

# Yuan Dean Scientific CO.,LTD GA/B/C003 SERIES

## 3Watt,Single Output ,AC/DC Converter



GA003



GB003



GC003

G X 003 - S 05  
A B C D E

A:Series  
B:Package A,B,C  
C:Output Watt  
D:Single(S)  
E:Output Voltage

### FEATURES:

- AC/DC Power Module
- Universal Input 90~264VAC
- High Efficiency Up To 82%
- Protection: Short Circuit /Overload
- 2 Years Warranty
- ROHS Compliant



Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Output Wattage	Output Volatge	Output Current	Efficiency
	(W)	Vdc	mA	%(TYP)
GX003-S03	2.64	3.3	800	70
GX003-S05	3.0	5	600	72
GX003-S06	3.0	6	500	72
GX003-S07	3.0	7	425	72
GX003-S08	3.0	8	375	75
GX003-S09	3.0	9	333	75
GX003-S10	3.0	10	300	78
GX003-S12	3.0	12	250	78
GX003-S13	3.0	13	230	78
GX003-S14	3.0	14	215	78
GX003-S15	3.0	15	200	79
GX003-S16	3.2	16	200	79
GX003-S18	3.0	18	167	80
GX003-S24	3.0	24	125	80
GX003-S27	3.0	27	110	80
GX003-S36	3.0	36	83	82
GX003-S48	3.0	48	62.5	82

Notes:"X" Represent module version A: Represent unit with potting within a plasitic enclosure;  
B: Represent unit with open frame version without enclosure; C: Represent unit with potting within a plasitic enclosure wired;

### Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Rated input voltage	Vo,lo nom		100-240		VAC
Input voltage range	Vo,lo nom	AC in	90	264	VAC
		DC in	120	370	VDC
Line frequency	Vi nom,lo nom	47	50/60	63	Hz
Inrush current	Io nom	Vi:115VAC		10	A
		Vi:230VAC		18	A

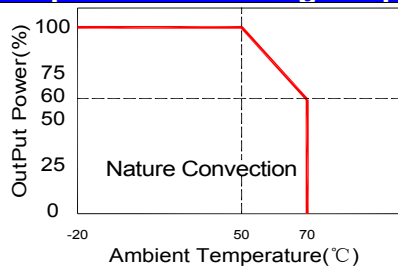
### Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage accuracy	For external circuit please refer to recommended circuit		±1	±3	%
Minimun load	Vi nom	0			%
Line regulation	Io nom,Vi min...Vi max			±1	%
Load regulation	Vi nom, Io min...Io nom			±2	%
Transient recovery time	Vi nom,Io nom=I←→0.5Io nom		300		uS
Ripple & noise	Vi nom,Io nom, BW=20MHz (Tested as Figure2)			100	mVp-p
Efficiency	Vi nom,lo nom,Po/Pi	Up to 82%,See models list			

## 3Watt,Single Output ,AC/DC Converter

General Specifications					
Parameters	Conditions	Min	Typ	Max	Units
Switching frequency	Vi nom,lo nom		65		KHz
Isolation voltage	Input / output		3.0KVac/ 5mA/5Secs		
Isolation resistance	Input / output,@500Vdc	100			MΩ
Ambient temperature	Operating at Vi nom,lo nom	-20		+70	°C
Derating	Vi nom,lo nom+51 to 71°C			2	%/°C
Case temperature	Operating at Vi nom,lo nom			+85	°C
Storage temperature	Nom operational	-40		+85	°C
Relative humidity	Vi nom,lo nom			95	% RH
Dimension	GA003/GC003 L35.05 x W25.40 x H17.78, GB003 L32.5 x W23.0 x H16.0				mm
Cooling	Free air convection				
Case material	DAP UL 94V-0				
Weight	GA003/GB003/GC003		30g/12g/32g		

### Temperature Derating Graph



### RIPPLE TESTING DEMONSTRATION

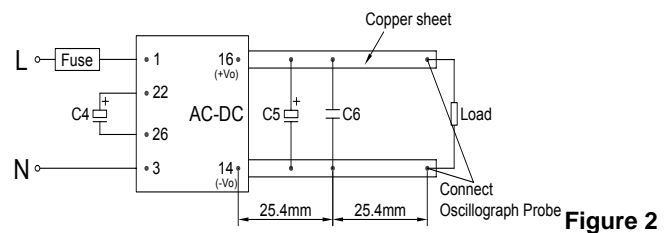


Figure 2

### TYPICAL APPLICATION CIRCUIT

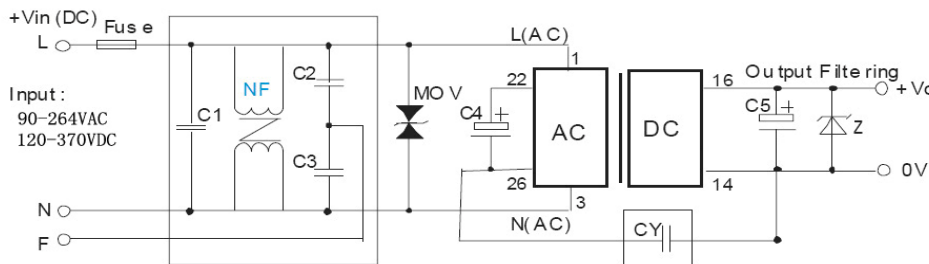


Figure 1

### TYPICAL APPLICATION GUIDE

#### AC/DC application

- Recommended circuit: Typical application circuit is shown as Figure 1. If EMC performance is not required, Circuit in frame of dashed line can be removed.
- Clearance and creepage: for application Environment of Class I and Class II devices, users should guarantee there is clearance no less than 2mm and creepage no less than 2.5mm between L and N before the fuse.
- Fuse, 1A/250V or 10Ω/2W wire-wound resistor.
- Input filtering capacitor. Terminals 22 and 26 are internal rectification and filtering terminals. To protect the models further, it is recommended to connect an electrolytic capacitor C4 (it is recommended to be 4.7uF/400V). If operation voltage of the module is between 160~264VAC, C4 can be removed.
- Input EMI filtering network.(Refer to Figure1) Combination of NF, C1, C2 and C3 form input EMI filtering network.  
MOV: pressure sensitive resistor, model 471KD07  
C1: X2 capacitor, recommended parameter 0.1uF/275V  
CY: 102K/400V (Y1 CAP)  
NF: common model choke, UU9.8 or ring core, inductance is about 10mH, wire diameter 0.22mm.
- Output filtering capacitor C5 is electrolytic capacitor. To make sure the product work at perfect operation status with full loading external capacitor is necessary and it is recommended to use high frequency low resistance electrolytic capacitor. C5 rated voltage must be 1.2 times greater than output voltage. Please refer to manufacturer's datasheet for capacitance and current parameters.
- "Z" is a TVS to protect post circuits (when module works incorrectly), is recommended.
- Refer to ripple testing demonstration,C6 is recommended to be 0.1uF.

