

# INTERNATIONAL+ LINEARS



## FEATURES

- World-wide AC input ranges and safety standards
- Industry standard packages
- UL/CSA TUV/IEC approved—68 models to UL1950; CSA C22.2 No. 234 L3; TUV certified to IEC950
- Burn-in with cycling; 3-year warranty
- Capacitors have highest CV & ripple current ratings
- MTBF 200,000+ hours per Mil Handbk 217D (most units)
- All electrolytic caps rated at 105°C
- Transformer insulation meets Class F (155°C)
- Exceed FCC and CISPR22 Class B conducted emissions
- **CE** marked to LVD

## SPECIFICATIONS

### AC Input

100, 120 and 240Vac: +10%, -13%; 215Vac: +12%, -11 %; 47 to 63Hz. Tolerance for 230Vac operation is +15%, -10%. Derate output current 10% for 50Hz operation.

### DC Output

See voltage rating chart. Adjustment range  $\pm 5\%$  minimum except HA series.

### Line Regulation

$\pm 0.05\%$  for a 10% change.

### Load Regulation

$\pm 0.05\%$  for a 50% load change.

### Output Ripple

3mV +0.05% of output voltage, peak to peak maximum. All “3-terminal regulator” outputs: 3mV +0.2% peak to peak maximum.

### Transient Response

<50 microseconds for 50% load change.

### Short Circuit Protection

Automatic current limit/foldback.

### Overvoltage Protection

Built-in on all 5V models, set at  $6.2V \pm 0.4V$ . Other models use optional overvoltage protection.

### Remote Sensing

Provided on all models; open sense lead protection built-in (except HA series).

### Stability

$\pm 0.05\%$  for 24 hours after warmup.

### Temperature Rating

0 to 50°C full rated, derated linearly to 40% at 70°C.

### Temperature Coefficient

$\pm 0.01\%/^{\circ}C$  maximum.

### Efficiency

5V units: 45%; 12 and 15V units: 55%; 20 and 24V units: 60%.

### Logic Inhibit and Current-Share

F & G models.

Model (Single)	Voltage	Current	Case
HA2-1.5-A+	2V	1.5A	B
HB2-3-A+	2V	3A	B
HC2-6-A+	2V	6A	C
HN2-9-A+	2V	9A	N
HD2-12-A+	2V	12A	D
HE2-18-A+*	2v	18A	E
HA5-1.5/OV-A+	5V	1.5A	B
HB5-3/OV-A+	5V	3A	B
HC5-6/OV-A+	5V	6A	C
HN5-9/OV-A+	5V	9A	N
HD5-12/OV-A+	5V	12A	D
HE-18/OV-A+*	5V	18A	E
F5-25/OV-A+*	5V	25A	F
G5-35/OV-A+*	5V	35A	G
CP197-A+*	5V	50A	G
HA15-0.9-A+	12V	0.9A	B
HB12-1.7-A+	12V	1.7A	B
HC12-3.4-A+	12V	3.4A	C
HN12-5.1-A+	12V	5.1A	N
HD12-6.8-A+	12V	6.8A	D
HE12-10-2-A+*	12V	10.2A	E
F15-15-A+* (12V)	12V	16A	F
HA15-0.9-A+	15V	0.9A	B
HB12-1.7-A+	15V	1.5A	B
HC15-3-A+	15V	3	C
HN15-4.5-A+	15V	4.5A	N
HD15-6-A+	15V	6	D
HE15-9-A+*	15V	9	E
F15-15-A+*	15V	15A	F
HA24-0.5-A+	24V	0.5A	B
HB24-1.2-A+	24V	1.2A	B
HC24-2.4-A+	24V	2.4A	C
HN24-3.6-A+	24V	3.6A	N
ND24-4.8-A+	24V	4.8A	D
HE24-7.2-A+*	24V	7.2A	E
F24-12-A+*	24V	12A	F
HA24-0.5-A+ (28V)	28V	0.5A	B
HB28-1.0-A+	28V	1A	B
HC28-2.0-A+	28V	2A	C
HN28-3-A+	28V	3A	N
HD28-4-A+	28V	4A	D
HE28-6-A+*	28V	6A	E
F24-12-A+* (28V)	28V	10A	F
HB48-0.5-A+	48V	0.5A	B
HC48-1-A+	48V	1A	C
HD48-3-A+**	48V	3A	D
HE48-4-A+*	48V	4A	E
F48-6-A+*	48V	6A	F

\*Requires fan cooling.  
\*\*May require fan cooling.

Model (Dual)	Output 1	Output 2	Case
HAA5-1.5/OV-A+	5V@1.5A	5V@1.5A	AA
HBB5-3/OV-A+	5V@3A	5V@3A	BB
HCC5-6/OV-A+	5V@6A	5V@6A	CC
HAA512-A+	5V@2A	9-15V@0.5A	AA
HBB512-A+	5V@3A	9-15V@1.2A	BB
HCC512-A+**	5V@6A	9-15V@2.5A	CC
HAA524-A+**	5V@2A	18-24V@0.3A	AA
HBB524-A+	5V@3A	18-24V@0.8A	BB
HCC524-A+	5V@6A	18-24V@2A	CC
HAD12-0.4-A+	+12V@0.4A	-12V@0.4A	B
HAD15-0.4-A+	+15V@0.4A	-15V@0.4A	B
HAA15-0.8-A+	+12 to 15V@1A/0.8A	-12 to -15V@1A/0.8A	AA
HBB15-1.5-A+	+12 to 15V@1.7A/1.5A	-12 to -15V@1.7A/1.5A	BB
HCC15-3-A+	+12 to 15V@3.4A/3A	-12 to -15V@3.4A/3A	CC
HDD15-5-A+*	+12 to 15V@5A	-12 to -15V@5A	E
HAA24-0.6-A+	+18 to 24V@0.4A/0.6A	-18 to -24V@1A/0.8A	AA

\*\*May require fan cooling.

Model (Triple)	Output 1	Output 2	Output 3	Case
HTAA-16W-A+	5V@2A	+12 to 15V@0.4/0.4A	-12 to 15V@0.4/0.4A***	AA
HBAA40W-A+	5V@3A	+12 to 15V@1/0.8A	-12 to 15V@1/0.8A***	BAA
HCBB105W-A+**	5V@3A	+12 to 15V@3.4/3.0A	-12 to 15V@3.4/3A***	CBB
HCAA60W-A+	5V@6A	+12 to 15V@1/0.8A	-12 to 15V@1/0.8A***	D
HCBB75-W-A+	5V@6A	+12 to 15V@1.7/1.5A	-12 to 15V@1.7/1.1A***	CBB
CP131-A+	5V@9A	+12 to 15V@1.7/1.5A	-12 to 15V@1.7/1.1A***	NBB
HDBB105W-A+*	5V@12A	+12 to 15V@1.7/1.5A	-12 to 15V@1.7/1.1A***	DBB
HDCC150W-A+*	5V@12A	+12 to 15V@3.4/3A	-12 to 15V@3.4/3A***	DCC

\*Requires fan cooling.  
\*\*May require fan cooling.  
\*\*\*No. 3 output usable at -5V, rate at 1/2 of 15V current rating.

**DISK DRIVE/PRINTER SERIES**

Model	Output 1	Output 2	Output 3	Case
CP206-A+	24V, 3A (3.5PK)	5V, 3A	5V, 1A	CBB
CP323-A+	5V @ 2A	12V @ 4A	N/A	BB

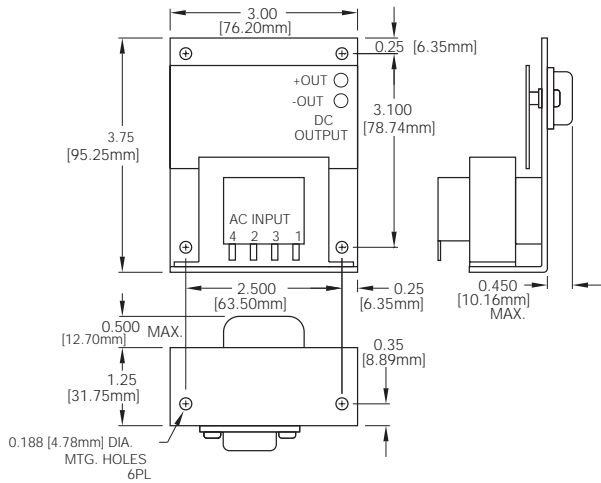
**FIXED DISK SERIES**

Model	Output 1	Output 2	Output 3	Case
CP379-A+	+5V@6A	+24V@3.5/6A PK	-5 or -12V@1.2A	NBB
CP498-A+	+5V@6A	+24V@5/10A PK	-12V@0.5A	NBB

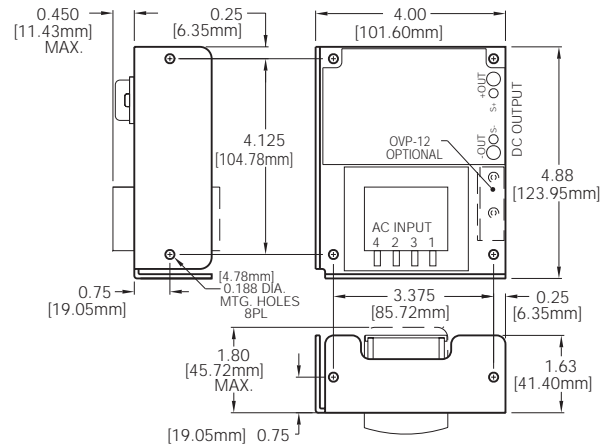


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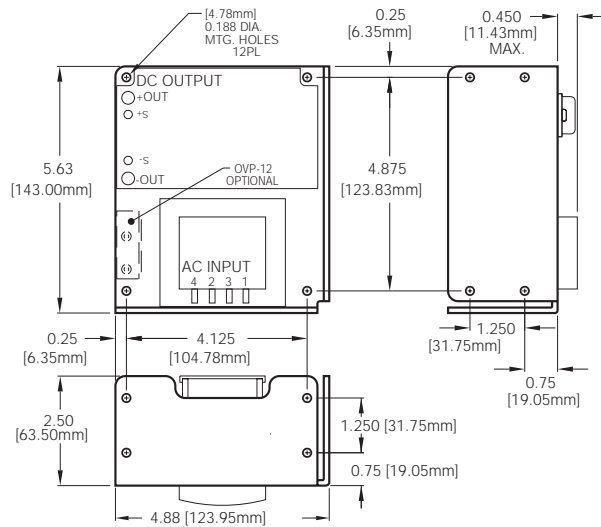
## INTERNATIONAL+ LINEARS MECHANICAL SPECIFICATIONS:



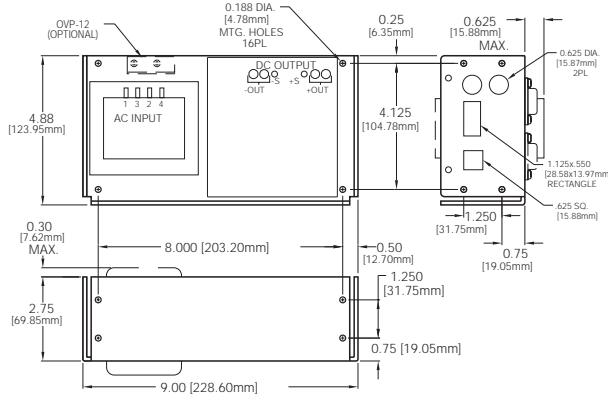
A CASE (WT. 1LB.)



B CASE (WT. 2LBS.)



C CASE (WT. 4LBS.)

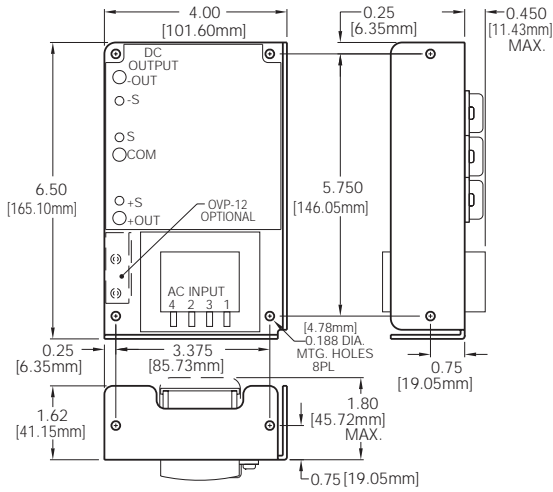


D & CP510 CASE (WT. 7.5LBS.)

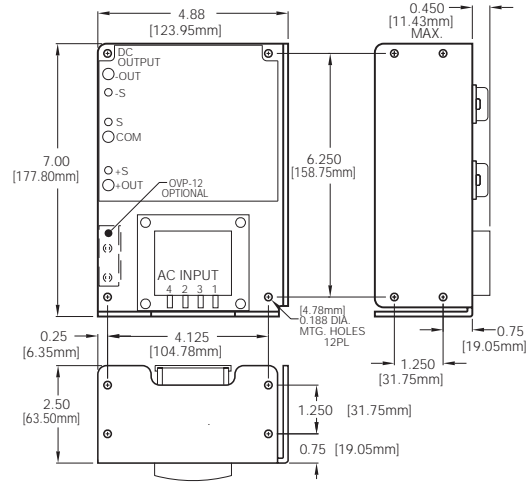


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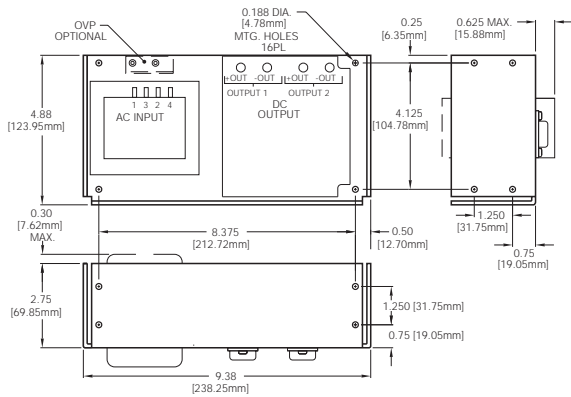
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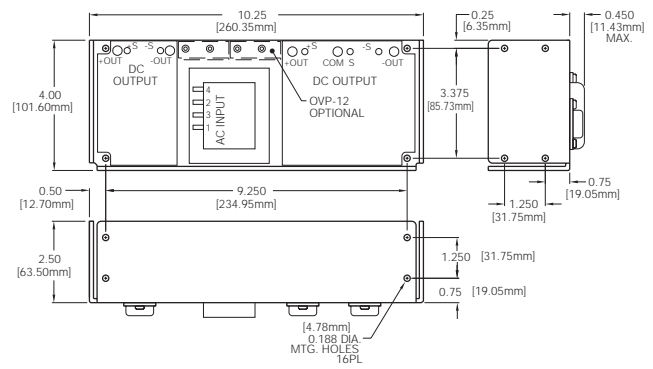
AA CASE (WT. 2LBS.)



BB CASE (WT. 4LBS.)

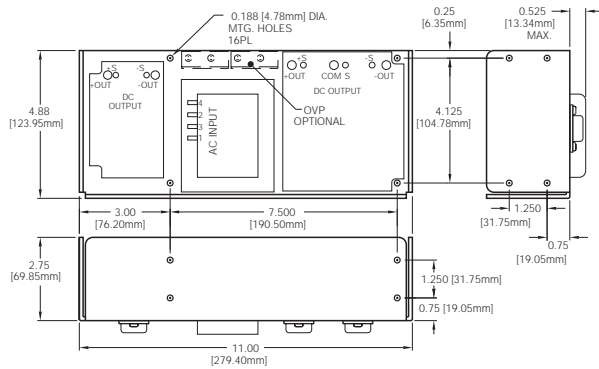


CC CASE (WT. 7LBS.)

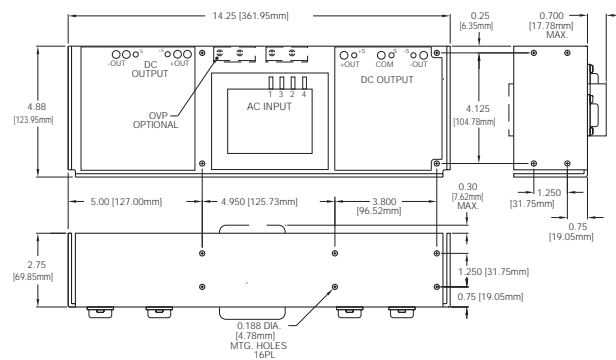


BAA CASE (WT. 5LBS.)

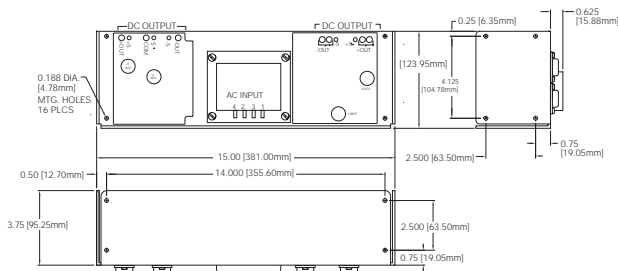
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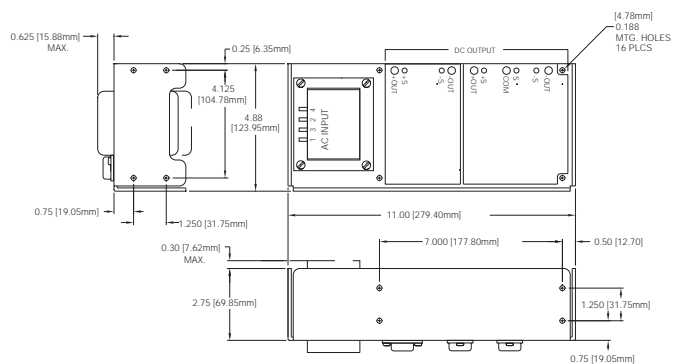
CBB CASE (WT. 8LBS.)



DBB CASE (WT. 11LBS.)



DCC CASE (WT. 12LBS.)



NBB CASE (WT. 12LBS.)