

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 be not 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 handbook.

Input Parameters:

This product must be operated within the input parameters stated in the product limitations in this handbook.

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 1 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 (where applicable) must not be made user accessible.

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

For encased products, do not use mounting screws, which penetrate the unit more than; See drawings.

Internal fuses protect 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.

The unit cover/chassis, where applicable, 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.

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.

Für ummantelt Produkte, verwenden Sie keine Schrauben, die das Gerät mehr als durchdringen; siehe Zeichnung. 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.

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.

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 flottantes.

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 : Voir dessins.

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.

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.

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 assoggettato 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 raggugli.

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 il 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 : Vedi disegni

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.

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.

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: Ver dibujos.

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.

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.

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 alimentação 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 alimentação considerado com um componente, não é dentro do application 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: Veja os desenhos

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.

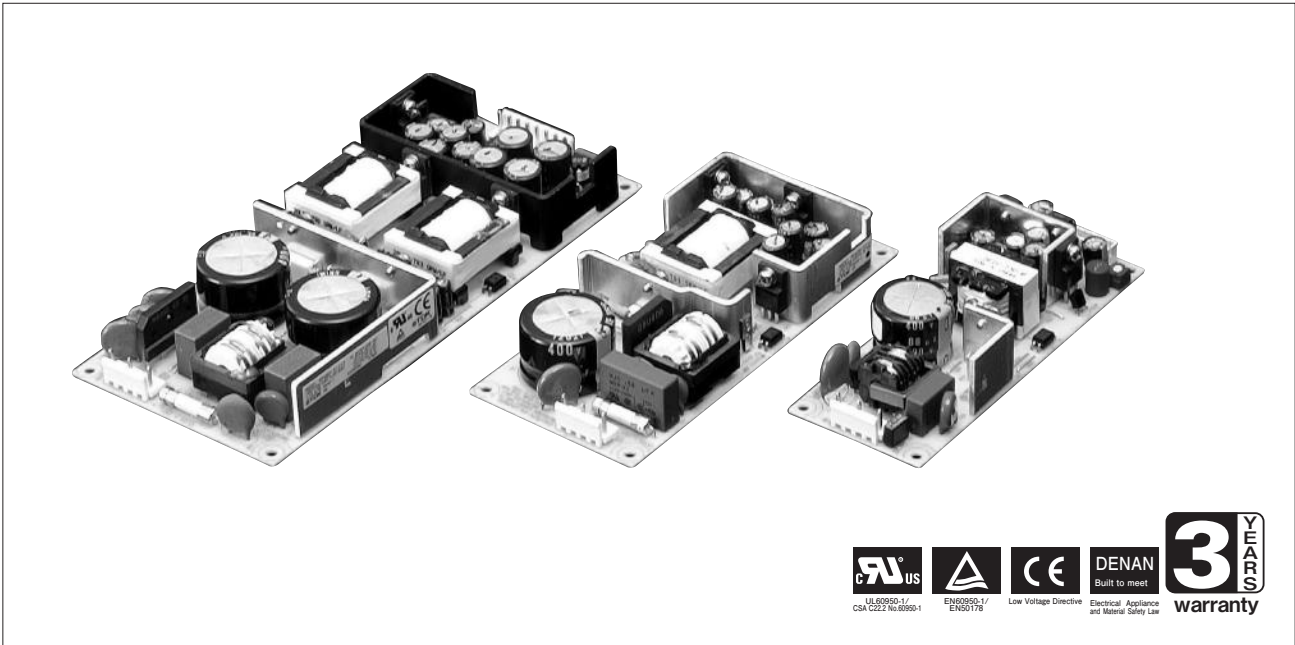
O chassis/cobertura da unidade está concebido de forma a proteger o pessoal especializado de perigos. Não devem ser utilizados como parte das coberturas externas de qualquer equipamento em que possam estar acessíveis aos operadores, uma vez que em condições de carga máxima, algumas peças do chassis da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

TDK-Lambda

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MTW SERIES

Multiple outputs/for general use 15-60W

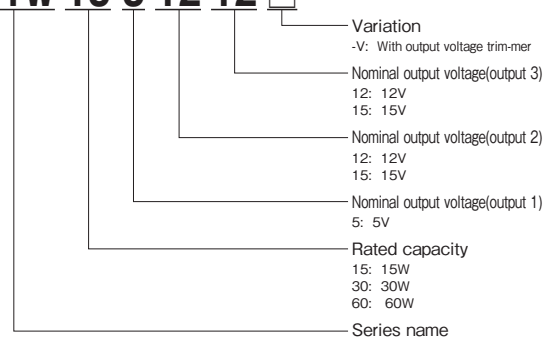


Features

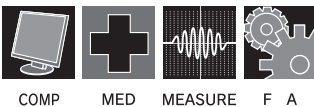
- Worldwide-applicable input, triple-output type
- Compact, slim and lightweight contributing to energy-saving and environmental protection
- Approved by safety standards (UL, C-UL, TÜV), complying with Electrical Appliance and Material Safety Law, CE marking applicable
- EMI: Complying with FCC Class B, VCCI-B, EN55011-B, -B
- Immunity : Complying with EN61000-4-2,-3,-4,-5, -6,-8,-11
- Peak load accommodatable

Model naming logic

MTW 15-5 12 12 □



Applications



Conformity to RoHS Directive

This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

Product line up

Output voltage	15W		30W		60W	
	Output current (Peak current)/Model		Output current (Peak current)/Model		Output current (Peak current)/Model	
+5V	2.0A (3.0A)	MTW15-51212	3.0A (4.5A)	MTW30-51212	5.0A (7.0A)	MTW60-51212
+12V	0.3A (0.6A)		1.2A (2.0A)		2.5A (3.5A)	
-12V	0.2A (0.3A)		0.3A (0.45A)		0.5A (0.7A)	

Output voltage	15W		30W		60W	
	Output current (Peak current)/Model		Output current (Peak current)/Model		Output current (Peak current)/Model	
+5V	2.0A (3.0A)	MTW15-51515	3.0A (4.5A)	MTW30-51515	5.0A (7.0A)	MTW60-51515
+15V	0.3A (0.6A)		0.8A (2.0A)		2.0A (3.5A)	
-15V	0.2A (0.3A)		0.3A (0.45A)		0.5A (0.7A)	

Variation symbol	Function
None	Fixed output voltage type
-V	Output voltage adjustable type

* Output voltage adjustable type: Indicated by "-V" added at the end of model

MTW15W Specifications

ITEMS/UNITS		MODEL	MTW15-51212			MTW15-51515		
		CH	1	2	3	1	2	3
Input	Voltage Range (Nominal: 100-240VAC)	V	AC85-265					
	Frequency (Nominal: 50-60 single phase)	Hz	47-440					
	Power Factor (100/240VAC)(typ)		0.55/0.45					
	Efficiency (100/240VAC)(typ)	%	71/70			68/70		
	Current (100/240VAC)(typ)	A	0.42/0.25					
	Inrush Current (100/240VAC)(typ) (*1)	A	25/50					
	Leakage Current(max)	mA	0.75 (100VAC (Electrical Appliance and Material Safety Law) / 240VAC (UL, IEC))					
Output	Nominal Voltage (*2)	VDC	+5 [V1]	+12 [V2]	-12 [V3]	+5 [V1]	+15 [V2]	-15 [V3]
	Maximum Current (*3)	A	2	0.3	0.2	2	0.3	0.2
	Maximum Peak Current (*4)	A	3	0.6	0.3	3	0.6	0.3
	Maximum Power (P0[V1]+P0[V2]+P0[V3])	W	16			17.5		
	Voltage Setting Accuracy (100/240VAC,100% load)	%	+5 ± 0.25	+12 ± 0.6	-12 ± 0.6	+5 ± 0.25	+15 ± 0.6	-15 ± 0.6
	Maximum Line Regulation (Within input voltage range)(max)		0.4%					
	Maximum Load Regulation (10-100% load)(max)		2.0%	1.0%		2.0%	1.0%	
	Temperature Coefficient (Ambient temperature -10° C to +50° C)(max)	%	1.0					
	Warm Up Drift (max) (*5)	%	2.0	1.0		2.0	1.0	2.0
	Max Power Total Regulation (max)(*2)	%	± 2.0					
	Maximum Ripple Voltage (max) (*6)	mVp-p	100	120		100	120	
	Maximum Ripple & Noise (max) (*6)	mVp-p	120	150		120	150	
	Start Up Time (100VAC)(max)	ms	100					
	Hold-up Time (100/240VAC)(typ)	ms	20/150					
	Voltage Adjustable Range (*7)	VDC	Fixed/Variable (CH1)					
	Function	Over Current Protection (min) (*8)	A	3.15	0.63	0.32	3.15	0.63
Over Voltage Protection (min) (*9)		VDC	5.7	Not available		5.7	Not available	
Over Temperature Protection			Not available					
Remote Sensing			Not available					
Remote ON/OFF Control			Not available					
Parallel Operation			Not available					
Series Operation			Not available					
Operation Indicator			Not available					
Monitoring Signal			Not available					
Environment		Operating Temperature	°C	-10 to +60				
	Storage Temperature	°C	-30 to +75					
	Operating Humidity	% RH	10-90 (the conditions of maximum 35°C in wet bulb temperature and non-condensation should be ensured.)					
	Storage Humidity	% RH	10-90 (the conditions of maximum 35°C in wet bulb temperature and non-condensation should be ensured.)					
	Vibration		5-10Hz, 10 minutes sweep, 10mmp-p total amplitude, 3 directions, 1h for each, in non-operation 10-200Hz, 10 minutes sweep, 19.6m/s ² (2G) acceleration, 3 directions, 1h for each, in non-operation					
	Shock		588m/s ² (60G), 11 ± 5ms, 3 directions, 3 times for each, in non-operation					
Isolation	Withstand Voltage		For 1 minute at ordinary temperature and humidity Between input terminal and ground terminal: 2.0kVAC, 10mA cutout current Between input terminal and output terminal: 3.0kVAC, 10mA cutout current Between output terminal and ground (G): 500VAC, 20mA cutout current					
	Isolation Resistance		In 500VDC and 100MΩ or over at ordinary temperature and humidity Between input terminal and ground terminal, between input terminal and output terminal, and between output terminal and ground terminal					
Standards	Safety Standards		Approved by UL60950-1, CSA C22.2 No.60950-1 (C-UL), EN60950-1 (TÜV), complying with Electrical Appliance and Material Safety Law (meeting the regulations of creepage surface and spacial distance in item 8 of the appendix table)					
	EMI		Complying with FCC-Class B / VCCI-Class B / EN55011-B / EN55022-B					
	Immunity		Complying with EN61000-4-2 Level 4, -3 Level 3, -4 Level 3, -5 Level 4, -6 Level 3, -8 Level 4, -11					
Mechanical	Weight (max)	g	150					
	Size (W x H x D)	mm	26 x 50 x 127					

With nominal input/output voltage, maximum output current, and Ta=25°C, if not specified separately.

(*1) In primary surge current, 25°C, and cold starting.

(*2) Overshoot in starting input is 4%typ. Floating system is used for V1-V2 and V1-V3.

(*3) The maximum output current value is between -10°C and +50°C. For use in outside this temperature range, derating is needed.

(*4) Flowing time should be within 10 seconds and the effective current/power should be the same as or less than the maximum current/power.

(*5) 30min to 8h after the start of input voltage application.

(*6) In 100MHz, -10° C-0° C. Ripple: V1-140mVp-p max, V2, V3-160mVp-p max. Ripple noise : V1-160mVp-p max, V2/V3-180mVp-p max.

(*7) For output voltage adjustable types (variation), output voltage can be varied in the range of +5V through +5.25V for CH1 (+5V) only, by the output voltage trimmer.

(*8) When the other channels are in 0A. Fold-back type drooping system and automatically resumes when the causes are removed.

(*9) For V1 only: Zener clamp system

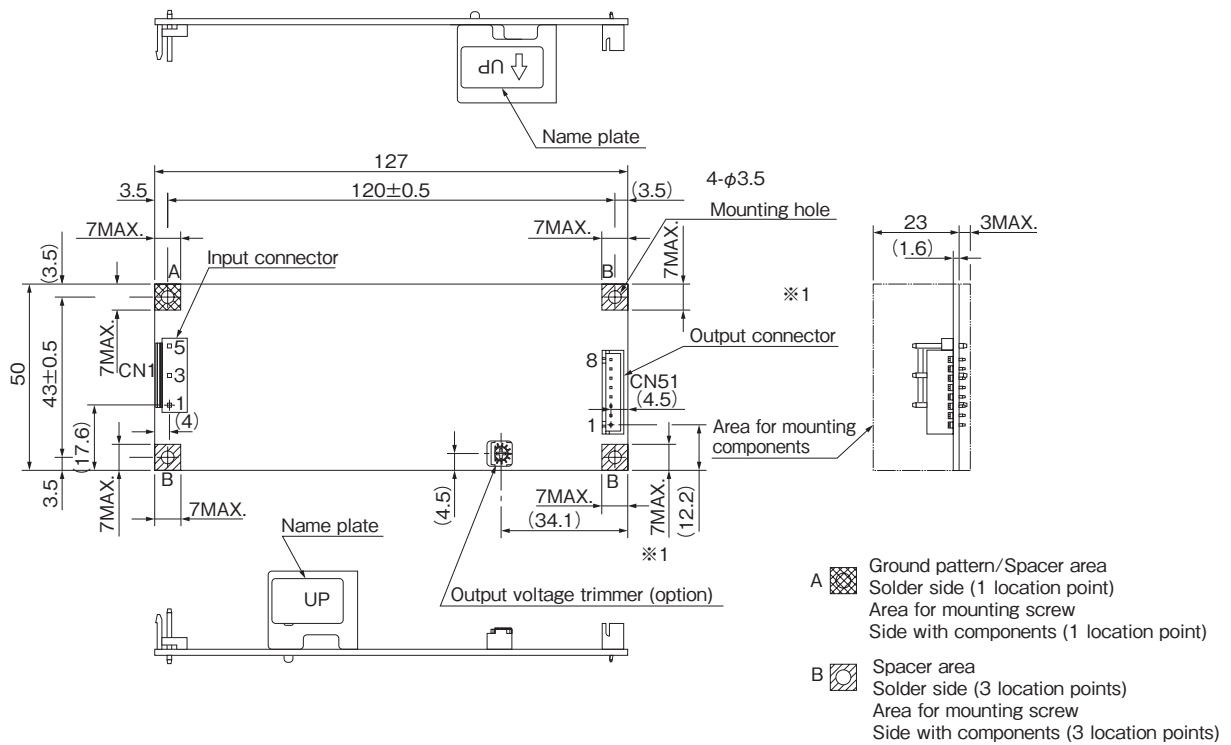
Recommended EMC Filter



RSEL-2001W

Please refer to "TDK-Lambda EMC Filters" catalog.

Outline Drawing



Specifications of terminals

Unit: mm

Allowable difference is ±1mm if not specified separately.



CN1 : Input side

P5	⊥	Ground
P3	N	Neutral
P1	L	Live

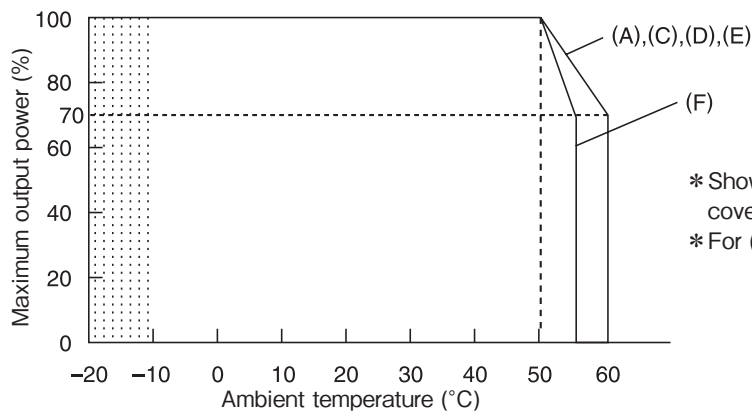
- VH series B3P5-VH-B
by J.S.T. Mfg. Co., Ltd.

CN51 : Output side

P8	V3	Output 3
P7	G2	Ground 2
P6	V2	Output 2
P4	G1	Ground 1
P3	V1	Output 1
P2		
P1		

- XH series B8B-XH-2
by J.S.T. Mfg. Co., Ltd.

Output Power - Ambient Temperature (Derating Curve)



* Shows derating for products without covers.
* For (A)-(F), refer to the item regarding

MTW30W Specifications

		MODEL	MTW30-51212			MTW30-51515		
ITEMS/UNITS	CH		1	2	3	1	2	3
Input	Voltage Range (Nominal: 100-240VAC)	V	AC85-265					
	Frequency (Nominal: 50-60 single phase)	Hz	47-440					
	Power Factor (100/240VAC)(typ)		0.55/0.45					
	Efficiency (100/240VAC)(typ)	%	76/77					
	Current (100/240VAC)(typ)	A	0.8/0.4					
	Inrush Current (100/240VAC)(typ) (*1)	A	20/40					
	Leakage Current (max)	mA	0.55/0.75 (100VAC (Electrical Appliance and Material Safety Law) / 240VAC (UL, IEC))					
Nominal Voltage (*2)	VDC	+5 [V1]	12 [V2]	-12 [V3]	+5 [V1]	+15 [V2]	-15 [V3]	
Maximum Current (*3)	A	3	1.2	0.3	3	0.8	0.3	
Maximum Peak Current (*4)	A	4.5	2	0.45	4.5	2	0.45	
Maximum Power (P0[V1]+P0[V2]+P0[V3])	W	30			33			
Voltage Setting Accuracy (100/240VAC,100% load)	%	+5±0.3, -0.1	+12 ± 0.6	-12 ± 0.6	+5±0.3, -0.1	+15 ± 0.75	-15 ± 0.75	
Maximum Line Regulation (Within input voltage range)(max)		1.0%	0.4%		1.0%	0.4%		
Maximum Load Regulation (10-100% load)(max)		2.0%	1.0%		2.0%	1.0%		
Temperature Coefficient (Ambient temperature -10°C to +50°C) (max)	%	2.0	1.0		2.0	1.0		
Warm Up Drift (max) (*5)	%	1.0						
Max Power Total Regulation (max)(*2)	%	± 3.0	± 2.0		± 3.0	± 2.0		
Maximum Ripple Voltage (max) (*6)	mVp-p	80	100		80	100		
Maximum Ripple & Noise (max) (*6)	mVp-p	120	150		120	150		
Start Up Time (100VAC)(max)	ms	300						
Hold-up Time (100/240VAC)(typ)	ms	20/140						
Voltage Adjustable Range (*7)	VDC	Fixed/Variable (CH1)						
Function	Over Current Protection (min) (*8)	A	4.7	2.1	0.48	4.7	2.1	0.48
	Over Voltage Protection (min) (*9)	VDC	5.8	Not available		5.8	Not available	
	Over Temperature Protection		Not available					
	Remote Sensing		Not available					
	Remote ON/OFF Control		Not available					
	Parallel Operation		Not available					
	Series Operation		Not available					
	Operation Indicator		Not available					
	Monitoring Signal		Not available					
	Environment	Operating Temperature	°C	-10 to +60				
Storage Temperature		°C	-30 to +75					
Operating Humidity		% RH	10-90 (the conditions of maximum 35°C in wet bulb temperature and non-condensation should be ensured.)					
Storage Humidity		% RH	10-90 (the conditions of maximum 35°C in wet bulb temperature and non-condensation should be ensured.)					
Vibration			5-10Hz, 10 minutes sweep, 10mmp-p total amplitude, 3 directions, 1h for each, in non-operation 10-200Hz, 10 minutes sweep, 19.6m/s ² (2G) acceleration, 3 directions, 1h for each, in non-operation					
Shock			588m/s ² (60G), 11 ± 5ms, 3 directions, 3 times for each, in non-operation					
Isolation	Withstand Voltage		For 1 minute at ordinary temperature and humidity Between input terminal and ground terminal: 2.0kVAC, 10mA cutout current Between input terminal and output terminal: 3.0kVAC, 10mA cutout current Between output terminal and ground (G): 500VAC, 20mA cutout current					
	Isolation Resistance		In 500VDC and 100MΩ or over at ordinary temperature and humidity Between input terminal and ground terminal, between input terminal and output terminal, and between output terminal and ground terminal					
Standards	Safety Standards		Approved by UL60950-1, CSA C22.2 No.60950-1 (C-UL), EN60950-1 (TÜV), complying with Electrical Appliance and Material Safety Law (meeting the regulations of creepage surface and spacial distance in item 8 of the appendix table)					
	EMI		Complying with FCC-Class B / VCCI-Class B / EN55011-B / EN55022-B					
	Immunity		Complying with EN61000-4-2 Level 4, -3 Level 3, -4 Level 3, -5 Level 4, -6 Level 3, -8 Level 4, -11					
Mechanical	Weight max	g	210					
	Size (WxHxD)	mm	26 x 65 x 140					

With nominal input/output voltage, maximum output current, and Ta=25°C, if not specified separately.

(*1) In primary surge current, 25°C, and cold starting.

(*2) Overshoot in starting input is 4%typ. Floating system is used for V1-V2 and V1-V3.

(*3) The maximum output current value is between -10° C and +50° C. For use in outside this temperature range, Derating is needed.

(*4) Flowing time should be within 10 seconds and the effective current/power should be the same as or less than the maximum current/power.

(*5) 30min to 8h after the start of input voltage application.

(*6) In 100MHz, -10° C-0° C. Ripple: V1-140mVp-p max, V2, V3-160mVp-p max. Ripple noise: V1-160mVp-p, V2/V3-180mVp-p max.

(*7) For output voltage adjustable types (variation V), output voltage can be varied in the range of +5V through +5.2V for CH1 (+5V) only, by the output voltage trimmer.

(*8) When the other channels are in 0A. Fold-back type drooping system and automatically resumes when the causes are removed.

(*9) For V1 only: Zener clamp system

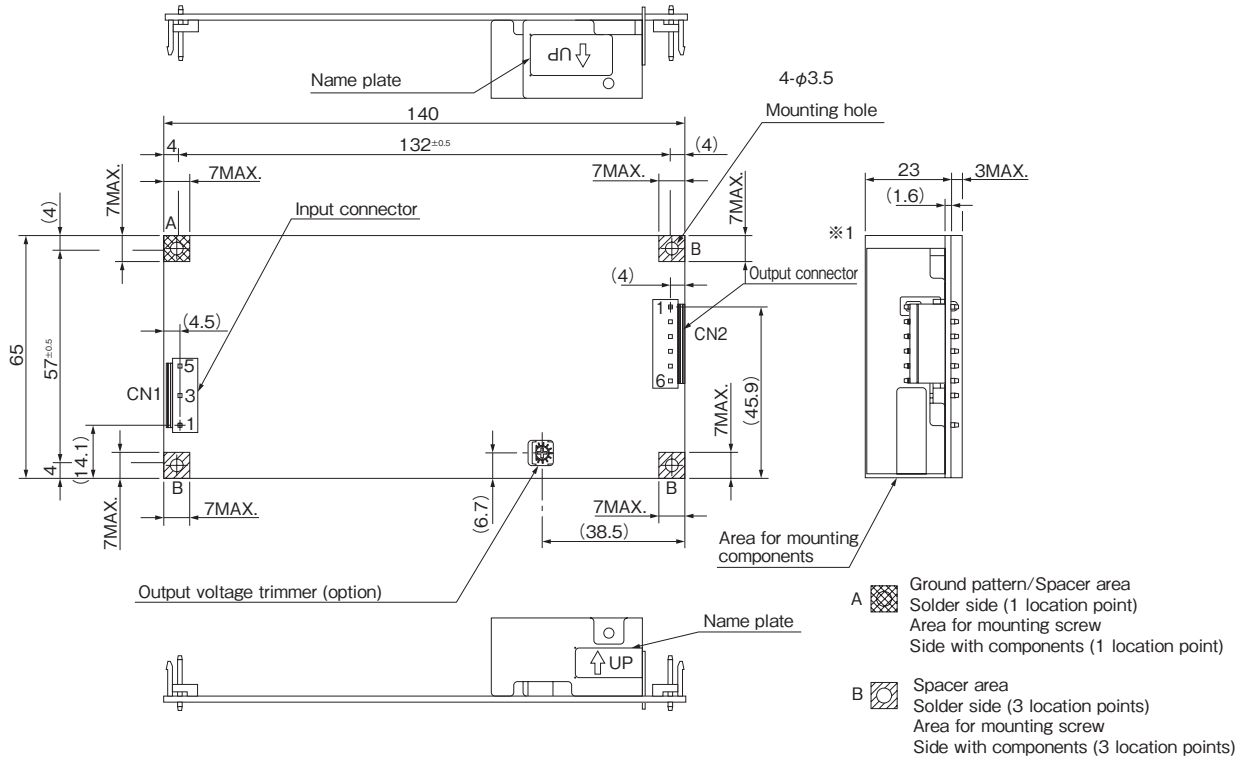
Recommended EMC Filter



RSEL-2001E

Please refer to "TDK-Lambda EMC Filters" catalog.

Outline Drawing



Specifications of terminals

Unit: mm

Allowable difference is ±1mm if not specified separately.



CN1 : Input side

P5	⏏	Ground
P3	N	Neutral
P1	L	Live

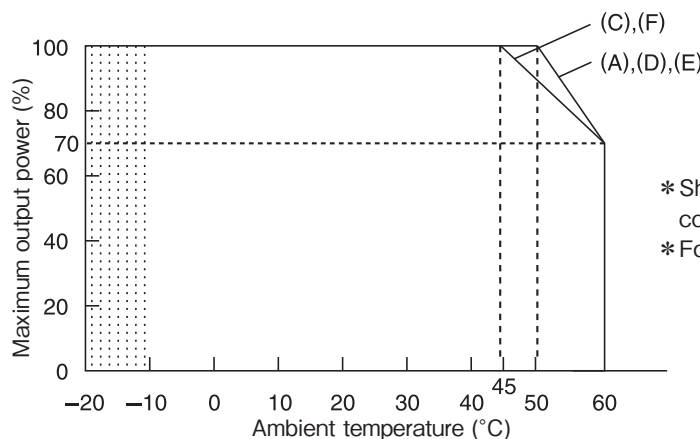
- VH series B3P5-VH-B
by J.S.T. Mfg. Co., Ltd.

CN2 : Output side

P1	V3	Output 3
P2	G2	Ground 2
P3	G2	Ground 2
P4	V2	Output 2
P5	G1	Ground 1
P6	V1	Output 1

- VH series B6P-VH-B
by J.S.T. Mfg. Co., Ltd.

Output Power - Ambient Temperature (Derating Curve)



* Shows derating for products without covers.
* For (A)-(F), refer to the item regarding

MTW60W Specifications

		MODEL	MTW60-51212			MTW60-51515		
ITEMS/UNITS	CH		1	2	3	1	2	3
Input	Voltage Range (Nominal: 100-240VAC)	V	AC85-265					
	Frequency (Nominal: 50-60 single phase)	Hz	47-440					
	Power Factor (100/240VAC)(typ)		0.55/0.45					
	Efficiency (100/240VAC)(typ)	%	76					
	Current (100/240VAC)(typ)	A	1.4/0.8					
	Inrush Current (100/240VAC)(typ) (*1)	A	20/40					
	Leakage Current (max)	mA	0.6/0.75 (100VAC (Electrical Appliance and Material Safety Law) / 240VAC (UL, IEC))					
Output	Nominal Voltage (*2)	VDC	+5 [V1]	12 [V2]	-12 [V3]	+5 [V1]	+15 [V2]	-15 [V3]
	Maximum Current (*3)	A	5	2.5	0.5	5	2	0.5
	Maximum Peak Current (*4)	A	7	3.5	0.7	7	3.5	0.7
	Maximum Power (P0[V1]+P0[V2]+P0[V3])	W	60			62.5		
	Voltage Setting Accuracy (100/240VAC,100% load)	%	+5±0.3, -0.1	+12 ± 0.6	-12 ± 0.6	+5±0.3, -0.1	+15 ± 0.6	-15 ± 0.75
	Maximum Line Regulation (Within input voltage range)(max)		1.0%	0.4%		1.0%	0.4%	
	Maximum Load Regulation (10-100% load)(max)		2.0%		1.0%	2.0%		1.0%
	Temperature Coefficient (Ambient temperature -10° C to +50° C)(max)	%	2.0		1.0	2.0		1.0
	Warm Up Drift (max) (*5)	%	1.0					
	Max Power Total Regulation (max) (*2)	%	± 2.5		± 2.0	± 2.5		± 2.0
	Maximum Ripple Voltage (max) (*6)	mVp-p	80	100		80	100	
	Maximum Ripple & Noise (max) (*6)	mVp-p	120	150		120	150	
	Start Up Time (100VAC)(max)	ms	350			550		
	Hold-up Time (100/240VAC)(typ)	ms	20/180					
	Voltage Adjustable Range (*7)	VDC	Fixed/Variable (CH1)					
	Function	Over Current Protection (min) (*8)	A	7.4	3.7	0.75	7.4	3.7
Over Voltage Protection (min) (*9)		VDC	5.8	13.8	Not available	5.8	16.5	Not available
Over Temperature Protection			Not available					
Remote Sensing			Not available					
Remote ON/OFF Control			Not available					
Parallel Operation			Not available					
Series Operation			Not available					
Operation Indicator			Not available					
Environment	Monitoring Signal		Not available					
	Operating Temperature	°C	-10 to +60					
	Storage Temperature	°C	-30 to +75					
	Operating Humidity	% RH	10-90 (the conditions of maximum 35°C in wet bulb temperature and non-condensation should be ensured.)					
	Storage Humidity	% RH	10-90 (the conditions of maximum 35°C in wet bulb temperature and non-condensation should be ensured.)					
	Vibration		5-10Hz, 10 minutes sweep, 10mmp-p total amplitude, 3 directions, 1h for each, in non-operation 10-200Hz, 10 minutes sweep, 19.6m/s ² (2G) acceleration, 3 directions, 1h for each, in non-operation					
Isolation	Shock		588m/s ² (60G), 11 ± 5ms, 3 directions, 3 times for each, in non-operation For 1 minute at ordinary temperature and humidity					
	Withstand Voltage		Between input terminal and ground terminal: 2.0kVAC, 10mA cutout current Between input terminal and output terminal: 3.0kVAC, 10mA cutout current Between output terminal and ground (G): 500VAC, 20mA cutout current					
Standards	Isolation Resistance		In 500VDC and 100MΩ or over at ordinary temperature and humidity Between input terminal and ground terminal, between input terminal and output terminal, and between output terminal and ground terminal					
	Safety Standards		Approved by UL60950-1, CSA C22.2 No.60950-1 (C-UL), EN60950-1 (TÜV), complying with Electrical Appliance and Material Safety Law (meeting the regulations of creepage surface and spacial distance in item 8 of the appendix table)					
	EMI		Complying with FCC-Class B / VCCI-Class B / EN55011-B / EN55022-B					
Mechanical	Immunity		Complying with EN61000-4-2 Level 4, -3 Level 3, -4 Level 3, -5 Level 4, -6 Level 3, -8 Level 4, -11					
	Weight max	g	330					
	Size (W x H x D)	mm	26 x 83 x 185					

With nominal input/output voltage, maximum output current, and Ta=25°C, if not specified separately.

(*1) In primary surge current, 25°C, and cold starting.

(*2) Overshoot in starting input is 4%typ. Floating system is used for V1-V2 and V1-V3.

(*3) The maximum output current value is between -10°C and +50°C. For use in outside this temperature range, Derating is needed.

(*4) Flowing time should be within 10 seconds and the effective current/power should be the same as or less than the maximum current/power.

(*5) 30min to 8h after the start of input voltage application.

(*6) In 100MHz, -10°C-0°C. Ripple: V1-140mVp-p max, V2/V3-160mVp-p. Ripple noise : V1-160mVp-p max, V2/V3-180mVp-p max.

(*7) For output voltage adjustable types (variation V), output voltage can be varied in the range of 4.5V through 5.5V for CH1 (+5V) only, by the output voltage trimmer.

(*8) When the other channels are in 0A. Fold-back type drooping system and automatically resumes when the causes are removed.

(*9) For V1 only: Zener clamp system

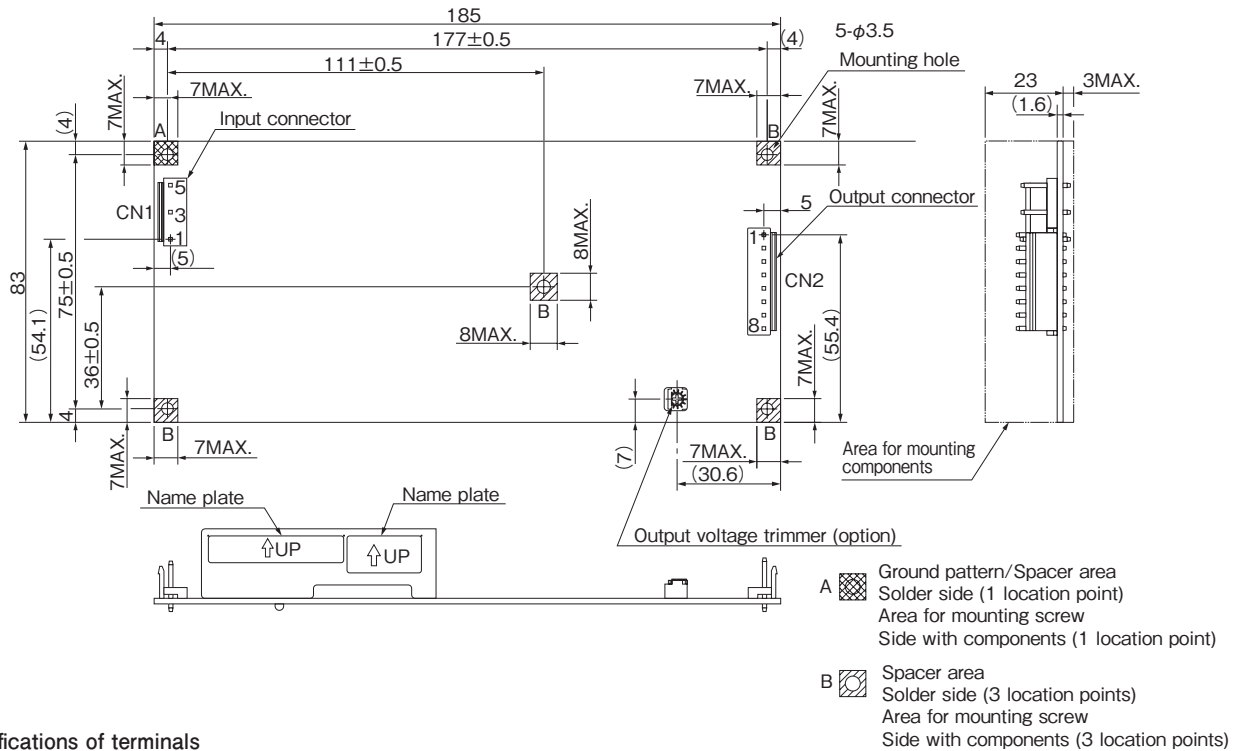
Recommended EMC Filter



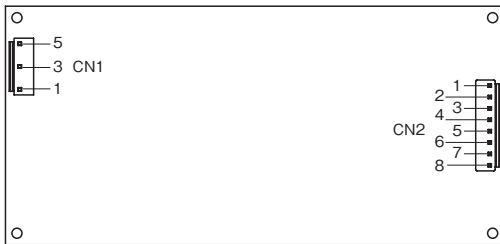
RSEL-2003W

Please refer to "TDK-Lambda EMC Filters" catalog.

Outline Drawing



Specifications of terminals



Unit: mm
 Allowable difference is ±1mm if not specified separately.

CN1

P5	±
P3	N
P1	L

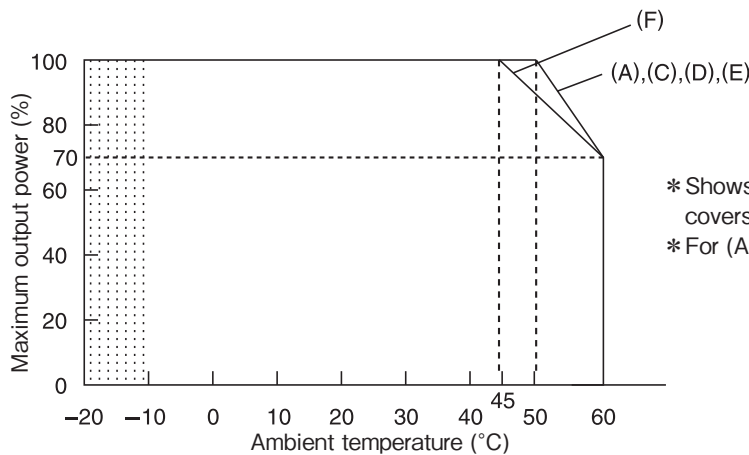
- VH series B3P5-VH-B
 by J.S.T. Mfg. Co., Ltd.

CN2

P1	V3
P2	G2
P3	G2
P4	V2
P5	G1
P6	G1
P7	V1
P8	V1

- VH series B8P-VH-B
 by J.S.T. Mfg. Co., Ltd.

Output Power - Ambient Temperature (Derating Curve)

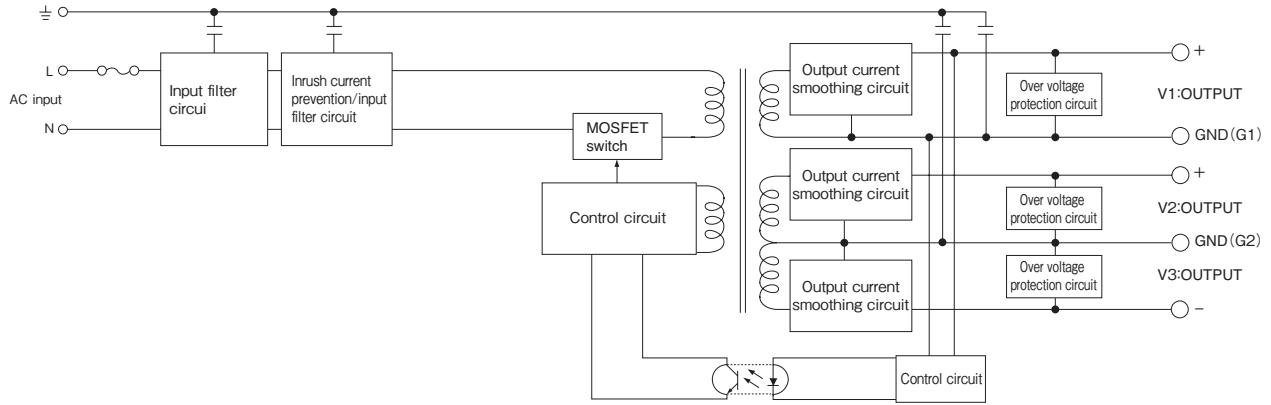


* Shows derating for products without covers.
 * For (A)-(F), refer to the item regarding

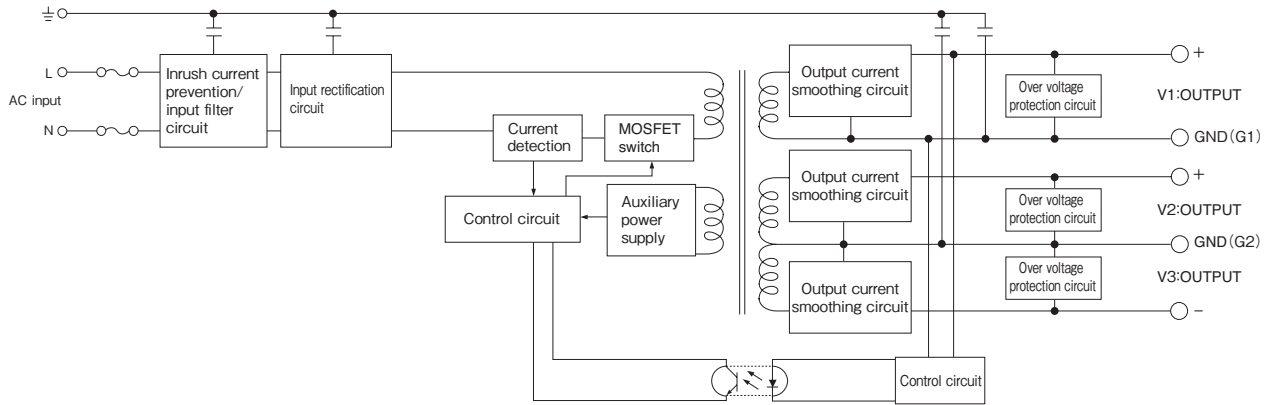
In the range indicated by [shaded area], operation is possible but the characteristics are not guaranteed.

Block Diagram

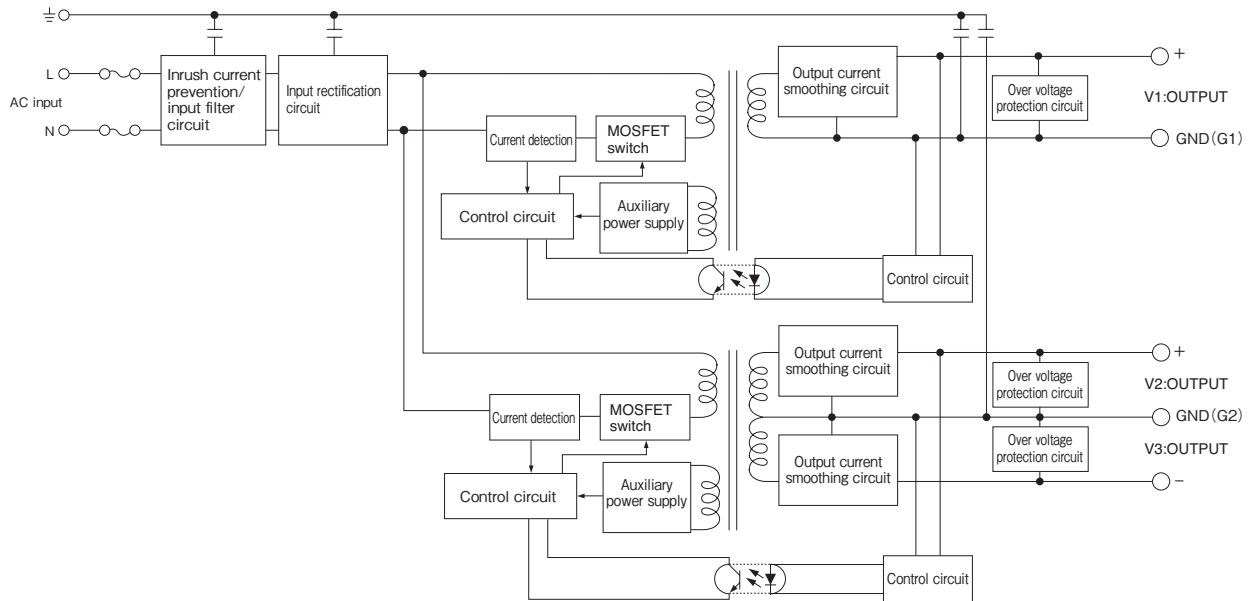
[MTW15W]



[MTW30W]



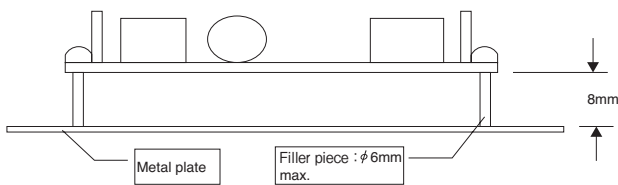
[MTW60W]



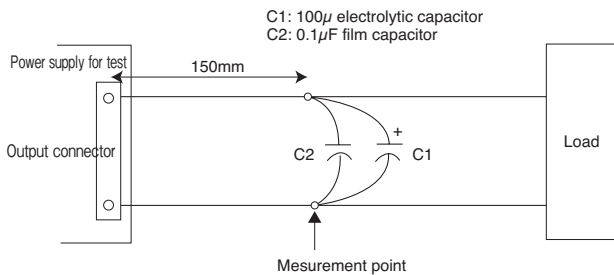
MTW series Instruction Manual

1. Explanation of functions and notes

1 EMI and ESD measurement method

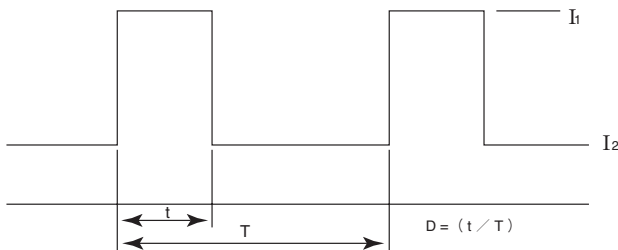


2 Ripple and ripple noise measurement



3 Maximum peak current

Peak current flow can be allowed. However, observe the conditions shown below for a peak current over the nominal value.



- (1) Condition of time $t \leq 10$ seconds
- (2) Condition of peak current $I_1 \leq$ Maximum peak current
- (3) Condition of effective current $\sqrt{D I_1^2 + (1-D) \times I_2^2} \leq$ Maximum current
- (4) Condition of effective power $P \leq$ Maximum power

4 Minimum output current

15W/60W type

There is no restriction in minimum output current value.

30W type

The CH1 (+5V) output current should be 0.5A or over when in use.

If it is 0.5A or lower, the regulations for the other channels cannot be satisfied.

5 CE marking

MTW series meets the EN60950-1 standards and the CE marking is applicable to this series, based on 73/23/EEC and 93/68/EEC. The custom-made power supply units (variation models) modified from this DC power supply device are not basically CE-marking applicable, except when

"CE-marking applicable" is specifically declared in their specification documents.

6 Operation of Over Current Protection

Note that if nonlinear loading such as by lamp or motor, and constant current load is connected, output voltage may not be generated when starting up. Also, there is a restriction in the connectable load capacity. Check it in the specification document.

7 Over Voltage Protection

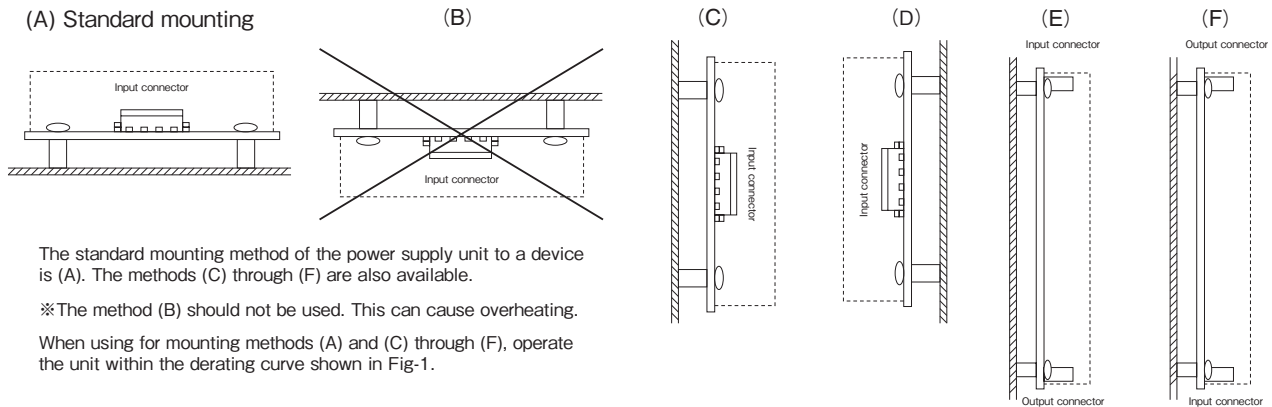
A protection circuit which clamps the output voltage with the zener diode is incorporated, in order to prevent the over voltage output when in an unusual current condition. When this circuit is activated, restart is impossible.

8 Other points to be noted

This product has surface-mount components on the bottom panel (solder side). Vibration, impact, and distortion, etc. in the board can cause failure due to chip crack. Be careful in handling.

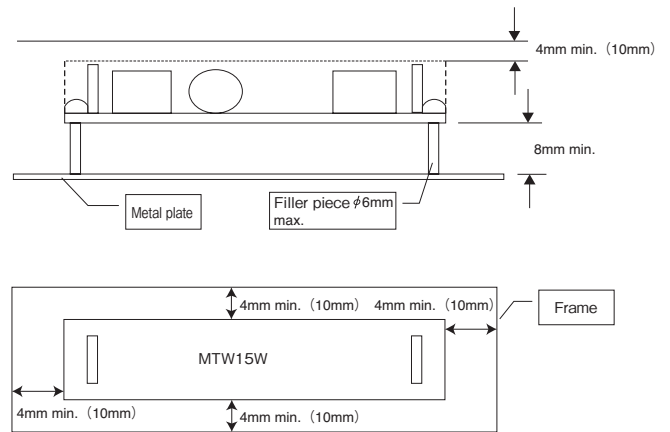
2. Mounting

1 Mounting direction



2 Mounting method

Use spacers (filler pieces: $\phi 6\text{mm}$ max) in the mounting holes on the board. Keep a space of 8mm or over. Also keep a spacial distance (4mm or over) in order to satisfy the insulation regulations/withstand voltage. If a spacial distance (4mm or over) cannot be kept, insert an insulating plate, etc. It is also recommended to keep a distance of 10mm or over from adjacent devices, in order to generate thermal convection.



3. Precautions in use

- When this product is in use, confirm that the power supply's ambient temperature is within the range of operating temperatures. The power supply's ambient temperature means the temperature around the power supply unit, causing a temperature rise inside the device.
- For use with natural air cooling, locate the unit so as to generate thermal convection. Also keep a distance of 10mm or over from adjacent devices, from each side of the unit.
- Select input/output wire materials and noise filters, etc. which have enough allowance in their respective current capacity.
- If the power supply unit is not in use for a long period of time, it is recommended to apply input voltage for approximately 1 hour, every 2 years, to maintain the quality of the electrolytic capacitor.
- When the power supply units are in a series operation, the nominal current is restricted according to the lowest nominal current value of the units in use. In addition, in order to prevent damage to internal elements and other parts due to reverse voltage applied to the unit, connect a diode (reverse withstand voltage: twice or over the value of total output voltage, forward current: twice or over the value of output current, forward voltage drop: possibly minimum) to prevent reverse voltage, to the output terminal of the unit.
- No materials used in this product contain the bromine fire retardant (PBDPEs, PBBs).
- No ODS are used in the production of this product.

4. Troubleshooting

- Is the specified input voltage being applied to the input terminal?
- Are the connections of input/output terminals correct?
- Check that the connecting wires are not too thin.