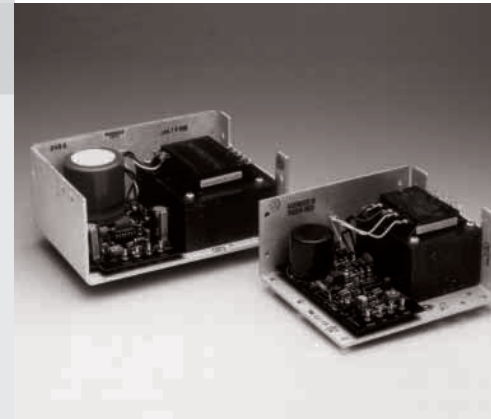


# Power Supply

**RA 30151/06.98**  
Replaces 5.96

1/6

**24 V and  $\pm 15$  V**

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## Features

- Output 24 VDC single polarity models
- Output  $\pm 15$  VDC or  $\pm 12$  VDC bi-polar models
- Voltage regulation  $\pm 0.05\%$
- Low output ripple  $< 5$  mV peak to peak
- Short circuit and overload protection
- Input voltage 100, 120, 220, 230–240 VAC
- Frequency input 47 to 63 Hz
- UL recognized, CSA certified, also IEC, VDE, BPO, ECMA, CEE

## Unit description

Regulated power supply units are used for proportional amplifiers, servos, transducers, and instrumentation. All supply outputs are foldback current limited, if a short circuit or excess load is applied. Output voltage may be adjusted within  $\pm 5\%$ . The power supplies are open-frame designs that can be panel mounted. Standoffs are generally recommended to allow air circulation.

## Ordering data

### Order by Rexroth Part Number

Output Voltage	Output Current <sup>1)</sup>	Rexroth Part No.
24 VDC	2.4 A	<b>R978887102</b>
24 VDC	3.6 A	<b>R978887103</b>
24 VDC	4.8 A	<b>R978887104</b>
$\pm 15$ VDC	0.8, 0.8 A	<b>R978887105</b>
$\pm 15$ VDC	1.5, 1.5 A	<b>R978887106</b>

<sup>1)</sup> Output current @58–63 Hz, derated all by 10% below 58 Hz.

## Technical data

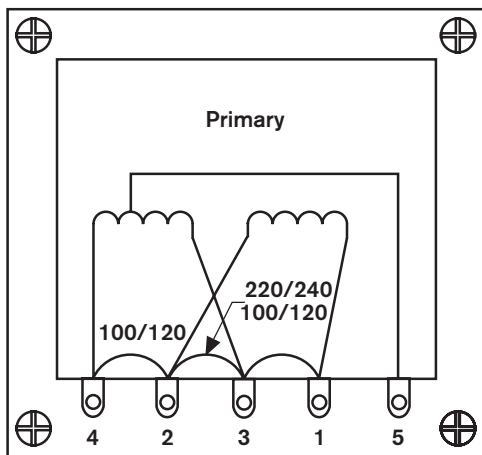
Input voltage (supplied as 120, unless noted)	VAC	87 to 110 104.4 to 132 191.4 to 242 207 to 264
Input frequency	Hz	47 to 63
Efficiency, typical @120 V – 60 Hz	%	55
Output current @58–63 Hz*	Amp	
R978 887 102 (HC24-2.4-A)		2.4
R978 887 103 (HN24-3.6-A)		3.6
R978 887 104 (HD24-4.8-A)		4.8
R978 887 105 (HAA15-0.8-A)		0.8, 0.8
R978 887 106 (HBB15-1.5-A)		1.5, 1.5
*derated all by 10% below 58 Hz		
Output voltage adjustment range	%	$\pm 5$
Voltage regulation @ 10% line change	%	$\pm 0.05$
Voltage regulation @ 50% load change	%	$\pm 0.05$
Output ripple	24 V models mV <sub>p-p</sub> $\pm 15$ V models	<3 <5

Operating temperature	$^{\circ}\text{C}$ ( $^{\circ}\text{F}$ )	0 to 50 (0 to 122)
– above 50 $^{\circ}\text{C}$ (122 $^{\circ}\text{F}$ ), 12 CFM fan recommended – for convection cooling, 50 to 70 $^{\circ}\text{C}$ (122 to 158 $^{\circ}\text{F}$ ) derate linearly 0 to 40%		
Storage temperature	$^{\circ}\text{C}$ ( $^{\circ}\text{F}$ )	–44 to 85 (–47 to 132)
Weight	kg (lbs)	
R978 887 102 (HC24-2.4-A)		2.0 (4.4)
R978 887 103 (HN24-3.6-A)		3.1 (6.8)
R978 887 104 (HD24-4.8-A)		3.6 (7.9)
R978 887 105 (HAA15-0.8-A)		1.1 (2.5)
R978 887 106 (HBB15-1.5-A)		2.0 (4.4)

### Connections, jumpers and fuse

Input voltage range	VAC	87 ... 110	104.4 ... 132	191.4 ... 242	207 ... 264
AC to terminals on transformer <sup>1)</sup>		5, 1	4, 1	5, 1	4, 1
Jumper terminals on transformer		1 to 3, 2 to 4	1 to 3, 2 to 4	2 to 3	2 to 3
DC from terminals on circuit board	24 V +15 V 0 V 0 V -15 V	+OUT COM -OUT	+OUT COM -OUT	+OUT COM -OUT	+OUT COM -OUT
Jumper terminals on circuit board (24 V)	24 V <sup>2)</sup> 0 V <sup>2)</sup>	+OUT to +S -OUT to -S	+OUT to +S -OUT to -S	+OUT to +S -OUT to -S	+OUT to +S -OUT to -S
Jumper terminals on circuit board (±15 V)	+15 V <sup>3)</sup> 0 V <sup>3)</sup> -15 V <sup>3)</sup>	+OUT to +S COM to ±S -OUT to -S	+OUT to +S COM to ±S -OUT to -S	+OUT to +S COM to ±S -OUT to -S	+OUT to +S COM to ±S -OUT to -S
Fuse – slow acting, 250 V for AC input <sup>4)</sup>					
R978 887 102 (HC24-2.4-A)		1.5 A	1.5 A	0.75 A	0.75 A
R978 887 103 (HN24-3.6-A)		2 A	2 A	1 A	1 A
R978 887 104 (HD24-4.8-A) <sup>5)</sup>		2 A	2 A	1 A	1 A
R978 887 105 (HAA15-0.8-A) <sup>6)</sup>		0.75 A	0.75 A	0.375 A	0.375 A
R978 887 106 (HBB15-1.5-A) <sup>6)</sup>		1 A	1 A	0.5 A	0.5 A

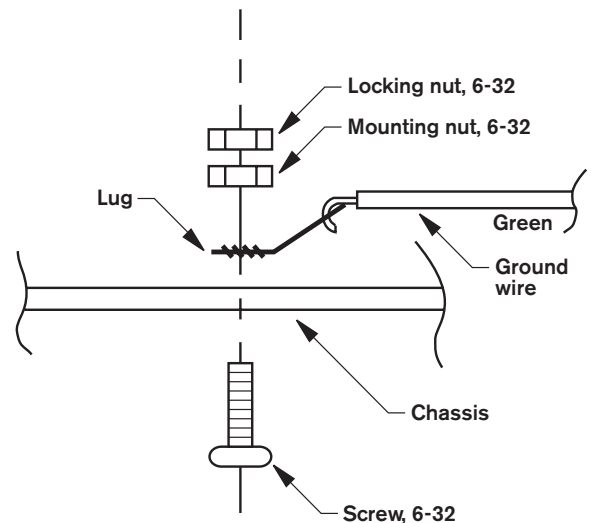
- 1) 700 °C (1292 °F) soldering iron recommended for input connections.  
Connect supply chassis to earth ground.
- 2) Connect **+S** to **+OUT** (for local sensing).  
Connect **-S** to **-OUT**.
- 3) Connect **+S** that is next to **+OUT**.  
Connect **+S** and **-S** that are next to **COM**.  
Connect **-S** that is next to **-OUT**.  
Connect wires for DC power to **+OUT, -OUT, COM** (output terminals).  
Do not connect wires for DC power to **+/-S** (sense terminals).
- 4) External fuse in AC line must be installed by user.
- 5) Two solder terminals are provided for DC output (**+OUT, +OUT, -OUT, -OUT**).
- 6) For ±15 VDC, jumpers **JW1** and **JW2** must be removed on circuit board.  
For ±12 VDC, jumpers **JW1** and **JW2** shipped installed, unless noted.



AC Input, 47–63 Hz

For use at	100 VAC	120 VAC	220 VAC	230/240 VAC
Jumper	1 & 3 2 & 4	1 & 3 2 & 4	2 & 3	2 & 3
Apply AC	1 & 5	4 & 1	1 & 5	4 & 1

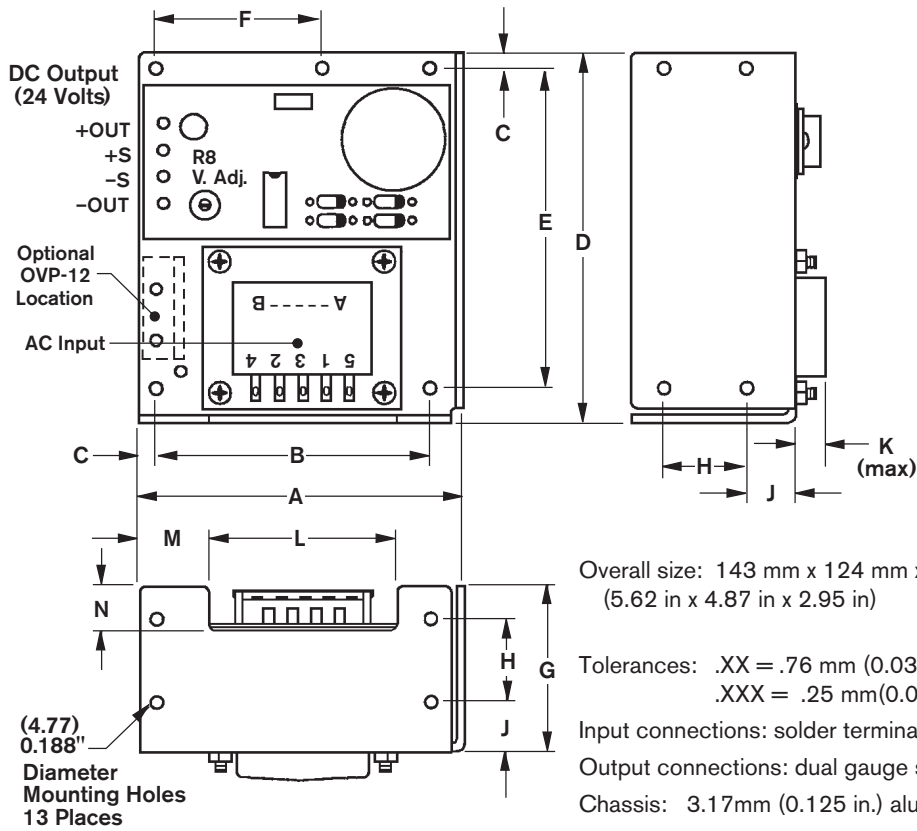
External fuse required for safety.



**Chassis ground for safety.** Use any empty hole on the power supply chassis, preferably close to the transformer input for ease of wiring. Hardware not provided.

**Unit dimensions – dimensions in inches (millimeters)**

**R978 887 102 (HC24-2.4-A)**



	mm	inch
A	123.70	4.87
B	104.78	4.125
C	6.35	0.25
D	142.75	5.62
E	123.83	4.875
F	62.87	2.475
G	63.50	2.50
H	31.75	1.250
J	19.05	0.75
K	11.43	0.45
L	72.39	2.85
M	26.04	1.025
N	16.89	0.665

Overall size: 143 mm x 124 mm x 75 mm  
(5.62 in x 4.87 in x 2.95 in)

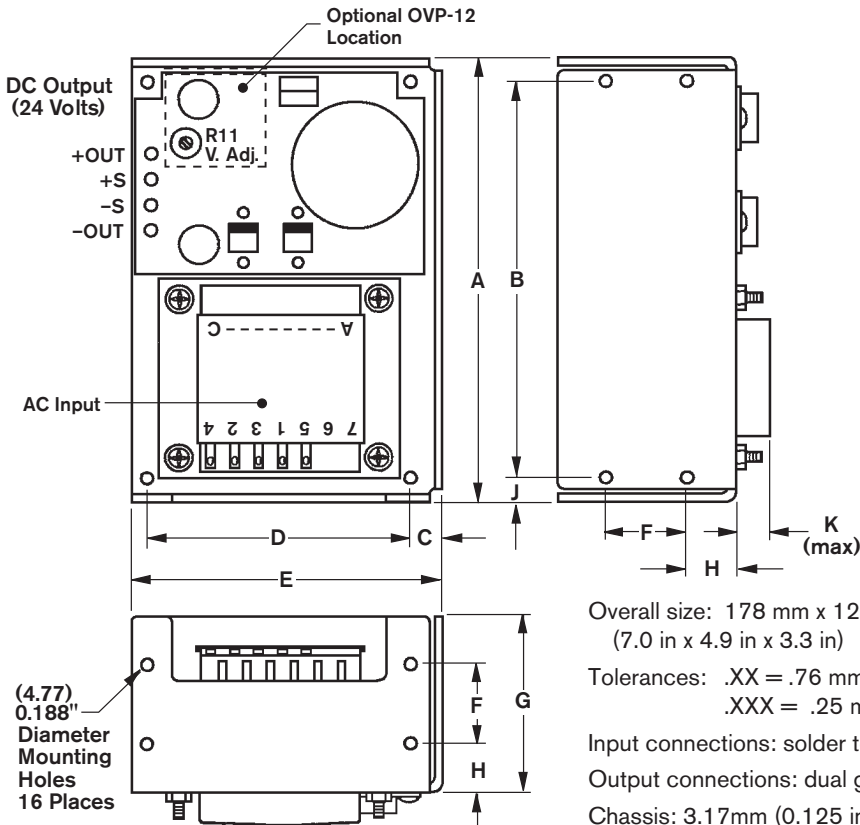
Tolerances: .XX = .76 mm (0.03 in)  
.XXX = .25 mm (0.010 in)

Input connections: solder terminals on the transformer.

Output connections: dual gauge solder turrets on the PCB.

Chassis: 3.17mm (0.125 in.) aluminum alloy, with clear anodized finish.

**R978 887 103 (HN24-3.6-A)**



	mm	inch
A	177.80	7.00
B	158.75	6.250
C	12.70	0.50
D	104.78	4.125
E	123.70	4.87
F	31.75	1.250
G	69.85	2.75
H	19.05	0.75
J	9.53	0.38
K	13.46	0.53

Overall size: 178 mm x 124 mm x 84 mm  
(7.0 in x 4.9 in x 3.3 in)

Tolerances: .XX = .76 mm (0.03 in)  
.XXX = .25 mm (0.010 in)

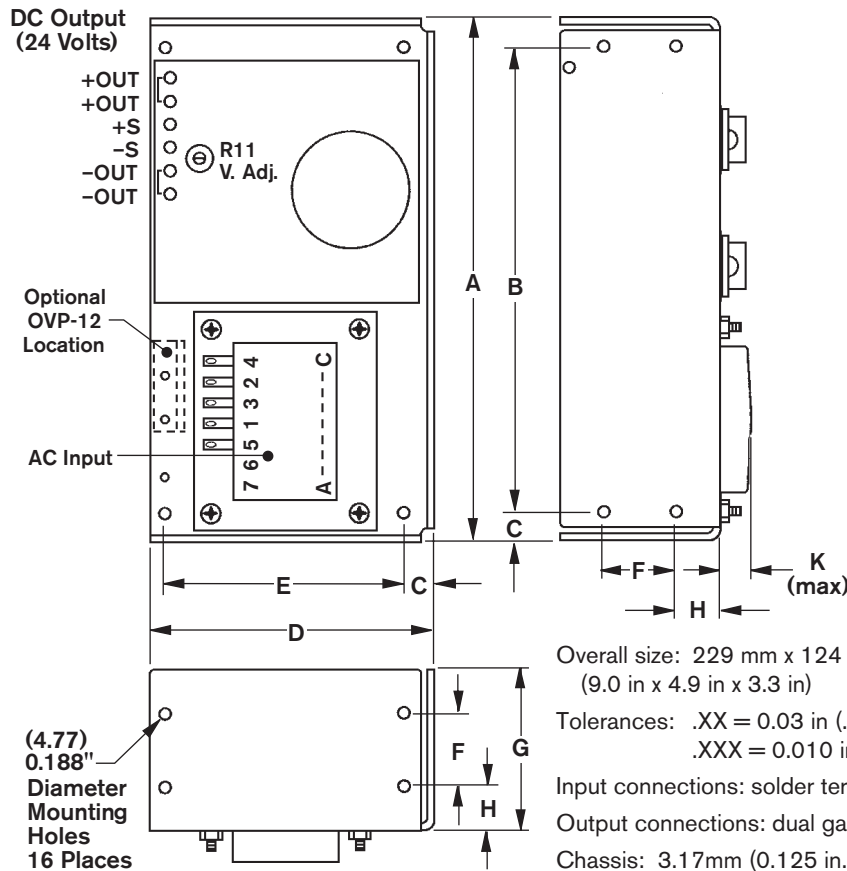
Input connections: solder terminals on the transformer.

Output connections: dual gauge solder turrets on the PCB.

Chassis: 3.17mm (0.125 in.) aluminum alloy, with clear anodized finish.

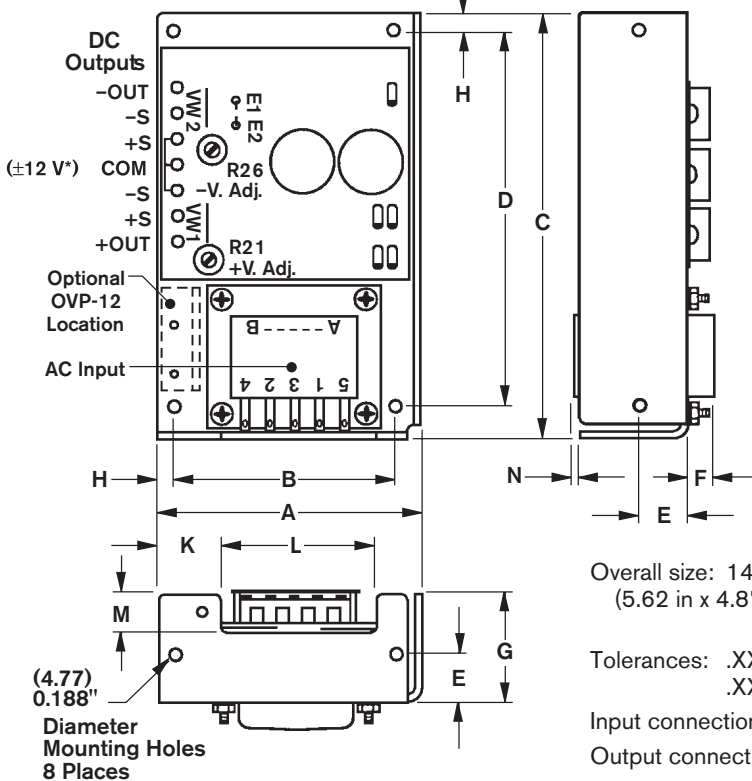
Unit dimensions – dimensions in millimeters (inches)

R978 887 104 (HD24-4.8-A)



	mm	inch
A	228.60	9.00
B	203.20	8.000
C	12.70	0.50
D	123.70	4.87
E	104.78	4.125
F	31.75	1.250
G	69.85	2.75
H	19.05	0.75
K	13.46	0.53

R978 887 105 (HAA15-0.8-A)

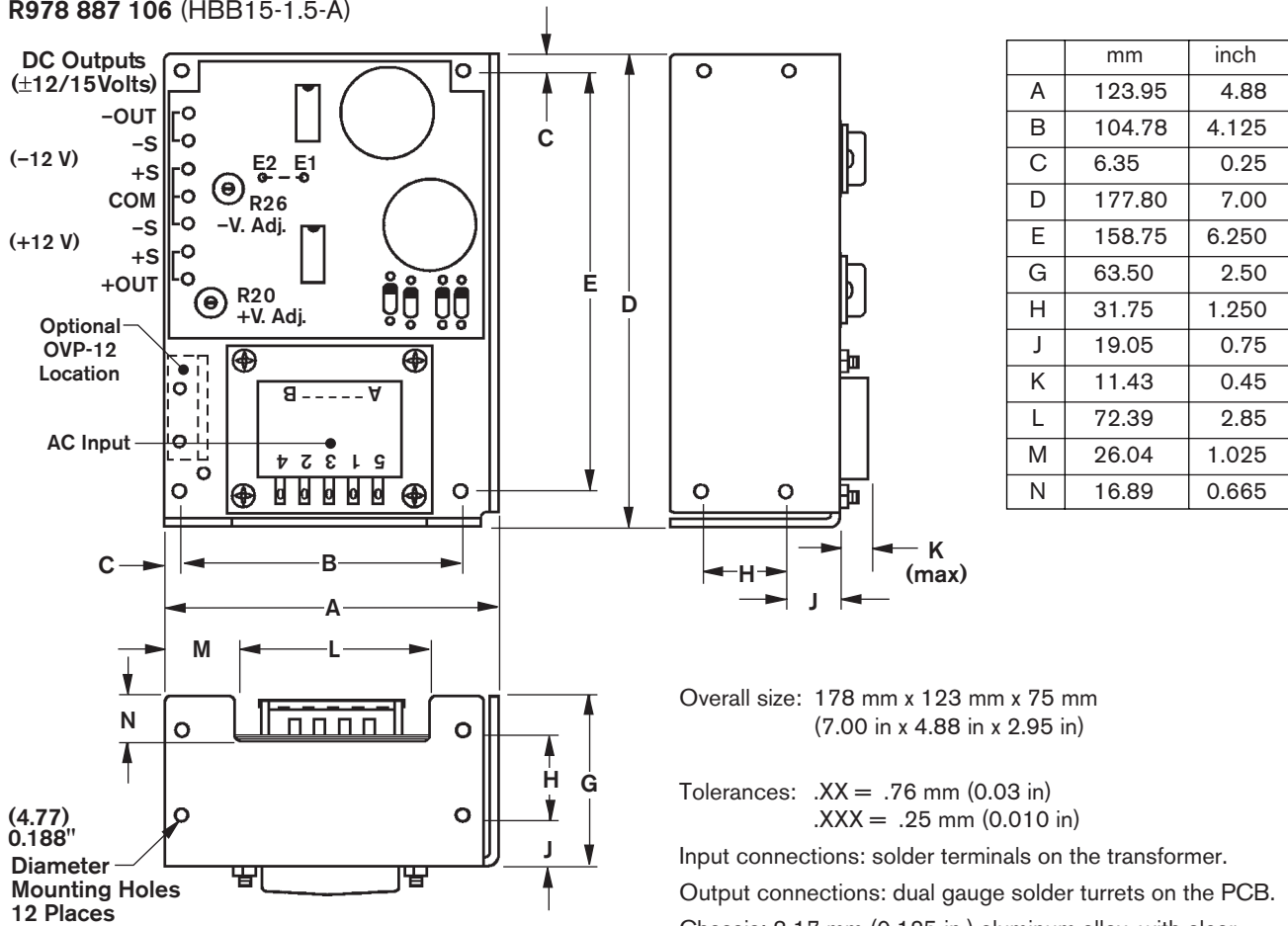


	mm	inch
A	101.60	4.00
B	85.73	3.375
C	165.10	6.50
D	146.05	5.750
E	19.05	0.75
F	10.67	0.42
G	41.15	1.62
H	6.35	0.25
K	24.26	0.955
L	60.20	2.37
M	14.48	0.57
N	1.52	0.06

\* For ±15 V operation remove jumpers VW1 and VW2.

**Unit dimensions – dimensions in millimeters (inches)**

**R978 887 106 (HBB15-1.5-A)**



Overall size: 178 mm x 123 mm x 75 mm  
(7.00 in x 4.88 in x 2.95 in)

Tolerances: .XX = .76 mm (0.03 in)  
.XXX = .25 mm (0.010 in)

Input connections: solder terminals on the transformer.  
Output connections: dual gauge solder turrets on the PCB.  
Chassis: 3.17 mm (0.125 in.) aluminum alloy, with clear anodized finish.

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## Notes

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