

4 SERIES MODULAR LOADS Key features:

- Max. Power up to 400W per Module
- Wide Voltage Range, 0 500 Vdc
- Max. Current Range 80 Adc in continuous and 180A in TURBO mode
- Single Load, Dual Load and LED Load Modules Available
- Up to 8 Load Inputs per Mainframe
- Parallel Modules to 1200W for High **Power Applications**
- Synchronized Operation of Multiple
- Operating Modes: CC, CP, CR, CV, CC+CV, CP+CV and LED
- Built-in Short Circuit Test
- Built-in Power Supply Over Current Protection Test Mode
- Built-in Power Supply Over Power **Protection Test Mode**
- Static and Dynamic CC Modes
- Fast Current Slew Rates
- 1, 2 or 4 slot Mainframes for up to eight Load Channels
- Available Interface Options are USB, RS232, GPIB and LAN



Model 42L0860, Dual Load Module



OVERVIEW

The ADAPTIVE POWER 4 Series of Programmable DC Electronic Load Modules are ideally suited for testing multiple output AC/DC power supplies, DC/DC converters, battery chargers and other power products.

Target applications for these loads are research & development, production test, incoming inspection, quality control and service.

The high power density of the 4 Series allows up to 8 loads to be installed in a single 19" wide rack-mount mainframe. For lesser demands, mainframes with two slots or a single slot are available as well.

The 4 Series consists of a total of 12 different modules types providing a wide variation of possible voltage, current, power and feature choices. Starting at 75 Watt and ranging to 300 Watt per module, all modules offer dual range capability for optimal accuracy and resolution. Voltage ranges start at 60Vdc and extend up to 500Vdc.

LED LOAD SIMULATION

For LED power supply testing, the 41D and 42D modules offer single or dual channel LED simulation with support for PWM dimming control.

Synchronized operation of loads allows multichannel loads to be configured easily. Easy to read LCD displays show settings and read back data at a quick glance. Available remote control interfaces facilitate integration into automated power supply test systems.

All 4 Series modules provide protection against over-voltage (OV), over-current, OC), over-power (OP) and over-temperature (OT) to safeguard the loads from any damage.

The 4 Series offers excellent performance and durability at an affordable price point.



















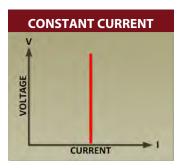


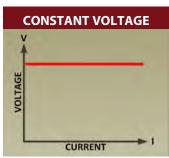


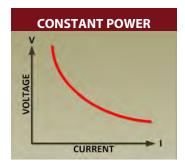
OPERATING MODES

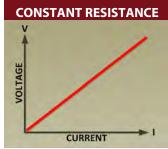
All 4 Series load modules support several modes of operation to accommodate a wide range of test requirements. Voltage sources like AC/DC power supplies are best tested using Constant Current (CC) mode. Battery chargers on the other hand can be tested using an E-load in Constant Voltage mode.

The available operating modes are Constant Current, Constant Voltage, Constant Power and Constant Resistance. A graphical representation of these modes of operation is shown here.





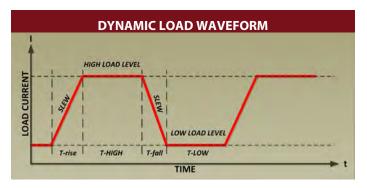




STATIC & DYNAMIC MODES

The demands put on power supplies to support increasingly complex electronics systems continue to escalate. It is no longer sufficient to test power supplies for static load conditions. Instead, dynamic load conditions requiring rapid changes in current demanded from the power supply need to be evaluated and tested. The 4 Series Load modules serve this purpose by offering high speed programmable dynamic load control programmability.

The diagram below illustrates the variable load current slew rates and dwell times that can be programmed on the 4 Series loads.



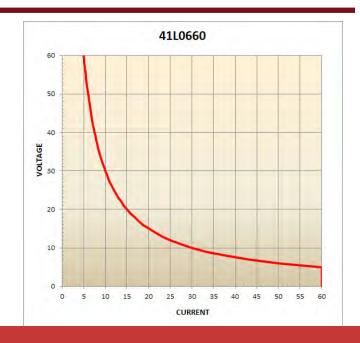
Sequences of variable slew rates and test levels can be stored in non-volatile memory for recall during dynamic transient load test execution. This makes it possible to simulate real-world demanding load conditions on power supplies driving modern electronics. With current slew rates ranging up to several Amps per microsecond and dwell times down to 50 microseconds, thorough transient stability testing of power supply designs is possible. Advanced remote sense and control feedback loops ensure stable and repeatable testing with little or no distortion during load transitions.

FLEXIBLE INPUT CAPABILITIES

4 Series load modules are designed to accommodate a wide range of voltage and current input combinations within their maximum power capability. This allows the same load modules to be used for higher voltage and low current requirements as well as low voltage higher current applications. A typical V-I operating curve is shown on the right for load model 41L0660. Bounded by the maximum voltage of 60Vdc and maximum current of 60A, the input range follows a 300W power curve as shown.

Each load module continuously tracks its input voltage current and power and safeguards against any operation outside of its operating limits.

This flexible operating range allows the same load module to be used for a wide range of EUTs and provides great flexibility in configuring high channel count load test systems.



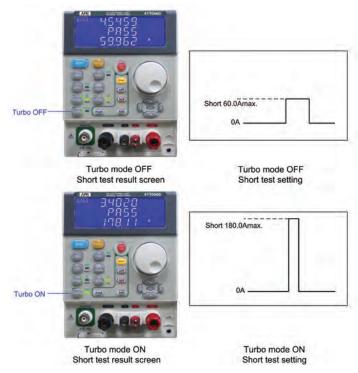
41T MODELS SPECIAL FEATURES

The 41T Series modular DC loads offer a number of advanced features and functions, including **TURBO** boost mode. TURBO mode allows three to four times the maximum rated load current to be absorbed by the load for short periods of time. This mode is perfect for testing protection functions of power supplies such as over-current and over power protection. The same TURBO mode supports testing of current protection devices like Fuses and PTC's without having to use an over-sided load.

41T Modular loads are available in power levels of 75W, 150W, 300W or 400W per module.

Other special test modes offered by the 41T Series are:

- Battery Discharge Test
- Lithium Battery Management System (BMS) Test
- Fuse, Breaker, PTC Specification Test
- MPPT Test for Solar Panels



Short Circuit Test in normal mode vs. TURBO mode

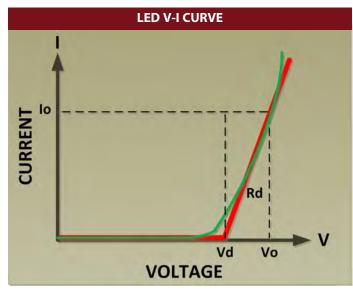
LED SIMULATION

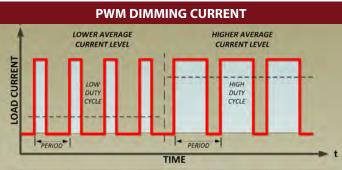
Significant advances are being made in solid state lighting technologies that promise greatly reduced worldwide power consumption as a result of using light emitting diodes instead of incandescent light bulbs. However, the electrical behavior of LEDs is considerably different from that of a light bulb, which can be viewed as a resistive load. Consequently, testing LED driver designs using CR or even CV mode is typically inadequate. While it is possible to use actual LEDs to test such products, given the variety of LEDs that exist, this is not very practical for either development or production test.

The 41D and 42D single and dual channel LED load simulator modules available as part of the 4 Series modular load family address this unique requirement in an effective way.

When LED mode of operation is selected, the load will simulate the forward bias V-I characteristic of an LED or a string of LEDs, which is very different from that of a resistor. Values for the LED driver's output Current (Io) and Voltage (Vo) as well as the LEDs forward Voltage (Vd) and Resistance (Rd) can be programmed on the load.

A built in *dimming control* circuit with a DC to 1KHz frequency range and 1% to 99% duty cycle is included with each LED Load module. Also available is an optional external shorting relay controlled by the shorting output of the LED load. This option allows zero ohm shorts to be applied.





www.adaptivepower.com sales@adaptivepower.com Toll Free: 1.888.239-1619 Tel: +1.949.752-8400 Page 3 of 12

AVAILABLE OPTIONS

Current Waveform Generator

The Current Waveform Generator plug-in module for its electronic DC loads adds arbitrary current waveform programming functionality. With this option and its accompanying current waveform editor Windows software, you can create an infinite number of custom current waveforms to simulate a wide range of real-world load conditions.





See the CWG Option data sheet for full details.

Device Quick Charger Tester

The Quick Charger Tester option (Opt QCT) is a single channel, quick charge controller to meet the needs of R & D development, testing and verification of modern fast chargers for mobile devices using a variety of charging protocols. The QCT controller can simulate fast charge protocol signals for mobile phones, tables and notebook computers for a wide variety of fast charging devices to support rapid testing and verification of the device charger.

Supported Charging Protocols are: QC2.0, QC3.0, PE+, PE+2.0, USB PD2.0

See the QCT Option data sheet for full details.



MAINFRAMES





44M01 Mainframe

44M02 Mainframe

The 44M04 Mainframe provides the necessary bias supplies and air cooling to the load modules installed. It also isolates modules from each other so each load is floating and can be used to test multi-output power supplies that are not referenced to a single common.

Mainframes are available with either one, two or four slot positions accommodating up to 8 independent load channels and 1200 Watts of power dissipation. Common controls on the mainframe allow synchronous operation of 2 or more loads and store up to 150 setting configurations. A filler panel is available to cover up any empty slot position.

The single slot 44M01 and dual slot 44M02 mainframe are ideally suited for bench operation while the 44M04 four slot mainframe can be used on the bench or installed in a 19" cabinet. Rack ears and handles are including for rack mount use. All mainframes have tilt stands for optimal viewing angles during bench use.





44M04 Mainframe

44MBP Filler Panel

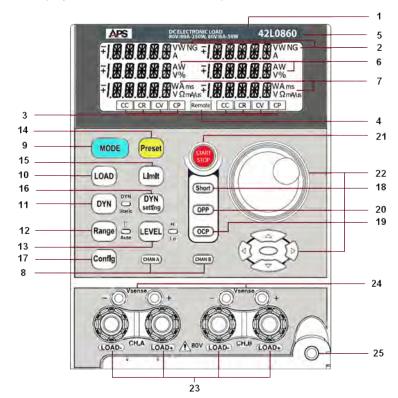
The "T" version of these mainframes is required to support the 41T Series loads. Other load modules can be used in either normal or T version of the mainframe.

Mainframe	44M01/44M01T	44M02/44M02T	44M04/44M04T		
No. of Slots	1	2	4		
Supports	41L0630, 41L	.0660, 41L2512, 41:5	012, 41L0616		
	42L	0860, 42L0824, 42L0	803		
	41D3002,	41D1020, 41D5002,	42D5003		
Max. Power	300W	600W	1200W		
AC Input	100-115V	ac ±10% or 200-230	Vac ±10%		
Frequency	50 / 60 Hz ±3Hz				
Power (max.)	40W	60W	150W		
Dimensions	177x160x452mm	177x269x452mm	177x440x445mm		
(HxWxD)	7.0x6.3x17.8"	7.0x10.6x17.8"	7.0x17.3x17.5"		
Weight	5.5 kg / 12.2 lbs	7.5 kg / 16.5 lbs	9.3 kg / 20.5 lbs		
Shipping: - size	13x12x24"	13x16x24"	13x23x24"		
- weight	24 lbs incl one 41L Load	31 lbs incl two 41L Loads	52 lbs incl four 41L Loads		

LOAD MODULE FRONT PANEL OPERATION

Each load module has its own front panel keypad, rotary shuttle and white LED back-lit LCD display for easy of operation. Dual channel load modules have individual displays for channels A and B. Sample shown below is for Model 42L0860.

- 1. Model Number and ranges
- Go/NoGo indicator illuminates if upper or lower limit settings are exceeded.
- 3. Operating Mode Indicators
- 4. REMOTE state indicator
- Multi-purpose 5 digit display Voltage
- Multi-purpose 5 digit display -Current
- 7. Multi-purpose 5 digit display Power
- 8. CHAN A or B Control Selection
- 9. MODE toggle buttons
- LOAD ON/OFF button and indicator
- 11. DYNAMIC mode button and indicator
- 12. High or Low Range Selection



- 13. High or Low Load Setting Selection
- Preset Mode ON/OFF
- 15. Limit Setup Menu
- 16. DYNAMIC mode settings
- 17. Configuration Menu
- 18. Short Circuit Test key and indicator
- 19. OCP (Over Current Protection)
 Test key
- 20. OPP (Over Power Protection) Test key
- 21. SHORT, OCP & OPP Start/Stop
- 22. Shuttle Knob, parameter selection, slew and cursor keys
- 23. DC Input Terminals
- 24. Voltage Sense Terminals
- 5. Module Pull-Out Lever and screw



41D5024 LED DC Load Module

www.adaptivepower.com sales@adaptivepower.com Toll Free: 1.888.239-1619 Tel: +1.949.752-8400 Page 5 of 12

SPECIFICATIONS - 41L SINGLE CHANNEL MODULES

MODEL		41L0	0630	41L0	0660	41L	2512	41L	5012	41L0	615
OPERATING R	ANGES										
P	ower Ranges	0-15 W	0-150 W	0-30 W	0-300 W	0-30 W	0-300 W	0-30 W	0-300 W	0-7.5 W	0-75 W
Cu	rrent Ranges	0-3 A	0-30 A	0-6 A	0-60 A	0-1.2 A	0-12 A	0-1.2 A	0-12 A	0-1.5 A	0-15 A
Vo	oltage Range	60	V	60	V	250 V		50	0 V	60 V	
Minir	mum Voltage	0.6V (@ 30A	0.6V	@ 60A	1.0V	@ 12A	6.0V	@ 12A	0.3V @ 15A	
OPERATING N								1			
CC Mode	e Range	0-3 A	0-30 A	0-6 A	0-60 A	0-1.2 A	0-12 A	0-1.2 A	0-12 A	0-1.5 A	0-15 A
	Resolution	0.05 mA	0.5 mA	0.1 mA	1 mA	0.02 mA	0.2 mA	0.02 mA	0.2 mA	0.0254 mA	0.25 mA
	Accuracy				±	0.1% OF (SET	TING + RANGI	E)			
CR Mode	e Range	2-120kΩ	0.02-2Ω	1-60kΩ	0.00833-1Ω	25-1500kΩ	0.08~25Ω	50~3000kΩ	0.5~50Ω	4~240kΩ	0.02~4Ω
	Resolution	0.00833mS	33.334μΩ	0.01666mS	16.667μΩ	0.000666mS	416.667μΩ	0.000333mS	833.334μΩ	0.04166mS	66.667μΩ
	Accuracy				<u>+</u>	0.2% OF (SET	TING + RANGI	E)			
CV Mode		0-6 V	0-60 V	0-6V	0-60V	0-30V	0-250 V	0-60 V	0-500 V	0-6 V	0-60 V
	Resolution	0.1 mV	1 mV	0.1 mV	1 mV	1 mV	10 mV	1 mV	10 mV	0.1 mV	1 mV
	Accuracy				± (0.05% OF (SET	TING + RANG	iE)			
CP Mode	e Range	0-15 W	0-150 W	0-30 W	0-300 W	0-30 W	0-300 W	0-30 W	0-300 W	0-7.5 W	0-75 W
	Resolution	0.25 mW	2.5 mW	1 mW	10 mW	1 mW	10 mW	1 mW	10 mW	0.125 mW	1.25 mW
	Accuracy				±	0.5% OF (SET	TING + RANGI	E)			
PROTECTION	,					·		·			
Ove	er Power (OP)	157	.5 W	315	.0 W	315	.0 W	315	.0 W	78.7	5 W
	Current (OC)	31.	5 A	63.	.0 A	12.	6 A	12.6 A			
	Over Voltage (OV)		.0 V	63	.0 V	262	2.5 V	525.0 V		63.0 V	
Over Temperature (OT)						+85° C /	+185° F				
DYNAMIC OPI											
	high & T low					50 μs TO 9.99	99 s (20 kHz)				
	Slew Rate	2.0-125	20-1250	4-250	40-2500	0.8-50	8-500	0.8-50	8.0-500	1.0-62.5	10.0-625
		mA/μs	mA/μs	mA/μs	mA/μs	mA/μs	mA/μs	mA/μs	mA/μs	mA/μs	mA/μs
	Accuracy					± 5% OF SET	TING ± 10 μs				
METERING											
Voltage	Range	0 - 6.0 V	0 - 60.0 V	0 - 6.0 V	0 - 60.0 V	0 - 30.0 V	0 - 250.0 V	0 - 60.0 V	0 - 500.0 V	0 - 6.0 V	0 - 60.0 V
	Resolution	0.1 mV	1 mV	0.1 mV	1 mV	0.1 mV	1 mV	0.1 mV	1 mV	0.1 mV	1 mV
	Accuracy				± 0.	.025% OF (RE	ADING + RAN	GE)			
Current	Range	0- 3.0 A	0- 30.0 A	0 - 6.0 A	0- 60.0 A	0 - 1.2 A	0 - 12.0 A	0 - 1.2 A	0 - 12.0 A	0 - 1.5 A	0 - 15.0 A
	Resolution	0.1 mA	1 mA	0.1 mA	1 mA	0.02 mA	0.2 mA	0.02 mA	0.2 mA	0.025 mA	0.25 mA
	Accuracy				±	0.1% OF (REA	DING + RANG				
Power	Range	0-15 W	0-150 W	0-30 W	0-300 W	0-30 W	0-300 W	0-30 W	0-300 W	0-7.5 W	0-75 W
	Accuracy				± 0	.125% OF (RE/	ADING + RAN	GE)			
SHORT CIRCU	IT										
Typical Sho	rt Resistance	20	mΩ	8.3	mΩ	80	mΩ	0.5	5 Ω	20 1	mΩ
Max. Short Current		30) A	60) A	12	2 A	12	2 A	15	A
ANALOG I/O										•	
Current	Monitor Out					0 - 10 V FL	JLL SCALE				
	Accuracy ± 0.5% OF (SETTING + RANGE)										
				0 - 10 V FL							
GENERAL											
	ver & Cooling				Sı	upplied by 441	M00 Mainfram	ne			
	ns (H x W x D)					108 x 412 mm					
	Weight (Net)	3.7 ka	/ 8.2 lbs	3.7 ka	/ 8.2 lbs		/ 8.2 lbs		/ 8.2 lbs	3.7 kg /	8.2 lbs
	rating Range		32 - 104° F		32 - 104° F		32 - 104° F		32 - 104° F	0 - 40° C / 3	
-	EMC & Safety					CE N					
	c a Juicty					CLIV	19411	-			



SPECIFICATIONS - 41T SINGLE CHANNEL MODULES WITH TURBO MODE - 75W ~ 300W

MODEL		41T	0630	41	T0660	41T	2512	41T	5012	41T	0615
OPERATING RA	ANGES										
P	ower Ranges	0-15 W	0-150 W	0-30 W	0-300 W	0-30 W	0-300 W	0-30 W	0-300 W	0-7.5 W	0-75 W
Current R	anges (TURBO)	0-3 A	0-30A (90A)	0-6 A	0-60A (180A)	0-1.2 A	0-12A (36A)	0-1.2 A	0-12A (24A)	0-1.5 A	0-15A
	uges (ss)	0 0 7 1	0 307. (307.)		0 00/1 (100/1)	0 1.271		0 1.271	0 12/1(2 // //	0 1.571	(60A)
Vo	oltage Range	60	V		60 V	25	0 V	50	00 V	60	V
Load	d ON Voltage	0.1V	~ 25V	0.1	V ~ 25V	0.2V	~ 50V	0.4V -	~ 100V	0.1V	~ 25V
OPERATING M	IODES										
CC Mode	e Range	0-3 A	0-30 A	0-6 A	0-60 A	0-1.2 A	0-12 A	0-1.2 A	0-12 A	0-1.5 A	0-15 A
	Resolution	0.05 mA	0.5 mA	0.1 mA	1 mA	0.02 mA	0.2 mA	0.02 mA	0.2 mA	0.0254 mA	0.25 mA
	Accuracy				±	0.1% OF (SET	ΓING + RANGE	<u> </u>			
CR Mode	Range	2-120kΩ	0.02-2Ω	1-60kΩ	0.00833-1Ω	25-1500kΩ	0.08~25Ω	50~3000kΩ	0.5~50Ω	4~240kΩ	0.02∼4Ω
	Resolution	0.00833mS	33.334μΩ	0.01666mS	16.667μΩ	0.000666mS	416.667μΩ	0.000333mS	833.334μΩ	0.04166mS	66.667μΩ
	Accuracy				±	0.2% OF (SET	ΓING + RANGE				
CV Mode	R ange	0-6 V	0-60 V	0-6V	0-60V	0-30V	0-250 V	0-60 V	0-500 V	0-6 V	0-60 V
	Resolution	0.1 mV	1 mV	0.1 mV	1 mV	1 mV	10 mV	1 mV	10 mV	0.1 mV	1 mV
	Accuracy			Γ	± (0.05% OF (SET	TING + RANG	E)	T		
CP Mode	Range	0-15 W	0-150 W	0-30 W	0-300 W	0-30 W	0-300 W	0-30 W	0-300 W	0-7.5 W	0-75 W
	Resolution	0.25 mW	2.5 mW	1 mW	10 mW	1 mW	10 mW	1 mW	10 mW	0.125 mW	1.25 mW
	Accuracy				±	0.5% OF (SET	ΓING + RANGE				
CC+CV N	lode Range	60 V	0-30 A	60V	0-60 A	250 V	0-12 A	500 V	0-12 A	60 V	0-15 A
	Resolution	1 mV	0.5 mA	1 mV	1 mA	0.01 V	0.2 mA	0.01 V	0.2 mA	1 mV	0.25 mA
	Accuracy				±	1.0% OF (SET	ΓING + RANGE				
CP+CV N	lode Range	60 V	0-150 W	60V	0-300 W	250 V	0-300 W	500 V	0-300 W	60 V	0-75 W
	Resolution	1 mV	2.5 mW	1 mV	5 mW	0.01 V	5 mW	0.01 V	5 mW	1 mV	1.25 mW
	Accuracy				<u>±</u>	1.0% OF (SET	ΓING + RANGE	<u> </u>			
PROTECTION											
Ove	r Power (OP)	157	7.5 W	315.0 W 315.0 W				315	5.0 W	78.7	75 W
Over	Current (OC)	31.	.5 A	6	3.0 A	12.	12.6 A 12.6 A		15.75 A		
	Voltage (OV)	63	.0 V	6	53.0 V	l	2.5 V	525	5.0 V	63.	.0 V
Over Temp	perature (OT)					+85° C /	+185° F				
DYNAMIC OPE	ERATION										
Т	high &T low			I		50 μs TO 9.99		T			
	Slew Rate	2.0-125 mA/µs	20-1250 mA/μs	4-250 mA/μs	40-2500 mA/	0.8-50 mA/μs	8-500 mA/µs	0.8-50 mA/μs	8.0-500 mA/μs	1.0-62.5 mA/µs	10.0-625 mA/μs
	Accuracy	πηλ/μ3	ΠΙΑ/μ3	ΠΙΑ/μ3	μs	± 5% OF SET	· · · · ·	ΠΙΑ/μ3	πιλ/μ3	ΠΙΑ/μ3	πιλ/μ3
METERING	Accuracy					± 5% OF 3E1	11110 ± 10 μ3				
Voltage	Range	0 - 6.0 V	0 - 60.0 V	0 - 6.0 V	0 - 60.0 V	0 - 30.0 V	0 - 250.0 V	0 - 60.0 V	0 - 500.0 V	0 - 6.0 V	0 - 60.0 V
Voltage											
	Resolution	0.1 mV	1 mV	0.1 mV	1 mV	0.1 mV	1 mV	0.1 mV	1 mV	0.1 mV	1 mV
Commont	Accuracy	0.204	0.2004	0.604		I	ADING + RANG		0 1204	0.154	0 150 4
Current	Range	0- 3.0 A	0- 30.0 A	0 - 6.0 A	0-60.0 A	0 - 1.2 A	0 - 12.0 A 0.2 mA	0 - 1.2 A	0 - 12.0 A 0.2 mA	0 - 1.5 A	0 - 15.0 A
	Resolution	0.1 mA	1 mA	0.1 mA	1 mA	0.02 mA		0.02 mA	0.2 MA	0.025 mA	0.25 mA
Dannan	Accuracy	0.1514/	0.150\\\	0.2014/		0-30 W	OING + RANGI 0-300 W		0.20014/	0.7.5.11/	0.75\\\
Power	Range	0-15 W	0-150 W	0-30 W	0-300 W			0-30 W	0-300 W	0-7.5 W	0-75 W
SHORT CIRCU	Accuracy				± 0.	125% OF (REA	ADING + RANG	JE)			
		20	0.004	0.2	- O 100 A	00(2.26.4	0.5.0	24.4	20(2.60.4
	es., Max SCC	20 ms	Ω, 90Α	8.3 11	nΩ, 180 A	7tti 08	2, 36 A	0.5 1.	Σ, 24 Α	20 ms	2, 60 A
ANALOG I/O	Monitor Out			D	o. 0 10 \/ EUU /	CALE A	OV: + 0 F0/ OF	(CETTING + 5	DANCE)		
	Monitor Out			Kang	e: 0 - 10 V FULL S		-	(SETTING + I	NANGE)		
	gramming In					0 - 10 V FU	LL SCALE				
GENERAL	os (H v. M · · D)				142 - 4	00 v 413 ····	/ F 6" A 3 F"	16 2"			
	is (H x W x D)	271	/ 0.2 lb.c	271			/ 5.6" x 4.25" x		/ 0. 2. lls -	271	/ o a ll
	Weight (Net)		/ 8.2 lbs		g / 8.2 lbs		/ 8.2 lbs		/ 8.2 lbs	 	/ 8.2 lbs
	rating Range	u - 40° C /	32 - 104° F	U - 40° C	/ 32 - 104° F		32 - 104° F	U - 40° C /	32 - 104° F	U - 40° C /	32 - 104° F
l	EMC & Safety				_	CE N	CE Mark				

www.adaptivepower.com sales@adaptivepower.com Toll Free: 1.888.239-1619 Tel: +1.949.752-8400 Page 7 of 12



SPECIFICATIONS - 41T SINGLE CHANNEL MODULES WITH TURBO MODE - 400W

MODEL	4110	0880	41T5020			
OPERATING RANGES						
Power Ranges	0-40 W	0-400 W	0-40 W	0-400 W		
Current Ranges (TURBO)	0-8 A	0-80A (160A)	0-2 A	0-20A (40A)		
Voltage Range) V		0 V		
Load ON Voltage	0.1V ·			- 100V		
OPERATING MODES	0	23.	3111			
CC Mode Range	0-8.04 A	0-80.4 A	0-2.04 A	0-20.4 A		
Resolution	0.135 mA	1.34 mA	0.034 mA	0.34 mA		
Accuracy	0.133 111/1		TING + RANGE)	0.54111/1		
CR Mode Range	1Ω-60kΩ	0.083-1Ω	30Ω-1800kΩ	0.3-30Ω		
Resolution	0.0166mS	0.0166mΩ	0.000555mS	0.5mΩ		
Accuracy	0.01001115		TING + RANGE)	0.511122		
CV Mode Range	0-8.04 V	0-80.4 V	0-60V	0-500V		
Resolution	0.134 mV	1.34 mV	1 mV	10 mV		
Accuracy	0.1341110		TTING + RANGE)	TOTILV		
CP Mode Range	0-40.02 W	0-400.2 W	0-40.2 W	0-400.2 W		
Resolution	0.667 mW	6.67 mW	0.667 mW	6.67 mW		
Accuracy	0.007 11100		TING + RANGE)	0.07 11100		
CC+CV Mode Range	80 V	0-80 A	500V	0-20 A		
Resolution	0.134 mV	1.34 mA	10 mV	0-20 A 0.34 mA		
	0.1341117		TING + RANGE)	0.54 IIIA		
CP+CV Mode Range	80 V	,	,	0.400.W		
3		0-400 W	500V	0-400 W		
Resolution	0.134 mV	6.67 mW	10 mV	6.67 mW		
Accuracy		± 1.0% OF (SET	TING + RANGE)			
PROTECTION	420	0.147	420	0144		
Over Power (OP)		.0 W		.0 W		
Over Current (OC)		0 A	21.0 A 525.0 V			
Over Voltage (OV)	84.					
Over Temperature (OT)		+85° C /	/ +185° F			
DYNAMIC OPERATION						
T high &T low			999.9 / 9.999 s (20 kHz)			
Slew Rate	5.4-337.5 mA/μs	54-3375 mA/μs	1.28-80 mA/μs	12.8-800 mA/μs		
Accuracy		± 5% OF SET	TING ± 10 μs			
METERING			I	I		
Voltage Range	0-8.04 V	0-80.4 V	0-60V	0-500V		
Resolution	0.134 mV	1.34 mV	1 mV	10 mV		
Accuracy		± 0.025% OF (RE	EADING + RANGE)			
Current Range	0-8.04 A	0-80.4 A	0-2.04 A	0-20.4 A		
Resolution	0.135 mA	1.34 mA	0.034 mA	0.34 mA		
Accuracy		± 0.1% OF (REA	DING + RANGE)			
Power Range	0-100 W	0-400 W	0-100 W	0-400 W		
	0.001 W	0.01 W	0.001 W	0.01 W		
Accuracy		± 0.1% OF (REA	DING + RANGE)			
LIODT CIDCUIT						
MORT CIRCUIT		nΩ, 80A	0.3 Ω	, 20 A		
Short Res., Max SCC	28.57 n		•			
Short Res., Max SCC	28.57 n					
Short Res., Max SCC		ge: 0 - 10 V FULL SCALE, Accur	acy: ± 0.5% OF (SETTING + RA	NGE)		
Short Res. , Max SCC ANALOG I/O Current Monitor Out			acy: ± 0.5% OF (SETTING + RA	NGE)		
Short Res. , Max SCC ANALOG I/O Current Monitor Out Current Programming In				NGE)		
Short Res. , Max SCC ANALOG I/O Current Monitor Out Current Programming In GENERAL		0 - 10 V FU	ULL SCALE	NGE)		
Current Monitor Out Current Programming In GENERAL Dimensions (H x W x D)	Rang	0 - 10 V FU	ULL SCALE 1/5.6" x 4.25" x 16.2"			
Short Res., Max SCC ANALOG I/O Current Monitor Out Current Programming In GENERAL	Rang 3.7 kg /	0 - 10 V FU	ULL SCALE n / 5.6" x 4.25" x 16.2" 3.7 kg	/ 8.2 lbs 32 - 104° F		

SPECIFICATIONS - 42L DUAL CHANNEL MODULES

MODEL		42L0	0860	42L0	0824	42L0803		
OPERATING RAN	IGES							
Po	wer Ranges	0-25 W / 0-250 W	0-5 W / 0-50 W	0-12 W / 0-120 W	0-12W / 0-120 W	0-4 W / 0-40 W	0-4 W / 0-40 W	
	rent Ranges	0-6 A / 0-60 A	0-0.6 A / 0-6 A	0-2.4 A / 0-24 A	0-2.4 A / 0-24 A	0-0.3 A / 0-3 A	0-0.3 A / 0-3 A	
	Itage Range	0-80 V	0-80 V	0-80 V	0-80 V	0-80 V	0-80 V	
	num Voltage	0.8 V @ 60 A	0.8 V @ 6 A	0.8 V @ 24 A	0.8 V @ 24 A	0.3 V @ 3 A	0.3 V @ 3 A	
PERATING MO								
CC Mode	Range	0-6 A / 0-60 A	0-0.6 A / 0-6 A	0-2.4 A / 0-24 A	0-2.4 A / 0-24 A	0-0.3 A / 0-3 A	0-0.3 A / 0-3 A	
	Resolution	0.1 / 1mA	0.01 / 0.1mA	0.04/	0.4mA	0.005mA	/ 0.05mA	
	Accuracy			± 0.1% OF (SET	TING + RANGE)			
CR Mode	Range	0.01335 / 1.335 / 80.1kΩ	0.1335 / 13.35 / 801kΩ	0.0333 / 3.33 / 199.8kΩ	0.0333 / 3.33 / 199.8kΩ	0.267 / 26.7 / 1602kΩ	0.267 /26.7 / 1602kΩ	
	Resolution	0.21μΩ / 0.0125mS	2.1μΩ / 0.00125mS	0.5μΩ / 0.005mS	0.5μΩ / 0.005mS	4.1μΩ / 0.000625mS	4.1μΩ / 0.000625mS	
	Accuracy			± 0.2% OF (SET	TING + RANGE)			
CV Mode	Range	0 - 6.0 V / 0 - 80.0 V	0 - 6.0 V / 0 - 80.0 V	0 - 6.0 V / 0 - 80.0 V	0 - 6.0 V / 0 - 80.0 V	0 - 6.0 V / 0 - 80.0 V	0 - 6.0 V / 0 - 80.0	
	Resolution	0.135mV / 1.35mV	0.135mV / 1.35mV	0.135mV / 1.35mV	0.135mV / 1.35mV	0.135mV / 1.35mV	0.135mV / 1.35m	
	Accuracy			± 0.05% OF (SE	TTING + RANGE)			
CP Mode	Range	0-25 W / 0-250 W	0-5 W / 0-50 W	0-12 W / 0-120 W	0-12 W / 0-120 W	0-4 W / 0-40 W	0-4 W / 0-40 W	
	Resolution	0.417mW / 4.17mW	0.084mW / 0.84mW	0.2mW / 2mW	0.2mW / 2mW	0.067mW / 0.67mW	0.067mW / 0.67m	
	Accuracy			± 0.5% OF (SET	TING + RANGE)		ı	
PROTECTION				·	·			
Ove	r Power (OP)	262.5 W	52.5 W	126.0 W	126.0	42.0 W	42.0 W	
Over (Current (OC)	63.0 A	6.3 A	25.2 A	25.2 A	3.15 A	3.15 A	
	/oltage (OV)	84.0 V	84.0 V	84.0 V	84.0 V	84.0 V	84.0 V	
	erature (OT)			+85° C /	/ +185° F			
DYNAMIC OPER								
TI	high & T low		0.050 - 9	9.999 / 0.50 - 99.99 / 5.0	0 - 999.9 / 50 - 9999ms	(20 kHz)		
	Resolution				/ 0.1 ms / 1.0 ms			
	Accuracy							
		4mA - 250mA/μs	0.4mA - 25mA/μs	1.6mA - 100mA/μs 0.2mA - 1			2.5mA/µs	
	Slew Rate	40mA - 2500mA/μs	4mA - 250mA/μs		 000mA/μs		 25mA/μs	
	Accuracy				TING ± 10 μs			
Mi	in. Rise Time				Typical			
METERING					AL			
Voltage	Range	0 - 6.0 V / 0 - 81.0 V	0 - 6.0 V / 0 - 81.0 V	0 - 6.0 V / 0 - 81.0 V	0 - 6.0 V / 0 - 81.0 V	0 - 6.0 V / 0 - 81.0 V	0 - 6.0 V / 0 - 81.0	
	Resolution	0.1 mV / 1.35 mV	0.1 mV / 1.35 mV	0.1 mV / 1.35 mV	0.1 mV / 1.35 mV	0.1 mV / 1.35 mV	0.1 mV / 1.35 m\	
		0.11117 1.551117	0.11111/ 1.551111			0.11117 1.551117	0.11110 / 1.55 1110	
	Accuracy			T	EADING + RANGE)			
Current	Range	0 - 6.0 A / 0 - 60.0 A	0 - 0.6 A / 0 - 6.0 A		′ 0 - 24.0 A		/ 0 - 3.0 A	
	Resolution	0.1 mA / 1.0 mA	0.01 mA / 0.1 mA		/ 0.4 mA	5 μΑ /	50 μΑ	
	Accuracy			i ·	DING + RANGE)	T		
Power	Range	0 - 250.0 W	0 - 50.0 W		0 - 120.0 W 0 - 40.0 W			
	Accuracy			ADING + RANGE)				
SHORT CURREN								
Typical Shor		13.33 mΩ	1.33 mΩ	33.33 mΩ	33.33 mΩ	0.1 Ω	0.1 Ω	
	nort Current	60 A	6 A	24 A	24 A	3 A	3 A	
GENERAL								
	er & Cooling			Supplied by 44	M00 Mainframe			
Dimension	s (H x W x D)			143 x 108 x 405 mm	n / 5.6" x 4.25" x 16.0"			
Module \	Weight (Net)	3.5 kg /	7.7 lbs	3.7 kg	/ 7.7 lbs	3.7 kg	/ 7.7 lbs	
Oper	ating Range	0 - 40° C / 3	32 - 104° F	0 - 40° C /	32 - 104° F	0 - 40° C /	32 - 104° F	
_	EMC & Safety			CE Mark				

www.adaptivepower.com sales@adaptivepower.com Toll Free: 1.888.239-1619 Tel: +1.949.752-8400 Page 9 of 12

SPECIFICATIONS - 41D & 42D LED SIMULATION MODULES

OPERATING RANGES	4101204	41D3024 41D5012 41D5024							MODEL			
Power Ranges	41D1204		<i>7</i> 502	410	5012							
Current Ranges 0 - 6.0 A 0 - 24 A 0 - 3.0 A 0 - 12 A 0 - 5.00 V 0 - 5.00 V 0 - 5.00 V 0 - 1.20 V 0 -	0-150 W		300 W	0-30	no W	0-30	0.W/	0-30				
Voltage Range		0 - 24 A										
Minimum Voltage			500 \									
CC Mode Range 0 - 6.0 A 0 - 24 A 0 - 3.0 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 1.0 A 0 - 6.0 A 0 - 24 A 0 - 1.0 A 0 - 6.0 A 0 - 24 A 0 - 1.0 A 0 - 6.0 A 0 - 24 A 0 - 1.0 A 0 - 6.0 A 0 - 24 A 0 - 1.0 A 0 - 10 A												
Resolution Accuracy Low:1250 1.5kn Hight0.250 3k0 Low:0.50 1.5kn Hight0.250 3k0 Low:0.50 1.5kn Hight0.250 3k0 Low:0.50 1.5kn Hight0.250 3k0 Low:0.50 1.5kn Hight0.3kn Low:0.50 1.5kn Hight0.3kn Low:0.50 3.00 Might.5kn 6.666 µS 33.333 µS 6.666 µS 33.33 µS 6.666 µS									ES	OPERATING MOD		
CR Mode Range Low:1250-1510 Hight 0250-380 Low:0.50-1510 Hight 0250-380 High 0250-380 Hight 0250-380 High 0250-380 Hight 0	0 - 1.2 A 0 - 4 A	0 - 24 A	0 - 6.0 A 0 - 24 A		0 - 12 A	0 - 3.0 A	0 - 24 A	0 - 6.0 A	Range	CC Mode		
CR Mode Range Low:1250 - 1500 Hight 10250 - 300 words 200 300W 500W 50	0.02mA 0.08mA	0.4mA	0.2mA 0.1mA 0.4mA		0.2mA	0.05mA	0.4mA	0.1mA	Resolution			
Resolution 150V 300W 300V 500W 300W 500W 500W 500W 60V 303333 µS 66.666 µS 33.333 µS 66.666 µS 33.33 µS 66.666 µS 33.34 µS 66.666 µS 56.666				± 0.1% OF (SE								
Resolution Accuracy			Hi				-		Range	CR Mode		
Accuracy												
CV Mode Range 30 V / 150 V / 300 V 60 V / 300 V / 500 V 30 V / 500 V / 500 V 30 V / 500 V / 500 V 30 V / 500 V	66.666 μS 33.333 μS	3.333 µS				33.333 μS	66.666 µS	133.33 μS				
Resolution	201//601//1201/	.001/				601//200	V / 200 V	201//150		CV Mada		
CPMode Range 0 - 300 W			_									
CP Mode Range	0.51110 / 11110 / 21110	UTITY				11117/311	JIIIV / JIIIV	0.5 1110 / 0.2.				
Resolution	0 - 150 W			r		0 - 30	00 W	0 - 30		CP Mode		
LED Mode Vo Range 30 V / 150 V / 300 V 60 V / 300 V / 500 V 30 V / 500 V 30 V / 60 V / 300 V / 500 V 30 V / 60 V / 300 V / 500 V 30 V / 60 V / 300 V / 500 V 30 V / 60 V / 300 V / 500 V 30 V / 60 V / 300 V / 500 V 30 V / 60 V / 300 V / 500 V 30 V / 60 V / 300 V / 500 V 30 V / 60 V / 12 P / 30 V / 500 V 30 V / 60 V / 12 P / 30 V / 500 V 30 V / 60 V / 12 P / 30 V / 500 V 30 V / 60 V / 12 P / 30 V / 500 V 30 V / 60 V / 12 P / 30 V / 500 V 30 V / 60 V / 12 P / 30 V / 500 V 30 V / 60 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500 V / 12 P / 30 V / 500			_									
Rd Res, Range - Low					TING + RANGE)	± 0.5% OF (SET			Accuracy			
1.25-1.25kΩ @ Vo-Vd= 3-30V 5-1kΩ @ Vo-Vd= 6-60V 2.5-1.25kΩ @ Vo-Vd= 6-60V 6.25-55kΩ @ Vo-Vd= 0-15V 2.5-500Ω @ Vo-Vd= 0-30V 1.25-625Ω @ Vo-Vd= 0-30V 1.25-1.5kΩ @ Vo-Vd= 0-30V 1.25-1.25kΩ @ Vo-Vd= 0-60V 2.5-1.25kΩ @ Vo-Vd= 0-60V 2.5-3kΩ @ Vo-Vd= 0-50V 2.5-3kΩ	30 V / 60 V / 120 V	500 V)0 V /	60 V / 300	V / 500 V	60 V / 300	V/300V	30 V / 150	Vo Range	LED Mode		
Rd Res. Range - Med. 0.625-625Ω @ Vo-Vd= 0 - 15V	.625-0.75kΩ @ Vo-Vd= 0 - 3V								ange - Low	Rd Res. R		
C.25-6.25KΩ @ Vo-Vd=15-150V 25-5KΩ @ Vo-Vd=30-300V 12.5-6.25KΩ @ Vo-Vd=30-300V 12.5-15KΩ @ Vo-Vd= 0-60V 25-125KΩ @ Vo-Vd=0-60V 25-125KΩ @ Vo-Vd=0-60V 25-30KΩ @ Vo-Vd=0-60V 12.5-12.5KΩ @ Vo-Vd=0-60V 25-30KΩ @ Vo-Vd=0-60V 25-30V 25-30KΩ @ Vo-Vd=0-60V 25-30V	5.25-7.5kΩ @ Vo-Vd= 3 - 30V											
Rd Res. Range - High	1.25-1.5kΩ @ Vo-Vd= 0 - 6V		_						nge - Med.	Rd Res. Ra		
12.5-12.5kΩ @ Vo-Vd= 30-300V 50-10kΩ @ Vo-Vd= 60-500V 25-12.5kΩ @ Vo-Vd= 60-500V 25-30kΩ @ Vo-Vd= Resolution 16 bits 16 bi	12.5-15kΩ @ Vo-Vd= 6-60V									D-I D D-		
Resolution Accuracy Vd : ± (0.05% OF SETTING + 0.1% OF RANGE) PROTECTION									inge - High	Ka Kes. Ka		
PROTECTION	25-30K17 @ VO-VU= 12-120V	= 60-3007						Posolution				
PROTECTION Over Power (OP) 315.0 W 315.0 W 315.0 W 157.5 W Over Current (OC) 25.2 A 12.6 A 25.2 A 4.2 A 4.2 A Over Voltage (OV) 315.0 V 525.0 V 525.0 V 126.0 V Over Temperature (OT) +90° C / +194° F Over Voltage (OV) Thigh & Tow O.550 ~ 9.999 / 99.99 / 99.99 / 99.99 / 99.99 / 99.99 s (20 kHz) O.550 ~ 9.999 / 99.99 / 99.99 / 99.99 / 99.99 s (20 kHz) O.550 ~ 9.999 / 99.99	F RANGE)	 TTING + 0.1	17.77.77									
Over Power (OP) 315.0 W 315.0 W 315.0 W 157.5 W	110.11.02/		0.	,,, <u>_ (0.00</u> / 0	011 70 01 111 1102	7,0 0. 52	10.12		71000100)	PROTECTION		
Over Current (OC) 25.2 A 12.6 A 25.2 A 4.2 A Over Voltage (OV) 315.0 V 525.0 V 126.0 V Over Temperature (OT) +90° C / +194° F 126.0 V DYNAMIC OPERATION 0.050 ~ 9.999 / 99.99 / 9	157.5 W		5.0 W	315	.0 W	315.	0 W	315.	Power (OP)			
OverTemperature (OT)	4.2 A		5.2 A	25.	12.6 A		2 A	25.2	urrent (OC)	Over Cı		
DYNAMIC OPERATION	126.0 V		5.0 V	525	.0 V	525	.0 V	315	oltage (OV)	Over Vo		
Thigh & Tlow				:/+194° F	+90° C							
Resolution												
Accuracy Slew Rate 4.8 - 300 mA/μs 19.2 - 1200 mA/μs 2.4 - 150 mA/μs 9.6 - 600 mA/μs 4.8 - 300 mA/μs 0.96 - 60 mA/μs 3.84		(Hz)				0.050						
Slew Rate 4.8 - 300 mA/µs 19.2 - 1200 mA/µs 2.4 - 150 mA/µs 9.6 - 600 mA/µs 4.8 - 300 mA/µs 19.2 - 1200 mA/µs 0.96 - 60 mA/µs 3.84 Resolution 1.2 mA/µs 4.8 mA/µs 0.6 mA/µs 2.4 mA/µs 1.2 mA/µs 4.8 mA/µs 0.2 4 mA/µs 0.5 mA/µs 2.4 mA/µs 1.2 mA/µs 4.8 mA/µs 0.2 4 mA/µs 0.5 mV/0-500V Resolution 0.5 mV/2.5 mV / 5 mV 1 mV/5 mV/10 mV 1 mV/5 mV/10 mV 0.5 mV/1 mV/2 mAccuracy ± 0.025% OF (READING + RANGE) Current Range 0 - 6.0 A 0 - 24 A 0 - 3.0 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 1.2 A 0.6 MA 0.02 mA 0.02 mA 0.2 mA 0.05 mA 0.2 mA 0.1 mA 0.4 mA 0.02 mA 0.8 mA 0.2 mA 0.1 mA 0.4 mA 0.02 mA 0.2 mA 0.3 mA					<u> </u>							
Resolution 1.2mA/μs 4.8mA/μs 0.6mA/μs 2.4mA/μs 1.2mA/μs 4.8mA/μs 0.24mA/μs 0.25mV/12mV/12mV/12mV/12mV/12mV/12mV/12mV/12	06 60 mA/us 2 94 240 mA/u	1200 m \ /uc	10			2.4. 1E0 m \ /uc	10.2. 1200 m \ /us	4.0. 200 m \ /us				
Accuracy												
Min. Rise Time	24π/μ3 0.30π/μ3	.0111Α/μ3				υ.υπ/μ3	4.0ΠΑ/μ3	1.2111Α/μ3				
Woltage Range 0-30V / 0-150V / 0-300V 0-60V / 0-300V / 0-500V 0-60V / 0-300V / 0-500V 30 V / 60 V / 12 Resolution 0.5 mV / 2.5 mV / 5 mV 1 mV / 5 mV / 10 mV 1 mV / 5 mV / 10 mV 0.5 mV / 11 mV / 2 Accuracy ± 0.025% OF (READING + RANGE) Current Range 0 - 6.0 A 0 - 24 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 1.2 A 0 Resolution 0.1 mA 0.4 mA 0.05 mA 0.2 mA 0.1 mA 0.4 mA 0.02 mA 0 Accuracy ± 0.1% OF (READING + RANGE) Power Range 0 - 300.0 W 0 - 300.0 W 0 - 300.0 W 0 - 150.0 W Accuracy ± 0.1% OF (READING + RANGE) PWM DIMMING CONTROL Range: 0 - 12 V, Resolution: 48 mV, Accuracy: ± 1% OF (SETTING + RANGE) Frequency Range: DC to 1000 Hz, Resolution: 10 Hz Duty Cycle Range: DC to 1000 Hz, Resolution: 0.01 (1%) GENERAL Current Monitor Out <td col<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Min</td></td>	<td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Min</td>										Min	
Voltage Range 0-30V / 0-150V / 0-300V 0-60V / 0-300V / 0-500V 0-60V / 0-300V / 0-500V 30 V / 60 V / 12 Resolution 0.5 mV / 2.5 mV / 5 mV 1 mV / 5 mV / 10 mV 1 mV / 5 mV / 10 mV 0.5 mV / 10 mV 0.5 mV / 1 mV / 2 Accuracy ± 0.025% OF (READING + RANGE) 0 - 6.0 A 0 - 24 A 0 - 1.2 A 0 0.0 A 0 - 24 A 0 - 1.2 A 0 0.0 A 0 - 24 A 0 - 1.2 A 0 0 0.0 A 0 - 24 A 0 - 1.2 A 0 0 0 0.1 mA 0.4 mA 0.02 mA 0.1 mA 0.4 mA 0.02 mA 0.1 mA 0.4 mA 0.02 mA 0<				.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,								
Resolution 0.5 mV / 2.5 mV / 5 mV	30 V / 60 V / 120 V	0-500V	300V	0-60V / 0-30	00V / 0-500V	0-60V / 0-30	0V / 0-300V	0-30V / 0-15	Range			
Current Range 0 - 6.0 A 0 - 24 A 0 - 3.0 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 1.2 A 0												
Current Range 0 - 6.0 A 0 - 24 A 0 - 3.0 A 0 - 12 A 0 - 6.0 A 0 - 24 A 0 - 1.2 A 0 - 1.2 A 0 - 6.0 A 0 - 24 A 0 - 1.2			_				,	0.0 1114 / 2.0				
Resolution 0.1 mA 0.4 mA 0.05 mA 0.2 mA 0.1 mA 0.4 mA 0.02 mA Accuracy # O - 300.0 W 0 - 300.0 W 0 - 300.0 W 0 - 150.0 W Accuracy ± 0.1% OF (READING + RANGE) PWM DIMMING CONTROL Level Range: 0 - 12 V, Resolution: 48 mV, Accuracy: ± 1% OF (SETTING + RANGE) Frequency Range: DC to 1000 Hz, Resolution: 10 Hz Duty Cycle Range: 0.01 - 0.99 (1% - 99%), Resolution: 0.01 (1%) GENERAL Current Monitor Out 2.4 A/V 1.2 A/V 2.4 A/V 0.4 A/V Shorting Relay Drive	0 - 1.2 A 0 - 4.0 A	0 - 24 A	T	1		0 - 3.0 A	0 - 24 A	0 - 6.0 A		Current		
Power Range 0 - 300.0 W 0 - 300.0 W 0 - 300.0 W 0 - 150.0 W Accuracy ± 0.1% OF (READING + RANGE) PWM DIMMING CONTROL Eevel Range: 0 - 12 V, Resolution: 48 mV, Accuracy: ± 1% OF (SETTING + RANGE) Frequency Range: DC to 1000 Hz, Resolution: 10 Hz Duty Cycle Range: 0.01 - 0.99 (1% - 99%), Resolution: 0.01 (1%) GENERAL Current Monitor Out 2.4 A/V 1.2 A/V 2.4 A/V 0.4 A/V Shorting Relay Drive 12 V @ 100 mA max	0.02 mA 0.08 mA	0.4 mA		0.1 mA	0.2 mA	0.05 mA	0.4 mA	0.1 mA	Resolution			
Accuracy ± 0.1% OF (READING + RANGE) PWM DIMMING CONTROL Range: 0 - 12 V, Resolution: 48 mV, Accuracy: ± 1% OF (SETTING + RANGE) Frequency Range: DC to 1000 Hz, Resolution: 10 Hz Duty Cycle Range: 0.01 - 0.99 (1% - 99%), Resolution: 0.01 (1%) GENERAL Current Monitor Out 2.4 A/V 1.2 A/V 2.4 A/V 0.4 A/V Shorting Relay Drive 12 V @ 100 mA max			_	1								
PWM DIMMING CONTROL Level Range: 0 - 12 V, Resolution: 48 mV, Accuracy: ± 1% OF (SETTING + RANGE) Frequency Range: DC to 1000 Hz, Resolution: 10 Hz Duty Cycle Range: 0.01 - 0.99 (1% - 99%), Resolution: 0.01 (1%) GENERAL Current Monitor Out 2.4 A/V 1.2 A/V 2.4 A/V 0.4 A/V Shorting Relay Drive 12 V @ 100 mA max	0 - 150.0 W	J				0 - 30	0.0 W	0 - 30		Power		
Level Range: 0 - 12 V, Resolution: 48 mV, Accuracy: ± 1% OF (SETTING + RANGE) Frequency Range: DC to 1000 Hz, Resolution: 10 Hz Duty Cycle Range: 0.01 - 0.99 (1% - 99%), Resolution: 0.01 (1%) GENERAL Current Monitor Out 2.4 A/V 1.2 A/V 2.4 A/V 0.4 A/V Shorting Relay Drive 12 V @ 100 mA max			ıE)	:ADING + RANGI	± 0.1% OF (RE					DIAMA DIAMANICO		
Frequency Range: DC to 1000 Hz, Resolution: 10 Hz Duty Cycle Range: 0.01 - 0.99 (1% - 99%), Resolution: 0.01 (1%) GENERAL Current Monitor Out 2.4 A/V 1.2 A/V 2.4 A/V 0.4 A/V Shorting Relay Drive 12 V @ 100 mA max	3)	ETTING + DA	OF (^ccuracy: ± 10/-(colution: 49 mV	ngo: 0 12 V Pos	Pa			PWM DIMMING C		
Duty Cycle Range: 0.01 - 0.99 (1% - 99%), Resolution: 0.01 (1%) GENERAL Current Monitor Out 2.4 A/V 1.2 A/V 2.4 A/V 0.4 A/V Shorting Relay Drive 12 V @ 100 mA max	· <u>/</u>											
GENERAL Current Monitor Out 2.4 A/V 1.2 A/V 2.4 A/V 0.4 A/V Shorting Relay Drive 12 V @ 100 mA max												
Current Monitor Out 2.4 A/V 1.2 A/V 2.4 A/V 0.4 A/V Shorting Relay Drive 12 V @ 100 mA max				,,					., ., .,			
Shorting Relay Drive 12 V @ 100 mA max	0.4 A/V	. 24AV 12AV 24AV				onitor Out						
	V					1.2		2.77				
Supplied by 44M00 Maintrame, Temp. Coefficient: 100 ppm / C typical		nnm /°C +	+. 100			Supplied by 44NA						
Discovering (Halling)						,						
Dimensions (H x W x D) 143 x 108 x 412 mm / 5.6" x 4.25" x 16.2"												
	3.7 kg / 8.2 lbs											
	0 - 40° C / 32 - 104° F	04° F	32 -	0 - 40° C /	32 - 104° F	0 - 40° C / 3	32 - 104° F	0 - 40° C / 3		· · · · · ·		
EMC & Safety CE Mark				Mark	CE				IC & Safety	EM		

MODEL	42D5	006	42D1202				
OPERATING RANGES			1201202				
Power Ranges	0-150 W	0-150 W	0-75 W	0-75 W			
Current Ranges		0-1.5A 0-6A	0-0.6A 0-2A	0-0.6A 0-2A			
Voltage Range		0 - 500 V	0 - 120 V	0 - 120 V			
Minimum Voltage			3 V @ 2 A				
OPERATING MODES							
CC Mode Range	0 - 1.5 A	0 - 6.0 A	0 - 0.6 A	0 - 2.0 A			
Resolution	0.025mA	0.1mA	0.01 mA	0.04 mA			
Accuracy	=	± 0.1% OF (SET	TING + RANGE)				
CR Mode Range	Low:1Ω - 3kΩ 300V	High:2Ω - 6kΩ 500V	Low:1.5Ω - 15kΩ 60V	High:3Ω - 3kΩ 120V			
Resolution		8.333 µS	33.33 μS 16.66 μS				
Accuracy			TING + RANGE)				
CV Mode Range			30 V / 60				
Resolution			0.5 mV / 1				
Accuracy			TTING + RANGE				
CP Mode Range	N/A	A	N,	/A			
Resolution	N/A	A	N,	/A			
Accuracy	N//	A	N,	/A			
LED Mode Vo Range		V / 500 V	30 V / 60	V / 120 V			
Rd Res. Range - Low				Vo-Vd= 0 - 3V			
	10-2kΩ @ Vo-			o-Vd= 3 - 30V			
Rd Res. Range - Med.			2.5-3kΩ @ Vo-Vd= 0 - 6V				
	50-10kΩ @ Vo-		25-30kΩ @ Vo-Vd= 6-60V				
Rd Res. Range - High			5-6kΩ @ Vo-Vd= 0 - 12V 50-60kΩ @ Vo-Vd= 12-120V				
2 1 11	100-20kΩ @ Vo			o-Vd= 12-120V			
Resolution			bits (0.050/	OF CETTING + 0.10/			
Accuracy	Vd: ± (0.05% OF SET		ANGE), Ka∶± (0.05% ANGE)	OUF SETTING + 0.1%			
PROTECTION							
Over Power (OP)	157.5	5 W	78.75 W				
Over Current (OC)	6.3	A	2.1 A				
Over Voltage (OV)	525.0	0 V	126	0.0 V			
Over Temperature (OT)		+90° C	/ +194° F				
METERING							
Voltage Range			30 V / 60 V / 120 V				
Resolution			0.5 mV / 1 mV / 2 mV				
Accuracy		1	ADING + RANG				
Current Range Resolution		0 - 6.0 A 0.1 mA	0 - 0.6 A 0.01 mA	0 - 2.0 A 0.04 mA			
Accuracy		L	DING + RANGE				
Power Range			0 - 75				
Accuracy			ADING + RANGE				
PWM DIMMING CONTR		- 3/3 OI (INE/		,			
Level		esolution: 48 mV. A	ccuracy: ± 1% OF (SE	TTING + RANGE)			
Frequency			Hz, Resolution: 10 Hz				
		: 0.01 - 0.99 (1% - 9	9%), Resolution: 0.0	1 (1%)			
Duty Cycle	Range: 0.01 - 0.99 (1% - 99%), Resolution: 0.01 (1%)						
			0.6 A/V 0.2 A/V				
Duty Cycle	0.6 A	\/V	0.2	A/V			
Duty Cycle GENERAL Current Monitor Out	-			A/V			
Duty Cycle GENERAL Current Monitor Out Shorting Relay Drive		12 V @ 10	00 mA max				
Duty Cycle GENERAL Current Monitor Out Shorting Relay Drive Power & Cooling	Supplied by 441	12 V @ 10 M00 Mainframe, Te	00 mA max mp. Coefficient: 100 p	pm / °C typical			
Duty Cycle GENERAL Current Monitor Out Shorting Relay Drive Power & Cooling Dimensions (HxWxD)	Supplied by 441	12 V @ 10 M00 Mainframe, Te x 108 x 412 mn	00 mA max mp. Coefficient: 100 p n / 5.6" x 4.25" x	pm / °C typical			
Duty Cycle GENERAL Current Monitor Out Shorting Relay Drive Power & Cooling	Supplied by 441	12 V @ 10 M00 Mainframe, Te x 108 x 412 mn 3.5 kg	00 mA max mp. Coefficient: 100 p n / 5.6" x 4.25" x / 7.7 lbs	pm / °C typical			
Duty Cycle GENERAL Current Monitor Out Shorting Relay Drive Power & Cooling Dimensions (HxWxD)	Supplied by 44l	12 V @ 10 M00 Mainframe, Te x 108 x 412 mn 3.5 kg	00 mA max mp. Coefficient: 100 p n / 5.6" x 4.25" x	pm / °C typical			

ORDERING INFORMATION:

Line 1: Specify Mainframe Model. (Specify T version for 41T use):

One Slot	Two Slots	Four Slots	
44M01 / 44M01T	44M02 / 44M02T	44M04 / 44M04T	

Line 2: Specify Remote Control Option:

None, Opt GPIB, Opt RS232, Opt USB or Opt LAN

Line 3: Specify up to four Load Modules:

41L Single CH	41T Single CH	42L Dual CH	41D LED CH
41L0630	41T0630	42L0860	41D3024
41L0660	41T0660	42L0824	41D5012
41L2512	41T2512	42L0803	41D5024
41L5012	41T5012		41D1204
41L0615	41T0615		42D LED CH
	41T0880		42D5006
	41T5020		42D1202

Line 4: Specify Shorting Relay option for LED Load:

Relay Option	Description	Compatible with
Opt R002	Shorting Relay Fixture	41D3002/41D5002
Opt R003	Shorting Relay Fixture	42D5003
Opt R006	Shorting Relay Fixture	42D5006
Opt R012	Shorting Relay Fixture	41D5012
Opt R020	Shorting Relay Fixture	41D1020
Opt R024	Shorting Relay Fixture	41D3024 & 41D5024

Line 5: Add CWG and/or QCT Options as needed

External Option	Description	Compatible with
Opt QCT	Quick Charger Tester	41L, 42L and 41G/42G
Opt CWG	Current Waveform Generator	44Mxx, 5L, 5V, 5P, 5VP

AC Input Voltage

Please specify AC Line input voltage at the ship to location on the order as either 120Vac or 230Vac.

Included in Mainframe Ship kit:

User Manuals in PDF Format on CD ROM. AC Line Cord.

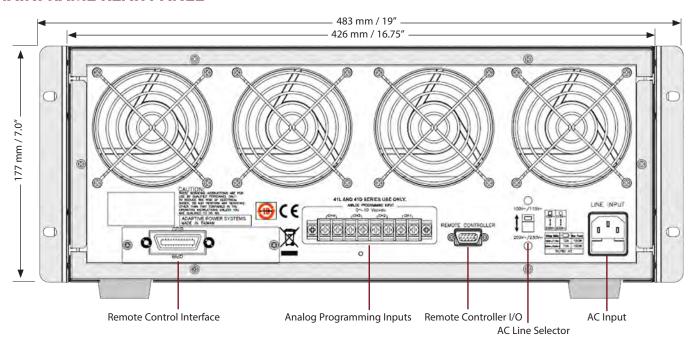
LAN/USB Driver CD ROM (with Opt USB or Opt LAN). Certificate of Conformance

Included with each 4 Series Load Module:

Item	41L / 41T	42L	41D	42D
Banana plug, 4 mm, Red	1	2	1	-
Banana plug, 4 mm, Black	1	2	1	-
Banana plug, 2 mm, Red	1	2	3	8
Banana plug, 2 mm, Black	1	2	3	8
Y-hook Terminal, Large	4	4	4	-
Y-hook Terminal, Small	2	-	-	4
BNC Cable, 3 feet	1	-	1	-

www.adaptivepower.com sales@adaptivepower.com Toll Free: 1.888.239-1619 Tel: +1.949.752-8400 Page 11 of 12

MAINFRAME REAR PANEL





Service and Support

Adaptive Power Systems' customer support is second to none. Our Customer Support Program provides the training, repair, calibration, and technical support services that our customers value. So, in addition to receiving the right test equipment, our customers can also count on excellent support before, during and after the sale. With company owned support and service centers around the world, support is never far away.

New Product Warranty: AC Sources & Loads: 1 year, DC Power Supplies: 2 years.

Complete calibration and repair services are offered at our US, European and Chinese manufacturing facilities (see contact info below). Calibrations are to original factory specifications and are traceable to NIST (National Institute of Standards and Technology).

NORTH & SOUTH AMERICA

PPST Solutions, Inc.
Irvine, USA

Phone: +1(888) 239-1619 Email: sales@ppstsolutions.com

EUROPE

Caltest Instruments GmbH. Kappelrodeck, Germany Phone: +49(0)7842-99722-00

Email: info@caltest.de

CHINA

PPST Shanghai Co. Ltd. Shanghai, China Phone: +86-21-6763-9223

Email: info@ppst.com.cn





Caltest Instruments GmbH



17711 Mitchell North Irvine, CA 92614 United States Toll Free: 1.888.239-1619 Tel: +1.949.752-8400