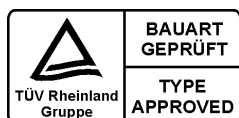


30 Watt

AC/DC-Converter Package AD



- o Universal Input
- o Single, Dual & Triple Output
- o Isolation Voltage 3.000 VAC
- o Short Circuit Protection
- o Compact Size



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	MIN. LOAD	%EFF
ACS30AD-3.3	90-260 VAC	3.3 VDC	6.000 mA	5%	73
ACS30AD-5		5 VDC	6.000 mA	4%	80
ACS30AD-12		12 VDC	2.500 mA	2%	84
ACS30AD-15		15 VDC	2.000 mA	2%	84
ACS30AD-24		24 VDC	1.250 mA	2%	84
ACD30AD-5		±5 VDC	±3.000 mA	2%	80
ACD30AD-12		±12 VDC	±1.250 mA	3%	84
ACD30AD-15		±15 VDC	±1.000 mA	1%	84
ACD30AD-5/12		5, 12 VDC	3.000, 1.250 mA	5%	80
ACT30AD-5/12		5, ±12 VDC	3.000, ±630 mA	5%	80
ACT30AD-5/15		5, ±15 VDC	3.000, ±500 mA	5%	80

SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

INPUT SPECIFICATIONS	
Input Voltage Range	47-440 Hz, 90-260VAC or 120-370VDC
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	1.5 A slow blow type

OUTPUT SPECIFICATIONS	
Voltage Accuracy	±2%
Maximum Capacitive Load	470-23000µF depending on model
Ripple	0.2% +40mV p-p max.
Noise	0.5% +50mV p-p max.
Over Current Protection	Hiccup technique, auto recovery
Over Voltage Protection	Zener diode clamp
Short Circuit Protection	Hiccup mode, indefinite (automatic recovery)
Hold-Up Time	15 ms min.
Line Regulation ¹⁾	Single ±1% max. Dual ±1% max. Triple 5V ±1% max. ±12V, ±15V ±5% max.
Load Regulation ²⁾	Single ±1% max. Dual ±3% max. Triple 5V ±2% max. ±12V, ±15V ±6% max.

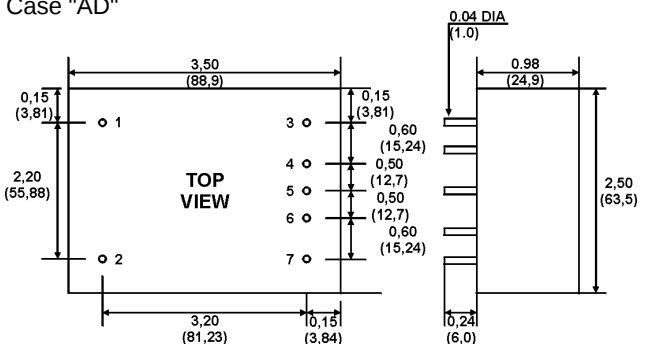
¹⁾Measured from High Line to Low Line

²⁾Measured from 5% Load to Full Load

GENERAL SPECIFICATION	
Efficiency	see table
Isolation Voltage	3.000VAC
Isolation Impedance	100 Mohms at min. 1KVDC
Isolation Resistance	1000 MOhms (min)
Switching Frequency	100 kHz
Operating Temperature Range	-25°C to +71°C
Storage Temperature Range	-40°C to +85°C
Temperature Coefficient	0.02%/°C
Humidity	95% RH
Cooling	Free-Air Convection
Weight	220 g
Case Material	Surface P.B.T.+ Fiberglass (flammability to UL 94V-0)case Inside Epoxy Resin
MTBF (MIL-HDBK-217E)	>600.000 hrs
Derating	see diagram
Safety Standards	UL1950, EN 60950:1992+A1+A2+ A3+A4+A11
EMC Standards	EN 55022, EN 61000-3-2+A1+A2+A14, EN 61000-3-3, EN 55024: IEC 61000-4-2+A2, IEC 61000-4-3+4+5+6+8+11

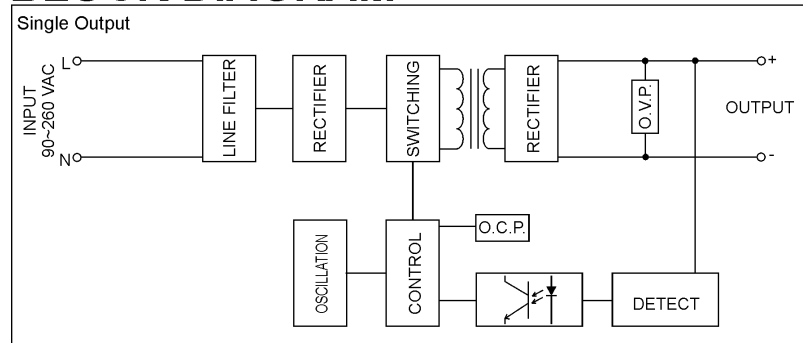
PIN CONNECTIONS				
Pin	Single	Dual	Dual (5/12)	Triple
1	VAC-N	VAC-N	VAC-N	VAC-N
2	VAC-L	VAC-L	VAC-L	VAC-L
3	+VDC OUT	+VDC OUT	+12VDC	+VDC OUT2
4	NO PIN	NO PIN	+5VDC	+5 VDC OUT
5	-VDC OUT	COMMON	+12RTN	V2, V3 COMMON
6	NO PIN	NO PIN	+5RTN	+5 RTN
7	NO PIN	-VDC OUT	NO PIN	-VDC OUT3

Case "AD"

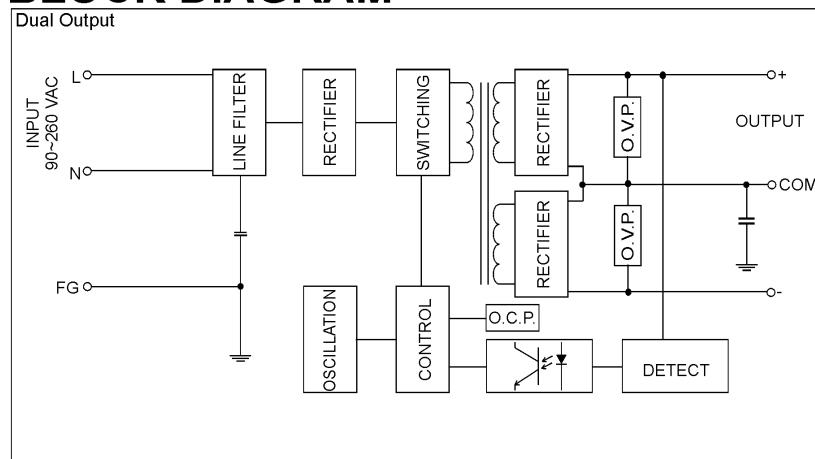


Diagrams/Application Notes for AC/DC-Converter

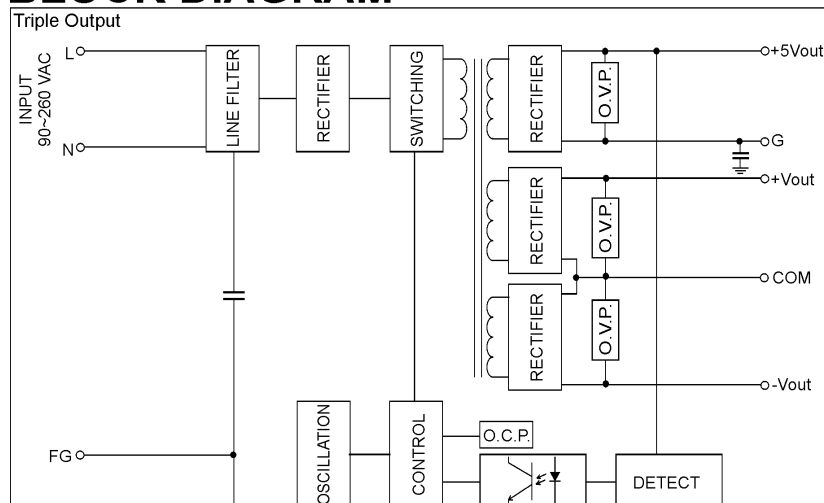
BLOCK DIAGRAM



BLOCK DIAGRAM

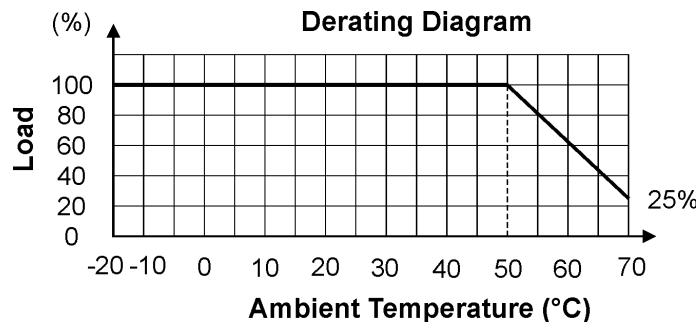


BLOCK DIAGRAM



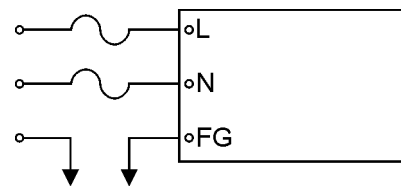
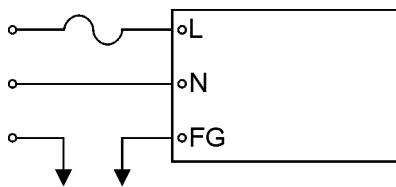
SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

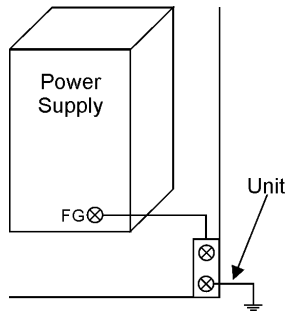


1. AC Input Line Connection

The pin of AC line (L), as neutral (N), and the third wire safety ground (FG) should be retained from the AC power outlet to the power supply input terminals without accidental interchange.

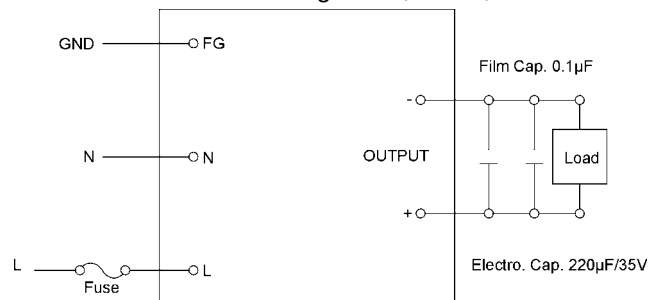


The FG pin should be connected to the equipment where power supply is placed as thicker and shorter to protect electric shock or noise interference.



2. Fuse

To add a fuse at the input terminals of the power supply to provide safety and protection. We suggest using a 1.5A slow blow fuse for our AC/DC-Converters including ACS-, ACD-, und ACT-series.

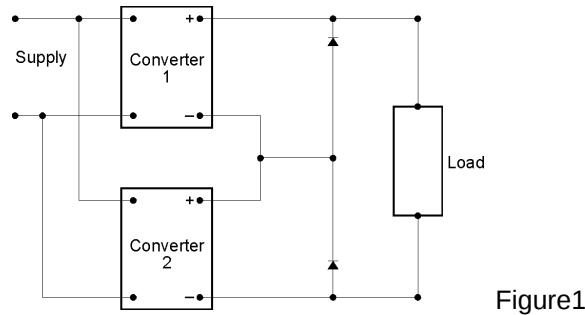


Diagrams/Application Notes for AC/DC-Converter

3. Series and Parallel Operation

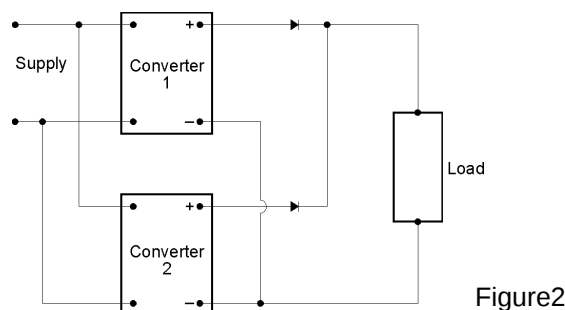
I. Series Operation

Most power converters can be operated in series if they have overload limitation by either constant current or constant power circuits. To protect each output from reverse voltage applied by the other unit in the event of load short circuits, reverse biased diodes are used as shown in Figure1.



II. Parallel Operation

This is only recommended with power converters specifically designed for parallel connection. In the parallel redundant scheme illustrated in Figure2 one of the power converters could be replaced by battery followed by a DC/DC-converter to provide a no-break power system in the event of main supply failure.



4. Reduce the Output Ripple and Noise

Using a LC filter or a Capacitor reduces the output ripple and noise.

