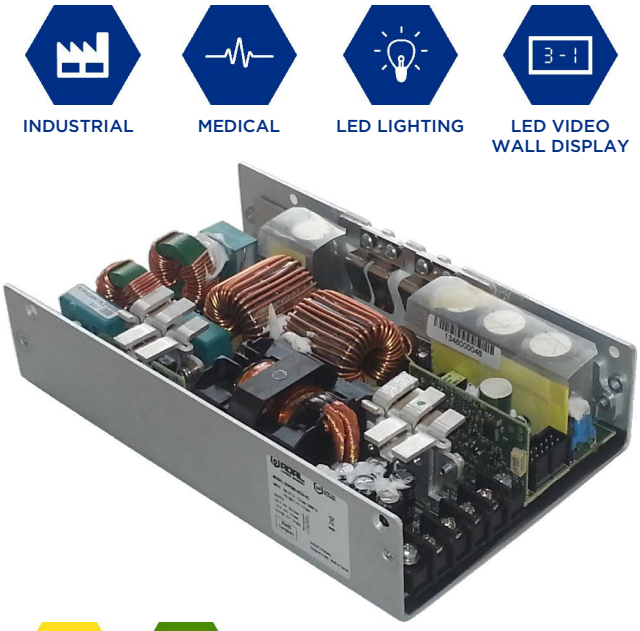
Key Features

- Universal input voltage range (85 – 305 V_{AC})
- Input surge current limiting
- 800 W peak power (up to 10 s)
- High efficiency up to 94%
- 24, 28, 36 and 48 V_{DC} standard output voltages
- Low stand-by consumption (<0.35 W)
- Active PFC, EN61000-3-2 compliant (Class C, >25% load).
- Low earth / touch leakage current
- Fan speed control circuit
- Over temperature, OV, OC and SC protections.
- Stand by +5 V, 1.5 A and auxiliary / fan 12 V_{DC}, 1 A outputs.
- Built-in current share signal for parallel operation
- Remote On / Off signal
- Power good and remote sense signals
- U-chassis and enclosed packages fits 1U applications
- Medical safety approval to IEC 60601-1 3rd edition, including Risk Management Assessment, 2x MoPP rated and BF appliances compatible.
- IEC 60601-1-2 4th edition EMC compliant.
- LED lighting safety approval to UL8750
- RoHS 2 compliant (Directive 2011/65/EU)
- Medical version compatible with 4000 m altitude operation



Description

The DDP600 series of industrial and medical grade AC-DC power supplies provides the compact form factor and high efficiency that the marketplace demands.

The series provides a steady 600 W of regulated DC power through the full 85 to 305 V_{AC} input range, all in a 4.2 X 7.0 X 1.6" form factor. The DDP600 is available in a U-frame chassis or enclosed with a built-in front mounted fan to facilitate system integration.

By converting energy at up to 94% efficiency, the DDP600 generates less heat, facilitating optimal thermal management in space constrained environments, resulting in very high reliability.

The series comes in 24, 28, 36 and 48 V_{DC} standard output voltages and offers auxiliary 12 V_{DC} and +5 V_{DC} stand-by outputs. Available control signals include Power Good (P_OK), Remote On / Off (PS_Inhibit) and Sense terminals (RS^+, RS^-).

The DDP600 features a built-in I-share circuit for parallel operation between power units to enhance total power. An optional OR-ing external circuit can be provided to allow N+1 redundant operation.

The enclosed unit can deliver full output power from -20 to 60 °C. The same is true for the U-frame variant when providing it with a 500 LFM airflow. Both units can be operated up to 70 °C with output power de-rating. When natural convection cooled, the U-frame variant can deliver a steady 400 W up to 50 °C ambient. A built-in fan speed control circuit in the enclosed version ensures proper air flow in every working environment, minimizing operational noise and enhancing its service life time.

Protection features include High Breaking capacity fuses on both AC lines, input under voltage lockout (IUV), output over-current (OC), output short-circuit (SC), output over-voltage (OV) and over-temperature (OT).

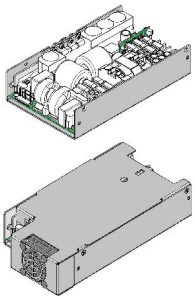
The DDP600 series complies with the 3rd edition of the IEC 60601-1 safety standard for medical equipment including Risk Management Assessment, offers 2x MoPP means of patient protection, and is suitable for BF rated applied parts under certain conditions. The series also complies with the 2nd edition of the IEC 60950-1 standard for IT equipment and UL8750 for lighting applications. The series meets the EN55022 EMC limits of Class B for conducted and radiated emissions as well as the IEC/EN 61000-3, IEC/EN 61000-4 and IEC/EN 60601-1-2 4th edition EMC standards.

Market Segments and Applications

- Video Wall Display and SSL Lighting
- Industrial Process Control and Automation
- Telecommunications
- Laboratory / Analysis Equipment
- Test and Measurement Equipment
- Medical applications

Model Coding and Output Ratings 1/1

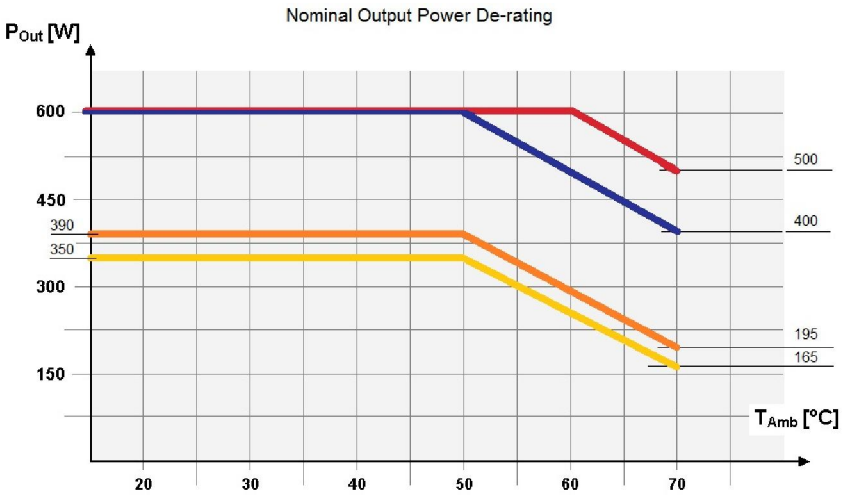
Model Grade and Output Power	Output Voltages	Packages
ITE/ME: **DDP600-**	*24 V_{DC}:* **US24-** *28 V_{DC}:* **US28-** *36 V_{DC}:* **US36-** *48 V_{DC}:* **US48-**	*U-Chassis:* **UC** *Front Fan Box:* **FF**

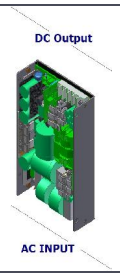
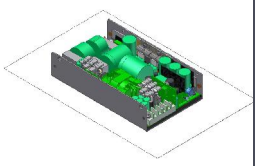
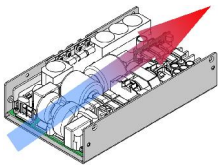
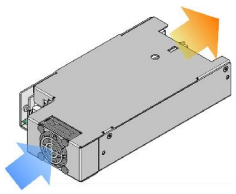
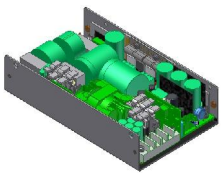


Model Code	V_{AC} Range [V_{RMS}]	V1 Nominal [V_{DC}]	I1 [A]		I2 [A]		ISB [A]		Mounting Orientation	Cooling [LFM]	Max Combined Output Power [W]	
			50°C	70°C	50°C	70°C	50°C	70°C			50°C	70°C
DDP600-US24-FF	85-305	24	25 (*)	20.84	1	0,5	1.5	1	-	-	600(*)	500
DDP600-US24-UC	85-180	24	25	16.66	1	0.5	1.2	0.8	-	600	600	400
DDP600-US24-UC	180-305	24	25	16.66	1	0.5	1.2	0.8	-	500	600	400
DDP600-US24-UC	85-180	24	12.92	5.20	1	0.5	0.8	0.5	Horizontal	Nat. Conv.	310	125
DDP600-US24-UC	180-305	24	14.58	6.88	1	0.5	1	0.5	Horizontal	Nat. Conv.	350	165
DDP600-US24-UC	85-180	24	14.16	6.46	0.9	0.5	0.8	0.4	Vertical	Nat. Conv.	340	155
DDP600-US24-UC	180-305	24	16.25	8.12	1	0.5	0.9	0.4	Vertical	Nat. Conv.	390	195
DDP600-US28-FF	85-305	28	21.4(*)	17.86	1	0,5	1.5	1	-	-	600(*)	500
DDP600-US28-UC	85-180	28	21.4	12.28	1	0.5	1.2	0.8	-	600	600	400
DDP600-US28-UC	180-305	28	21.4	12.28	1	0.5	1.2	0.8	-	500	600	400
DDP600-US28-UC	85-180	28	11.07	4.46	1	0.5	0.8	0.5	Horizontal	Nat. Conv.	310	125
DDP600-US28-UC	180-305	28	12.5	5.90	1	0.5	1	0.5	Horizontal	Nat. Conv.	350	165
DDP600-US28-UC	85-180	28	12.14	5.54	0.9	0.5	0.8	0.4	Vertical	Nat. Conv.	340	155
DDP600-US28-UC	180-305	28	13.93	6.96	1	0.5	0.9	0.4	Vertical	Nat. Conv.	390	195
DDP600-US36-FF	85-305	36	16.7(*)	13.89	1	0,5	1.5	1	-	-	600(*)	500
DDP600-US36-UC	85-180	36	16.7	11.11	1	0.5	1.2	0.8	-	600	600	400
DDP600-US36-UC	180-305	36	16.7	11.11	1	0.5	1.2	0.8	-	500	600	400
DDP600-US36-UC	85-180	36	8.61	3.47	1	0.5	0.8	0.5	Horizontal	Nat. Conv.	310	125
DDP600-US36-UC	180-305	36	9.72	4.59	1	0.5	1	0.5	Horizontal	Nat. Conv.	350	165
DDP600-US36-UC	85-180	36	9.44	4.31	0.9	0.5	0.8	0.4	Vertical	Nat. Conv.	340	155
DDP600-US36-UC	180-305	36	10.83	5.41	1	0.5	0.9	0.4	Vertical	Nat. Conv.	390	195
DDP600-US48-FF	85-305	48	12.5(*)	10.42	1	0,5	1.5	1	-	-	600(*)	500
DDP600-US48-UC	85-180	48	12.5	8.33	1	0.5	1.2	0.8	-	600	600	400
DDP600-US48-UC	180-305	48	12.5	8.33	1	0.5	1.2	0.8	-	500	600	400
DDP600-US48-UC	85-180	48	6.46	2.60	1	0.5	0.8	0.5	Horizontal	Nat. Conv.	310	125
DDP600-US48-UC	180-305	48	7.29	3.44	1	0.5	1	0.5	Horizontal	Nat. Conv.	350	165
DDP600-US48-UC	85-180	48	7.08	3.23	0.9	0.5	0.8	0.4	Vertical	Nat. Conv.	340	155
DDP600-US48-UC	180-305	48	8.12	4.06	1	0.5	0.9	0.4	Vertical	Nat. Conv.	390	195

(*) DDP600-US24-FF: 25 A / 600 W up to 60 °C ambient
(*) DDP600-US48-FF: 12.5 A / 600 W up to 60 °C ambient

Model Coding and Output Ratings 2/2



Natural Convection U-Chassis Package Vertical Mounting 180 – 305 V_{AC}	
Natural Convection U-Chassis Package Horizontal Mounting 180 – 305 V_{AC}	
Forced Air Cooling U-Chassis Package >500 LFM At 180 – 305 V_{AC} >600 LFM At 85 – 180 V_{AC}	
Enclosed Front Mounted Fan 85 – 305 V_{AC}	
Natural Convection Any Orientation 85 – 305 V_{AC}	

Input Specifications

Specification	Test Conditions / Notes		Min.	Nominal	Max.	Units
AC Input Voltage	PS starts and operates at 85 V_{AC} at all load conditions		85	100-277	305	V_{RMS}
DC Input Voltage			170	-	300	V_{DC}
Input Frequency	440 Hz with reduced PFC and output power rating - Consult factory for details.		47	50/60	440	Hz
Input Current	RMS at 180 V_{AC}, maximum load, 50 / 60 Hz RMS at 85 V_{AC}, maximum load, 50 / 60 Hz		-	-	4.0 8.5	A
Inrush Current	Cold start, 25 °C ambient, full load					
		115 V_{AC}	-	-	20	A
		230 V_{AC}	-	-	30	
Fusing	High breaking, 10A, 250V on each AC lines.		-	-	10	A
Efficiency	At 115 V_{AC},	20% rated load	-	89	-	
		50% rated load	-	93	-	
		100% rated load	-	92	-	
						%
	At 230 / 277 V_{AC},	20% rated load	-	90	-	
		50% rated load	-	94	-	
		100% rated load	-	94	-	
Input Power Consumption	Power on, 115 V_{AC}, no load		-	-	5	
	Power on, 230 V_{AC}, no load		-	-	4	W
	Stand by, 115, 230 V_{AC}, no load		-	-	0.35	
Power Factor	From 50 to 100% of rated load, 230, 115 V_{AC}, 50 / 60 Hz input voltages.		0.90	-	-	-
THDi	From 50 to 100% rated load, 115, 230, 277 V_{AC} 50 / 60 Hz.		-	-	20	%
Harmonic Current Fluctuations and Flicker	Complies with EN 61000-3-2 at 230 V_{AC}, 50/60 Hz, Class A, D. Complies with EN 61000-3-2 Class C at 230 V_{AC}, 50/60 Hz, >150 W load. Complies with EN 61000-3-3 at nominal voltages and full load.					
Earth Leakage Current	Normal conditions					
	115 V_{RMS}, 60 Hz		-	130	-	
	230 V_{RMS}, 50 Hz		-	240	-	µA
	264 V_{RMS}, 60 Hz (worst case)		-	-	400	
	277 V_{RMS}, 60 Hz		-	350	-	
Touch Leakage Current	264 V_{RMS}, 60 Hz					
	Normal Condition (NC)		-	-	100	µA
	Single Fault Condition (SFC)		-	-	500	
Patient Leakage Current	264 V_{RMS}, 60 Hz					
	Normal Condition (NC)		-	-	100	µA
	Single Fault Condition (SFC)		-	-	500	

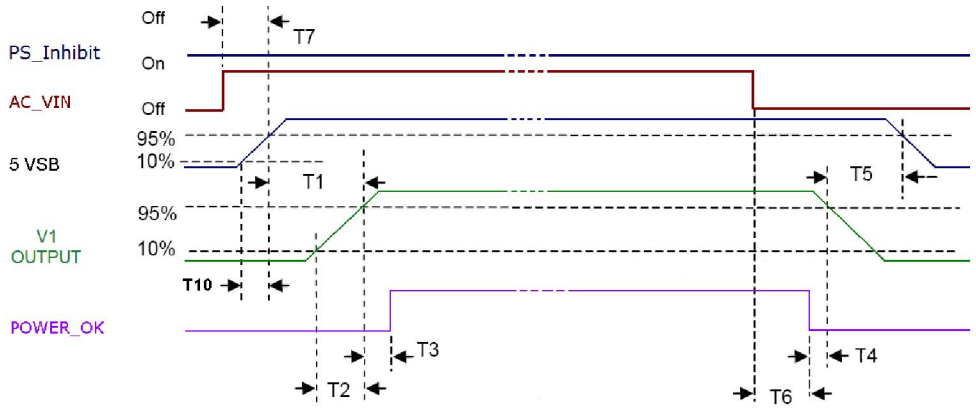
Output Specifications

Specification	Test Conditions / Notes	Min.	Nom.	Max.	Units
V1 Output Voltages	±0.5% set point accuracy RS+ closed on +V1, RS- closed on V1 RTN, at 20% load.	-	24 28 36 48	-	V
V1 Output Power Rating	Convection cooling (see graph below) Forced air cooling (see graph below) Peak (less than 10 s, after P_OK high)	- - -	- - -	400 600 800	W
V2 Output Voltage	(*)V1 at nominal voltage	10.5	12.25	14.00	V
V2 Output Current	Convection / forced air cooling	-	-	1	A
$5V_{SB}$ Output Voltage	±3% set point accuracy, 20% load.	-	5	-	V
$5V_{SB}$ Output Current	Front fan package U chassis package	- -	- -	1.5 1.2	A
V1 Voltage Adjustment Range	Manually by potentiometer	-	-	±5	%V1
V1 Load-Line-Cross Regulation	V_{AC}: 85 – 305 V_{RMS} ; I1: 0 – 100%	-	-	±2	%V1
$5V_{SB}$ Load-Line-Cross regulation	V_{AC}: 85 – 305 V_{RMS} ; I_{5SB}: 0 – 100%	-	-	±5	%$5V_{SB}$
V1 Line Regulation	V_{AC}: 85 – 305 V_{RMS}	-	-	±0.1	%V1
Transient Response: **V1, $5V_{SB}$** **Voltage Deviation**	25% load changes at 1 A/µs 24V at 1000 µF load / I_{OUT}> 2.5 A 28V at 1000 µF load / I_{OUT}> 2.5 A 36V at 680 µF load / IOUT> 1.9 A 48V at 560 µF load / I_{OUT}> 1.25 A $5V_{SB}$ at 560 µF load / I_{OUT}> 0.1 A	-	-	±5	%V1 %$5V_{SB}$
V1 Ripple and Noise	Rated load, Peak-to-peak, 20 MHz BW. (100 nF ceramic, 10 µF tantalum at load) (*)	-	-	1	%V1
V1 Start-up Rise Time	85<V_{IN}<305, any load conditions.	10	-	100	ms
Start-up Delay	V1 in regulation after de-asserting PS_Inhibit V1 in regulation after AC is applied (worst case: 85 V_{AC}) $5V_{SB}$ in regulation after AC is applied (worst case: 85 V_{AC})	- - -	- - -	450 2050 1500	ms
Turn-on Overshoot		- -	- -	10 10	%V1 %V_{SB}
V1 Hold-up Time	At nominal V_{IN}, full load (**)	16	-	-	ms
Minimum Load	V1, V2 and $5V_{SB}$	0	-	-	A
Maximum Load Capacitance	V1: 24 V_{DC} V1: 28 V_{DC} V1: 36 V_{DC} V1: 48 V_{DC}	- - - -	- - - -	16000 15000 12000 8000	µF
V1 Current Sharing Accuracy	Two units in parallel at I1 rated load. VS-Logic and I-Share signals connected together. RS^+, RS^- signals connected together and to the load.	45.5	-	54.5	%I1

SIGNALS / CONTROLS AND TIMING

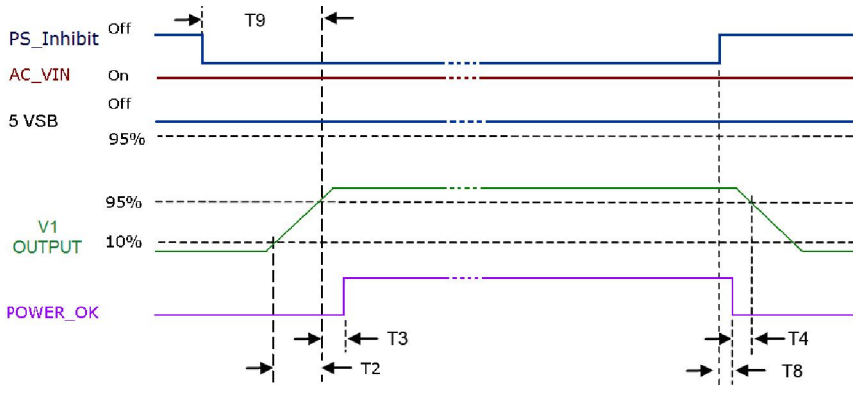
Signal	Notes	Min	Typ.	Max	Unit
+PS_Inhibit	Active high. Input low voltage	0	-	1.5	V
	Input high voltage (I_{IN}= 300 µA)	3.5	-	5.5	V
	V1 and V2 disabled when PS_Inhibit is pulled high				
	$5V_{SB}$ not affected by PS_Inhibit				
	V1 and V2 enabled when PS_Inhibit is open or low				
-PS_Inhibit	Active low (reverse control, same voltage levels)				
P_OK*	Logic level low (<10 mA sinking)	-	-	0.7	V
	Logic level high (100 µA sourcing)	2.4	-	5.5	V
	Low to high time after V1 in regulation	40	-	350	ms
	Power down warning time	1	-	-	ms
$5V_{SB}$ Output	Active and in regulation after a 85<V_{AC}<305 is applied	-	-	1500	ms
	$5V_{SB}$ not affected by PS_Inhibit				

* When V1 is On, a P_OK low may indicates V1 under voltage condition. When two DDP600 operate in parallel, P_OK low in one unit indicates that it is not sharing the expected amount of current (current sharing fault). A 10 kΩ internal pull up to $5V_{SB}$ is used; do not add any other external pull up.



Above waveforms are expected with AC Input ON/OFF:

$5V_{SB}$ On – V1 On	250 ms ≤ T1 ≤ 550 ms
V1 rise time	10 ms ≤ T2 ≤ 100 ms
$5V_{SB}$ rise time	3 ms ≤ T10 ≤ 40 ms
V1 On – POWER_OK delay	200 ms ≤ T3 ≤ 350 ms
Power down warning	T4 ≥ 1 ms
V1 Off – $5V_{SB}$ Off	T5 ≥ 0.5 s (V1 load > 25 W)
AC Off – POWER_OK low	T6 ≥ 15 ms
AC On – $5V_{SB}$ turn on time	T7 ≤ 1.5 s



Above waveforms are expected with PS_Inhibit Signal On/Off state change:

V1 rise time	10 ms ≤ T2 ≤ 100 ms
V1 On – POWER_OK delay	200 ms ≤ T3 ≤ 350 ms
Power down warning	T4≥1 ms
PS_Inhibit – POWER_OK low timing	T8 ≤ 2 ms
PS_Inhibit – V1 On delay	T9 ≤ 450 ms

Protection Features

Specification	Test Conditions / Notes	Min.	Nominal	Max.	Units
Input Under Voltage	Auto-recovering, hiccup mode.	58	65	75	V_{AC}
Input Fuse	High breaking, 10A, 250V on L and L1.	-	-	10	A
Over Current	At nominal input voltages				
	V1: Hiccup mode, auto-recovering (>10 s)	108	-	132	$\%I1_{Rated}$
	V1: Hiccup mode, auto-recovering (<10 s)	135	-	163	$\%I1_{Rated}$
	V2: PTC limiting, auto-recovering.	-	-	-	
	$5V_{SB}$: Hiccup mode, auto-recovering:				
	UC package	1.3	-	3.6	A
	FF package	1.6	-	3.6	A
Short Circuit	At nominal input voltages V1: Hiccup mode, auto-recovering. V2: PTC limiting, auto-recovering. $5V_{SB}$: Hiccup mode, auto-recovering.	-	-	-	
Over Voltage	V1, Power shut down, latch off.	120	-	145	$\%V_{NOM}$
	$5V_{SB}$, Hiccup mode, auto-recovering.	-	-	150	
Over Temperature (on primary stage)	Shut down, latch off.	-	-	-	°C
Over Temperature (on secondary side)	Hiccup mode, auto-recovering.	-	-	-	°C
Isolation: Input-to-Output	Reinforced (2x MoPP).	5660	-	-	V_{DC}
		4000	-	-	V_{AC}
	Production tested at 4242 V_{DC}				
Isolation: Input-to-Earth	Basic (1x MoPP)	2121	-	-	V_{DC}
		1500	-	-	V_{AC}
	Production tested at 2121 V_{DC}				
Isolation: V1/$5V_{SB}$ to V2	Basic	100	-	-	V_{AC}
Isolation: Output-to-Earth	Basic (1x MoPP)	1500	-	-	V_{AC}
Means Of Protection:	2x MoPP (IEC 60601-1 3rd edition) at 100 – 250 V_{AC}, 50/60 Hz up to 4000 m				
	2x MoPP (IEC 60601-1 3rd edition) at 100 – 277 V_{AC}, 50/60 Hz up to 3000 m				
Primary to secondary	2x MoOP (IEC 60601-1 3rd edition) at 100 – 277 V_{AC}, 440 Hz (50/60 Hz)				
Means Of Protection:	1x MoPP (IEC 60601-1 3rd edition) at 100 – 250 V_{AC}, 50/60 Hz up to 4000 m				
	1x MoPP (IEC 60601-1 3rd edition) at 100 – 277 V_{AC}, 50/60 Hz up to 3000 m				
Primary to Protection Earth	1x MoOP (IEC 60601-1 3rd edition) at 100 – 277 V_{AC}, 440 Hz (50/60 Hz)				
Means Of Protection:	1x MoPP (IEC 60601-1 3rd edition) at 100 – 250 V_{AC}, 50/60 Hz up to 4000 m				
	1x MoPP (IEC 60601-1 3rd edition) at 100 – 277 V_{AC}, 50/60 Hz up to 3000 m (U-chassis variant only)				
Secondary to Protection Earth	1x MoOP (IEC 60601-1 3rd edition) at 100 – 277 V_{AC}, 440 Hz (U-chassis variant only)				
Equipment Protection Class	Class I, compatible with BF (Body Floating) ME				

Environmental Specifications

Specification	Test Conditions / Notes	Min	Nominal	Max	Units
Operating Temperature Range	No de-rating up to 50°C	-20	-	50	°C
Operating Temperature Range with De-rating	See de-rating curves and conditions in the Output Specifications section	-	-	70	°C
Storage Temperature		-40	-	85	°C
Humidity	RH, Non-condensing Operating.	-	-	90	%
	Non-operating			95	%
Operating Altitude	MoPP (100 – 250 V_{AC}, 50/60 Hz)	-	-	4000	
	MoPP (100 – 277 V_{AC}, 50/60 Hz)	-	-	3000	m
	MoOP, ITE grade	-	-	5000	
	Power de-rating above 1800 m				
Shock	**EN 60068-2-27**				
	Operating: Half sine, 30 g, 18 ms, 3 axes, 6x each (3 positive and 3 negative).				
	Non-Operating: Half sine, 50 g, 11 ms, 3 axes, 6x each (3 positive and 3 negative).				
Vibration	**EN 60068-2-64**				
	Operating: Sine,10 – 500 Hz, 1 g, 3 axes, 1 oct/min., 60 min.				
	Random, 5 – 500 Hz, 0.02 g^2/Hz, 1 g_{RMS}, 3 axes, 30 min.				
	Non-Operating: 5 – 500 Hz, 2.46 g_{RMS} (0.0122 g^2/Hz), 3 axes, 30 min.				
MTBF	Full Load, 40 °C ambient 80% Duty cycle, Telcordia SR-332 Issue 2	300000	-	-	Hours
Useful Life	Worst nominal V_{IN}, 80% load, 40 °C ambient.	-	4	-	Years

Electromagnetic Compatibility (EMC) – Emissions

Phenomenon	Conditions / Notes	Standard	Equipment/Performance Class
Conducted	115, 230, 277 V_{RMS}. Maximum load.	EN 55022 (ITE) EN 55011 (ISM) EN 60601-1-2 (Medical) FCC Part 15	B
Radiated	At 10 m distance	EN 55022 (ITE) EN 55011 (ISM) EN 60601-1-2 (Medical) FCC Part 15	B*
Line Voltage Fluctuation and Flicker	At 20%, 50% and 100% maximum load. Nominal input voltages	EN 61000-3-3	
Harmonic Current Emission	230 V_{AC} input voltage, 50 / 60 Hz 230 V_{AC} 50 / 60 Hz, >150 W load	EN 61000-3-2 EN 61000-3-2	A, D C

(*) Performance referred to the enclosed package. Radiated emission relevant to the U-Chassis package variant, should be assessed at system level.

Electromagnetic Compatibility (EMC) – Immunity

Phenomenon	Conditions / Notes	Standard	Test Level	Criteria
	Reference standard for the medical version	**EN 60601-1-2**		
	Reference standards for ITE	**EN 55024**		
	Reference standard for Industrial/IMS equipment	**EN 61000-6-2**		
ESD	15 kV air discharge, 8 kV contact, at any point of the system.	EN 61000-4-2	4	A
Radiated Field	10 V/m, 80-1000 MHz, 1 KHz/2 Hz 80% AM. Dwell time is 3 sec for 2 Hz modulation Dwell time is 1 sec for 1KHz modulation	EN 61000-4-3	3	A
Electric Fast Transient	±2 kV on AC power port for 1 minute	EN 61000-4-4	3	A
Surge	±2 kV line to line; ± 4 kV line to earth on AC power port	EN 61000-4-5	4	A
Conducted RF Immunity	10 V_{RMS}, 0,15-80 MHz, 1 kHz/2 Hz 80% AM	EN 61000-4-6	3	A
Dips and Interruptions	**200 – 277 V_{AC}:**			
	Drop-out to 0% for 10 ms	EN61000-4-11		A
	Dip to 40% for 5 cycles (100 ms)	EN61000-4-11		A
	Dip to 70% for 25 cycles (500 ms)	EN61000-4-11		A
	Drop-out to 0% for 5 s	EN61000-4-11		B
	100 – 127 V_{AC}:			
	Drop-out to 0% for 10 ms	EN 61000-4-11		A
	Dip to 40% for 5 cycles (100 ms)	EN 61000-4-11		A (de-rate to 150 W)
	Dip to 70% for 25 cycles (500 ms)	EN 61000-4-11		A (de-rate to 400 W)
	Drop-out to 0% for 5 s	EN 61000-4-11		B

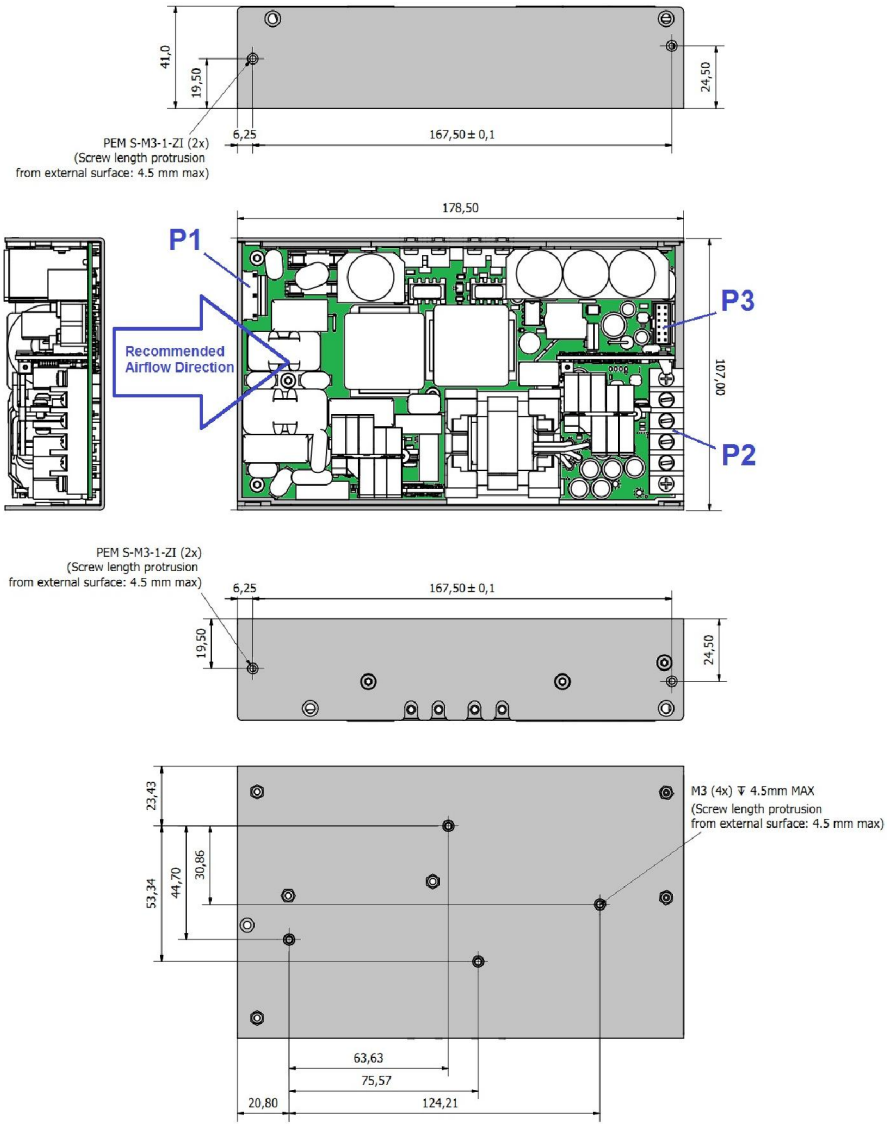
Safety Agencies Approvals

Certification Body	Safety Standards and file numbers	Category
CSA/UL	CSA C22.2 No. 60950-1, UL 60950-1; 2007, 2nd edition +A1 + A2	Information Technology Equipment
	CSA C22.2 No.60601-1, ANSI/AAMI ES60601-1 3rd edition + A1 Including Risk Management Assessment	Medical
	UL8750, CSA C22.2 No 250.13	Lighting
IEC IECEE CB Certification	IEC/EN 60950-1 2nd edition + A1 + A2	Information Technology Equip.
	IEC/EN 60601-1 3rd edition+A1 Including Risk Management Assessment	Medical
CE	Directive 2014/35/EU: Electrical Safety: Low Voltage electrical equipment (LVD)	Information Technology Equipment
	Directive 93/42/CEE: Safety Requirement of the Medical Device	Medical
	Directive 2014/30/EU: Electromagnetic Compatibility (EMC)	
	Directive 2011/65/EU: RoHS 2	
Designed to meet IEC/EN/UL/CSA 61010-1 2nd edition		

Outline Drawing and Connections – U-Chassis Frame (-UC)

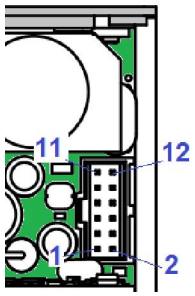
Overall dimensions: (107.0 X 178.5 X 41.0) mm; (4.21 X 7.03 X 1.61) in

Weight: 820 g; 1.8 lb



Signals Connector – P3

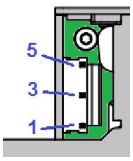
Molex 90130-1112
Mates with
Molex 90142-0012 (housing)
Molex 90119-0109 (terminal)
Use 22-24 AWG wires



Pin Ref.	Function
1	RTN
2	-V2
3	$+5V_{SB}$
4	+V2
5	RS^-
6	RS^+
7	+PS_Inhibit
8	I-Share
9	P_OK
10	VS_Logic
11	-PS_Inhibit
12	RTN

AC Input Connector – P1

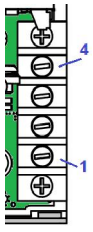
Molex 26-62-4051
Mates with
Molex 09-93-0500 (housing)Molex
Molex 08-52-0071 (terminal
phosphor bronze, tin finishing)
Use 18 AWG minimum wires



Pin Ref.	Function
1	L1
3	L
5	PE

DC Output Connector – P2

KARSON 520-041-2-1-00
Or equivalent

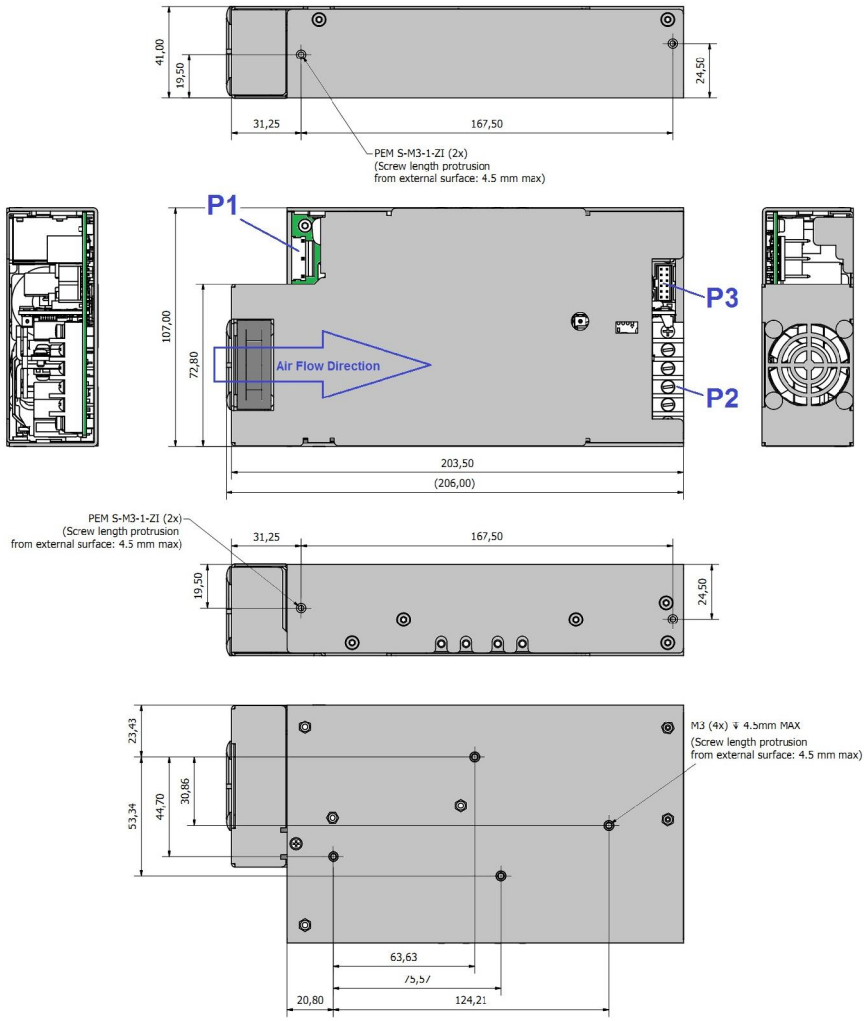


Pin Ref.	Function
1 – 2	+V1
3 – 4	V1 RTN

Outline Drawing and Connections – Enclosed Front Mounted Fan (-FF)

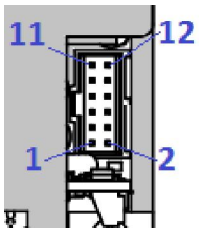
Overall dimensions: (107.0 X 206.0 X 41.0) mm; (4.21 X 8.11 X 1.61) in

Weight: 1055 g; 2.32 lb



Signals Connector – P3

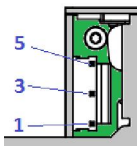
Molex 90130-1112
Mates with
Molex 90142-0012 (housing)
Molex 90119-0109 (terminal)
Use 22-24 AWG wires



Pin Ref.	Function
1	RTN
2	-V2
3	$+5V_{SB}$
4	+V2
5	RS^-
6	RS^+
7	+PS_Inhibit
8	I-Share
9	P_OK
10	VS_Logic
11	-PS_Inhibit
12	RTN

AC Input Connector – P1

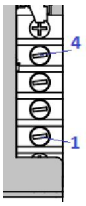
Molex 26-62-4051
Mates with
Molex 09-93-0500 (housing)Molex
Molex 08-52-0071 (terminal
phosphor bronze, tin finishing)
Use 18 AWG minimum wires



Pin Ref.	Function
1	L1
3	L
5	PE

DC Output Connector – P2

KARSON 520-041-2-1-00
Or equivalent



Pin Ref.	Function
1 – 2	+V1
3 – 4	V1 RTN