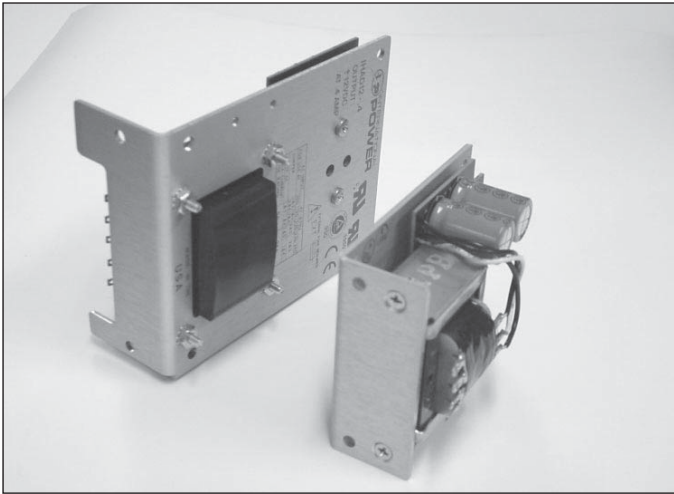


# LINEAR SERIES

AC/DC Single, Dual & Triple Output: 10-350 Watts



## Features

- VDE transformer construction.
- 100/120/220/230-240 VAC input.
- OVP on 5 volt outputs.
- $\pm .05\%$  regulation.
- Remote sense on most outputs.
- Industry standard case size.
- Full rated to 50°C.
- Foldback/current limit.
- UL, CSA, TUV approved.
- CE marked.
- High reliability units.
- Optional cover - some models.

The most comprehensive range of "Linear" power supplies, with proven performance and reliability.

Although the standard units are open frame construction, covers will be made as an option in the near future.

Units are available in single, dual and triple outputs or custom designed for OEM's.

Optional covers available on some popular models.

## Overvoltage Protectors ... OVP Selection Guide

Model	Case Size	OVP Modules Required
<b>Single Output</b>	B,C,N,D E,F	IOVP-12 IOVP-24
<b>Dual Output</b>	AA,B,BB, CC, E,DD	IOVP-12 Protects both outputs OVP Built-in on 5V outputs IOVP-24 Protects both outputs
<b>Triple Output</b>	AA,BAA,D, CBB,131, DBB	IOVP-12 Protects both 9V through 15 Outputs OVP built-in on main 5v outputs

## Specifications

<b>AC INPUT:</b>	100/120/220/240 VAC +10%, -13%. 47-63Hz. Tolerance for 230 VAC operation: +15%, -10% Derate output current 10% for 50Hz operation.
<b>OUTPUT:</b>	See voltage/current charts. Adjustment range $\pm 5\%$ minimum. Voltage non adjustable on "3 terminal regulator" outputs of models IHAD12 and IHAD15.
<b>LINE REGULATION:</b>	$\pm .05\%$ for a 10% line change. Exceptions: $\pm .01\%$ for F case models. $\pm 1\%$ for IHAD12 and IHAD15. $\pm 0.5\%$ for all other outputs using "3 terminal regulators".
<b>LOAD REGULATION:</b>	$\pm .05\%$ for a 50% load change. Exceptions: $\pm .02\%$ for F case models. $\pm 1\%$ for IHAD12 and IHAD15 $\pm 0.5\%$ for all other outputs using "3 terminal regulators".
<b>OUTPUT RIPPLE:</b>	5V through 15V models: 5.0mV PK-PK max. (3.0mV PK-PK max. for F case models) 24V through 250V models: 3.0mV PK-PK plus .02% of output voltage maximum. All "3 terminal regulator" outputs: 0.2% PK-PK max.
<b>TRANSIENT RESPONSE:</b>	Less than 50 $\mu$ sec for a 50% load change.
<b>SHORT CIRCUIT &amp; OVERLOAD PROTECTION:</b>	Automatic current limit/foldback.
<b>OVP:</b>	Provided on 5V outputs where indicated. Set at 6.2V $\pm 0.4V$ ., other outputs use optional overvoltage protectors IOVP12 and IOVP24.
<b>REMOTE SENSING:</b>	See voltage/current rating charts. Provided on outputs where indicated.
<b>STABILITY:</b>	$\pm 0.3\%$ for 24 hours after warm-up.
<b>TEMP. RATINGS:</b>	Operating: 0°C to 50°C full rated, derated linearly to 40% at 70°C. (ICP197 requires 50CFM forced air over heatsink area for full 50A output). Storage: -40°C to 85°C.
<b>TEMP CO-EFFICIENT:</b>	.01%/°C typical, .03%/°C maximum.
<b>EFFICIENCY:</b>	Typically... 5V outputs: 45% 12V and 15V outputs: 55% 24 through 250V outputs: 60%
<b>MASTER/SLAVE OPERATION:</b>	Provided on F case models only. For parallel operation of up to 6 units.
<b>VIBRATION:</b>	Per MIL -STD-810D, method 514.3 procedure 1, category 1.
<b>SHOCK:</b>	Per MIL -STD-810D, method 514.3 procedure III
<b>EMI/RFI:</b>	FCC Docket 20780 for Class B equipment and VDE0871 for Class B.
<b>CURRENT LIMIT:</b>	Units have current limit adjustment (except "A" case models). Consult Amtex for applications.
<b>SAFETY:</b>	Dielectric withstand voltage: Input to ground (minimum) 3750 VRMS Input to outputs (minimum) 3750 VRMS Outputs to ground (minimum) 500 VDC
<b>MINIMUM LOAD:</b>	Units will operate/regulate with no load.
<b>INPUT FUSING:</b>	Input AC line must be externally fused. Refer to specification for rating.
<b>WEIGHT &amp; DIMENSIONS:</b>	Refer to outline drawings.

# LINEAR SERIES

## Single Output Models

MODEL	Voltage/ Current	Case Size
<b>5 Volts:</b>		
IHA5-1.2/OVP	5V @ 1.2A**	A
IHA5-1.5/OVP	5V @ 1.5A*	B
IHB5-3/OVP	5V @ 3A*	B
IHC5-6/OVP	5V @ 6A*	C
IHN5-9/OVP	5V @ 9A*	N
IHD5-12/OVP	5V @ 12A*	D
IHE5-18/OVP	5V @ 18A*	E
IF5-25/OVP	5V @ 25A*	F
IG5-35/OVP	5V @ 35A*	F
ICP197	5V @ 50A*	F
<b>12 Volts:</b>		
IHA15-0.5	12V @ 0.5A**	A
IHA15-0.9	12V @ 0.9A*	B
IHB12-1.7	12V @ 1.7A*	B
IHC12-3.4	12V @ 3.4A*	C
IHN12-5.1	12V @ 5.1A*	N
IHD12-6.8	12V @ 6.8A*	D
IHE12-10.2	12V @ 10.2A*	E
IF15-15	12V @ 16A*	F
<b>15 Volts:</b>		
IHA15-0.5	15V @ 0.5A**	A
IHA15-0.9	15V @ 0.9A	B
IHB15-1.5	15V @ 1.5A*	B
IHC15-3	15V @ 3A*	C
IHN15-4.5	15V @ 4.5A*	N
IHD15-6	15V @ 6A*	D
IHE15-9	15V @ 9A*	E
IF15-15	15V @ 15A*	F
<b>24 Volts:</b>		
IHA24-0.5	24V @ 0.5A*	B
IHB24-1.2	24V @ 1.2A*	B
IHC24-2.4	24V @ 2.4A*	C
IHN24-3.6	24V @ 3.6A*	N
IHD24-4.8	24V @ 4.8A*	D
IHE24-7.2	24V @ 7.2A*	E
IF24-12	24V @ 12A*	F
<b>28 Volts:</b>		
IHA24-0.5	28V @ 0.5A*	B
IHB28-1	28V @ 1.0A*	B
IHC28-2	28V @ 2.0A*	C
IHN28-3	28V @ 3.0A*	N
IHD28-4	28V @ 4.0A*	D
IHE28-6	28V @ 6.0A*	E
IF24-12	28V @ 10A*	F
<b>48Volts:</b>		
IHB48-0.5	48V @ 0.5A	B
IHB48-0.5-105	48V @ 0.75A	B
IHC48-1	48V @ 1.0A	C
IHC48-1-105	48V @ 1.5A	C
IHD48-3	48V @ 3.0A*	D
IHE48-4	48V @ 4.0A*	E
IF48-8	48V @ 8.0A**	F
<b>135-265 Volts:</b>		
IHB155-0.12	135-170V @ .12A	B
IHB200-0.12	175-210V @ .12A	B
IHB250-0.1	215-265V @ .10A	B

\*Remote Sense Provided. \*\*Not International Series

## Dual Output Models

MODEL	Output #1	Output #2	Case Size
<b>±5 VOLTS</b>			
IHAA5-1.5/OVP	5V @ 1.5A*	-5V @ 1.5A*	AA
IHBB5-3/OVP	5V @ 3A*	-5V @ 3A*	BB
IHCC5-6/OVP	5V @ 6A*†	-5V @ 6A*†	CC
<b>±12 VOLTS</b>			
IHAD12-0.4	12V @ 0.4A**	-12V @ 0.4A**	B
<b>±15 VOLTS</b>			
IHAD15-0.4	15V @ 0.4A**	-15V @ 0.4A**	B
<b>±12 to 15 VOLTS</b>			
IHAA15-0.8	12V @ 1A or 15V @ 0.8A†	-12V @ 1A or -15V @ 0.8A†	AA
IHBB15-1.5	12V @ 1.7A or 15V @ 1.5A†	-12V @ 1.7A or -15V @ 1.5A†	BB
IHCC15-3	12V @ 3.4A or 15V @ 3.0A†	-12V @ 3.4A or -15V @ 3.0A†	CC
IHDD15-5	12-15V @ 5A	-12-15V @ 5A	E
<b>±18 to 24 VOLTS</b>			
IHAA24-0.6	18-20V @ 0.4A or 24V @ 0.6A	-18-20V @ 0.4A or -24V @ 0.6A	AA
IHBB24-1.2	18-20V @ 0.9A or 24V @ 1.2A	-18-20V @ 0.9A or -24V @ 2.4A	BB
IHCC24-2.4	18-20V @ 1.8A or 24V @ 2.4A†	-18-20V @ 1.8A or -24V @ 2.4A†	CC
<b>±5 VOLT &amp; 12-15 VOLTS ISOLATED OUTPUT</b>			
IHAA512	5V @ 2A*	12-15V @ 0.5A	AA
IHD12-6.8-504	5V @ 3A*	12V @ 6A	D
IHBB512	5V @ 3A*†	12-15V @ 1.5A†	BB
IHCC512	5V @ 6A*†	12-15V @ 2.5A†	CC

## Triple Output Models

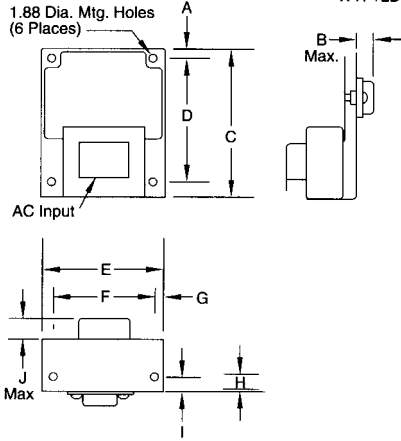
MODEL	Output #1	Output #2	Output #3	Case Size
IHTAA-16W	5V @ 2A*	12V-15V @ 0.4A	-12V-15V @ 0.4A or -5V @ 0.4A	AA
IHBAA-40W	5V @ 3A*†	12V @ 1A or 15V @ 0.8A†	-12V @ 1A or -15V @ 0.8A or -5V @ 0.4A†	BAA
IHCAA-60W	5V @ 6A*†	12V -15V @ 1A	-12V-15V @ 1A or -5V @ 0.4A	D
IHCBB-75W	5V @ 6A*†	12V @ 1.7A or 15V @ -1.5A	-12V @ 1.7A or -15V @ 1.5A or -5V @ 0.7A†	CBB
IHBCC-512	5V @ 3A*†	12V @ 3.4A or 15V @ 3A†	-12V @ 3.4A or -15V @ 3A†	CC
IHBCC-524	5V @ 3A*†	18-20V @ 1.8A or 24V @ 2.4A† or	-18-20V @ 1.8A	CC
ICP131	5V @ 8A*†	12V @ 1.7A or 15V @ 1.5A†	-24V @ 2.4A† -12V @ 1.7A or -15V @ 1.5A or	131
IHDBB-105W	5V @ 12A*†	12V @ 1.7A or 15V @ 1.5A†	-5V @ 0.7A† -12V @ 1.7A or -15V @ 1.5A or	DBB
IHDCC-150W	5V @ 12A*†	12V @ 3.4A or 15V @ 3A†	-5V @ 0.7A† -12V @ 3.4A or -15V @ 3A†	DCC

\* Overvoltage Protection Provided † Remote Sense Provided  
\*\* Non-adjustable 3 Terminal Regulator

# LINEAR SERIES

## A CASE

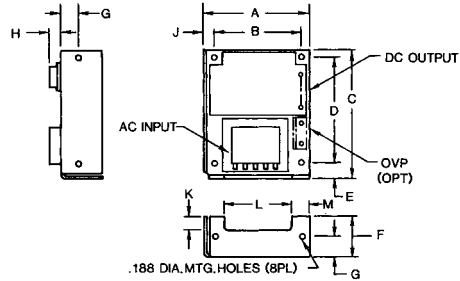
Overall Size: 3.75" x 3.00" x 2.20"  
Overall Size: 3.75" x 3.00" x 2.20"  
WT. 1LB.



	INCH	mm
A	.250	6.35
B	.450	11.43
C	3.75	95.25
D	3.100	78.74
E	3.00	76.20
F	2.500	63.50
G	.250	6.35
H	1.25	31.75
I	.350	8.89
J	.500	12.70

## B CASE

Overall Size: 4.87" x 4.00" x 2.10"  
Overall Size: 123.70mm x 101.60mm x 53.34mm  
Weight 2 lbs.

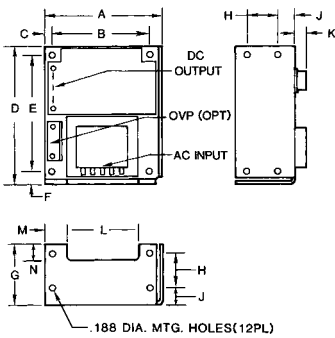


	INCH	mm
A	4.00	101.60
B	3.375	85.73
C	4.87	123.70
D	4.125	104.78
E	0.50	12.70
F	1.62	41.15
G	0.75	19.05
H	0.450	11.43
J	0.38	9.65
K	0.57	14.48
L	2.60	66.04
M	0.794	20.17

FUSE AT: 0.5/0.25 AMPS FOR 100-120/220-240 VAC

## C CASE

Overall Size: 5.62" x 4.87" x 2.95"  
Overall Size: 142.75mm x 123.70mm x 74.93mm  
Weight 4 lbs.

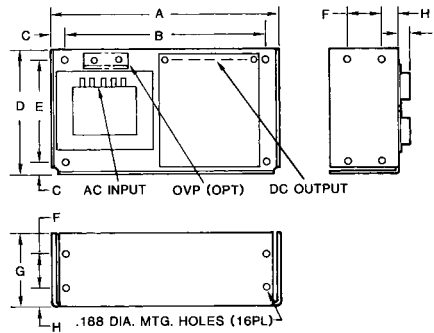


	INCH	mm
A	4.87	123.70
B	4.125	104.78
C	0.25	6.35
D	5.62	142.75
E	4.875	123.83
F	0.50	12.70
G	2.50	63.50
H	1.250	31.75
J	0.75	19.05
K	0.450	11.43
L	2.85	72.39
M	1.025	26.04
N	0.665	16.89

FUSE AT: 1.0/0.5 AMPS FOR 100-120/220-240 VAC

## D CASE

Overall Size: 9.00" x 4.87" x 3.28"  
Overall Size: 228.60mm x 123.70mm x 83.83mm  
Weight 7.5 lbs.

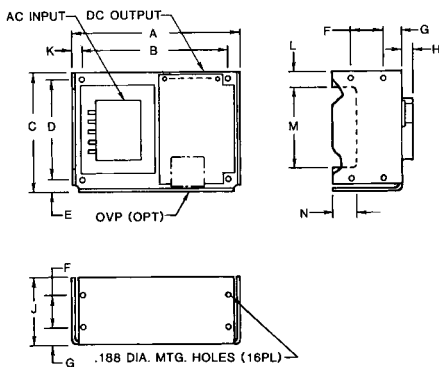


	INCH	mm
A	9.00	228.60
B	8.000	203.20
C	0.50	12.70
D	4.87	123.70
E	4.125	104.78
F	1.250	31.75
G	2.75	69.85
H	0.75	19.05
J	0.450	11.43

FUSE AT: 2.0/1.0 AMPS FOR 100-120/220-240 VAC

## N CASE

Overall Size: 7.00" x 4.87" x 3.20"  
Overall Size: 177.80mm x 123.70mm x 81.28mm  
Weight 6 lbs.

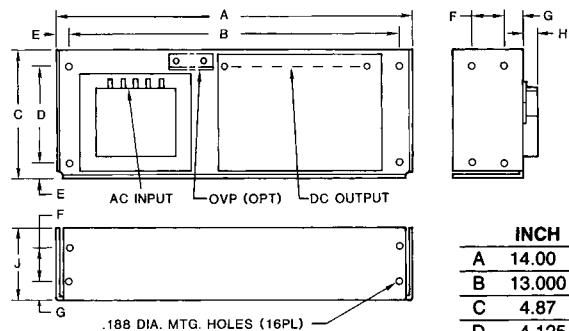


	INCH	mm
A	7.00	177.80
B	6.250	158.75
C	4.87	123.70
D	4.125	104.78
E	0.50	12.70
F	1.250	31.75
G	0.75	19.05
H	0.450	11.43
J	2.75	69.85
K	0.38	6.35
L	0.640	16.26
M	3.345	84.96
N	1.00	25.40

FUSE AT: 2.0/1.0 AMPS FOR 100-120/220-240 VAC

## E CASE

Overall Size: 14.00" x 4.87" x 3.53"  
Overall Size: 355.60mm x 123.70mm x 89.66mm  
Weight 10 lbs.



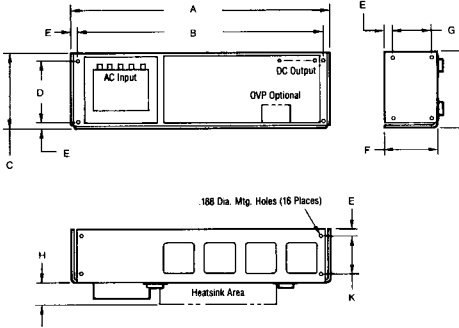
	INCH	mm
A	14.00	355.60
B	13.000	330.20
C	4.87	123.70
D	4.125	104.78
E	0.50	12.70
F	1.250	31.75
G	0.75	19.05
H	0.650	16.51
J	2.75	69.85

FUSE AT: 3.0/1.5 AMPS FOR 100-120/220-240 VAC

# LINEAR SERIES

## F CASE

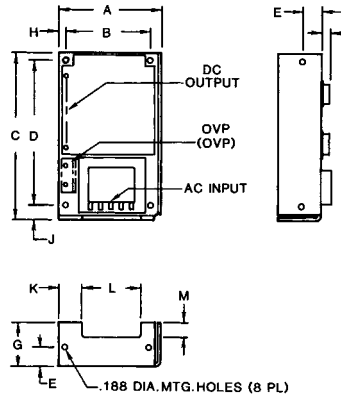
Overall Size: 16.75" x 5.50" x 4.88"  
Weight 19 lbs.



INCH	mm
A	16.75 425.45
B	16.00 406.40
C	4.88 123.95
D	4.125 104.80
E	0.375 9.53
F	5.00 127.00
G	2.50 63.50
H	1.50 36.10
J	3.50 88.90
K	2.50 63.50

## AA CASE

Overall Size: 6.50" x 4.00" x 2.10"  
165.10mm x 101.60mm x 53.34mm  
Weight 2 lbs.

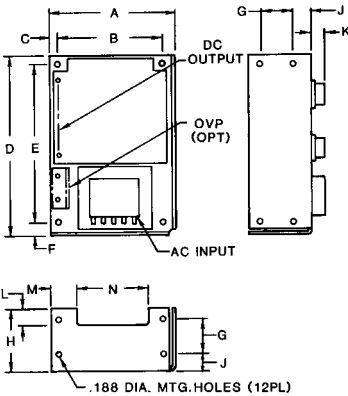


INCH	mm
A	4.00 101.60
B	3.375 85.73
C	6.50 165.10
D	5.750 146.05
E	0.75 19.05
F	0.450 11.43
G	1.62 41.15
H	0.25 6.35
J	0.50 12.70
K	0.955 24.26
L	2.37 60.20
M	0.57 14.48

FUSE AT: 0.5/0.25 AMPS FOR 100-120/220-240 VAC

## BB CASE

Overall Size: 7.00" x 4.88" x 2.95"  
177.80mm x 123.95mm x 74.93mm  
Weight 4 lbs.

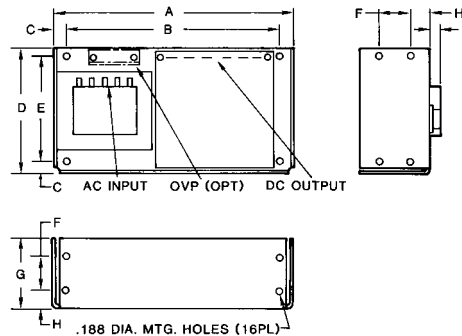


INCH	mm
A	4.87 123.70
B	4.125 104.78
C	0.25 6.35
D	7.00 177.80
E	6.250 158.75
F	0.50 12.70
G	1.250 31.75
H	2.50 63.50
J	0.75 19.05
K	0.450 11.43
L	0.665 16.89
M	1.025 26.03
N	2.85 72.39

FUSE AT: 1.0/0.5 AMPS FOR 100-120/220-240 VAC

## CC CASE

Overall Size: 9.38" x 4.87" x 3.28"  
238.25mm x 123.70mm x 83.31mm  
Weight 7 lbs.

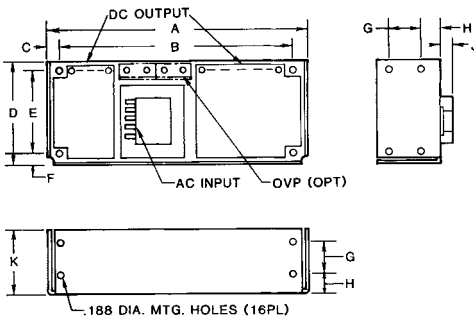


INCH	mm
A	9.38 238.25
B	8.375 212.73
C	0.50 12.70
D	4.87 123.70
E	4.125 104.78
F	1.250 31.75
G	2.75 69.85
H	0.75 19.05
J	0.450 11.43

FUSE AT: 2.0/1.0 AMPS FOR 100-120/220-240 VAC  
HCC512: 3.0/1.5 AMPS FOR 100-120/220-240 VAC

## BAA CASE

Overall Size: 10.25" x 4.00" x 2.95"  
260.35mm x 101.60mm x 74.93mm  
Weight 5 lbs.

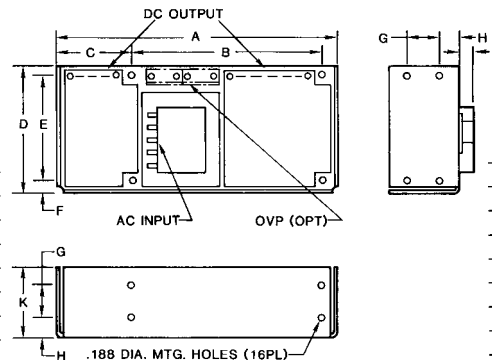


INCH	mm
A	10.25 260.35
B	9.250 234.95
C	0.50 12.70
D	4.00 101.60
E	3.375 85.73
F	0.37 9.40
G	1.250 31.75
H	0.75 19.05
J	0.450 11.43
K	2.50 63.50

FUSE AT: 1.0/0.5 AMPS FOR 100-120/220-240 VAC

## CBB CASE

Overall Size: 11.00" x 4.87" x 3.28"  
279.40mm x 123.70mm x 83.31mm  
Weight 8 lbs.



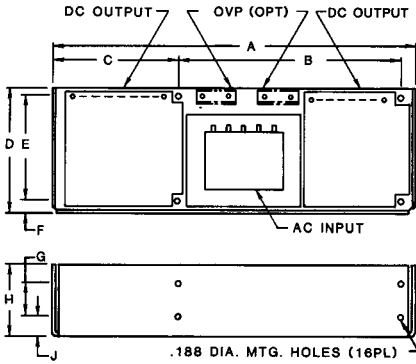
INCH	mm
A	11.00 279.40
B	7.50 190.50
C	3.00 76.20
D	4.87 123.70
E	4.125 104.78
F	0.50 12.70
G	1.250 31.75
H	0.75 19.05
J	4.50 11.43
K	2.75 69.85

FUSE AT: 2.0/1.0 AMPS FOR 100-120/220-240 VAC

# LINEAR SERIES

## DBB CASE

Overall Size: 14.25" x 4.87" x 3.38"  
361.95mm x 123.70mm x 85.85mm  
Weight 11 lb.

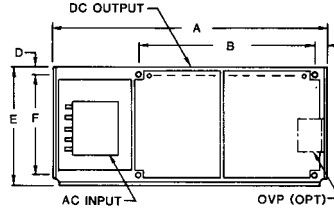


	INCH	mm
A	14.25	361.95
B	8.750	222.25
C	5.00	127.00
D	4.87	123.70
E	4.125	104.78
F	0.50	12.70
G	1.250	31.75
H	2.75	69.85
J	0.75	19.05
K	0.625	15.88

FUSE AT: 3.0/1.5 AMPS FOR 100-120/220-240 VAC

## 131 CASE

Overall Size: 11.00" x 4.87" x 3.20"  
279.40mm x 123.70mm x 81.28mm  
Weight 9 lbs.

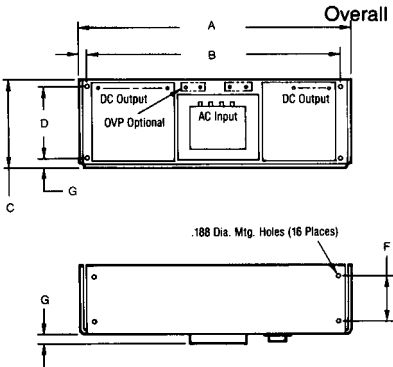


	INCH	mm
A	11.00	279.40
B	7.00	177.80
C	0.50	12.70
D	0.25	6.35
E	4.87	123.70
F	4.125	104.78
G	1.250	31.75
H	0.75	19.05
J	0.450	11.43
K	2.75	69.85
L	0.600	15.24
M	0.640	16.26
N	3.345	84.96

FUSE AT: 3.0/1.5 AMPS FOR 100-120/220-240 VAC

## DCC CASE

Overall Size: 15.00" x 4.88" x 4.55"  
Weight 12 lbs.

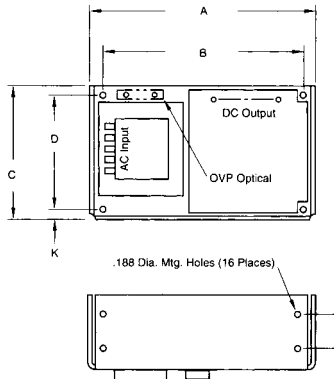


	INCH	mm
A	15.00	381.00
B	14.00	355.60
C	4.88	123.95
D	4.13	104.90
E	3.75	95.25
F	2.50	63.50
G	0.50	12.70
H	0.80	20.32

FUSE AT: 4.0/2.0 AMPS FOR 100-120/220-240 VAC

## 510 CASE

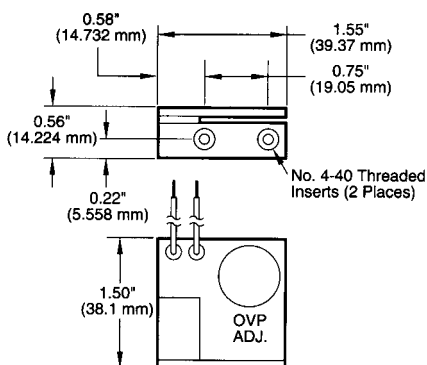
Overall Size: 8.25" x 4.87" x 3.28"  
Weight 7.5 lbs.



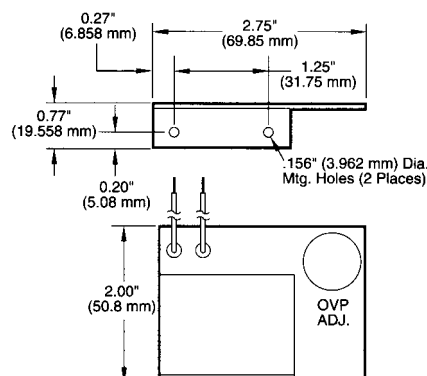
	INCH	mm
A	8.25	209.55
B	7.05	190.50
C	4.87	123.70
D	4.125	104.78
E	2.75	69.85
F	0.75	19.05
G	1.25	31.75
H	0.525	13.34
J	0.75	19.05
K	0.500	12.70
L	0.350	8.89

FUSE AT: 3.0/1.5 AMPS FOR 100-120/220-240 VAC

## IOVP-12



## IOVP-24



## IAR4-0.6/OVP

