

FEATURES

- Up to 1000 Watt fan-less power / 1200W boost
- Thermal base-plate cooling, fanless construction
- Peak efficiency up to 95%
- Wide operating temperature range -40°C...+80°C
- Certified to industrial- and medical standards
- Analogue control & monitor function
- Active load sharing for parallel operation
- PMBus capable Versions
- Flexible modified standard solutions
- Designed and manufactured in Europe
- 3 year warranty



Dimensions (LxWxH): 228.0 x 96.2 x 40.0mm (9.8 x 3.8 x 1.6 inch) 1000g (2.2 lbs)



DESCRIPTION

The RACM1200-V series is setting a new benchmark for compactness in the class of AC power supplies for reliable fan-less operation supporting long term system availability. A special baseplate cooled design supports heat transfer to allow up to 1000W continuous output power. Up to 1200 Watt output power is available for up to 10 seconds and in boost mode operation or for extended time with sufficient system airflow through the unit. A wide output voltage adjustment range and a combination of constant current limitation and hiccup mode settings makes the product multipurpose. Load sharing supports reliable operation with parallel connected units to increase power. The various analogue control and monitoring functions are accessible via connector. Optional firmware settings available on project base. The RACM1200-V Series can be limited to inherently fail-safe settings on request, using smart, controlled, fault-limiting functions. Only the /PMB Variant supports default settings ex factory to be adjusted, and warning signals to be adopted. An adjustable 12V system FAN output and a 1.5kVAC isolated auxiliary stand by output of 5VSB/1A are available to power the application's housekeeping functions. Peak efficiency reaches up to 95% and in standby mode, the unit is compliant to ecodesign requirements. The product holds worldwide safety files to medical, industrial and ITE standards along with electromagnetic compatibility compliance with class A immunity and class B emissions. Spring stainless steel mounting brackets are available separately for a perfect fixation when mounting over the top of the base plate is preferred. All these features make the product one of the easiest to integrate modular power solutions in the industry.

SELECTION GUIDE						
Part Number	Input Voltage Range ⁽⁵⁾ [VAC]	Output Voltage Factory Set [VDC]	Output Voltage Range [VDC]	Boost Current max ⁽¹⁾ [mA]	Efficiency typ. ⁽²⁾ [%]	Output Power ⁽³⁾ [W]
RACM1200-24SAV/ENC	80-264	24	24-28	50	95	1200
RACM1200-48SAV/ENC	80-264	48	48-56	25	95	1200
RACM1200-36SAV/ENC (4)	80-264	36	30-36	40	95	1200

Note1: Refer to "Peak Load Calculation"

- Note2: Efficiency is tested at nominal input and 40-60% load at +25°C ambient temperature
- Note3: Refer to "Suggested Power Rating for MAIN Output"
- Note4: On request (project based)



MODEL NUMBERING



S AV/ENC/PMB PMBus function (5) Enclosed Case Style

VSB Auxiliary Output Voltage (5VDC)

Note5: with suffix "/PMB" PMBus option is built-in. For master commands please refer to link: PMBus mastercommands.pdf

ACCESSORIES		
Part Number	Description	Datasheet Link
RAC-MB1	mounting bracket for additional top mounting, refer to "Mounting with RECOM RAC-MB-1"	RAC-MB1.pdf

BASIC CHARACTERISTICS (measured @ T _{AMB} = 25°C, nom. V _{IN} , full load and after warm-up unless otherwise stated)						
Parameter	Condition			Тур.	Max.	
Nominal Input Voltage		60/50Hz	100VAC		240VAC	
Operating Range ⁽⁶⁾		47-63Hz	80VAC		264VAC	
Input Current	а	ccording to CB report		11.5A	14A	
Inrush Current	colo	d start at 25°C, 230VAC			25A	
No Load Power Consumption	MAIN output REMOTE ON			2W		
Standby Power	MAIN output REMOTE OFF				1W	
Input Frequency Range					63Hz	
Minimum Load			0%			
Power Factor	refer to "Power Fac					
		5VSB Aux.			500ms	
Start-up time	refer to "SIGNALS"	FAN		750ms	1.5s	
		MAIN, 800W, 85-264VAC (-25°C to +70°C)		750ms	1.5s	
Hold-up time	MAIN 800W		20ms			
Output Ripple and Noise (7)	20MHz BW, valid for MAIN, 5VSB, FAN				1% of nom. V _{out}	

Note6: The products were submitted for safety files at AC-Input operation. (90V-264VAC), DC operation is inhibited. Note7: Measurements are made with a 0.1µF MLCC & 10µF E-cap in parallel across output. (low ESR)







BASIC CHARACTERISTICS (measured @ T_{AMB}= 25°C, nom. V_{IN}, full load and after warm-up unless otherwise stated)



REGULATIONS (measured @ T_{AMB} = 25°C, nom. V _N , full load and after warm-up unless otherwise stated)					
Parameter	Conc	Value			
Set Point Accuracy	M	±1.0% max.			
	5VSB Au	±5.0% max.			
Total Regulation	ling load and tomporature drift	MAIN & FAN	±2.0% max.		
	ine, ioau anu temperature unit	5VSB Aux.	±5.0% max.		

ADDITIONAL FEATURES					
Parameter	Condition		Min.	Тур.	Max.
5VSB Stand By Output Voltage	alwa	10.0D			5VDC
5VSB Stand By Output Current	aiwa	ys 011			1A
Output Voltaga Adjustability	taatila huttan nuah un/dawn	24Vout type (100mV steps)	24VDC		28VDC
Output voltage Aujustability	lacille bullon push up/uowin	48Vout type (200mV steps)	48VDC		56VDC
Remote ON/OFF	maximum allowed voltage	referenced to SIGNAL RTN			5VDC
FAN Output Voltage adjustment	CTRL=	2.5VDC		OFF	
via FAN ADJ Pin #8 @ TTL levels	ia FAN ADJ Pin #8 @ TTL levels CTRL= 2.2VDC0VDC or open		5VDC		12VDC
FAN Output Current	ON/OFF with MAIN channel				1A
"Remote Sense"	differential mode, cable loss compensation				500mV
Parallel Operation			refer to "SHARE"		
	Green continuously		PSU-Good: PSU in standard operation mode		
	Blue intermittent (30% on)		STBY: Standby mode; MAIN Output OFF via REMOTE signal		
	Green intermi	ttent (50% on)	DC-LOW: Signal: {75% <v_{0ut}<95%} drives="" loads<="" nonlinear="" td=""></v_{0ut}<95%}>		
LED Signals	Green / Red alternatively (50%:50%)		OTW: Over temperature warning; Output normal operation		
(Single RGB LED)	Red intermitt	ent (50% on)	OTP: Over temperature, Output OFF, self-recovering after cooling		
	Red / Blue alternatively (50%:50%)		OLP: Over load protection: Output OFF, auto-recovery		
	Green / Blue alterr	atively (50%:50%)	Aux-OLP: Aux overload protection, Aux auto-recovery		
	Red continuously		DC-Fail: Output latch-OFF, permanent fault until AC-reset		





Technical Data Sheet **RACM1200-V** Series \diamond AC/DC Power Supply

1200W ◊ Input: 100V-240VAC





Note8: The outputs are open-drain and require an external pull-up resistor to keep the output in a defined logic state



SIGNALS

Signal Description*

*default signal functions of standard firmware setting

Remote ON/OFF (applicable with non PMBus version)

Pin position - #17 (CON3 connector). Pin type – input pin, referenced to 'SIGNAL RTN' ground. Maximum allowed voltage level: 5VDC. Leave this signal 'open' (not connected) for always-ON operation. Connect to 'SIGNAL RTN' for 'always-OFF' operation. NOTE: Typically, use external mechanical switch between pins #17 and #18 of CON3 connector to control the unit's on/off functionality.

/SCL (applicable with "/PMB" version)

For PMBus master commands please refer to link: PMBus mastercommands.pdf

Remote Sense Activation (applicable with non PMBus version)

Pin position - #15 (CON3 connector). Pin type – input pin, referenced to 'SIGNAL RTN' ground. Maximum allowed voltage level: 5VDC. Leave this signal 'open' (not connected) for internal output sensing functionality. Connect to 'SIGNAL RTN' for activating the remote MAIN-output voltage sensing. When this functionality is set active, the pins 'Remote Sense +' (pin #10) and 'Remote Sense RTN' (pin #9) must be connected to the load points where customer wants to remotely monitor the MAIN output amplitude. When this functionality shall be left inactive (default state), the remote sensing lines 'Remote Sense+' and 'Remote Sense RTN' must stay unconnected.

NOTE: Typically, activating this feature comes together with an external wired sense line connections to the load point, which is expected to be done at process of installing the unit within a system.

/SDA (applicable with "/PMB" version)

For PMBus master commands please refer to link: PMBus_mastercommands.pdf

AC_OK

Pin position - #13 (CON3 connector). Pin type – open-collector output pin, referenced to 'SIGNAL RTN' ground. Minimal pull-up resistor: 5kOhm. Maximal pull-up rail voltage: 5VDC. Maximal output current (+25°C): 1mAmp. Active status: low. Output voltage at active-low state (+25°C): max. 0.4V. Recommended usage: pull-up resistor of 10kOhm to +5VSB voltage rail. The 'AC_OK' signal is set active-low state, when input AC line is more than typ. 80VACrms. The 'AC_OK' signal is set inactive-high state, when input AC line is less than typ.70VACrms.

PSU_GOOD

Pin position - #14 (CON3 connector). Pin type – open-collector output pin, referenced to 'SIGNAL RTN' ground. Minimal pull-up resistor: 5kOhm. Maximal pull-up rail voltage: 5VDC. Maximal output current (+25°C): 1mAmp. Active status: low. Output voltage at active-low state (+25°C): max. 0.4V. Recommended usage: use pull-up resistor of 10kOhm to +5VSB voltage. The 'PSU_OK' signal is set active-low state, when 3 conditions are met: outputs are present, temperature is within limits (less than warning temperature) and no internal failure is activated (e.g. OTP, OCP, OLP, etc.) The 'PSU_OK' signal is set inactive-high state, when at least one of the above 3 conditions is not met.

SHARE

Pin position - #3 (CON3 connector) handshake line for active load sharing in parallel use of units.

- 1) Make sure that pin3 "Share" of CON3 is connected from PSU1 to PSU2.
- Adjust each power supply to the same output voltage with same load and cooling conditions. When PSU is still used with factory set, no adjustment is needed.
- 3) Use the same wire length and cable cross-section for each power supply (star connection) and energize all units at the same time to avoid triggering overload protection.
- 4) Do not use power supplies in parallel in mounting orientations other than the standard mounting orientation (input terminals on the bottom of the unit) or in any other condition where a derating of the output current is required.
- Pay attention that leakage current, EMI, inrush current, harmonics will increase when using multiple power supplies.





PROTECTIONS (measured @ T _{AMB} = 25	°C, nom. V _№ , ⁻	full load and after warm-up unless otherwis	se stated)
Parameter	Туре		Value
Internal Input Fuse		dual-fusing (line and neutral)	2x T12A/250VAC slow-blow type
		IEC62368-1; IEC61010-1 (16)	OVC II
over voltage category (ove)		according to IEC62477-1	OVC III (2000m)
Over Temperature Protection (OTP)		detected on internal sensors	auto recovery after cooling down to +80°C (±5°C)
Over Temperature Warning			refer to "LED Signals" and "PSU_G00D" description
Class of Equipment		with PE	Class I
	1 minute	I/P to O/P (unit)	4kVAC
Isolation Voltage (9)		I/P and O/P to chassis	2.25kVDC
		O/P to 5VSB & signals; 5VSB & signals to chassis (when factory bridge #7 to #16 is removed)	2.25kVDC
Insulation Grade		I/P to O/P	reinforced
Means of Protection		I/P to O/P	2MOPP
Medical Device Classification		built-in power supply	designed to support type BF applications
Touch Current	normal condition		<100µA
		single fault	<500µA
Earth Lookago Current		normal condition	<300µА
		single fault	<1000µA

Note9: For repeat Hi-Pot testing, reduce the time and/or the test voltage

PROTECTIONS MAIN OUTPUT		
Parameter	Туре	Value
Short Circuit Protection (SCP)		hiccup mode, auto recovery
	24Vout	33VDC typ. / hiccup mode
over voltage Frotection (OVF)	48Vout	59VDC typ. / latch off mode
Over Load Protection (OLP)	refer to "Over Load Protection"	max. power / max. current limiting / hiccup mode

Over Load Protection

The unit operates in constant-voltage mode until the max. output power is reached. In case of overload, the unit then decreases the output voltage according the constant power curve until the current reaches the maximum output current. Permanent operation in overload may damage the unit.

Refer to "Suggested Power Rating for MAIN Output"

For even higher load demands, the unit delivers the max. lout current and further reduces the output voltage (constant-current curve). When the output is less than 80% of the minimal output voltage, the unit shuts-off and triggers short circuit protection mode of MAIN and FAN Output (unlimited hiccup mode, 4 sec period).

For continuous operation with reduced power (limited to max. 700 Watt). See <u>PMBus_mastercommands.pdf</u> STATUS_IOUT bitmap for constant current with limited max. output power.



PROTECTIONS FAN OUTPUT					
Parameter	Туре	Value			
Short Circuit Protection (SCP)		auto recovery			
Over Voltage Protection (OVP)		auto recovery, hiccup mode			
Over Current Protection (OCP)		auto recovery, power limitation			



PROTECTIONS 5VSB AUX. OUTPUT					
Parameter	Туре	Value			
Short Circuit Protection (SCP)		hiccup mode, auto recovery			
Over Voltage Protection (OVP)	all outputs protection will be activated	hiccup mode, auto recovery			
Over Current Protection (OCP)		hiccup mode, auto recovery			

ENVIRONMENTAL (measured @ T_AMB= 25°C, nom. V_IN, full load and after warm-up unless otherwise stated)					
Parameter		Condition		Value	
Operating Temperature Pange	refer to "MAIN Output	Nominal Power Rating	T_{AMB} and T_{BASE} temperature	-40°C to +80°C	
Operating remperature hange	vs. Ambient Temperature"		max. start-up temperature	+80°C typ.	
Operating Altitude (10)		according to 6236	i8-1	5000m	
Operating Altitude (19)		according to 6060	1-1	4000m	
Operating Humidity		non-condensing	g	95% RH max.	
IP Rating				IP20	
Pollution Degree				PD2	
Conformal Coating	Please get in touch with your RECOM contact			on request	
	random	5-500Hz, 2Grms, 15 min for each axis		according to IEC60068-2-64	
Shock	sinusoidal	sinusoidal 5-500Hz, 20m/s ² 15 min for each axis		according to IEC60068-2-6	
SHOCK	Functional Shock, 40G, 11ms, 3axes, 3pulses/direction			according to MIL-STD-810H,	
				Method 516.8, Proc. I	
Vibration (Bump)	Half Sine 100m/s ² , 11ms duration, 100 pulse per direction			according to IEC60068-2-29	
Vibration	2.240mm E E001 /z 40min/ovia Tabla E14.00 /////		according to MIL-STD-810H,		
	2.240			Method 514.8, Proc. I, Cat. 4	
Design Lifetime	+40°C (refer to "thermal reference point")			88 x 10 ³ hours	

Note10: Recognized by safety agency for safe operation up to 5000m. High altitude operation above 2000m may impact the performance and lifetime. Please contact RECOM tech support for advice.

Suggested Power Rating for MAIN Output



The units were evaluated to safety files for nominal input voltages 100-240VAC; including a tolerance band of $\pm 10\%$, with a specified maximum T_{BASE} of 80°C for full load rating with 50°C T_{AMB} and up to 80°C T_{AMB}. at reduced output power. T_{BASE} at reference point (see **"thermal reference point"**) shall not exceed 70°C, 80°C or 90°C depending on the condition as per derating graph.

Peak power was evaluated at 60s duty cycle period for safety files. Without externally provided forced airflow, continuous output power needs to be limited to 1000W at high input voltage range and $T_{AMB} < 40^{\circ}$ C with a $T_{BASE} < 70^{\circ}$ C. With forced airflow of 2.5m/s 1200W continuous boost power at high input voltage range (>172V) is available.



ENVIRONMENTAL (measured @ T_{AMB}= 25°C, nom. V_{IN}, full load and after warm-up unless otherwise stated)

MAIN Output Nominal Power Rating vs. Ambient Temperature



Note11: Below T_{AMB} -25°C some specifications may not be met

Note12: Output Power at T_{AMB} = -40°C cold start ≤250W.

Note13: At T_{AMB} +80°C and 30% load, the maximum allowed baseplate temperature $T_{BASE} \le 90$ °C measured on thermal reference point. Refer to **"thermal reference point"**

PEAK LOAD CAPABILITY

PEAK POWER IS NOT AVAILABLE DURING START UP PHASE!

Exceeding power ratings, may reduce the lifetime and lead to OLP power limitation or OTP temperature shut off. Inherently safe unit set up for more strict automatic power limitation is available on request per firmware setting option. Peak Power duty cycle plus recovery period shall not exceed 90% of the average nominal power for repetitive load conditions.

Peak Load Calculation

$$P_{nom} \times 0.9 \times (t_{rec} + t_{peak}) \ge P_{peak} \times t_{peak} + P_{rec} \times t_{rec}; [t_{rec} + t_{peak} \ge 60s]$$

P_{nom}	nominal power output (as per derating graph)	[W]
P _{rec}	applied recovery power	[W]
P _{peak}	applied peak power	[W]
t _{rec}	recovery time	[S]
t _{peak}	peak time	[S]
	$V_{IN} < 172 VAC = 4s max.$	[S]
	$V_{IN} \ge 172VAC-264VAC = 10s max.$	[S]



OFDT



SAFELY & CERTIFICATIONS		
Certificate Type (Safety)	Report Number	Standard
Audio/video, information and communication technology equipment- Safety requirements (CB)	T000 0000/04	IEC62368-1:2014 2nd Edition
Audio/video, information and communication technology equipment - Safety requirements	1223-0232/24	EN62368-1:2014 + A11:2017
Audio/video, information and communication technology equipment- Safety requirements (CB)	E224736	UL62368-1:2014
Audio/video, information and communication technology equipment - Safety requirements	-A6006-UL	CAN/CSA-C22.2 No. 62368-1:2014
Medical Electric Equipment, General Requirements for Safety and Essential Performance	E314885 -D6001-UL	-ANSI/AAMI ES60601 1:2005(R)2012+C1:2009+A2:2010/(R)2012 CAN/CSA-C22.2 No. 60601:14, 3rd Edition
Medical Electric Equipment, General Requirements for Safety and Essential Performance (CB)	T000 0017 04	IEC60601-1:2005, 3rd Edition + C1:2006 + C2:2007 + AM1:2012
Medical Electric Equipment, General Requirements for Safety and Essential Performance	1223-0217_24	EN60601-1:2006 + A1:2013
Safety of transformers, reactors, power supply units and combinations thereof - Part 1: General requirements and tests	compliant (14)	IEC61558-1:2005, 2nd Edition + A1:2009 EN61558-1:2005 + A1:2009
Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements	compliant (15)	IEC61010-1/-2-201
Lamp controlgear Part 1: General and safety requirements (CB Scheme)		IEC61347-1:2015 + A1:2017, 3rd Edition
Lamp controlgear Part 1: General and safety requirements (LVD)		EN61347-1:2015+A1:2021
Lamp controlgear Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules (CB Scheme)	designed to most	IEC61347-2-13:2014 + A1:2016, 2nd Edition
Lamp controlgear Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules (LVD)	designed to meet	EN61347-2-13:2014 + A1:2017
Light Emitting Diado (LED) Equipment for Les in Lighting Draduate		UL8750:2015 2nd Edition
Light Einitung Diode (LED) Equipment for Use in Lighting Products		CSA C22.2 No. 250.13:2020 4th Edition
RoHS2		RoHS 2011/65/EU + AM2015/863

Note14: Insulation inside transformer meets requirements for insulation and overload per IEC61558-1 (tested in T223-0765/20) Note15: Creepage and clearance according to IEC61010-1/-2-201 (tested in T223-0766/20)

EMC COMPLIANCE			
EMC Compliance (EN60601-1-2)	Condition	Standard / Criterion	
Medical electrical equipment - Part 1-2: General requirements for basic safety and essential		IEC60601-1-2:2014, Class B	
performance - Collateral standard: Electromagnetic compatibility - Requirements and tests		EN60601-1-2:2015, Class B	
Industrial, scientific and medical equipment - Radio frequency disturbance			
characteristics - Limits and methods of measurement		ENDOUTT, GIASS D	
Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics -		CICDD 11 Crown 1 Class P	
Limits and methods of measurement (17)			
FSD Electrostatic discharge immunity test	Contact: +8k//	IEC61000-4-2:2008	
		EN61000-4-2:2009	
	10V/m (80-1000MHz, 1.0-2.7GHz)		
	27V/m (385MHz)		
Radiated, radio-frequency, electromagnetic field immunity test	28V/m (450, 810, 870, 930, 1720,	IEC61000-4-3:2006+A2:2010	
	1845, 1970, 2450MHZ)	EN61000-4-3:2006+A2:2010	
	5785MHz)		
Fast Transient and Burst Immunity	AC Power Port: ±4kV	IEC/EN61000-4-4:2012	
	AC Power Port: L-N ±4kV		
Surge minimulity	L-PE, N-PE: ±3kV	IEC/EN61000-4-5:2014	
Immunity to conducted disturbances, induced by radio frequency fields	3Vrms (0.15-80MHz)	IEC61000-4-6:2013	
initiality to conducted distances, induced by fadio-nequency heids	6Vrms (ISM, amateur radio bands)	EN61000-4-6:2014	
Power Magnetic Field Immunity	204/m 50Hz	IEC61000-4-8:2009 EN61000-	
	30A/111, 30112	4-8:2010	
	Voltage Dip 100% (0.5P)		
Voltage Dips and Interruptions	Voltage Dip 100% (1.0P)	IEC/EN61000-4-11:2004	
ender Friedense officient	Voltage Dip 30%		
		ENG1000.0.0	
	Ulass A	EN61000-3-2	
Limits of Voltage Fluctuations & Flicker	Clause 5	EN61000-3-3	



Condition	Standard / Criterion
	EN55032:2015, Class B
	EN55035:2017
	EN55024:2010 + A1:2015
	FCC 47 CFR Part 15 Subpart B, ANSI C63.4:2014, Class B
	Condition

Note16: The emission performance was tested with snap-on ferrite Wurth 742 712 21. The 48V versions with 2-turns of AC-line cable; the 24V version with 2-turns of N (neutral) line only. The output cables were used twisted pair lines, with the typical configuration of grounded return lines.

Note17: Performance criteria A indicates operation within ±10% tolerance band of nominal settings

DIMENSION & PHYSICAL CHARACTERISTICS			
Parameter	Туре	Value	
Materials	chassis	aluminum	
	PCB	FR4, (UL94 V-0)	
Dimension (LxWxH)		228.0 x 96.2 x 40.0mm	
		9.0 x 3.8 x 1.6 inch	
Weight		1000g typ.	
weight		2.2 lbs	

Connector Information's



AC Input Connector CON1			
#	Function	Terminal	
1	AC/L	Dhooniy	
2	PE		
3	AC/N	IDPI 4/ 3-3P-0,33-ZD	

DC Output Connector CON2

#	Function	Terminal
1, 1	-Vout	Phoenix
2, 2	+Vout	TDPT 2,5/ 4-SP-5,08

General tolerances according to ISO 2768-m (table for reference only)		
Dimension range	Tolerances	
0.5 - 6 mm	±0.1 mm	
6 - 30 mm	±0.2 mm	
30 - 120 mm	±0.3 mm	
120 - 400 mm	±0.5 mm	



Back View (Output/Signal)

- 13 AC_OK
 - 15 Remote Sense Activation** / SDA***
 - 17 Remote ON/OFF** / SCL***
- 19 5VSB+
- * factory bridge from Pin7 (FAN RTN) to Pin16 (Signal RTN)

** applicable with standard version

*** applicable with "/PMB" version

#

2

4

6 NC

8

12 NC PSU_GOOD

14

16 Signal RTN *

18 Signal RTN

20 5VSB RTN

Mating connector CON3

Housing= Cvilux CI0120SD000 Contact= Cvilux CI01TD21PE0

Connection wire cross sections: during building in the product, installer needs to take care to use wires with appropriate cross-section for the rated voltage/currents

DIMENSION & PHYSICAL CHARACTERISTICS

Dimension Drawing



Dimensions marked with * are for pre-fixing features

General tolerances according to ISO 2768-m (table for reference only)		
Dimension range	Tolerances	
0.5 - 6 mm	±0.1 mm	
6 - 30 mm	±0.2 mm	
30 - 120 mm	±0.3 mm	
120 - 400 mm	+0.5 mm	

Note18: Exceeding the MAX. penetration can cause a safety hazard within product.





DIMENSION & PHYSICAL CHARACTERISTICS

Dimension Drawing



Note19: Although sufficient heat transfer via base plate can be achieved with just 3 screws per side, the use of 2x4 screws is recommended.

121.3



INSTALLATION AND APPLICATION

Mounting position and clearances



If the PSU is horizontal, upside down or side mounted, no derating is required.

With forced air cooling, mounting orientation has no impact on output power. Device should be FAN cooled from AC side. If thermal conduction cooling is suggested, use of heat sink compound is recommended for improved heat transfer via baseplate.



A minimum clearance of 50mm must be maintained on the narrow sides of the power supply, (AC input and DC output/Signal). Additionally, a minimum clearance of 30mm is required on the sidewalls and top surface, when operating at 50% continuous load or higher, unless an active airflow or a heat-conducting mechanism is provided.

These clearances are mandatory to ensure proper heat dissipation and safe operation of the power supply.



BLOCK DIAGRAM



PACKAGING INFORMATION			
Parameter	Туре	Value	
Packaging Dimension (LxWxH)	cardboard box	303.0 x 164.0 x 45.0mm	
Packaging Quantity		1pc	
Storage Temperature Range		-40°C to +85°C	
Storage Humidity	non-condensing	90% RH max.	

The product information and specifications may be subject to changes even without prior written notice. The product has been designed for various applications; its suitability lies in the responsibility of each customer. The products are not authorized for use in safety-critical applications without RECOM's explicit written consent. A safety-critical application is an application where a failure may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The applicant shall indemnify and hold harmless RECOM, its affiliated companies and its representatives against any damage claims in connection with the unauthorized use of RECOM products in such safety-critical applications.