AC02S/D Series

2W AC/DC Power Module

FEATURES

- Small,encapsulated Module for PCB Mounting
- Universal Input 85-264VAC,47-440Hz
- Constant Power Mode
- Regulated Output Voltage 8,14 or 24VDC
- Models with additional 3.3 or 5VDC Output
- Operating Temp.Range -30°C to 70°C
- 3k VAC Isolation , Protection Class II level
- EMI meets EN55022,class B, FCC part15, Class B and EN55014-1
- Safety Approval to UL/cUL/IEC/EN 60950-1 TUV IEC/EN 60335-1
- 3 Years Product Warranty

The AC02S/D series is a new range of small, fully encapsulated AC/DC power supply modules.They are designed for direct PCB mounting with solder pins.They feature regulated output voltages which have a constant output power mode instead of a conventional current limit characteristics,which makes the power modules suitable to drive relays,solenoids,capacitive loads and LED's.To power logic circuits for standby functions models with an addtional second, voltage regulated 3.3 or 5VDC output are available.

The AC02S/D power supply modules provide a cost-effective new solution for standby power applications in appliances and consumer electronics. equipment. Universal input voltage 85-264VAC and International safety approvals including IEC/EN60335-1 qualifies the product for worldwide markets

Model Selection Guide

Model Number	Output 1		Output 2		Input Current	Efficiency (typ.)
	Voltage	Current	Voltage	Current		
		Max.		Max.	@Max. Load	@Max. Load
	VDC	mA	VDC	mA	mA(typ.)	%
AC02S0800A	8	250	---	---	42	72
AC02S1400A	14	143	---	---	40	74
AC02S2400A	24	83	---	---	39	76
AC02D0803A ***	8	*	3.3	160	43	69
AC02D0805A ***	8	*	5	250	43	69
AC02D1403A ***	14	**	3.3	70	43	70
AC02D1405A ***	14	**	5	83	43	70

*** Io1+Io2≦250Ma** **** Io1+Io2≦143mA** ***** The definition of output power (Po) for dual-output modules : $Po=V_{01} \times (I_{01} + I_{02})$**

Input Specifications

Parameter	Model	Min.	Typ.	Max.	Unit
Input Voltage Range	All Models	85	---	264	VAC
Input Frequency Range		47	---	440	Hz
Input Voltage Range		120	---	370	VDC
No-Load Power Consumption		---	30	---	mW
Input Surge Voltage		---	---	308	VAC

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Output Specifications

Parameter	Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Output 1	V_{in}=115VAC, Full Load	---	---	±5.0	%
	Output 2		---	---	±2.0	%
Line Regulation	Output 1	V_{in}=85~264VAC	---	±1.0	---	%
	Output 2		---	±0.3	---	%
Load Regulation	Output 1	Io=10% to 100%	---	±1.0	---	%
	Output 2		---	±0.5	---	%
Ripple & Noise	0-20 MHz Bandwidth	Output 1	---	1	---	V_{P-P}
		Output 2	---	0.1	---	V_{P-P}
Short Circuit Protection	Continuous					

General Specifications

Parameter	Conditions	Min.	Typ.	Max.	Unit
I/O Isolation Voltage	Input to Output, 60 Seconds	3000	---	---	VAC
Switching Frequency		---	45	---	KHz
MTBF (calculated)	MIL-HDBK-217F@25℃, Ground Benign	500,000	---	---	Hours
Safety Approvals	UL/cUL 60950-1 recognition(UL certificate) IEC/EN 60950-1(CB-scheme) IEC/EN 60335-1 recognition(TUV certificata,CB-scheme)				

EMC Specifications

Parameter	Standards & Level		Performance
EMI	EN55014-1, EN55022, FCC part 15		Class B
EMS	EN55014-2 ,EN55024		
	ESD	EN61000-4-2 air ± 8kV , Contact ± 4kV	A
	Radiated immunity	EN61000-4-3 10V/m	A
	Fast transient	EN61000-4-4 ±2kV	A
	Surge	EN61000-4-5 ±1kV	A
	Conducted immunity	EN61000-4-6 10Vrms	A
	PFMF	EN61000-4-8 30A/M	A
	Dips	EN61000-4-11 30% 10ms	A
	Interruptions	EN61000-4-11 >95% 5000ms	B

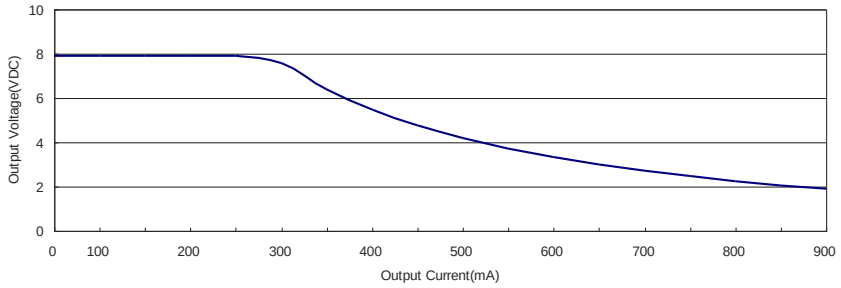
Environmental Specifications

Parameter	Conditions	Min.	Max.
Temperature Range (operational)	Ambient	-30℃	+70℃
Storage Temperature Range		-40℃	+85℃
Humidity (non condensing)		---	95 % rel. H
Cooling	Free-Air convection		

Notes

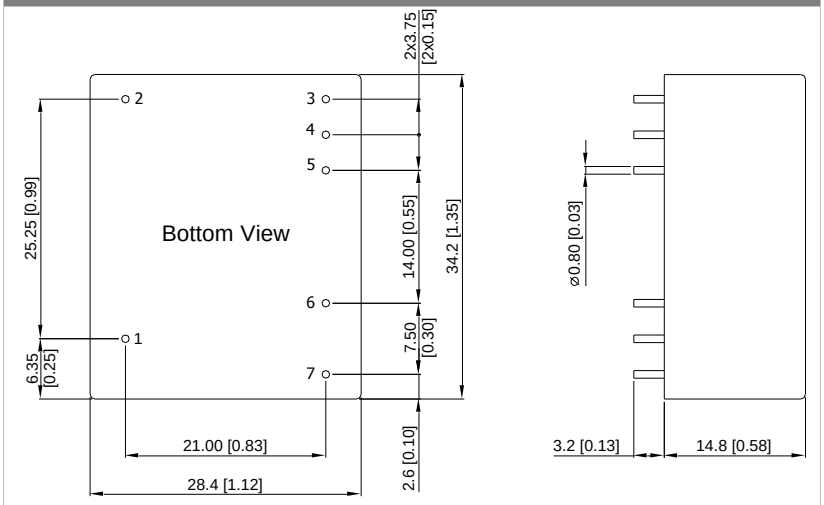
1. All specifications typical at Ta=+25℃, resistive load, 115VAC, 60Hz input voltage and after warm-up time rated output current unless otherwise noted.
2. These power modules require a minimum output loading to maintain specified regulation, operation under no-load conditions will not damage the power supplies however they may not meet all listed specifications.
3. We recommend to protect the converter by a slow blow fuse in the input supply line.
4. Other input and output voltage may be available, please contact factory.
5. Specifications are subject to change without notice.

Typical Constant Power V/I Curve



Package Specifications

Mechanical Dimensions



Pin Connections

Pin	Single Output	Dual Output
1	NC	
2	NC	
3	+Vout	+Vout1
4	-Vout	Common
5	NP	+Vout2
6	AC(N)	
7	AC(L)	

- ▶All dimensions in mm (inches)
- ▶Tolerance: ±0.5 (±0.01)
- ▶Pin diameter ⇔ 0.8 ±0.1 (0.03±0.004)

Physical Characteristics

Case Size	:	34.2x28.4x14.8mm (1.35x1.12x0.58 inches)
Case Material	:	Plastic resin (flammability to UL 94V-0 rated)
Pin Material	:	Copper Alloy with Gold Plate Over Nickel Subplate
Weight	:	24g

Part Numbering System

A	C	02	S	08	00	A
Product type	Family series	Watt	Number of Outputs	0nput Voltage I	Output Voltage II	Option Code
AC/DC Power Module	Constant Power Mode	02 - 2W	S - Single	08 - 8V	00 - not applicable	A - PCB Mount
			D - Dual	14 - 14V	03 - 3V	
				24 - 24V	05 - 5V	

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WARRANTY

Delta offers a three(3) years limited warranty. Complete warranty information is listed on our web site or is available upon request from Delta.

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