

INSTALLATION INSTRUCTION

TET2200-12-086NA, TET2200-12-086RA AC/DC-DC Front-End Power Supply

READ THIS CAREFULLY BEFORE INSTALLATION!	VOR DER INSTALLATION BITTE FOLGENDE SICHERHEITSHINWEISE BEACHTEN!	LEGGERE ATTENTAMENTE PRIMA DELL'INSTALLAZIONE!	A LIRE ATTENTIVEMENT AVANT L'INSTALLATION!
<p>Before operating, read this document thoroughly and retain it for future reference. Non-respect of these instructions may reduce performances and safety of the devices and cause danger for people and property. The products must be installed, operated, serviced and maintained by qualified personnel in compliance with applicable standards and regulations.</p> <p>Do not open the device, it does not contain replaceable components, the tripping of the internal fuse (if included) is caused by an internal failure.</p> <p>Do not repair or modify the device, if malfunction or failure should occur during operation, send unit to the factory for inspection.</p> <p>No responsibility is assumed by Bel Power Solutions for any consequences deriving from the use of this material.</p>	<p>Lesen Sie dieses Dokument vor der Inbetriebnahme sorgfältig durch und bewahren Sie es zum späteren Nachschlagen auf. Die Nichtbeachtung dieser Anweisungen kann die Funktion und Sicherheit der Geräte beeinträchtigen und birgt Gefahren für Personen und Eigentum.</p> <p>Die Geräte müssen von qualifiziertem Personal unter Einhaltung der geltenden Normen und Vorschriften installiert, betrieben, gewartet und instand gehalten werden.</p> <p>Öffnen Sie das Gerät nicht, es enthält keine austauschbaren Komponenten, das Auslösen der internen Sicherung (falls vorhanden) ist stets auf tieferegehende Fehler im Schaltkreis zurück zu führen.</p> <p>Reparieren oder modifizieren Sie das Gerät nicht. Sollte während des Betriebs eine Fehlfunktion oder ein Defekt auftreten, schicken Sie das Gerät zur Überprüfung ins Werk.</p> <p>Bel Power Solutions übernimmt keine Haftung für die Folgen, die sich aus dem Einsatz dieses Gerätes ergeben.</p>	<p>Prima dell'installazione, leggere attentamente questo documento istruzioni e conservarlo per future consultazioni.</p> <p>L'insosservanza delle presenti istruzioni può compromettere le caratteristiche e la sicurezza dell'apparecchio e causare pericolo per le persone e le cose.</p> <p>Il prodotto deve essere installato, utilizzato e riparato da personale qualificato e nel rispetto delle normative vigenti.</p> <p>Non aprire il prodotto, esso non contiene componenti sostituibili, il guasto del fusibile interno (se previsto) è causato da un guasto interno.</p> <p>Non tentare di riparare o modificare il prodotto, se durante il funzionamento si verificano guasti o anomalie, inviarlo al produttore per il controllo.</p> <p>Bel Power Solutions non si assume nessuna responsabilità per qualunque conseguenza derivante dall'uso di questo materiale.</p>	<p>Lire ces instructions avant l'installation, conserver ce manuel pour référence future. Défaut de se conformer à ces instructions peut affecter les caractéristiques et la sécurité du dispositif, et causer du danger aux personnes ou aux biens.</p> <p>Les produits doivent être installés, exploités et entretenus par du personnel qualifié et en conformité avec les règlements.</p> <p>N'ouvrez pas le produit, il ne contient aucune pièce réparable, le déclenchement du fusible interne (le cas échéant) est causé par un défaut interne.</p> <p>Ne pas essayer de réparer ou modifier le produit ; si des défaillances se produisent pendant le fonctionnement, retourner le produit au fabricant pour inspection.</p> <p>Bel Power Solutions n'assume aucune responsabilité des conséquences éventuelles découlant de l'utilisation des produits.</p>
CAUTION	ACHTUNG	ATTENZIONE	AVERTISSEMENT
<p>RISK OF BURNS, EXPLOSION, FIRE, ELECTRICAL SHOCK, PERSONAL INJURY. Never carry out work on live parts! Danger of fatal injury!</p> <p>The product's enclosure may be hot, allow time for cooling product before touching it. Do not allow liquids or foreign objects to enter into the products.</p> <p>To avoid sparks, do not connect or disconnect the device before having previously turned-off input power and wait for internal capacitors discharge (minimum 2 minutes).</p>	<p>GEFAHR VON VERBRENNUNGEN, EXPLOSIONEN, FEUER, STROMSCHLAG, PERSONENSCHÄDEN. Führen Sie niemals Arbeiten an spannungsführenden Teilen durch! Gefahr von tödlichen Verletzungen! Das Gehäuse des Gerätes kann heiß sein, lassen Sie Zeit zum Abkühlen des Gerätes, bevor Sie es berühren. Lassen Sie keine Flüssigkeiten oder Fremdkörper in die Geräte eindringen. Um Überschlüge zu vermeiden, schließen Sie das Gerät nicht an oder trennen Sie es nicht ohne vorher die Eingangsspannung abgeschaltet zu haben, und warten Sie die Entladung der internen Kondensatoren ab (mindestens 2 Minuten).</p>	<p>RISCHIO USTIONI, ESPLOSIONE, INCENDIO, SCOSSA, LESIONI GRAVI. Non effettuare mai operazioni sulle parti sotto tensione! Pericolo di lesioni letali!</p> <p>Il contenitore può scottare, lasciar quindi raffreddare il dispositivo prima di toccarlo. Non far entrare liquidi o oggetti estranei nel dispositivo.</p> <p>Per evitare scintille, non collegare o scollegare l'apparecchiatura prima di avere tolto tensione di ingresso e prima che sia avvenuta la scarica dei condensatori interni (min. 2 minuti).</p>	<p>RISQUE DE BRULURES, EXPLOSION, INCENDIE, ELECTROCUTION, DOMMAGE AUX PERSONNES. Ne jamais effectuer des opérations sur les parties sous tension! Danger de mort!</p> <p>Le boîtier peut produire des brûlures, le laisser refroidir avant de toucher l'appareil. Ne faire pas pénétrer des liquides ou des corps étrangers dans l'appareil.</p> <p>Pour éviter des étincelles, ne pas connecter ou déconnecter l'équipement jusqu'à ce que la tension d'entrée a été supprimée et avant qu'il n'ait eut lieu la décharge des condensateurs internes (minimum 2 minutes).</p>
INTENDED USE	BESTIMMUNGSGEMÄßER BETRIEB	USO PREVISTO	UTILISATION
<p>These are component type devices for internal installation within system equipment. They are isolated from hazardous voltages and with outputs under 60 Vdc or connected to protective earth. The devices can be used for general applications such as ITE network/servers, industrial and medical. Do not use these devices in applications where malfunction may cause injury or death. Please see full spec of unit for further details.</p>	<p>Dies sind Komponenten für die interne Installation in Systemgeräten. Sie sind gegen gefährliche Spannungen isoliert und haben Ausgänge unter 60 VDC oder sind mit Schutzerde verbunden. Die Geräte können für allgemeine Anwendungen wie ITE-Netzwerke / Server, Industrie und Medizin verwendet werden.</p> <p>Verwenden Sie diese Geräte nicht in Anwendungen, bei denen eine Fehlfunktion zu Verletzungen oder zum Tod führen kann.</p>	<p>I dispositivi sono di tipo componente per l'installazione all'interno dell'apparecchiatura. Sono isolati da una tensione pericolosa e hanno tensione in uscita sotto 60Vdc o sono collegati a terra protettiva. I dispositivi son per l'utilizzo generale per applicazioni come rete ITE/ server, industriali e medici.</p> <p>Non utilizzare in applicazioni in cui un eventuale guasto può comportare rischio di lesioni o di morte.</p>	<p>Ce sont des types de composant pour une installation interne d'équipement de système. Ils sont isolés des tensions dangereuses et avec des sorties inférieures à 60 Vdc ou connectés au terre de protection. Les appareils peuvent être utilisés pour des applications générales telles que les réseaux / serveurs ITE, industriels et médicaux.</p> <p>Ne pas utiliser ces dispositifs dans une application où un dysfonctionnement pourrait entraîner le risque des blessures ou de mort. Pour de plus amples informations, se référer à la fiche technique du produit</p>
ENVIRONMENTAL CHARACTERISTICS	UMGEBUNGSBEDINGUNGEN	CARATTERISTICHE AMBIENTALI	CARACTÉRISTIQUES ENVIRONNEMENTALES
<p>Installation in a Pollution Degree 2 environment. Do not use in wet area or subject to moisture. Carefully recycle the product and related batteries according to local regulations.</p>	<p>Installation in einer Umgebung mit Verschmutzungsgrad 2.</p> <p>Nicht in nassen Bereichen oder unter Feuchtigkeit verwenden.</p> <p>Das Gerät und die zugehörigen Batterien sind entsprechend den lokalen Vorschriften zu recyceln bzw. zu entsorgen.</p>	<p>Usare in ambienti con Grado di Inquinamento 2.</p> <p>Non far funzionare l'apparecchio in un ambiente umido o soggetto a formazione di condensa. Riciclare il prodotto e le batterie collegate, nel rispetto delle normative locali vigenti.</p>	<p>Utiliser les produits dans des environnements avec degré de pollution 2.</p> <p>Ne pas employer l'appareil dans un environnement humide ou soumis à la condensation. Recycler les produits et les batteries, conformément à la réglementation locale.</p>

**Model Options:**

TET2200-12-086NA
TET2200-12-086RA

Please observe loading conditions!

AC INPUT: 100-240V~, 14A, 50/60 Hz

DC INPUT: 180-300 V ===, 14 A

DC OUTPUT: V1:12 V, 100 A, 1200W max. (100-180 VAC)
 183 A, 2200W max. (180-240 VAC)
 183 A, 2200W max. (180-300 VDC)
 Vsb:12V, 3.5A, 42W max

SAFETY APPROVALS: Approved to the latest edition of the following standards:
 CSA/UL 62368-1, EN/IEC 62368-1 & EN/IEC 60950-1,
 GB 4943.1

CAUTIONS & LIMITATIONS

CAUTION:

These component level power supplies are intended exclusively for installation within other equipment by an industrial assembly operation or by professional installers. This is a Class I power supply; the unit must be properly connected to earth ground in end use. A component power supply should be installed in end-use equipment according to the requirements of the safety standard used for that equipment. This power supply is not designed to be operated outside of an enclosure which provides a means of mechanical, electrical, and fire protection. To maintain SELV/ES1 requirements, the output should not be connected together in any manner which causes the total output voltage to exceed 60VDC.

PROTECTIVE EARTHING

The Power Supply must be properly grounded to mains protective earthing termination at end use.

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

声明 – 此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。



Keep the body parts away from fan blades.
 身体部位远离风扇叶片。



Do not touch the case when the machine is running or stopped for a period of time to prevent burns.
 机器运行中或停机后一段时间内，请勿触摸外壳以防烫伤。

The equipment is to be installed only by trained service personnel.
 设备只能被有资质的运维人员安装。

The equipment shall be installation according to guideline of Bel or refer to designation of terminals in this instruction.
 设备应按百富指引安装或按此说明内定义的端口安装。

POWER SUPPLY CORD SET

A power supply cord set is not provided with the power supply. A power supply cord set, complying with the national regulations of the country in which the product is to be sold, shall be provided with the end-use equipment.

For Taiwan end users, only the power cords listed on the BSMI product certificate are allowed to use.

LOADING CONDITIONS

Depending on model, location, input voltage and temperature, the maximum allowed output current is different, as per the tables below

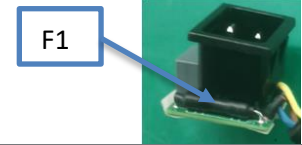
MODEL	RATED AC/DC MAINS VOLTAGE	OUTPUT CURRENT
TET2200-12-086NA	100 to 180 Vac	100 A
TET2200-12-086RA	180 to 240 Vac	183A
	180 to 300 Vdc	183A

ENVIRONMENTAL CONDITIONS:

CHARACTERISTICS	CONDITION	VALUE
Ambient temperature	Transportation and storage	-40 °C to +70 °C
	Operation	-5 °C to +55 °C
Relative humidity	Transportation and storage	5 % to 95 %, non-condensing
	Operation	5 % to 95 %, non-condensing
Altitude	Transportation and storage	0 to 15,200 m above sea level
	Operation	0 to 3,050 m above sea level at -5 °C to +55 °C 3,050 to 5,000 m above sea level at -5 °C to +40 °C

FUSING

CAUTION: Fuses are incorporated in power supply, Fuses F1 is rated 20 A, 250V ~-(TIME LAG). In case of failure, the Power Supply must be returned to a Bel Power Solutions Authorized Service Center. There are no user-serviceable parts in the Power Supply.



SERVICING

In case of failure, the Power Supply must be returned to a Service Center authorized by Bel Power Solutions. There are no user-serviceable parts in the Power Supply.

LIMITED WARRANTY

Bel Power Solutions warrants each power supply of its manufacture for a period of two years from the date of original shipment. This warranty applies to defects in materials and workmanship that result in non-performance to published specifications. The product(s) must be returned to a Bel Power Solutions Authorized Service Center for repair with a Bel Power Solutions pre assigned RMA number.

Bel Power Solutions assumes no liabilities for consequential damages of any kind through the use or misuse of its products by any user.

No other obligations are expressed or implied.

Please note that the specifications, terms, and conditions stated are subject to change without notice.

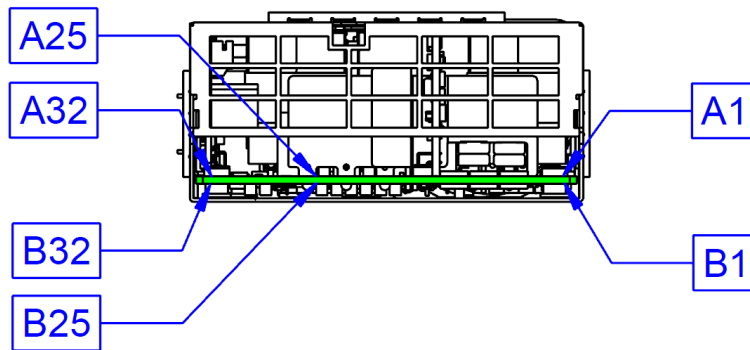
NUCLEAR AND MEDICAL APPLICATIONS

Bel Power Solutions products are not designed, intended for use in, or authorized for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems without the express written consent of the respective divisional president of Bel Power Solutions.

TECHNICAL REVISIONS

The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.

OUTPUT CONNECTOR PIN ASSIGNMENT TET2200-12-086NA



Row A			MATING SEQUENCE	DESCRIPTION
PIN	NAME	PIN TYPE		
P1-12, P13-24	12V output PWR Return	12V Main Output	STD Long	12 VDC main output 12V Main and 12Vsb output return
P25	+12V Remote Sense Input	Input	STD	12V Output Remote Sense
P26	12VSTBY	Aux/Standby Power	STD	12VSTANDBY output
P27	A0	Input	STD	Power Management Bus address A0
P28	PWOK	Output	STD	Active high; indicates 12V Main is valid and within operational limits
P29	Signal Return Output	Signal GND	Long	Signal GND; (MFBL) long connection
P30	SCL	Bi-Directional; I/O	Short	I ² C /SMBus/ Power Management Bus Clock Line
P31	PRESENT	Output	Short	Power Supply Present; passive signal to Signal Return
P32	SDA	Bi-Directional; I/O	Short	I ² C /SMBus/ Power Management Bus Data Line



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Row B			MATING SEQUENCE	DESCRIPTION
PIN	NAME	PIN TYPE		
P1-12,	12V Output	12V Main Output	STD	12 VDC main output
P13-24	PWR Return		Long	12V Main and 12VSB Output return
P25	Smart Redundant Bus Signal	I/O	STD	Smart share for system efficiency performance Common bus to all sharing power modules
P26	Return Sense	Analogue Input	STD	12V main output Remote Sense Return
P27	ACOK	Output	STD	Indicate AC voltage is present and within operational limits.
P28	12V Load Share Bus	Bi-Direction Analogue I/O	STD	12V Main Output Current Share Signal (bus)
P29	PSON	Input	STD	Active low; 12V main output on/off control
P30	PS_KILL	Input	Short	Turns power module on/off, short (MLBF) contact.
P31	No Connection		Short	No End User Connection
P32	SMB_Alert	Output	Short	Active low; I2C alert signal (interrupt)

UNIT FRONT/REAR AND LED INDICATOR TET2200-12-086NA

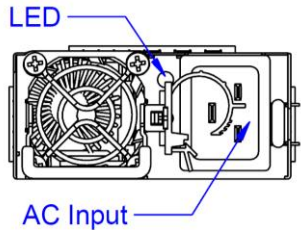


Figure 3. Front view

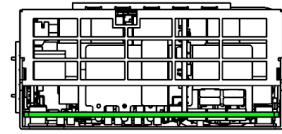


Figure 4. Rear view

OPERATING CONDITION	LED State
Output ON and OK	Solid GREEN
No AC power to all power supplies	OFF
AC cord unplugged, or AC power lost; with a second power supply in parallel still with AC input power.	OFF
AC present / Only 12 VSB on (Standby mode)	0.5 Hz Blink GREEN
Sleep PS in Smart redundant state/off line mode	2 Hz Blink GREEN
Power supply critical event causing a shutdown; eg. OCP, OVP, OTP, Fan Fail	Solid AMBER
Power supply in FW upload mode	2 Hz Blink GREEN

AIRFLOW DIRECTION

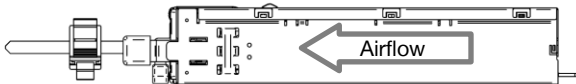


Figure 1. TET2200-12-086NA Side view and Airflow direction

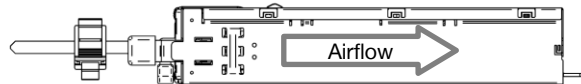


Figure 2. TET2200-12-086RA Side view and Airflow direction

Additional information about characteristics and application of the products is available from the Bel Power Solutions web site at belfuse.com/power-solutions.