960 W	2800 W	2700 W	2700 W	2400 W
Line regulation [2]										
Voltage (0.01% of Vmax + 2 mV)	2.75 mV	3.2 mV	4 mV	6 mV	8 mV		12 mV	17 mV	32 mV	62 mV
Current (0.01% of Imax + 2 mA)	32 mA	24 mA	15 mA	9 mA	6.6 mA		4.8 mA	3.8 mA	2.9 mA	2.4 mA
Load regulation [3]										
Voltage (0.05% of Vmax +5 mV)	6.5 mV	7.4 mV	9 mV	13 mV	17 mV		27 mV	35 mV	65 mV	125 mV
Current (0.05% of Imax +5 mA)	65 mA	49 mA	31 mA	19 mA	14.2 mA		10.6 mA	8.6 mA	6.8 mA	5.8 mA
Meter accuracy										
Voltage (0.5% of Vmax + 1 count)	0.05 V	0.07 V	0.2 V	0.3 V	0.4 V		0.6 V	0.9 V	3 V	4 V
Current (0.5% of Imax + 1 count)	3 A	2 A	0.8 A	0.5 A	0.3 A		0.2 A	0.01 A	0.06 A	0.03 A
Output noise and ripple										
Voltage rms	4 mV	5 mV	6 mV	6 mV	6 mV		12 mV	15 mV	20 mV	35 mV
Voltage p-p (0-20 mHz)	50 mV	50 mV	60 mV	60 mV	60 mV		75 mV	100 mV	120 mV	200 mV
Current rms	400 mA	200 mA	100 mA	50 mA	30 mA		10 mA	5 mA	5 mA	0.7 mA
Drift (8 hours) [4]										
Voltage (0.05% of Vmax)	3.8 mV	6 mV	10 mV	20 mV	30 mV		50 mV	75 mV	150 mV	300 mV
Current (0.05% of Imax)	150 mA	110 mA	65 mA	35 mA	23 mA		14 mA	9 mA	4.5 mA	2 mA
Temperature coefficient [5]										
Voltage (0.02% of Vmax/°C)	1.5 mV	2.4 mV	4 mV	8 mV	12 mV		20 mV	30 mV	60 mV	120 mV
Current (0.03% of Imax/°C)	90 mA	70 mA	40 mA	25 mA	15 mA		9 mA	5.5 mA	2.7 mA	1.2 mA
Program slew rate [6]										
Rise time	100 ms	100 ms	100 ms	100 ms	100 ms		170 ms	170 ms	170 ms	170 ms
Fall time	100 ms	100 ms	100 ms	100 ms	100 ms		170 ms	170 ms	170 ms	170 ms
OVP adjustment range (5% to 110% of Vmax)	0.3-7.5-8.25 V	0.6-13.2 V	1-22 V	2-44 V	3-66 V	4-88 V	5-110 V	7.5-165 V	15-330 V	30-660 V
Efficiency:[7]	81%	84%	87%	86%	88%		89%	90%	90%	90%

1 Specifications indicate typical performance at 25° C ±5°C, nominal line input of 208 VAC.
2 For input voltage variation over the AC input voltage range, with constant rated load.
3 For 0-100% load variation, with constant nominal line voltage.
4 Maximum drift over 8 hours with constant line, load, and temperature, after 30-minute warm-up.
5 Change in output per °C change in ambient temperature, with constant line and load.
6 Measured at full rated output with a resistive load.
7 Typical efficiency at 200 VAC input and rated output power.

General Specifications

Operational AC input voltage	190-264 VAC, 1-phase (22.6 A at 208 VAC; 20.5 A at 230 VAC typical), 47-63 Hz
Switching frequency	Nominal 31 kHz (62 kHz output ripple)
Remote analog programming	Voltage and current programming inputs: 0-5 k, 0-10 k (2%) resistances; 0-5 V, 0-10 V (1%) voltage sources (10 V default)
Remote analog monitoring	Voltage and current monitor outputs 0-5 V, 0-10 V (default) ranges for 0-100% of output (1%)
Dimensions (HxWxD)	3.5 x 19.0 x 21.0" (88.9 x 429.4 x 533.5 mm)
Weight	33 lb (15 kg)
Warranty	Five years
Regulatory approvals	CE, CSA, UL

Note: Specifications are subject to change without notice.