SERIES: MDP750 | DESCRIPTION: MEDICAL AC-DC POWER SUPPLY

FEATURES

- High efficiency up to 94%
- Form factor 5 x 3 x 1.7 in (127 x 76.2 x 43 mm)
- Output power 750W (Forced air cooling)
- Output Power 400 W (Convection cooling)
- High power density 29.41 W/in^3
- Operating temperature - 20°C to +70°C (see the derating curves)
- Thermal shut-down feature
- Available with metal enclosures / accessories
- Over temperature, Over Voltage, Over Current, and Short Circuit protection
- Stand by 5 VDC / PG Signal / Remote ON/OFF features
- Fan 12 VDC, 0.5 A output & Remote sense signal
- IEC / EN / ANSI AAMI 60601-1



MADE IN INDIA

MODEL

MODEL	Output Voltage typ [VDC]	Output Current[1] Convection max1 [A]	Output Current[1] 400 LFM max2 [A]	Output Power[2] max [W]	Ripple and Noise[3] max [%]	Efficiency typ [%]	Connector type
MDP750-1012	12	25.0	41.66	500	2	90	Screw terminal
MDP750-1015	15	20.0	33.33	500	2	90	Screw terminal
MDP750-1024	24	16.66	31.25	750	1	91	Screw terminal
MDP750-1030	30	13.33	25.0	750	1	91	Screw terminal
MDP750-1048	48	8.33	15.62	750	1	92	Screw terminal
MDP750-1058	58	6.89	12.93	750	1	92	Screw terminal
MDP750-1348	48	8.33	15.62	750	1	92	JST connector
MDP750-1358	58	6.89	12.93	750	1	92	JST connector

Notes:
1. Max1 = convection cooling; Max2 = forced air 400 LFM
2. Maximum output power of 500 W (12V & 15V models) and 750 W (24V, 30V, 48V, 58V models) with 400 LFM forced air cooling, and 300 W (12V & 15V models) and 400 W (24V, 30V, 48V, 58V models) with natural convection cooling.
3. Ripple is peak to peak with 20 MHz bandwidth and 10 µF (Electrolytic capacitor) in parallel with a 0.1 µF capacitor at rated line voltage and load ranges
4. All specifications apply at nominal input voltage of 230 VAC and 25°C, unless otherwise specified.

PART NUMBER KEY

MDP750 1 X VV - YYYY - MMMM

Product Series
MDP750 = Medical High Density Power 750 W Series

Output Type
Number of outputs

Type of Connector
0 = Screw Terminal Connector
3[5] = JST Connector

Chassis
Blank = Open Frame
U = U-frame
L = L-bracket
CK = Cover Kit
CKF = Cover Kit with Fan

Minor o/p variation / Circuit
Any alpha, numeric or alphanumeric character or blank

Output Voltage

Note:
5. The JST Connector is only available for 48V & 58V output models.

Please read our datasheet & drawing disclaimer here.

INPUT

Parameter	Conditions/Description	Min	Typ	Max	Units
Voltage		90	100~240	264	VAC
Frequency		47	50~60	63	Hz
Current				10	A
Inrush current				75	A
Leakage current			300		µA
Touch current				100	µA
Power factor		0.95			

OUTPUT

Parameter	Conditions/Description		Min	Typ	Max	Units
Output power	12, 15 V outputs	with forced air cooling 400 LFM (at 115~264 Vac) with natural convection (at 115~264 Vac)			500 300	W W
	all other outputs	with forced air cooling 400 LFM (at 180~264 Vac) with natural convection (at 180~264 Vac)			750 400	W W
Start-up time	At 115~230 VAC, full load				2	s
Rise time				55		ms
Hold-up time	At 230 VAC			10		ms
Line regulation				±1		%
Load regulation				±1		%
Transient response	Max excursion 5%; 75%-100% step load change at 0.1 A / µs slew rate, 50% duty cycle, 50 Hz, Recovery time			5		ms
Switching frequency	PFC PWM		 100	65	 200	kHz kHz
Drift	After 20 min warm-up			±0.2		%
Over and Undershoot	Turn ON/OFF				10	%

PROTECTIONS

Parameter	Conditions/Description	Min	Typ	Max	Units
Over current protection	Hiccup mode; auto recovery	110			%
Over voltage protection	Latch mode; reset AC input	110		140	%
Short circuit protection	Hiccup mode; auto recovery				
Over temperature protection	Hiccup mode; auto recovery				

SAFETY AND COMPLIANCE

Parameter	Conditions/Description				
Isolation voltage	Input to output (2x MOPP) Input to Earth Output to Earth	4000 1500 1500			VAC VAC VAC
Safety approvals	CB.: IEC 60601-1:2005, IEC 60601-1:2005/AMD1:2012, IEC 60601-1:2005/AMD2:2020 Nemko.: EN 60601-1:2006,A1;A12;A2 UL.: ANSI/AAMI ES60601-1:(2005)/(R)2012 + A1:2012 + A2:2021 CSA.: CSA C22.2 No. 60601-1, 3rd Ed., 2014-03, 2022-3, AMD 2				
Approval agency	CB (Nemko), UL				
Safety file numbers	CB Certificate No.: NO139338 Nemko Certificate No.: P26229061 UL Certificate No.: UL-US-26124929-0, CSA Certificate No.: UL-CA-2691860-0				
Class	Class I				
Conducted emissions	EN 55011, CISPR22-B, FCC PART15-B; Level B				
Radiated emissions	EN 55011; Level A				

Harmonic current	EN 61000-3-2; Class A
Fluctuation & flicker	EN 61000-3-3; Compliance
ESD immunity	EN 61000-4-2; Level 4, Criteria A
Radiated field immunity	EN 61000-4-3; Level 3, Criteria A
Electrical fast transient	EN 61000-4-4; Level 3, Criteria A

SAFETY AND COMPLIANCE

Parameter	Conditions/Description	Min	Typ	Max	Units
Surge immunity	EN 61000-4-5; Level 3, Criteria A				
Conducted immunity	EN 61000-4-6; Level 3, Criteria A				
Magnetic field immunity	EN 61000-4-8; Level 4, Criteria A				
Voltage dips & interruptions	EN 61000-4-11; Criteria A & B				
MTBF	as per Telcordia SR-332 Issue 3	800 000			hours
RoHS	yes				

ENVIRONMENTAL

Parameter	Conditions/Description	Min	Typ	Max	Units
Storage temperature		-40		85	°C
Humidity	Relative	5		95	%
Operating altitude	Non-condensing			5000	m
Non-operating altitude	Non-condensing			12000	m

MECHANICAL

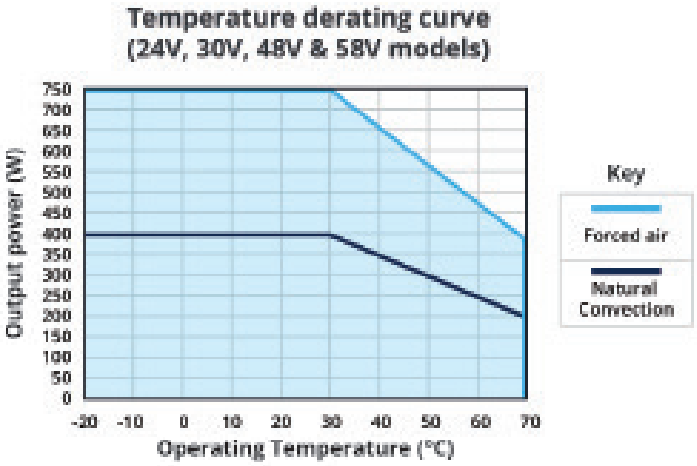
Parameter	Conditions/Description	Min	Typ	Max	Units
Dimensions	Open Frame: 127.0 x 76.19 x 43.5 [5.00 x 3.00 x 1.70 inch] L-Bracket: 127.0 x 83.0 x 45.0 [5.00 x 3.27 x 1.77 inch] U-Frame: 127.0 x 92.0 x 45.0 [5.00 x 3.62 x 1.77 inch] Cover Kit: 140.0 x 90.0 x 57.5 [5.51 x 3.54 x 2.26 inch] Cover Kit with Fan: 140.0 x 115.0 x 57.5 [5.51 x 4.53 x 2.26 inch]				mm mm mm mm mm
Weight	Open frame L-Bracket U-Frame Cover Kit Cover Kit with Fan		600 650 650 850 1000		g g g g g
Cooling	Forced air cooling 400 LFM Convection cooling				

SIGNALS & CONTROLS

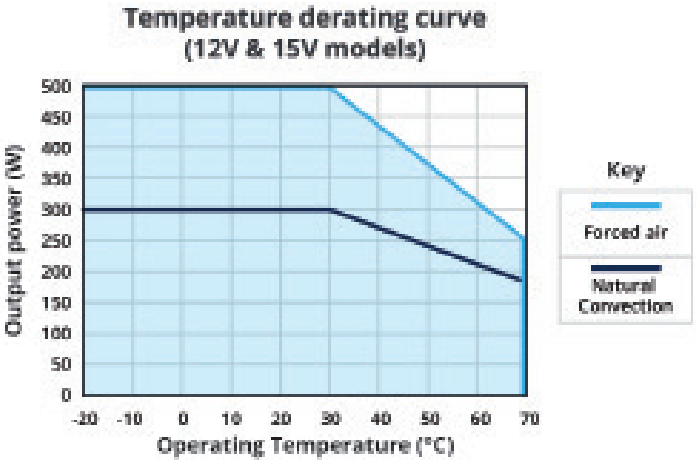
Parameter	Conditions/Description
Power Good	Is a TTL signal which goes high after main output reaches 90% of its set value. The delay is 0.1 s to 0.5 s
Remote on/off	Shorting Pin 6 to Pin 4 enables main output while keeping the Pin 6 open disables main output
SB output voltage[6]	5 VDC / 0.5 A at 30°C, Derate linearly to 0.25 A at 70°C

Notes:
6. Tolerance including set point accuracy, line and load regulation is +/-10 %. Ripple and noise is less than 5 %.

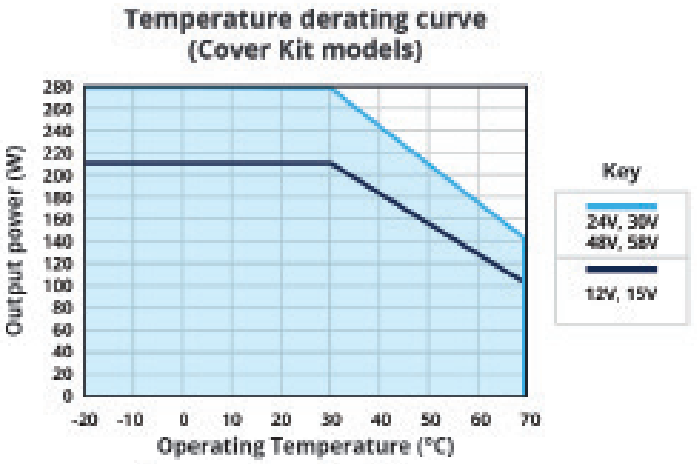
DERATING CURVES

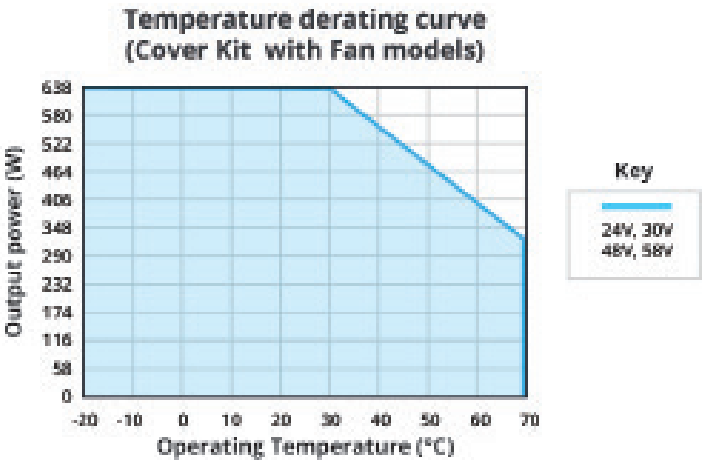


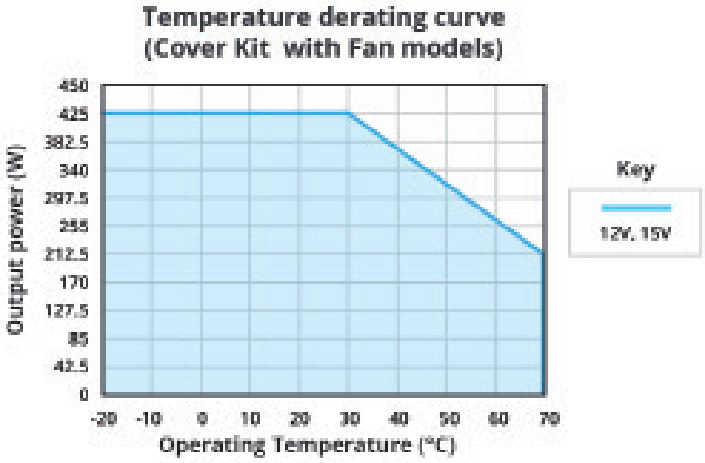
Notes:
1. Convection: 400 W up to 30°C; derate above 30°C @ 1.25% per °C
2. Forced air: 750 W up to 30°C; derate above 30°C @ 1.25% per °C

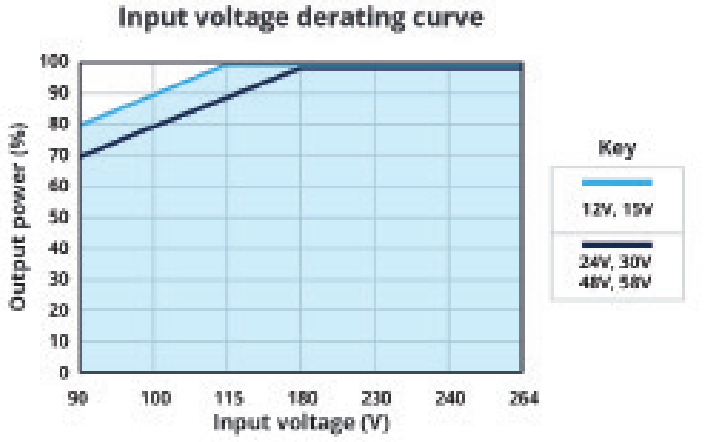


Notes:
1. Convection: 300 W up to 30°C; derate above 30°C @ 1.25% per °C
2. Forced air: 500 W up to 30°C; derate above 30°C @ 1.25% per °C





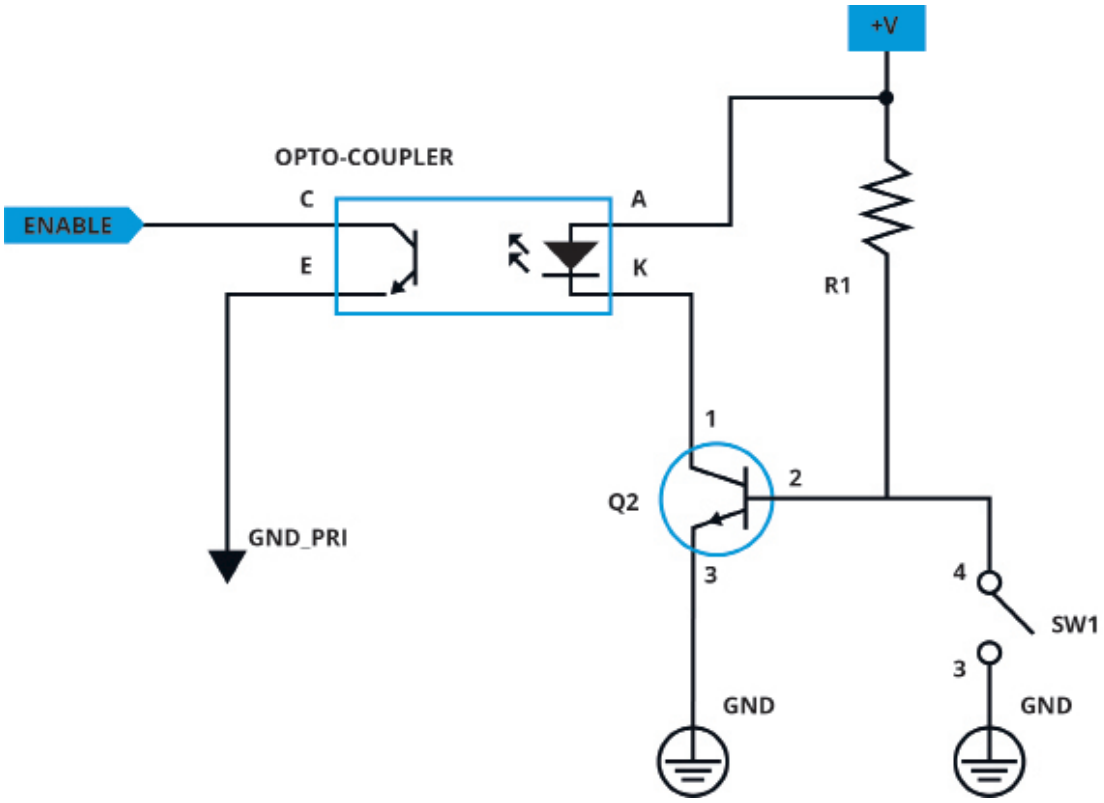




Notes:
1. Derate linearly from 100% at 115 VAC to 80% at 90 VAC (12V, 15V)
2. Derate linearly from 100% at 180 VAC to 70% at 90 VAC (24V-58V)

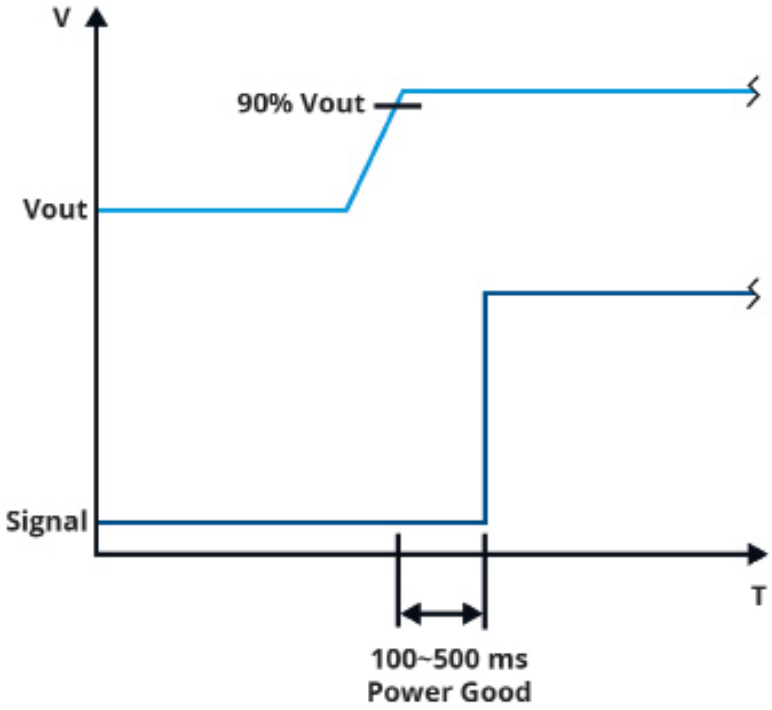
REMOTE ON/OFF

Figure 1



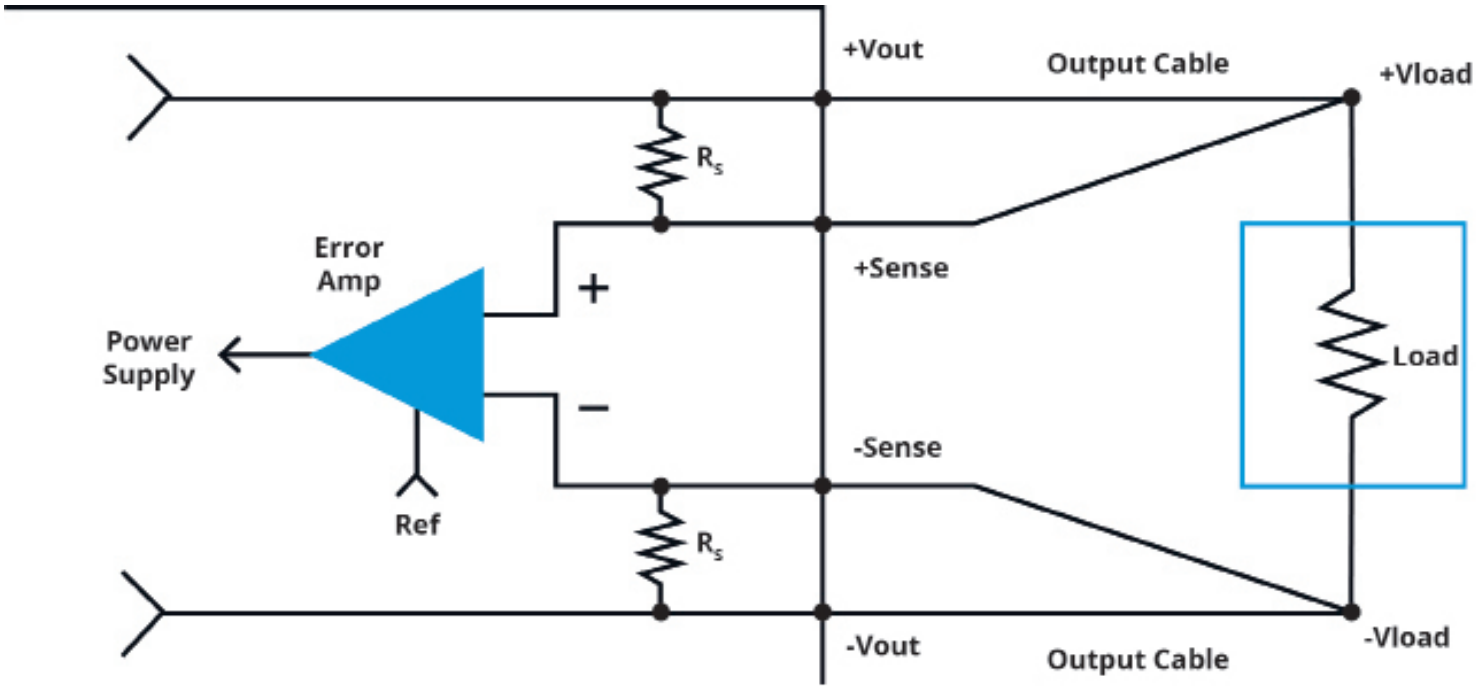
POWER GOOD

Figure 2



VOLTAGE SENSE

Figure 3



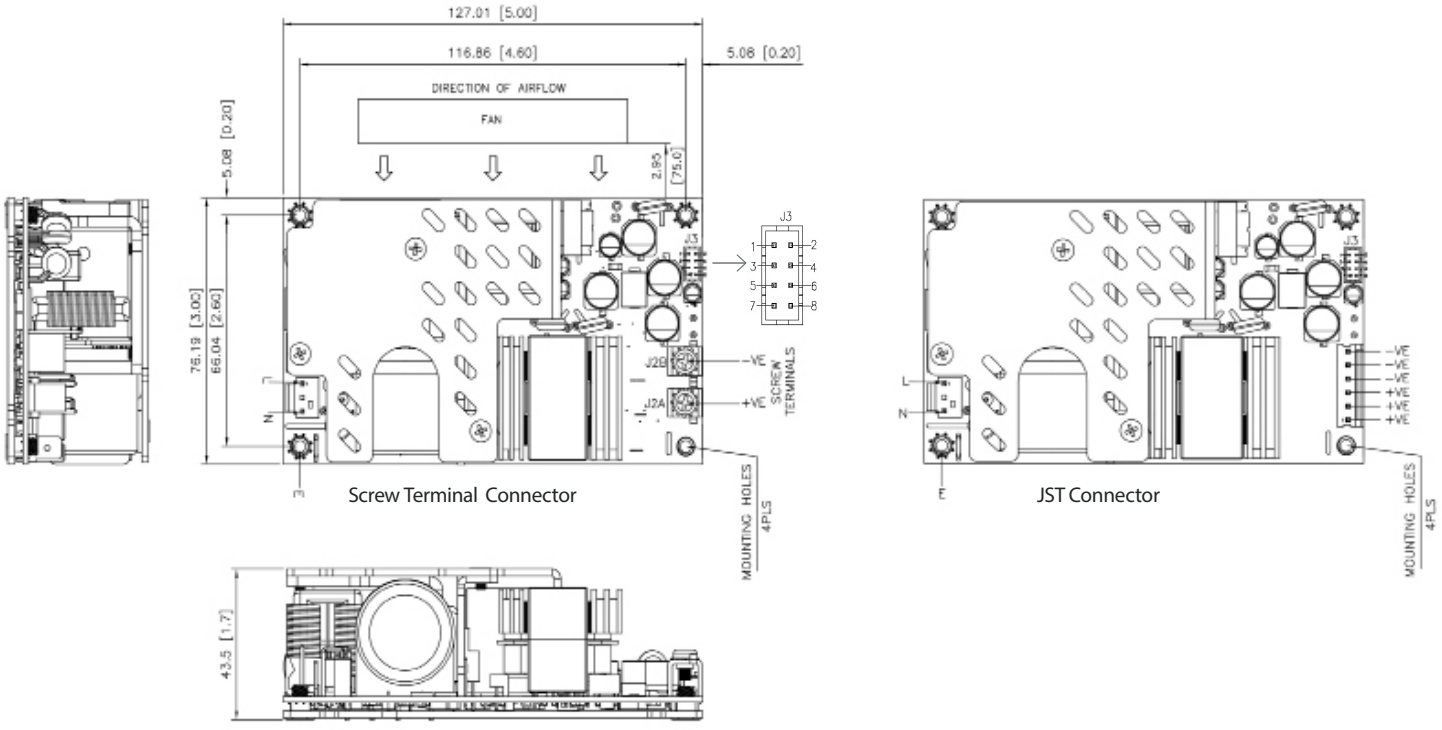
CONNECTORS / PIN DESCRIPTION

Connector	Pin	Function	Connector Manufacturer's PN
AC input connector - J1 (Molex)	Pin 1	AC Line	Molex: 26-60-4030 Mating: 09-50-3031; Pins: 08-50-0106
	Pin 2	Not fitted	
	Pin 3	AC Neutral	
DC output connector - J2 (Screw Terminal)	J2A	V1 +VE	SCREW TERMINAL BRACKET M4 4 PIN D Part No : AMT0440080DB0000G_Amphenol Anytek These terminal use M4 screw Ring terminal: Tyco 35148 or KST RV3-4 or equivalent
	J2B	V1 -VE	
DC output connector - J2 (JST)	Pin 1, 2, 3	V1 +VE	JST p/n: B6P-VH(LF)(SN) Mating: JST p/n: VHR-6M; Pins: SVH 41T-P1.1
	Pin 4, 5, 6	V1 -VE	
Auxiliary connector - J3 (JST)	Pin 1	12V FAN	P/N: B8B-PHDSS(LF)(SN)_JST or equivalent Mating: PHDR-08VS_JST or equivalent Pins: SPHD-001T-P0.5_JST or equivalent
	Pin 2	GND	
	Pin 3	5VSB	
	Pin 4	GND for Remote ON/OFF	
	Pin 5	Power Good	
	Pin 6	RMT (Remote ON/OFF; Active Low)	
	Pin 7	VS+ (Remote Sense)	
	Pin 8	VS- (Remote Sense)	

MECHANICAL DRAWING - OPEN FRAME

Units: mm [inch]

Tolerance: ±1.0 [±0.04]



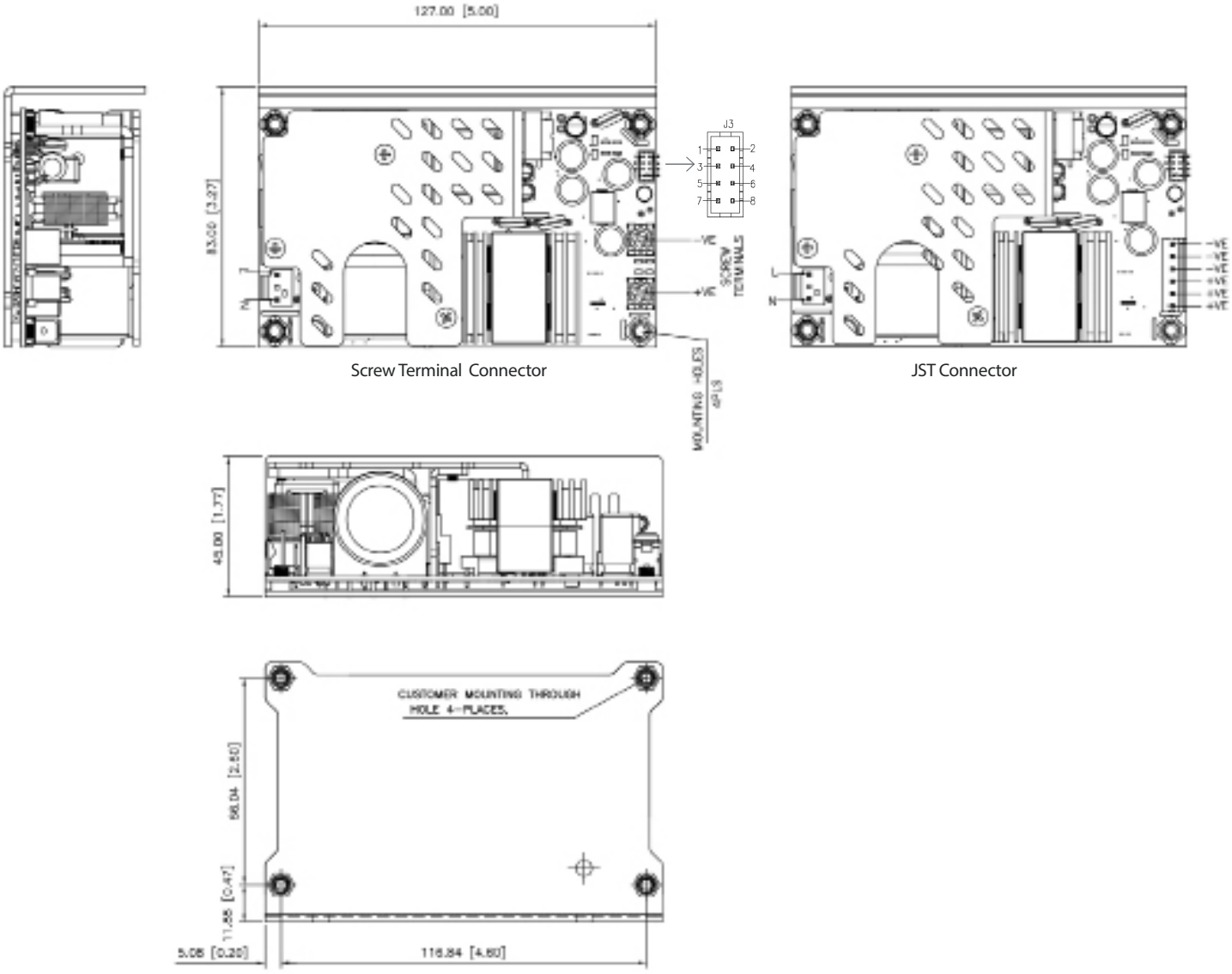
AUXILIARY CONNECTOR - J3 (JST)

Pin	1	2	3	4	5	6	7	8
Function	12V FAN	GND	5 VSB	GND	Power Good	Remote ON/OFF	VS+	VS-

MECHANICAL DRAWING - L-BRACKET

Units: mm [inch]

Tolerance: ±1.0 [±0.04]



Screw Terminal Connector

JST Connector

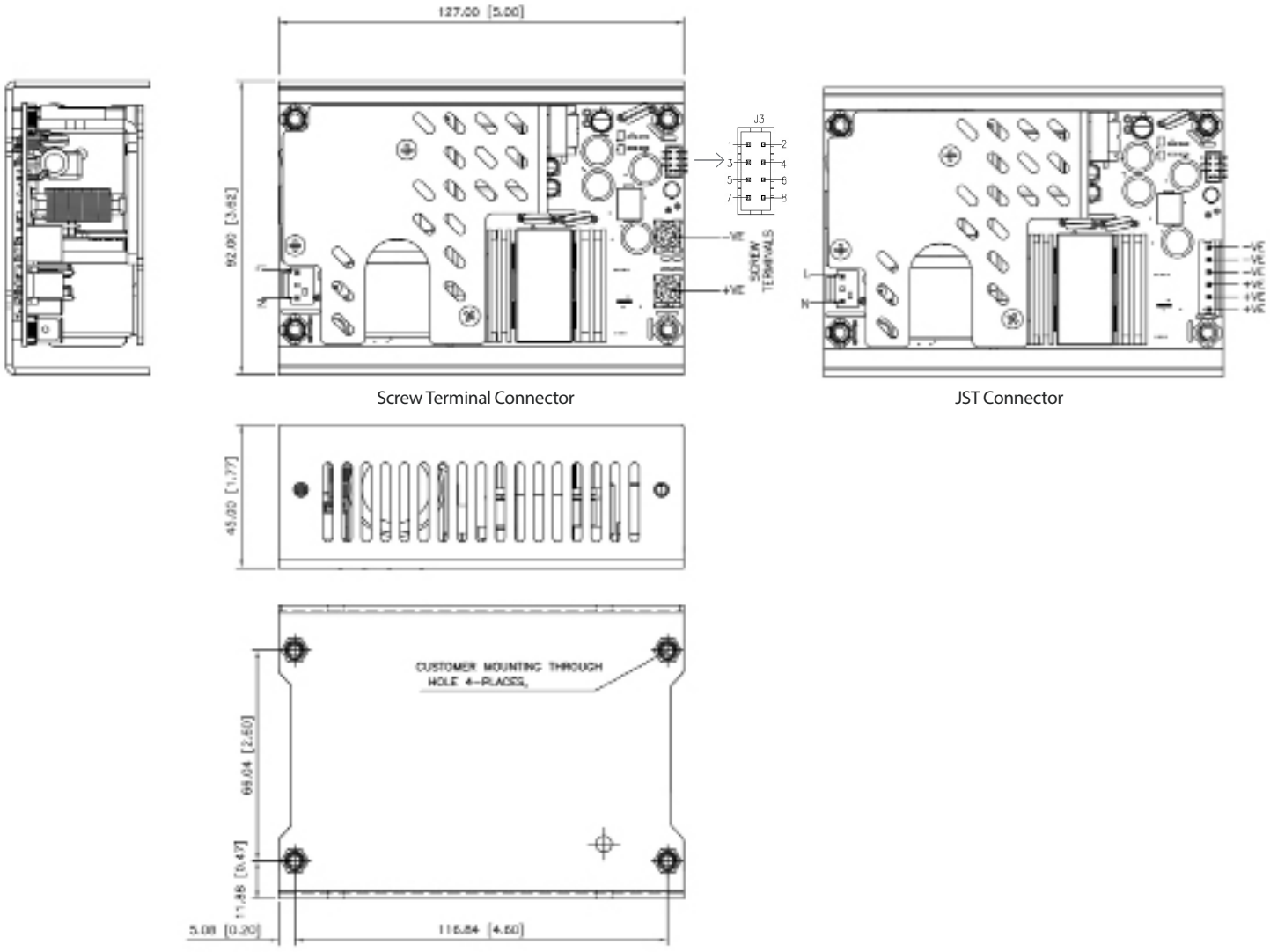
AUXILIARY CONNECTOR - J3 (JST)

Pin	1	2	3	4	5	6	7	8
Function	12V FAN	GND	5 VSB	GND	Power Good	Remote ON/OFF	VS+	VS-

MECHANICAL DRAWING - U-FRAME

Units: mm [inch]

Tolerance: ±1.0 [±0.04]



Screw Terminal Connector

JST Connector

AUXILIARY CONNECTOR - J3 (JST)

Pin	1	2	3	4	5	6	7	8
Function	12V FAN	GND	5 VSB	GND	Power Good	Remote ON/OFF	VS+	VS-

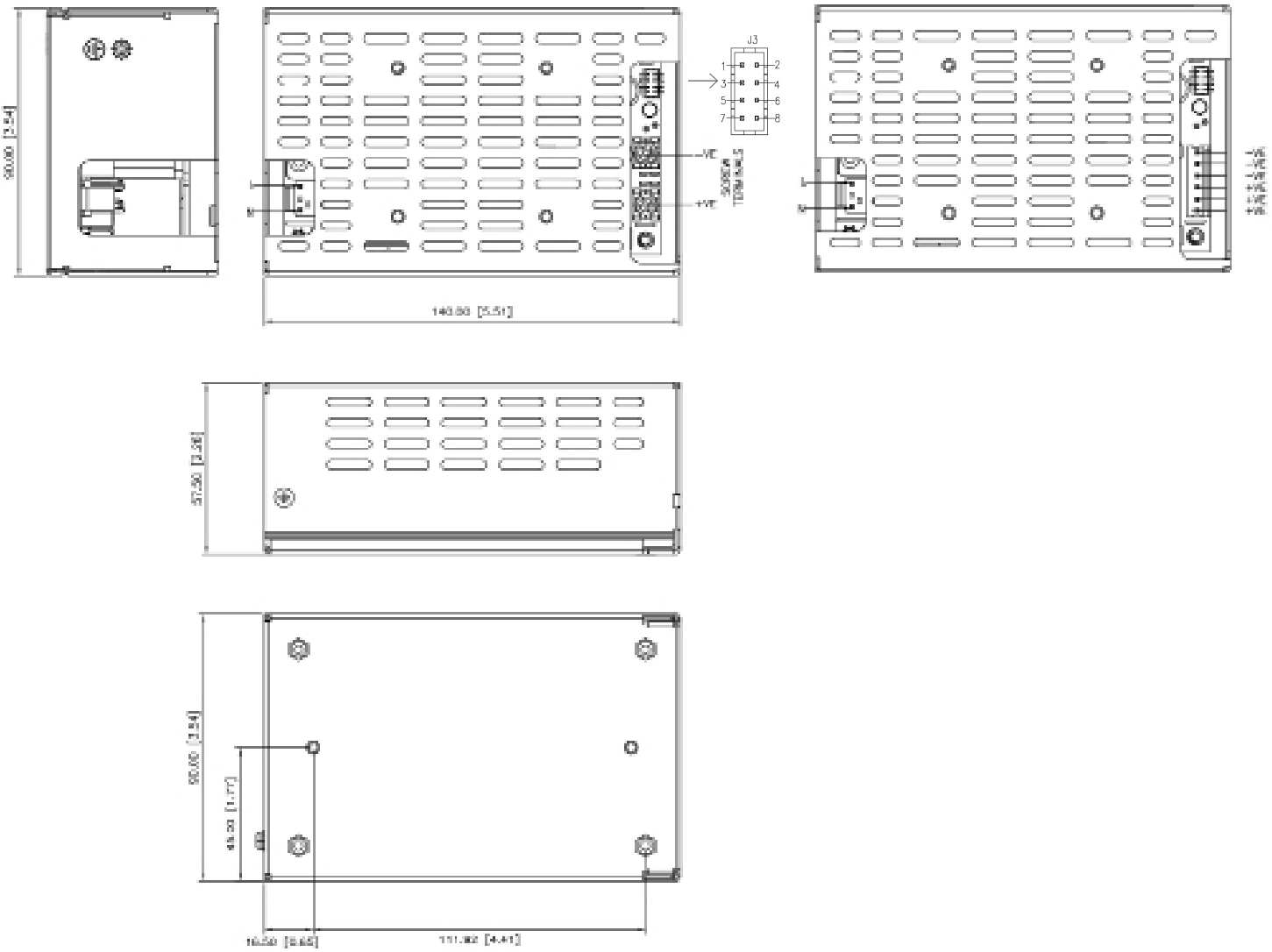
MECHANICAL DRAWING - COVER KIT

Units: mm [inch]

Tolerance: ±1.0 [±0.04]

Screw Terminal Connector

JST Connector



AUXILIARY CONNECTOR - J3 (JST)

Pin	1	2	3	4	5	6	7	8
Function	12V FAN	GND	5 VSB	GND	Power Good	Remote ON/OFF	VS+	VS-

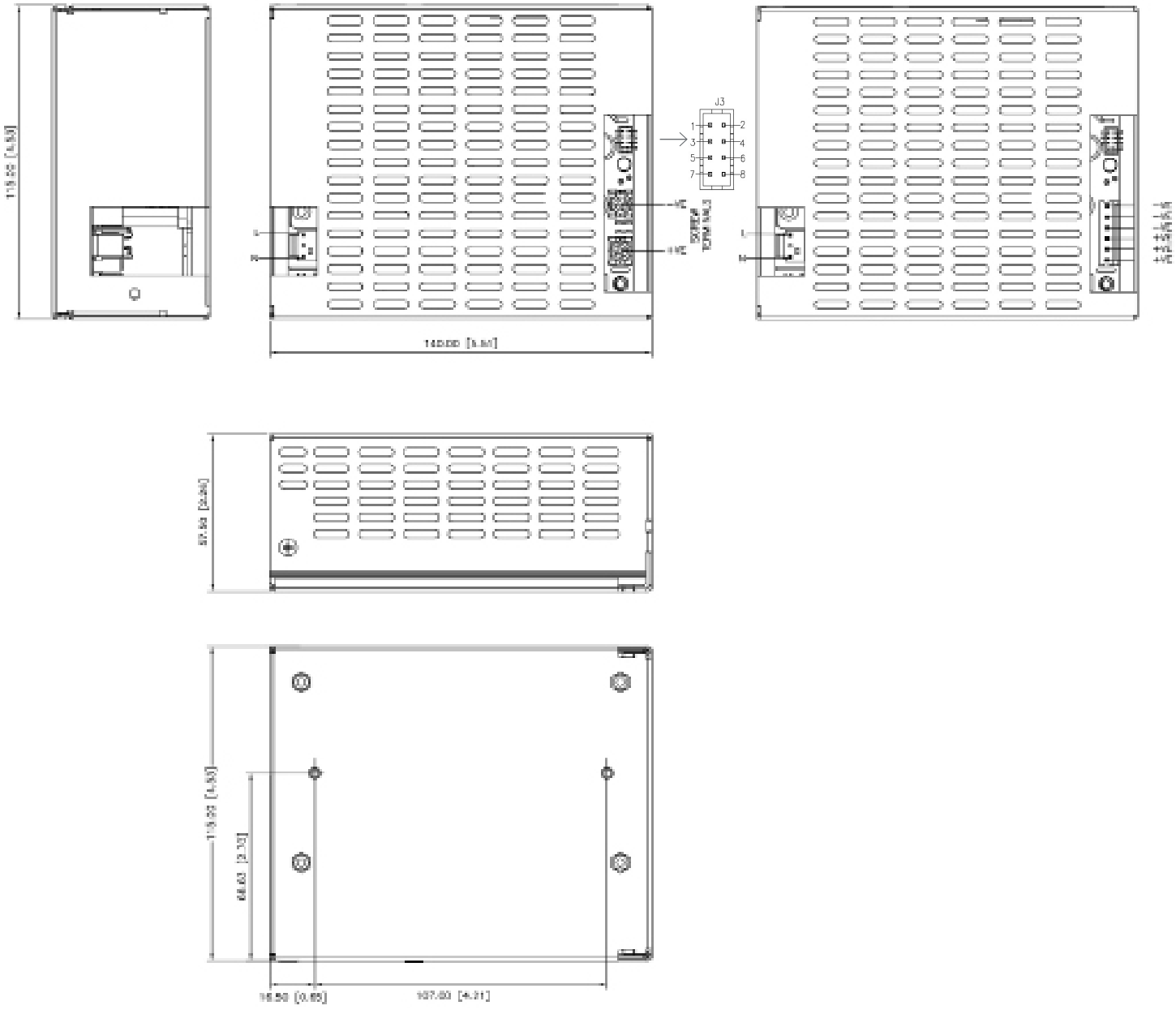
MECHANICAL DRAWING - COVER KIT WITH FAN

Units: mm [inch]

Tolerance: ±1.0 [±0.04]

Screw Terminal Connector

JST Connector



AUXILIARY CONNECTOR - J3 (JST)

Pin	1	2	3	4	5	6	7	8
Function	12V FAN	GND	5 VSB	GND	Power Good	Remote ON/OFF	VS+	VS-

REVISION HISTORY

Rev.	Description	Date
1	Initial release	October/08/2026

Bel Fuse Inc.
300 Executive Drive, Suite 300
West Orange, NJ 07052
United States

Asia-Pacific
+86 755 298 85888

EMEA
+353 61 531 820

North America
+1 866 513 2839

powersupport@belf.com

belfuse.com

© 2026 Bel Fuse Inc.