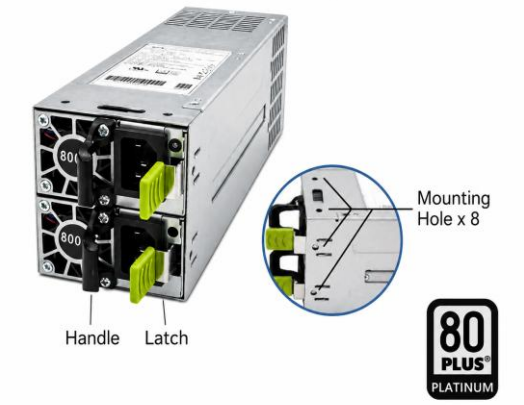
800W AC/DC Switching Power Supply
Model: TC22-0800-01



FEATURES

- Universal 90-264VAC input voltage.
- Operating ambient temperature range: 0°C to +45°C.
- Built-in active PFC function.
- Output short circuit, over-current and over-voltage protection.
- High efficiency up to 80Plus Platinum.
- 1+1 redundancy design.
- Supports Digital Power Management via PMBus.
- Operating altitude up to 5,000m.
- Safety according to IEC62368-1.

Models & Ratings

Model No.	Group	Output Condition	Voltage (V)	Current (A)	Max Power (W)	Total Power (W)	Efficiency (%) (3)	Capacitive load (uF)
TC22-0800-01	1	Output 1	3.3V	25	170 (1)	800 (2)	80Plus Platinum	5,000
		Output 2	5.0V	25				5,000
		Output 3	12.0V	65	780			18,000
		Output 4	-12.0V	0.8	9.6			350
	2	Output 5	5.0Vsb	3.5	17.5			350

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	Low Line AC input		90	100-127	140	VAC
	High Line AC input		180	200-240	264	
Input Frequency	-		47	50 - 60	63	Hz
Input Current	115VAC & maximum load		-	10	-	Arms
	230VAC & maximum load		-	5	-	
Inrush Current	264VAC	At 25°C, Cold start	-	35	-	A peak
Power Factor	115VAC & maximum load		-	0.95	-	-
Earth Leakage Current	264VAC		-	-	3.5	mA

Note:

1. Maximum combined power on +3.3V and +5V shall not exceed 170W.
2. Maximum combined power for all output shall not exceed 800W.
3. Only power module (TG17-0800-01) efficiency must exceed 80Plus Platinum at all specified load points. The efficiency should be measured at 230VAC and with external fan power according to Climate Saver / 80Plus efficiency measurement specifications.

Load	10%	20%	50%	100%
230VAC/50Hz	80%	90%	94%	91%

Output Specifications

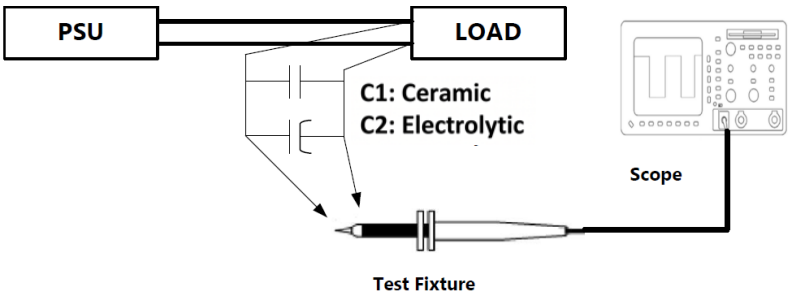
Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output 1	-	-	3.3V	-	VDC
Output Load	-	1	-	25	A
Load Regulation	Minimum load to maximum load	-	±5	-	%
Line Regulation	Maximum load	-	±1	-	%
Ripple & Noise	20MHz bandwidth	-	-	50	mVp-p
Short Circuit Protection	Output shut down and Latch off	-	-	-	A
Over Current Protection	Output shut down and Latch off	27.5	-	37.5	A
Over Voltage Protection	Output shut down and Latch off	3.8	-	4.5	V
Output 2	-	-	5V	-	VDC
Output Load	-	1	-	25	A
Load Regulation	Minimum load to maximum load	-	±5	-	%
Line Regulation	Maximum load	-	±1	-	%
Ripple & Noise	20MHz bandwidth	-	-	50	mVp-p
Short Circuit Protection	Output shut down and Latch off	-	-	-	A
Over Current Protection	Output shut down and Latch off	27.5	-	37.5	A
Over Voltage Protection	Output shut down and Latch off	5.6	-	6.5	V
Output 3	-	-	12V	-	VDC
Output Load	-	1	-	65	A
Load Regulation	Minimum load to maximum load	-	±5	-	%
Line Regulation	Maximum load	-	±1	-	%
Ripple & Noise	20MHz bandwidth	-	-	120	mVp-p
Short Circuit Protection	Output shut down and Latch off	-	-	-	A
Over Current Protection	Output shut down and Latch off	-	-	91	A
Over Voltage Protection	Output shut down and Latch off	13.2	-	15.6	V
Output 4	-	-	-12V	-	VDC
Output Load	-	0	-	0.3	A
Load Regulation	Minimum load to maximum load	-	±10	-	%
Line Regulation	Maximum load	-	±1	-	%
Ripple & Noise	20MHz bandwidth	-	-	120	mVp-p
Output 5 (stand by)	-	-	5V	-	VDC
Output Load	-	0.1	-	3.5	A
Load Regulation	Minimum load to maximum load		±5		%
Line Regulation	Maximum load		±1		%
Ripple & Noise	20MHz bandwidth			50	mVp-p

Short Circuit Protection	Only output shut down and auto recovery	-	-	-	A
Over Current Protection	Only output shut down and auto recovery	-	-	9	A
Over Temperature Protection	Output shut down and latch off	-	-	-	

PWOK Signal	Power OK = high	PWOK signal turn on delay time	100	-	500	mS
	Power not OK = low	PWOK signal inactive to DC loss delay	1	-	-	mS
	Logic level low level	sinking 4mA max	0	-	0.4	V
	Logic level high level	sourcing 200 μA max	2.4	-	5.25	V
Hold-up Time	70% of maximum load		12	-	-	mS

Ripple & Noise

The output is decoupled with a 47μF low ESR aluminum electrolytic capacitor (C2) and a 0.1μF ceramic capacitor (C1). Measurement is made with a high impedance probe connected across the decoupling capacitance. Measurements shall be made with an oscilloscope with 20MHz bandwidth.



Dynamic Loads

The output voltages shall remain within limits specified for the step loading and capacitive loading specified in the test table below. The load transient repetition rate shall be tested between 50Hz and 5KHz frequency and above 25% load.

Output	Step load	Load slew rate	Capacitive load
+12V	60% of max load	0.5A/us	18,000uF
+5V	30% of max load	0.5A/us	5,000uF
+3.3V	30% of max load	0.5A/us	5,000uF
+5Vsb	50% of max load	0.5A/us	350uF

Load Capacitance

The power supply shall be stable and meet all requirements with the following capacitive loading ranges.

Output	Min.	Max.
+12V	500uF	18000uF
+5V	400uF	5000uF
+3.3V	250uF	5000uF
-12V	1uF	350uF
+5Vsb	20uF	350uF

Shutdown Definition

Shutdown is defined as a condition where the +12V, +5V, +3.3V and -12V outputs latches off. The +5Vsb output shall remain on.

Short Circuit Protection

An output short circuit is defined as any output impedance of less than 10mΩ. The power supply shall shut down and latch off for shorting the +3.3V, +5V, or +12V rails to return.
The +5Vsb power supply will not latch under short circuit condition on +5Vsb output.
It will return to its normal operating mode once the short circuit is removed.

Thermal Fault Protection

The power supply shall have thermal protection against over temperature condition caused by loss of airflow or excessive ambient or hot spot temperature. The PSU should shut down and latch off when over temperature triggered.

Fan Fault Protection

After 10 sec the power supply should be latch off when fan fault occur. When fan speed malfunction, fan warning signal should be sent it out first then latch off the power supply.

Backplane Buzzer Alarm

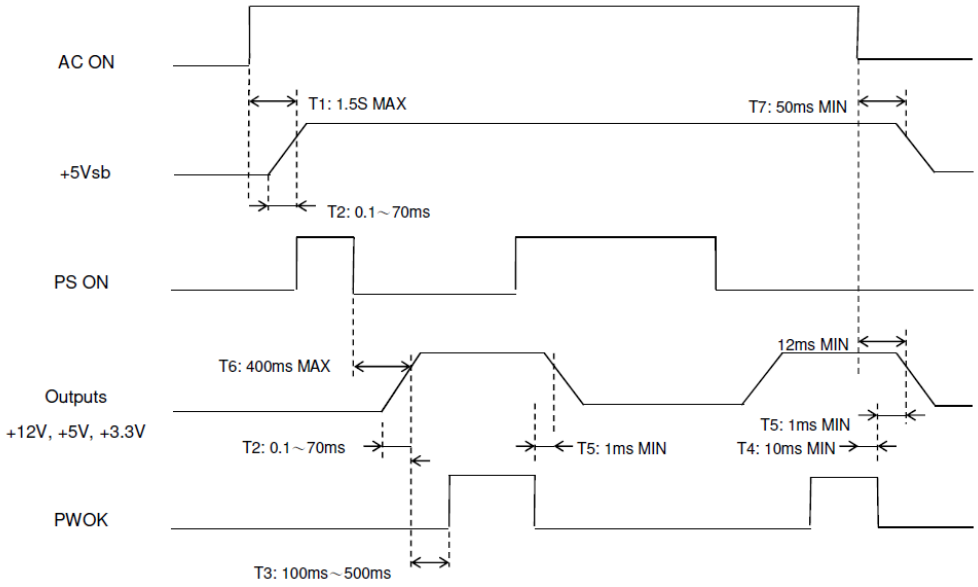
When power supply operate at 1+1 redundant mod, if any one of power supplies fails, the buzzer should make a continuous sound. The buzzer sound can be stopped by removing the faulty power supply or pressing the push switch.

LED Indicator

All LEDs shall protrude beyond the supply chassis surface for good visibility. There is a bi-color LED.

Power Supply Condition	LEDs State
No AC power	OFF
Only standby output on	Blink green
Power supply outputs ON and OK	Green
Power supply failure	Amber or Blink green

Time Sequence And Signal



Item	Description	Min	Max	Unit
T1	+5Vsb power on delay time	-	1.5	s
T2	The output voltages rise time from 10% to 90%	0.1	70	ms
T3	PWOK signal delay time	100	500	ms
T4	AC loss to PWOK signal hold up time	10	-	ms
T5	PWOK signal turn off delay time	1	-	ms
T6	Power on delay time	-	400	ms
T7	AC loss to +5Vsb output hold up time	50	-	ms

Redundant Operation

The power supply may be used in a system with up to one additional, redundant, power supplies. The load is shared between the power supplies that are ORed together. When two supplies are ORed together, they may be used in 1+1 configuration.

PS ON Signal on/off Control

PS ON is an active-low, TTL-compatible signal that allows a motherboard to remotely control the power supply in conjunction with features such as soft on/off. The OFF/ON cycle with a minimum OFF time is 1s.

The power supply shall provide an internal pull-up to TTL high. The power supply shall also provide de-bounce circuitry on PS ON to prevent it from oscillating on/off at startup when activated by a mechanical switch.

Signal	Minimum	Maximum
VIL, Input Low Voltage	0V	0.8V
IIL, Input Low Current (Vin = 0.4 V)	-	-1.6mA
VIH, Input High Voltage	2.0V	5.25V

General Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Operating Temperature	-		0	-	+45	°C
Storage Temperature	Non-operation		-40	-	+80	
Operating Humidity	Non-condensing		10	-	90	%
Storage Humidity			5	-	95	
Altitude (4)	Operating altitude		-	-	5,000	meter
Dielectric Strength test (5)	Input – Output	Electrical strength test for 1 minute, leakage current is less than 10mA.	3,000	-	-	VAC
	Input – FG		1,800			
Insulation Resistance	Input – Output	25±5°C, 70% RH, non-condensing testing voltage 500VDC.	20	-	-	MΩ
	Input – FG		20			
Mean Time Between Failure	At 230Vac/50Hz rated load 25°C, Telcordia SR332, issue4.		300,000	-	-	Hrs.
Vibration	Operating：0.3G, 10 - 500Hz, 10 min/cycle, 30 min each axis (X, Y, Z)					
Shock	Non-operating (package)：20G, half-sine, 11 ms, 1 shock per direction per axis (X, Y, Z)					

4. For every 305 meters of altitude increase, the operating ambient temperature needs to be decreased by 1°C.

5. The electric strength test of LY production line was conducted for 3 seconds, and the leakage current was less than 10mA.

Safety Approvals

Safety Standard	Standard	UL/cUL UL62368-1, 3rd Rdition CB IEC62368 3rd Edition.

		TUV EN 62368-1 3rd Edition.
Safety Class	-	Class I only

Electromagnetic Compatibility (EMC)

Emissions (6)	CE	EN55032 (CISPR32) Class A, FCC Part 15 Class A	
	RE	EN55032 (CISPR32) Class A, FCC Part 15 Class A	
	Harmonic Current	EN61000-3-2 Class A	
	Flicker	EN61000-3-3	
Immunity	ESD	EN61000-4-2, level 4, Contact ±8KV; Air discharge ±15KV	Criteria A
	RS	EN61000-4-3, level 3, 10V/m.	Criteria A
	EFT	EN61000-4-4, level 3, ±2KV.	Criteria A
	Surge	EN61000-4-5, level 3, Line to Line ±1KV; Line to Earth ±2KV	Criteria A
	CS	EN61000-4-6, level 3	Criteria A
	PFMF	EN61000-4-8, level 3	Criteria A
	DIP	EN61000-4-11	Criteria B

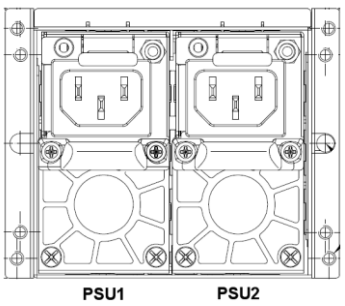
Note:
6. The power supply should be considered a part of the system component. All EMC tests conducted with the unit installed in a metal enclosure dummy system. The power supply needs to be confirmed for electromagnetic compatibility in conjunction with the terminal equipment.

PMBus Interface

Addressing：

The PMbus device address locations are shown below.

PSU	PMBUS Address		FRU Address	
	Binary	Hex	Binary	Hex
PSU1	1011 0000	B0	1010 0000	A0
PSU2	1011 0010	B2	1010 0010	A2



Serial Bus Interface

The system will utilize PMBus for communication between itself and the power supply. The bus is to be compatible with both SMBus 2.0 'high power' and I2C. The bus will be 3.3V. A voltage shifting circuit may be needed to accomplish this. Except where specifically called out, there will be no pull-ups in the power supply. The pull-ups will be provided external to the power supply via 4.7K~10Kohm in the host system.

SCL and SDA

SCL and SDA comprise a bi-directional serial data bus used to communicate between the SMBus devices with-in the power supply and the host system.
The host system has pull-ups on these signals; the power supply must not.

Data Speed

The PMBus device in the power supply shall operate at the 100Kbps SMBus speed.

PMBus Command Summary

This feature only the power module (TG17-0800-01) support

Code	Command	Bytes	Read / Write
01h	Operation	1	Read / Write
03h	Clear_Faults	0	Write
05h	Page_Plus_Write	Variable	Block Write
06h	Page_Plus_Read	Variable	Block Write – Block Read Process Call
19h	Capability	1	Read
1Ah	Query	1	Block Write – Block Read Process Call
1Bh	SMBALERT_Mask	2	Block Write – Block Read Process Call
20h	Vout_Mode	1	Read
30h	Coefficients	5	Block Write – Block Read Process Call
78h	Status_Byte	1	Read
79h	Status_Word	2	Read
7Ah	Status_Vout	1	Read
7Bh	Status_Iout	1	Read
7Ch	Status_Input	1	Read
7Dh	Status_Temperature	1	Read
7Eh	Status_CML	1	Read
81h	Status_Fans	1	Read
86h	Read_Ein	6	Block Read
87h	Read_Eout	6	Block Read
88h	Read_Vin	2	Read
89h	Read_Iin	2	Read
8Bh	Read_Vout	2	Read
8Ch	Read_Iout	2	Read
8Dh	Read_Temperature1	2	Read
8Eh	Read_Temperature2	2	Read
8Fh	Read_Temperature3	2	Read
90h	Read_Fan speed	2	Read
96h	Read_Pout	2	Read
97h	Read_Pin	2	Read
98h	PMBus_Revision	1	Read

PMBus

The power supply will provide the following access via PMBus protocol:

- Power supply status
- Input/output power metering

In the following sections, all operations, values and definitions are in compliance with the PMBus specifications unless explicitly noted.

Only PMBus commands and bits explicitly identified in the tables under Section 13.2 are supported. Therefore, any attempt to write using these commands must be handled as unsupported.

PMBus Command Summary

PMBus commands are one byte command codes. As below listing is power supply can support of PMBus commands.

Read commands

The READ commands allow the host to read temperature, current, voltage, power and energy parameters of the power supply.

PMBus command	Description	Data format
Read_Vin	Returns the input voltage in voltage.	Linear
Read_Iin	Returns the input current in amperes.	Linear
Read_Pin	Returns the input power, in watts, of the power supply.	Linear
Read_Ein	Commands are used to return information the host can use to calculate the input power consumption of power supply.	Direct
Read_Eout	Commands are used to return information the host can use to calculate the output power consumption of power supply.	Direct
Read_Vout	Returns the output voltage in voltage.	Linear
Read_Iout	Returns the output current in amperes.	Linear
Read_Pout	Returns the output power, in watts, of the power supply.	Linear
Read_Temperature_1	Returns the temperature in ℃ of the airflow inside temperature.	Linear
Read_Temperature_2	Returns the temperature in ℃ of the hot spot temperature.	Linear
Read_Temperature_3	Returns the temperature in ℃ of the primary side hot spot temperature.	Linear
Read_Fan speed	Returns the fan speed in revolutions per minute	Linear

PMBus direct format set m = 01h, R = 00h, b = 00h.

Accuracy

	Accuracy	
	Pin < 100W	Pin > 100W
Read_Vin	±5%	
Read_Iin	±0.1A	±5%
Read_Pin	±10W	±5%
Read_Vout	±5%	
Read_Iout	±0.5A	±5%
Read_Pout	±10W	±5%
Read_Temperature_1	±5℃	
Read_Temperature_2	±5℃	
Read_Temperature_3	±5℃	
Read_Fan speed	<9000rpm±1000rpm; >9000rpm±2000rpm	

Capability and inventory reporting

The follow commands shall be supported for discovery of the power supplies capabilities.

Command	Meaning	Value
Capability	Packet Error Checking is supported Maximum supported bus speed is 100KHz Support the SMBus Alert Response protocol	90h
Query	Used to determine if the PSU supports a specific	Byte

	command	
PMBus_Revision	Used to verify the PMBus revision the power supply is base on	22h

PAGE_PLUS_WRITE

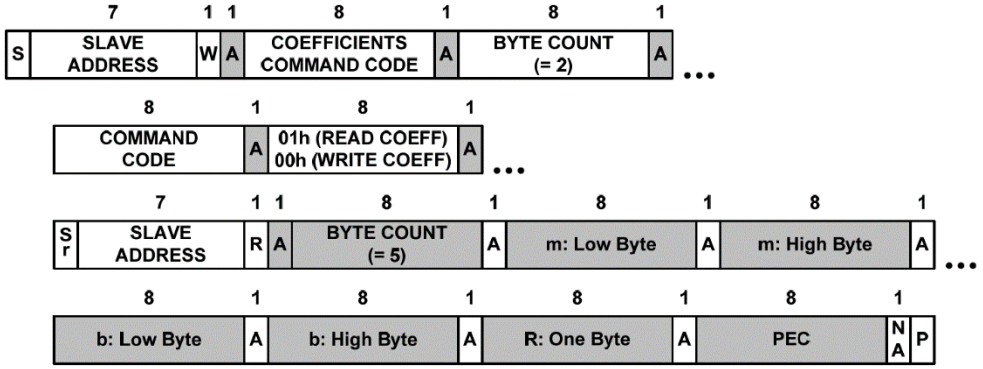
The PAGE_PLUS_WRITE command is used to set the page within a device, send a command, and send the data for the command in one packet.

12.2.4 PAGE_PLUS_READ

The PAGE_PLUS_READ command is used to set the page within a device, send a command, and read the data returned by the command in one packet.

12.2.5 Coefficients

This command is used to retrieve the m, b and R coefficients needed by data in the DIRECT format.



Status commands

Status information is binary. A value of 1 indicates a fault or warning event has occurred and a value of 0 indicates that a fault or warning event has not occurred.

When the power an exception occurs, will set the warning bit. Warning bit will be automatically cleared when the anomalies remove.

The Status_Byte (78h) and Status_Word (79h) message content is described as shown below.

Byte	Bits	Bit name	Meaning
Low	7	Busy	Not support, set to 0
	6	OFF	+12V output off set to 1
	5	Vout_OV_Fault	+12V output overvoltage fault has occurred
	4	Iout_OC_Fault	+12V output overcurrent fault has occurred
	3	Vin_UV_Fault	Input undervoltage fault has occurred
	2	Temperature	A temperature fault or warning has occurred
	1	CML	A communications, memory or logic fault has occurred
	0	None of above	Not support, set to 0
High	7	Vout	+12V output voltage fault or warning has occurred
	6	Iout	+12V output current fault or warning has occurred
	5	Input	An input voltage fault or warning has occurred
	4	Not use	Not support, set to 0
	3	Power_Good#	The PWOK signal, if present, is negated
	2	Fans	A fan or airflow fault or warning has occurred
	1	Other	Not support, set to 0
	0	Not use	Not support, set to 0

The Status_Vout (7Ah) command returns one data byte with contents as below:

Bits	Meaning
7	+12V output voltage exceed 14V has occurred (Fault)
6	+12V output voltage exceed 13.2V has occurred (Warning)
5	+12V output voltage less than 10.8V has occurred (Warning)
4	+12V output voltage less than 10V has occurred (Fault)
3-0	Not support, set to 0

The Status_Iout (7Bh) command returns one data byte with contents as below:

Bits	Meaning
7	+12V output current exceed 75A has occurred (Fault)
6	Not support, set to 0
5	SMBaltert# low means Warring has occurred.
4-0	Not support, set to 0

The Status_Input (7Ch) command returns one data byte with contents as below:

Bits	Meaning
7-6	Not support, set to 0
5	Input voltage less than 80±5Vrms[1] has occurred (Warning)
4	Input voltage less than 74±5Vrms[1] has occurred (Fault)
3	Unit Off For Insufficient Input Voltage
2-0	Not support, set to 0

Notes:

Input voltage sense in front of PSU.

The Status_Temperature (7Dh) command returns one data byte with contents as below:

Bits	Meaning
7	Fault setting: Temperature (The power supply into the airflow inside) exceed 66 ±4℃ or Secondary hot spot exceed 115 ±5℃or Primary side hot spot exceed 115±5℃ Recover setting: Temperature less than 55 ±5℃ and Secondary hot spot less than 70 ±5℃ and Primary side hot spot less than 70±5℃
6	Temperature (The power supply into the airflow inside) exceed 62 ±4℃ (Warning) or Primary/Secondary side hot spot exceed 110±5℃ (Warning)
5-4	Not support, set to 0
3-0	Reserved, read 0

The Status_CML (7Eh) command returns one data byte with contents as below:

Bits	Meaning
7	Invalid Or Unsupported Command Received
6	Invalid Or Unsupported Data Received
5	Packet Error Check Failed
4-3	Not support, set to 0
2	Reserved, read 0
1-0	Not support, set to 0

The Status_Fans (81h) command reports on the status of fans installed in position

Bits	Meaning
7	Fan speed less than 800 rpm during over 10 seconds If the fan control to stop condition will not set this bit
6	Not support, set to 0
5	Fan speed less than target 3800 rpm, during over 5 seconds If the fan control target less than 4600 rpm, The warning and fault bit may be together setting.
4-0	Not support, set to 0

Output Voltage Related Commands

Command	Meaning	Value
VOUT_MODE	Linear data format, N = -9	17h

FRU Data Format

The information to be contained in the FRU device is shown in the following table.

Address	Value	Description	Remark
00H	01	Common header format version	Common header
01H	00	Internal use area starting offset	No used
02H	00	Chassis info area starting offset	No used
03H	00	Board area starting offset	No used
04H	01	Product info area starting offset	
05H	0A	Multi record area starting offset	
06H	00	PAD	
07H	F4	Common Header Checksum	
08H	01	Product area format version	Product header
09H	09	Product area length	
0AH	19	Language (English)	
0BH	C9	Manufacturer name / length	
0CH	4C	L	
0DH	45	E	
0EH	41	A	
0FH	44	D	
10H	20		
11H	59	Y	
12H	45	E	
13H	41	A	
14H	52	R	
15H	CC	Model number / length	
16H	54	T	
17H	47	G	
18H	31	1	
19H	37	7	
1AH	2D	-	
1BH	30	0	
1CH	38	8	
1DH	30	0	
1EH	30	0	
1FH	2D	-	

20H	30	0	
21H	31	1	
22H	CF	Customer information (max 15 bytes)	Customer Name
23H	58	X： ASCII code	
24H	58	X： ASCII code	
25H	58	X： ASCII code	
26H	58	X： ASCII code	
27H	58	X： ASCII code	
28H	58	X： ASCII code	
29H	58	X： ASCII code	
2AH	58	X： ASCII code	
2BH	58	X： ASCII code	
2CH	58	X： ASCII code	
2DH	58	X： ASCII code	
2EH	58	X： ASCII code	
2FH	58	X： ASCII code	
30H	58	X： ASCII code	
31H	58	X： ASCII code	
32H	C3	Product version / length	
33H	58	X：From A to Z	To be updated
34H	58	X：From 0 to 9	To be updated
35H	58	X：Reserve	To be updated
36H	CF	Product serial number / length	
37H	58	X：M = SMART	To be updated
38H	58	X：For LEAD YEAR model code (2 bytes)	
39H	58	X	
3AH	58	X：Year (00~99) date code	To be updated
3BH	58	X	To be updated
3CH	58	X：Week (01~52)	To be updated
3DH	58	X	To be updated
3EH	58	X：Product version (2 bytes)	To be updated
3FH	58	X：Year (00~99) date code	To be updated
40H	58	X	To be updated
41H	58	X：Week (01~52)	To be updated
42H	58	X	To be updated
43H	58	X：Serial number (0001~9999)	To be updated
44H	58	X	To be updated
45H	58	X	To be updated
46H	58	X	To be updated
47H	C0	Asset tag / length	
48H	C0	FRU File ID type/length byte	
49H	C1	No more info fields	
4AH	00	PAD (Always zero)	
4BH	00	PAD (Always zero)	
4CH	00	PAD (Always zero)	
4DH	00	PAD (Always zero)	
4EH	00	PAD (Always zero)	

4FH	61	Product area checksum	
50H	00	Power supply information	Multirecord
51H	02	Record format version	Header
52H	18	Record length	
53H	96	Record checksum	To be updated
54H	50	Header checksum	To be updated
55H	0C	Output power (2 bytes)	780W
56H	03		
57H	28	Peak VA (2 bytes)	1320W
58H	05		
59H	23	Inrush current	35A
5AH	0A	Inrush interval in ms	10ms
5BH	10	Low end Input voltage range 1	100V
5CH	27		
5DH	C0	High end Input voltage range 1	240V
5EH	5D		
5FH	28	Low end Input voltage range 2	90V
60H	23		
61H	20	High end Input voltage range 2	264V
62H	67		
63H	2F	Low end Input frequency range	47Hz
64H	3F	High end Input frequency range	63Hz
65H	0C	Input dropout tolerance in ms	12ms
66H	1A	Hot swap, Power factor correction support	
67H	54	Peak wattages	852W
68H	F3		15S
69H	00	Combined Wattage (3 bytes)	No used
6AH	00		No used
6BH	00		No used
6CH	00	Predictive fail tachometer lower threshold (RPS)	
6DH	01	DC output	Multirecord
6EH	02	Record format version	Header
6FH	0D	Record length	
70H	86	Record checksum	
71H	6A	Header checksum	
72H	01	Output number 1	+12V
73H	B0	Nominal voltage	12V
74H	04		
75H	74	Maximum negative voltage	11.4V
76H	04		
77H	EC	Maximum positive voltage	12.6V
78H	04		
79H	78	Ripple and noise pk-pk 10Hz to 20MHz	120mV
7AH	00		
7BH	00	Minimum output current	0A
7CH	00		
7DH	E8	Maximum output current	65A
7EH	FD		
7FH	01	DC output	Multirecord

80H	82	Record format version	Header
81H	0D	Record length	
82H	AE	Record checksum	
83H	C2	Header checksum	
84H	82	Output number 2	+12Vsb
85H	B0	Nominal voltage	12V
86H	04		
87H	74	Maximum negative voltage	11.4V
88H	04		
89H	EC	Maximum positive voltage	12.6V
8AH	04		
8BH	78	Ripple and noise pk-pk 10Hz to 20MHz	120mV
8CH	00		
8DH	00	Minimum output current	0A
8EH	00		
8FH	34	Maximum output current	2.1A
90H	08		
91H | FFH	FF	Don't used	

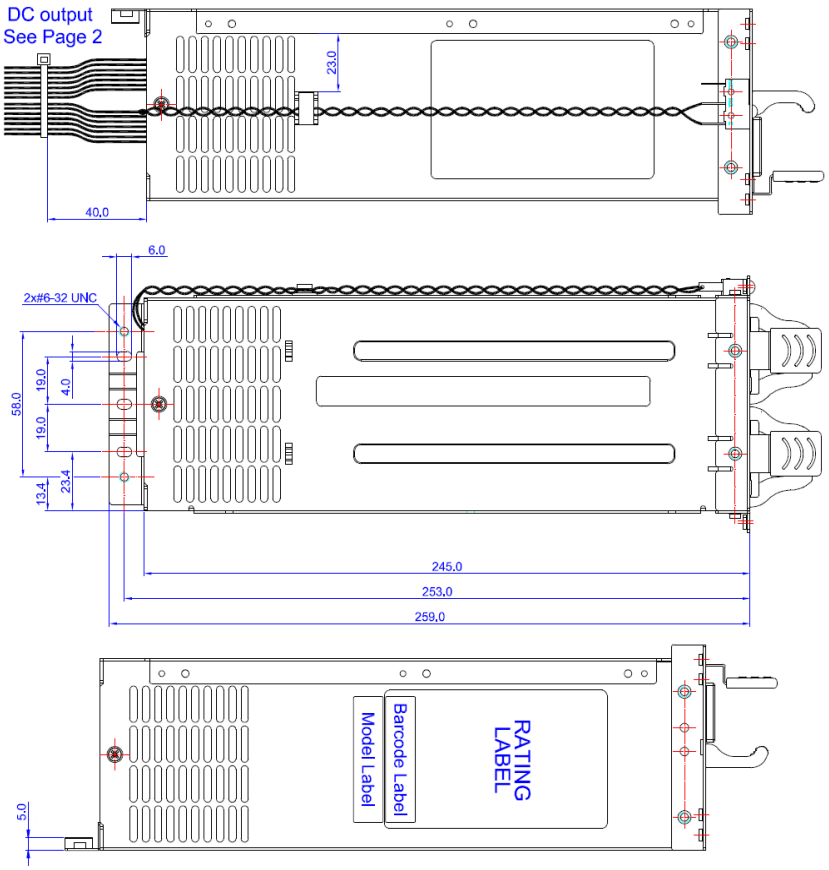
Field replaceable unit data memory (Hex) show in below table:

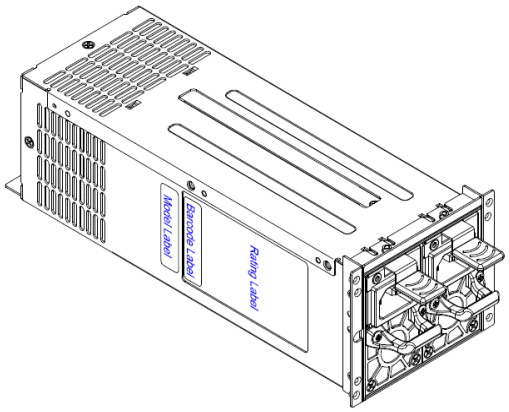
Offset	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	01	00	00	00	01	0A	00	F4	01	09	19	C9	4C	45	41	44
10	20	59	45	41	52	CC	54	47	31	37	2D	30	38	30	30	2D
20	30	31	CF	58	58	58	58	58	58	58	58	58	58	58	58	58
30	58	58	C3	58	58	58	CF	58	58	58	58	58	58	58	58	58
40	58	58	58	58	58	58	C0	C0	C1	00	00	00	00	00	00	61
50	00	02	18	96	50	0C	03	28	05	23	0A	10	27	C0	5D	28
60	23	20	67	2F	3F	0C	1A	54	F3	00	00	00	00	01	02	0D
70	86	6A	01	B0	04	74	04	EC	04	78	00	00	00	E8	FD	01
80	82	0D	AE	C2	82	B0	04	74	04	EC	04	78	00	00	00	34
90	08	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
A0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
B0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
C0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
D0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
E0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
F0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF

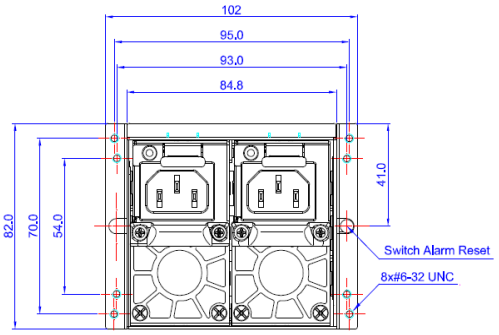
Dimensions and Recommended Layout

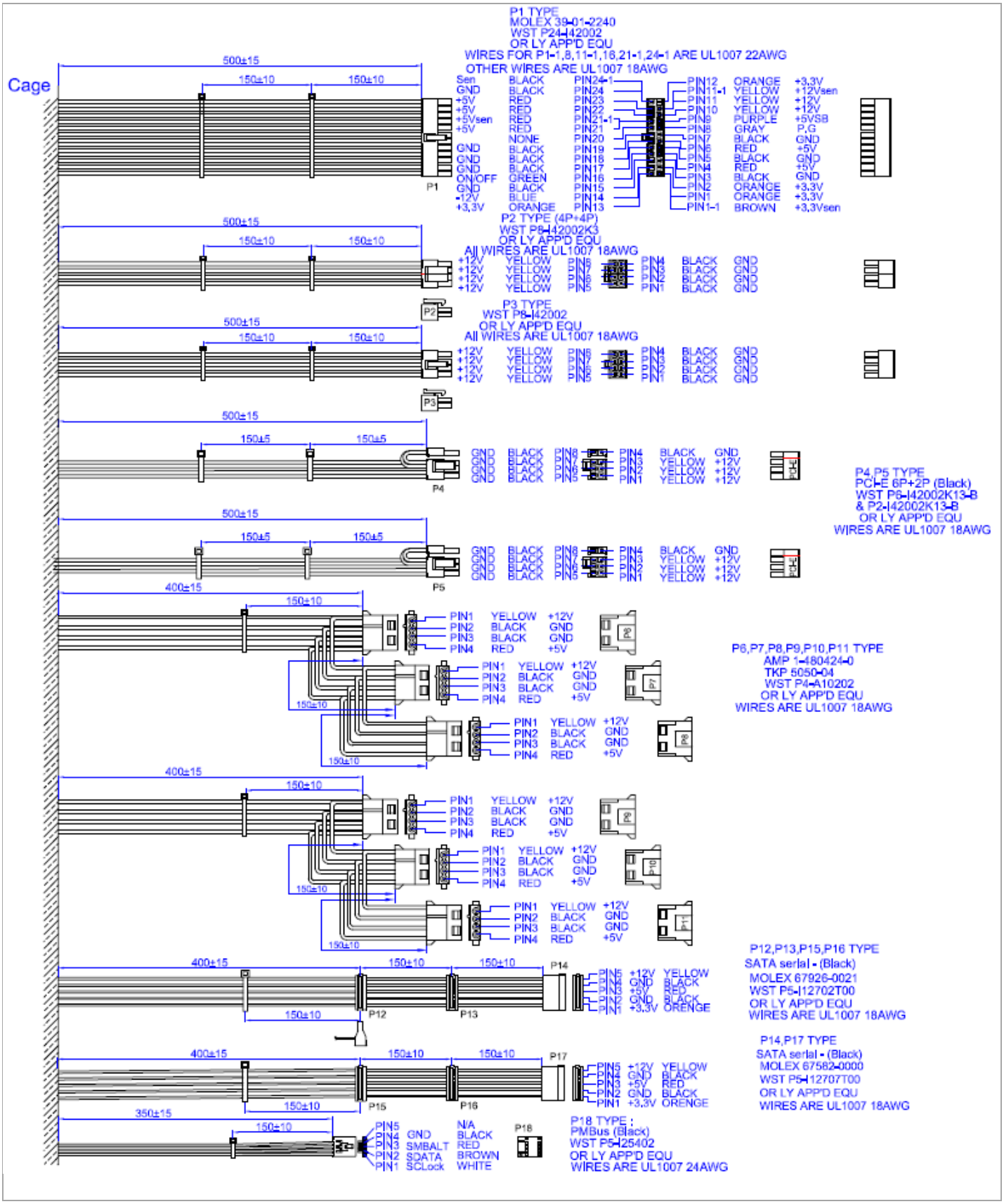
Item	Value	Unit
Weight (Typ.)	3,000	g
Size (L x W x H)	245 x 84.8 x 82	mm

Outline Drawing：(Unit: mm, Tolerance: ±0.5 mm)








Cage
P1 TYPE
MOLEX 39-01-2240
WST P24-I42002
OR LY APP'D EQU
WIRES FOR P1-1,8,11-1,16,21-1,24-1 ARE UL1007 22AWG
OTHER WIRES ARE UL1007 18AWG
P2 TYPE (4P+4P)
WST P8-I42002K3
OR LY APP'D EQU
All WIRES ARE UL1007 18AWG
P3 TYPE
WST P8-I42002
OR LY APP'D EQU
All WIRES ARE UL1007 18AWG
P4,P5 TYPE
PCI-E 6P+2P (Black)
WST P6-I42002K13-B
& P2-I42002K13-B
OR LY APP'D EQU
WIRES ARE UL1007 18AWG
P6,P7,P8,P9,P10,P11 TYPE
AMP 1-480424-0
TKP 5050-04
WST P4-A10202
OR LY APP'D EQU
WIRES ARE UL1007 18AWG
P12,P13,P15,P16 TYPE
SATA serial - (Black)
MOLEX 67926-0021
WST P5-I12702T00
OR LY APP'D EQU
WIRES ARE UL1007 18AWG
P14,P17 TYPE
SATA serial - (Black)
MOLEX 67582-0000
WST P5-I12707T00
OR LY APP'D EQU
WIRES ARE UL1007 18AWG
P18 TYPE :
PMBus (Black)
WST P5-I25402
OR LY APP'D EQU
WIRES ARE UL1007 24AWG