FABRIMEX POWER SUPPLIES
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FABRIMEX
POWER SUPPLIES

Certified
Management-System
SQS
ISO 9001
Reg. Nr. 12666

DC/DC Ultra Wide Input Converter
ECU 20 Watt Series

DC/DC converter module with input to output isolation of 1'500 VDC • Pi-filter at input • Continuous short circuit proof • High efficiency • Low output ripple and noise • Low silhouette • Metal case with a non conductive base plate, six-sides shielded • Remote on/off control • External output voltage adjust • SMD technology • 2"x1.6" case • Low profile • UL, cUL 1950 certified

DC/DC Konverter-Modul mit galvanischer Trennung Eingang / Ausgang von 1'500 VDC • Pi-Filter am Eingang • Dauerkurzschlussfest • Hoher Wirkungsgrad • Gute Werte von Ripple und Spikes • Geringe Bauhöhe • Metallgehäuse mit isolierender Bodenplatte, 6seitig abgeschirmt • Externer Ausgangsspannungsabgleich • Inhibit •SMD Technologie • 2"x1.6" Gehäuse • Niedriger Querschnitt • UL, cUL 1950 zertifiziert

Module convertisseur CC/CC avec séparation galvanique entrée sortie 1'500 VDC • Filtre en Pi à l'entrée • Protection courts-circuits permanente • Rendement élevé • Ondulation résiduelle de sortie très faible • Profile bas • Boîtier en métal blindé 6 faces avec fond isolé • Ajustement externe de la tension de sortie • Inhibit • Technologie CMS • 2"x1.6" boîtier • profilé bas • ApprobationUL, cUL 1950

Product range | Typenübersicht | Sommaire des types

Model	Input range	Input nominal	Output Uout	Output Iout max.	No load input current	Operating temperature	Efficiency typ.
ECU24-3V320	9...36 VDC	24 VDC	3.3 VDC	4000 m A	typ. 15 mA	For all models:	78%
ECU24-0520	9...36 VDC	24 VDC	5.1 VDC	4000 m A	typ. 15 mA	-25...+71°C	81%
ECU24-1220	9...36 VDC	24 VDC	12.0 VDC	1670 m A	typ. 15 mA	or maximum case	83%
ECU24-1520	9...36 VDC	24 VDC	15.0 VDC	1330 m A	typ. 15 mA	temperature of 100°C	83%
ECU24-050520	9...36 VDC	24 VDC	±5.1 VDC	±2000 mA	typ. 20 mA	(refer to derating curve)	83%
ECU24-121220	9...36 VDC	24 VDC	±12.0 VDC	±833 mA	typ. 20 mA		83%
ECU24-151520	9...36 VDC	24 VDC	±15.0 VDC	±666 mA	typ. 20 mA		83%

Continued, see page 2

Model	Input range	Input nominal	Output Uout	Output Iout max.	No load input current	Operating temperature	Efficiency typ.
ECU48-3V320	18...72 VDC	48 VDC	3.3 VDC	4000 m A	typ. 10 mA	For all models:	78%
ECU48-0520	18...72 VDC	48 VDC	5.1 VDC	4000 m A	typ. 10 mA	-25...+71°C	82%
ECU48-1220	18...72 VDC	48 VDC	12.0 VDC	1670 m A	typ. 10 mA	or maximum case	84%
ECU48-1520	18...72 VDC	48 VDC	15.0 VDC	1330 m A	typ. 10 mA	temperature of 100°C	84%
ECU48-050520	18...72 VDC	48 VDC	±5.1 VDC	±2000 mA	typ. 15 mA	(refer to derating curve)	84%
ECU48-121220	18...72 VDC	48 VDC	±12.0 VDC	±833 mA	typ. 15 mA		84%
ECU48-151520	18...72 VDC	48 VDC	±15.0 VDC	±666 mA	typ. 15 mA		84%

Nomenclature Nomenklatur Nomenclature

ECU 48 - 3V3 20

Product Series

Nominal Input Voltage

Nominal Output Voltage (3V3 = 3.3V)

Output Power in Watts

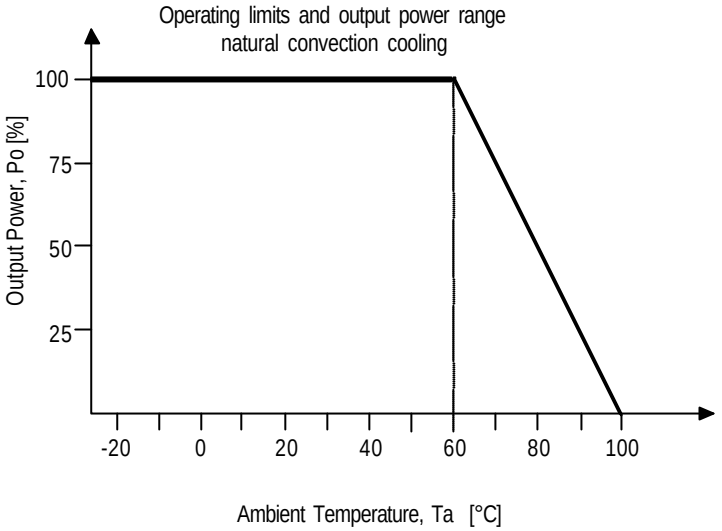
Specifications Spezifikationen Spécifications

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

Output voltage accuracy	Ausgangsspannungsgenauigkeit	Précision de la tension de sortie	±1% of Uout nom. (+output) ±2% of Uout nom. (-output)
Ext. outout voltage adjustment	Ext. Ausgangsspannungsabgleich	Adjustement ext. de la tension de sortie	±10%
Ext. outout voltage balance	Abgleich zwischen den Ausgängen	Balance des sorties	±1.0%; dual output
Transient Response	Sprungcharakteristic	Rèsponse en transitoires	25% Step load change <600u sec.
Residual output ripple and noise [BW 20 MHz]	Ausgangsspannungsrippel und noise [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)	Leitungsregulierung (Umax...Umin)	Régulation ligne (Umax...Umin)	±0.5% max @ Iout nom.
Load regulation (100...25%)	Lastregulierung (100...25%)	Régulation charge (100...25%)	±0.5% max.
Isolation voltage	Isolationsspannung	Tension d'isolement	1'500 VDC
Isolation resistance	Isolationswiderstand	Résistance d'isolement	>100 MOhm
Switching frequency	Schaltfrequenz	Fréquence de découpage	typ. 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	EN55022/11 Class B with external capacitor
Temperature coefficient	Temperaturkoeffizient	Coefficient de température	typ. ±0.02% per °C
Storage temperature	Lagertemperatur	Température de stockage	-55...+105°C
Case material	Gehäusematerial	Matière du boîtier	Copper, black coated with non-conductive base; Grounded
Soldering information	Lötinformationen	Information de soudage	275°C for 10 sec.
Weight	Gewicht	Poids	approx. 54 g

Derating ECU 20 Watt Series

Derating curve



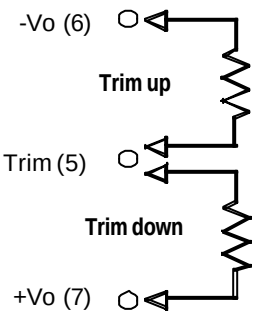
Derating -2.5%/°C at ambient operating temperature range 60°C to 100°C. If ambient temperature (Ta) > 60°C then max. allowed output power (Po) can be calculated:

Po [%] = 100% - ((Ta - 60°C) x 2.5%)

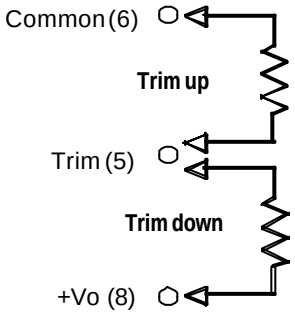
Additional Functions Zusatzfunktionen Fonctions compl.

External Output Trimming

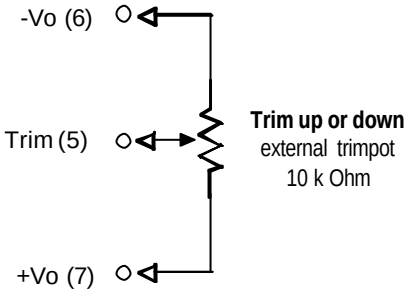
Single Output:



Dual Output*:



Output may be externally trimmed (±10%) with a fixed resistor or an external trimpot as shown for a single output:

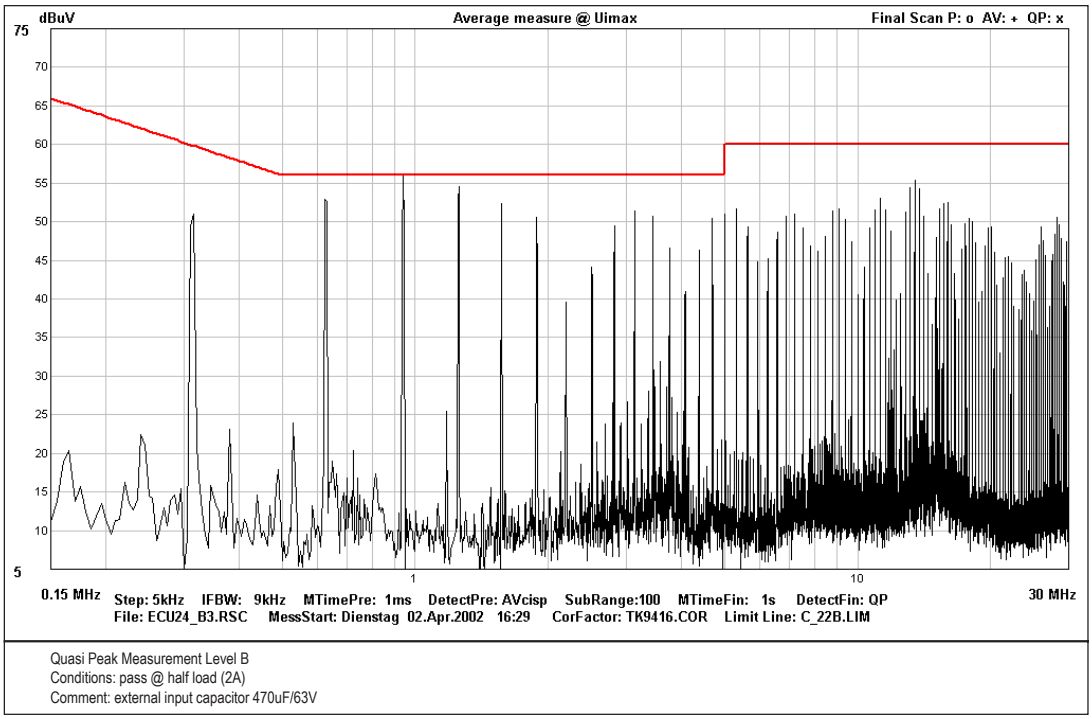


*) The trim for the dual output is trmming -Vo and +Vo simulataniously and proportional.

Remote On/Off Control

Logic Compatibility.....CMOS or Open Collector TTL
Output-ON.....> +5.5 VDC or Open Circuit
Output-OFF.....< 1.8 VDC
Control Common.....Referenced to Input Minus

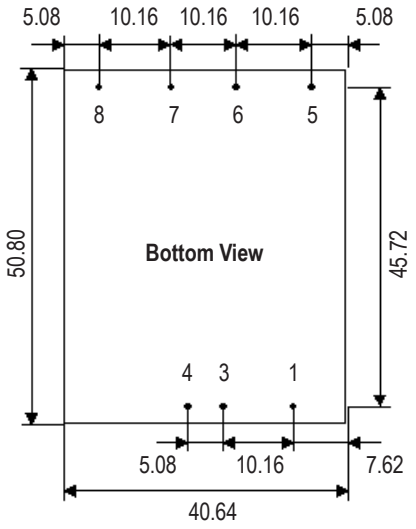
EMC information ECU24-0520 EN55022/11 Class B

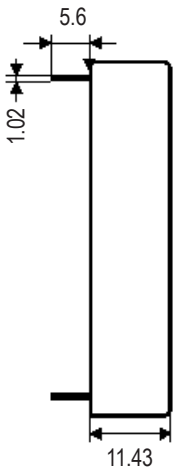


Quasi Peak Measurement Level B
Conditions: pass @ half load (2A)
Comment: external input capacitor 470uF/63V

Case Gehäuse Boîtier

All dimensions in mm. Normal tolerance ±1.0 mm; Pin distance tolerance ±0.05 mm





Pinning Type Single Output

Pin	Function
1	On/Off
-	-
3	- Vin
4	+ Vin
5	Trim
6	- Vout
7	+ Vout
8	No Pin

Pinning Type Dual Output

Pin	Function
1	On/Off
-	-
3	- Vin
4	+ Vin
5	Trim
6	- Vout
7	Common
8	+ Vout

Cleaning

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.

Waschen

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 Ersteinsatz der Konverter eine Verträglichkeitsprüfung vorzunehmen.

Lavage

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

Own Notes:

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