ENGLISH

General Safety Instructions:

READ SAFETY INSTRUCTIONS

Servicing:
These products are not customer serviceable. TDK-Lambda UK LTD. and their authorised agents only are permitted to carry out repairs.

Critical Components:
These products are not authorised for use as critical components in nuclear control systems, life support systems or equipment for use in hazardous environments without the express written approval of the Managing Director of TDK-Lambda EMEA.

Product Usage:
These products are designed for use within a host equipment which restricts access to authorised competent personnel.
This product is a component power supply and is only to be installed by qualified persons within other equipment and must not be operated as a stand alone product.
This product is for sale to business to business customers and can be obtained via distribution channels.
It is not intended for sale to end users.

This product is a component power supply and does not fall within the scope of the EMC directive. Compliance with the EMC directive must be considered in the final installation. Please contact your local TDK-Lambda office

Environmental:
These products are IPX0, and therefore chemicals/solvents, cleaning agents and other liquids must not be used.

Environment:
This power supply is a switch mode power supply for use in applications within a Pollution Degree 2, overvoltage category II environment. Material Group IIIb PCB's are used within it.

Output Loading:
The output power taken from the power supply must not exceed the rating stated on the power supply label, except as stated in the product limitations in this instruction manual.

Input Parameters:
This product must be operated within the input parameters stated in the product limitations in this instruction manual.

End of Life Disposal:
The unit contains components that require special disposal. Make sure that the unit is properly disposed of at the end of its service life and in accordance with local regulations.

RISK OF ELECTRIC SHOCK

High Voltage Warning:
Dangerous voltages are present within the power supply**.** The professional installer must protect service personnel from inadvertent contact with these dangerous voltages in the end equipment.

WARNING: When installed in a Class I end equipment, this product must be reliably earthed and professionally installed.

The (+) or (-) output(s) can be earthed or left floating.

The unit cover(s)/chassis must not be made user accessible.

The mains input connector is not acceptable for use as field wiring terminals.

Do not use mounting screws, which penetrate the unit more than 4.5mm.

Special earthing screws are used on these products which connect the cover to the chassis. They must not be removed. If they are removed by mistake, they must be replaced with new ones and the product tested for earth bonding.

An internal fuse protects the unit and must not be replaced by the user. In case of internal defect, the unit must be returned to TDK-Lambda UK LTD or one of their authorised agents.

A suitable mechanical, electrical and fire enclosure must be provided by the end use equipment for mechanical, electric shock and fire hazard protection.

Energy Hazards:
Certain modules are capable of providing hazardous energy (240VA) according to output voltage setting. Final equipment manufacturers must provide protection to service personnel against inadvertent contact with these module output terminals. If set such that hazardous energy can occur then the module terminals or connections must not be user accessible.

HOT SURFACE

External Hot Surfaces:
In accordance with local regulations for Health and Safety at work, manufacturers have an obligation to protect service engineers as well as users. In order to comply with this, a label must be fitted to these products which is clearly visible to service personnel accessing the overall equipment, and which legibly warns that surfaces of these products may be hot and must not be touched when the products are in operation.

The ventilation openings on these products must not be impeded. Ensure that there is at least 50mm spacing between any obstruction and the ventilation openings.

The unit cover/chassis is designed to protect skilled personnel from hazards. They must not be used as part of the external covers of any equipment where they may be accessible to operators, since under full load conditions, part or parts of the unit chassis may reach temperatures in excess of those considered safe for operator access.

DEUTSCH

Allgemeine Sicherheitsvorschriften:

LESEN SIE DIE SICHERHEITSVORSCHRIFTEN

Wartung:
Diese Produkte können nicht durch den Kunden gewartet werden. Nur TDK-Lambda UK LTD. und deren zugelassene Vertriebshändler sind zur Durchführung von Reparaturen berechtigt.

Kritische Komponenten:
Diese Produkte sind nicht für die Verwendung als kritische Komponenten in nuklearen Kontrollsystemen, Lebenserhaltungssystemen oder Geräten in gefährlichen Umgebungen geeignet, sofern dies nicht ausdrücklich und in Schriftform durch den Geschäftsführer von TDK-Lambda EMEA genehmigt wurde.

Produktverwendung:
Diese Produkte sind zur Verwendung innerhalb von Host-Anlagen gedacht, die einen auf das Fachpersonal beschränkten Zugang haben.

Dieses Produkt ist eine Stromversorgungs-Komponente und sie darf nur von qualifiziertem Personal in andere Geräte eingebaut werden und sie darf NICHT als eigenständiges ("Stand-Alone") Gerät betrieben werden.
Dieses Produkt ist für den Verkauf an Geschäftskunden entwickelt worden und es kann über Distributionskanäle bezogen werden.
Es ist NICHT für den Verkauf an Endkunden gedacht und konzipiert.

Dieses Produkt ist eine Stromversorgungsbaugruppe und sie fällt NICHT in den Bereich der EMV Direktive.
Die Konformität mit der EMV Richtlinie muss in der finalen Gesamtinstallation betrachtet werden.
Bitte kontaktieren Sie Ihr regionales TDK-Lambda Vertriebsbüro im Falle von Rückfragen.

Umwelt:
Diese Produkte sind IPX0, aus diesem Grund dürfen keine Chemikalien/Lösungsmittel, Reinigungsmittel und andere Flüssigkeiten verwendet werden.

Umgebung:
Dieses Netzteil ist ein Schaltnetzteil zur Verwendung in einer Umgebung mit einem Verschmutzungsgrad 2, Überspannungskategorie II. Materialgruppe IIIb mit darin verwendeten PCBs.

Ausgangsstrom:
Der Ausgangsstrom des Netzteiles darf die Leistung, die auf dem Label des Netzteiles vermerkt ist, nur dann überschreiten, wenn dies in den Produktgrenzen dieses Handbuches ausgezeichnet ist.

Eingangsparameter:
Dieses Produkt muss innerhalb der Eingangsparameter, die in den Produktgrenzen dieses Handbuches angegeben sind, betrieben werden.

Entsorgung am Ende der Betriebszeit:
Das Gerät enthält Komponenten die unter Sondermüll fallen. Das Gerät muss am Ende der Betriebszeit ordnungsgemäß und in Übereinstimmung mit den regionalen Bestimmungen entsorgt werden.

GEFAHR DURCH ELEKTRISCHEN SCHLAG

Hochspannungswarnung:
Innerhalb des Netzteiles gibt es gefährliche Spannungen**.** Der Elektroinstallateur muss das Wartungspersonal vor versehentlichem Kontakt mit den gefährlichen Spannungen im Endgerät schützen.

WARNUNG! Falls Sie unser Netzgerät in eine Anwendung mit Schutzklasse 1 eingebaut haben, stellen Sie sicher, dass es fachgerecht installiert und zuverlässig geerdet ist.

Die (+) oder (-) Ausgänge können geerdet werden oder unangeschlossen bleiben.

Die Abdeckung des Gerätes/das Gehäuse darf für den Benutzer nicht zugänglich sein.

Der Haupteingangsanschluss ist nicht für die Verwendung als Feldverdrahtungsanschluss geeignet.

Verwenden Sie keine Befestigungsschrauben, die mehr als 4.5mm in das Gerät eindringen.

Zur Befestigung der Abdeckung am Gehäuse werden für diese Produkte spezielle Erdungsschrauben verwendet. Diese dürfen nicht entfernt werden. Sollten sie versehentlich entfernt werden, müssen sie durch neue ersetzt und das Produkt auf Erdschluss geprüft werden.

Eine interne Sicherung schützt das Gerät und darf durch den Benutzer nicht ausgetauscht werden. Im Fall von internen Defekten muss das Gerät an TDK-Lambda UK LTD oder einen der autorisierten Vertriebshändler zurückgeschickt werden.

Ein geeignetes mechanisches, elektrisches und brandgeschütztes Gehäuse muss als Schutz vor der Gefahr von mechanischen Risiken, Stromschlägen und Brandschutz in dem Endgerät vorgesehen werden.

Gefahren durch elektrische Energie:
Von bestimmten Modulen kann je nach Einstellung der Ausgangsspannung gefährliche elektrische Energie ausgehen (240 VA). Die Endgerätehersteller müssen einen Schutz für Servicepersonal vor unbeabsichtigtem Kontakt mit den Ausgangsanschlüssen dieser Module vorsehen. Kann aufgrund der Einstellung gefährliche elektrische Energie auftreten, dürfen die Modulanschlüsse für den Benutzer nicht zugänglich sein.

HEISSE OBERFLÄCHEN

Äußere heiße Oberflächen:
In Übereinstimmung mit den regionalen Bestimmungen für Gesundheit und Sicherheit bei der Arbeit ist der Hersteller für den Schutz von Wartungspersonal und Benutzern verantwortlich. Um diesen Bestimmungen gerecht zu werden, muss auf den Produkten ein Label angebracht werden, das deutlich sichtbar für das Wartungspersonal mit Zugriff auf die gesamte Anlage ist, und das gut lesbar auf die eventuell heiße Oberfläche des Gerätes hinweist und das Berühren des Produktes in Betrieb untersagt.

Die Belüftungsöffnungen an diesem Produkt dürfen nicht blockiert werden. Achten Sie darauf, dass mindestens 50 mm Abstand zwischen Hindernissen und den Belüftungsöffnungen bleibt.

Die Geräteabdeckung/das Gehäuse ist so entworfen, dass das Fachpersonal vor Gefahren geschützt wird. Sie dürfen nicht als Teil der externen Abdeckung für Geräte verwendet werden, die für den Betreiber zugänglich sein müssen, da Teile oder das gesamte Gerätegehäuse unter voller Auslastung übermäßige Temperaturen erreichen kann, die für den Zugang des Betreibers nicht mehr als sicher betrachtet werden.

FRANÇAIS

Consignes générales de sécurité:

LIRE LES CONSIGNES DE SECURITE

Entretien:
Ces produits ne peuvent pas être réparés par l'utilisateur. Seuls, TDK-Lambda UK LTD et ses agents agréés sont autorisés à effectuer des réparations.

Composants critiques:
Ces produits ne doivent pas être utilisés en tant que composants critiques dans des systèmes de commande nucléaire, dans des systèmes de sauvetage ou dans des équipements utilisés dans des environnements dangereux, sans l'autorisation écrite expresse du directeur général de TDK-Lambda EMEA.

Utilisation du produit:
Ces produits sont conçus pour être utilisés dans un équipement hôte dont l'accès n'est autorisé qu'aux personnes compétentes.

Ce produit est une alimentation considérée comme un composant devant être installé par des personnes qualifiées, dans un autre équipement. Il ne doit pas être utilisé en tant que produit fini.
Ce produit est destiné à la vente entre entreprises et peut être obtenu via des canaux de distribution.
Il n'est pas prévu à la vente pour les particuliers.

Ce produit est une alimentation considérée comme un composant, il ne relève pas du champ d'application de la directive CEM. Le respect de la directive CEM doit être pris en compte dans l'installation finale. Veuillez contacter votre bureau TDK-Lambda le plus proche.

Environnement:
Ces produits sont IPX0, et donc on ne doit pas utiliser des produits chimiques/solvants, des produits de nettoyage et d'autres liquides.

Environnement fonctionnel :
Cette alimentation fonctionne en mode commutation pour utilisation dans des applications fonctionnant dans un environnement avec Degré de Pollution 2 et catégorie de surtension II. Elle utilise des cartes des circuits imprimés (PCB) de Groupe IIIb.

Intensité soutirée:
L'intensité soutirée de l'alimentation ne doit pas dépasser l'intensité nominale marquée sur la plaque signalétique, sauf indications contraires dans les limitations du produit décrit dans ce manuel.

Paramètres d'entrée:
Ce produit doit être utilisé à l'intérieur des paramètres d'entrée indiqués dans les limitations du produit dans ce manuel.

Elimination en fin de vie:
L'alimentation contient des composants nécessitant des dispositions spéciales pour leur élimination. Vérifiez que cette alimentation est mise au rebut correctement en fin de vie utile et conformément aux réglementations locales en vigueur.

RISQUE DE CHOC ELECTRIQUE

Attention-Danger haute tension:
Des tensions dangereuses sont présentes dans l'alimentation. L'installateur doit protéger le personnel d'entretien contre un contact involontaire avec ces tensions dangereuses dans l'équipement final.

AVERTISSEMENT: Si ce produit est installé dans un équipement final de classe I, il doit être mis à la terre de manière fiable et installé par un professionnel averti.

Les sorties (+) ou (-) peuvent être raccordées à la terre ou laissées flotttantes.

Le couvercle/châssis de l'alimentation ne doit pas être accessible à l'utilisateur.

Le connecteur d'entrée d'alimentation principale ne doit pas être utilisé comme borne de raccordement.

N'utilisez pas de vis pénétrant dans le module sur une profondeur supérieure à 4.5 mm.

Des vis de terre spéciales sont utilisées sur ces produits pour raccorder le couvercle au châssis. Elles ne doivent pas être enlevées. Si elles sont enlevées par erreur, elles doivent être remplacées et le produit doit être testé pour vérifier que le raccordement à la terre est correct.

Un fusible interne protège le module et ne doit pas être remplacé par l'utilisateur. En cas de défaut interne, le module doit être renvoyé à TDK-Lambda UK LTD ou l'un de ses agents agréés.

Une enceinte appropriée doit être prévue par l'utilisateur final pour assurer la protection contre les chocs mécaniques, les chocs électriques et l'incendie.

Energies dangereuses :
Certains modules peuvent générer une énergie dangereuse (240 VA) selon le réglage de tension de sortie. Le fabricant de l'équipement final doit assurer la protection des techniciens d'entretien contre un contact involontaire avec les bornes de sortie de ces modules. Si une telle tension dangereuse risque de se produire, les bornes ou les connexions du module ne doivent pas être accessibles par l'utilisateur.

SURFACE CHAUDE

Surfaces chaudes extérieures:
Conformément aux réglementations locales concernant la santé et la sécurité sur les lieux de travail, les fabricants doivent protéger les techniciens d'entretien et les utilisateurs. Pour cela, une plaque signalétique doit être installée sur ces produits, et cette plaque doit être bien visible pour les techniciens d'entretien intervenant sur l'équipement, et elle doit indiquer de manière bien visible que les surfaces de ces produits peuvent être chaudes et qu'elles ne doivent pas être touchées lorsque les produits fonctionnent.

Les orifices de ventilation sur ces produits ne doivent pas être obstrués. Vérifiez qu'il y a un espace libre d'au moins 50 mm entre une obstruction et les orifices de ventilation.

Le couvercle et le châssis du module sont conçus pour protéger des personnels expérimentés. Ils ne doivent pas être utilisés comme couvercles extérieurs d'un équipement, accessible aux opérateurs car en condition de puissance maximum, des parties du châssis peuvent atteindre des températures considérées comme dangereuses pour l'opérateur.

ITALIANO

Norme generali di sicurezza:

SI PREGA DI LEGGERE LE NORME DI SICUREZZA

Manutenzione:
Il cliente non può eseguire alcuna manutenzione su questi prodotti. L'esecuzione delle eventuali riparazioni è consentita solo a TDK-Lambda UK LTD e ai suoi agenti autorizzati.

Componenti critici:
Non si autorizza l'uso di questi prodotti come componenti critici all'interno di sistemi di controllo nucleari, sistemi necessari alla sopravvivenza o apparecchiature destinate all'impiego in ambienti pericolosi, senza l'esplicita approvazione scritta dell'Amministratore Delegato di TDK-Lambda EMEA.

Uso dei prodotti:
Questi prodotti sono progettati per l'uso all'interno di un'apparecchiatura ospite che limiti l'accesso al solo personale competente e autorizzato.

Questo prodotto è da considerarsi come un alimentatore professionale componente e come tale deve essere installato da personale qualificato all'interno di altre apparecchiature e non può essere utilizzato come prodotto indipendente.
Questo prodotto non è inteso per la vendita al dettaglio o agli utilizzatori finali.

Questo alimentatore è da considerarsi come un componente e come tale non è assogettato dagli scopi della direttiva EMC. Conformità alla direttiva EMC deve essere considerata nell'installazione finale di utilizzo. Gli uffici di TDK-Lambda Sas Succursale Italiana sono a vostra disposizione per ulteriori ragguagli.

Condizioni ambientali:
Questi prodotti sono classificati come IPX0, dunque non devono essere utilizzati sostanze chimiche/solventi, prodotti per la pulizia o liquidi di altra natura.

Ambiente:
Questo prodotto è un alimentatore a commutazione, destinato all'uso in applicazioni rientranti in ambienti con le seguenti caratteristiche: Livello inquinamento 2, Categoria sovratensione II. Questo prodotto contiene schede di circuiti stampati in materiali di Gruppo IIIb.

Carico in uscita:
La potenza in uscita ottenuta dall'alimentatore non deve superare la potenza nominale indicata sulla targhetta dell'alimentatore, fatto salvo dove indicato nei limiti per i prodotto specificati in questo manuale.

Parametri di alimentazione:
Questo prodotto deve essere utilizzato entro i parametri di alimentazione indicati nei limiti per il prodotto, specificati in questo manuale.

Smaltimento:
L'unità contiene componenti che richiedono procedure speciali di smaltimento. Accertarsi che l'unità venga smaltita in modo corretto al termine della vita utile e nel rispetto delle normative locali.

RISCHIO DI SCOSSA ELETTRICA

Avvertimento di alta tensione:
All'interno dell'alimentatore sono presenti tensioni pericolose. Gli installatori professionali devono proteggere il personale di manutenzione dal rischio di contatto accidentale con queste tensioni pericolose all'interno dell'apparecchiatura finale.

ATTENZIONE: Se installato in un'attrezzatura di classe I, questo prodotto deve essere collegato a terra in modo affidabile ed installato in modo professionale.

Le uscite (+) o (-) possono essere messa a terra o lasciate isolate.

I coperchi/il telaio dell'unità non devono essere accessibili da parte dell'utente.

Il connettore dell'alimentazione principale non può essere utilizzato come terminale di collegamento di campo.

Non utilizzare viti che penetrano nell'unità per più di 4.5 mm.

Per questi prodotti vengono usate viti speciali di messa a terra, che collegano il coperchio al telaio. Tali viti non devono essere rimosse. Se le viti vengono tolte per errore, vanno sostituite con nuove viti ed occorre testare il prodotto per verificarne il collegamento a massa.

Un fusibile interno protegge l'unità e non deve essere sostituito dall'utente. Nell'eventualità di un difetto interno, restituire l'unità a TDK-Lambda UK LTD o a uno dei suoi agenti autorizzati.

L'apparecchiatura finale deve includere una recinzione meccanica, elettrica e antincendio per proteggere dai pericoli di natura meccanica, dalle scosse elettriche e dai pericoli di incendio.

Pericoli energetici:
Alcuni moduli sono in grado di erogare energia pericolosa (240 VA) a seconda della tensione in uscita impostata. I produttori delle apparecchiature finali sono tenuti a proteggere il personale di manutenzione dal rischio di contatto accidentale con questi terminali dei moduli di uscita. Se impostati su livelli che non escludono l'erogazione di energia pericolosa, questi terminali o collegamenti non devono risultare accessibili da parte dell'utente.

SUPERFICIE CALDA

Superfici esterne calde:
Coerentemente con le norme locali in materia di salute & sicurezza professionali, i produttori sono tenuti a salvaguardare i tecnici di manutenzione, e inoltre gli utenti. Per far fronte a tali obblighi, i prodotti devono presentare una targhetta, chiaramente visibile al personale di manutenzione che accede all'apparecchiatura nel complesso e che risulti inoltre leggibile e avverta gli addetti del rischio che le superfici di questi prodotti possono scottare e non vanno toccate con i prodotti in funzione.

Le griglie di ventilazione su questi prodotti non devono essere ostruite. Verificare che vi sia una distanza minima di 50 mm fra le griglie di ventilazione e qualsiasi eventuale ostruzione.

Il coperchio/telaio dell'unità è realizzato per proteggere il personale esperto dai pericoli. Non deve essere usato come parte degli involucri esterni di qualsiasi apparecchiatura, se risulta accessibile da parte degli addetti, poiché è possibile che in condizioni di pieno carico una o più parti del telaio dell'unità giunga/giungano a temperature superiori ai limiti considerati sicuri per l'accesso da parte degli addetti.

ESPAÑOL

Instrucciones generales de seguridad:

LEA LAS INSTRUCCIONES DE SEGURIDAD

Servicio:
Estos productos no pueden ser reparados por los clientes. TDK-Lambda UK LTD. y sus agentes autorizados son los únicos que pueden llevar a cabo las reparaciones.

Componentes fundamentales:
Estos productos no pueden ser utilizados como componentes fundamentales en sistemas de control nuclear, sistemas de soporte vital o equipos a utilizar en entornos peligrosos sin el consentimiento expreso por escrito del Director General de TDK-Lambda EMEA.

Uso de los productos:
Estos productos han sido diseñados para ser utilizados en un equipo central que restrinja el acceso al personal cualificado autorizado.
Este producto es una fuente de alimentación y sólo puede ser instalado por personal cualificado dentro de otros equipos y no debe ser tratado como un producto independiente. Este producto debe ser vendido entre empresas profesionales y solo puede obtenerse a través de los canales de distribución .No está destinado para la venta a usuarios finales

Este producto es una fuente de alimentación y no se ve afectada por la directiva EMC . El cumplimiento de la directiva EMC se debe considerar en la instalación final . Por favor, póngase en contacto con su oficina local de TDK - Lambda

Medioambiental:
Estos productos son IPX0 y, por tanto, no pueden utilizarse sustancias químicas/disolventes, agentes de limpieza ni otros líquidos.

Medio ambiente:
Esta fuente de alimentación es una fuente de alimentación de modo conmutado a utilizar en aplicaciones dentro de un entorno con un Grado de contaminación 2 y una Categoría de sobretensión II. En él se utilizan policloruros de bifenilo del Grupo de materiales IIIb.

Carga de salida:
La potencia de salida tomada de la fuente de alimentación no puede sobrepasar el valor nominal indicado en la etiqueta de la fuente de alimentación, excepto en los casos indicados en las limitaciones del producto en este manual.

Parámetros de entrada:
Este producto debe ser utilizado dentro de los parámetros de entrada indicados en las limitaciones del producto en este manual.

Desecho de la unidad:
La unidad contiene componentes que deben ser desechados de una manera especial. Asegúrese de desechar correctamente la unidad al final de su vida útil y conforme a las normas locales vigentes.

PELIGRO DE DESCARGAS ELÉCTRICAS

Advertencia de alta tensión:

En esta fuente de alimentación hay tensiones peligrosas. El instalador profesional debe proteger al personal de servicio contra cualquier contacto accidental con estas tensiones peligrosas en el equipo final.

ADVERTENCIA: La instalación de este producto en un equipo de clase I la deben llevar a cabo profesionales y el producto debe estar conectado a tierra.

La salida o salidas (+) o (-) pueden conectarse a tierra o se las puede dejar flotando.

Debe impedirse el acceso de los usuarios a la cubierta o cubiertas y al chasis de la unidad.

El conector de entrada de la red no es apto para ser utilizado a modo de bornes de cableado de campo.

No utilice tornillos de montaje susceptibles de penetrar en la unidad más de 4.5 mm.

Con estos productos se utilizan unos tornillos de puesta a tierra especiales que conectan la cubierta al chasis. No se deben quitar en ningún caso. En caso de quitarlos por error, hay que reemplazarlos por unos nuevos y comprobar la conexión a tierra del producto.

Un fusible interno protege la unidad y este no debe ser nunca reemplazado por el usuario. En caso de existir algún defecto interno, la unidad debe ser enviada a TDK-Lambda UK LTD o a uno de sus agentes autorizados.

El equipo de uso final debe constituir un recinto de protección mecánica, eléctrica y contra incendios de protección mecánica, contra descargas eléctricas y contra el peligro de incendios.

Peligros de energía:
Algunos módulos pueden generar energía peligrosa (240VA) dependiendo de la configuración de la tensión de salida. Los fabricantes de equipos finales deben proteger al personal de servicio contra un contacto accidental con estos bornes de salida de los módulos. Si se configura de modo que pueda generarse energía peligrosa, hay que evitar que el usuario pueda acceder a los bornes o conexiones del módulo.

SUPERFICIE CALIENTE

Superficies externas calientes:
Según las normas locales relativas a la Salud y Seguridad en el trabajo, los fabricantes están obligados a proteger a los ingenieros de servicio además de a los usuarios. Para que esto se cumpla, debe colocarse una etiqueta en estos productos que pueda ser vista claramente por el personal de servicio que accede al equipo general, y con advertencias legibles de que las superficies de estos productos pueden estar calientes y no deben tocarse cuando los productos se encuentran en funcionamiento.

Las aberturas de ventilación de estos productos no deben obstruirse jamás. Asegúrese de que quede una separación de 50 mm por lo menos entre cualquier obstrucción y las aberturas de ventilación.

La cubierta/chasis de la unidad ha sido diseñada para que proteja a las personas cualificadas de los peligros. No deben ser utilizadas como parte de las cubiertas externas de cualquier equipo al que pueden acceder los operarios, ya que bajo unas condiciones de carga completa, la pieza o piezas del chasis de la unidad pueden alcanzar temperaturas superiores a las consideradas seguras para el acceso de los operarios.

PORTUGUÊS

Instruções gerais de segurança:

LEIA AS INSTRUÇÕES DE SEGURANÇA

Manutenção:
Estes produtos não são podem ser submetidos a manutenção por parte do cliente. Apenas a TDK-Lambda UK LTD e os seus agentes autorizados têm permissão para realizar reparações.

Componentes essenciais:
Não é autorizada a utilização destes produtos como componentes essenciais de sistemas de controlo nuclear, sistemas de suporte de vida ou equipamento para utilização em ambientes perigosos sem a expressa autorização por escrito do Director-Geral da TDK-Lambda EMEA.

Utilização do produto:
Estes produtos foram concebidos para utilização dentro de um equipamento de alojamento que apenas permita o acesso a pessoal qualificado autorizado.

Este produto é uma alimentaçao considerado com um componente para ser instalado por pessoas qualificadas, em outros equipamentos. Não deve ser usado como um produto acabado.
Este produto é destinado para venda entre as empresas e pode ser obtido através de canais de distribuição.
Não se destina à venda aos particulares

Este produto é uma alimentaçao considerado com um componente, não é dentro do appliquation âmbito da directiva CEM.
Conformidade com a directiva CEM devem ser considerados na instalação final.
Entre em contacto com seu escritório TDK-Lambda mais próximo.

Ambiental:
Estes produtos são IPX0 e, como tal, não se devem utilizar químicos/solventes, agentes de limpeza e outros líquidos.

Ambiente:
Esta fonte de alimentação é uma fonte de alimentação do modo de comutação para utilização em aplicações com um Nível de Poluição 2 e ambientes da categoria de sobretensão II. São utilizadas placas de circuitos impressos do grupo de materiais IIIb.

Carga de saída:
A potência de saída extraída da fonte de alimentação não deve exceder a classificação assinalada na etiqueta da fonte de alimentação, excepto quando indicado nas limitações do produto neste guia.

Parâmetros de entrada:
Este produto deve ser utilizado dentro dos parâmetros de entrada indicados nas limitações do produto neste guia.

Eliminação no fim de vida:
A unidade contém componentes que necessitam de procedimentos especiais de eliminação. Certifique-se de que a unidade é devidamente eliminada no fim da sua vida útil e que tal é feito em conformidade com os regulamentos locais.

RISCO DE CHOQUE ELÉCTRICO

Aviso de alta tensão:
Estão presentes tensões perigosas dentro da fonte de alimentação. O profissional que realizar a instalação deve proteger o pessoal de assistência contra contactos inadvertidos com estas tensões perigosas do equipamento final.

AVISO: Quando instalado num equipamento de Classe I, este produto deve ser ligado à terra de forma fiável e instalado por um profissional.

As saídas (+) e (-) podem ser ligadas à terra ou deixadas soltas.

O chassis/cobertura(s) da unidade não deve estar acessível ao utilizador.

O conector de entrada de alimentação não deve ser utilizado como terminal de cablagens no local.

Não utilize parafusos de montagem, uma vez que estes penetrarão na unidade em mais do que 4.5 mm.

Nestes produtos utilizam-se parafusos especiais de ligação à terra, que ligam a cobertura ao chassis. Não devem ser removidos. Se forem removidos por engano, deverão ser substituídos por parafusos novos, devendo-se testar a ligação à terra do produto.

Existe um fusível interno que protege a unidade e que não deve ser substituído pelo utilizador. Em caso de defeito interno, a unidade deve ser devolvida à TDK-Lambda UK LTD ou a um dos seus agentes autorizados.

O equipamento de utilização final deve fornecer um bastidor com protecção mecânica, eléctrica e contra incêndios adequada.

Perigos de energia:
Alguns módulos tem a capacidade de fornecer energia perigosa (240 VA), de acordo com a configuração da tensão de saída. O equipamento final do fabricante deve garantir que o pessoal de assistência está protegido contra contactos inadvertidos com estes terminais de saída do módulo. Se essa energia perigosa for produzida, as ligações e os terminais do módulo não devem ser acessíveis pelos utilizadores.

SUPERFÍCIE QUENTE

Superfícies quentes externas:
Segundo com os regulamentos locais sobre saúde e segurança no local de trabalho, os fabricantes têm a obrigação de proteger os técnicos de manutenção, bem como os utilizadores. De forma a respeitar este regulamento, estes produtos deverão ter uma etiqueta que seja facilmente visível ao pessoal de assistência que aceda ao equipamento em geral, e que alerte, de forma legível, para o facto de as superfícies destes produtos poderem estar quentes, não devendo ser tocadas quando os produtos estão em funcionamento.

As aberturas de ventilação destes produtos não devem ser obstruídas. Certifique-se de que existe um espaçamento de pelo menos 50 mm entre qualquer obstrução e as aberturas de ventilação.

O chassis/cobertura da unidade está concebido de forma a proteger o pessoal especializado de perigos. Não devem ser utilizados como parte das coberturas externas de qualquer equipamento em que possam estar acessíveis aos operadores, uma vez que em condições de carga máxima, algumas peças do chassis da unidade podem atingir temperaturas superiores às consideradas seguras para o acesso do operador.

Special Instructions for medical applications of the following standards and their amendments:-
IEC/EN 60601-1 3rd Edition
ANSI/AAMI ES 60601-1
CSA C22.2 No 60601-1
Applicable to products with L, R and T input Filter Options only

These products are designed for continuous operation within an overall enclosure, and must be mounted such that access to the mains terminals is restricted.

These products are NOT suitable for use in the presence of flammable anaesthetic mixtures with air or with oxygen, or with nitrous oxide.

For IEC/EN60601-13rd Edition, ANSI/AAMI ES 60601-1, CSA 22.2 No 60601-1, the Alpha 400 range provides reinforced insulation between input and outputs (2 MOOPs) and basic insulation (1 MOOP) between input and ground for all products. Between outputs and earth there is functional insulation only.

Connect only apparatus complying with the standards listed above as appropriate to the signal ports.

These products are classed as ordinary equipment and are not protected against the ingress of water (IPX0).

Reference should be made to local regulations concerning the disposal of these products at the end of their useful life.

Where any part of this product is made accessible to the operator in the end use equipment, the operator must not touch this part and the patient at the same time.

These products have not been assessed to IEC/EN60601-1-2 (EMC) but EMC test data is available from TDK-Lambda UK Ltd.

WARNING: No modification of this product is allowed.
Except for permanently installed equipment, the overall equipment into which these products are installed must have double pole fusing on the input mains supply. The products themselves have single pole fusing in the live line only.

Environmental Specifications:

Description	Operation	Storage
Use	Indoor	-
Temperature	0 to 50°C (derating 2.5%°C above 50°C to 65°C - Not covered by approvals).	-40°C to +70°C
Humidity	5 to 95% RH non-condensing	5% to 95% RH non-condensing
Altitude	-200m to 3000m	-200m to 5000m.
Pressure	70kPa to 106kPa	54kPa to 106kPa
Orientation	According to configuration.	All
Material Group	IIIb	
Pollution Degree	2	
Overvoltage Category	II	
Class	I	
Weight	2 kg (Dependent on configuration)	
IP Rating	IPX0	

Level of Insulation:
Dielectric Strength testing is carried out as follows:
Primary mains circuit to earth - 2.25 - 2.35kVDC
Primary mains circuits to transformer core - 4.25 - 4.35kVDC*
Primary mains circuits to secondary -4.25 - 4.35kVDC.*
Outputs to each other and to earth are isolated to 500VDC.
*This test is not possible with Y capacitors fitted to the unit as damage to these capacitors may occur.

Safety Approvals:
UL60950-1, and CSA22.2 No.60950-1 - UL Recognised. C-UL for Canada.
UL62368-1, and CSA22.2 No.62368-1 - UL Recognised. C-UL for Canada
IEC / EN62368-1 - CE and UKCA mark.
IEC/EN60950-1, IEC/EN62368-1 and/or IEC/EN60601-1 (For LL, TL and RL filters only) - CB Report and Certificate.
CE marking when applied to any Alpha 400 product indicates compliance with the Low Voltage Directive in that it complies with EN62368-1 and with RoHS Directive.

UKCA marking when applied to any Alpha 400 product indicates compliance with the Electrical Equipment (Safety) Regulations 2016 in that it complies with EN62368-1 and with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
UL/CSA 60601-1 - UL + C -UL approval (For LL, TL and RL filters only).

Fusing: Internal fuse (F1) 5 x 20mm, F10AH/250V.

Symbols:

~	⎓	⏚		
AC	**DC**	**EARTH**	**N – Neutral**	**L – Live**

PRODUCTS COVERED

Note: All output voltages/variants may not be available as standard units, refer to datasheet for standard product range. These (and other variants) may be available as non-standard or custom units, please contact our sales team for details.

Unit Configuration Code:

Alpha 400 and CA400 are identical.

Alpha 400 or CA400 may be followed by: TL, RL, LL, ML, A or no letter,

where TL = Tiny leakage input filter
RL = Reduced leakage input filter
LL = Low leakage input filter
ML = Medium leakage input filter
A = Class A input filter
No letter = Class B input filter

may be followed by: LSF, RA or QF

Where LSF = Low speed fan
RA = Reverse air fan
QF = Quiet fan

followed by up to five of the following:

@ followed by AA, A, BB, B, C, D, F, G, J, K, L, M, N, Q, R, S, T, U, W or Z.
or B/S

Optionally followed by _MF, MFE, MFU, MFV or _MFV, _PA, _IN, _PP, _RP

@/@ followed by: E, EB, EQ, H, P:

where @ and @/@ = applicable voltage range and the following one or two letters are the module type.
_MF, MFE = Mains fail option (may also be called X).
MFU = Mains fail option with uncommitted output connections.
MFV or _MFV = Mains fail option with VME bus
_PA, _PP, _IN, _RP = Secondary module options.
B/S = Blanking slot which occupies one 23mm slot.

Only up to five 23mm slots may be filled up per unit, noting that all modules occupy one 23mm slot except for AA, A, F, G, J, K, R, S and T modules which occupy two 23mm slots. All primary MF options can only be fitted in slot 1.

Valid voltage ranges for @ and @/@ for each module is as follows:

Module	Voltage Range	Module	Voltage Range
A	@ = 4.5 – 5.5V	K	@ = 18 – 29V
AA	@ = 4.5 – 6.5V	L	@ = 1.8 – 3.2V
BB	@ = 4.5 – 6.5V	M	@ = 5 – 16V
B	@ = 4.5 – 5.5V	N	@ = 18 – 32V
C	@ = 5 – 16V	P	@/@ = 18 – 29V / 5 – 16V
D	@ = 18 – 29V	Q	@ = 2.7 – 3.9V
E	@/@ = 5 – 16V / 5 – 16V	R	@ = 2.7 – 3.9V
EB	@/@ = 4.5 – 5.5V / 4.5 – 5.5V	S	@ = 2.5 – 5.7V
EQ	@/@ = 4.5 – 5.5V / 2.7 – 3.9V	T	@ = 1.8 – 3.2V
F	@ = 9 – 16V	U	@ = 10 – 21V
G	@ = 17.5 – 29V	W	@ = 4.5 – 5.5V
H	@/@ = 18 – 32V / 18 – 32V	Z	@ = 4.5 – 5.5V
J	@ = 30 – 48V		

Secondary Options:

Option	Description
_PA	Forces paralleled modules to share load current. Additionally it also provides the module good signal.
_PP	Provides either of the following functions:
	a) Reduces module current limit and caters for paralleled modules with busbar linking. For use with modules providing a max output of up to 16V only; or b) Identical to _PA except that the module is paralleled at the output of the module with busbar linking.
_IN	Provides an external signal which may be used to inhibit the output of the module.
_RP	Provides remote programming of the module output voltage.

Note:
The RP option can only be used on modules with output voltages rated up to 16V.
Not for use with a module voltage range of 18-29V or twin output modules.

ELECTRICAL & THERMAL RATINGS:

Input parameters

NOMINAL INPUT VOLTAGE RANGE	100 - 240VAC
MAX. INPUT VOLTAGE RANGE	90-264VAC
INPUT FREQUENCY	47-63Hz
MAXIMUM INPUT CURRENT	7 AMPS
INRUSH CURRENT	<50 AMPS

Output parameters

CONFIGURATION	ORIENTATION	MAX. POWER	MAX. AMPERE-TURNS
Configurations with one or more A, AA, R or T modules	Vertical with airflow downwards	350W	80
Configurations with one or more F modules	Vertical with airflow downwards	375W	80
PSU's with Low Speed Fan (LSF) Option	All, except vertical with fan at top	155W	30
PSU's with Reverse Air (RA) Option	Horizontal only	300W	60
Use of input/output connector mouldings	All, except vertical with airflow downwards	80 + (3.2 x Vin)	80
Use of input/output connector mouldings	Vertical with airflow downwards	14.7 + (3.67 x Vin)	80

Adjustment and Derating:

The Alpha 400 series is designed to provide a max output power of 400W at nominal output voltages. The following procedure must be used to ensure the PSU is operated within its ratings:

a) Calculate user power for each module (volts x amps).
b) Add all the individual module powers together. The total power must not exceed the power rating of the C converter 400W.
c) Calculate secondary transformer turns x amps or each module see outputs table for transformer secondary turns.
d) Add all the module turns x amps together and this must not exceed 80AT.
e) If necessary reduce the loading until the conditions are met. i.e. power and ampere-turns maxima.

Output module ratings:

Module	Output Voltage	Current	Slots	Turns	Ampere-Turns	Max Current Limit	Setting for Hazardous Energy
A	4.5 – 5.5V	60A	2	1	60	79.2A	>3V
AA	4.5 – 6.5V	60A	2	1	60	79.2A	>3V
B	4.5 – 5.5V	25A	1	1	25	33A	-
BB	4.5 – 6.5V	25A	1	1	25	33A	-
C	5 – 16V	16A	1	2	32	21.2A	>11.3V
D	18 – 29V	8A	1	4	32	10.6A	>22.6V
E	5 – 16V / 5 – 16V	8/8A	1	2/2	16/16	10.6A/10.6A	-
EB	4.5 – 5.5V / 4.5 – 5.5V	9/9A	1	1/1	9/9	11.9A/11.9A	-
EQ	4.5 – 5.5V / 2.7 – 3.9V	9/9A	1	1/1	9/9	11.9A/11.9A	-
F	9 – 15.5V	33A	2	2	66	43.6A	>5.5V
G	17.5 – 29V	25A	2	4	100	33A	>7.2V
H	18 – 32V / 18 – 32V	5/5A	1	4/4	20/20	6.6A/6.6A	-
J	30 – 48V	10A	2	8	80	13A	>18.4V
K	18 – 29V	15A	2	4	60	19.8A	>12V
L	1.8 – 3.2V	25A	1	1	25	33A	
M	5 – 16V	8A	1	2	16	10.6A	-
N	18 – 32V	5A	1	4	20	6.6A	-
P	18 – 29V / 5 – 16V	5/8A	1	4/2	20/16	6.6A/10.6A	-
Q	2. 7 – 3.9V	25A	1	1	25	33A	-
R	2. 7 – 3.9V	60A	2	1	60	79.2A	>3V
S	2.5 – 5.7V	85A	2	1	85	110.5A	>2.2V
T	1.8 – 3.2V	60A	2	1	60	79.2A	>3V
U	10 – 21V	16A	1	3	48	21.2A	>11.3V
W	4.5 – 5.5V	15A	1	1	15	19.8A	-
Z	4.5 – 5.5V	25A	1	1	25	33A	-

- A & AA modules can be used in slots 1-5 up to 60A/channel.
- B & BB modules can be used in slots 1-4 up to 25A/channel and in slots 5 up to 20A per channel.
- C modules can be used in slots 1-5 up to 16A/channel if o/p is limited to 12V. At 15 to 16V C modules can be used up to 12A/channel. Module derates linearly between 12 and 15V.
- D modules can be used in slots 1-5 up to 8A/channel.
- E modules can be used in slots 1-3 up to 8A/channel and in slots 4 and 5 up to 6A/channel.
- EB modules can be used in slots 1-5 up to 9A/channel
- EQ modules can be used in slots 1-3 up to 9A/channel and in slots 4 and 5 up to 6.75A/channel
- F modules can be used in slots 1-5 up to 33A channel.
- G modules can be used in slots 1-5 up to 20A/channel.
- H modules can be used in slots 1-3 up to 5A/channel and in slots 4 and 5 up to 4A/channel. For outputs voltages 30.01 to 32V maximum rated current is 1A.
- J modules can be used in slots 1-5 at 30-41V at 10A max, for output of 48V at 8A max. For voltages between 41 and 48V the current is linearly interpolated.
- K modules can be used in slots 1-5 up to 15A.
- M modules can be used in slots 1-5 up to 8A/channel.
- L modules can be used in slots 1-4 up to 25A/ channel and in slot 5 up to 20A per channel.
- N modules can be used in slots 1-5 up to 5A/channel for output voltages up to 29V, for output voltages 29.01V to 32V maximum rated current is 1A.
- P modules 18-29V outputs can be used in slots 1-3 up to 5A and in slots 4-5 at up to 4A. P & PL modules 5-16V outputs can be used in slots 1-3 up to 8A and in slots 3-4 at up to 6A.
- Q modules can be used in slots 1-5 up to 25A/channel.
- R modules can be used in slots 1-5 up to 60A/ channel.
- S modules can be used in slots 1/2 up to 75A, Slots 2/3 up to 71A, Slots 3/4 up to 69A & Slots 4/5 up to 66A.
- T modules can be used in slots 1-5 up to 60A
- U modules can be used in slots 1-3 up to 16A, slot 4 up to 15A and slot 5 up to 13A
- W modules can be used in slots 1-5 up to 15A/channel
- Z modules can be used in slots 1-4 up to 25A/channel and in slot 5 up to 20A per channel.

The following limitations also apply:

(a) For power supplies having one or more A, AA, R and/or T modules and mounted vertically with the airflow downwards, the output is limited to 350W.
(b) For power supplies having one or more F modules, the output is limited to 375W, only when operated in a vertical position with the fan on top of the power supply.
(c) For power supplies fitted with an LSF option fan, the output is limited to 300W and 60AT. Operation in a vertical orientation with the fan at the top is not permitted.
(d) For power supplies fitted with the fan reversed (RA option), the output is limited to 300W and 60AT. Operation in a vertical orientation is not permitted.
(e) For power supplies having input or output connector housings fitted the total output is limited as follows:

PSU Orientation	Total Power Output
Vertical with fan at top	P = 14.7 + 3.67*Vin
All other orientations	P = 80 + 3.2*Vin

subject to a maximum total power output of 400W and a minimum mains input voltage of 90Vac.
Where P = maximum total output power and Vin = mains input voltage

An example of a product would be: CA400 @B @B @C @/@E @M where @ and @/@ would be written on the product label as numbers representing the voltage of the module e.g. 5B.

SELV and Outputs Connected In Series:
Outputs are SELV except as described below:

- Non-earthed outputs that have secondaries with 2 or more turns are non-SELV as a single fault in the secondary may make them exceed the SELV limit between output and earth.
- Non-earthed outputs that are connected in series are non-SELV unless all the seriesed outputs use 1 turn secondaries and there are no more than 3 outputs connected in series.
- Outputs connected in series are non-SELV if the total output voltage + 20% of the max. rated output voltage of the output with the highest rated voltage exceeds 60Vdc (the 20% addition allows for a single fault in any one individual channel).
- The total voltage of a seriesed output must not exceed 160Vdc.
- If any output or seriesed output is non-SELV then all the outputs in the PSU must be considered non-SELV.
- Non-SELV outputs must be guarded or a deflector fitted during installation to avoid a service engineer making inadvertent contact with the output terminals, or dropping a tool onto them.
- All outputs have operational spacings to earth, and due consideration must be given to this in the end product design.

Energy Source Levels and Outputs Connected In Series:
Outputs are ES1 except as described below:

- Non-earthed outputs that have secondaries with 3 or more turns are ES2 as a single fault in the secondary may make them exceed the ES1limit between output and earth.
- Non-earthed outputs that are connected in series are ES2 or ES3 unless all the seriesed outputs use 1 turn secondaries and there are no more than 3 outputs connected in series.
- Outputs connected in series are ES2 if the total output voltage + 20% of the max. rated output voltage of the output with the highest rated voltage exceeds 60Vdc (the 20% addition allows for a single fault in any one individual channel) or ES3 if the total output voltage + 20% of the max. rated output voltage of the output with the highest rated voltage exceeds 120Vdc
- The total voltage of a seriesed output must not exceed 160Vdc.
- If any output or seriesed output is ES2 or ES3 then all the outputs in the PSU must be considered as ES2 or ES3
- ES2 and ES3 outputs must be guarded or a deflector fitted during installation to avoid a service engineer making inadvertent contact with the output terminals, or dropping a tool onto them.
- All outputs have operational spacings to earth, and due consideration must be given to this in the end product design.

Additional module limitations:

When using remote sense, the max output voltage will be reduced by 0.5V for L, S, T, Q and R modules, and by 1.0V for C*1, D, F, G*2, J, M, K, N, U Modules.
Ampere turns for J module is calculated as AT=(output current + 15A) x 4.
Adjusting output voltage beyond the stated range may cause overvoltage protection (OVP) to operate, whereby all outputs will turn off. To reset OVP, turn back output voltage adjustment and remove the mains supply for 30 seconds.

Input Connections:
Input tabs - 6.3mm x 0.8mm, tin plated brass, rated 15A.

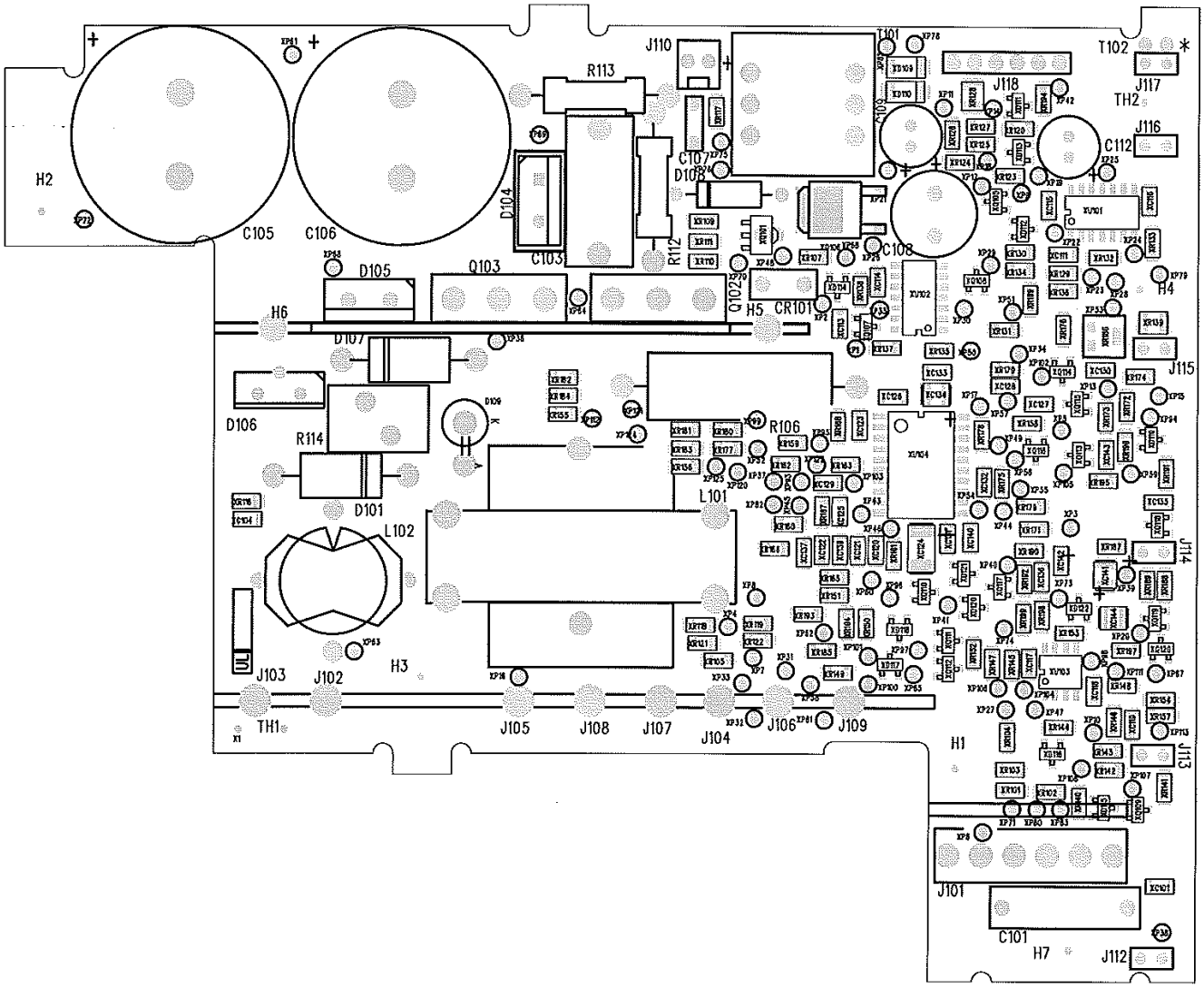
Mating input faston connectors				
Brand	Colour	Wire size (awg)	Part number	Current rating
Amp	Red	22 - 18	2-520407-2	15A
Amp	Blue	16 - 14	3-520408-2	15A

Output Connections:
Output Connector Ratings:

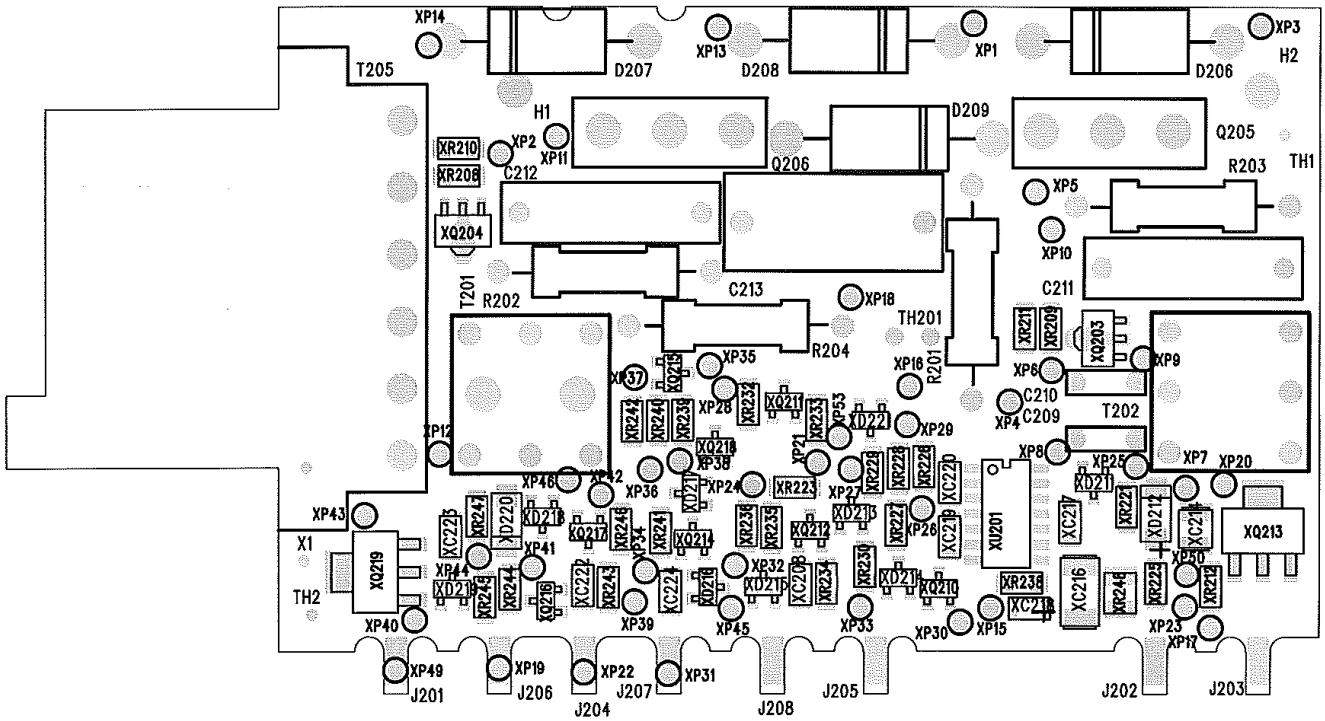
1. 6.35mm fastons are rated at 15A.
2. 9.5mm Faston terminals are rated at 32A (Tab thickness = 1.0mm, suitable Faston terminals are AMP 151667-2 or AMP 280223-2
3. M5 screw terminals are rated at 100A subject to the wire and wire connector used to connect them.

Maximum recommended torque setting for M5 screws is 2.4 – 2.6Nm.

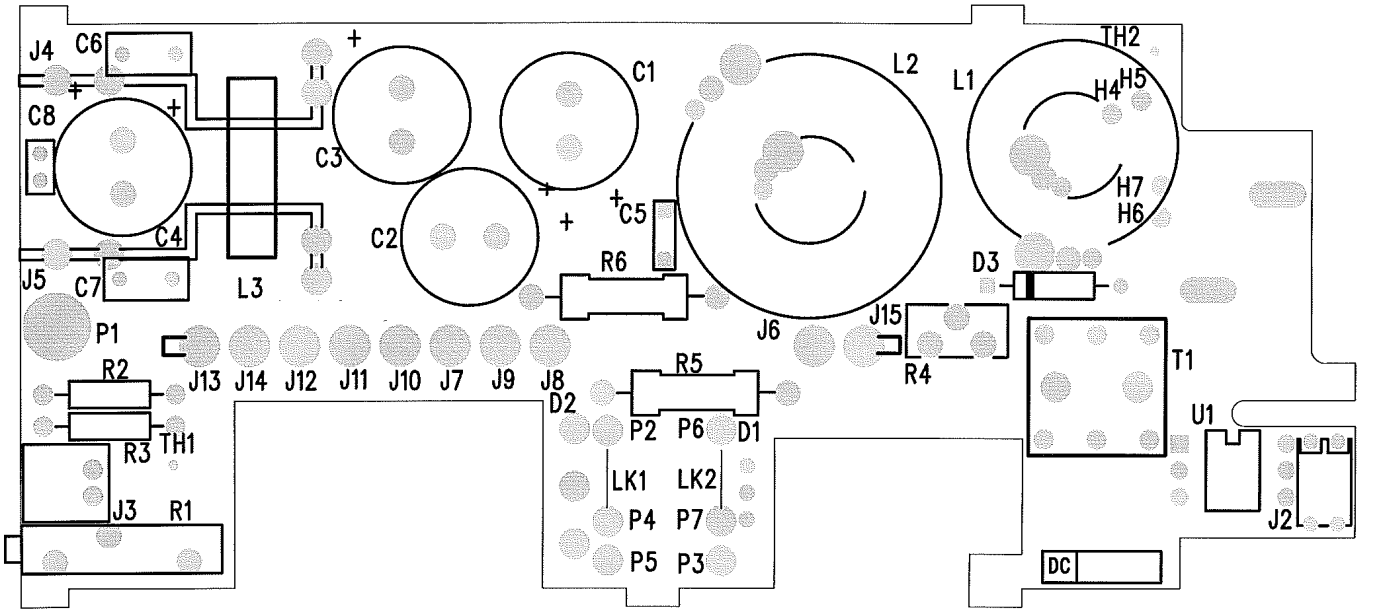
Main Base PCB



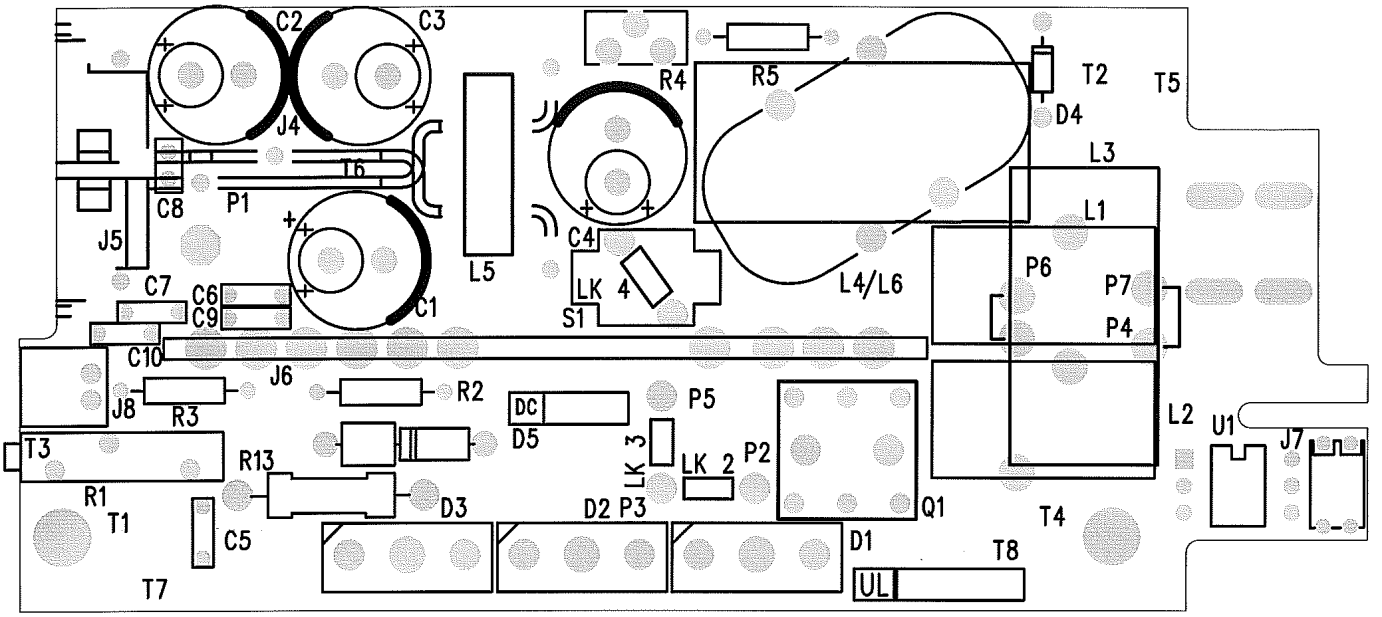
Converter Vertical PCB



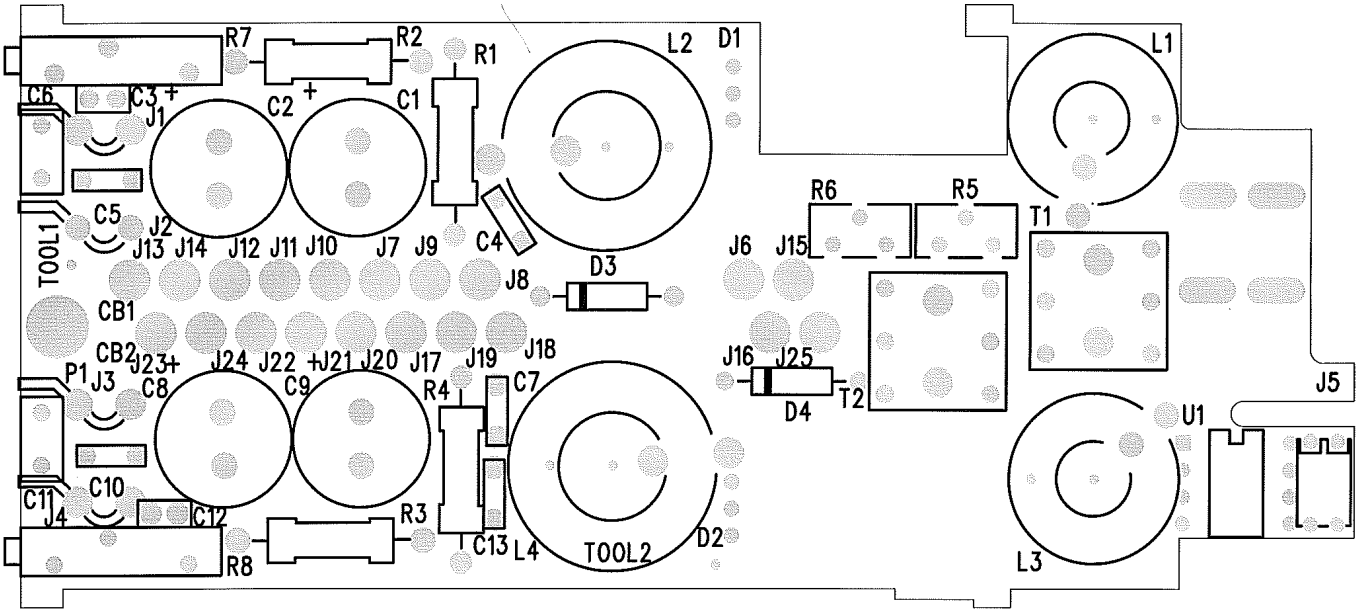
Single Module PCB



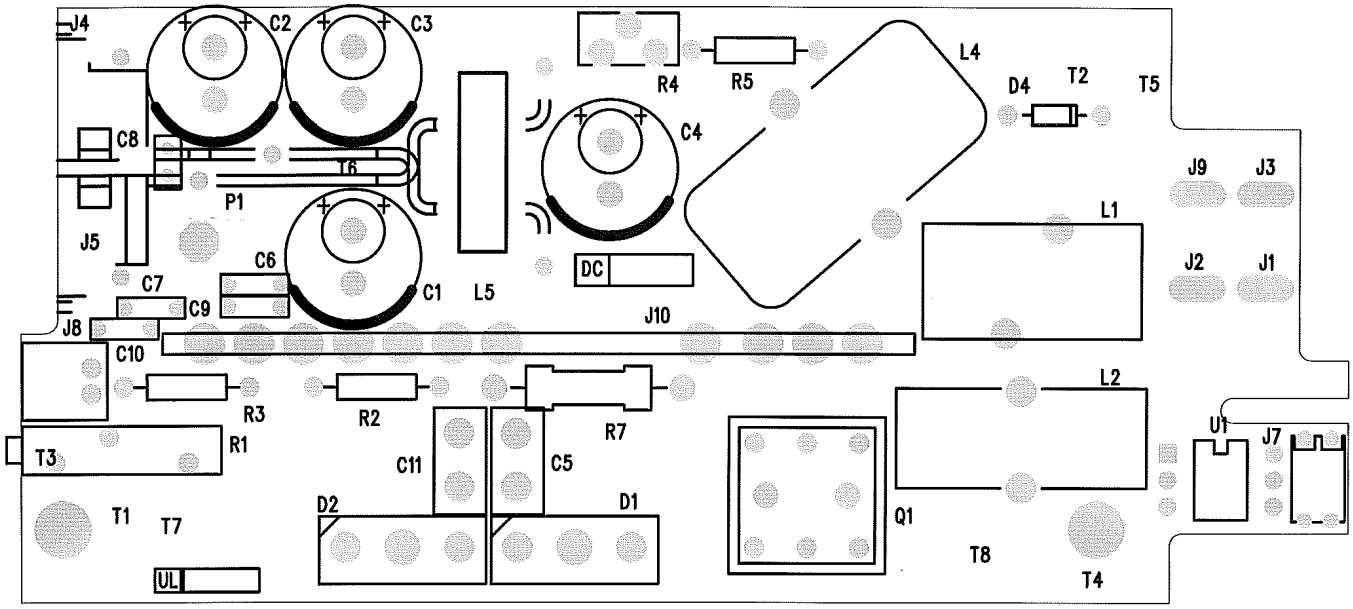
Dual Module PCB



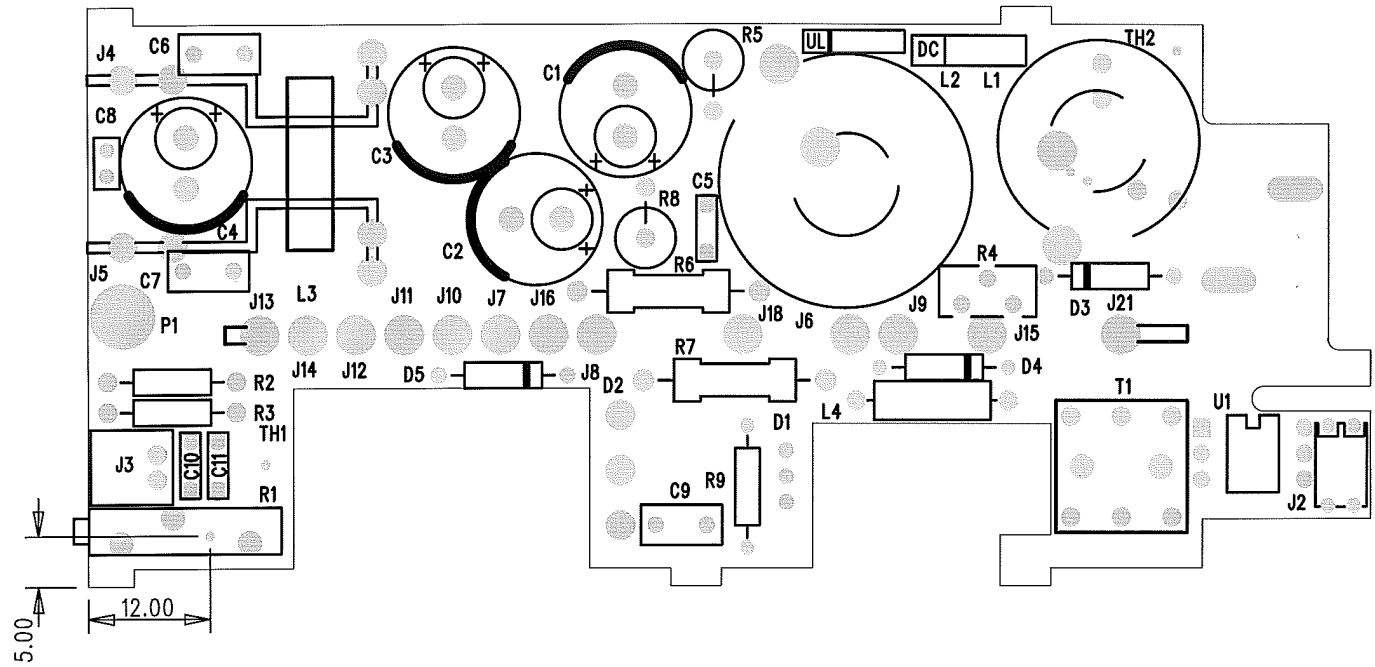
Twin Module PCB



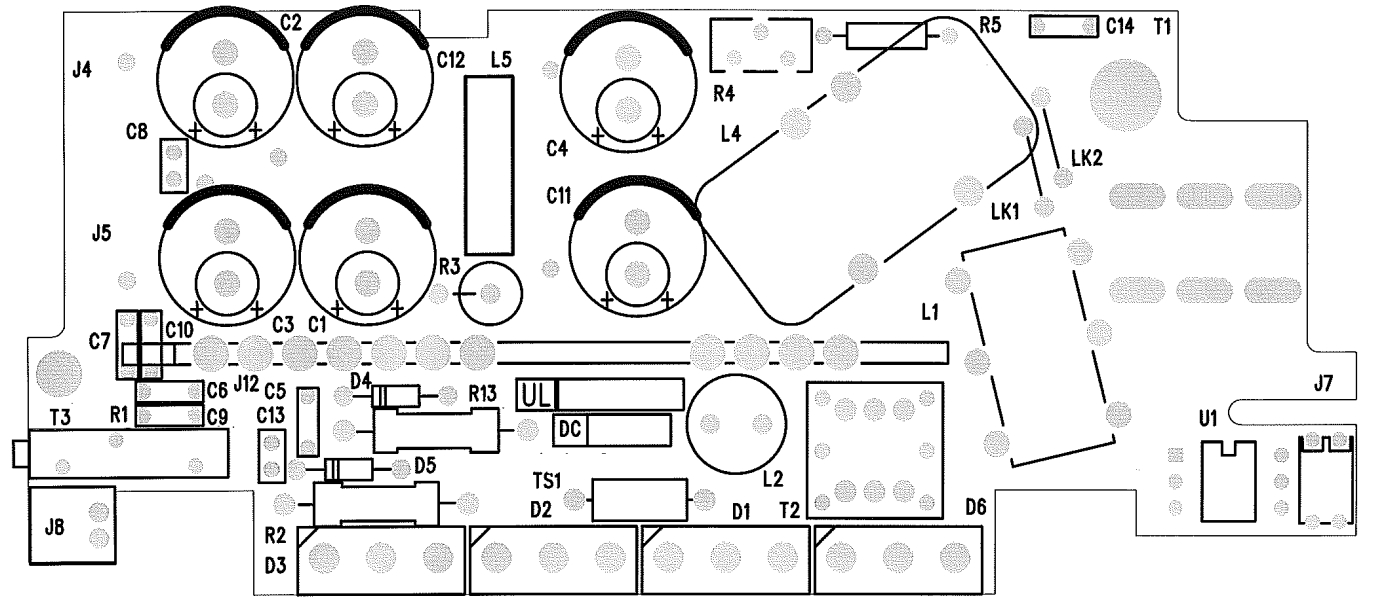
J Module PCB



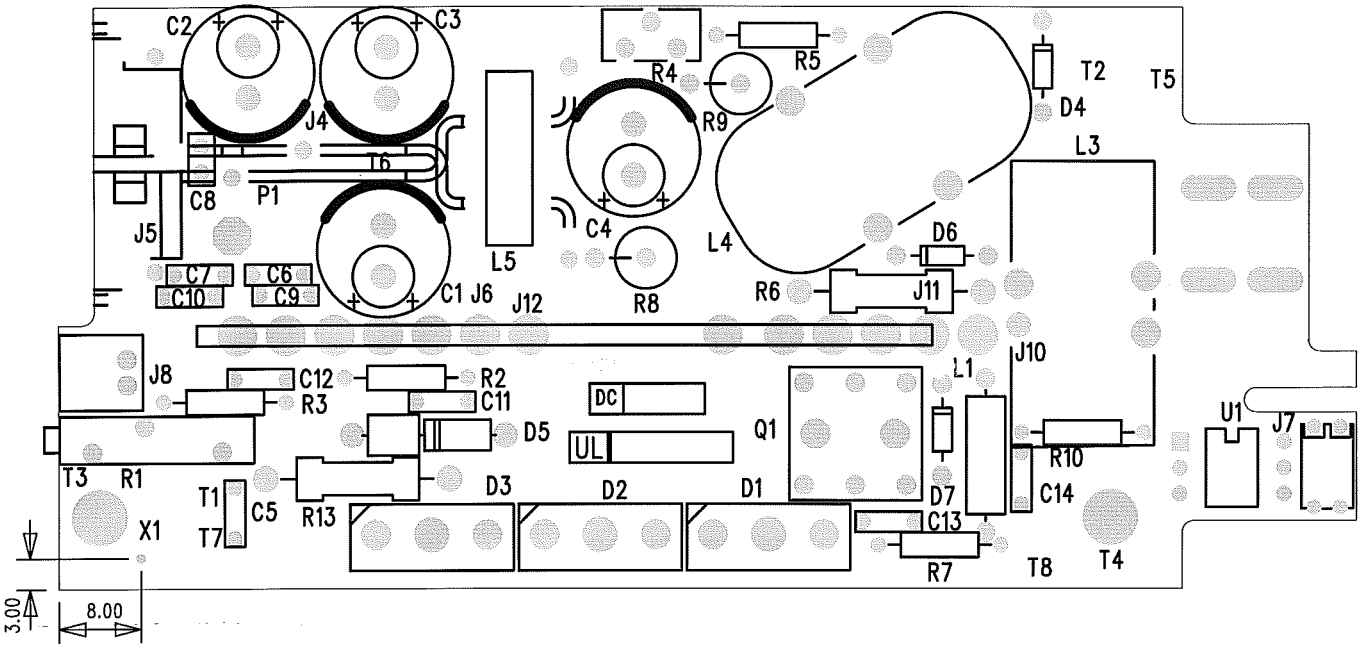
L Module PCB



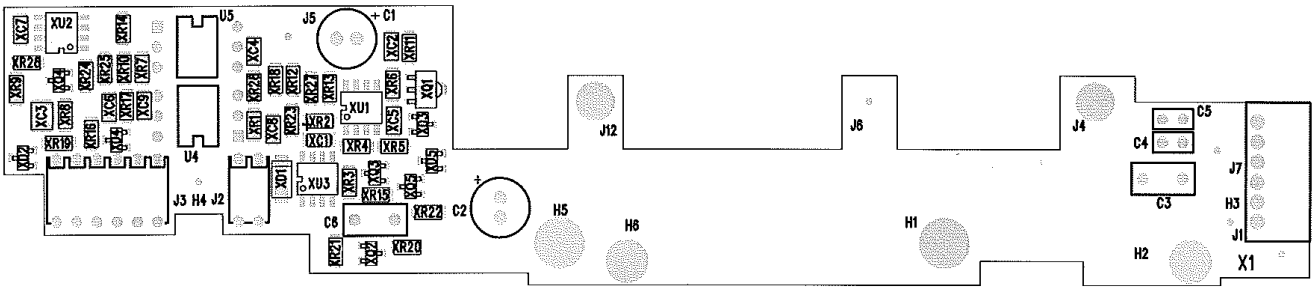
S Module PCB



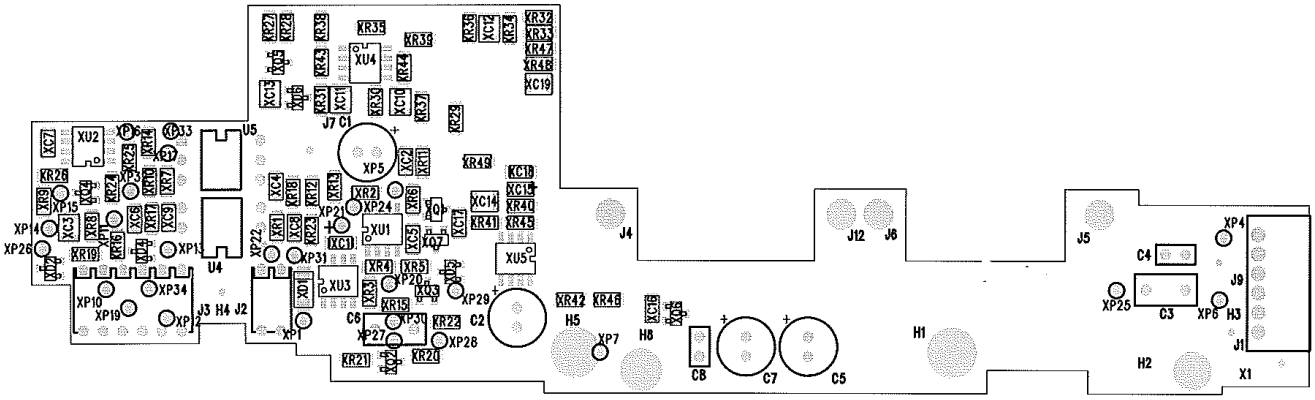
T Module PCB

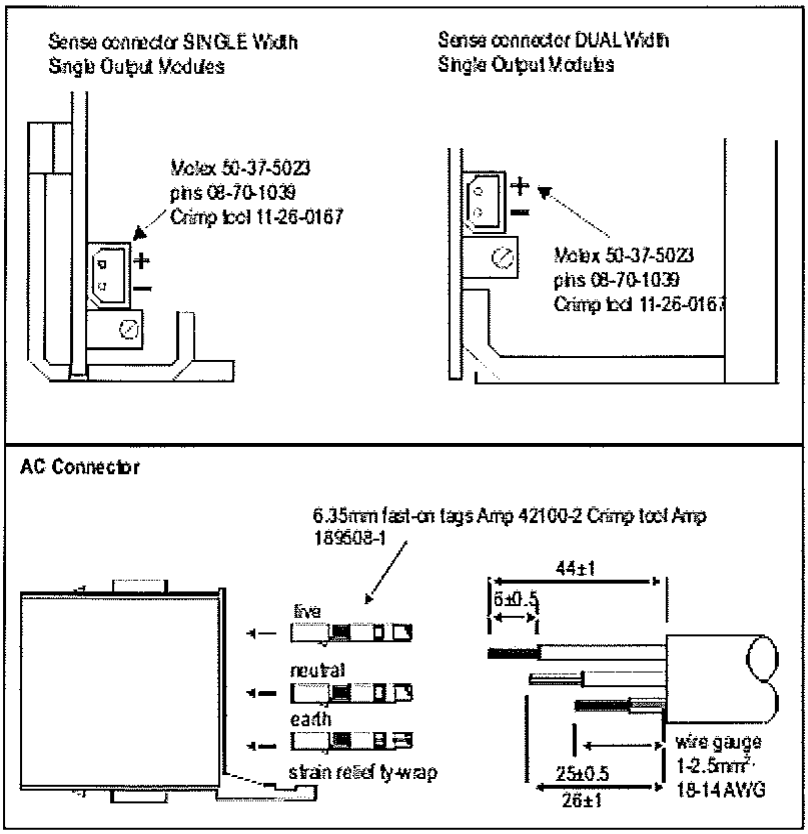


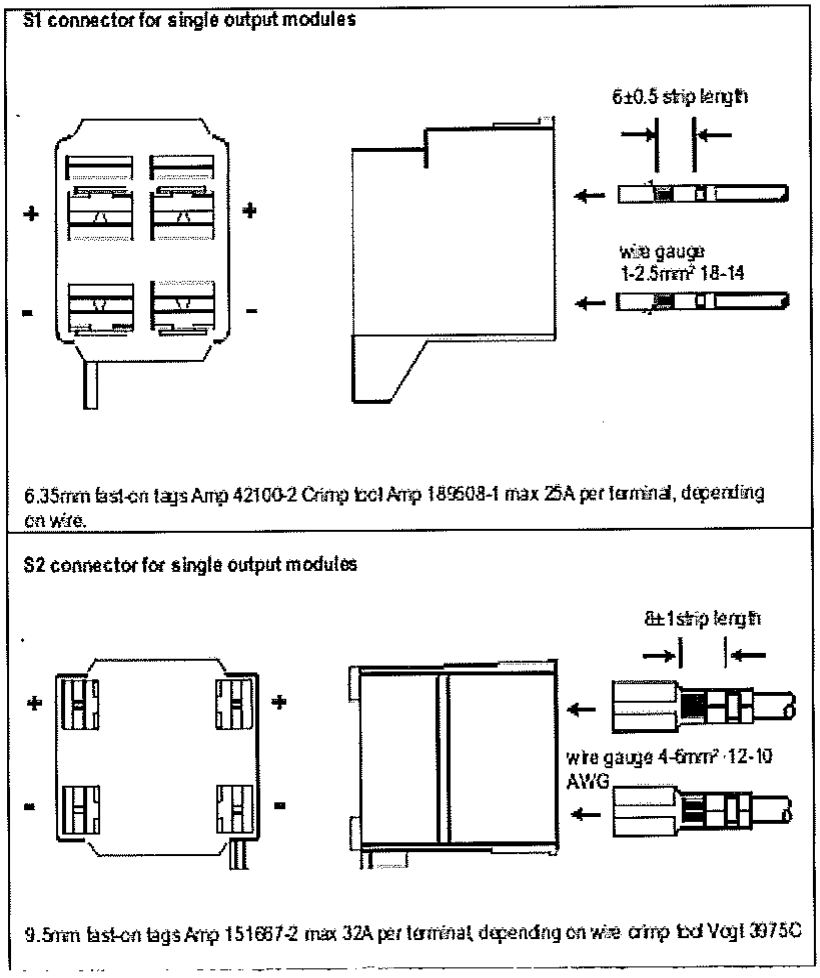
MF Option

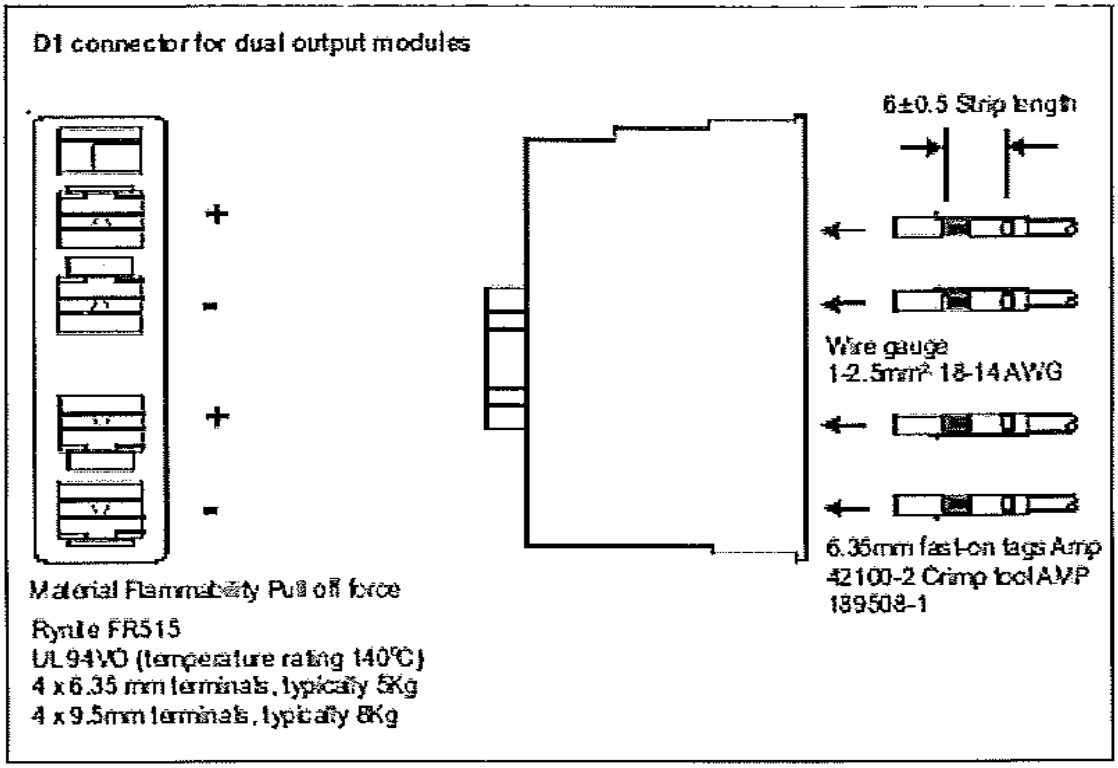


MFV Option




Sense connector SINGLE Width
Single Output Modules
Molex 50-37-5023
pins 08-70-1039
Crimp tool 11-26-0167
Sense connector DUAL Width
Single Output Modules
Molex 50-37-5023
pins 08-70-1039
AC Connector
6.35mm fast-on tags Amp 42100-2 Crimp tool Amp
189608-1
live
neutral
earth
strain relief ty-wrap
44±1
6±0.5
25±0.5
26±1
wire gauge
1-2.5mm²
18-14 AWG

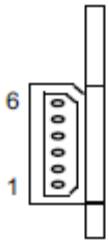

S1 connector for single output modules
6±0.5 strip length
wire gauge
1-2.5mm² 18-14
6.35mm fast-on tags Amp 42100-2 Crimp tool Amp 189608-1 max 25A per terminal, depending on wire.
S2 connector for single output modules
8±1strip length
wire gauge 4-6mm² 12-10
AWG
9.5mm fast-on tags Amp 151687-2 max 32A per terminal, depending on wire crimp tool Vogt 3975C



Option: Mains Fail Options (MF, MFL, MFE, MFU, MFV)

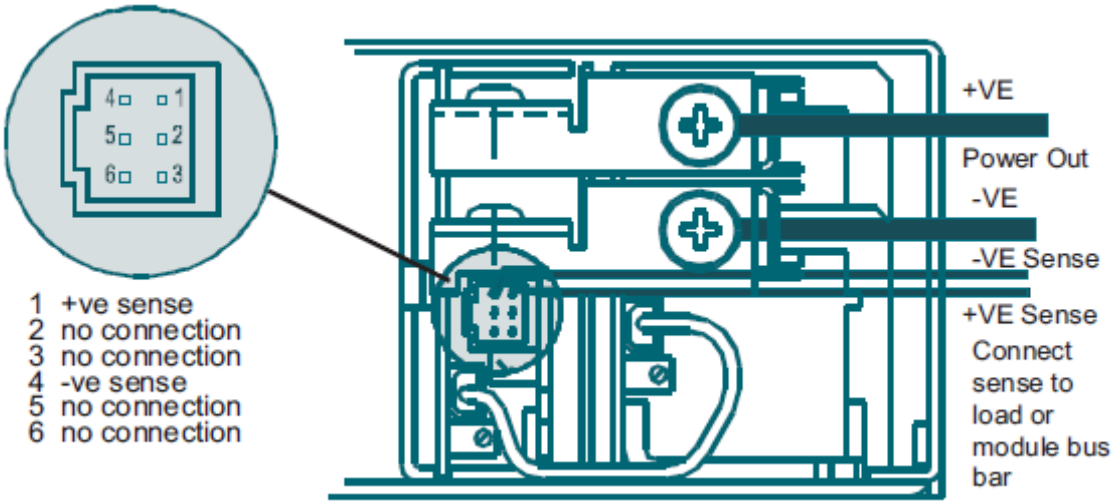
Connector: Six way Molex, 50-37-5063. Crimp terminals: 08-70-1040.

	MF	MFE	MFU	MFV
Pin 1	Inhibit Low	Enable Low	Inhibit Low	Inhibit Low
Pin 2	+5V Aux	+5V Aux	+5V Aux	+5V Aux
Pin 3	Power Fail	Power Fail	Power Fail Emitter	AC Fail
Pin 4	0V Aux	0V Aux	0V Aux	0V Aux
Pin 5	Inhibit High	Enable High	Inhibit High	Inhibit High
Pin 6	NC	NC	Power Fail Collector	SYS Reset



Option: PP- Parallel

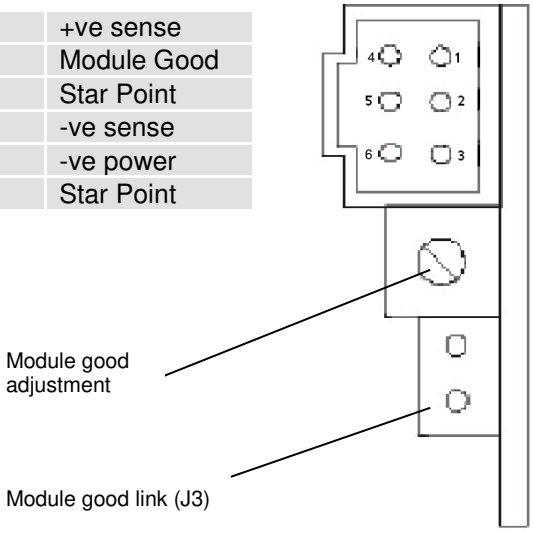
Connector: Six way Molex, 90142-0006. Crimp terminals: 90119-2109.



Option: PA- Parallel

Connector:
Six way Molex, 90142-0006.
Crimp terminals: 90119-2109.

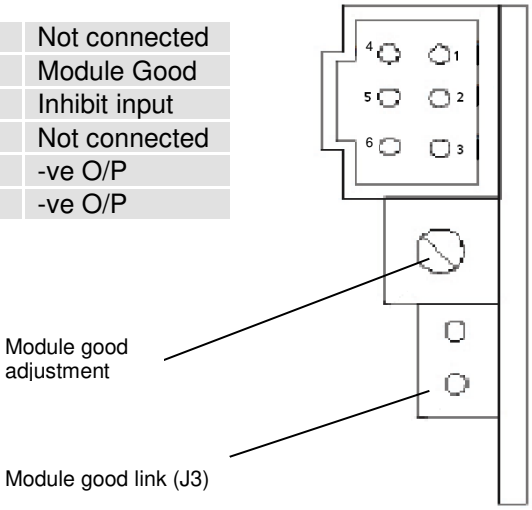
1	+ve sense
2	Module Good
3	Star Point
4	-ve sense
5	-ve power
6	Star Point



Option: IN- Inhibit

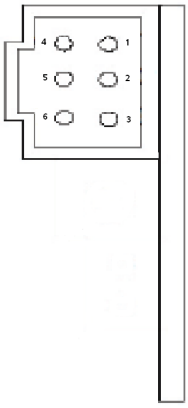
Connector:
Six way Molex, 90142-0006.
Crimp terminals: 90119-2109.

1	Not connected
2	Module Good
3	Inhibit input
4	Not connected
5	-ve O/P
6	-ve O/P

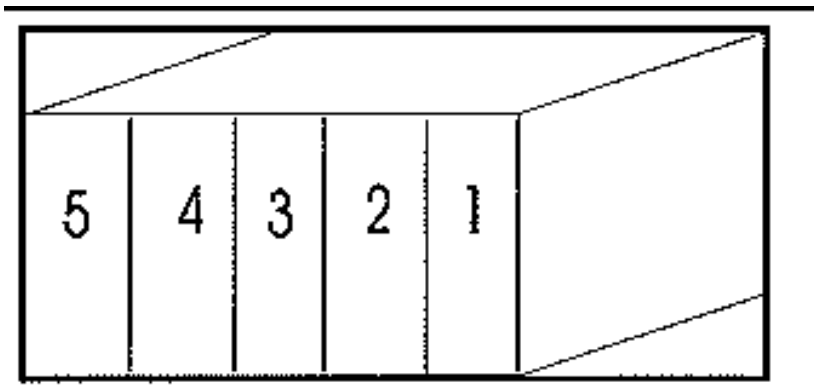


Option: RP- Remote Programming

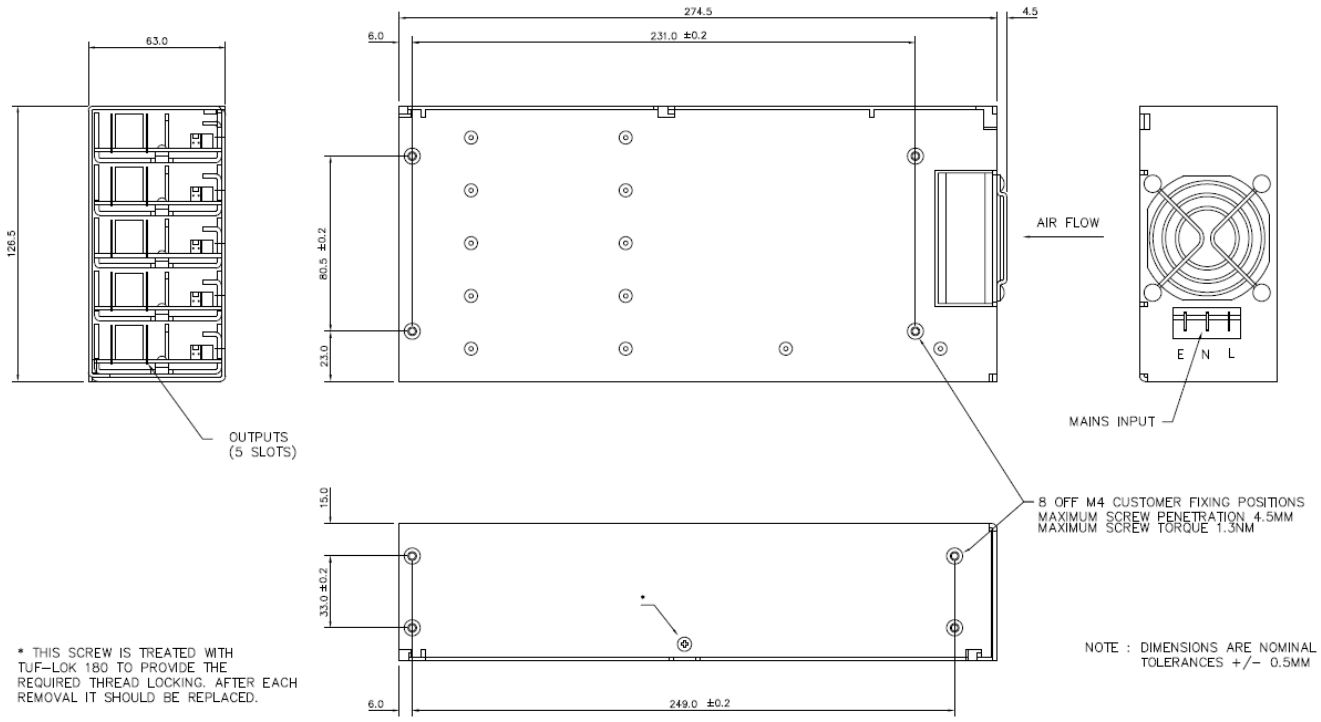
1	+ve sense
2	-ve sense
3	Control 2
4	NC
5	Control 1
6	NC



Module Positions



Customer fixings:



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