

AC/DC Open Frame Modules

CFM 40 Watt Dual / Triple Output Series



- AC/DC open frame module
- Dual and triple output voltage
- Universal input voltage range
- Continuous short circuit proof
- High efficiency
- Molex connectors
- Over voltage protection
- EMI conducted CISPR / FCC Class B
- Mechanical output voltage adjust

- AC/DC Open Frame Modul
- Dual- und Tripleausgang
- Universaleingangsspannungseingang
- Dauerkurzschlussfest
- Hoher Wirkungsgrad
- Molex-Stecker
- Überspannungsschutz
- EMI leitungsgebunden CISPR / FCC Class B
- Mechanischer Ausgangsspannungsabgleich

- Module CA/CC ouvert
- ?
- Tension d'entrée universelle
- Protection contre courts-circuits permanentes
- Rendement élevé
- Prise Molex
- Parafoudre
- EMI CISPR / FCC Class B
- Ajustement externe de la tension sortie

Product range

Typenübersicht

Sommaire des types

DUAL OUTPUT

PART NUMBER	INPUT VOLTAGE		OUTPUT Voltage	OUTPUT CURRENT		POWER max.	RIPPLE & NOISE	EFFICIENCY Typical
	Nominal	Range		min. load	max. load			
CFM-40D-01	115/230 VAC	90...264 VAC 120...370 VDC	5 VDC 12VDC	0.4 A 0.2 A	5 A* 2.5 A*	40W	50 mVpp 120mVpp	77%
CFM-40D-02	115/230 VAC	90...264 VAC 120...370 VDC	5 VDC 24 VDC	0.4 A 0.2 A	5 A* 1.5 A*	40W	50 mVpp 240mVpp	78%

* From each output it is possible to draw the maximum current, provided that the total output power does not exceed 40W at natural airflow. At airflow of 30 CFM maximum power is 50W.

TRIPLE OUTPUT

Please see next page.

Specifications		Spezifikationen		Spécifications	
t_r	Load transient recovery time	10% to 100% step load change		t.b.d.	us
	Load transient error band			t.b.d.	% U_{out}
t_r	Ramp-up time	10% to 100% load; 10% to 90% $U_{out nom}$		t.b.d.	ms
t_s	Start-up time	Connection of input and until $U_{out} = 90\% U_{out nom}$		t.b.d.	ms
T_{coeff}	Temperature coefficient	0-25°C / 25-45°C		±0.1	%/°C
$U_{out trim}$	Output voltage adjustment (VR)	Potentiometer, see "case", page 6		±10	% $U_{out nom}$
$U_{r n}$	Output ripple & noise	Measured with 10uF tantalum capacitor and 1uF ceramic capacitor across the output			1 % U_{out}
t_h	Holdup time	at 115 Vac		20	ms
$I_{out max}$	Output current limit threshold	see current limit chart, page 4			t.b.d. % $I_{out nom}$
	Output short circuit characteristic	see short circuit protection graph, page 4	Hiccup mode		
	Output short circuit protection		continuous		
	Over voltage protection	Auto recovery, $U_{out} = 3.3Vdc$	3.6		4.6 Vdc
		Auto recovery, $U_{out} = 5Vdc$	5.7		6.7 Vdc
		Auto recovery, $U_{out} = 12,15,24Vdc$	120		140 % $U_{out nom}$

GENERAL SPECIFICATIONS

Characteristics		Conditions	min	typ	max	unit
U_{iso}	Isolation voltage	input to output			3'000	Vac
I_l	Leakage current	Input to output			0.5	mA
$C_{I/O}$	Input / output capacitance	Input to output			t.b.d.	pF
f_s	Switching frequency	Fixed	54	60	66	kHz
	Approvals	File number E195564	UL / cUL1950, CE			
	Case material		Open Frame			
	Weight			165		g
	Terminals	AC input	Screw terminals			
		DC output	Screw terminals			
	Dimensions	LxWxH, see "case" page 6	101.6 x 50.8 x 30.5			mm

EMC SPECIFICATIONS

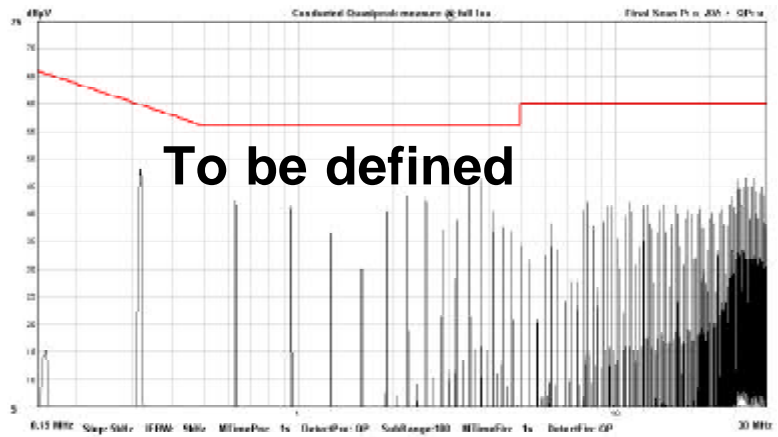
Characteristics		Conditions	min	typ	max	unit
	EMC conducted	EN 55022, see "EMC information" page 4	Class B			

ENVIRONMENTAL SPECIFICATIONS

Characteristics		Conditions	min	typ	max	unit
	Vibration (sinusoidal)	Frequency 10-500 / 500-10 Hz Swep 2 / axis Duration 6 min / axis non operating	t.b.d.			G
	Shock (half sinus)	Number of pulses 3 in 6 directions Pulse duration 11ms Wave form half sine wave non operating	t.b.d.			G
T_A	Operating temperatures	Ambient temperature, see also "Derating" page 6	0		+45	°C
	Storage temperatures	Ambient temperature	-20		+85	°C

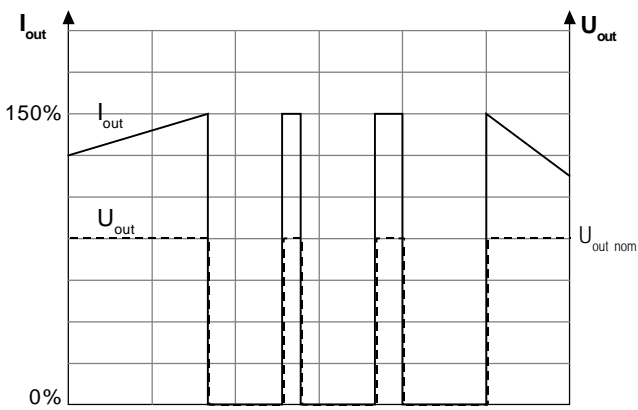
EMC information conducted, EN 55022/11 Class A

Both EMC tests conducted at full load. No external components are needed. For further EMC requirements, please contact your local distributor / representative or contact Fabrimex directly.

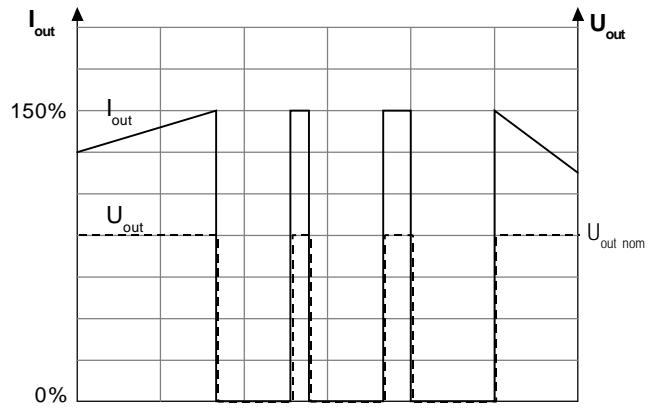


Typical characteristics

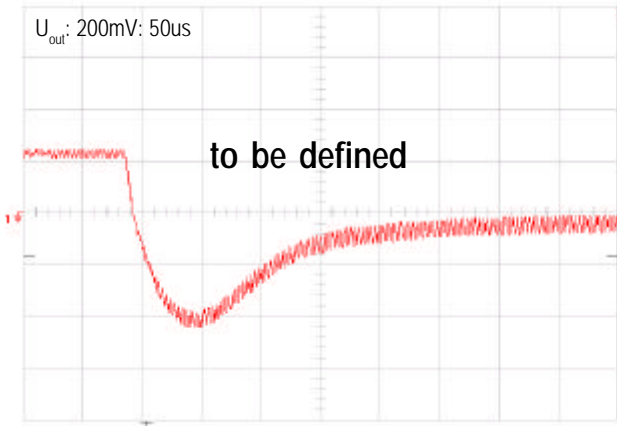
Short circuit protection (typical)



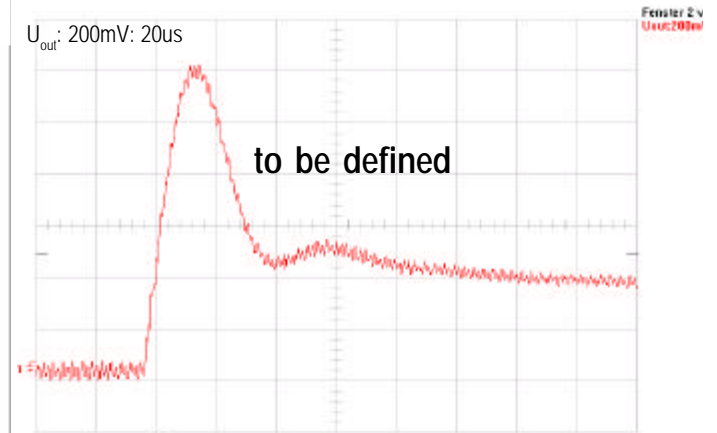
Current limit characteristic (typical)



Dynamic load response (typical)

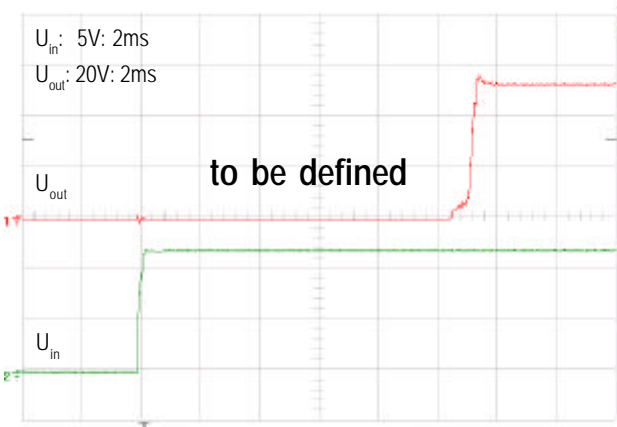


Dynamic load response: 10% to 100% load, U_{in} : 48Vdc



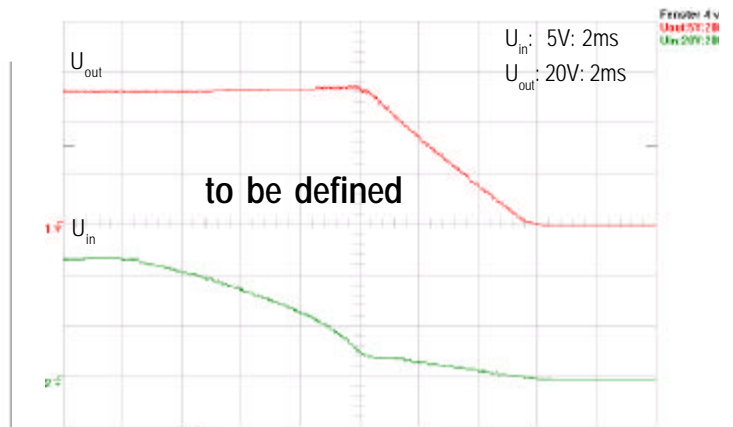
Dynamic load response: 100% to 10% load, U_{in} : 48Vdc

Start-up time (typical)



Switch-on at 100% load

Shut-down time (typical)

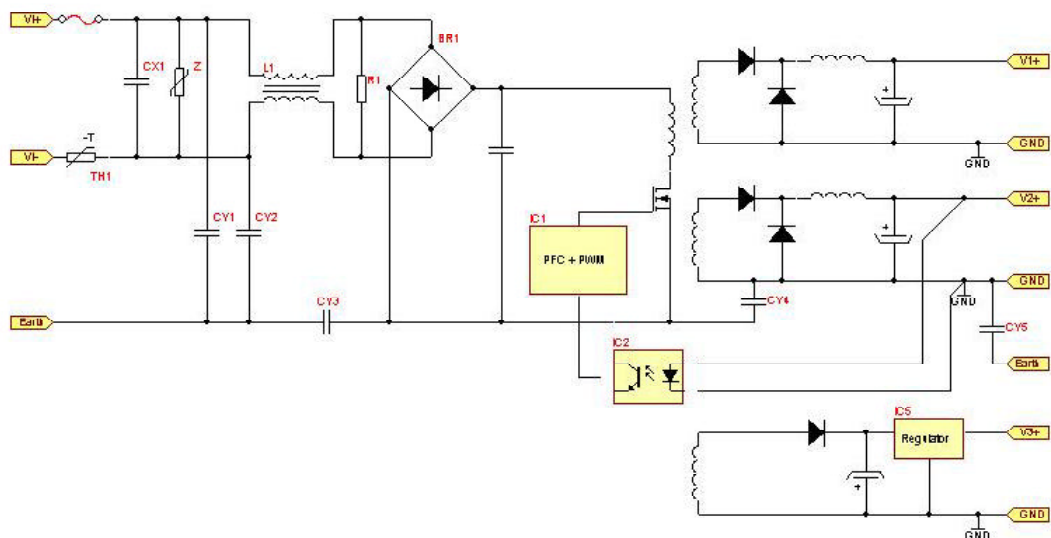


Shut-off at 100% load

Functional Block Diagram

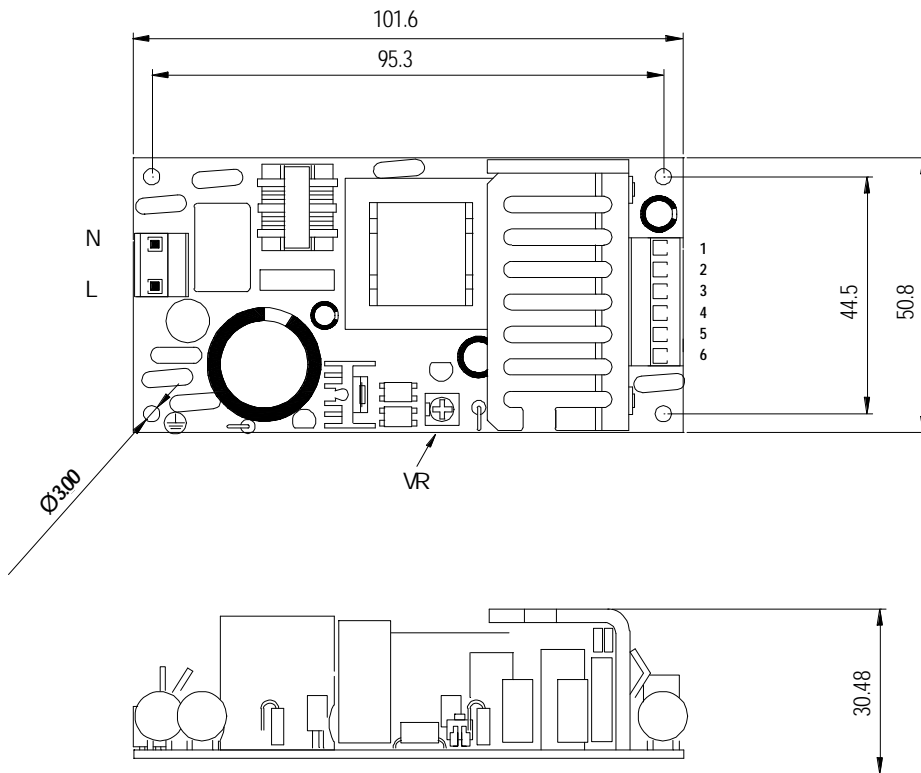
Blockschema

Synoptique



Normal tolerance 1/10 ±0.5 mm, 1/100 ±0.25 mm

CFM Dual / Triple 40W:



Pin	Function
1	+ Vout2
2	+ Vout1
3	+ Vout1
4	common
5	common
6	+ Vout3

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 kommende 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.

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: +41-1-908 13 40 • Fax: +41-1908 13 00
 Internet: <http://www.fabrimex.com>

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

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