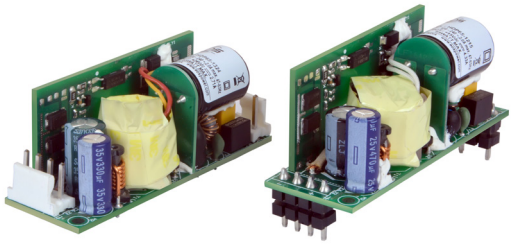
POWER | PROTECT | CONNECT

SERIES: MDP65 | DESCRIPTION: 65 W AC-DC POWER SUPPLY

FEATURES

- New efficient GaN power technology design
- Efficiency up to 92%
- Form factor 1 x 3 x 1.26 in
- Output power up to 65 W
- High power density 17.20 W/in^3
- Operating temperature - 20°C to 70°C
- 2 x MOPP (suitable for medical BF type applications)



MADE IN INDIA

MODEL

MODEL	Connection	Output Voltage [VDC]	Output Current[3] max. [A]	Output Power [W]	Ripple[2] [%]
MDP65-1205 MDP65-1305	PCB mountable Header	5	5	65	5
MDP65-1212 MDP65-1312	PCB mountable Header	12	5.42	65	2
MDP65-1215 MDP65-1315	PCB mountable Header	15	4.33	65	2
MDP65-1224 MDP65-1324	PCB mountable Header	24	2.71	65	1
MDP65-1248 MDP65-1348	PCB mountable Header	48	1.35	65	1
MDP65-1256 MDP65-1356	PCB mountable Header	56	1.16	65	1
MDP65-1256 MDP65-1356	PCB mountable Header	56	1.16	65	1

Notes:
All specifications are measured at nominal input voltage, 25°C, unless otherwise specified.
[2] Output Voltage ripple will be greater than 10 % during burst-mode operation (at operation below 10% of rated load).
Ripple is peak to peak with 20 MHz bandwidth and10 µF (Electrolytic capacitor) in paralle with a 0.1 µF capacitor at rated line voltage and load ranges.
[3] Derating is required.

PART NUMBER KEY

MDP65 - 1X VV - YYYY

Type / Product Series
MDP65 = High Density Power 65 W Series

Connector Type
12 = PCB Mounting
13 = Header Connector

Output Voltage
05 = 5 V **12** = 12 V **15** = 15 V
24 = 24 V **48** = 48 V **56** = 56 V

Minor Output Variations / Circuit
Any alpha, numberic or alphanumeric character or blank

INPUT

Parameter	Conditions	Min	Typ	Max	Units
Input voltage	Derate linearly from 100% at 115 VAC to 80% at 90 VAC	90		264	VAC
Input frequency		47		63	Hz
Input current				1.2	A
Inrush current				75	A
Leakage current				100	µA
No load input power				0.5	W

OUTPUT [4]

Parameter	Conditions	Min	Typ	Max	Units
Output power	At 230 VAC			65	W
Efficiency	At 230 VAC	85		92	%
Hold-up time [5]			10		ms
Line regulation		-1		1	%
Load regulation		-1		1	%
Rise time			55		ms
No loadinput power				0.5	W
Transient response	Max excursion 5%; 50% step load change at 0.1 A/µs slew rate, 50% duty cycle, 50 Hz. Recovery time 5.		5		ms
Switching frequency			65		kHz
Start up delay	At 115/230 VAC, full load			1	s
Over / undershoot	Turn On / Off			10	%

Notes:

[4] Specifications are for nominal input voltage 230 VAC, 25°C unless otherwise stated.

[5] Not for parallel operation.

PROTECTIONS

Parameter	Conditions	Min	Typ	Max	Units
Over current protection	Hiccup mode; auto recovery	103		140	%
Over voltage protection	Hiccup mode; auto recovery	110		140	%
Short circuit protection	Hiccup mode; auto recovery				
Over temperature protection	Hiccup mode; auto recovery				

SAFETY & COMPLIANCE

Parameter	Compliant	Min	Typ	Max	Units
Approval agency	Nemko, UL				
Safety standards	IEC 60601-1, EN 60601-1 ANSI/AAMI ES 60601-1 & C-UL (equivalent to CAN/CSA-C22.2 No.60601-1)				
Safety file numbers	CB Certificate No.: NO133967, Nemko Certificate No.: P25228152				
Equipment protection class	Class II				
Isolation voltage	Input to Output (2x MOPP)		4000		VAC
MTBF	Telcordia -SR332-issue 3		800		kH

ENVIROMENTAL

Parameter	Conditions	Min	Typ	Max	Units
Operating temperature	-20°C to 0°C start-up is guaranteed with spec. deviation	-20		+70	°C
Storage temperature		-40		+85	°C
Humidity	Relative	5		95	%
Altitude	Operating, RH, non-condensing			16000	ft
	Non-operating, non-condensing			40000	ft

EMC

Parameter	Conditions	Class / Level / Criterion
Conducted emissions [6]	EN 55011, CISPR22-B, FCC PART15-B	Class A
Radiated emissions	EN 55011	Class 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
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

Notes:
[6] An external EMI/EMC filter is recommended to connect with the PSU to meet desired EMC/EMI regulations.

MECHANICAL

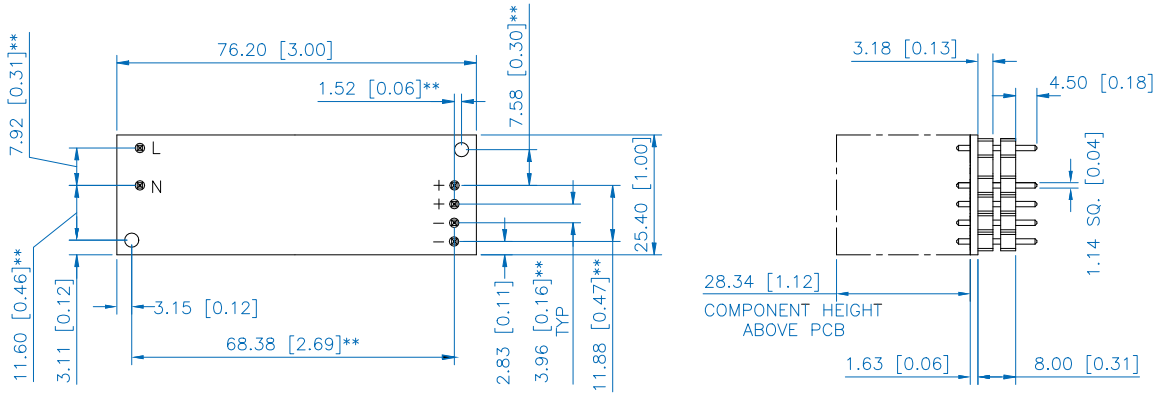
Parameter	Conditions	Min	Typ	Max	Units
Dimensions			25.4 x 32 x 76.2		mm
			1.00 x 1.26 x 3.00		in
Weight			60		g

CONNECTORS / PIN DESCRIPTION

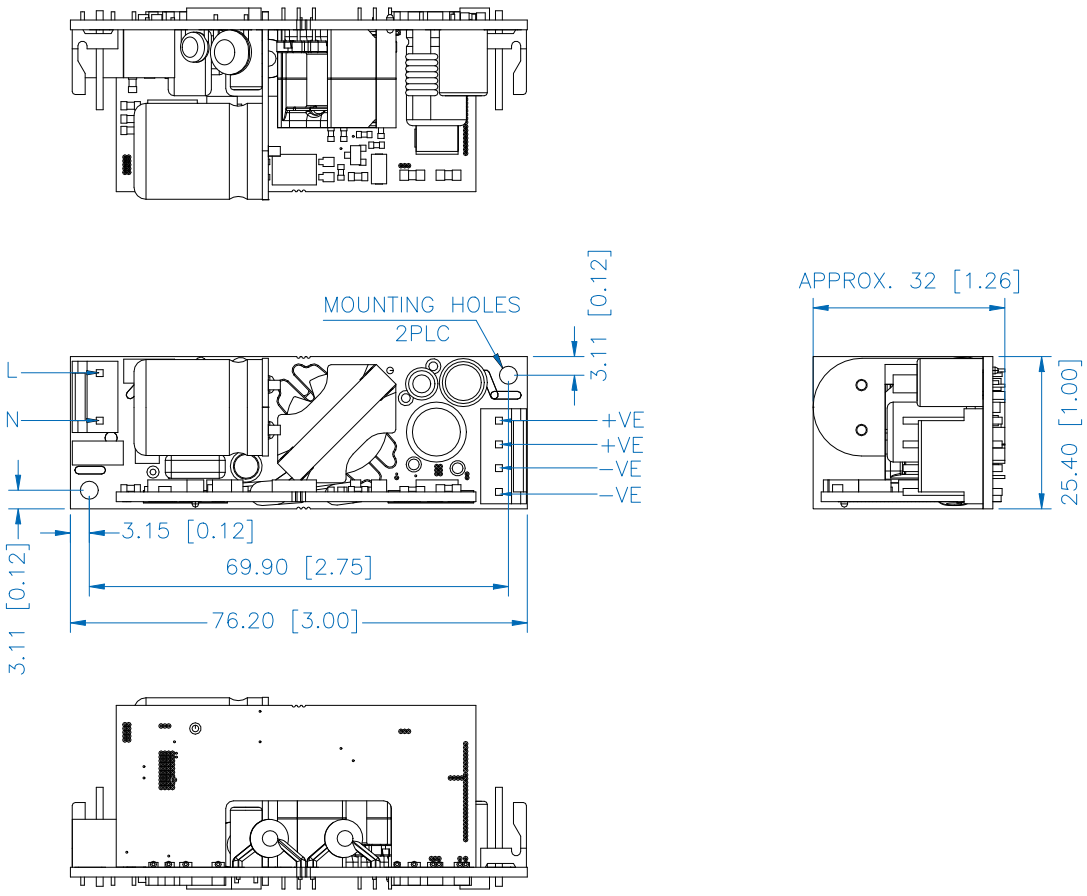
Connector	Pin #	Function	Connector Manufacturer's PN
AC input connector (J1) (Header)	Pin 1	AC Line	TE Connectivity: 640445-3 Mating: 640250-3; Pins: 3-640707-1
	Pin 2	Not fitted	
	Pin 3	AC Neutral	
AC input connector (J1) (PCB mount)	Pin 1	AC Line	Greenconn: GPJA104-0301A652C1ZA or equivalent
	Pin 2	Not fitted	
	Pin 3	AC Neutral	
DC output connector (J2) (Header)	Pin 1, 2	V1 +VE	TE Connectivity: 640445-4 Mating: 640250-4; Pins: 3-640707-1
	Pin 3, 4	V1 -VE	
DC output connector (J2) (PCB mount)	Pin 1, 2	V1 +VE	Greenconn: GPJA104-04-01A050C1ZA or equivalent
	Pin 3, 4	V1 -VE	

MECHANICAL DRAWING

MDP65-12XX SERIES (PCB Mount)
Units: mm [in]
General tolerance: ±1.0 mm [0.04 in]
** Tolerance: ±0.2 mm [0.008]

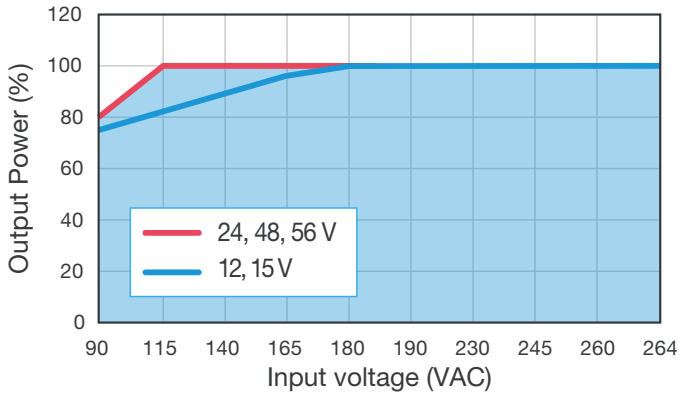


MDP65-13XX SERIES (Header)
Units: mm [in]
General tolerance: ±1.0 mm [0.04]

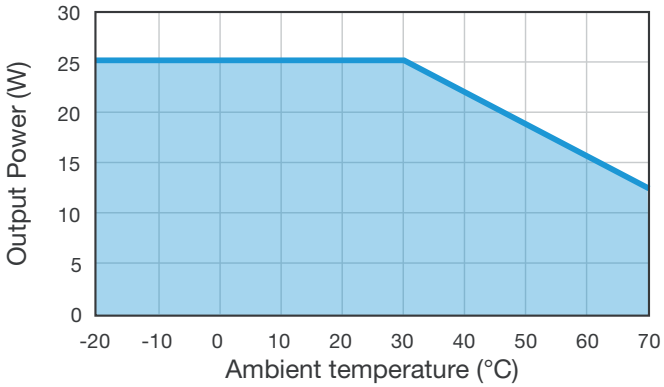


DERATING CURVES

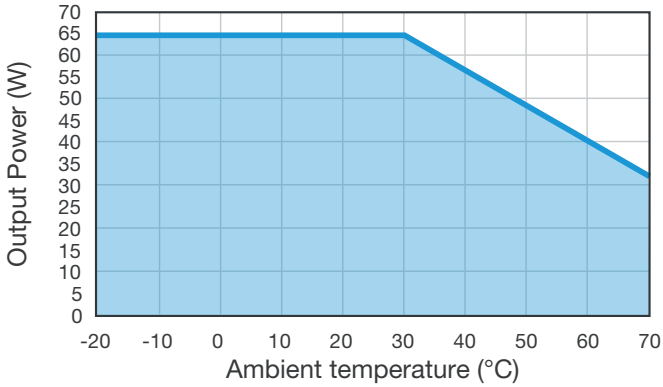
Output Power Derating w.r.t. Input Voltage



Output Power Derating w.r.t. Temperature (5 V)



Output Power Derating w.r.t. Temperature (12 to 56 V)



Load 65 W up to 30°C; derate above 30°C @ 1.25% per °C

REVISION HISTORY

Rev.	Description	Date
1	Initial Release	Feb/12/2025
A		

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