

AC/DC Converter

TGCM60-K/OF/PCB



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Features

- Input Range: 80-264VAC or 80-305VAC
- Temperature rang: -40 to +85°C with derating
- Over voltage category OVC III

Regulated Converter

- 2MOPP medical certified B and BF compliant
- Class B EMC filter built-in
- 4000/5000m (medical/ITE) operating altitude

TGCM60-K/OF/PCB

Description

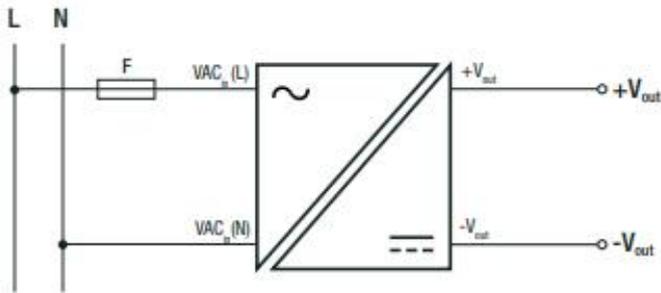
The multi-purpose, industrial + household + medical grade AC/DC converter series TGCM60-K/OF delivers 60 Watts of output power from -40°C to +55°C with natural air convection only, and up to +85°C with derating or forced cooling. With a clear focus on extended thermal performance for systems where space is limited, these 2" x 3" compact modules are designed to gain highest overall efficiency levels over the full output load range from universal AC inputs. The TGCM60-K/OF has ANSI/AAMI/IEC 60601-1 medical safety and EN 60601-1-2 medical EMC certifications and offers 4kVAC/1 min isolation, 2MOPP and designed to meet B and BF requirements. It is additionally certified to IEC/EN62368-1(CB Report) and IEC61558-1/-2-16 for industrial applications and IEC/EN60335-1 for household appliances. The robust built-in Class B EMC filter has sufficient margin to allow both Installation Class II or Class I PELV with grounded output. A range of mechanical fixing options makes the TGCM60 suitable for many different mounting conditions: the standard chassis mount part mates with Molex connectors and the /PCB option permits direct installation in printed circuit boards. Additionally, a 2" x 4" footprint for backwards-compatibility with legacy designs is available on request

Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

BASIC CHARACTERISTICS					
Parameter	Condition		Min.	Typ.	Max.
Internal Input Filter			Pi Type		
Nominal Input Voltage	50/60Hz	standard version "/277" version	100VAC		240VAC 277VAC
Input Voltage Range ^(5,6)	standard version	47-63Hz DC	80VAC 120VDC		264VAC 370VDC
	"/277" version	47-63Hz DC	80VAC 120VDC		305VAC 430VDC
Input Current	115VAC 230VAC 277VAC				1400mA 600mA 500mA
Inrush Current	cold start	115VAC 230VAC 277VAC			30A 60A 70A
ErP Standby Mode Conformity (Output Load Capability)	115/230/277VAC	Input Power:	0.5W 1.0W	0.3W 0.7W	
No load Power Consumption	230VAC 277VAC			100mW 120mW	
Input Frequency Range	AC Input		47Hz		63Hz
Minimum Load			0%		
Power Factor	115VAC 230VAC 277VAC		0.6 0.5 0.45		
Start-up Time				150ms	
Rise Time				100ms	
Hold-up Time	115VAC 230VAC 277VAC		12ms 50ms 70ms		
Internal Operating Frequency	100% load at nominal Vin			100kHz	
Output Ripple and Noise ⁽⁷⁾	20MHz BW	5Vout others			200mVp-p 1% of Vout

Notes: Note4: No proper operation with DC input voltage Note5: The products were submitted for safety files at AC-Input operation Note6: Refer to "Line Deratin

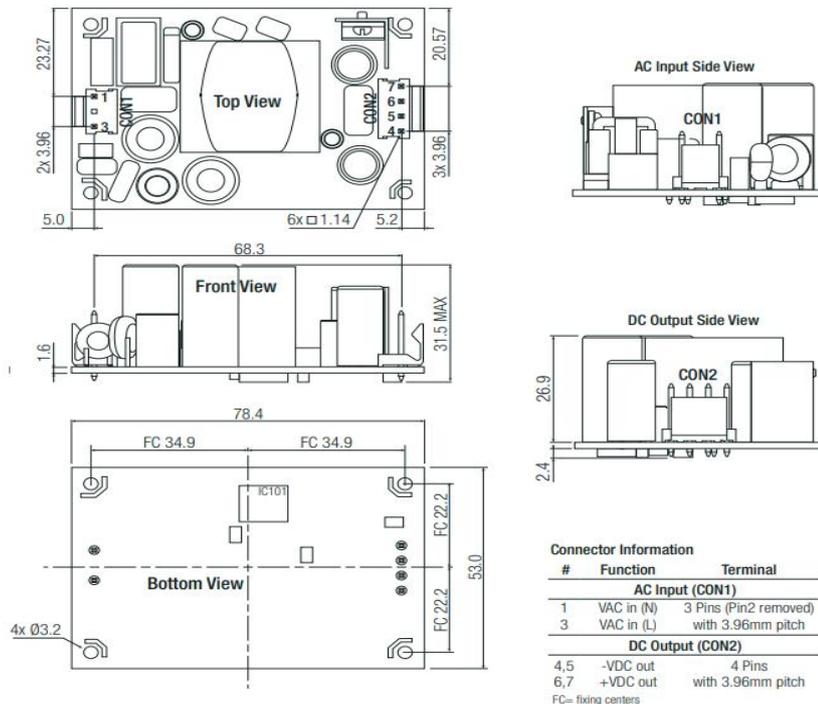
Protection Circuitm



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ENVIRONMENTAL			
Parameter	Condition		Value
Operating Temperature Range	@ natural convection 0.1m/s	refer to graphs below	-40°C to +85°C
Temperature Coefficient			±0.02%/K
Operating Altitude ⁽¹⁾	according to 62368-1, 61558-2-16 & 60335-1		5000m
	according to 60601-1		4000m
Operating Humidity	non-condensing		95% max.
Pollution Degree			PD2
Vibration	according to MIL-STD-202G		10-500Hz, 2G 10min./1cycle, period 60min. along x,y,z axes
MTBF	according to MIL-HDBK-217F, G.B.	+25°C	>900 x 10 ³ hours
		+40°C	>726 x 10 ³ hours
Design Lifetime	nom. Vin= 230VAC	+40°C	>42 x 10 ³ hours

Dimension Drawing (mm)



Compatible Connector
Housing
Molex 41695 Series or equivalent
Crimp Terminal
Molex 2478 Series or equivalent

General tolerances according to ISO 2768-m (table for reference only)	
Dimension range	Tolerances
0.5 - 6 mm	±0.1 mm
6 - 30 mm	±0.2 mm
30 - 120 mm	±0.3 mm
120 - 400 mm	±0.5 mm