



# AC/DC Converter

## TGC05-K



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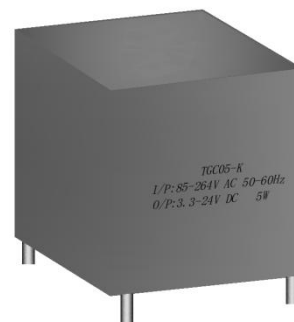
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# TGC05-K

## Features

## Regulated Converter

- High efficiency over entire load range
- Class II installations (without FG)
- 5W on 1" x 1" footprint
- Internal EMC class B filter
- No external components necessary
- Electrical protection



## Description

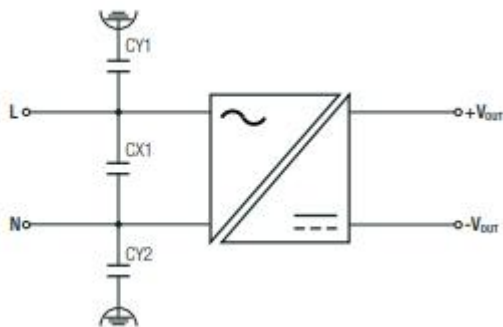
The TGC05-K series are ultra-compact AC/DC power supply modules in lightweight fully-encapsulated plastic casing. Beside safety approvals for industrial and IT solutions IEC60950-1 and UL62368-1, the units meet EN55032-“B” limits without any external components. Integrated fusing as well as electrical protections against short circuit and over voltage are on board. With their excellent efficiency over the entire load range including light load standby conditions, these power modules are especially suitable for IOT applications and control equipment.

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		
Input Voltage Range <sup>(2)</sup>			85VAC 120VDC		264VAC 370VDC
Input Current	115VAC 230VAC				250mA 100mA
Inrush Current	cold start	115VAC 230VAC			15A 30A
No load Power Consumption	264VAC			75mW	
Input Frequency Range			47Hz		63Hz
Minimum Load			0%		
Power Factor	115VAC 230VAC		0.6 0.45		
Start-up Time				20ms	
Rise Time					8ms
Hold-up time	115VAC 230VAC			12ms 60ms	
Internal Operating Frequency					130kHz
Output Ripple and Noise <sup>(3)</sup>	20MHz BW	3.3Vout, 5Vout others		60mVp-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

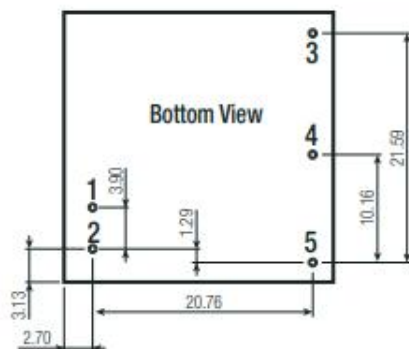
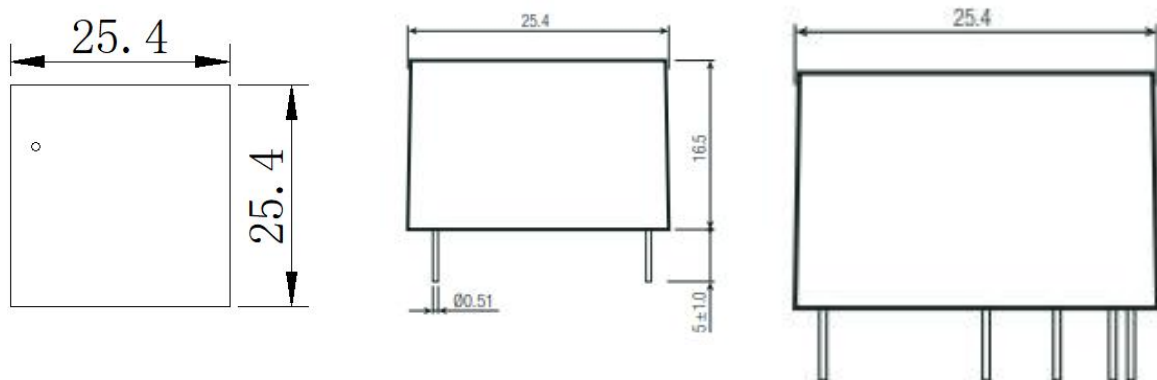


CY1, CY2	CX1
1nF, 2kV	100nF, 2kV

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

ENVIRONMENTAL		
Parameter	Condition	Value
Operating Temperature Range	@ natural convection 0.1m/s	full load
		refer to „Derating Graph“
		-25°C to +50°C
Maximum Case Temperature	230VAC	+90°C
Temperature Coefficient		0.05%/K
Operating Altitude		3000m
Operating Humidity	non-condensing	20% to 90% RH
Design Lifetime	115VAC/60Hz and full load at +25°C	136 x 10 <sup>3</sup> hours
MTBF	according to MIL-HDBK-217F, G.B.	+25°C
		+40°C
		>1645 x 10 <sup>3</sup> hours
		>1297 x 10 <sup>3</sup> hours

## Dimension Drawing (mm)



### Pin Connections

Pin #	Function
1	VAC in (L)
2	VAC in (N)
3	NC
4	-Vout
5	+Vout

### Pin 2=

NC= no connection  
 Tolerance: x.x= +0.7/-0.3mm  
 xx.xx= ±0.25mm