

### KEY FEATURES

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-264VAC, 47-440 Hz
- Regulated Output
- Low Ripple and Noise
- High Efficiency
- CE, CB, cUL, TUV Approvals
- 2-Year Product Warranty



### ELECTRICAL SPECIFICATIONS

Model No. ( Single Output )	ASC-3.3S	ASC-5S	ASC-12S	ASC-15S	ASC-24S
Max Output Wattage (W)	20W	30W	30W	30W	30W
Input	Voltage				
	90-264 VAC or 120-370 VDC				
	Frequency (Hz)				
	47-440 Hz				
	Current (Full load)				
	520 mA max. (115 VAC) / 320 mA max. (230 VAC)				
Inrush Current (<2ms)					
10 A max. (115 VAC) / 20 A max. (230 VAC)					
Leakage Current					
0.75 mA max.					
External Fuse (recommend)					
1.5 A slow blow type					
Output	Voltage (V.DC.)				
	3.3V	5V	12V	15V	24V
	Voltage Accuracy				
	±2%				
	Current (mA) max				
	6000	6000	2500	2000	1250
	Line Regulation (LL-HL) (typ.)				
	±1%				
	Load Regulation (5-00%) (typ.)				
	±1%				
	Minimum Load				
	5%	4%	2%	2%	2%
Maximum Capacitive Load					
470-23,000µF depending on model					
Ripple					
<0.2% Vout +40mV max (Vp-p)					
Noise					
<0.5% Vout +50mV max (Vp-p)					
Efficiency					
70%	75%	80%	80%	77%	
Hold-up Time					
15 ms min.					
Switching Frequency					
100 kHz					
Protection	Over Power Protection				
	Hiccup technique, auto-recovery				
	Over Voltage Protection				
Zener diode clamp					
Short Circuit Protection					
Hiccup mode, indefinite (automatic recovery)					
Isolation	Input-Output (V.AC)				
3000 V					
Environment	Operating Temperature				
	-25°C...+70°C (with derating)				
	Storage Temperature				
	-40°C...+85°C				
	Temperature Coefficient				
±0.02%/°C					
Humidity					
95% RH					
MTBF					
>200,000 h @ 25°C (MIL-HDBK-217F)					
Physical	Dimension (L x W x H)				
	3.5 x 2.5 x 0.98 Inches ( 89.0 x 63.5 x 25.0 mm ) Tolerance ±0.5 mm				
	Case Material				
	Plastic resin with Fiberglass (flammability to UL 94V-0)				
Weight					
220 g					
Cooling Method					
Free air convection					
Safety	Agency Approvals				
UL/cUL, CE, TUV, CB					
EMC	EMI (Conducted & Radiated Emission)				
	EN 55022 class B				
EMS (Noise Immunity)					
EN 55024					

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

### ELECTRICAL SPECIFICATIONS

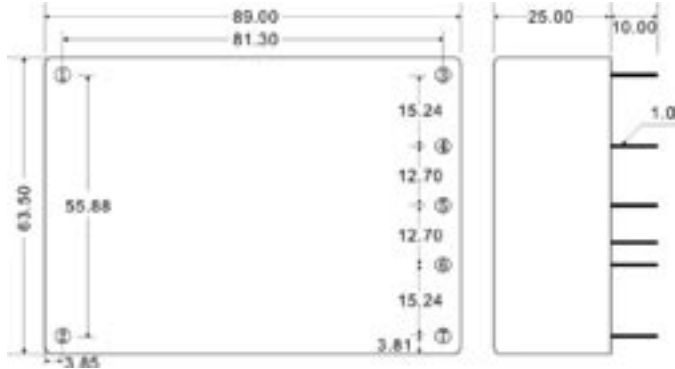
Model No. (Dual • Triple Output)	ASC-5D	ASC-12D	ASC-15D	ASC-5S12S	ASC-5S12D	ASC-5S15D		
Max Output Wattage (W)	30W	30W	30W	30W	30W	30W		
Input	Voltage						90-264 VAC or 120-370 VDC	
	Frequency (Hz)						47-440 Hz	
	Current (Full load)						520 mA max. (115 VAC) / 320 mA max. (230 VAC)	
	Inrush Current (<2ms)						10 A max. (115 VAC) / 20 A max. (230 VAC)	
	Leakage Current						0.75 mA max.	
	External Fuse (recommend)						1.5 A slow blow type	
Output	Voltage (V.DC.)		±5V	±12V	±15V	5/12	5/±12	5/±15
	Voltage Accuracy						±2%	
	Current (mA) max		±3000	±1250	±1000	3000/1250	3000/±630	3000/±500
	Line Regulation (LL-HL) (typ.)				±1%			±1% / ±5%
	Load Regulation (5-00%) (typ.)				±3%			±2% / ±6%
	Minimum Load		2%	3%	1%	20%	20%	20%
	Maximum Capacitive Load						470-23,000µF depending on model	
	Ripple						<0.2% Vout +40mV max (Vp-p)	
	Noise						<0.5% Vout +50mV max (Vp-p)	
	Efficiency		73%	78%	76%	77%	77%	76%
	Hold-up Time						15 ms min.	
Switching Frequency						100 kHz		
Protection	Over Power Protection						Hiccup technique, auto-recovery	
	Over Voltage Protection						Zener diode clamp	
	Short Circuit Protection						Hiccup mode, indefinite (automatic recovery)	
Isolation	Input-Output (V.AC)						3000 V	
Environment	Operating Temperature						-25°C...+70°C (with derating)	
	Storage Temperature						-40°C...+85°C	
	Temperature Coefficient						±0.02%/°C	
	Humidity						95% RH	
	MTBF						>200,000 h @ 25°C (MIL-HDBK-217F)	
Physical	Dimension (L x W x H)						3.5 x 2.5 x 0.98 Inches ( 89.0 x 63.5 x 25.0 mm ) Tolerance ±0.5 mm	
	Case Material						Plastic resin with Fiberglass (flammability to UL 94V-0)	
	Weight						220 g	
	Cooling Method						Free air convection	
Safety	Agency Approvals						UL/cUL, CE, TUV, CB	
EMC	EMI (Conducted & Radiated Emission)						EN 55022 class B	
	EMS (Noise Immunity)						EN 55024	

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

#### Note

- The triple output required a minimum 20% loading on the output to maintain specified regulation. Operation under no-load condition will not damage these devices; however they may not meet all listed specification.
- Load regulation for triple output:  
Main output (V1): 20% to 100% with 20% to 100% balanced on auxiliaries.  
Auxiliary outputs (V2 and V3): 20% to 100% balanced on all outputs.
- Cross regulation for triple output:  
Main output 100% load, auxiliary 100%, other auxiliary 25% to 100%.  
Auxiliary outputs (V2 and V3): Main output 100% load, auxiliary 100%, other auxiliary 25% to 100% or main output 25%, auxiliary 25%, other auxiliary 25% to 100%.

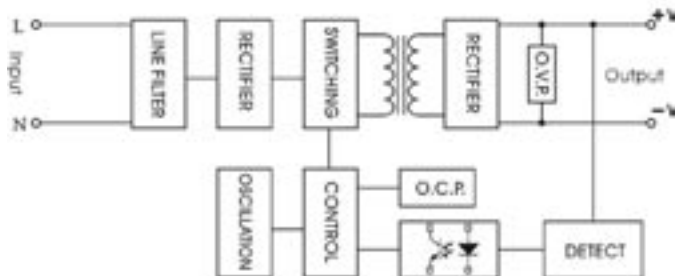
### MECHANICAL DIMENSION ( Top View )



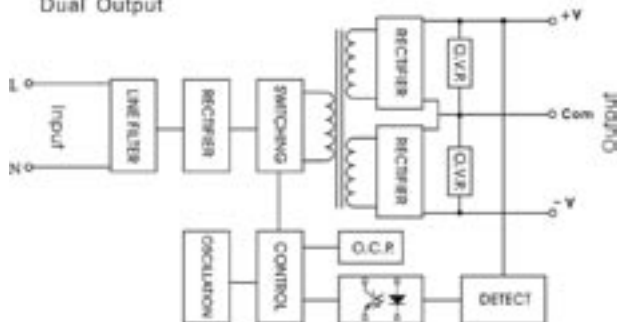
PIN#	SINGLE	Dual	5S/12S	Triple
1	AC IN (N)	AC IN (N)	AC IN (N)	AC IN (N)
2	AC IN (L)	AC IN (L)	AC IN (L)	AC IN (L)
3	+DC OUT	+DC OUT	+12V	+DC OUT
4	NO PIN	NO PIN	+5V	+5V
5	-DC OUT	COMMON	+12 RTN	COMMON
6	NO PIN	NO PIN	+5 RTN	+5 RTN
7	NOCONNECT	-DC OUT	NO PIN	-DC OUT

### BLOCK DIAGRAM

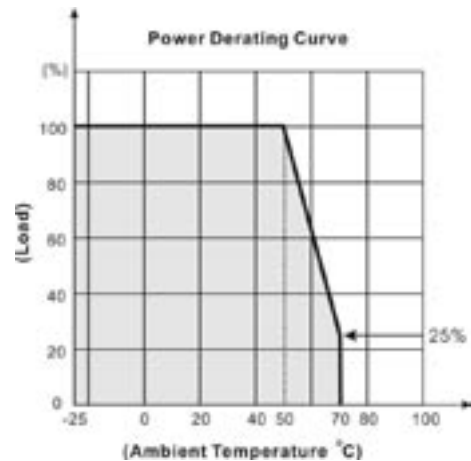
#### Single Output



#### Dual Output



### DERATING



#### Triple Output

