

DC/DC Ultra Wide Input Converter ECU 15 Watt



DC/DC converter module with input to output isolation of 500 VDC • Pi-filter at input • Continuous short circuit proof • High efficiency • No derating up to 70°C • Low output ripple and noise • Low silhouette • Metal case with a non conductive base plate, six-sides shielded • Shut down and output adjust functions standard • SMD technology

DC/DC Konverter-Modul mit galvanischer Trennung Eingang / Ausgang von 500 VDC • Pi-Filter am Eingang • Dauerkurzschlussfest • Hoher Wirkungsgrad • Keine Lastminderung bis zu einer Umgebungstemperatur von 70°C • Gute Werte von Ripple und Spikes • Geringe Bauhöhe • Metallgehäuse mit isolierender Bodenplatte, 6seitig abgeschirmt • SMD Technologie

Module convertisseur CC/CC avec séparation galvanique entrée sortie 500 VDC • Filtre en Pi à l'entrée • Protection courts-circuits permanente • Rendement élevé • Pas de derating jusqu'à 70°C • Ondulation résiduelle de sortie très faible • Profile bas • Boîtier en métal blindé 6 faces avec fond isolé • Technologie CMS

Product range

Typenübersicht

Sommaire des types

Model	Input range	Input nominal	Output Uout	Output Iout max.	No load input current	Operating temperature	Efficiency typ.
ECU24-0315	9...36 VDC	24 VDC	3.3 VDC	3000 mA	typ. 15 mA	For all models: -25...+70°C or maximum case temperature of 95°C	76%
ECU24-0515	9...36 VDC	24 VDC	5.1 VDC	3000 mA	typ. 15 mA		77%
ECU24-1215	9...36 VDC	24 VDC	12.0 VDC	1250 mA	typ. 15 mA		80%
ECU24-1515	9...36 VDC	24 VDC	15.0 VDC	1000 mA	typ. 15 mA		80%
ECU48-0315	18...72 VDC	48 VDC	3.3 VDC	3000 mA	typ. 10 mA		76%
ECU48-0515	18...72 VDC	48 VDC	5.1 VDC	3000 mA	typ. 10 mA		77%
ECU48-1215	18...72 VDC	48 VDC	12.0 VDC	1250 mA	typ. 10 mA		80%
ECU48-1515	18...72 VDC	48 VDC	15.0 VDC	1000 mA	typ. 10 mA		80%

Model	Input range	Input nominal	Output Uout	Output Iout max.	No load input current	Operating temperature	Efficiency typ.
ECU24-050515	9...36 VDC	24 VDC	±5.1 VDC	±1500 mA	typ. 20 mA	For all models: -25...+70°C or maximum case temperature of 95°C	77%
ECU24-121215	9...36 VDC	24 VDC	±12.0 VDC	±625 mA	typ. 20 mA		80%
ECU24-151515	9...36 VDC	24 VDC	±15.0 VDC	±500 mA	typ. 20 mA		80%
ECU48-050515	18...72 VDC	48 VDC	±5.1 VDC	±1500 mA	typ. 15 mA		79%
ECU48-121215	18...72 VDC	48 VDC	±12.0 VDC	±625 mA	typ. 15 mA		82%
ECU48-151515	18...72 VDC	48 VDC	±15.0 VDC	±500 mA	typ. 15 mA		82%
ECU24-512T15	9...36 VDC	24 VDC	5.1/±12.0 VDC	1500/±310 mA	typ. 20 mA		80%
ECU24-515T15	9...36 VDC	24 VDC	5.1/±15.0 VDC	1500/±250 mA	typ. 20 mA		80%
ECU48-512T15	18...72 VDC	48 VDC	5.1/±12.0 VDC	1500/±310 mA	typ. 15 mA		82%
ECU48-515T15	18...72 VDC	48 VDC	5.1/±15.0 VDC	1500/±250 mA	typ. 15 mA		82%

El. characteristics

El. Eigenschaften

Caractéristiques él.

All values refer to an ambient temperature of 25°C and nominal rated values where nothing else is specified

Output voltage accuracy Single Output Dual Outputs Triple Outputs	Ausgangsspannungsgenauigkeit Einfachausgang Zweifachausgang Dreifachausgang	Précision de la tension de sortie Sortie simple Sortie double Sortie triple	at Uout nominal ±1% max. ±1% (+Out); ±3% (-Out) max. ±2% (5V); ±3% (12/15V) max.
Output voltage balance	Abgleich zwischen den Ausgängen	Balance des sorties	±1%; on dual outputs
Residual output ripple and noise [BW 20 MHz]	Ausgangsspannungsrippel und HF Spitzen [BW 20 MHz]	Ondulation résiduelle et bruit de sortie [BW 20 MHz]	75 mVpp max.
Short circuit protection	Kurzschlussfestigkeit	Protection courts-circuits	continuous
Line regulation (Umax...Umin)	Leistungsregulierung (Umax...Umin)	Régulation ligne (Umax...Umin)	±0.2% (Single & dual types) ±1% (Triple types)
Load regulation (100...25%)	Lastregulierung (100...25%)	Régulation charge (100...25%)	±1% (Single & dual types) ±5% (Triple types)
Isolation voltage	Isolationsspannung	Tension d'isolement	500 VDC
Isolation resistance	Isolationswiderstand	Résistanced'isolement	>1 GOhm
Switching frequency	Schaltfrequenz	Fréquence de découpage	min. 300 kHz
MTBF (MIL-HB 217E at 25°C)	MTBF (MIL-HB 217E bei 25°C)	MTBF (MIL-HB 217E à 25°C)	>1'000'000 hrs.
EMC Conducted and radiated	EMV Leitungsgebunden und abgestrahlt	EMC Emis et conduit	EN 55022/11 Class A with external input capacitor
Temperature coefficient	Temperaturkoeffizient	Coefficient de température	typ. ±0.02% per °C
Storage temperature	Lagertemperatur	Température de stockage	-40...+100°C
Case material	Gehäusematerial	Matière du boîtier	Copper, black coated; Grounded to -Vout resp. Common
Soldering information	Lötinformationen	Information de soudage	275°C for 10 sec.
Compound material	Vergussmaterial	Resine d'enrobage	Two component resin UL94-V0
Weight	Gewicht	Poids	approx. 57 g

EMC-TESTCENTER ACCR. EN45001

FABRIMEX AG

Date : 02/18/99 Time : 11:32:45.47
 Technician : Urs Luessi Test Equip. : EMC-30 MKIV
 Test Method : Conducted Emission Test Number : 1
 Equipment : ECU24-1215 Sensor Loc. : Positive
 Mode of Op. : Nominal Operation Sensor Pol. :
 Serial No. : 9815 Ext. Atten. : 0 dB

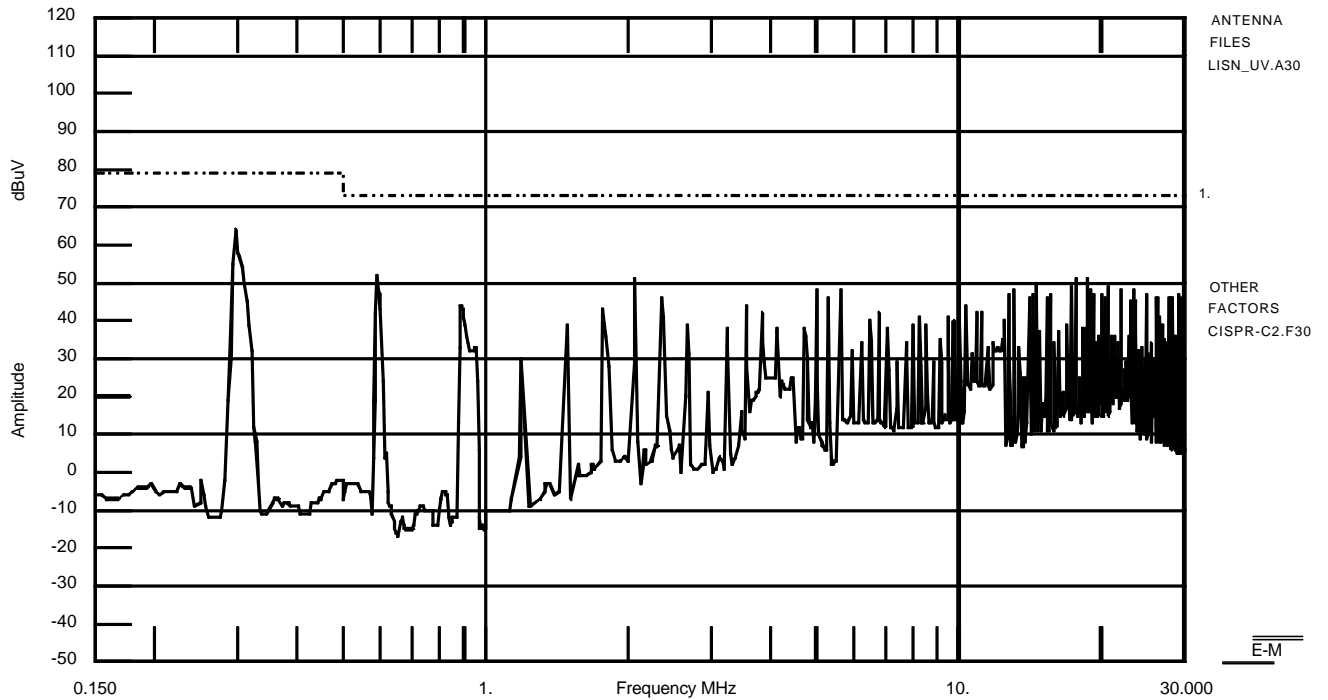
EMC-30 SETTINGS

Detector QuasiPeak
 Bandwidth CISPR
 Dwell N/A
 RF Atten. 0 dB
 IF Atten. 0 dB

SPECS

1) EN 55022/11 Class A QuasiPeak

Comment : input capacitor 220uF/63V



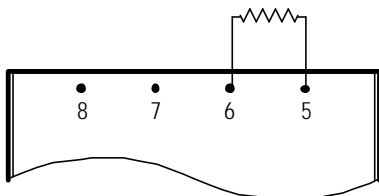
Additional Functions

Zusatzfunktionen

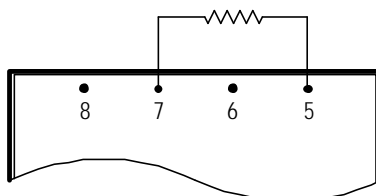
Fonctions compl.

External Output Trimming

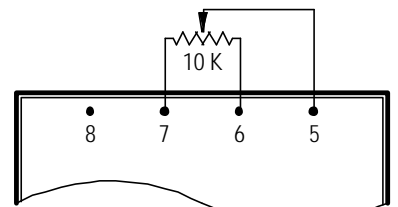
Output may be externally trimmed ($\pm 10\%$) with a fixed resistor or an external trimpot as shown:



Trim up
(nom. output voltage to +10%)



Trim down
(nom. output voltage to -10%)



Trim up or down
(nom. output voltage $\pm 10\%$)

Remote On/Off Control

Logic Compatibility.....CMOS or Open Collector TTL
 Output-ON..... > +5.5 VDC or Open Collector
 Output-OFF..... < 1.8 VDC
 Shutdown Idle Current..... 10 mA
 Input Resistance..... 100 kohms (Ein 0...9 VDC)
 Control Common..... Referenced to Input Minus

TRIPLE OUTPUT LOADING TABLE FOR ECU 15 WATT

Pin No.	Uout	Iout min.*	Iout nom.
7	+5 V	0.25 A	1.5 A
8 & 5	+12 & -12 V	0.1 A	0.31 A
8 & 5	+15 & -15 V	0.1 A	0.25 A

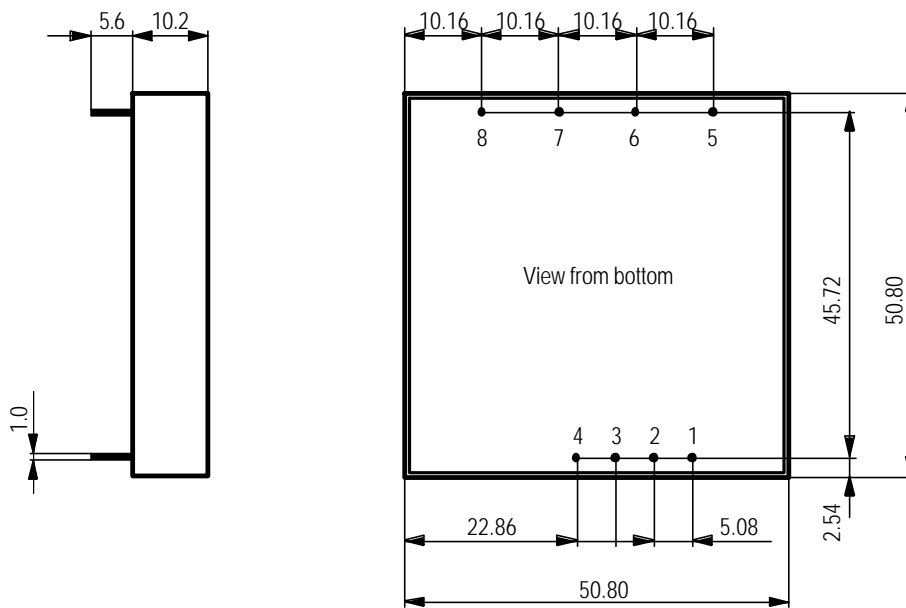
* Min. current on each output is required to maintain specified regulation.

Case

Gehäuse

Boîtier

Normal tolerance ± 0.2 mm; Pin distance tolerance ± 0.05 mm; Round pins 1.0 mm diameter



Pin Connection Single Output Models

1.....	Remote ON/OFF Control
2.....	No Pin
3.....	-Vin
4.....	+Vin
5.....	Trim
6.....	-Vout
7.....	+Vout
8.....	No Pin

Pin Connection Dual Output Models

1.....	Remote ON/OFF Control
2.....	No Pin
3.....	-Vin
4.....	+Vin
5.....	Trim
6.....	-Vout
7.....	Common
8.....	+Vout

Pin Connection Triple Output Models

1.....	Remote ON/OFF Control
2.....	No Pin
3.....	-Vin
4.....	+Vin
5.....	-Aux. Output
6.....	Common
7.....	+5 VDC Output
8.....	+Aux. Output

Cleaning

Waschen

Lavage

The modules are cleanable with the today's known and in the electronics industry usually used products.

Due to the different cleaning processes and new available products, we highly recommend to do a compatibility test when using the converters the first time.

Die Module sind waschbar mit den heute bekannten und in der Elektronikindustrie üblichen Reinigungsmitteln.

Bedingt durch die verschiedenen Reinigungsprozesse und neu auf den Markt kommenden Mittel, raten wir dringend, beim Ersteinsetz der Konverter eine Verträglichkeitsprüfung vorzunehmen.

Les modules sont lavables avec les solvants couramment utilisés dans l'industrie électronique.

Dû aux différents processus de lavage et aux nouveaux détergents disponibles sur le marché, il est strictement recommandé de faire un test de compatibilité avant la première utilisation.

Notice: All statements, technical information, and recommendations related to FABRIMEX's products are based on information believed to be reliable, but the accuracy or completeness thereof is not guaranteed. Before utilizing the product, the user should determine the suitability of the product for its intended use.

Switzerland:

FABRIMEX AG • Industriestrasse 4B • Volketswil
Post Address: P.O.Box • CH-8603 Schwerzenbach
Tel: +41-44-908 13 40 • Fax: +41-44-908 13 00
Internet: <http://www.fabrimex.com>

Germany:

CAC FABRIMEX GmbH • D-89543 Gerstetten
Tel: 07323/ 950-0 • Fax: 07323/ 95050

FABRIMEX
POWER SUPPLIES