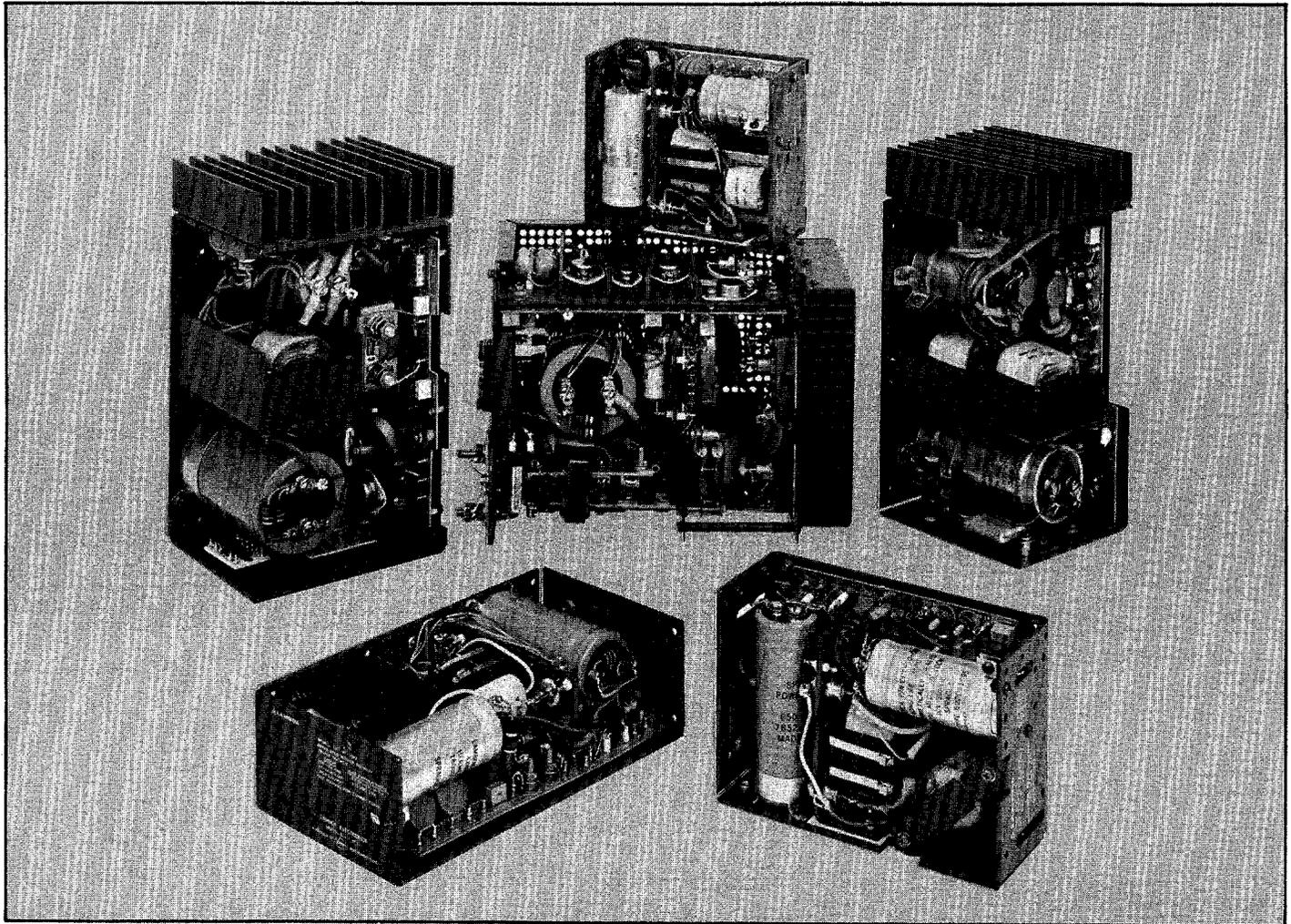


ONE YEAR COMMERCIAL SWITCHING

Lambda LY series



Features — LY series

New 225A Models

1-year guarantee

Lambda 180° C Class H—Varnish Dipped Choke

Lambda 130° C Varnish Dipped Transformer

Hermetically Sealed Switching Transistors

Sprague 36D high temperature, long life electrolytic capacitor

Sprague 636D computer grade, electrolytic capacitor

Potentiometer fully enclosed cermet

43 Single, 2 Dual, 8 Triple output models

Lambda CC4®* Printed Circuit Board plated thru-holes, fungus inert, flame retardant

Lambda heavy duty 1/8 inch thick aluminum sheet metal

MIL-R-22684 type film resistors

MIL-W-16878 Wire

RJ — Recognized (LYT-D and LYS-EE under evaluation)

CSA—Certified (LYT-D and LYS-EE under evaluation)

VDE—Licensed (LYT-D and LYS-EE under evaluation)

*Licensee of Photo Circuits Inc.

Specifications of LY series

DC Output

Voltage range shown in tables.

Regulated Voltage

regulation, line0.1%
 regulation, load0.1% for single output models, and 5V output of LYT, 100mV from 0 to full load for dual output models and dual outputs of LYT
 ripple and noise10mV RMS, 75mV p-p for 5V and 6V outputs of LYS models, and 5V output of LYT, 15mV RMS, 150mV p-p for 12V through 28V outputs of LYS models, 15mV RMS for all dual output models, and dual output of LYT, 25mV RMS, 250mV p-p for all 48V models.

temperature coefficient0.03%/°C

remote programming

resistance200 Ω/V (Not applicable to dual output models or dual output of LYT)

remote programming

voltagevolt per volt (not applicable to dual output models or dual output of LYT)

AC Input

line105 to 132 VAC, 47-440 Hz (187 to 265 VAC, 47-440 Hz for LYS-EE)

power105 to 132 VAC, 47-440Hz

130 watts max for LYS-Y models, 200 watts max for LYS-X models, 380 watts max for LYS-W models, 510 watts max for LYS-P models, 700 watts for LYS-K models, 1150 watts for LYS-D models, 105 watts max for LYD-Y models, 160 watts max for LYD-X models, 125 watts max for LYT-X models, 190 watts max for LYT-W models, 420 watts max for LYT-P models, 580 watts for LYT-K models, 840 watts max for LYT-D models, 1800 watts max for LYS-EE models.

efficiency60% min for LYS-Y models, 64% min LYS-X and LYS-W models, 67% min for LYS-P models, 65% min for LYS-K&D models, 57% min for LYD-Y and LYT-W models, 60% min for LYD-X models, 50% min for LYT-X models, 52% min for LYT-P models and 55% min for LYT-K models, 58% min for LYT-D models, 78% min for LYS-EE-5V and 6V, 80% min for LYS-EE-12V and 15V, 82% min all other LYS-EE models.

power failure

hold up time5V and 6V models and the LYT & LYS-D models will remain within regulation limits for at least 16.67 msec after loss of AC power when operating at full load, V_{OUT} max and minimum input at 60 Hz

DC Input145VDC ± 10% (does not apply to LYS-EE models)

Overshoot

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

Ambient Operating Temperature

Continuous duty 0° to 60° with suitable derating shown in tables.

Storage Temperature Range

-55°C to +85°C

Overload Protection

Electrical

External overload protection, automatic electronic current limiting circuit limits the output current (short circuit output current LYT only) to a preset value, thereby providing protection for the load as well as the power supply.

Cooling

Convection cooled, no fans or blowers needed.

Soft Start

LYS-D, LYS-EE and LYT-D models only, limits in-rush current at turn-on.

EMI

EMI suppression cover available as an accessory (except on LYS-EE). Provides additional filtering sufficient for compliance to FCC Docket #20780. Class A conducted; perforated cover minimizes radiated emission. Customer input and output connections via barrier strips mounted on cover (LYT-X, LYT-W, LYS-Y, LYS-X, LYS-W, LYD-Y, LYD-X models), and terminal board mounted on cover of LYS-P, LYS-D, LYS-K, LYT-P and LYT-K models. Output current must be derated 10% with cover, 15% for LYT-D and LYS-D with cover. Ripple and noise when cover is used is 10mV RMS-35mV p-p for 5 and 6V units. 15mV RMS, 100mV p-p for 12 thru 28V units and duals. See page 68 for cover model and price for each LY series.

DC Output Controls

Simple screwdriver voltage adjustment over the entire voltage range. (Not applicable to dual output models or dual output of LYT.)

Mounting

Three mounting surfaces and three mounting positions. (One mounting surface and one mounting position for LYS-P, LYS-K, LYS-D, LYS-EE, LYT-P, LYT-K and LYT-D models.)

Input and Output Connections

Solder terminals located on printed circuit boards, (studs for LYS-X, W, P, K and 5V output of LYT-W, LYT-P and LYT-K, and heavy duty studs for LYS-D and LYT-D). When EMI suppression cover is used connections through barrier strips or terminal board mounted on cover. Barrier strips for AC input of LYS-D, LYT-D. LYS-EE has 1-inch heavy duty copper buss bars for DC output and solder terminals adjacent to output buss bars for DC sensing.

Remote Sensing

Provision is made for remote sensing to eliminate the effects of power output lead resistance on DC regulation. (Sum of dual outputs can be remotely sensed on dual and triple models.)

PHYSICAL DATA

Package Model	Weight (without cover)		Size Inches
	Lbs. Net	Lbs. Ship	
LYS-Y	2-3/4	3	5-5/8x4-7/8x2-1/2 (w/o cover) 5-5/8x4-7/8x3-5/16 (w cover)
LYS-YAV	2-3/4	3	6.5x4.33x2.5 (w/o cover)
LYD-Y	3-1/4	3-1/2	5-5/8x4-7/8x2-1/2 (w/o cover) 5-5/8x4-7/8x3-5/16 (w cover)
LYS-X, XV	4	4-1/2	7x4-7/8x2-3/4 (w/o cover) 7x4-7/8x3-5/16 (w cover)
LYD-X	4-1/4	4-3/4	7x4-7/8x2-3/4 (w/o cover) 7x4-7/8x3-5/16 (w cover)
LYT-X	4-1/4	4-3/4	7x4-7/8x2-3/4 (w/o cover) 7x4-7/8x3-5/32 (w cover)
LYS-W, WV	5-1/2	6	9x4-7/8x2-3/4 (w/o cover) 9x4-7/8x3-3/4 (w cover)
LYT-W, WV	6	6-1/2	9x4-7/8x2-3/4 (w/o cover) 9x4-7/8x4-5/32 (w cover)
LYS-P, PV	8-1/2	10-1/2	10x4-7/8x4-7/16 (w/o cover) 10x4-7/8x5-9/16 (w cover)
LYT-P, PV	9-3/4	12-1/4	10x4-7/8x4-7/16 (w/o cover) 10x4-7/8x5-5/8 (w cover)
LYS-K, KV	11	13-1/2	10x4-7/8x5-1/2 (w/o cover) 10x4-7/8x7-1/2 (w cover)
LYS-D, DV	12-1/2	15-1/2	7-1/2x9-1/2x4-13/16 (w/o cover) 7-1/2x11x4-13/16 (w cover)
LYT-K	11	13-1/2	10x4-7/8x5-1/2 (w/o cover) 10x4-7/8x7-21/32 (w cover)
LYT-D	13	16	7-1/2x9-1/2x4-13/16 (w/o cover) 7-1/2x11-3/16x4-13/16 (w cover)
LYS-EE	23	33	7½x16½x4-13/16 (w and w/o cover)

Options

AC Input

(LYS-Y, X, W, P, K, D and LYT-W, P models only).

Add ¹⁾ Suffix	For Operation at:	Price ²⁾
-V	187-265 VAC 47-440 Hz	12% or \$30†

† Whichever is greater.

¹⁾ Add V after package number. (LYS-XV-5)

²⁾ Consult factory for voltage and current ratings and quantity prices

Finish

Gray, Fed. Std. 595, No. 26081.

UL/CSA/VDE

UL recognized and CSA certified. VDE licensed. (LYT-D and LYS-EE under evaluation.)

Accessories

Overvoltage protection built in on LYS-D, LYS-EE and LYS-K, 5V and 6V models, LYT-K and LYT-D 5V output only. Available as accessory on other models—see pages 66-67. Rack adapters available; LRA-14 through LRA-17. Not all models fit in LRA-14 and LRA-16, see page 68. EMI suppression cover—see page 67.

Guaranteed for 1 Year

One year guarantee includes labor as well as parts.

One year commercial switching selector guide

AC input. Models

LY. Triple Output.

MODEL	VOLT V _o	REGULATION (LINE, LOAD)	RIPPLE (mV RMS)	MAX CURRENT (AMPS AT)			COMPLETE ELEC. SPEC. PG	PKG SIZE	DIMENSIONS (Inches)	COMPLETE MECH. SPEC. PG	QTY. 1	PRICE	
				40° C	50° C	60° C						QTY. 100	QTY. 1000
5V ±5% ADJ. ±12V (Cont'd)													
LYT-W-5122	+5	0.1%, 0.1%	10	14.0	12.7	11.0	19	W	9 x 4-7/8 x 2-3/4	119	341.00	307.00	256.00
	±12 ⁽³⁾	0.1%, 100 mV	15	1.2	1.1	0.9							
LYT-P-5122	+5	0.1%, 0.1%	10	28.0	24.5	20.0	19	P	10 x 4-7/8 x 4-7/16	117	418.00	376.00	314.00
	±12 ⁽³⁾	0.1%, 100 mV	15	3.0	2.6	2.2							
LYT-K-5122	+5	0.1%, 0.1%	10	40.0	36.0	29.0	19	K	10 x 4-7/8 x 5-1/2	120	568.00	511.00	455.00
	±12 ⁽³⁾	0.1%, 100 mV	15	4.0	3.5	2.9							
LYT-D-5122	+5	0.1%, 0.1%	10	74.0	67.0	50.0	19	D	7-1/2 x 9-1/2 x 4-13/16	116	715.00	644.00	572.00
	±12 ⁽³⁾	0.1%, 100 mV	15	6.0	5.1	4.2							
5V ±5% ADJ. ±15V⁽³⁾													
LYT-W-5152	+5	0.1%, 0.1%	10	14.0	12.7	11.0	19	W	9 x 4-7/8 x 2-3/4	119	341.00	307.00	256.00
	±15 ⁽³⁾	0.1%, 100 mV	15	1.2	1.1	0.9							
LYT-P-5152	+5	0.1%, 0.1%	10	25.0	22.0	18.0	19	P	10 x 4-7/8 x 4-7/16	117	418.00	376.00	314.00
	±15 ⁽³⁾	0.1%, 100 mV	15	3.0	2.6	2.2							
LYT-K-5152	+5	0.1%, 0.1%	10	37.0	33.0	27.0	19	K	10 x 4-7/8 x 5-1/2	117	568.00	511.00	455.00
	±15 ⁽³⁾	0.1%, 100 mV	15	4.0	3.5	2.9							
LYT-D-5152	+5	0.1%, 0.1%	10	65.0	59.0	43.0	19	D	7-1/2 x 9-1/2 x 4-13/16	116	715.00	644.00	572.00
	±15 ⁽³⁾	0.1%, 100 mV	15	6.0	5.1	4.2							

One year commercial switching selector guide

AC input. Models

and LY. Dual Output.

MODEL	VOLT V _o	REGULATION (LINE, LOAD)	RIPPLE (mV RMS)	MAX CURRENT (AMPS AT)			COMPLETE ELEC. SPEC. PG	PKG SIZE	DIMENSIONS (Inches)	COMPLETE MECH. SPEC. PG	QTY. 1	PRICE	
				40° C	50° C	60° C						QTY. 100	QTY. 1000
±12V⁽³⁾													
LYD-X-122		0.1%, 100 mV	15	3.0	2.5	2.0	19	X	7 x 4-7/8 x 2-3/4	121	319.00	287.00	239.00
±15V⁽³⁾													
LYD-X-152		0.1%, 100 mV	15	3.0	2.5	2.0	19	X	7 x 4-7/8 x 2-3/4	121	319.00	287.00	239.00

AC input. Models LU, LUA and LY. Single Output.

MODEL	VOLT V _o	REGULATION (LINE, LOAD)	RIPPLE (mV RMS)	MAX CURRENT (AMPS AT)			COMPLETE ELEC. SPEC. PG	PKG SIZE	DIMENSIONS (Inches)	COMPLETE MECH. SPEC. PG	QTY. 1	PRICE	
				40° C	50° C	60° C						QTY. 100	QTY. 1000
5 VOLTS ±5% ADJ.													
LYS-Y-5		0.1%, 0.1%	10	11.0	11.0	9.5	19	Y	5-5/8 x 4-7/8 x 2-1/2	121	182.00	164.00	137.00
LYS-X-5		0.1%, 0.1%	10	20.0	17.7	15.0	19	X	7 x 4-7/8 x 2-3/4	121	216.00	195.00	162.00
LYS-W-5		0.1%, 0.1%	10	35.0	31.5	27.5	19	W	9 x 4-7/8 x 2-3/4	118	265.00	239.00	199.00
LYS-P-5		0.1%, 0.1%	10	50.0	46.0	40.0	19	P	10 x 4-7/8 x 4-7/16	118	337.00	303.00	253.00
LYS-K-5-OV		0.1%, 0.1%	10	70.0	61.0	50.0	19	K	10 x 4-7/8 x 5-1/2	117	467.00	420.00	350.00
LYS-D-5-OV		0.1%, 0.1%	10	120.0	104.0	86.0	19	D	7-1/2 x 9-1/2 x 4-13/16	120	652.00	587.00	489.00
LYS-EE-5-OV		0.1%, 0.1%	10	225.0	183.0	137.0	19	EE	7-1/2 x 16-1/2 x 4-13/16	119	1030.00	930.00	775.00
6 VOLTS ±5% ADJ.													
LYS-Y-6		0.1%, 0.1%	10	9.4	9.4	8.2	19	Y	5-5/8 x 4-7/8 x 2-1/2	121	182.00	164.00	137.00
LYS-X-6		0.1%, 0.1%	10	17.0	15.0	12.7	19	X	7 x 4-7/8 x 2-3/4	121	216.00	195.00	162.00
LYS-W-6		0.1%, 0.1%	10	30.0	27.5	24.0	19	W	9 x 4-7/8 x 2-3/4	118	265.00	239.00	199.00

One year commercial switching selector guide

AC input. Models

LY. Single Output.

MODEL	VOLT Vo	REGULATION (LINE, LOAD)	RIPPLE (mV RMS)	MAX CURRENT (AMPS AT)			COMPLETE ELEC. SPEC. PG	PKG SIZE	DIMENSIONS (Inches)	COMPLETE MECH. SPEC. PG	QTY. 1	PRICE QTY. 100	QTY. 1000
				40° C	50° C	60° C							
12 VOLTS ±5% ADJ.													
LYS-Y-12		0.1%, 0.1%	15	6.0	6.0	5.1	19	Y	5-5/8 x 4-7/8 x 2-1/2	121	182.00	164.00	137.00
LYS-X-12		0.1%, 0.1%	15	10.4	9.3	7.8	19	X	7 x 4-7/8 x 2-3/4	121	216.00	195.00	162.00
LYS-W-12		0.1%, 0.1%	15	20.0	18.0	15.0	19	W	9 x 4-7/8 x 2-3/4	118	265.00	239.00	199.00
LYS-P-12		0.1%, 0.1%	15	29.0	27.0	23.0	19	P	10 x 4-7/8 x 4-7/16	118	337.00	303.00	253.00
LYS-K-12		0.1%, 0.1%	15	40.0	35.0	29.0	19	K	10 x 4-7/8 x 5-1/2	117	439.00	395.00	329.00
LYS-D-12-OV		0.1%, 0.1%	15	57.0	50.0	41.0	19	D	7-1/2 x 9-1/2 x 4-13/16	120	652.00	587.00	489.00
LYS-EE-12-OV		0.1%, 0.1%	15	110.0	98.0	68.0	19	EE	7-1/2 x 16-1/2 x 4-13/16	119	1030.00	930.00	775.00
15 VOLTS ±5% ADJ.													
LYS-Y-15		0.1%, 0.1%	15	5.0	5.0	4.3	19	Y	5-5/8 x 4-7/8 x 2-1/2	121	182.00	164.00	137.00
LYS-X-15		0.1%, 0.1%	15	8.5	7.5	6.3	19	X	7 x 4-7/8 x 2-3/4	121	216.00	195.00	162.00
LYS-W-15		0.1%, 0.1%	15	16.5	14.5	12.0	19	W	9 x 4-7/8 x 2-3/4	118	265.00	239.00	199.00
LYS-P-15		0.1%, 0.1%	15	24.0	22.0	19.0	19	P	10 x 4-7/8 x 4-7/16	118	337.00	303.00	253.00
LYS-K-15		0.1%, 0.1%	15	32.0	28.0	23.0	19	K	10 x 4-7/8 x 5-1/2	117	439.00	395.00	329.00
LYS-D-15-OV		0.1%, 0.1%	15	48.0	42.0	34.0	19	D	7-1/2 x 9-1/2 x 4-13/16	120	652.00	587.00	489.00
LYS-EE-15-OV		0.1%, 0.1%	15	90.0	80.0	56.0	19	EE	7-1/2 x 16-1/2 x 4-13/16	119	1030.00	930.00	775.00
24 VOLTS ±5% ADJ.													
LYS-Y-24		0.1%, 0.1%	15	3.3	3.3	2.6	19	Y	5-5/8 x 4-7/8 x 2-1/2	121	182.00	164.00	137.00
LYS-X-24		0.1%, 0.1%	15	5.7	4.9	4.0	19	X	7 x 4-7/8 x 2-3/4	121	216.00	195.00	162.00
LYS-W-24		0.1%, 0.1%	15	10.5	9.5	8.0	19	W	9 x 4-7/8 x 2-3/4	118	265.00	239.00	199.00
LYS-P-24		0.1%, 0.1%	15	15.5	14.0	12.0	19	P	10 x 4-7/8 x 4-7/16	118	337.00	303.00	253.00
LYS-K-24		0.1%, 0.1%	15	21.0	18.0	15.0	19	K	10 x 4-7/8 x 5-1/2	117	439.00	395.00	329.00
LYS-D-24-OV		0.1%, 0.1%	15	32.0	28.0	23.0	19	D	7-1/2 x 9-1/2 x 4-13/16	120	652.00	587.00	489.00
LYS-EE-24-OV		0.1%, 0.1%	15	58.0	52.0	37.0	19	EE	7-1/2 x 16-1/2 x 4-13/16	119	1030.00	930.00	775.00
28 VOLTS ±5% ADJ.													
LYS-Y-28		0.1%, 0.1%	15	2.8	2.8	2.2	19	Y	5-5/8 x 4-7/8 x 2-1/2	121	182.00	164.00	137.00
LYS-X-28		0.1%, 0.1%	15	5.0	4.3	3.5	19	X	7 x 4-7/8 x 2-3/4	121	216.00	195.00	162.00
LYS-W-28		0.1%, 0.1%	15	9.5	8.5	7.0	19	W	9 x 4-7/8 x 2-3/4	118	265.00	239.00	199.00
LYS-P-28		0.1%, 0.1%	15	13.5	12.5	10.5	19	P	10 x 4-7/8 x 4-7/16	118	337.00	303.00	253.00
LYS-K-28		0.1%, 0.1%	15	18.0	15.5	13.0	19	K	10 x 4-7/8 x 5-1/2	117	439.00	395.00	329.00
LYS-D-28-OV		0.1%, 0.1%	15	27.5	24.0	19.5	19	D	7-1/2 x 9-1/2 x 4-13/16	120	652.00	587.00	489.00
LYS-EE-28-OV		0.1%, 0.1%	15	50.0	45.0	31.0	19	EE	7-1/2 x 16-1/2 x 4-13/16	119	1030.00	930.00	775.00
48 VOLTS ±5% ADJ.													
LYS-Y-48		0.1%, 0.1%	25	1.5	1.5	1.2	19	Y	5-5/8 x 4-7/8 x 2-1/2	121	182.00	164.00	137.00
LYS-X-48		0.1%, 0.1%	25	2.7	2.3	1.9	19	X	7 x 4-7/8 x 2-3/4	121	216.00	195.00	162.00
LYS-W-48		0.1%, 0.1%	25	5.3	4.7	3.9	19	W	9 x 4-7/8 x 2-3/4	118	265.00	239.00	199.00
LYS-P-48		0.1%, 0.1%	25	7.2	6.7	5.6	19	P	10 x 4-7/8 x 4-7/16	118	337.00	303.00	253.00
LYS-K-48		0.1%, 1.0%	25	10.0	8.6	7.2	19	K	10 x 4-7/8 x 5-1/2	117	439.00	395.00	329.00

- NOTES: 1. Ratings are for LY series when cover not used. When cover is used derate by 10%.
 2. Dimensions are without cover.
 3. ± outputs are fixed and preset at factory to be within 100 mV of nominal and within 100 mV of each other at no load, 25° C ambient.

PART IV—DIMENSIONAL DRAWINGS LYS-P AND LYS-W SERIES POWER SUPPLIES

LYS-P Series M-YSP-2

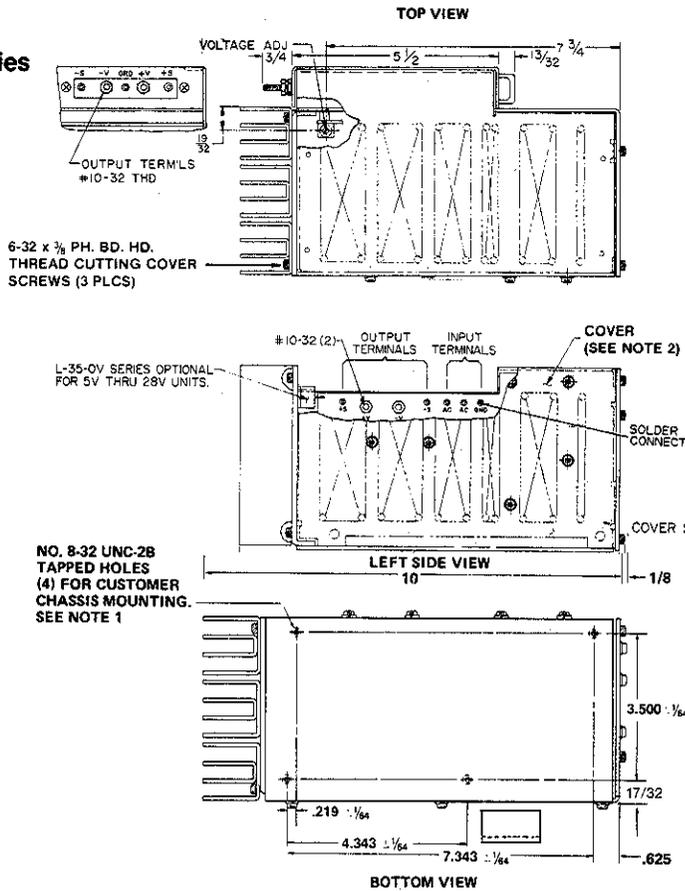
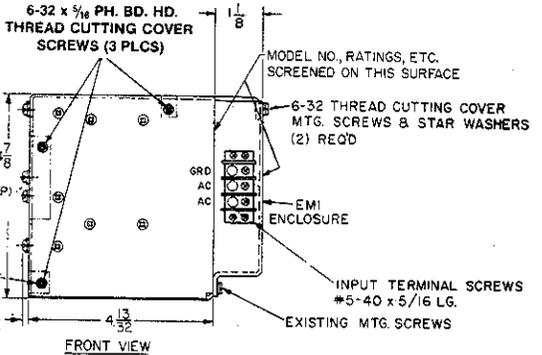


TABLE OF WEIGHTS		
MODEL	NET WT. (LBS)	SHIPPING WT. (LBS)
LYS-P	8 1/2	9
M-YSP-2	2 1/8	2 3/8



NOTES

1. CUSTOMER MOUNTING SCREWS MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 1/4 INCH.
2. EMI SUPPRESSION ACCESSORY (COMPLETE WITH PERFORATED COVER, EMI ENCLOSURE, EMI BOARD, INPUT BARRIER STRIP, OUTPUT STUDS, SENSING TERMINALS, STAR WASHERS AND SCREWS).
3. THE LYS-P-D OPTION MEASURES 11 X 4-7/8 X 4-7/16 AND HAS TWO RADIATORS.

LYS-W Series M-YSW-2

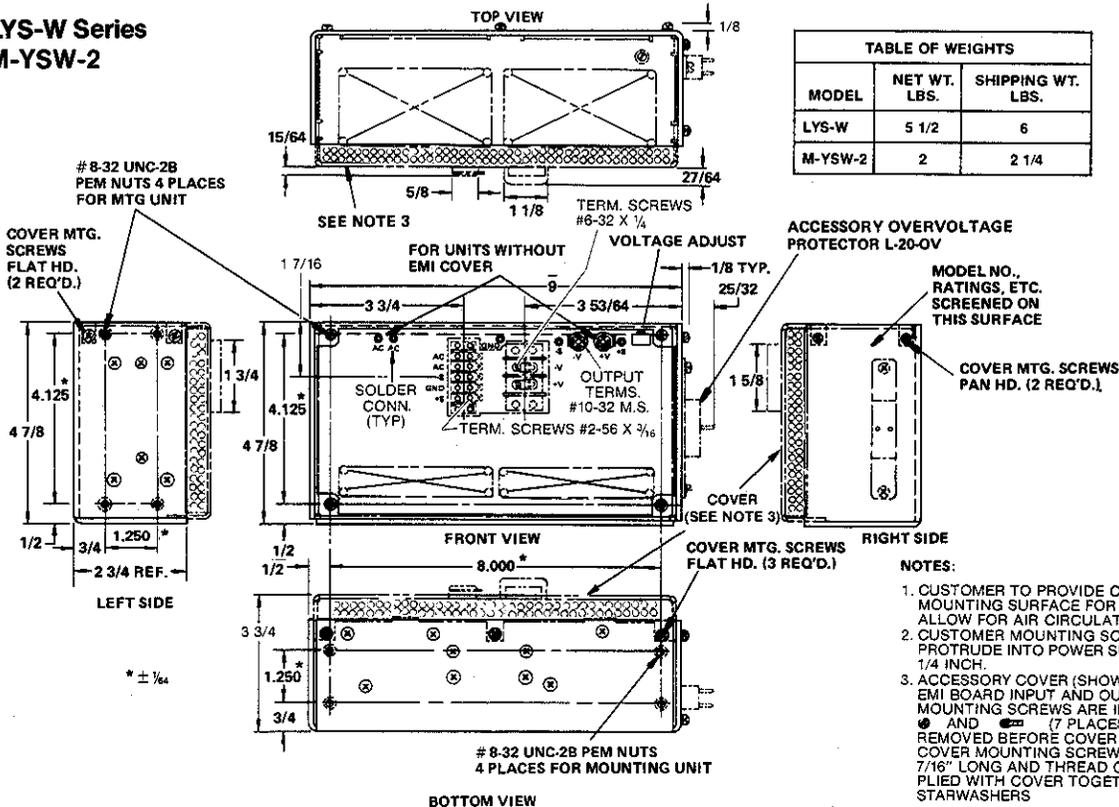


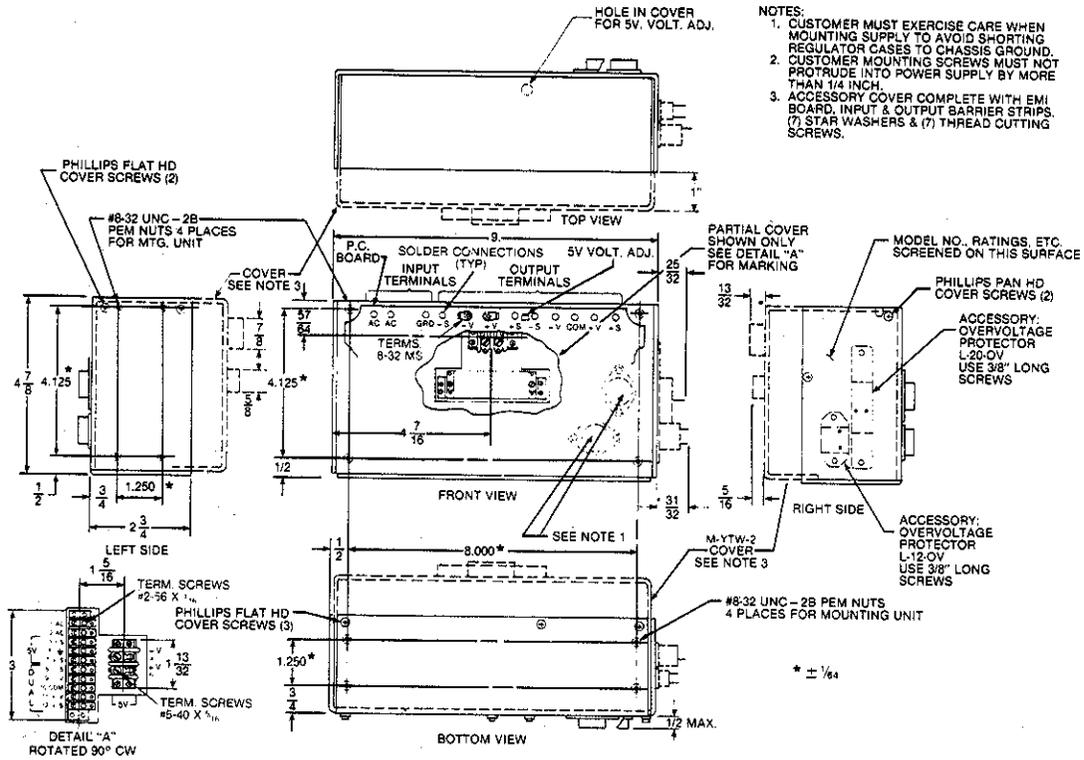
TABLE OF WEIGHTS		
MODEL	NET WT. LBS.	SHIPPING WT. LBS.
LYS-W	5 1/2	6
M-YSW-2	2	2 1/4

NOTES:

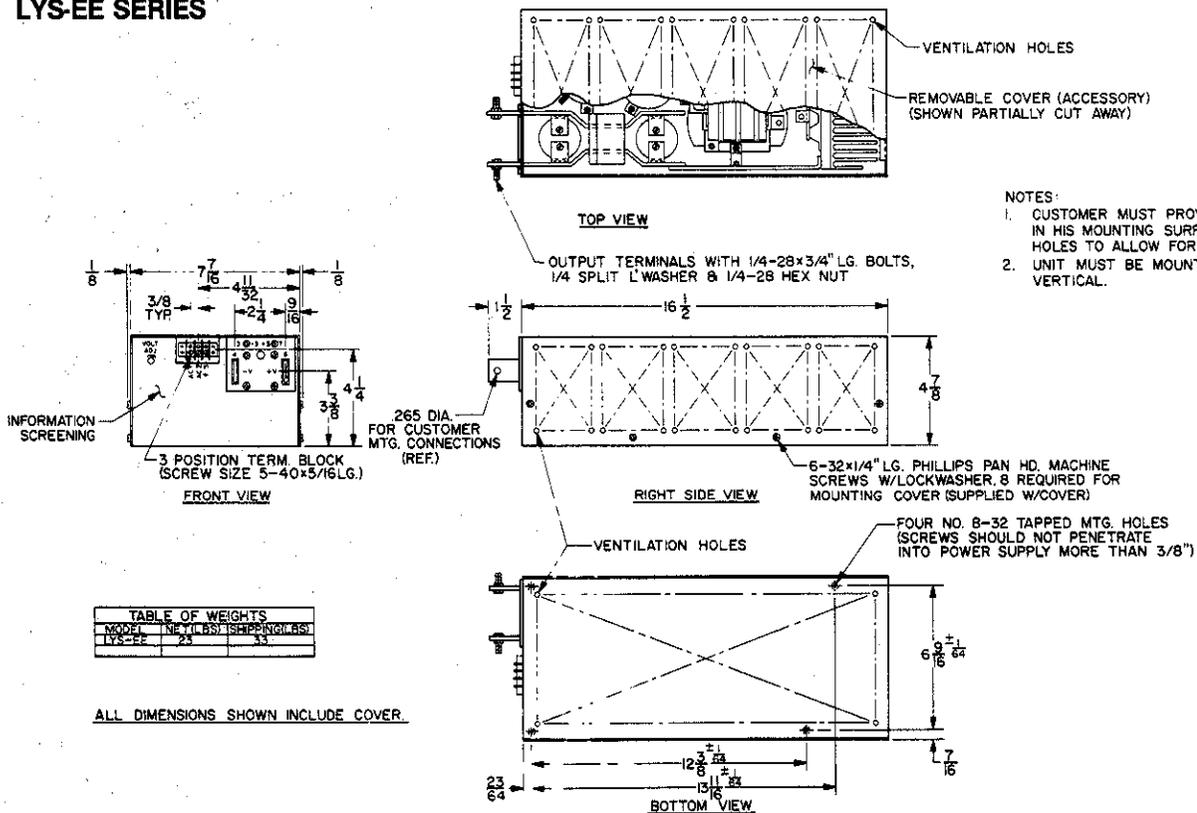
1. CUSTOMER TO PROVIDE CLEARANCE IN HIS MOUNTING SURFACE FOR VENT HOLES TO ALLOW FOR AIR CIRCULATION.
2. CUSTOMER MOUNTING SCREWS MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 1/4 INCH.
3. ACCESSORY COVER (SHOWN IN PHANTOM) WITH EMI BOARD INPUT AND OUTPUT STRIPS. COVER MOUNTING SCREWS ARE INDICATED BY \odot AND \ominus (7 PLACES) AND MUST BE REMOVED BEFORE COVER IS REMOVED. THE (7) COVER MOUNTING SCREWS, WHICH MUST BE 7/16" LONG AND THREAD CUTTING, ARE SUPPLIED WITH COVER TOGETHER WITH (7) STARWASHERS.
4. THE LYS-W-D OPTION MEASURES 9" X 4-7/8 X 3-5/32 INCLUDING TERMINAL SCREWS.

PART IV—DIMENSIONAL DRAWINGS LYT-W AND LYS-EE SERIES POWER SUPPLIES

LYT-W
M-YTW-2

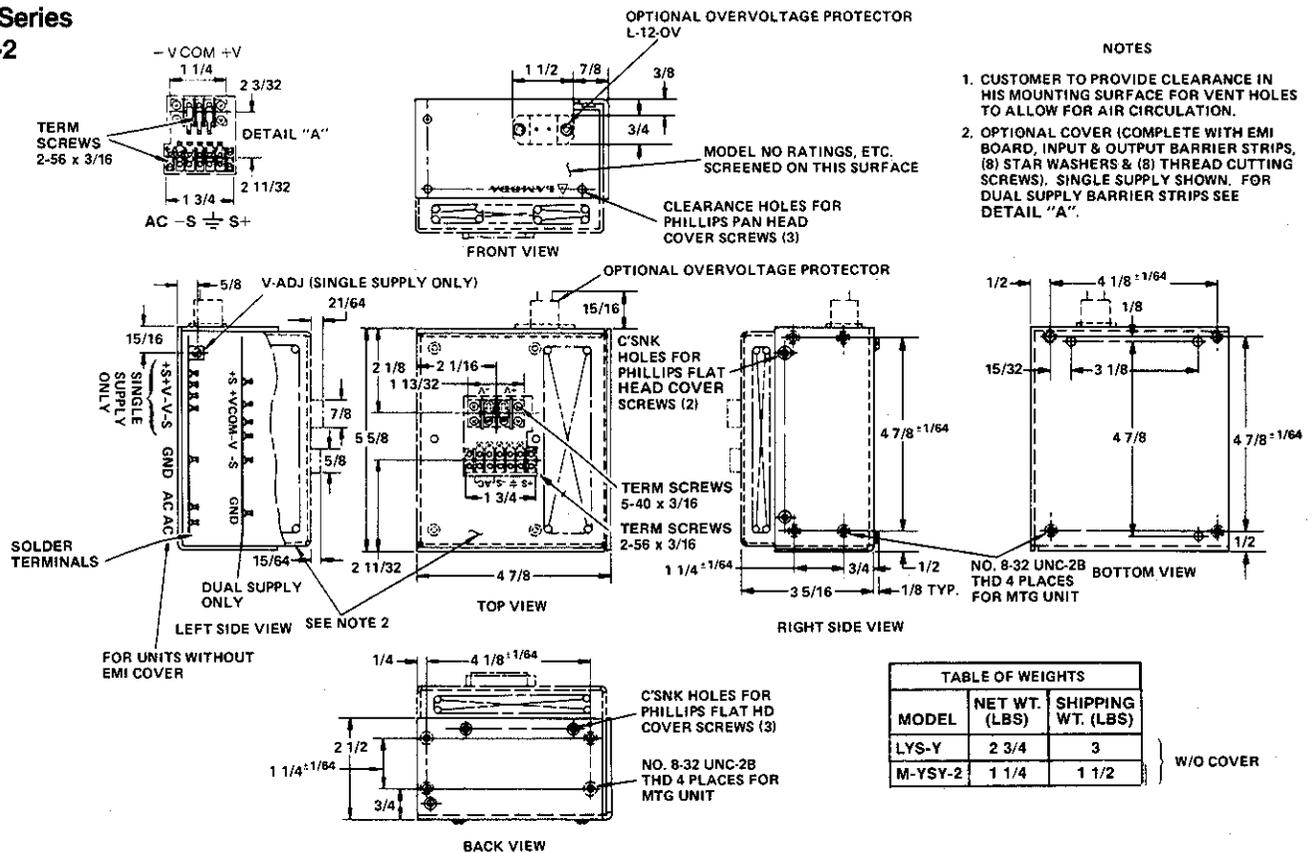


LYS-EE SERIES



PART IV—DIMENSIONAL DRAWINGS LYS-Y, LYS-X AND LYD-X SERIES POWER SUPPLIES

LYS-Y Series M-YSY-2



LYS-X Series LYD-X Series M-YSX-2 M-YDX-2

