

# DC/DC Wide Input Converter ECW 20 Watt Series



DC/DC converter module with input to output isolation of 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" case

- Low profile

DC/DC Konverter-Modul mit galvanischer Trennung Eingang / Ausgang von 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" Gehäuse • Niedriger Querschnitt

Module convertisseur CC/CC avec séparation galvanique entrée sortie 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" boîtier • profilé bas

## Product range

## Typenübersicht

## Sommaire des types

Model	Input range	Input nominal	Output Uout	Output Iout max.	No load input current	Operating temperature	Efficiency typ.
ECW24-2V520	18...36 VDC	24 VDC	2.5 VDC	5.0 A	typ. 35 mA	For all models: -25...+71°C	81%
ECW24-3V320	18...36 VDC	24 VDC	3.3 VDC	5.0 A	typ. 45 mA		83%
ECW24-5V120	18...36 VDC	24 VDC	5.1 VDC	4.0 A	typ. 45 mA	or maximum case	85%
ECW48-2V520	36...72 VDC	48 VDC	2.5 VDC	5.0 A	typ. 25 mA	temperature of 100°C (refer to derating curve)	82%
ECW48-3V320	36...72 VDC	48 VDC	3.3 VDC	5.0 A	typ. 35 mA		84%
ECW48-5V120	36...72 VDC	48 VDC	5.1 VDC	4.0 A	typ. 35 mA		86%

**ECW 48 - 5V1 20**

Product Series

Nominal Input Voltage

Nominal Output Voltage  
(2V5 = 2.5V)

Output Power in Watts

## Specifications

## Spezifikationen

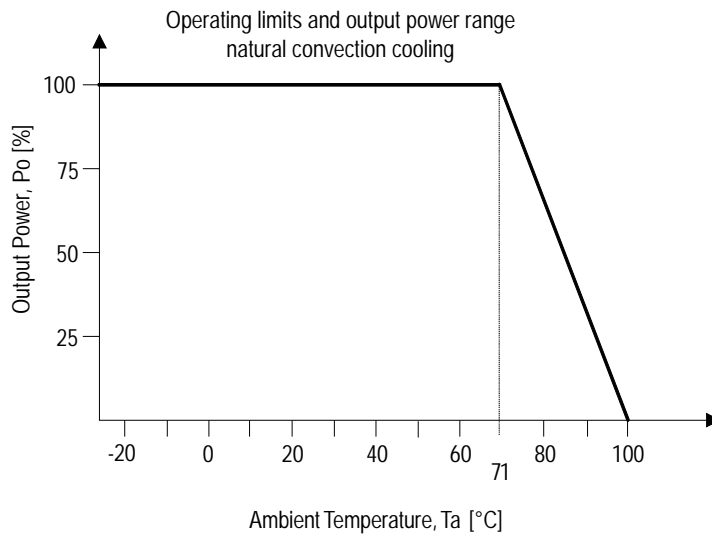
## Spécifications

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% max. of Uout nominal
Ext. outout voltage adjustment	Ext. Ausgangsspannungsabgleich	Adjustement ext. de la tension de sortie	±10%
Transient Response	Sprungcharakteristic	Réponse en transitoires	25% Step load change < 500u 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)	±0.2% @ Iout nom.
Load regulation (100...25%)	Lastregulierung (100...25%)	Régulation charge (100...25%)	±1% max.
Isolation voltage	Isolationsspannung	Tension d'isolement	500 VDC
Isolation resistance	Isolationswiderstand	Résistance d'isolement	>1 MOhm
Switching frequency	Schaltfrequenz	Fréquence de découpage	typ. 500 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 A with external capacitor
Temperature coefficient	Temperaturkoeffizient	Coefficient de température	typ. ±0.02% per °C
Storage temperature	Lagertemperatur	Température de stockage	-40...+100°C
Current Limit	Strombegrenzung	Limitation du courant	110-140%
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. 35 g

# Derating ECW 20 Watt Series

## Derating curve



Derating -3.5%/°C at ambient operating temperature range 71°C to 100°C. If ambient temperature (Ta) > 71°C then max. allowed output power (Po) can be calculated:

$$Po [\%] = 100\% - ((Ta - 71^\circ\text{C}) \times 3.5\%)$$

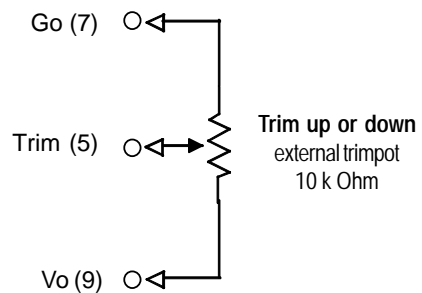
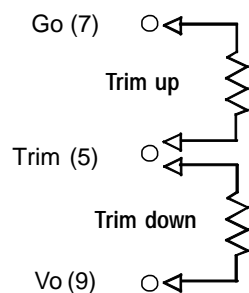
## Additional Functions

## Zusatzfunktionen

## Fonctions compl.

### External Output Trimming

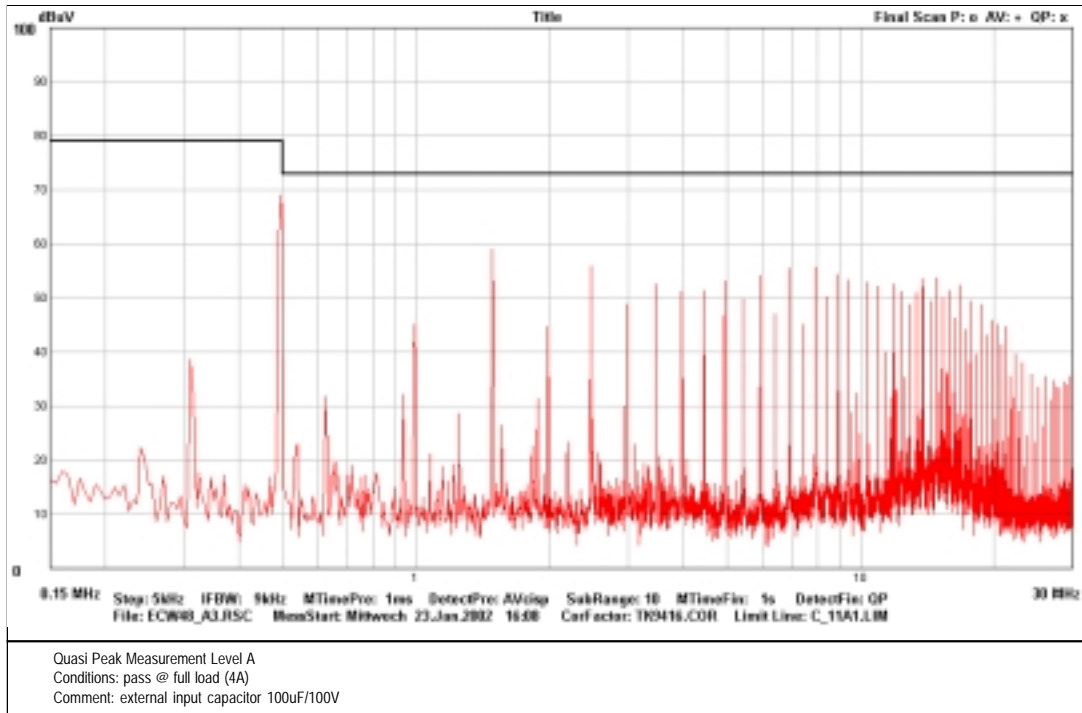
Output may be externally trimmed ( $\pm 10\%$ ) with a fixed resistor or an external trimpot as shown:



### 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 ECW48-5V120 EN55022/11 Class A**

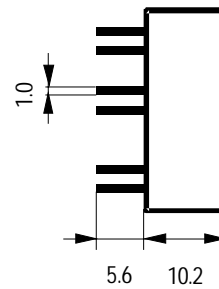
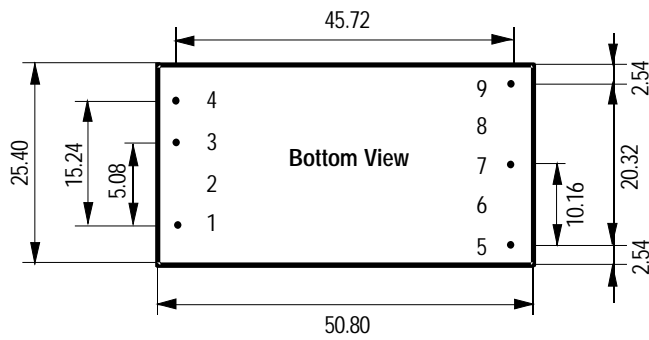


Case

Gehäuse

Boîtier

Normal tolerance  $\pm 0.2$  mm; Pin distance tolerance  $\pm 0.05$  mm



Pinning Type

Pin	Function
1	On/Off
-	
3	- Vin
4	+ Vin
5	Trim
-	
7	- Vout
-	
9	+ 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 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.

## Own Notes:

**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.

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