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CRPS SERVER POWER SUPPLY

(CATALOG VOL.22)



SUPLET®

SHENZHEN SUPLET CO.,LTD

COMPANY PROFILE

Shenzhen Suplet Co., Ltd. (Suplet for short) is a high-tech company which focuses on developing high-reliability power supplies. Suplet began with developing and manufacturing power supplies in telecommunications. Over 20 years, Suplet has expanded such many fields as telecommunication, intelligent control, data center, electric power, railway, vehicle, new energy and industrial control, benefiting from the great industrial-supporting capacity of The China Great Bay Area, aggressive abroad markets as well as sufficient talents in technology. Suplet is an excellent supplier of several well-known enterprises and establishes a long-term relation of cooperation.



Taking the market and technology as guide, Suplet has invested significant R&D resources in product development, which is committed to provide highly reliable power solutions and products for customers. Over the years' development, we own:

Facility area of 21,000m²

- * 550 employees with about 135 R&D engineers, some technical backbones are from world-famous power enterprises and, in R&D practice, cultivate many engineers at various levels.

- * Waveform, SMT production lines, SIP/DIP/SMD package, EMC laboratory and harsh environmental laboratories like high temp/low temp /humidity /drop / vibration

- * More than 87 patents with over 30 invention patents

For customization requirements, our substantial basic accumulation is able to swiftly meet unconventional demands. Suplet has developed various power supplies, as follow:

- * Rectifier for Telecommunication and Electric Power
- * Monitoring and Controller Unit
- * Power system with a single cabinet up to 300A
- * Server Power Supply
- * Board Mounted Power Supply
- * Industrial Power Supply
- * High Density Power Supply for LED Display
- * POE Injector
- * Vehicle Power Supply
- * Open Frame Power Supply
- * Closed and Special Power Supply against Bad Environments
- * Solar &Hybrid Power system

and all kinds of customized power supplies across AC/DC, DC/DC and DC/AC, ranging from SIP/DIP/SMD package at chip level to industrial standard cabinet power systems. Together with strong technical reserves and R&D human resources, the fast feedback system provides mechanism guarantees for developing customized power supplies.



CERTIFICATION

Suplet works strictly in accordance with ISO9001 international quality management system, ISO14001 international environmental management system, ISO45001 occupational health and safety management system and TL9000-H quality system. The products have been certified by 3C/CE/TUV/UL, etc.

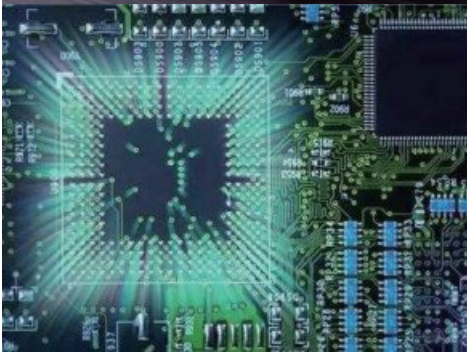


APPLICATIONS

Facing to telecom, electric power, broadcast&TV, railway, instrument, security and new power energy, Suplet offers power modules and power systems.



S U P L E T





PRODUCTS AND SERVICE

Suplet Production Lines include power module and embedded power systems. Suplet offers various solutions for global engineers, which promotes faster and more flexible design, and makes the product development easier to be completed.



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Features

- 90~264VAC/180~300VDC wide range input
- Output: 12Vdc+12Vsb
- Output power, 550W, 800W, 1200W, 1600W
- 80PLUS® platinum efficiency
- N+1 Redundant(N=3)
- Hot-pluggable
- Active power factor corrected
- Active current sharing
- PMBus® compliant
- Conducted/Radiated EMI Class A Limits
- CCC/CQC Certificate
- 73.5mm(W) x 185mm(D) x 40mm(H)



Electrical Specifications

Input			
AC Input Voltage Range	90 ~ 264VAC	Power Factor	≥0.99
DC Input Voltage Range	180 ~ 300VDC	Peak Efficiency	≥94%(50%load)
Input Frequency	47 ~ 63Hz	ITHD	≤5% (50%load)

Output				
Output Voltage Set Point	11.4 ~ 12.6V	Hold Time	12V Main	11ms
Output Ripple and Noise (p-p)	120mV		12Vsb	70ms
Turn on/off Overshoot & Undershoot	≤5%	Turn on Delay Time		≤3s
Dynamic Load	11.4 ~ 12.6V	Current Share		±10%

Alarm and Protection			
Input Under Voltage Alarm and Recovery	Yes	Input Over Voltage Protection and Recovery	Yes
Input Over Voltage Alarm and Recovery	Yes	Output Over Voltage Protection	Yes
Output Over Power Alarm	Yes	Output Over Current Protection	Yes
Over Temperature Alarm	Yes	Short Circuit Protection	Yes
Input Under Voltage Protection and Recovery	Yes	Over Temperature Protection	Yes

Isolation	
Dielectric Strength (input-output)	≥1500VAC
Isolation Resistance (input-output)	≥10MΩ
Leakage Current (input-ground)	<1mA(264VAC, 50/60Hz input)
Leakage Resistance	<0.1Ω(25A/2min)

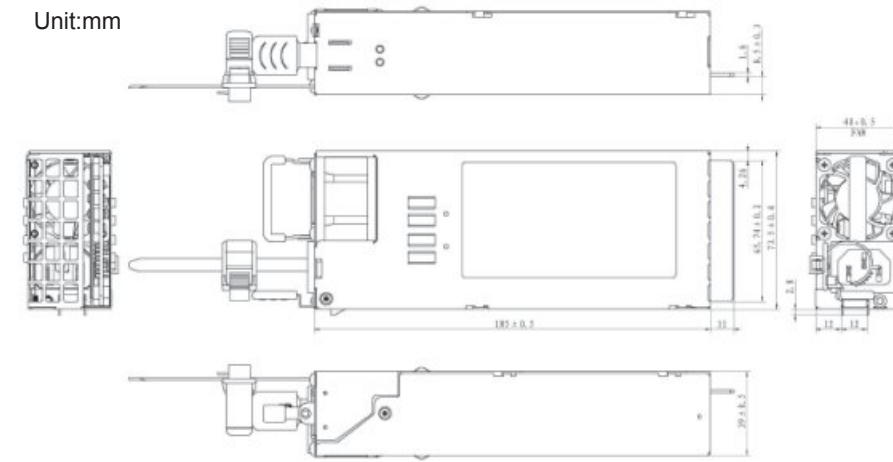
Environmental

- **Operating ambient temperature range:**
0°C to 66°C
- **Non-Operating ambient temperature range:**
-40°C to 70°C
- **Operating humidity**
0 to 95% relative humidity. (Non-Condensing)
- **Operating altitude**
0 to 5,000 meter

Safety&EMS

- **UL 60950-1, IEC60950-1 & IEC62368-2 & EN60950-1**
- **CCC**
- **EMI:**
 - EN55032 Class A
 - CISPR22 Class A
 - FCC Class A
- **EMC:**
 - ESD(IEC 61000-4-2)
 - RS(IEC 61000-4-3)
 - Burst – EFTs(IEC 61000-4-4)
 - Surge(IEC 61000-4-5)
 - CS(IEC 61000-4-6)
 - Voltage Dips(IEC 61000-4-11)

Mechanical Drawing



Gold Finger Pin Assignment

Pin No.	Symbol	Pin Type	Function
A1-A9, B1-B9	GND	Isolated Ground	12V Main and 12VSB Standby Power Return; long pin length
A10-A18, B10-B18	12V	Isolated Power	12V Main Output; standard pin length
A19	SDA	I/O	SMBus/PMBus Data; short pin length
A20	SCL	Input	SMBus/PMBus Clock; 100KHzshort pin length
A21	PSON	Input	Active Low ; 12V Main output ON/OFF Control; short pin length
A22	SMBus ALERT#	Output	Active Low; interrupt line for devices that want to trade their ability to master for a pin; standard pin length
A23	RETURNS	Analog Input	12v Main Output Remote Sense -; standard pin length
A24	+12VRS	Analog Input	12V Main Output Remote Sense +; standard pin length
A25	PWOK	Output	PWOK Active High, indicates 12V Main is valid; standard pin length
B19	A0	Input	PMBus Address Bit 0; standard pin length
B20	A1	Input	PMBus Address Bit 0; standard pin length
B21	12VSB	Isolated Power	12V Standby Output; standard pin length
B22	CR_1	Analog Input	Smart; standard pin length
B23	12LS	Analog I/O	12V Main Output Load Current Sharing; standard pin length
B24	Present	Output	PSU is present or not; standard pin length
B25	PSKILL	Input	PSU fast turn off, short pin length

Order Information

MPN	AC Input Voltage	DC Input Voltage	Output Voltage/Output Current		Output Power (+12V and +12VSB)
			+12V	+12VSB	
SAC550-220D12-12-AA	90-264VAC	180-300VDC	45A	2.1A	550W
SAC800-220D12-12-AA	90-264VAC	180-300VDC	65A	2.1A	800W
SAC1200-220D12-12-AA	90-264VAC	180-300VDC	98A @200~240VAC input	2.1A	1200W
SAC1600-220D12-12-AA	90-264VAC	180-300VDC	132A @200~240VAC input	2.1A	1600W

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Features

- 36-75VDC range input
- Output: 12Vdc+12Vsb
- Output power, 550W, 800W, 1032W
- High efficiency up to 92%
- Hot-pluggable
- Active current sharing
- PMBus® compliant
- Conducted/Radiated EMI Class A
- CCC&UL Certificate
- 73.5mm(W) x 185mm(D) x 40mm(H)



Environmental

- **Operating temperature range:**
0°C to 70°C
- **Non-Operating temperature range:**
-40°C to 70°C
- **Acoustic noise**
72dB at 25°C
- **Fire resistance**
UL 94 V-0
- **Earthquake**
Zone 4
- **MTBF**
100,000hours

Safety&EMS

- **UL 60950-1, IEC60950-1 & IEC62368-2 & EN60950-1**
- **CCC**
- **EMI:**
EN55032 Class A
- **EMC:**
ESD(IEC 61000-4-2)
RS(IEC 61000-4-3)
EFT(IEC 61000-4-4)
Surge(IEC 61000-4-5)

Electrical Specifications

Input			
Input Voltage Range	36 ~ 75VDC	Peak Efficiency	≥92%
Internal Input Capacitance	7,070uF		

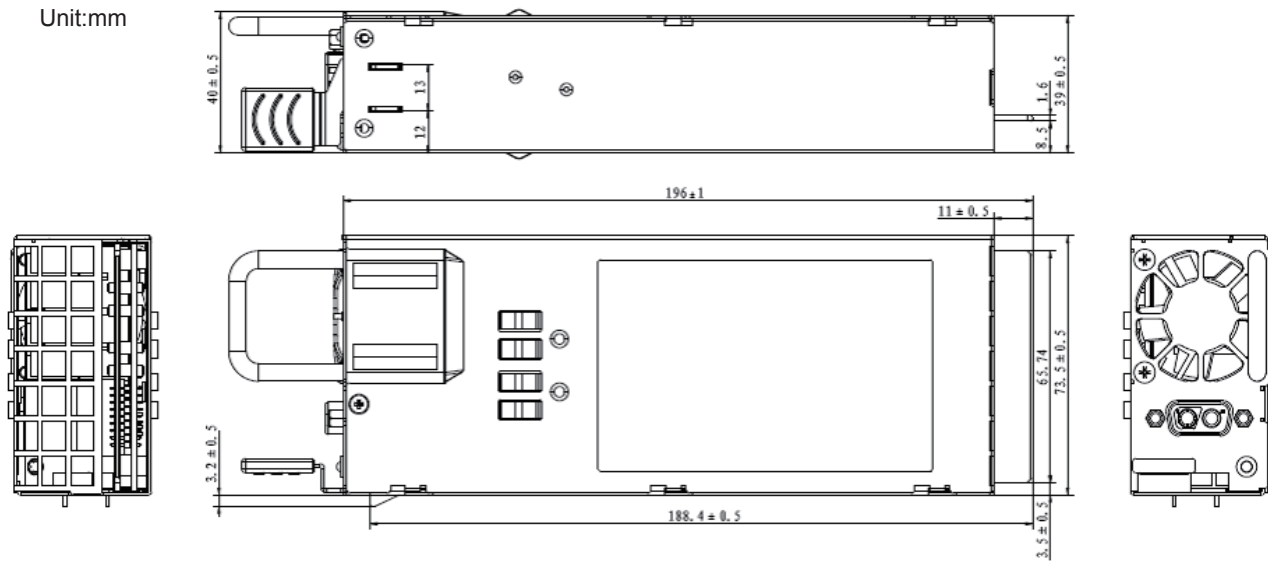
Output					
Output Voltage Set Point		11.4 ~ 12.6VDC	Line Regulation (12V, 12Vsb)		1V
Load Regulation (12V, 12Vsb)		1V	Output Ripple and Noise (p-p)		200mV
Load Transient Voltage Deviation		±5%	Start-up Time (12V)		20ms
Load Transient Recovery Time	12V	2ms	Capacitive Load	12V	25,000μF
	12VSB	250μs		12VSB	3,300μF

Alarm and Protection				
Input Under Voltage Protection	Turn-on input Voltage(12V)	34~36VDC	Output Over Voltage Protection	13.3~15VDC
	Turn-off input Voltage(12V)	31.5~33.5VDC	Output Over Current Protection	Yes
	Turn-on input Voltage(12Vsb)	33~35VDC	Short Circuit Protection	Yes
	Turn-off input Voltage(12Vsb)	31~33VDC	Over Temperature Protection	Yes
Input Overvoltage Protection (12V)		76.5 ~ 80VDC		

Isolation	
Dielectric Strength(input-output)	≥1500VDC
Isolation Resistance (input-output)	≥10MΩ

Mechanical Drawing

Unit:mm



DC Connector and Pin Assignment

PIN	Signal	PIN	Signal
A1	GND	A14	+12V
A2	GND	A15	+12V
A3	GND	A16	+12V
A4	GND	A17	+12V
A5	GND	A18	+12V
A6	GND	A19	SDA
A7	GND	A20	SCL
A8	GND	A21	PSON
A9	GND	A22	SMBAIert
A10	+12V	A23	RETURN_S
A11	+12V	A24	+12VRS
A12	+12V	A25	PWOK
A13	+12V		

PIN	Signal	PIN	Signal
B1	GND	B14	+12V
B2	GND	B15	+12V
B3	GND	B16	+12V
B4	GND	B17	+12V
B5	GND	B18	+12V
B6	GND	B19	A0
B7	GND	B20	A1
B8	GND	B21	12VSB
B9	GND	B22	REV
B10	+12V	B23	12VLS
B11	+12V	B24	PRESENT_N
B12	+12V	B25	PSKILL
B13	+12V		

Order Information

MPN	DC Input Voltage	Output Voltage/Output Current		Output Power (+12V and +12VSB)
		+12V	+12VSB	
SDC550-48D12-12	36-75VDC	45A	2A	550W
SDC800-48D12-12	36-75VDC	66.7A	2A	800W
SDC1032-48D12-12	36-75VDC	84A	2A	1032W

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Features

- 90~264VAC/180~310VDC wide range input
- The power supply has two outputs: 12V (main) and 3.3V (stand-by)
- The power supply is power factor corrected
- High efficiency to meet 80 plus Platinum Level
- Hot pluggable and 3+3 redundant
- Support Back-to-Front airflow direction
- I2C communication interface for control, programming and monitoring with PMBus™ protocol 1.2
- 2 Status LEDs: Green (OK) LED & Red (FAIL) LED with fault signaling
- Dimensions: 54.5(W) x 40.0(H) x 321.5(D) mm



Environmental

- **Operating temperature range:**
0°C to 45°C
- **Non-Operating temperature range:**
-40°C to 70°C
- **Operating humidity**
10 to 90% relative humidity. (Non-Condensing)
- **Operating altitude**
≤5,000 meter

Safety&EMS

- **UL 60950-1, IEC60950-1 & IEC62368-2 & EN60950-1**
- **CCC**
- **EMI:**
EN55032
CISPR22
- **EMC:**
ESD(IEC 61000-4-2)
RF(IEC 61000-4-3)
EFTs(IEC 61000-4-4)
Surge(IEC 61000-4-5)
CS(IEC 61000-4-6)
Voltage Dips(IEC 61000-4-11)

Electrical Specifications

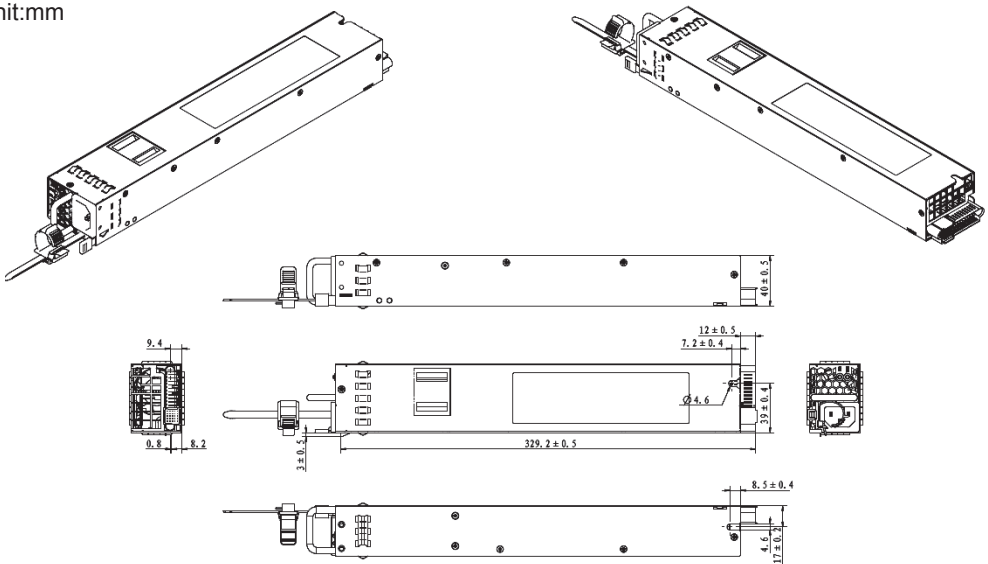
Input			
AC Input Voltage Range	90 ~ 264VAC	Power Factor	>0.99(100%load)
DC Input Voltage Range	180 ~ 310VDC	Hold-up Time	16mS
Input Frequency	47 ~ 63Hz	Peak Efficiency	>94%(50%load)

Output					
Output Voltage Range	+3.3Vsb	3.135~3.465V	Capacitive Loading	+3.3Vsb	20~1000μF
	+12V	11.4~12.6V		+12V	500~11000μF
Line Regulation	+3.3Vsb	±1%Vo	Output Ripple and Noise(p-p)	+3.3Vsb	45mV
	+12V	±1%Vo		+12V	180mV
Load Regulation	+3.3Vsb	±5%Vo	Output Voltage Overshoot	+3.3Vsb	105% of the maximum regulation limit
	+12V	±5%Vo		+12V	

Alarm and Protection			
Input Under Voltage Protection	Yes	Output Under Voltage Protection	Yes
Output Over Voltage Protection	Yes	Short Circuit Protection	Yes
Output Over Current Protection	Yes	Over Temperature Protection	Yes

Mechanical Drawing

Unit:mm



DC Connector and Pin Assignment

PIN	NAME	DESCRIPTION	PIN	NAME	DESCRIPTION
Output			B3	A0	Address 0
6, 7, 8, 9, 10	12V	+12 VDC main output	C3	SDA	I2C data signal line
1, 2, 3, 4, 5	PGND	Power ground (return)	D3	12V_SENSE_R	12V Main output negative sense
Control Pins			E3	12V_SENSE	12V Main output positive sense
A1	3.3VSB	Standby positive output (+3.3)	A4	SCL	I2C clock signal line
B1	3.3VSB	Standby positive output (+3.3)	B4	PSON_L	
C1	3.3VSB	Standby positive output (+3.3)	C4	SMBAlert	Alert signal
D1	3.3VSB	Standby positive output (+3.3)	D4	A1	Address 1
E1	3.3VSB	Standby positive output (+3.3)	E4	AC_OK	AC input OK signal
A2	SGND	Signal ground (return)	A5	PSKILL	Short pin
B2	SGND	Signal ground (return)	B5	ISHARE	12V current share signal (LS), Short pin
C2	N/C	Reserved	C5	PW_OK	Power OK signal, Short pin
D2	N/C	Reserved	D5	Reserved	Short pin
E2	N/C	Reserved	E5	PRESENT_L	PSU is present or not, Short pin
A3	A2	Address 2			

Order Information

MPN	AC Input Voltage	DC Input Voltage	Output Voltage/Output Current		Output Power (+12V and +3.3VSB)
			+12V	+3.3Vsb	
SAC1100-220D12-3V3-054-AA	90-264VAC	180-310VDC	90A	5A	1100W
SAC1500-220D12-3V3-054-AA	90-264VAC	180-310VDC	125A	5A	1500W

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Features

The product is a DC-DC switching power distribution board (PDB) with a +12V main DC input and a +12Vsb auxiliary input. The PDB will switch into +5V, +3.3V main and +5Vsb auxiliary output and distribute +12V main output. The maximum output power is 800W, which depends on the specified power value of the system you choose. The PDB operates with a single power supply or in 1+1 parallel. Power modules shall support hot-plug and active load share for 12V Main output. Mixed operation of different input type power modules (AC-DC and DC-DC) is allowed. The PDB shall limit the OPP to 1000W in single power supply and limit the OPP to 1200W 1+1 parallel.

Input

Parameter	Specifications	
PCB Input Current	+12VDC	65A maximum
	12VSBDC	2.1A

Output

Parameter	Specifications				
	+12V	+5V	+3.3V	-12V	+5VSB
Output Current	0.5~65A	0.1~25A	0.1~25A	0~0.5A	0.1~3A
Voltage Regulation Limits	3.135~3.465Vrms	4.75~5.25Vrms	11.4~12.6 Vrms	-13.2~-10.8Vrms	4.75~5.25Vrms
Capacitive Loading	2200~21000μF	1000~10000μF	1000~10000μF	10~330μF	100~3100μF
Ripples and Noise	120mVp-p	60mVp-p	50mVp-p	120mVp-p	50mVp-p

Protection

Parameter	Specifications				
	+12V	+5V	+3.3V	-12V	+5VSB
Over Current protection	Rating + 10A~ Rating + 18A	27.5~40A	27.5~40A	1.1~2.5A	5.5~12.5A
Over Voltage protection	13.3~15.6V	5.7~7.5V	3.7~4.7V	—	—
Over Temperature protection	Yes, automatical recovery				
Short Circuit Protection	Yes				

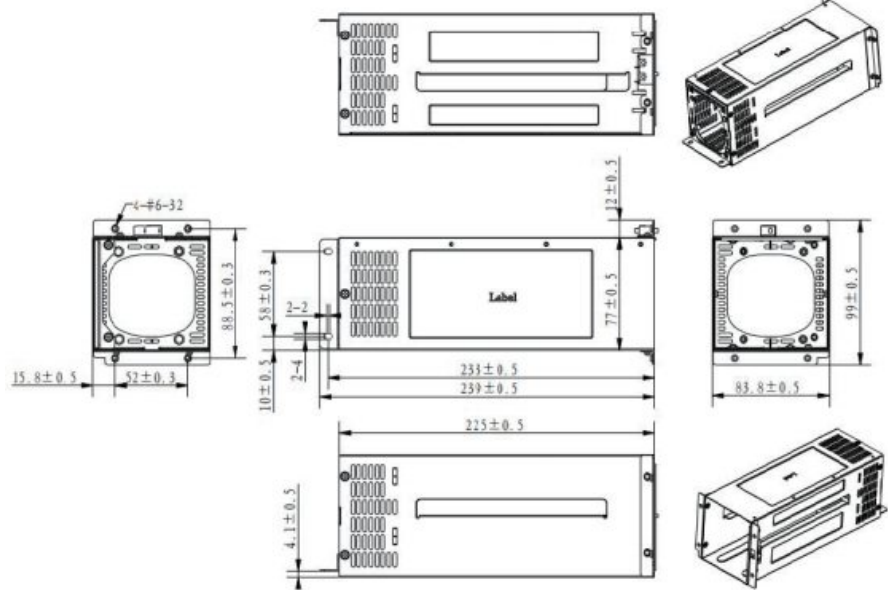
Environmental

Parameter	Specifications
Operating Temperature	0~45 C
Operating Humidity	5~85%(non-condensing)
Operating Altitude	15250 feet above sea level
Cooling	Fan cooling
MTBF	250,000 hours

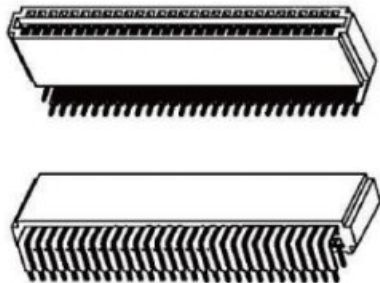


PDB Mechanical Drawing

Unit:mm



The PDB DC connector



Gold finger pin assignment/Output pin assignment

PIN	SIGNAL_NAME	PIN	SIGNAL_NAME
A1~A9	GND	B1~B9	GND
A10~A18	+12V	B10~B18	+12V
A19	PMBus SDA	B19	A0 (SMBus address)
A20	PMBus SCL	B20	A1 (SMBus address)
A21	PSON	B21	12VSB
A22	SMBAlert#	B22	SMART_ON
A23	Return Sense	B23	12V load share Bus
A24	12V Remote Sense	B24	Present
A25	PWOK	B25	Vin-good or PS-KILL

Order Information

MPN	Output Power
CRPS8002H-PDB-F	800W

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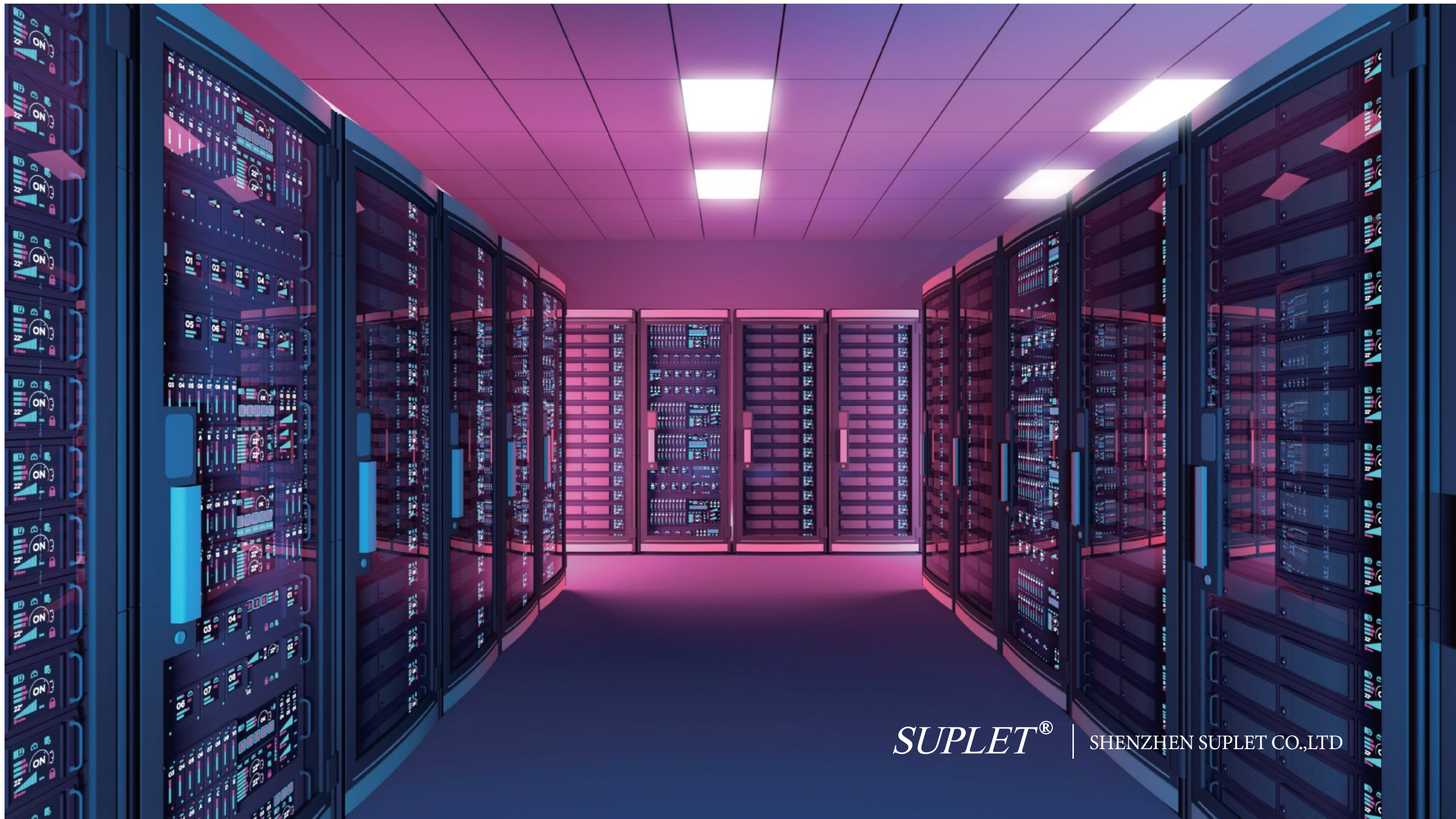
Naming Rules for Suplet Standard Products

Naming Rules for Suplet Standard Products(Basic Version.2022)										
1	Typical Power	L	D	F	(H)	450	-48	S	28	(CGSZ3)
		Sulet Power	A:AC/DC Series D:DC/DC Series H:Hybrid AC/DC	A/B/C:Copper or aluminium case E:Non-isolated SIP or SMT F:Open frame G/M:Aluminum baseplate K:Enclosed Type O:Compatible with Micro Power S:Adapter with output cable and socket-type input terminal	Blank:Full Brick H:Half Brick Q:Quarter Brick E:Eighth Brick S:Sixteenth Brick	Power(W)	Input Voltage(V) -48=48Vdc	Types of output S:Single output D:Dual output T:Three outputs M:Multiple outputs	Output Voltage(V)	Additional notes: C: With heatsink(The default is without heatsink) P: Negative remote control(The default is Positige) S: Positive TRIM logic(The default is negative) G: High efficiency W: Wide input voltage Z1/Z2/Z3/Z4/Z5 stands for different pin length
2	Small Modular Power-Single Output	A	B	E	40	N	48	P	5	(BHG)
		A: Open frame with heatsink B: Open frame without heatsink D: Glue-injecting Encapsulation	A: Non-isoalted, wide input voltage& adjustable output voltage B: I/O isolated	E:Eighth Brick S:Sixteenth Brick A/B/C/G/J/K/M/X: Standard footprints defined by other companies	Output Current (A)	Remote Control P:Positive logic N:Negative logic S:Without remote control	Input Voltage(V) 48: 48Vdc	S output voltage trim logic P:Positive Logic N:Negative Logic S:Without Trim function	Output Voltage(V)	A/B/C/D/E/F:Dif-ferent pin length H:Through-hole S:SMT G:RoHS

Naming Rules for Suplet Standard Products



Naming Rules for Suplet Standard Products(Basic Version.2022)									
3	Rectifier	S	R	48		50	(H)	(-1U)	(-RB)
		C:Compact Rectifier M:Mini Rectifier S:Standard Rectifier	Rectifier	Nominal Output Voltage(V)		Output Current(A)	Efficiency Default: Typical Efficiency M: Middle Efficiency H:High Efficiency	Height of SR series standard rectifier, -1U: 1U height Default: 2U height	Additional items: RB:Rear Backboard
4	Monitoring and Controller	CAS			-05			(T)	
		Control And Supervision			02: RS232/485/LAN, 03: RS232/485 04: RS232/485, DIO optional, 05:RS232/485/LAN, DIO optional			Additional items(Optional)	
5	Power System	S	T	P	48	350	H4	C1	D1
		Suplet	Telecom	Power system	Voltage	Output Current	Height ~U	C: Controller 1 means CAS-02 2 means CAS-04	D: Different Distribution 1: Internal Number
6	Server Power Supply	SAC	1600	-220	D	12	-12	(-054)	-AA
		SAC:AC+(DC) input SDC:DC input	Power(W)	Input Voltage(Vac or Vdc) -220: 220Vac -48: 48Vdc	Types of output: D:Dual output	Main output voltage(Vdc)	Standby output voltage(Vdc) -12=12Vdc (-3V3=3.3Vdc)	Server Power Supply Code The default is Intel CRPS Standard (-054:facebook SLIM 054 standard)	Additional items: AA- Normal airflow direction RA- Reverse airflow direction



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