Series 2380

Programmable DC Electronic Loads



Series 2380 programmable DC electronic loads can sink a wide range of voltages and currents. The 200W Model 2380-500-15 can accept up to 500V or 15A. The 250W Model 2380-120-60 can accept up to 120V or 60A. The 750W Model 2380- 500 30 can accept up to 500V or 30A. These single-output, stand-alone electronic loads are cost-effective and self-contained.

Multiple Operating Modes

These DC electronic loads can operate in constant current (CC), constant voltage (CV), constant resistance (CR), or constant power (CP) mode. They can also be configured to provide a dynamically changing load to the DC source with load switching times

- 200W, 250W, and 750W models
- Supports up to 500V or 60A
- Constant current (CC), constant voltage (CV), constant resistance (CR), and constant power (CP) operating modes
- LED simulated load test mode
- Readback voltage and current resolution down to 0.1mV/0.01mA
- Dynamic mode with cycle rate up to 25kHz
- Voltage rise and fall time measurement
- Current monitor function
- List mode
- · Battery test mode
- Built-in GPIB,USB, and RS-232 interfaces

as fast as 25kHz. Versatile internal, external, and remote triggering options allow synchronizing the dynamic load behavior with other events.

Comprehensive Protection

Protection functions built into Series 2380 DC electronic loads ensure the reliability and safety of all tests. These functions include over temperature protection (OTP), over voltage protection (OVP), over current protection (OCP), over power protection (OPP), and local/remote reverse voltage (LRV/RRV) protection. A power-on system self-test ensures the instrument is operating properly.

Full Complement of Settings and Controls

To maximize testing efficiency, you can save test parameters into any one of 100 memory locations for quick recall. All load parameters, such as voltage, current, slew rate, and dynamic mode time intervals, can be set using the front panel controls or programmed remotely. A numeric keypad and rotary knob allow entering settings quickly and setting parameters to their full resolution easily. USB-TMC, GPIB and RS-232 interfaces are built in for remote control and communication. A current monitor interface simplifies monitoring input current waveforms by providing a connection for an oscilloscope.



Figure 1. Use either the rotary knob or the keypad to quickly enter settings and set parameter values using all the available resolution.



DC POWER SUPPLIES

2380

Ordering Information

2380-500-15 Programmable DC Electronic Load, 500V, 15A, <u>200W</u>

2380-120-60

Programmable DC Electronic Load, 120V, 60A, 250W

2380-500-30 Programmable DC Electronic Load, 500V, 30A, 750W

2380J-500-15

Programmable DC Electronic Load, 500V, 15A, 200W-Japan only

2380J-120-60

Programmable DC Electronic Load, 120V, 60A, 250W-Japan only

2380J-500-30 Programmable DC Electronic Load, 500V, 30A, 750W-Japan only

Accessories Supplied

Quick Start Guide Documentation CD Power cord

APPLICATIONS

- Environmental test, stress test, and accelerated life testing for AC/DC power sources and DC/DC modules
- LED lighting drivers and high power component testing
- Automotive electronics testing
- Battery research and discharge testing
- Production test

Programmable DC Electronic Loads



Model 2380-500-15 rear panel



Model 2380-500-15 front view showing the safety covers on the input terminals.



Model 2380-500-30 rear panel

ACCESSORIES AVAILABLE

2380-001	9-pin Rear Panel Mating Connector				
2380-002	DUT Connection Protective Cover				
7007-2	Double-Shielded Premium IEEE-488 Interface Cable, 2m (6.5 ft)				
KP-CL-488LPA	IEEE-488.2 Interface Board for the PCI Bus				
USB-B-1	USB Cable, Type A Connector to Type B Connector, 1m (3.3 ft)				
RACK MOU THE 2380-1	NT KITS FOR THE 2380-500-15 AND 20-60				
4299-7	Universal Fixed Rack Mount Kit				
RMU2U	Fixed Rack Mount Kit				
386759800	RMU2U Rack Mount Cosmetic Filler Panel				
RACK MOUNT KIT FOR THE 2380-500-30					
2380-RM	Full-Rack-Width Instrument Fixed Rack Mount Kit				

SERVICES AVAILABLE

Model Number*	'-1-EW
	3-year factory warranty from date of shipment extended 1 additional year
Model Number*	-5Y-EW
	3-year factory warranty from date of shipment extended to 5 years
C/Model Numb	er*-3Y-STD KeithleyCare 3 YR STD Calibration Plan
C/Model Numb	,
	KeithleyCare 3 YR Calibration w/Data Plan
C/Model Numb	er*-5Y-STD
	KeithleyCare 5 YR STD Calibration Plan
C/Model Numb	er*-5Y-DAT
	KeithleyCare 5 YR Calibration w/Data Plan
	specific power supply model number in place nber to generate the appropriate model

number for a service item. Example for a 2380-500-15,

a 1-year extended warranty model number would be

2380-500-15-EW.



Specifications

Model 2380-500-15/2380J-500-15

Input Voltage	Low Range					
Input Voltage		High Range			Low Range	High Range
	0-500 V	0–500 V		Input Voltage	0–120 V	0-120 V
Input Current	0–3 A	0–15 A	Rated Value	Input Current	0–6 A	0–60 A
Input Power	200 W	200 W		Input Power	250 W	250 W
Min. Operating Voltage	0.6 V at 3 A (maximum 0.9 V)	4.5 V at 15 A	(0°-40°C)	Min. Operating Voltage	0.18 V at 6 A	1.8 V at 60 A
Range	0.1–50 V	0.1- 500 V	Constant Voltage	Range	0–18 V	0-120 V
Resolution	1 mV	10 mV		Resolution	1 mV	10 mV
Accuracy	±(0.05% + 0.025% FS)	±(0.05% + 0.025% FS)	Mode	Accuracy	±(0.05% + 0.025% FS)	±(0.05% + 0.025% FS)
Range	0–3 A	0–15 A	Occurrent Occurrent	Range	0–6 A	0–60 A
Resolution	0.1 mA	1 mA		Resolution	0.1 mA	1 mA
Accuracy	±(0.05% + 0.05% FS)	±(0.05% + 0.05% FS)	MOUE	Accuracy	±(0.05% + 0.1% FS)	±(0.05% + 0.1% FS)
Range	0.3 Ω–10 Ω	10 Ω–7.5 kΩ	<u> </u>	Range	0.05 Ω–10 Ω	10 Ω–7.5 kΩ
Resolution	0.001 Ω	0.1 Ω		Resolution	0.001 Ω	0.1 Ω
Accuracy 2	0.01% + 0.08 S	0.01% + 0.0008 S	Resistance Mode '	Accuracy 2	0.01% + 0.08 S	0.01% + 0.0008 S
Range	200 W	200 W		Range	250 W	250 W
	10 mW	10 mW			10 mW	10 mW
			Mode ³			0.2% + 0.2% FS
			Dynamic Mode			
T1 & T2	20 us-3600 st Best 1 us	20 us-3600 s' Res' 1 us	Dynamic Mode	T1 & T2	20 us-3600 s' Res' 1 us	20 µs-3600 s; Res: 1 µs
		· · ·		-		$5 \ \mu s \pm 100 \ ppm$
	5 µs ± 100 ppm	5 μs ± 100 ppm		,	5 µs ± 100 ppm	0 µ3 ± 100 µµ11
Descending 0.0001–0.1 A/µs	0.0001–0.1 A/µs	0.001–1 A/µs	CC Mode	Descending Slope ⁴	0.0001–0.25 A/µs	0.001–2.5 A/µs
Minimum Rise Time ⁵	~10 µs	~10 µs		Minimum Rise Time ⁵	~20 µs	~20 µs
			Measuring Range			
Range	0–50 V	0–500 V		Range	0–18 V	0-120 V
Resolution	1 mV	10 mV	Readback Voltage	Resolution	0.1 mV	1 mV
Accuracy	±(0.025% + 0.025% FS)	±(0.025% + 0.025% FS)	-	Accuracy	±(0.025% + 0.025% FS)	±(0.025% + 0.025% FS
Range	0–3 A	0–15 A		Range	0–6 A	0–60 A
Resolution	0.01 mA	0.1 mA	Readback Current	Resolution	0.1 mA	1 mA
Accuracy	±(0.05% + 0.05% FS)	±(0.05% + 0.05% FS)		Accuracy	±(0.05% + 0.1% FS)	±(0.05% + 0.1% FS)
Range	200 W	200 W		Range	250 W	250 W
Resolution	10 mW	10 mW	Readback Power	Resolution	10m W	10m W
Accuracy	±(0.1% + 0.1% FS)	±(0.1% + 0.1% FS)		Accuracy	±(0.2% + 0.2% FS)	±(0.2% + 0.2% FS)
			Protection Range			
'n	~210 W	~210 W	Overpower Protection	on	~260 W	~260 W
ion	~3.3 A	~16.5 A	Overcurrent Protect	ion	~6.6 A	~66 A
ion	~530 V	~530 V	Overvoltage Protect	ion	~130 V	~130 V
rotection	~85°C	~85°C	Over Temperature F	Protection	~85°C	~85°C
Current (CC)	~3.3 / 3 A	~16.5 / 15 A		Current (CC)	~6.6 / 6 A	~66 / 60 A
			Short Circuit			0 V
						~30 mΩ
			Input Terminal Impe			~300 kΩ
aunoo						
	Voltage Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy ² Range Resolution Accuracy T1 & T2 Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy Range Resolution Accuracy	Voltage 0.6 V at 3 A (maximum 0.9 v) Range 0.1–50 V Resolution 1 mV Accuracy $\pm (0.05\% + 0.025\% FS)$ Range 0–3 A Resolution 0.1 mA Accuracy $\pm (0.05\% + 0.05\% FS)$ Range 0.3 Ω –10 Ω Resolution 0.001 Ω Accuracy 2 0.011 $\%$ + 0.08 S Range 200 W Resolution 10 mW Accuracy 0.1% + 0.1% FS T1 & T2 20 µs–3600 s; Res: 1 µs Accuracy 5 µs \pm 100 ppm Ascending/ Descending Descending 0.0001–0.1 A/µs Slope 4 Minimum Rise Time 5 ~10 µs Range 0–50 V Resolution 1 mV Accuracy $\pm (0.025\% + 0.025\% FS)$ Range 0–3 A Resolution 0.01 mA Accuracy $\pm (0.05\% + 0.05\% FS)$ Range 200 W Resolution 1 0 mW Accur	Voltage 0.6 V at 3 A (maximum 0.9 V) 4.5 V at 15 A Range 0.1-50 V 0.1-500 V Resolution 1 mV 10 mV Accuracy $\pm (0.05\% + 0.025\% FS)$ $\pm (0.05\% + 0.025\% FS)$ Range 0-3 A 0-15 A Resolution 0.1 mA 1 mA Accuracy $\pm (0.05\% + 0.05\% FS)$ $\pm (0.05\% + 0.05\% FS)$ Range 0.3 Ω -10 Ω 10 Ω -7.5 k Ω Resolution 0.001 Ω 0.1 Ω Accuracy 0.01% + 0.08 S 0.01% + 0.0008 S Range 200 W 200 W Range 200 W 200 W Range 200 W 200 W Racuracy 0.1% + 0.1% FS 0.1% + 0.1% FS T1 & T2 20 µs-3600 s; Res: 1 µs 20 µs-3600 s; Res: 1 µs Accuracy 5 µs ± 100 ppm 5 µs ± 100 ppm Ascending/ Descending 0.001-0.1 A/µs Descending 0.001-0.1 A/µs 0.001-1 A/µs Slope 4 Minimum Rise ~10 µs Time 5 ~10 µs	Voltage 0.6 V at 3 A (maximum 0.9 V) 4.5 V at 15 A Range 0.1-500 V 0.1-500 V Range 0.1-500 V 0.00 V Resolution 1 mV 10 mV Accuracy $\pm (0.05\% + 0.025\% FS)$ $\pm (0.05\% + 0.025\% FS)$ Range 0-3 A 0-15 A Resolution 0.1 mA 1 mA Accuracy $\pm (0.05\% + 0.05\% FS)$ $\pm (0.05\% + 0.05\% FS)$ Range 0.3 $\Omega - 10 \Omega$ 0.1 Ω Constant Voltage Range 0.3 $\Omega - 10 \Omega$ 0.1 Ω Constant Power Mode 200 W 200 W Constant Power Range 0.01% + 0.1% FS 0.1% + 0.1% FS Dynamic Mode T T2 20 µs-3600 s; Res: 1 µs 20 µs-3600 s; Res: 1 µs Dynamic Mode Accuracy 5 µs ± 100 ppm 5 µs ± 100 ppm S µs ± 100 ppm S marge CC Mode Signet $-10 \mu s$ $-10 \mu s$ $-10 \mu s$ Readback Voltage Resolution 1 mV 10 mV $-10 \mu s$ $-210 \mu s$ $-210 \mu s$	Voltage0.6 V at 3 A (maximum 0.9 V)4.5 V at 15 AVoltageVoltageRange0.1-50 V0.1-500 VRangeRa	$ \begin{array}{c c c c c c c } \hline Uit Valt 3 A (maximum 0.9 V) & 4.5 V at 15 A \\ \hline Name Range 0.1-50 V & 0.1-50 V & 0.1-50 V \\ Resolution 1mV & 10 mV \\ Accuracy \pm (0.05\% + 0.025\% FS) \pm (0.05\% + 0.025\% FS) \\ \hline Range 03 A & 0-15 A \\ Resolution 0.1 mA & 1 mA \\ Accuracy \pm (0.05\% + 0.05\% FS) \pm (0.05\% + 0.05\% FS) \\ \hline Range 03 A & 0.55 A \\ Resolution 0.1 mA & 1 mA \\ Accuracy \pm (0.05\% + 0.05\% FS) \pm (0.05\% + 0.05\% FS) \\ \hline Range 03 A & 0.55 A \\ Resolution 0.1 mA & 1 mA \\ Accuracy \pm (0.05\% + 0.05\% FS) \pm (0.05\% + 0.025\% FS) \\ \hline Range 03 A & 0.55 A \\ Resolution 0.0 n A \\ Accuracy 0.1\% + 0.05\% FS & (0.05\% + 0.008 S \\ Range 2.00 W & 200 W \\ Accuracy 0.1\% + 0.1\% FS & 0.1\% + 0.0008 S \\ \hline Range 2.00 W & 200 W \\ Accuracy 0.1\% + 0.1\% FS & 0.1\% + 0.1\% FS \\ \hline T1 & 12 20 \mu -3600 s; Res: 1 \mu s \\ Accuracy 5 \mu s \pm 100 ppm \\ Accuracy 5 \mu s \pm 100 ppm \\ Accuracy 5 \mu s \pm 100 ppm \\ Accuracy 0.0001-0.1 A/\mu s \\ Slope^4 \\ \hline Minimum Rise \\ Time ^{5} & -10 \mu s \\ \hline Time ^{5} & -20 \mu s \\ \hline Time ^{5} & -20 \mu s \\ \hline Time ^{5} & -20 \mu s \\ \hline Find F & -20 \mu s \\ \hline Time ^{5} & -20 \mu s \\ \hline $

NOTES*

1. The voltage/current input is no less than 10% FS (FS indicates the full scale). Accuracy is defined as: % of reading + % of full scale.

- 2. The range of read-back resistance is between $(1/(1/R + (1/R)^* 0.01\% + 0.08)\Omega)$ and $1/(1/R (1/R)^* 0.01\% 0.08)\Omega$.
- 3. The voltage/current input is no less than 10% FS.

4. Ascending/descending slope: 10%-90% current ascending slope from 0 to maximum current.

5. Minimum rise time: 10%-90% current rise time.

*Specifications are subject to change without notice.

DC POWER SUPPLIES



2380

Programmable DC Electronic Loads

Model 2380-500-30/2380J-500-30

		Low Range	High Range	
	Input Voltage	0-500 V	0-500 V	
Rated Value	Input Current	0–3 A	0–30 A	
(0°–40°C)	Input Power	750 W	750 W	
(0 -40 0)	Min. Operating Voltage	0.36 V / 3 A	3.6 V / 30 A	
0	Range	0–50 V	0–500 V	
Constant Voltage Mode	Resolution	1 mV	10 mV	
Mode	Accuracy	±(0.025% + 0.05% FS)	±(0.025% + 0.05% FS)	
Constant Current Mode	Range	0–3 A	0–30 A	
	Resolution	0.1 mA	1 mA	
Mode	Accuracy	±(0.05% + 0.05% FS)	±(0.05% + 0.05% FS)	
<u> </u>	Range	0.15 Ω–10 Ω	10 Ω–7.5 kΩ	
Constant Resistance Mode 1	Resolution	0.001 Ω	0.1Ω	
INCONSIGNICE IVIOUE	Accuracy ²	0.01% + 0.08 S	0.01% + 0.0008 S	
Constant Dours-	Range	750 W	750 W	
Constant Power Mode 3	Resolution	10 mW	10 mW	
MOUG	Accuracy	0.2% + 0.2% FS	0.2% + 0.2% FS	
Dynamic Mode				
	T1 & T2	20 µs–3600 s; Res: 1 µs	20 µs-3600 s; Res: 1 µs	
	Accuracy	$5 \mu s \pm 100 ppm$	5 µs ± 100 ppm	
	Ascending/			
CC Mode	Descending Slope ⁴	0.0001–0.1 A/µs	0.001–1 A/µs	
	Minimum Rise Time ⁵	~20 µs	~20 µs	
Measuring Range				
	Range	0–50 V	0–500 V	
Readback Voltage	Resolution	1 mV	10 mV	
	Accuracy	±(0.025% + 0.025% FS)	±(0.025% + 0.025% FS)	
	Range	0–3 A	0–30 A	
Readback Current	Resolution	0.1 mA	1 mA	
	Accuracy	±(0.05% + 0.05% FS)	±(0.05% + 0.05% FS)	
	Range	750 W	750 W	
Readback Power	Resolution	10 mW	10 mW	
	Accuracy	±(0.2% + 0.2% FS)	±(0.2% + 0.2% FS)	
Protection Range				
Overpower Protection		~760 W	~760 W	
Overcurrent Protect		~3.3 A	~33 A	
Overvoltage Protect		~530 V	~530 V	
Over Temperature P	rotection	~85°C	~85°C	
Specification				
	Current (CC)	~3.3 / 3 A	~3.3 / 30 A	
Short Circuit	Voltage (CV)	0 V	0 V	
	Resistance (CR)	~120 m Ω	~120 mΩ	
Input Terminal Impe	dance	1 MΩ	1 MΩ	
Dimensions		482mm × 131.	Amage 500mm	

		Gene	ral	
Memory Capacit	y: 100 sets of	measurements	and selectable	parameters.
Signal Connectio				
Front Panel: In 250W version		threaded knob	terminals for lu	g connectors (200W and
Rear Panel:				
•	inal Bars (750	,		
			Trigger, Volta	ge Fault: 9-pin
Communications USB: USB2.0 d RS-232: DB-9 GPIB: IEEE-488	evice, type B, connector.	USB-TMC comp	liant.	
Cooling Method:	Fan.			
Fan Speed vs. In	ternal tempe	rature:		
Temperature	40°C	50°C	70°C	85°C
Fan status	First gear	Second gear	Third gear	Temperature protection (OH) and load is shut off.
"J" versions: Frequency: 50/6	100VAC, nomi	n 120VAC nomii nal.	nal and 240VA0	C nominal.
"J" versions: Frequency: 50/6 Power Consump 2380-500-15: 2380-120-60: 2380-500-30:	100VAC, nomi 0Hz. tion: 40VA. 40VA. 150VA.	nal.		C nominal.
"J" versions: Frequency: 50/6 Power Consump 2380-500-15: 2380-120-60: 2380-500-30: EMC: Conforms to	100VAC, nomi 0Hz. tion: 40VA. 40VA. 150VA.	nal.		C nominal.
"J" versions: Frequency: 50/6 Power Consump 2380-500-15: 2380-120-60: 2380-500-30: EMC: Conforms to Safety:	100VAC, nomi OHz. tion: 40VA. 40VA. 150VA. European Uni ification: CS/	nal. on EMC Directiv	e.	C nominal. (3rd Edition) and Can/CSA-
"J" versions: Frequency: 50/6 Power Consump 2380-500-15: 2380-120-60: 2380-500-30: EMC: Conforms to Safety: Canadian Cert C22.2 No. 61	100VAC, nomi OHz. tion: 40VA. 40VA. 150VA. European Uni ification: CS <i>i</i> 1010-1-12.	nal. on EMC Directiv A listed to UL St	e. d. No. 61010-1	
"J" versions: Frequency: 50/6 Power Consump 2380-500-15: 2380-120-60: 2380-500-30: EMC: Conforms to Safety: Canadian Cert C22.2 No. 61	100VAC, nomi OHz. tion: 40VA. 40VA. 150VA. European Uni ification: CS <i>i</i> 1010-1-12.	nal. on EMC Directiv A listed to UL St	e. d. No. 61010-1	(3rd Edition) and Can/CSA-
"J" versions: Frequency: 50/6 Power Consumpi 2380-500-15: 2380-120-60: 2380-500-30: EMC: Conforms to Safety: Canadian Cert C22.2 No. 6' European Unio Environment: Altitude: Opera	100VAC, nomi 0Hz. tion: 40VA. 40VA. 150VA. European Uni ification: CS <i>J</i> 1010-1-12. In Complianc ating: 2000m,	nal. on EMC Directiv A listed to UL St ee: Conforms to (6562 ft) above	e. d. No. 61010-1 European Unior	(3rd Edition) and Can/CSA-
"J" versions: Frequency: 50/6 Power Consump 2380-500-15: 2380-120-60: 2380-500-30: EMC: Conforms to Safety: Canadian Cert C22.2 No. 61 European Unic Environment: Altitude: Opera Temperature a Operating: (100VAC, nomi OHz. tion: 40VA. 40VA. 150VA. European Uni ification: CS, 1010-1-12. on Complianc ating: 2000m, and Relative I 0° to 40°C full	nal. on EMC Directiv A listed to UL St ee: Conforms to (6562 ft) above Humidity:	e. d. No. 61010-1 European Unior 2 sea level.	(3rd Edition) and Can/CSA-
"J" versions: Frequency: 50/6 Power Consumpi 2380-500-15: 2380-120-60: 2380-500-30: EMC: Conforms to Safety: Canadian Cert C22.2 No. 67 European Unic Environment: Altitude: Operat Temperature a Operating: condensin Storage: -2	100VAC, nomi OHz. tion: 40VA. 40VA. 50VA. European Uni ification: CS, 1010-1-12. on Complianc ating: 2000m, and Relative I 0° to 40°C full g.	nal. on EMC Directiv A listed to UL St e: Conforms to (6562 ft) above Humidity: accuracy with 8	e. d. No. 61010-1 European Union e sea level. 30% relative hu	(3rd Edition) and Can/CSA- n Low Voltage Directive.
"J" versions: Frequency: 50/6 Power Consumpi 2380-500-15: 2380-120-60: 2380-500-30: EMC: Conforms to Safety: Canadian Cert C22.2 No. 67 European Unic Environment: Altitude: Operat Temperature a Operating: condensin Storage: -2	100VAC, nomi OHz. tion: 40VA. 40VA. 150VA. European Uni (fication: CS, 1010-1-12. on Complianc ating: 2000m, and Relative I 0° to 40°C full g. 0° to 70°C, 10	nal. on EMC Directiv A listed to UL St e: Conforms to (6562 ft) above Humidity: accuracy with 8	e. d. No. 61010-1 European Union e sea level. 30% relative hu	(3rd Edition) and Can/CSA- n Low Voltage Directive. midity at up to 35°C, non-
"J" versions: Frequency: 50/6 Power Consumpi 2380-500-15: 2380-120-60: 2380-500-30: EMC: Conforms to Safety: Canadian Cert C22.2 No. 61 European Unio Environment: Altitude: Opera Temperature a Operating: (condensin Storage: -2 humidity a	100VAC, nomi 0Hz. tion: 40VA. 40VA. 150VA. European Uni ification: CS, 1010-1-12. on Complianc ating: 2000m, and Relative I 9° to 40°C full g. 0° to 70°C, 10 bove 40°C.	nal. on EMC Directiv A listed to UL St ee: Conforms to (6562 ft) above Humidity: accuracy with & 20% to 85% relat	e. d. No. 61010-1 European Union e sea level. 30% relative hu	(3rd Edition) and Can/CSA- n Low Voltage Directive. midity at up to 35°C, non-
"J" versions: Frequency: 50/6 Power Consumpi 2380-500-15: 2380-120-60: 2380-500-30: EMC: Conforms to Safety: Canadian Cert C22.2 No. 6' European Unio Environment: Altitude: Opera Temperature a Operating: (condensin Storage: -2 humidity a Net Weight: 200W/250W M	100VAC, nomi 0Hz. tion: 40VA. 40VA. 150VA. European Uni ification: CS, 1010-1-12. on Compliance ating: 2000m, and Relative I 0° to 40°C full g. 0° to 70°C, 10 bove 40°C. 10del: 4.65kg 24.95kg. : 10del: 7kg.	nal. on EMC Directiv A listed to UL St ee: Conforms to (6562 ft) above Humidity: accuracy with & 20% to 85% relat	e. d. No. 61010-1 European Union e sea level. 30% relative hu	(3rd Edition) and Can/CSA- n Low Voltage Directive. midity at up to 35°C, non-
"J" versions: Frequency: 50/6 Power Consumpi 2380-500-15: 2380-120-60: 2380-500-30: EMC: Conforms to Safety: Canadian Cert C22.2 No. 6 European Unio Environment: Altitude: Opera Temperature a Operating: condensin Storage: -2 humidity a Net Weight: 200W/250W M 750W Model: 2 Shipping Weight 200W/250W M	100VAC, nomi 0Hz. tion: 40VA. 150VA. European Uni ification: CS, 1010-1-12. on Complianc ating: 2000m, and Relative I D° to 40°C full g. 0° to 70°C, 10 bove 40°C. 10del: 4.65kg 24.95kg. : Iodel: 7kg. 31.75kg.	nal. on EMC Directiv A listed to UL St e: Conforms to (6562 ft) above Humidity: accuracy with & D% to 85% relat	e. d. No. 61010-1 European Union sea level. 30% relative hu ive humidity up	(3rd Edition) and Can/CSA- n Low Voltage Directive. midity at up to 35°C, non-

NOTES*

1. The voltage/current input is no less than 10% FS (FS indicates the full scale). Accuracy is defined as: % of reading + % of full scale.

2. The range of read-back resistance is between $(1/(1/R + (1/R)^* 0.01\% + 0.08)\Omega$ and $1/(1/R - (1/R)^* 0.01\% - 0.08))\Omega$.

3. The voltage/current input is no less than 10% FS.

Ascending/descending slope: 10%–90% current ascending slope from 0 to maximum current.
 Minimum rise time: 10%–90% current rise time.

*Specifications are subject to change without notice.



Contact Information:

ASEAN / Australia (65) 6356 3900 Austria 00800 2255 4835 Balkans, Israel, South Africa and other ISE Countries +41 52 675 3777 Belgium 00800 2255 4835 Brazil +55 (11) 3759 7627 Canada 1 800 833 9200 Central East Europe and the Baltics +41 52 675 3777 Central Europe & Greece +41 52 675 3777 Denmark +45 80 88 1401 Finland +41 52 675 3777 France 00800 2255 4835 Germany 00800 2255 4835 Hong Kong 400 820 5835 India 000 800 650 1835 Italy 00800 2255 4835 Japan 81 (3) 6714 3010 Luxembourg +41 52 675 3777 Mexico, Central/South America & Caribbean 52 (55) 56 04 50 90 Middle East, Asia, and North Africa +41 52 675 3777 The Netherlands 00800 2255 4835 Norway 800 16098 People's Republic of China 400 820 5835 Poland +41 52 675 3777 Portugal 80 08 12370 Republic of Korea 001 800 8255 2835 Russia & CIS +7 (495) 6647564 South Africa +41 52 675 3777 Spain 00800 2255 4835 Sweden 00800 2255 4835 Switzerland 00800 2255 4835 Taiwan 886 (2) 2656 6688 United Kingdom & Ireland 00800 2255 4835 USA 1 800 833 9200 Rev 0415

For Further Information

Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology.Visit www.tektronix.com or www.keithley.com.

Copyright © 2015, Tektronix. All rights reserved. Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specification and price change privileges reserved. TEKTRONIX and TEK are registered trademarks of Tektronix, Inc. All other trade names referenced are the service marks, trademarks or registered trademarks of their respective companies.

121715.KI



1KW-60327-0

DC POWER SUPPLIES