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Electronic Load 20 Pin Connector Information Notes & Functions

Conn	Pin	Type	Description of function and operation for EE151xx and EE301xx series Electronic Loads This information does not apply to the EE15190 or special application Electronic Loads.
J1	1	Output	Scaled to current to voltage output. 0 to 4 Volts will equal 0 to full scale of load current. Maximum source current is 5 ma to a load input. This is a output of an op-amp and should not be grounded.
J1	2	Ground	Signal ground and Bias return (12 or 15-24 Volts) all control signal returns and bias return should be tied to this point. Never tie a load UUT under test to this point. This return is rated for 150 ma maximum only.
J1	3	Reserved	Reserved / Key; In the future this pin may be used for other options on future models of electronic loads.
J1	4	Input	External unregulated input voltage, designed to take 15-24 volts DC at 100 ma maximum. Maximum peak ripple is 30 volts and must not be exceeded. Return for this power input uses pin 2 as ground. Never use the 12 Volts input and this at the same time.
J1	5	Timing	High side of internal timing Capacitor. When connected to pin 6 this capacitor set the startup / shut down slew rate of the electronic load. When this capacitor is not used it can also be use as a 12 volt filter of 1.5 uF capacitor on the 12 Volt regualtor.
J1	6	Timing	External slew and timing capacitor. By connecting an external capacitor to this and the ground return the slew rate of the electronic load can be changed from its standard timing. See timing chart for correct capacitor size.
J1	7	Res/Pot	Low side of current control pot (10K), this is a floating connection until connected. It is not connected to the internal circuits of the electronic load. Consult factory for pot modification if not using a 10K pot.
J1	8	Ground	The low side of the current control pot connects to this point. This ground is part of the signal return circuits. It can also be use as a signal return or bias return.
J1	9	Res/Pot	Center Tap / Wiper side of current control pot (10K), this is a floating connection until connected. It is not connected to the internal circuits of the electronic load. Consult factory for pot modification if not using a 10K pot.
J1	10	Input	Current control input. 0 to 4 Volts input equals 0 - full scale of electronic load. (absolute max 7 volts) there may be cases where you need to increase the input voltage for special applications. This input is for constant current operation only. Return is pin 2 signal ground. (19.4K Imp.)
J1	11	Res/Pot	High side of current control pot (10K), this is a floating connection until connected. It is not connected to the internal circuits of the electronic load. Consult factory for pot modification if not using a 10K pot.
J1	12	Ref / Output	The automatic reference output is adjusted up and down as the voltage to the electronic load changes. Maximum drive current is 5 ma and should never be exceeded. Consult factory for pot modification if not using a 10K pot.
J1	13	Res/Pot	The low side of the voltage start-up control pot connects to this point. It is not connected to the internal circuits of the electronic load. Consult factory for pot modification if not using a 50K pot.
J1	14	I/O	This pin should never be connected to any out side circuits, other than a 50K startup pot. 0 or 10 volts / 5 ma I/O depending on temperature. Consult factory for modification if not using a 50K pot. Connects to low side of start-up pot. Op-Amp output.
J1	15	Res/Pot	Center Tap / Wiper side of voltage start-up control pot (50K), this is a floating connection until connected. It is not connected to the internal circuits of the electronic load. Consult factory for pot modification if not using a 50K pot.
J1	16	I/O	This pin should never be connected to any out side circuits, other than a 50K startup pot. 0 or 10 volts / 5 ma I/O depending on temperature. Consult factory for modification if not using a 50K pot. Connects to center tap /wiper side of start-up pot. Op-Amp output
J1	17	Res/Pot	High side of voltage start-up control pot (50K), this is a floating connection until connected. It is not connected to the internal circuits of the electronic load. Consult factory for pot modification if not using a 50K pot.
J1	18	Ref / Output	This voltage is used to set the trip point level of the start-up slew op-amp. Consult factory for pot modification if not using a 50K pot. You should never connect any external circuits to this pin. Ref can be 0 to 12 Volts depending on resistance, source is a 47.5K resistor to 11-12 volts reference.
J1	19	Output	Scaled to voltage input to voltage output. 0 to 50/150 Volts will equal 0 to 5 Volts scale of load voltage at UUT terminals Maximum source current is 5 ma to a load input. This is a output of an op-amp and should not be grounded.
J1	20	Input	External regulated input voltage, designed to take 12 volts DC at 150 ma maximum. Maximum peak ripple noise is 50 mV and must not be exceeded. Return for this power input uses pin 2 as ground. Never use the 15-24 Volts input and this at the same time.
J2	1	I/O	Optional Jumper J2: Open; Disables the automatic current reference output. Maximum drive current is 5 ma at 0 to 5.1 Volts depending on electronic load input UUT voltage. Maximum power of load can be exceeded. (**Be Careful**!)
J2	2	Ref / Output	Optional Jumper J2: Open; Disables the automatic current reference output. Maximum drive current is 5 ma at 4.3 Volts and should never be exceeded. (Open) is constant current operation only with start-up voltage. Maximum power of load can be exceeded. (**Be Careful**!) 3.3K source impedance to 10-12 volts ref, this voltage will never exceed 5.2 volts (Zener reference).
Lug 's +	+	Input	(UUT) Unit Under Test positive power terminal to electronic load positive (+) power terminal. Maximum current through any one terminal should not exceed 40 amps. Sense circuits are about 100K to ground for 50 volt units and 500K for 150 volt units.
Lug 's -	-	Input	(UUT) Unit Under Test negative power terminal to electronic load negative (-) power terminal. Maximum current through any one terminal should not exceed 40 amps.
J3	L	Input	50/60 Hz 90 to 265 Vac line input. This terminal is isolated from the rest of the electronic load circuits. The bias power supply is floating and has 500 Vdc isolation. The electronic load has no VAC ground. Never connect the VAC ground to the DC ground.
J3	N	Input	50/60 Hz 90 to 265 Vac neutral input. This terminal is isolated from the rest of the electronic load circuits. The bias power supply is floating and has 500 Vdc isolation. The electronic load has no VAC ground. Never connect the VAC ground to the DC ground.

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How to key your 20 Connector in the correct way. Follow the steps as shown.

Please Note: The " KEY PIN " (Plastic Pin) is not removable from the connector pin once inserted!

Pin un-crimped

Step one, crimp the pin with no wires.

Step two, place pin in the connector, key hole pin #3 socket.

Do NOT stick the plastic key pin in the metal pin until the metal pin is in the connector….! The Plastic Pin is a one time insertion and CAN NOT be removed once it is inserted.

The PLASTIC KEY PIN has a one time latching build and can not be pulled out from the mating pin.!!!

Step three, Insert the PLASTIC KEY PIN into #3 position into the bottom of the black plastic connector. The plastic will latch into the metal pin. It can not be removed once inserted. Your connector is now keyed.

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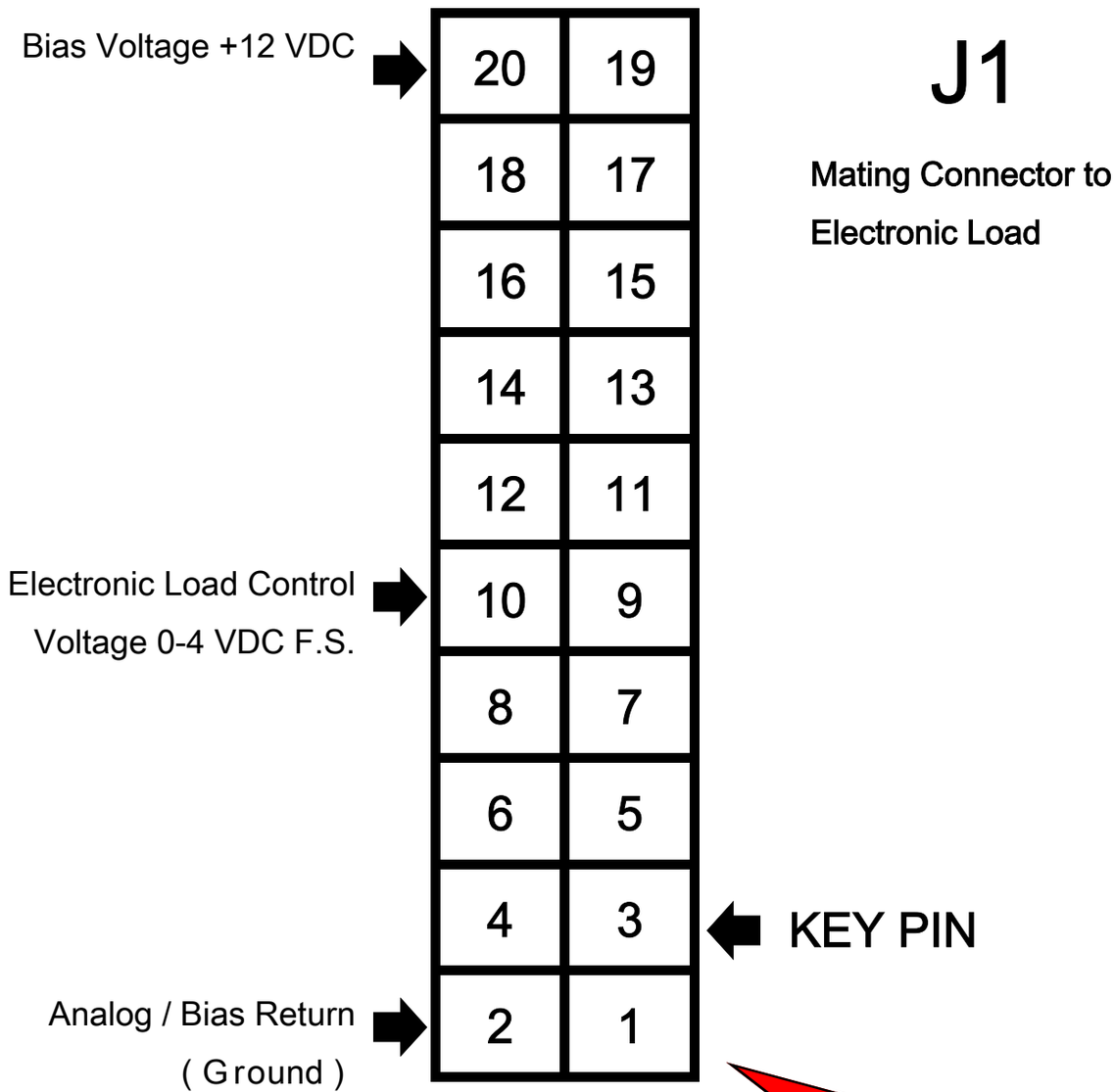
Electronic Load 20 Pin Connector Information Notes & Functions

Pin numbers looking from the top of the connector



J1

Mating Connector to Electronic Load

NOTE: If you have a connector with pin numbers stamped on the side, disregard the pin numbers stamped on the side of the connector.