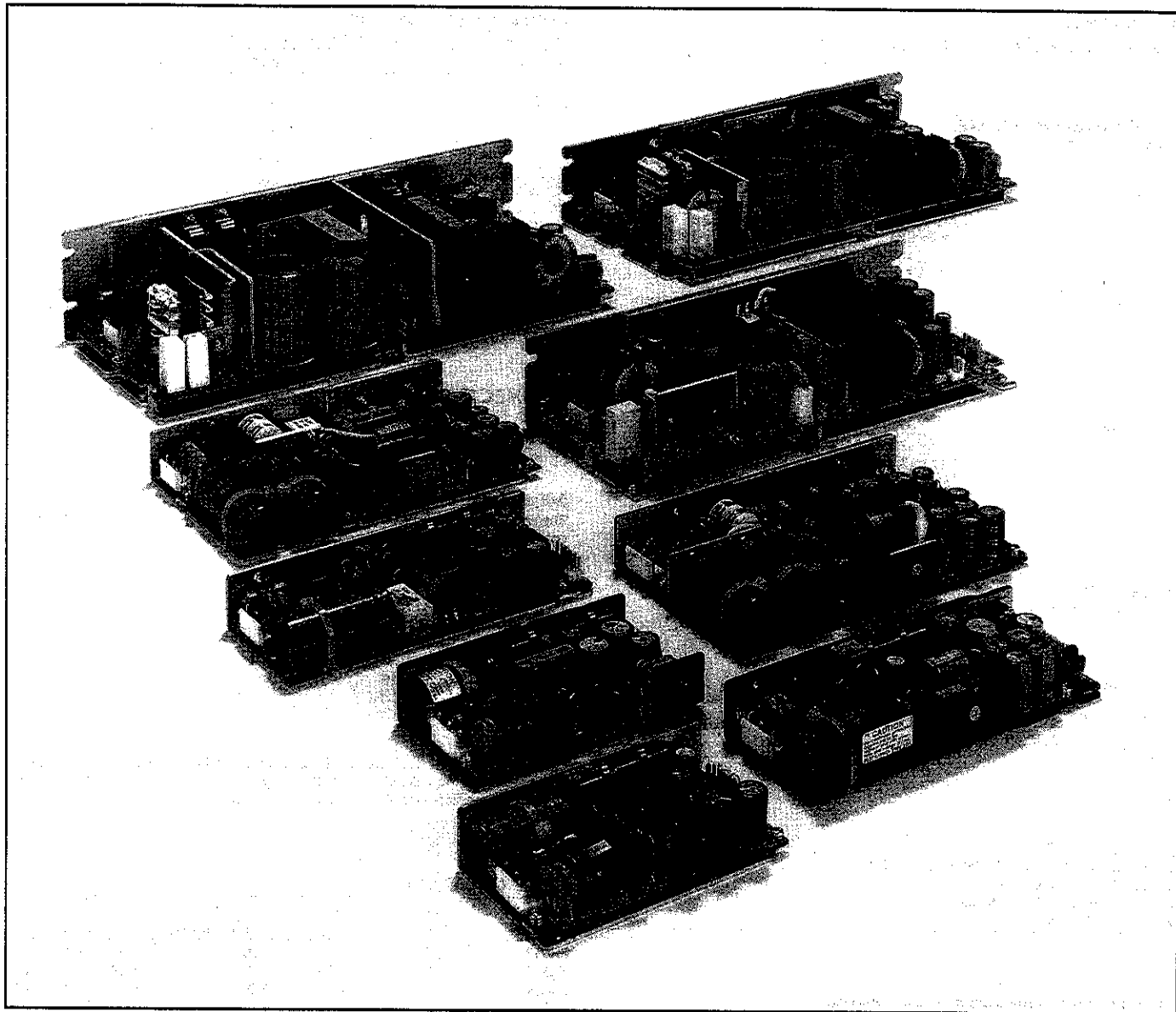


LAMBDA'S COMMERCIAL LW SERIES



UNIVERSAL INPUTS DESIGNED FOR INTERNATIONAL APPLICATIONS

Lambda's new LW series of dual, triple and quad output power supplies provide a cost effective solution for applications requiring up to 200W of output power. Designed for worldwide agency approvals, their universal inputs make LW series the product of choice for international applications. In addition, the WattBox™ output approach allows you to maximize output currents within the maximum rating of the units.

- 30 dual, triple and quad output models.
- Universal 110/220 Input.
- Integral EMI filtering to FCC Docket 20780 Class A.
- Overvoltage protection on main output.
- Low profile, to 1.02 inches for duals and triples.
- Up to 200W.
- Fully regulated outputs.
- WattBox™ output approach on triple and quad output models.
- Designed to meet worldwide safety agency requirements.
- Grade 3 design.

PART IA—AC-TO-DC SWITCHING POWER SUPPLIES

LAMBDA'S COMMERCIAL LW SERIES

DC OUTPUT

Voltage range shown in tables.

REGULATED VOLTAGE

regulation, line 0.1% from low line to high line and high line to low line.
regulation, load 2% for LWT models, LWD models, and outputs 1 and 4 of LWQ models. 2.5% for outputs 2 and 3 of LWQ models (from no load to full load and full load to no load).
ripple and noise (20MHz Bandwidth) 100mV pk-pk on 5V outputs. 150mV pk-pk on 12V and 15V outputs. 200mV pk-pk on 24V outputs.
temperature coefficient LWD, LWT: 0.02%/°C on main outputs. 0.04% on auxiliary outputs. LWQ: 0.03%/°C on all outputs.

AC INPUT

85-265VAC, 47-440Hz on LWD and LWT Series.
85-132/170-265VAC, 47-440Hz (auto selectable) on LWQ Series.

DC INPUT

110-330VDC on LWD and LWT Series.
220-330 VDC on LWQ Series.

EFFICIENCY

63% minimum on LWD-15 and LWT-2H models. 70% minimum on LWD-30, 50; LWT-3H, 4HA and LWQ models.

OVERSHOOT

No overshoot at turn-on, turn-off or power failure.

AMBIENT OPERATING TEMPERATURE

0-60°C on LWD and LWQ models.
0-50°C on LWT models. Consult the factory for increased ratings of LWT and LWQ models at elevated temperatures with external fan cooling. See the tables for derating information.

STORAGE TEMPERATURE RANGE

-30°C to +85°C.

OVERLOAD PROTECTION

Automatic electronic current limiting circuit limits short circuit output current to a safe, preset value, thereby protecting the load as well as the power supply when direct shorts occur. Sustained short circuit operation for more than 30 seconds may cause damage to the power supply.

HOLD UP TIME

Output will remain within regulation limits for 16 msec typical for all models.

OVERVOLTAGE PROTECTION

Standard on main output of LWD and LWT models and all outputs of LWQ Series.

COOLING

Convection cooled, no fans or blowers needed.

INPUT FUSE

AC input line fuse protects the input wiring to the power supply. Overload of power supply does not cause fuse failure.

REMOTE ON/OFF

Standard on LWQ Series.

DC OUTPUT CONTROLS

Simple screwdriver adjustment over the entire voltage range for single output models and main outputs of LWQ and LWD models. The fourth output of the LWQ is adjustable, all other outputs are fixed.

INPUT AND OUTPUT CONNECTIONS

OEM-type connectors. Mating connectors provided with units.

MOUNTING

Two mounting surfaces and two mounting positions. Air circulation may be required when mounting in confined areas.

EMI

The LWD, LWT and LWQ Series conforms to FCC Docket 20780 Class A. The LWQ Series conforms to VDE 0871 Curve B and FCC Docket 20780 Class B.

PHYSICAL DATA

Package Model	Lbs. Net	Lbs. Ship	Sizes Inches
LWD-15, LWT-2H	0.50	0.60	2.36 × 1.02 × 4.33
LWD-30, LWT-3H	0.70	0.80	2.36 × 1.02 × 5.91
LWD-50, LWT-4HA	1.00	1.20	3.82 × 1.02 × 6.30
LWQ-80	1.80	2.10	3.82 × 1.85 × 9.45
LWQ-130	2.50	2.80	4.72 × 1.85 × 10.24
LWQ-200	3.60	4.10	4.72 × 2.36 × 11.02

GUARANTEE

One year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of guarantee period.

SAFETY AGENCY APPROVALS

All models are UL recognized, CSA certified and TUV licensed except for the LWD and LWT which are under evaluation for TUV.

PART IA—AC-TO-DC SWITCHING POWER SUPPLIES

COMMERCIAL SWITCHING SELECTOR GUIDE

LWD Series. 85-265 Wide Range Input. Dual Output.

VOLTS V _o	MAX CURRENT AT OPERATING TEMPERATURE OF			MAX POWER AT OPERATING TEMPERATURE OF			COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	QTY. 1	QTY. 10	PRICE				QTY. 250	QTY. 1000	MODEL
	40°C	50°C	60°C	40°C	50°C	60°C						QTY. 25	QTY. 100					
+5V ±5% ADJ., +12V FIXED																		
+5	1.5	0.90	0.60	14.7	8.8	5.8	69	174	2.36 × 1.02 × 4.33	\$ 68	\$ 65	\$ 63	\$51	\$48	\$44	LWD-15-0512		
+12	0.6	0.36	0.24															
+5	3.0	1.80	1.20	29.4	17.6	11.7	69	174	2.36 × 1.02 × 5.91	99	94	91	69	65	58	LWD-30-0512		
+12	1.2	0.72	0.48															
+5 ¹	5.0	3.00	2.00	49.0	29.4	19.6	69	174	3.82 × 1.02 × 6.30	125	119	115	90	82	73	LWD-50-0512		
+12	2.0	1.20	0.80															
+5V ±5% ADJ., +24V FIXED																		
+5	1.5	0.90	0.60	14.7	8.8	5.8	69	174	2.36 × 1.02 × 4.33	68	65	63	51	48	44	LWD-15-0524		
+24	0.3	0.18	0.12															
+5	3.0	1.80	1.20	29.4	17.6	11.7	69	174	2.36 × 1.02 × 5.91	99	94	91	69	65	58	LWD-30-0524		
+24	0.6	0.36	0.24															
+5 ¹	5.0	3.00	2.00	49.0	29.4	19.6	69	174	3.82 × 1.02 × 6.30	125	119	115	90	82	73	LWD-50-0524		
+24	1.0	0.60	0.40															
+12V ±5% ADJ., -12V FIXED																		
+12	0.6	0.36	0.24	14.4	8.8	5.8	69	174	2.36 × 1.02 × 4.33	68	65	63	51	48	44	LWD-15-1212		
-12	0.6	0.36	0.24															
+12	1.2	0.72	0.48	28.8	17.6	11.7	69	174	2.36 × 1.02 × 5.91	99	94	91	69	65	58	LWD-30-1212		
-12	1.2	0.72	0.48															
+12 ¹	2.0	1.20	0.80	48.0	29.4	19.6	69	174	3.82 × 1.02 × 6.30	125	119	115	90	82	73	LWD-50-1212		
-12	2.0	1.20	0.80															
+12V ±5% ADJ., +24V FIXED																		
+12	0.6	0.36	0.24	14.4	8.8	5.8	69	174	2.36 × 1.02 × 4.33	68	65	63	51	48	44	LWD-15-1224		
+24	0.3	0.18	0.12															
+12	1.2	0.72	0.48	28.8	17.6	11.7	69	174	2.36 × 1.02 × 5.91	99	94	91	69	65	58	LWD-30-1224		
+24	0.6	0.36	0.24															
+12 ¹	2.0	1.20	0.80	48.0	29.4	19.6	69	174	3.82 × 1.02 × 6.30	125	119	115	90	82	73	LWD-50-1224		
+24	1.0	0.60	0.40															
+15V ±5% ADJ., -15V FIXED																		
+15	0.5	0.30	0.20	15.0	8.8	5.8	69	174	2.36 × 1.02 × 4.33	68	65	63	51	48	44	LWD-15-1515		
-15	0.5	0.30	0.20															
+15	1.0	0.60	0.40	30.0	17.6	11.7	69	174	2.36 × 1.02 × 5.91	99	94	91	69	65	58	LWD-30-1515		
-15	1.0	0.60	0.40															
+15 ¹	1.6	0.96	0.64	48.0	29.4	19.6	69	174	3.82 × 1.02 × 6.30	125	119	115	90	82	73	LWD-50-1515		
-15	1.6	0.96	0.64															

NOTES: 1. Output #1 requires a 1.0A minimum load on the LWD-50-0512 and LWD-50-0524 models; 0.4A minimum load on the LWD-50-1224; 0.3A minimum load on the LWD-50-1515.

PART IA—AC-TO-DC SWITCHING POWER SUPPLIES

COMMERCIAL SWITCHING SELECTOR GUIDE

Triple Output.

VOLT V _O	MAX CURRENT AT OPERATING TEMPERATURE OF				MAX POWER AT OPERATING TEMPERATURE OF				COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (Inches)	PRICE						MODEL
	25°C	40°C	50°C	60°C	25°C	40°C	50°C	60°C				QTY. 1	QTY. 10	QTY. 25	QTY. 100	QTY. 250	QTY. 1000	
5V, +12V, -12V																		
+5	5.00	3.00	2.10	—	17.00	17.00	12.00	—	69	174	2.36 × 1.02 × 4.33	89	85	82	70	67	62	LWT-2H-522
+12	12.00	.60	.42	—														
-12	12.00	.30	.21	—														
+5	5.00	5.00	3.33	—	30.00	30.00	20.00	—	69	174	2.36 × 1.02 × 5.91	115	110	106	89	85	78	LWT-3H-522
+12	1.20	1.20	.80	—														
-12	.60	.60	.40	—														
+5	8.00	8.00	5.60	—	50.00	50.00	35.00	—	69	174	3.82 × 1.02 × 6.30	141	135	130	110	104	96	LWT-4HA-522
+12	1.50	1.50	1.10	—														
-12	1.00	1.00	.70	—														

*Ratings for ZT-170 Series apply when operated with forced air cooling. Consult factory for applicable ratings without forced air cooling.

PART IA—AC-TO-DC SWITCHING POWER SUPPLIES

COMMERCIAL SWITCHING SELECTOR GUIDE

Triple Output.

VOLT V _O	MAX CURRENT AT OPERATING TEMPERATURE OF				MAX POWER AT OPERATING TEMPERATURE OF				COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	PRICE						MODEL
	25°C	40°C	50°C	60°C	25°C	40°C	50°C	60°C				QTY. 1	QTY. 10	QTY. 25	QTY. 100	QTY. 250	QTY. 1000	
5V, +15V, -15V																		
+5	3.00	3.00	2.10	—	17.00	17.00	12.00	—	69	174	2.36 × 1.02 × 4.33	89	85	82	70	67	62	LWT-2H-5FF
+15	.60	.60	.42	—														
-15	.30	.30	.21	—														
+5	5.00	5.00	3.33	—	30.00	30.00	20.00	—	69	174	2.36 × 1.02 × 5.91	115	110	106	89	85	78	LWT-3H-5FF
+15	1.20	1.20	.80	—														
-15	.60	.60	.40	—														
+5	8.00	8.00	5.60	—	50.00	50.00	35.00	—	69	174	3.82 × 1.02 × 6.30	141	135	130	110	104	96	LWT-4HA-5FF
+15	1.50	1.50	1.10	—														
-15	1.00	1.00	.70	—														
5V +12V, -5V																		
+5	3.00	3.00	2.10	—	17.00	17.00	12.00	—	69	174	2.36 × 1.02 × 4.33	89	85	82	70	67	62	LWT-2H-525
+12	.60	.60	.42	—														
-5	.30	.30	.21	—														
+5	5.00	5.00	3.33	—	30.00	30.00	20.00	—	69	174	2.36 × 1.02 × 5.91	115	110	106	89	85	78	LWT-3H-525
+12	1.20	1.20	.80	—														
-5	.60	.60	.40	—														
+5	8.00	8.00	5.60	—	50.00	50.00	35.00	—	69	174	3.82 × 1.02 × 6.30	141	135	130	110	104	96	LWT-4HA-525
+12	1.50	1.50	1.10	—														
-5	1.00	1.00	.70	—														

*Ratings for ZT-170 Series apply when operated with forced air cooling. Consult factory for applicable ratings without forced air cooling.
5V + 12V, -5V models continued on next page.

PART IA—AC-TO-DC SWITCHING POWER SUPPLIES

COMMERCIAL SWITCHING SELECTOR GUIDE

Quad Output.

VOLT V _o	MAX CURRENT AT OPERATING TEMPERATURE OF				MAX POWER AT OPERATING TEMPERATURE OF				COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	PRICE						MODEL
	40°C	50°C	60°C	70°C	40°C	50°C	60°C	70°C				QTY. 1	QTY. 10	QTY. 25	QTY. 100	QTY. 250	QTY. 1000	
5V, +12V, -12V, 5V																		
5	8.00	6.00	4.00	—	80.00	60.00	40.00	—	69	174	1.85 × 3.82 × 9.45	\$178	\$169	\$163	\$146	\$141	\$122	LWQ-80-5225
+12	2.00	1.50	1.00	—														
-12	1.00	.75	.50	—														
5	7.00	5.25	3.50	—														
5	15.00	11.25	7.50	—	130.00	97.50	65.00	—	69	175	1.85 × 4.72 × 10.24	240	229	221	199	191	165	LWQ-130-5225
+12	4.00	3.00	2.00	—														
-12	1.00	.75	.50	—														
5	10.00	7.50	5.00	—														
5	25.00	18.75	12.50	—	200.00	150.00	100.00	—	69	175	1.85 × 4.72 × 10.24	329	314	302	272	261	227	LWQ-200-5225
+12	4.00	3.00	2.00	—														
-12	1.00	.75	.50	—														
5	15.00	11.30	7.50	—														

PART IA—AC-TO-DC SWITCHING POWER SUPPLIES

COMMERCIAL SWITCHING SELECTOR GUIDE

Quad Output.

VOLT V _O	MAX CURRENT AT OPERATING TEMPERATURE OF				MAX POWER AT OPERATING TEMPERATURE OF				COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	PRICE						MODEL
	40°C	50°C	60°C	70°C	40°C	50°C	60°C	70°C				QTY. 1	QTY. 10	QTY. 25	QTY. 100	QTY. 250	QTY. 1000	
5V, +12V, -12V, 12V																		
5	8.00	6.00	4.00	—	80.00	60.00	40.00	—	69	174	1.85 × 3.82 × 9.45	178	169	163	146	141	122	LWQ-80-5222
+12	2.00	1.50	1.00	—														
-12	1.00	.75	.50	—														
12	3.00	2.25	1.50	—														
5V, +12V, -12V, 24V																		
5	15.00	11.25	7.50	—	130.00	97.50	65.00	—	69	175	1.85 × 4.72 × 10.24	240	229	221	199	191	165	LWQ-130-5222
+12	4.00	3.00	2.00	—														
-12	1.00	.75	.50	—														
12	4.00	3.00	2.00	—														
5	25.00	18.75	12.50	—	200.00	150.00	100.00	—	69	175	1.85 × 4.72 × 10.24	329	314	302	272	261	227	LWQ-200-5222
+12	4.00	3.00	2.00	—														
-12	1.00	.75	.50	—														
12	6.00	4.50	3.00	—														
5V, +12V, -12V, 24V																		
5	8.00	6.00	4.00	—	80.00	60.00	40.00	—	69	174	1.85 × 3.82 × 9.45	178	169	163	146	141	122	LWQ-80-5224
+12	2.00	1.50	1.00	—														
-12	1.00	.75	.50	—														
24	1.50	1.13	.75	—														
5	15.00	11.25	7.50	—	130.00	97.50	65.00	—	69	175	1.85 × 4.72 × 10.24	240	229	221	199	191	165	LWQ-130-5224
+12	4.00	3.00	2.00	—														
-12	1.00	.75	.50	—														
24	2.00	1.50	1.00	—														
5	25.00	18.75	12.50	—	200.00	150.00	100.00	—	69	175	1.85 × 4.72 × 10.24	329	314	302	272	261	227	LWQ-200-5224
+12	4.00	3.00	2.00	—														
-12	1.00	.75	.50	—														
24	3.00	2.25	1.50	—														

PART IA—AC-TO-DC SWITCHING POWER SUPPLIES

COMMERCIAL SWITCHING SELECTOR GUIDE

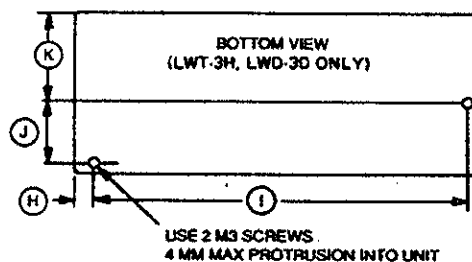
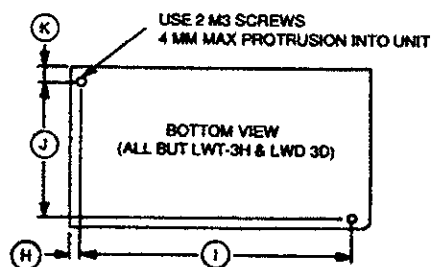
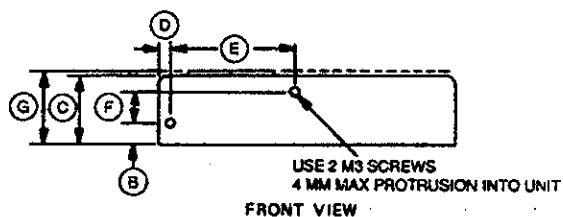
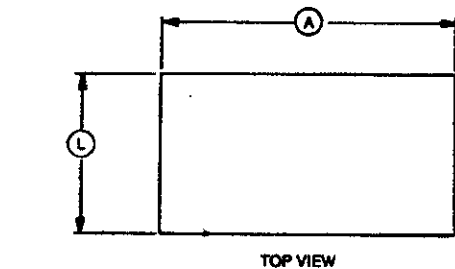
Quad Output.

VOLT V _o	MAX CURRENT AT OPERATING TEMPERATURE OF				MAX POWER AT OPERATING TEMPERATURE OF				COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	PRICE						MODEL
	40°C	50°C	60°C	70°C	40°C	50°C	60°C	70°C				QTY. 1	QTY. 10	QTY. 25	QTY. 100	QTY. 250	QTY. 1000	
5V, +15V, -15V, 5V																		
5	8.00	6.00	4.00	—	80.00	60.00	40.00	—	69	174	1.85 × 3.82 × 9.45	\$178	\$169	\$163	\$146	\$141	\$122	LWQ-80-5FF5
+15	2.00	1.50	1.00	—														
-15	1.00	.75	.50	—														
5	7.00	5.25	3.50	—														
5	15.00	11.25	7.50	—	130.00	97.50	65.00	—	69	175	1.85 × 4.72 × 10.24	240	229	221	199	191	165	LWQ-130-5FF5
+15	3.20	2.40	1.60	—														
-15	1.00	.75	.50	—														
5	10.00	7.50	5.00	—														
5	25.00	18.75	12.50	—	200.00	150.00	100.00	—	69	175	1.85 × 4.72 × 10.24	329	314	302	272	261	227	LWQ-200-5FF5
+15	3.20	2.40	1.60	—														
-15	1.00	.75	.50	—														
5	15.00	11.30	7.50	—														
5V, +15V, -15V, 12V																		
5	8.00	6.00	4.00	—	80.00	60.00	40.00	—	69	174	1.85 × 3.82 × 9.45	178	169	163	146	141	122	LWQ-80-5FF2
+15	2.00	1.50	1.00	—														
-15	1.00	.75	.50	—														
12	3.00	2.25	1.50	—														
5	15.00	11.25	7.50	—	130.00	97.50	65.00	—	69	175	1.85 × 4.72 × 10.24	240	229	221	199	191	165	LWQ-130-5FF2
+15	3.20	2.40	1.60	—														
-15	1.00	.75	.50	—														
12	4.00	3.00	2.00	—														
5	25.00	18.75	12.50	—	200.00	150.00	100.00	—	69	175	1.85 × 4.72 × 10.24	329	314	302	272	261	227	LWQ-200-5FF2
+15	3.20	2.40	1.60	—														
-15	1.00	.75	.50	—														
12	6.00	4.50	3.00	—														
5V, +15V, -15V, 24V																		
5	8.00	6.00	4.00	—	80.00	60.00	40.00	—	69	174	1.85 × 3.82 × 9.45	178	169	163	146	141	122	LWQ-80-5FF4
+15	2.00	1.50	1.00	—														
-15	1.00	.75	.50	—														
24	1.50	1.13	.75	—														
5	15.00	11.25	7.50	—	130.00	97.50	65.00	—	69	175	1.85 × 4.72 × 10.24	240	229	221	199	191	165	LWQ-130-5FF4
+15	3.20	2.40	1.60	—														
-15	1.00	.75	.50	—														
24	2.00	1.50	1.00	—														
5	25.00	18.75	12.50	—	200.00	150.00	100.00	—	69	175	1.85 × 4.72 × 10.24	329	314	302	272	261	227	LWQ-200-5FF4
+15	3.20	2.40	1.60	—														
-15	1.00	.75	.50	—														
24	3.00	2.25	1.50	—														

PART V—MECHANICAL DRAWINGS

LWT-24, 3H, 4H/LWD-15, 30, 50, LWD-80 AND LWT-200 SERIES

LWD-15
LWD-30
LWD-50



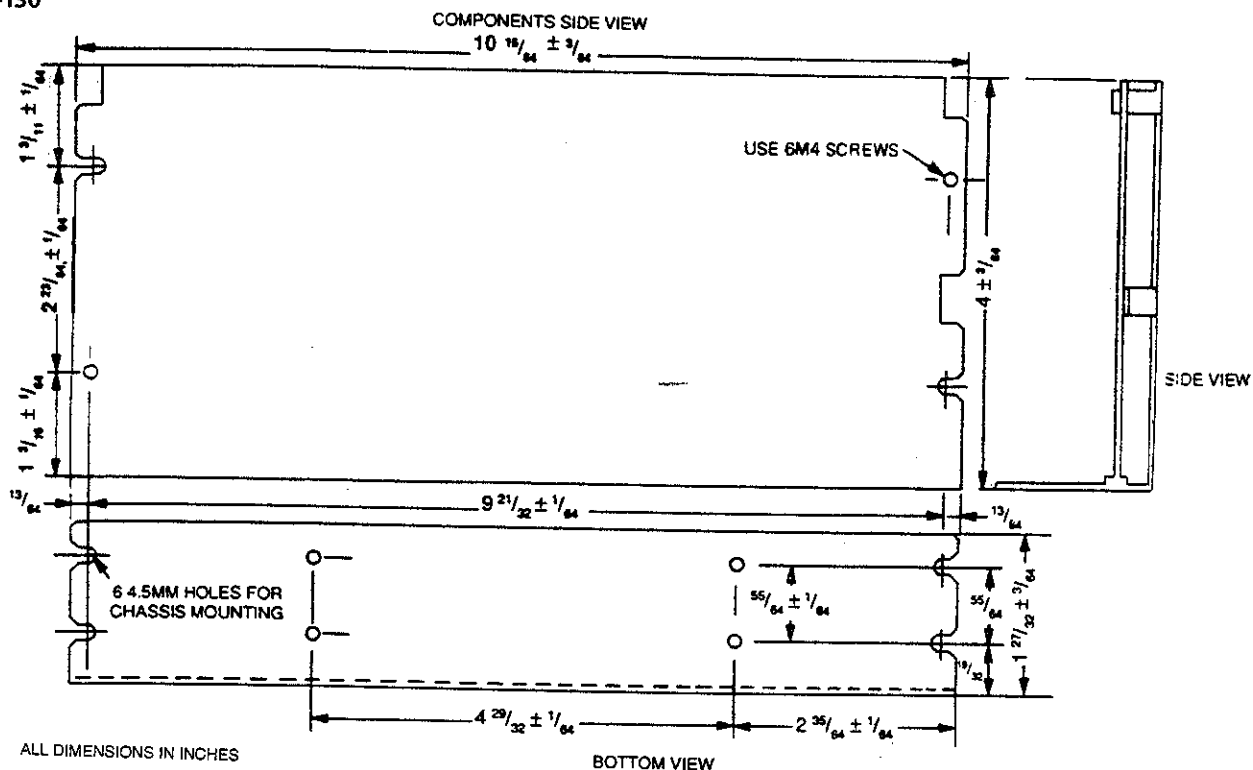
ALL DIMENSIONS IN INCHES

MODEL	A	B	C	D	E	F	G	H	I	J	K	L
LWD-15	$4\frac{21}{64} \pm \frac{3}{64}$	$\frac{5}{16}$	$\frac{63}{64} \pm \frac{3}{64}$	$\frac{5}{32}$	$1\frac{13}{16} \pm \frac{1}{64}$	$\frac{7}{16} \pm \frac{1}{64}$	$\frac{11}{32}$	$\frac{5}{32}$	$3\frac{57}{64} \pm \frac{1}{64}$	$1\frac{62}{64} \pm \frac{1}{64}$	$\frac{7}{32}$	$2\frac{23}{64} \pm \frac{3}{64}$
LWD-30	$5\frac{24}{32} \pm \frac{3}{64}$	$\frac{31}{64}$	$\frac{63}{64} \pm \frac{3}{64}$	$\frac{13}{8}$	$3\frac{15}{16} \pm \frac{1}{64}$	$\frac{5}{16} \pm \frac{1}{64}$	$\frac{11}{32}$	$\frac{9}{32}$	$5\frac{7}{16} \pm \frac{1}{64}$	$2\frac{29}{32} \pm \frac{1}{64}$	$1\frac{19}{64}$	$2\frac{23}{64} \pm \frac{3}{64}$
LWD-50	$6\frac{19}{64} \pm \frac{3}{64}$	$\frac{23}{64}$	$\frac{63}{64} \pm \frac{3}{64}$	$\frac{25}{64}$	$4\frac{5}{8} \pm \frac{1}{64}$	$\frac{7}{16} \pm \frac{1}{64}$	$\frac{11}{32}$	$1\frac{49}{64}$	$5\frac{7}{16} \pm \frac{1}{64}$	$3\frac{19}{64} \pm \frac{1}{64}$	$\frac{5}{16}$	$3\frac{13}{16} \pm \frac{3}{64}$

PART V — MECHANICAL DRAWINGS

LWQ-130 AND LWQ-200 SERIES

LWQ-130



LWQ-200

