Electrical Specification for:	**48V 1.5KW 1U AC-DC Power Supply**
Telkoor Model:	**900-1548-0000**

CUSTOMER: GENERAL	SIZE		CAGE CODE	S5417	DWG. NO.	1548-DOC1-10		REV	A
	SCALE			RELEASE DATE	22/06/07	SHEET	1	OF	1

REVISION HISTORY					
Rev Level	**Rev Date**	**Change Made**	**Reason for Change**	**Effective**	**Approved By**
A	22/06/07	Release for production	Release for production	22/06/07	S.Sadot

Approvals		
	Name	**Date**
Written by:	**S. Sadot**	**22/06/07**
Engineering:	**S. Sadot**	**22/06/07**
Marketing:	**B Weiss**	**22/6/2007**
Management:	**Y Ben-Ami**	**25/6/07**

Input:

Input Voltage:	90 - 264Vac, auto range, single phase
Frequency:	47-63Hz
Inrush Current:	50 A maximum,
Power Factor:	0.98 typical at 230Vac, full load 0.99 typical at 115Vac, full load
Efficiency	>89% at 230Vac, full load rated power >83% at 115Vac, full load rated power
Input Protection:	Internal Line Fuse: IEC type, 3AG,16A 250Vac NORMAL ACTION
Brown – Out:	75 to 300Vac for 50Msec

Output Voltages & Currents:

Input Range	V1 Output Voltage	I Min. Load	I Max. Load	Peak Load	V Aux. (*Note 1)
90Vac – 140Vac	48V	0	25A	28A	+5V/30mA or +3.3V/30mA
180Vc – 264Vac	48V	0	32A	35A	+5V/30mA or +3.3V/30mA

(*) Note: Total power 150mW Floating

Output Power:	1.5KW for 48V 1200W for 24V models. 800W for 12V model.
Line Regulation:	± 0.4% for Vin (Min) to Vin (Max).
Load Regulation:	± 0.5% for load changes from zero to full load.
Ripple & Noise V1:	1% p-p Max @ 20 MHz bandwidth with 1u ceramic and 10 electrolytic on measure point.
Output Voltage Adjustment Range	± 5%
Initial Set Point Tolerance:	± 250mV
Overshoot & Undershoot:	Less than 1% at turn ON-OFF
Transient Load Response:	± 3% Max. deviation for load change of 50% to 100%, at slew rate of 1A/usec, recovery time less then 1mSec
Turn On Delay:	2 sec. Maximum.
Hold-up Time:	16mSec minimum
Turn-On Rise Time:	60mSec Max.
Over-current Protection:	105 to 120% of IMax, constant current limit, automatic recovery, when cause of overload or short is removed
Over-voltage Protection:	Shut down at 110 ÷ 130% of nominal output, AC input must recycled to restart.
Temperature Protection:	Shutdown due to excessive ambient temperature at over heating or malfunction of cooling fans. The sense point is at 90°C for the internal heat signal, unit recovers automatically typical hysterisis 30°C.
Remote Sense on V1	600mV Max voltage compensation for cable losses with respect to the main output
Current Share	N+1 Redundancy.
Hot Swap	Internal O-Ring diode (FET)

Signals & Commands

Important note: All signals and commands refer to +5V Aux RTN.

(See attached pin assignment table)

Inhibit:	Active low, main outputs shut down to zero. Only auxiliary output exists at this point.
Enable:	Contact closure to external ground to start unit. On shortest unit. On shortest pin (last make, first break)
PS Alarm:	Open collector active low when the output drops 10% below nominal.
AC OK:	Open Collector Active low when AC in range.
Fan Fail:	TTL Compatible signal, normally High, goes low when fan fail.
I²C (IPMI interface) - ***OPTION***	Internal I²C/IPMI interface Card

Visual Indicators

AC In Range	Green LED illuminates for AC O.K
Output In Range	Green LED illuminates for V1 output in range.
Hot swap indication	Blue LED illuminates in accordance with ATCA standard for hot swap indications (see Hot swap indication Table)

Environmental Specifications:

Temperature:	Operating: -10°C to +50°C (de-rating linearly to 70 °C with 50% de-rating). Storage: -40°C to +85°C.
Temperature Coefficient:	0 to 70°C ± 0.02%/°C
Cooling:	Forced air by internal two fans - Front to back
Humidity:	5% to 95% RH non-condensation.
Altitude:	Operating 10,000 ft. Non- operating 40,000 ft.
Vibration:	Three orthogonal axes at 1 octave/min, 5 min dwell at four major resonances at 0.75G peak, 5Hz to 500Hz.

Safety Regulatory & EMC Specifications (Designed to meet):

MEETS FCC CLASS B, CISPR 22 CLASS B,EN55022 CLASS B with an external TBD line filter

EN61000-3-2	HARMONICS
EN61000-3-3	VOLTAGE FLUCTUATION
EN6000-4-2	ESD +8KV AIR +4KV CONTACT DISCHARGE, performance criteria B
EN61000-4-3	RADIATED IMMUNITY: 80-1000Mhz 3V/m, AM 80% (1KHz), criteria A
EN61000-4-4	FAST TRANSIENT: 1KV for AC power port, 0.5KV for DC power I/O and signals Port, performance criteria B
EN61000-4-5	SURGE: 2KV common mode and 1KV differential mode
EN61000-4-6	3VRMS, 80% A.M. BY 1kHz
EN61000-4-8	3A /m at 50Hz, performance criteria A.
EN61000-11	VOLTAGE Dips and interruption: 30% reduction for 10mSec –Criteria B, 60% For 100mSec. Criteria C, 95% reduction for 5000mSec Criteria C.

Dielectric Withstand:

Input to Case:	1500VAC.
Input to Output:	3000VAC
Output to Case:	1500VDC

Safety Agency Compliance:	UL 60950, EN 60950, IEC 60950 CSA C22.2 -234, LEVEL 3. CE – MARK 2200VDC
Leakage Current:	2mA @50/60 Hz, 264Vac input.
MTBF:	300,000 hours minimum per BELCOR 332,issue 6 specification @30 degrees C

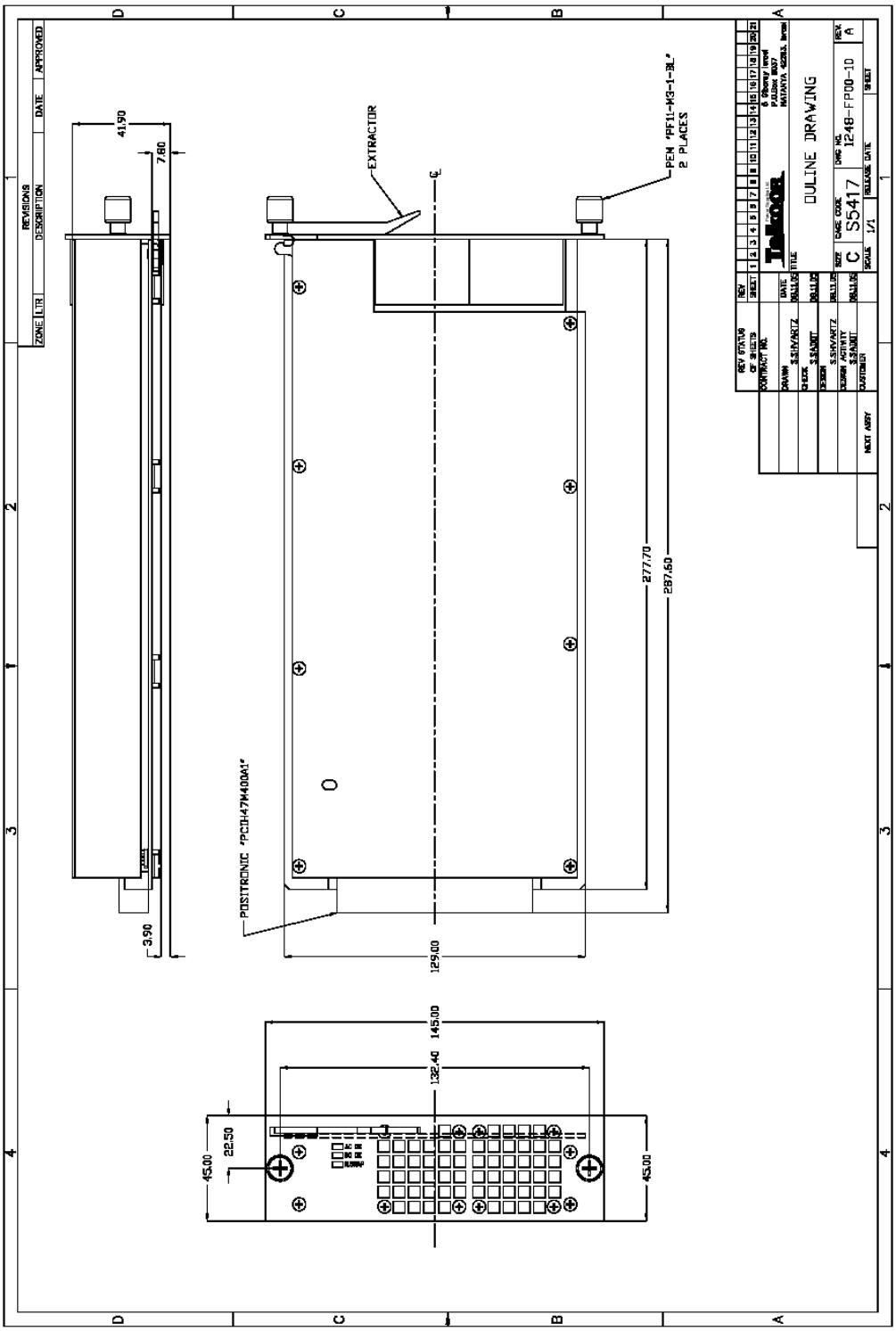
Mechanical Dimensions

Size	1U H X 114 W X 278 L mm
Weight	1.6Kg
I/O Connector	Positronic Right Angle PCI47M400A1

ATCA Hot Swap indication Table (BLUE LED on Front Panel)

Status	Definition
Steady Blue	P.S. powering up or ready for ex-traction
Blinking blue	P.S. hot swap process
Off	P.S. operating

Power Box Outline Drawing



CUSTOMER: GENERAL	SIZE		CAGE CODE	S5417	DWG. NO.	1548-DOC1-10		REV	A
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Power Box Pin Assignment

Pin #	Signal Name	Remarks
1-6	-48V	48V Floating
7-12	-48V RTN	48V Floating
13	HA0	Pull up resistor will be in the PS card
14	HA1	Pull up resistor will be in the PS card
15	HA2	Pull up resistor will be in the PS card
16	HA3	Pull up resistor will be in the PS card
17	HA4	Pull up resistor will be in the PS card
18	HA5	Pull up resistor will be in the PS card
19	HA6	Pull up resistor will be in the PS card
20	HA7	Pull up resistor will be in the PS card
21	5V_GND	
22	SCL_A	I2C bus A
23	SDA_A	I2C bus A
24	SCL_B	I2C bus B
25	SDA_B	I2C bus B
26	5V_GND	
27	EN Enable	Connect to GND to start the unit. On shortest pin.
28	5V_GND	
29	GA0	Geographic Address Bit 0
30	GA1	Geographic Address Bit 1
31	GA2	Geographic Address Bit 2
32	5V_Standby	+3.3V 20mA Auxiliary Output
33	FAN_FAIL	Open Collector Active High
34	PS_INT	
35	PS_ALARM	Open Collector which contain all alarms + Hot swap switch. Pull up resistor will be on the Carrier card.
36	AC_OK	Open Collector Active High, indicates input line
37	INHIBIT	Power Supply ON/OFF switch connect to GND.
38	CURRENT SHARE	Single Wire N+1 up to 6 unit In Parallel
39	N-Sense	-48V Remote Sense
40	P-Sense	-48V RTN Remote Sense
41	3.3V	
42	5V_GND	
43	PTC_AdJ	Option For External Temperature Sensor
44	5V_PTC	Option For External Temperature Sensor
45	F_GND	Chassis Ground
46	PHASE	AC Supply
47	Neutral	AC Supply