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Find the *TDK-Lambda LFS-39-15* at our website: *Click HERE*

INSTRUCTION MANUAL
REGULATED POWER SUPPLIES
LFS-39 SERIES
SPECIFICATIONS AND FEATURES

DC OUTPUT – Voltage regulated for line and load. For voltage and current ratings see table I below.

TABLE I

MODEL	VOLTAGE RANGE	REGULATION (LINE, LOAD)	RIPPLE (mV RMS)	MAXIMUM CURRENT (AMPS) AT AMBIENT TEMPERATURE		
				40°C	50°C	60°C
LFS-39-2	2 ±5%	0.1%, 0.1%	15	6.0	4.2	3.0
LFS-39-5	5 ±5%	0.1%, 0.1%	15	6.0	4.2	3.0
LFS-39-6	6 ±5%	0.1%, 0.1%	15	5.0	3.5	2.5
LFS-39-12	12 ±5%	0.1%, 0.1%	20	2.5	1.75	1.25
LFS-39-15	15 ±5%	0.1%, 0.1%	20	2.0	1.4	1.0
LFS-39-20	20 ±5%	0.1%, 0.1%	20	1.5	1.05	0.75
LFS-39-24	24 ±5%	0.1%, 0.1%	20	1.3	0.9	0.65
LFS-39-28	28 ±5%	0.1%, 0.1%	20	1.1	0.75	0.55
LFS-39-48	48 ±5%	0.1%, 0.1%	35	0.65	0.45	0.3

Current range must be chosen to suit the appropriate maximum temperature.
Current ratings apply for entire voltage range.

REGULATED VOLTAGE OUTPUT

Regulation (line) . . . . . 0.1% from 85-265VAC/265-85VAC or 110-370VDC/370-110VDC.
Regulation (load) . . . . . 0.1% from no-load to full-load or full-load to no-load.
Ripple and noise . . . . . 15mV rms, 75mV peak-to-peak for LFS-39-2, -5 and -6; 20mV rms, 150mV peak-to-peak for LFS-39-12 through LFS-39-28; 35mV rms, 200mV peak-to-peak for LFS-39-48 (20MHz bandwidth measurement system). Ripple specifications apply for output terminals floating or with either positive or negative terminal grounded.
Temperature Coefficient . . . . . 0.03% per °C.
Remote Programming
External Resistor . . . . . Nominal 1000 Ohms/volt output. Increasing resistance increases output voltage. Use a low temperature coefficient resistor to assure most stable operation. (Refer to figure 2 for connections.)
Programming Voltage . . . . . One-to-one voltage change. The programming supply must have a reverse current capability of 2 ma min. (Refer to figure 3 for connections.)
Remote Sensing . . . . . Provision is made for remote sensing to eliminate the effect of power output lead resistance on DC regulation. Sensing leads should be a twisted pair to minimize AC pickup. A 10 uf elect. capacitor may be required between output terminals and sense terminals to reduce noise pickup. An additional capacitor may also be required across the load to further reduce noise pickup; the value of this capacitor will depend upon the particular application. (Refer to figure 1 for connections.)

OVERSHOOT

No overshoot under conditions of power turn-on, turn-off, or power failure.

AC INPUT

85 to 265VAC maximum (Refer to figure 1 for connections.) At 47 to 440Hz where applicable, regulatory agency approval applies only for input voltages up to 250VAC maximum and for input frequencies in the range 47-63Hz. Leakage current in the ground connection may exceed the limits allowed by these agencies at frequencies above this range.

DC INPUT

110 to 370VDC. (Refer to figure 1 for connections.)
Where applicable, regulatory agency approval only applies for input voltages up to 330VDC.

EFFICIENCY

LFS-39-2 45% minimum, LFS-39-5 and LFS-39-6 67% minimum, LFS-39-12 through LFS-39-20 70% minimum, LFS-39-24 through LFS-39-48 71% minimum.

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INRUSH LIMITING

Inrush current limited to 32 Amps at 115VAC or 64 Amps at 230VAC from a cold start (25°C).

OVERLOAD PROTECTION

Automatic electronic current limiting circuit limits the output to a preset value, thereby providing protection for the load as well as the power supply. The current limit characteristic exhibits a foldback type of OCP. The current-limiting circuit is not externally adjustable.

HOLD UP TIME

LFS-39-2, LFS-39-5 and LFS-39-6 models will remain within regulation limits for at least 16.7 msec after a loss of AC power when operating at maximum output power and 105VAC input at 60Hz, 100 msec holdup when operating at maximum output power and 210VAC input at 50Hz.

INPUT AND OUTPUT CONNECTIONS

See outline drawing for location. AC input, sensing, remote on/off connections and ground via PC board mounted terminal blocks. DC output connections are made via PC board mounted terminals.

REMOTE TURN-ON/TURN-OFF

TTL compatible signal enables remote turn-on/off of the power supply. A voltage of 2.8 to 5.0 V applied between "+R" and "-R" will initiate turn-off. Open circuit or short circuit condition, or a zero to 0.5 volt signal will cause turn-on. (Refer to figure 4 for connections).

COOLING

Convection cooled; no external blowers required.

OPERATING AMBIENT TEMPERATURE RANGE AND DUTY CYCLE

Continuous duty from 0°C to 60°C ambient with corresponding load current ratings for operation unit will start up at -10°C, but may not meet published specs until internal heating raises temperature to 0°C.

STORAGE TEMPERATURE

-55°C to +85°C.

DC OUTPUT CONTROL

Screwdriver voltage adjust control permits adjustment of DC output voltage. See outline drawing for location of control.

WARRANTY

1 year warranty from date of shipment.....materials and labor.

PHYSICAL DATA

Size	:	1.38" x 3.82" x 4.53"
Weight	:	0.74lbs. net; 0.95lbs. shipping
Finish	:	Gray, FED. STD. 595 No. 26081

MOUNTING

One mounting surface and one mounting position.

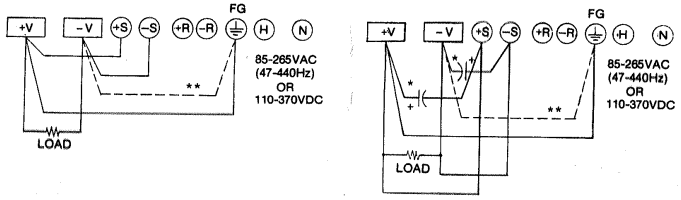
OVERVOLTAGE PROTECTION

Standard on all models. If output voltage increases above a preset level (115% to 135%), inverter drive is removed and the output is shut down. For LFS-39-2, OVP range is 3.2-4.2V. Before resuming operation, remove A.C. power, set voltage-adjust pot to minimum position, wait two (2) minutes then turn A.C. power on. Reset output voltage to resume operation of the unit.

ISOLATION RATINGS

Input terminals to output	:	3750VAC rms
Input terminals to ground	:	1500VAC rms
Output terminals to ground	:	500VAC rms

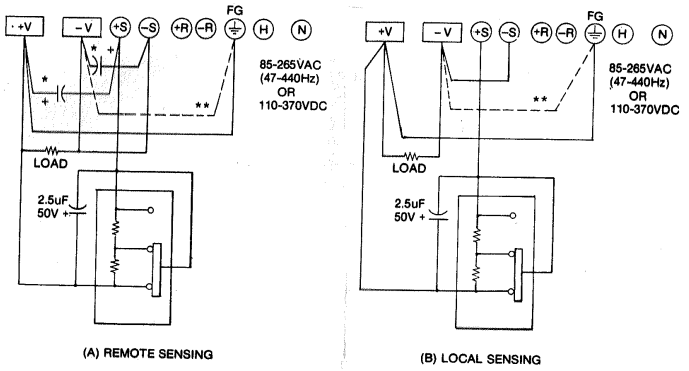
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* A 10uF, ELECT CAP MAY BE REQUIRED.

** FOR NEGATIVE GROUND, DISCONNECT JUMP FROM TERMINALS ⏚ AND +V AND RECONNECT TO TERMINALS ⏚ AND −V.

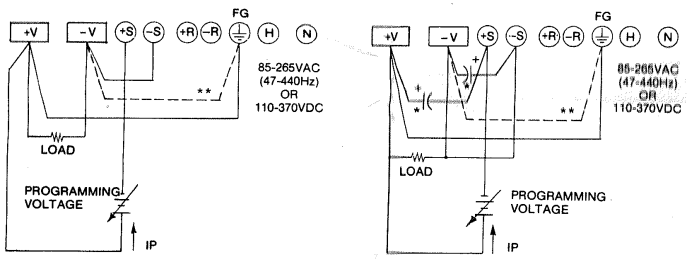
Figure 1. DC Output Connections



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** FOR NEGATIVE GROUND, DISCONNECT JUMPER FROM TERMINALS ⏚ AND +V AND RECONNECT TO TERMINALS ⏚ AND −V.

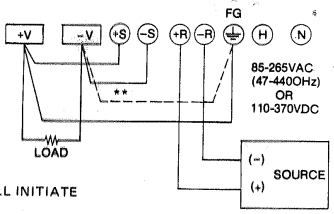
Figure 2. Programmable Voltage, With External Resistor



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** FOR NEGATIVE GROUND, DISCONNECT JUMPER FROM TERMINALS ⏚ AND +V AND RECONNECT TO TERMINALS ⏚ AND −V.

Figure 3. Programmable Voltage, With External Voltage Source



SOURCE AT 2.8 TO 5V WILL INITIATE TURN OFF.
SOURCE AT 0 TO 0.5V, OPEN CIRCUIT, OR SHORT CIRCUIT AT +R TO −R WILL INITIATE TURN ON.

** FOR NEGATIVE GROUND, DISCONNECT JUMPER FROM TERMINALS ⏚ AND +V AND RECONNECT TO TERMINALS ⏚ AND −V.

Figure 4. Remote Turn-On/Turn-Off

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