

# ASM30

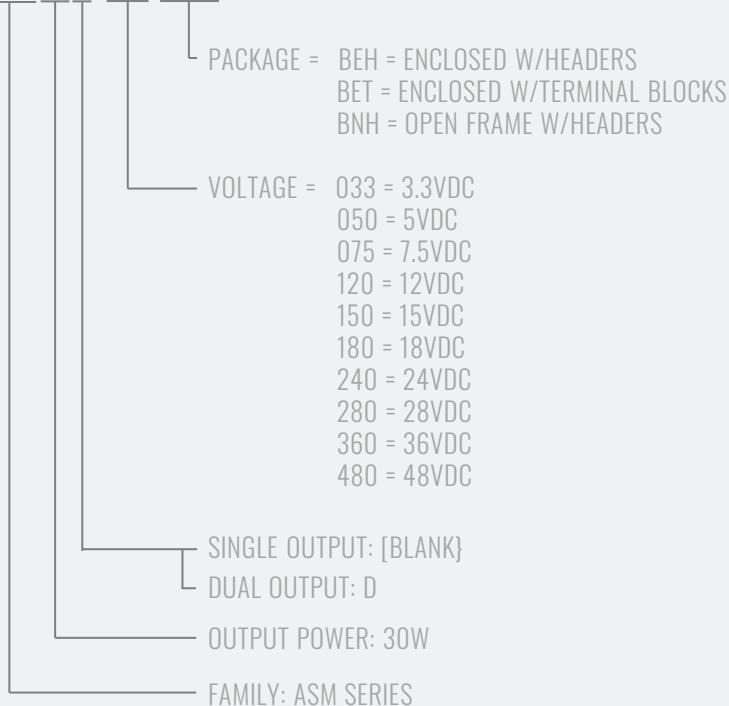
## 30-WATT MEDICAL AND INDUSTRIAL POWER SUPPLY

The Astrodyne TDI ASM30 series of Switching Power Supplies are designed for medical and industrial applications. These products operate over the input voltage range of 80 to 264 VAC and 50/60Hz frequency and produce up to 30 Watts of regulated DC output. They have safety certification to IEC60601 for use across a wide variety of medical applications, including those within the home. They are compliant with the latest DoE Efficiency Level VI; IEC 60601-1-1, 3rd Edition, Amendment 1 and IEC62368-1 safety; and IEC 60601-1-2, 4th Edition, Class B EMC standards.



### HOW TO ORDER

#### ASM30Z-YYY-XXX-0F0



### FEATURES & BENEFITS

#### UNIVERSAL AC INPUT

80-264VAC, 50/60Hz

#### PROTECTIONS

Short circuit / Over voltage / Overload

Free air convection cooling  
Single and Dual Output models

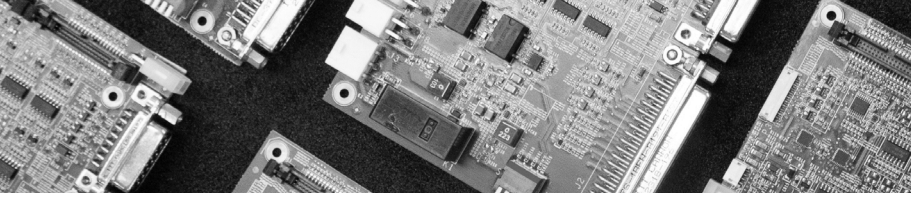
#### SAFETY APPROVALS

Medical IEC 60601-1-1 3rd Ed, Amend 1;  
IEC 62368-1; cTUVus; CSA C22.2; TUV; CB Scheme

#### EMI

Medical IEC 60601-1-2 4th Ed, Class B  
EN 55032 (CISPR32), Class B

BF Leakage, 2 MOPP  
Class I and Class II Applications  
Open Frame and Enclosed Options  
DoE Efficiency Level VI, RoHS-compliant



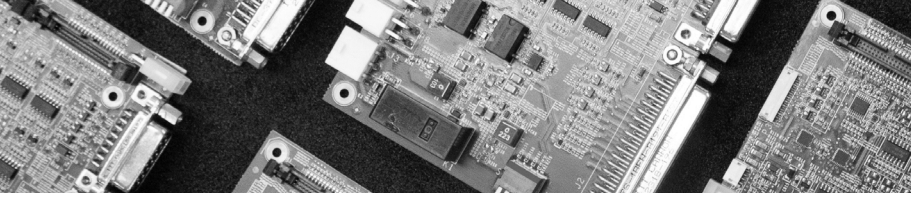
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## 30-WATT MEDICAL AND INDUSTRIAL POWER SUPPLY

### PARAMETERS

### ASM30

<b>Input Voltage Range</b>	80-264VAC
<b>Input Frequency</b>	47-63 Hz (50/60 Hz nom.)
<b>Input Current (rated)</b>	0.8A max at 100VAC 0.4A max at 240VAC
<b>Input to Earth Leakage</b>	50uA max at 264VAC, 50Hz
<b>Input to Output Leakage</b>	100uA max at 264VAC, 50Hz
<b>Output Voltage</b>	See selection chart
<b>Output Power</b>	See selection chart
<b>No Load Power</b>	ASM30: 100mW typ, 210mW max ASM30D: 1.5W max
<b>Min. Load (ASM30D only)</b>	20% for each output
<b>Set Point Accuracy</b>	±2% max, Vout < 12V ±1% max, Vout ≥ 12V
<b>Load Regulation</b>	ASM30: ±2% max, Vout < 12V ±1% max, Vout ≥ 12V ASM30D: ±5% max
<b>Line Regulation</b>	ASM30: ±0.5% max ASM30D: ±1% max
<b>Efficiency</b>	See selection chart
<b>Over Voltage Protection*</b>	110-135% Vout, recycle power
<b>Overload Protection*</b>	110 to 160% x Rated Power, Auto Recovery
<b>Short Circuit Protection*</b>	Auto Recovery
<b>Hold-up Time, full load</b>	30ms typ, 230VAC 12ms typ, 115VAC
<b>Ripple/Noise</b>	200mV Pk-Pk max, < 12V out 1% Pk-Pk max, ≥ 12V out
<b>Isolation Input to Output</b>	4000 VAC, 2 MOPP
<b>Isolation Input to Earth</b>	1500 VAC, 1 MOPP
<b>Isolation Output to Earth</b>	1500 VAC
<b>Package Types</b>	Open Frame, Enclosed
<b>Size **</b>	3" x 1.6" x 0.97" 76.2 x 40.6 x 24.7 mm
<b>Weight</b>	2.3oz / 65g Open Frame, Single 4.4oz / 125g Open Frame, Dual 2.8oz / 80g Enclosed, Single 5.5oz / 155g Enclosed, Dual
<b>** Open frame, single output; see Outline Drawings for others</b>	



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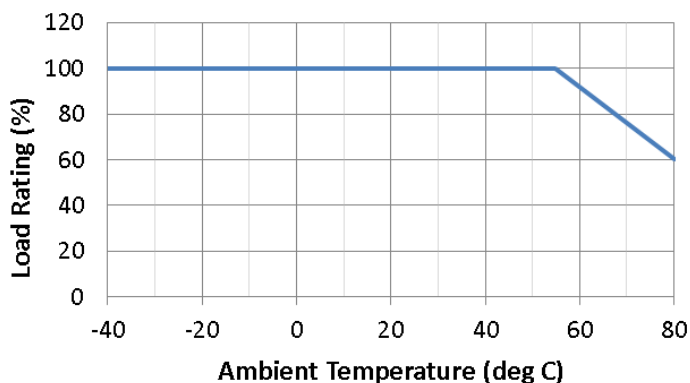
### PARAMETERS

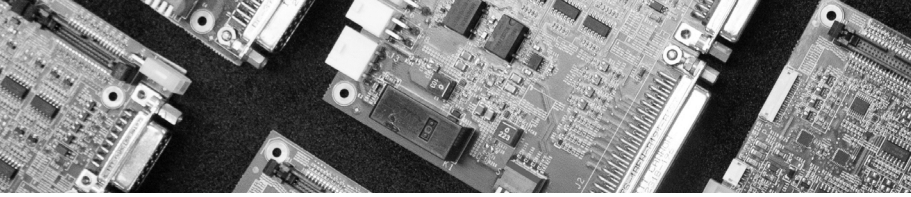
### ASM30

<b>Safety Approvals</b>	IEC 60601-1 3 <sup>rd</sup> Ed, Amend 1, IEC 62368-1; cTUVus; CSA C22.2; TUV; CB Scheme
<b>EMC Overall</b>	EN60601-1-2, 4 <sup>th</sup> Ed, Class B
<b>Conducted and Radiated Emissions</b>	EN 55032 (CISPR32), Class B
<b>Harmonic Current</b>	EN 61000-3-2, Class A
<b>Voltage Fluctuations</b>	EN 61000-3-3
<b>ESD Immunity</b>	EN 61000-4-2, Level 4
<b>RF Field Immunity</b>	EN 61000-4-3, Level 3
<b>EFT Burst Immunity</b>	EN 61000-4-4, Level 3
<b>Surge Immunity</b>	EN 61000-4-5, Level 3
<b>Conducted Immunity</b>	EN 61000-4-6, Level 3
<b>Magnet Field Immunity</b>	EN 61000-4-8, Level 4
<b>Voltage Dips and Interruptions</b>	EN 61000-4-11
<b>Operating Temperature</b> <i>see derating chart</i>	-40 to +55°C at Full Load, -40 to +80°C with Derating
<b>Cooling</b>	Free Air Convection
<b>Storage Temperature*</b>	-40 to +85°C
<b>Operating Humidity*</b>	0% to 95%, non-condensing
<b>Operating Altitude</b>	3000m max

*\* These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Operation under conditions other than the standard operating conditions is neither warranted nor implied. All Specifications are typical at nominal input, full load, 25°C unless specified otherwise.*

### TEMPERATURE DERATING

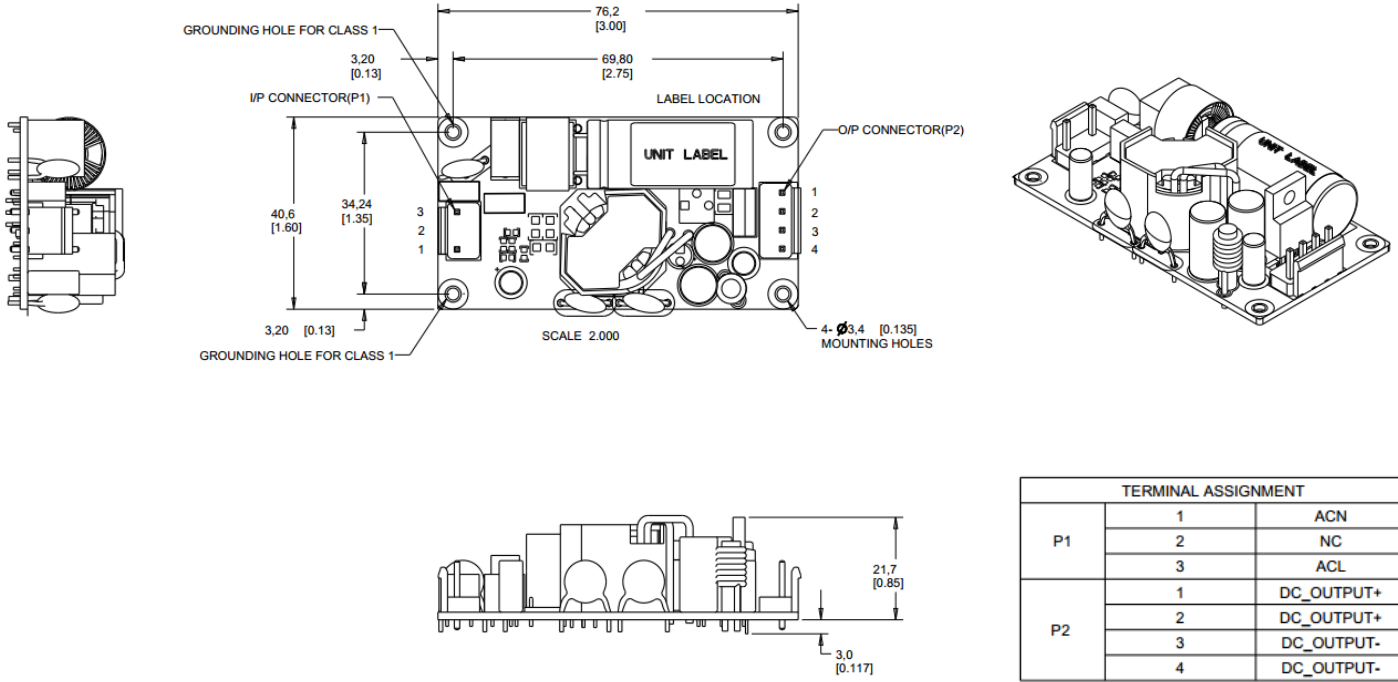




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## 30-WATT MEDICAL AND INDUSTRIAL POWER SUPPLY

### SINGLE OUTPUT, OPEN FRAME WITH HEADERS – ASM30-XXX-BNH-ZZZ

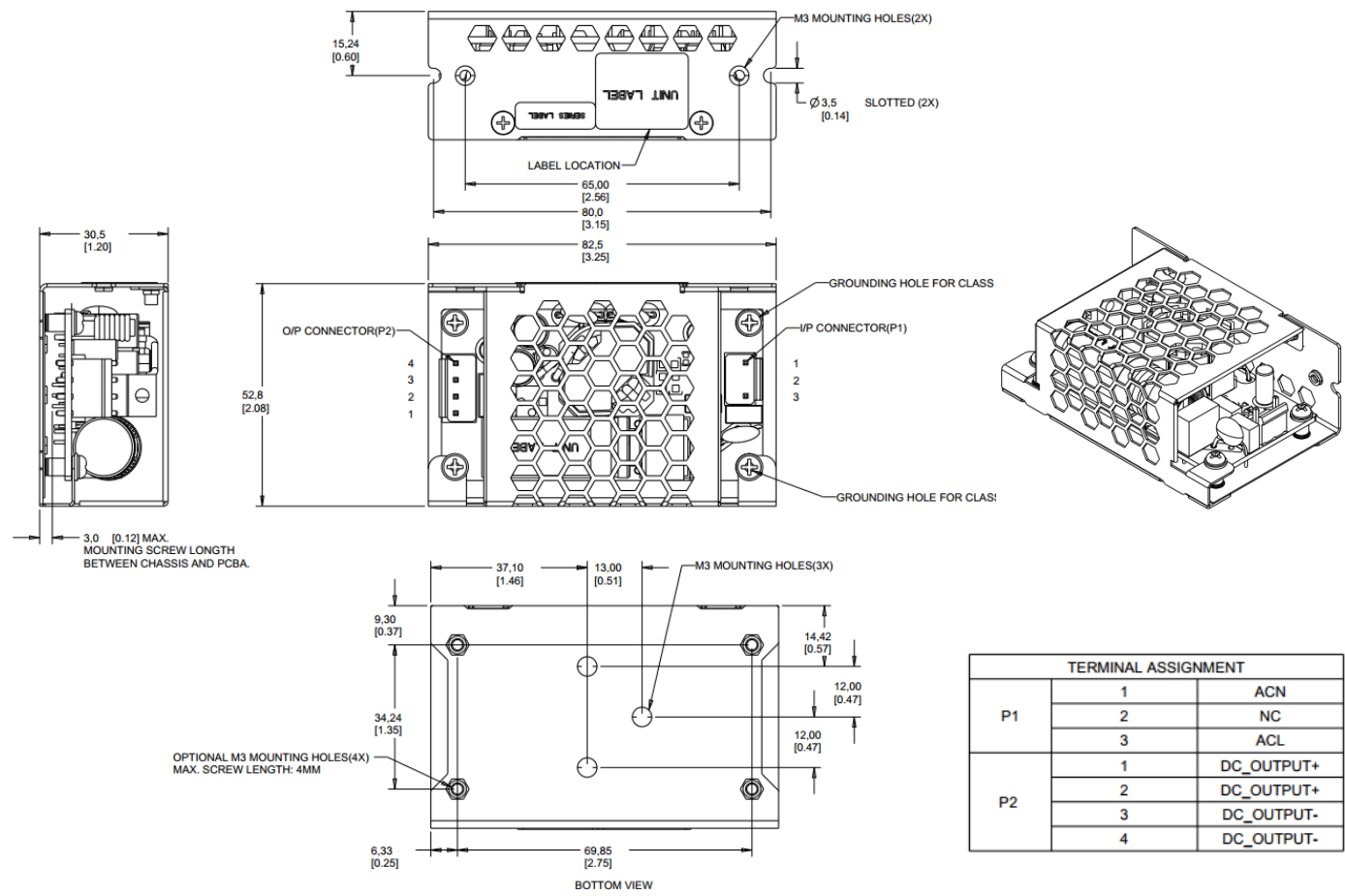


MODEL	OUTPUT POWER	OUTPUT VOLTAGE	OUTPUT CURRENT	EFFICIENCY
ASM30-033-BNH-0F0	20W	3.3VDC	6.1A	80%
ASM30-050-BNH-0F0	30W	5VDC	6.0A	85%
ASM30-075-BNH-0F0	30W	7.5VDC	4.0A	86%
ASM30-120-BNH-0F0	30W	12VDC	2.5A	86%
ASM30-150-BNH-0F0	30W	15VDC	2.0A	86%
ASM30-180-BNH-0F0	30W	18VDC	1.67A	86%
ASM30-240-BNH-0F0	30W	24VDC	1.25A	88%
ASM30-280-BNH-0F0	30W	28VDC	1.07A	88%
ASM30-360-BNH-0F0	30W	36VDC	0.83A	89%
ASM30-480-BNH-0F0	30W	48VDC	0.63A	89%

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## 30-WATT MEDICAL AND INDUSTRIAL POWER SUPPLY

### SINGLE OUTPUT, ENCLOSED WITH HEADERS – ASM30-XXX-BEH-ZZZ

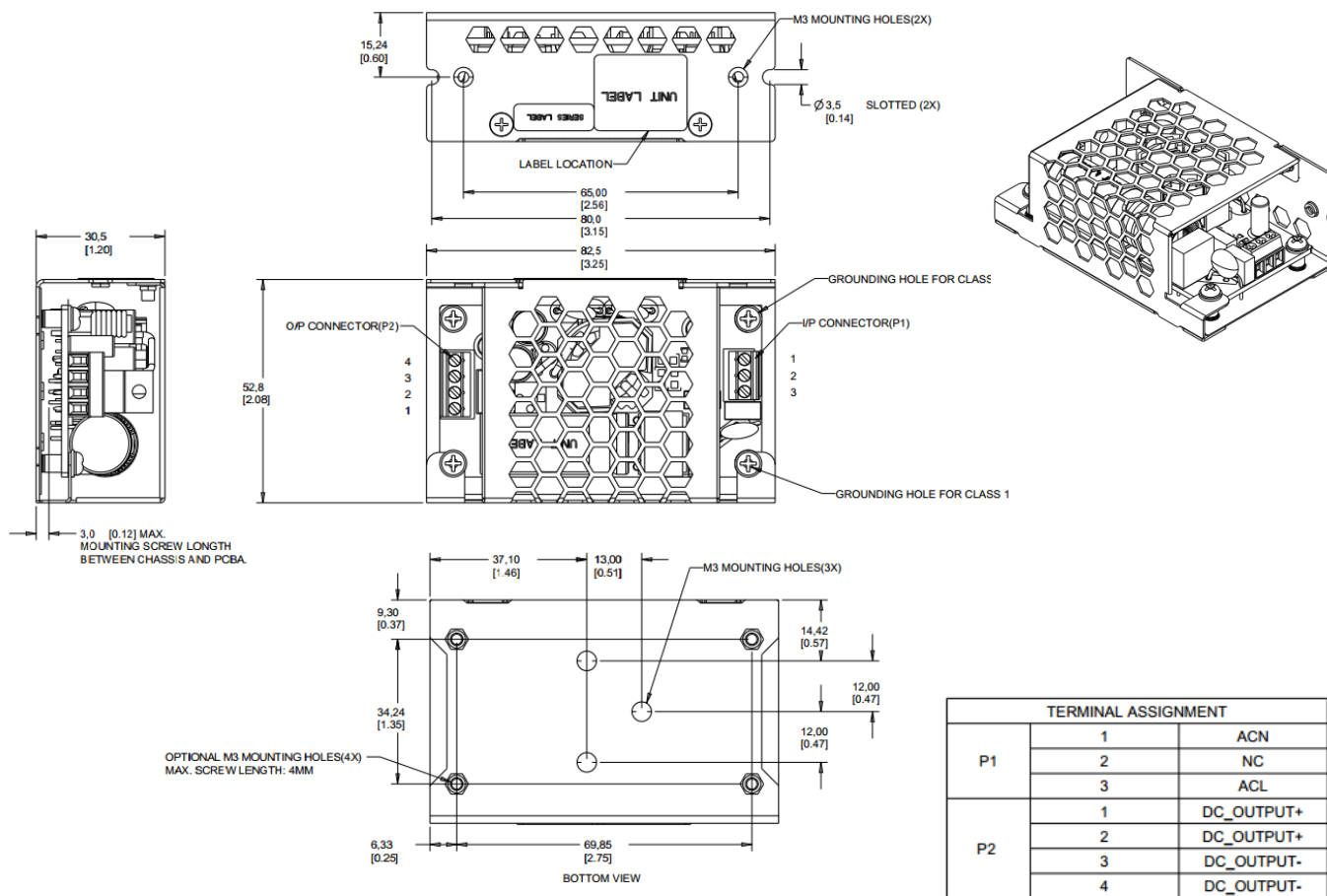


MODEL	OUTPUT POWER	OUTPUT VOLTAGE	OUTPUT CURRENT	EFFICIENCY
ASM30-033-BEH-0F0	20W	3.3VDC	6.1A	80%
ASM30-050-BEH-0F0	30W	5VDC	6.0A	85%
ASM30-075-BEH-0F0	30W	7.5VDC	4.0A	86%
ASM30-120-BEH-0F0	30W	12VDC	2.5A	86%
ASM30-150-BEH-0F0	30W	15VDC	2.0A	86%
ASM30-180-BEH-0F0	30W	18VDC	1.67A	86%
ASM30-240-BEH-0F0	30W	24VDC	1.25A	88%
ASM30-280-BEH-0F0	30W	28VDC	1.07A	88%
ASM30-360-BEH-0F0	30W	36VDC	0.83A	89%
ASM30-480-BEH-0F0	30W	48VDC	0.63A	89%

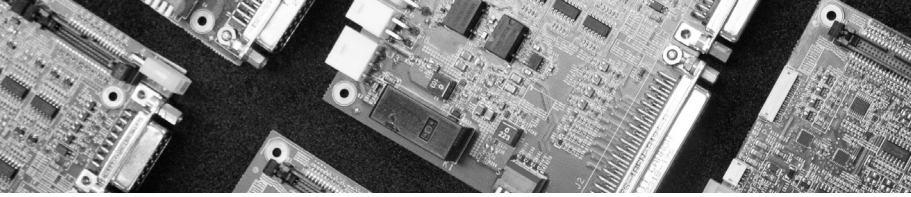
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## 30-WATT MEDICAL AND INDUSTRIAL POWER SUPPLY

### SINGLE OUTPUT, ENCLOSED WITH TERMINAL BLOCKS – ASM30-XXX-BET-ZZZ



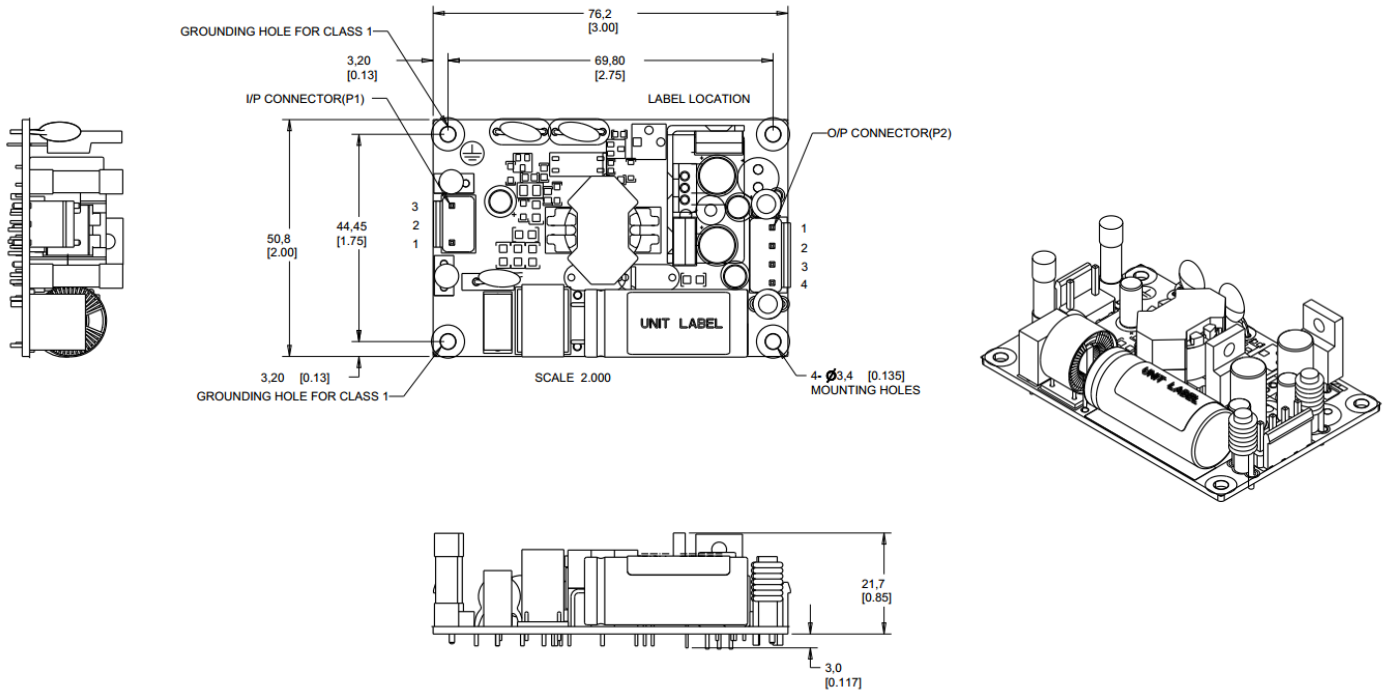
MODEL	OUTPUT POWER	OUTPUT VOLTAGE	OUTPUT CURRENT	EFFICIENCY
ASM30-033-BET-0F0	20W	3.3VDC	6.1A	80%
ASM30-050-BET-0F0	30W	5VDC	6.0A	85%
ASM30-075-BET-0F0	30W	7.5VDC	4.0A	86%
ASM30-120-BET-0F0	30W	12VDC	2.5A	86%
ASM30-150-BET-0F0	30W	15VDC	2.0A	86%
ASM30-180-BET-0F0	30W	18VDC	1.67A	86%
ASM30-240-BET-0F0	30W	24VDC	1.25A	88%
ASM30-280-BET-0F0	30W	28VDC	1.07A	88%
ASM30-360-BET-0F0	30W	36VDC	0.83A	89%
ASM30-480-BET-0F0	30W	48VDC	0.63A	89%



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## 30-WATT MEDICAL AND INDUSTRIAL POWER SUPPLY

### DUAL OUTPUT, OPEN FRAME WITH HEADERS – ASM30D-XXXX-BNH-ZZZ



TERMINAL ASSIGNMENT	ASM30D-3306-XXX-XXX	ASM30D-0524-XXX-XXX	ASM30D-0606-XXX-XXX	ASM30D-1212-XXX-XXX	ASM30D-1515-XXX-XXX	
P1	ACN	ACN	ACN	ACN	ACN	
	NC	NC	NC	NC	NC	
	ACL	ACL	ACL	ACL	ACL	
P2	1	+6V	+24V	+6V	+12V	+15V
	2	+3.3V	+5V	AGND	AGND	AGND
	3	+3.3V	+5V	AGND	AGND	AGND
	4	AGND	AGND	-6V	-12V	-15V
	5	AGND	AGND	-6V	-12V	-15V

#### MODEL

#### OUTPUT POWER

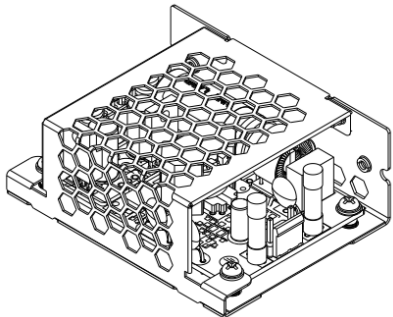
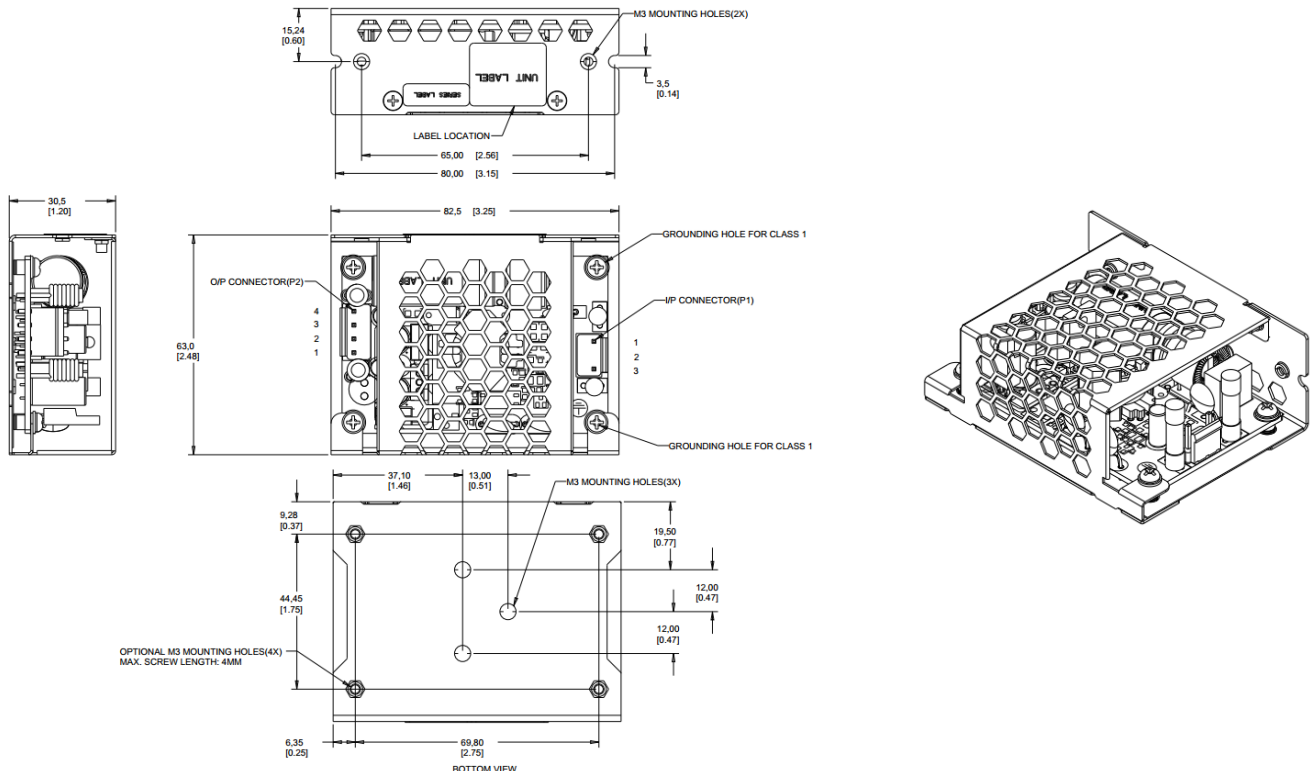
#### OUTPUT CURRENT

ASM30D-3306-BNH-0F0	+6VDC, 1.67A, 10W	+3.3VDC, 3.0A, 10W
ASM30D-0524-BNH-0F0	+24VDC, 0.73A, 17.5W	+5VDC, 2.5A, 12.5W
ASM30D-0606-BNH-0F0	+6VDC, 2.5A, 15W	-6VDC, 2.5A, 15W
ASM30D-1212-BNH-0F0	+12VDC, 1.25A, 15W	-12VDC, 1.25A, 15W
ASM30D-1515-BNH-0F0	+15VDC, 1.0A, 15W	-15VDC, 1.0A, 15W

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## 30-WATT MEDICAL AND INDUSTRIAL POWER SUPPLY

### DUAL OUTPUT, ENCLOSED WITH HEADERS – ASM30D-XXXX-BEH-ZZZ



TERMINAL ASSIGNMENT		ASM30D-3306-XXX-XXX	ASM30D-0524-XXX-XXX	ASM30D-0606-XXX-XXX	ASM30D-1212-XXX-XXX	ASM30D-1515-XXX-XXX
P1	ACN	ACN	ACN	ACN	ACN	ACN
	NC	NC	NC	NC	NC	NC
	ACL	ACL	ACL	ACL	ACL	ACL
P2	1	+6V	+24V	+6V	+12V	+15V
	2	+3.3V	+5V	AGND	AGND	AGND
	3	+3.3V	+5V	AGND	AGND	AGND
	4	AGND	AGND	-6V	-12V	-15V
	5	AGND	AGND	-6V	-12V	-15V

**MODEL**

**OUTPUT POWER**

**OUTPUT CURRENT**

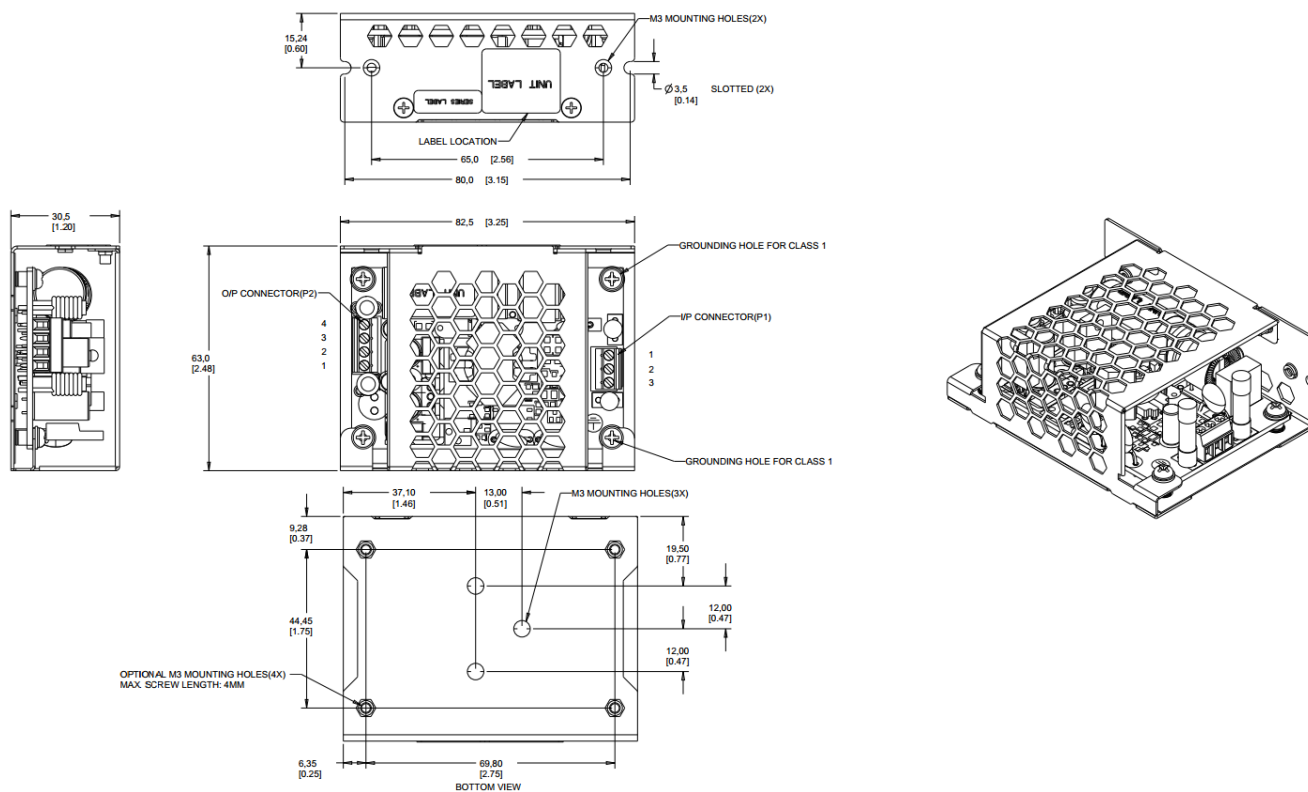
ASM30D-3306-BEH-0F0	+6VDC, 1.67A, 10W	+3.3VDC, 3.0A, 10W
ASM30D-0524-BEH-0F0	+24VDC, 0.73A, 17.5W	+5VDC, 2.5A, 12.5W
ASM30D-0606-BEH-0F0	+6VDC, 2.5A, 15W	-6VDC, 2.5A, 15W
ASM30D-1212-BEH-0F0	+12VDC, 1.25A, 15W	-12VDC, 1.25A, 15W
ASM30D-1515-BEH-0F0	+15VDC, 1.0A, 15W	-15VDC, 1.0A, 15W



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### DUAL OUTPUT, ENCLOSED WITH TERMINAL BLOCKS – ASM30D-XXXX-BET-ZZZ



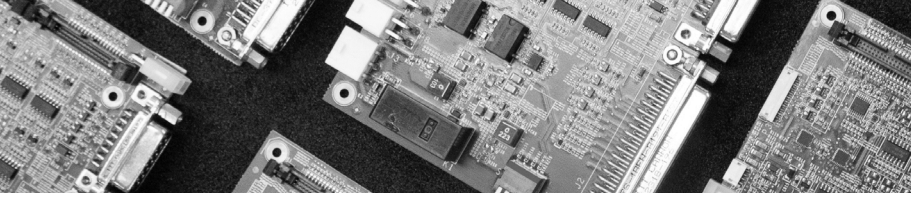
TERMINAL ASSIGNMENT	ASM30D-3306-XXX-XXX	ASM30D-0524-XXX-XXX	ASM30D-0606-XXX-XXX	ASM30D-1212-XXX-XXX	ASM30D-1515-XXX-XXX	
P1	ACN	ACN	ACN	ACN	ACN	
	NC	NC	NC	NC	NC	
	ACL	ACL	ACL	ACL	ACL	
P2	1	+6V	+24V	+6V	+12V	+15V
	2	+3.3V	+5V	AGND	AGND	AGND
	3	+3.3V	+5V	AGND	AGND	AGND
	4	AGND	AGND	-6V	-12V	-15V
	5	AGND	AGND	-6V	-12V	-15V

#### MODEL

#### OUTPUT POWER

#### OUTPUT CURRENT

ASM30D-3306-BET-0F0	+6VDC, 1.67A, 10W	+3.3VDC, 3.0A, 10W
ASM30D-0524-BET-0F0	+24VDC, 0.73A, 17.5W	+5VDC, 2.5A, 12.5W
ASM30D-0606-BET-0F0	+6VDC, 2.5A, 15W	-6VDC, 2.5A, 15W
ASM30D-1212-BET-0F0	+12VDC, 1.25A, 15W	-12VDC, 1.25A, 15W
ASM30D-1515-BET-0F0	+15VDC, 1.0A, 15W	-15VDC, 1.0A, 15W



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### HEADERS AND MATING CONNECTORS

#### AC Input Connector (P1)

PCB Header	Mating Housing and equivalents	Terminal Contacts and equivalents
CviLux CI5203P1V00 or equivalent	CviLux CI5203S000M or JST VHR-3N	CviLux CI52T031BE0 (AWG# 18~22) or JST SVH-21T-P1.1 (AWG# 18~22)

#### DC Output Connector (P2)

PCB Header	Mating Housing and equivalents	Terminal Contacts and equivalents
CviLux CI5204P1V00 or equivalent	CviLux CI5204S000M or JST VHR-4N	CviLux CI52T031BE0 (AWG# 18~22) or JST SVH-21T-P1.1 (AWG# 18~22)