

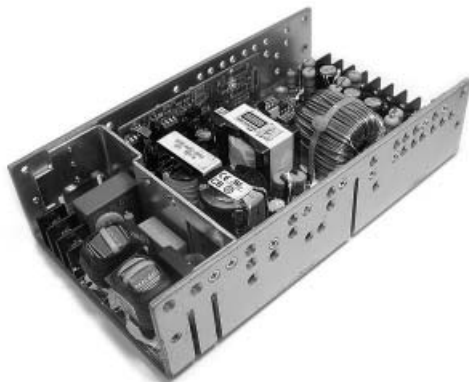
## DCMOD AG-350D SERIES DC INPUT SWITCHERS

### 350 watts - 24V or 48V Input - Single to Quad Output

IF WHAT YOU WANT IS WHAT YOU NEVER GET IN DC INPUT SWITCHERS, the POWER SOLUTION for up to 350 watts steady state of high reliability, 24 or 48VDC input power can be found in the AG-350D family of 8" x 4.5" x 2" HIGH U-Channel mounted DCMOD switchers. These models are available in a complete range of single to quad output configurations from 1.5 to >48 VDC. All models deliver 350W (380W peak) of highly regulated output power. The entire family has on-board Class B EMI filtering, is CE marked, complies to EN61000-3-2, delivers continuous full power output to 50°C, and is capable of operation up to 70°C.

DCMOD simply means: IF WHAT YOU SEE IS WHAT YOU DON'T WANT, IT CAN BE EASILY CHANGED. DCMODS include; extended temperature operating range, isolated outputs, unique output combinations, available DC inputs, low noise versions, unique cables and harnesses and much, much more. All these modifications are available at nominal (if any) additional cost, and normally without any impact on safety agency approvals which reduces both development cost and time to market. A DCMOD can be performed on supplies for programs requiring as few as 250 units per year.

Call EASYMOD Support on (U.S.) +1-954-346-2442 or (U.K.) +44 (0)1903 768204 or email EASYMOD@unipower-europe.com.



#### INPUT SPECIFICATION

Input Voltage	18-36 or 36-72 VDC
Input Current @ 24VDC	22A
@ 48VDC	11A
Fusing @ 24VDC	30A On-board
@ 48VDC	20A On-board

#### OUTPUT SPECIFICATION

Continuous Output Power <sup>4</sup>	350 Watts
Line Regulation Over Input Range; V1 - V4	±0.2%
Holdup Time	16mS
Load Regulation @ 60% ±40% Full Load	
V1 - V2	±3%
V3 - V4	±5% max
Cross Regulation @ 60% ±40% Full Load	
V1: Change in V2 - V4	±0.5%
V2 - V4: Change in V1 @75 ±25% F/L	±5% max
Overshoot Protection V1	130% Vout typ
Overshoot, All Outputs	10% max
Power Limit	Set @120% typ
Response Time <sup>1</sup>	500 µSec
Ripple & Noise <sup>2</sup> @ 20 Mhz Band Width; Full Load	
All Outputs	1% P-P max
Remote Sense; Single Output only	250mV compensation
Thermal Protection	Optional
Output Adjustment Range on V1	±5% min

#### FEATURES & OPTIONS

- 3:1 OR 4:1 INPUT RANGE - OPTION
- CB REPORT
- 1.5 - 48 VDC OUTPUTS AVAILABLE
- UL-cUL60950 APPROVALS
- 4.5"x8"x2" FOOTPRINT
- ENABLE/INHIBIT - OPTION
- REMOTE ON/OFF - OPTION
- ISOLATED 4th OUTPUT - OPTION
- 40°C START-UP - OPTION
- COVER/FAN ASSEMBLY AVAILABLE
- CE MARKED

#### GENERAL SPECIFICATION

Efficiency	75% typ
Switching Frequency	65KHz typ
Susceptibility / Immunity	See Note 2
Operating Temperature Range <sup>2</sup>	0 to +70°C
Minimum Start-up Temperature <sup>2</sup>	-20°C
Derating from 50-70oC	2.5% / °C
Storage Temperature	-40 to +85°C
Cooling	See Note 5
Relative Humidity; Non-Condensing	5 - 95%
Weight	3lbs / 1.4Kg
Altitude	10,000 ft
EMI	FCC Class B & VDE Class B
	CISPR 22; EN 55022 Class B
MTBF per MIL 217	> 200,000 hrs
Vibration <sup>3</sup> from 10 - 55Hz	1.0G Peak
Safety Agency Approvals:	UL & cUL 60950;
	EN 60950; CE; CB REPORT

#### Notes :

1. All outputs return within 1% of nominal for load change from 25-75% lo excursion.
2. Ripple & noise may not meet published specifications for 2 min. after start-up below 0°C.
3. Three orthogonal axes @ 1 octave/min. 5 min. dwell @ four major resonances.
4. Rating with 30 CFM air; Rated at 250 watts convection.
5. All specifications typical at nominal line, full load & 25°C, and are subject to change without notice.

EASYMOD and DCMOD are Sales Marks of Power Solutions Inc.

## DCMOD AG-350D FAMILY

### AVAILABLE STEADY STATE CURRENT <sup>1</sup> @ 50°C AMBIENT

#### MULTIPLE OUTPUT MODELS / OUTPUT CURRENT / AMPS

OUTPUT	DC OUTPUT <sup>1</sup>	MINIMUM	MAXIMUM <sup>3</sup>	MAXIMUM <sup>4</sup>	PEAK <sup>4,5</sup>
V1	1.5 to 48 <sup>7</sup> V	6 <sup>2</sup>	35	55	60
V2	1.5 to 48 <sup>8</sup> V	0.3	3	6	6
V3	1.5 to 48 <sup>8</sup> V	0.5	5	5	5
V4	1.5 to 48 <sup>8</sup> V	1 <sup>2</sup>	11	16	18

#### SINGLE OUTPUT MODELS (1.5 to 48VDC <sup>7,11</sup>) / OUTPUT CURRENT / AMPS

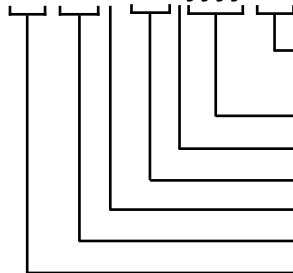
OUTPUT CURRENT	1.5V ~ 3.3V	5V	12V	15V	24V	48V
MINIMUM	0	0	0	0	0	0
MAXIMUM <sup>3</sup>	35	35	15	17	10	5
MAXIMUM <sup>4</sup>	55	55	29	23	14.5	7.25
PEAK <sup>5</sup>	60	60	31	25	16	8

- (1) Full power out on V3-V4 with minimal V1 and V2 loading--Option.  
 (2) 10% minimum load for stated regulation on multiple O/P units.  
 (3) Convection cooling.  
 (4) 15CFM forced air cooling.  
 (5) 30 seconds maximum duration.  
 (6) Most output combinations from 2 to 48+ Volts possible; up to maximum rated Current / Power...Consult DCMOD Support.

- (7) Specify 0.1V increments.  
 (8) Specific output voltage is current dependent  
 (9) Regulation may degrade under some output conditions. Consult DCMOD Support.  
 (10) Consult DCMOD Support for Model #, See below for standard voltages.  
 (11) For outputs >48 Volts, consult DCMOD Support.  
 (12) Cover / Fan assembly available.

### MODEL NUMBERING

#### AG-350D-wwxyyyy-zzz



- 3 digit code for special configurations (optional)  
 A = Auto-range AC input  
 y = Output Voltage Designator (see below)  
 x = # of outputs; S=1, D=2, T=3, Q=4  
 ww = 24 for 24VDC input or 48 for 48VDC input  
 D = DC Input  
 350 = Maximum Power Rating  
 AG = Series Name

Consult DCMOD Support for non-standard voltage configurations.

**NOTE THAT ANY OUTPUT CONFIGURATION THAT FITS WITHIN THE VOLTAGE AND CURRENT LIMITS SHOWN IN THE ABOVE TABLES ARE AUTOMATICALLY SAFETY AGENCY APPROVED.**

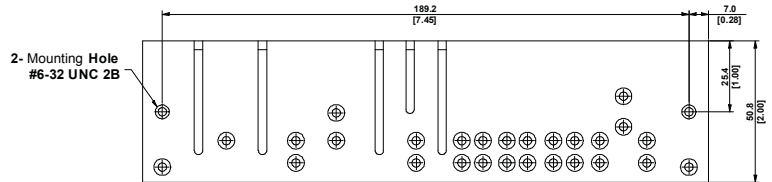
Standard Voltage Codes			
3.3V	0	15V	3
5V	1	18V	8
6V	6	24V	4
9V	9	28V	7
12V	2	48V	5

## MECHANICAL & CONNECTIONS

### CONNECTOR 1

Terminal Block, 3-pole, pitch 9.5mm

Pole 1	DC IN +
Pole 2	DC IN -
Pole 3	N/C



### CONNECTOR 2

Terminal Block, 8-pole, pitch 9.5mm

1 Output	
Poles 1~4	V1
Poles 5~8	RTN

2 Output (V2 Positive)	
Poles 1~2	V1
Poles 3~4	RTN
Poles 5~6	RTN
Poles 7~8	V2 (+)

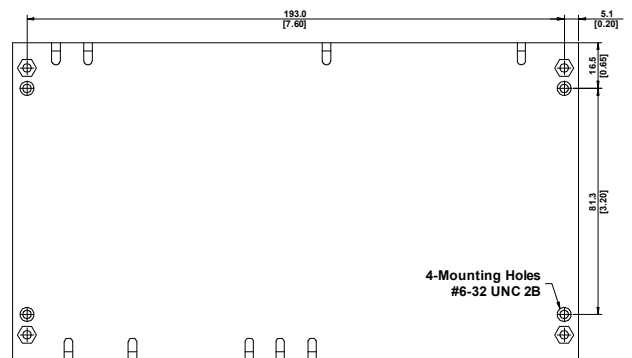
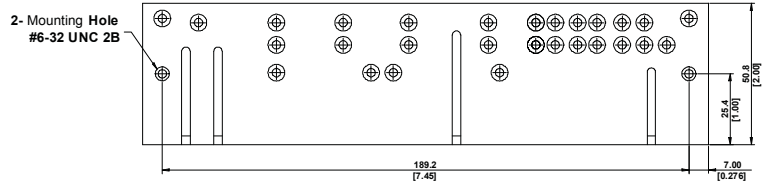
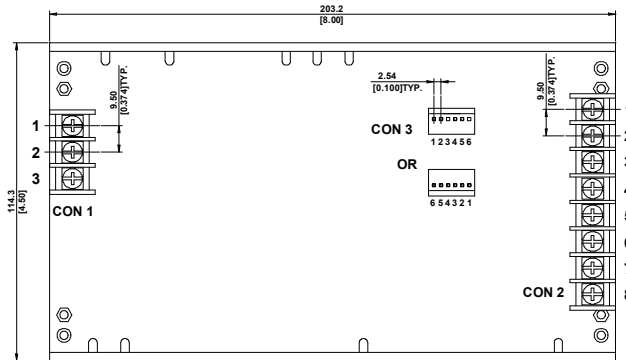
2 Output (V2 Negative)	
Poles 1~2	V1
Poles 3~4	RTN
Poles 5~6	V2 (-)
Poles 7~8	RTN

Dual Output (V2 Isolated)	
Poles 1~2	V1
Poles 3~4	V1 RTN
Poles 5~6	V2 RTN
Poles 7~8	V2

3, 4 Output (V4 Positive)	
Poles 1~2	V1
Poles 3~4	RTN
Pole 5	V2
Pole 6	V3
Pole 7	RTN
Pole 8	V4 (+)

3, 4 Output (V4 Negative)	
Poles 1~2	V1
Poles 3~4	RTN
Pole 5	V2
Pole 6	V3
Pole 7	V4 (-)
Pole 8	RTN

3, 4 Output (V4 Isolated)	
Poles 1~2	V1
Poles 3~4	RTN
Pole 5	V2
Pole 6	V3
Pole 7	V4 RTN
Pole 8	V4



TOLERANCE: mm | 0.5  
[inch] | 0.02

UNIT: mm  
[inch]

### CONNECTOR 3 (OPTIONAL)

Molex # 22-27-2061 or equivalent

Mating Connector - Molex # 22-01-3067

Pin 1	Sense +	Pin 4	AC Fail
Pin 2	Sense -	Pin 5	RTN
Pin 3	R.C.	Pin 6	PG