Series AM15W-NZ

15 Watt | DC-DC Converter

Picture coming soon

FEATURES:

- Super wide Input range
- Extremely High Input range up to 1500VDC
- Operating temperature of -40 to +70°C
- Over current and Over Voltage protection
- No minimum load required
- High efficiency of up to 80%
- I/O Isolation of 4000VAC
- Reversed connection protection

RoHS

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Isolation (VAC)	Max Capacitive Load(uF)	Efficiency (200VDC) (%)
AM15W-60012S-NZ**	100-1000	12	1.25	4000	2000	72
AM15W-60015S-NZ**	100-1000	15	1	4000	1200	78
AM15W-60024S-NZ**	100-1000	24	0.625	4000	470	80
AM15W-80012S-NZ	200-1500	12	1.25	4000	2000	71*
AM15W-80015S-NZ	200-1500	15	1	4000	1200	72*
AM15W-80024S-NZ	200-1500	24	0.625	4000	470	74*

*Measured at 800VDC nominal input.

**** Add suffix "-ST" for optional screw terminal bottom plate or "-STD" for optional DIN Rail screw terminal bottom plate.**

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	600VDC		100-1000	VDC
	800VDC		200-1500	
Input Current	600VDC input models - 200VDC		120	mA
	600VDC input models - 600VDC		40	
	600VDC input models - 1000VDC		22	
	800VDC input models - 200VDC		120	
	800VDC input models 800VDC		30	
	800VDC input models 1500VDC		16	
Inrush current <2ms	600VDC input models - 200VDC	7		A
	600VDC input models 600VDC	20		
	600VDC input models 1000VDC	30		
	800VDC input models - 200VDC	30		
	800VDC input models 800VDC	80		
	800VDC input models 1500VDC	150		
External fuse	600VDC input models, Slow blow	2		A
	800VDC input models, Slow blow	15A/1500VDC		
Startup time	200-1000VDC		1	s
	200-1500VDC		2	
Input under voltage protection	800VDC input models only, ON		170-185	VDC
	800VDC input models only, OFF		180-195	

Isolation Specifications

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	1 min	4000		VAC

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Line voltage regulation	LL-HL	±1		% of Vin
Load voltage regulation	0-100% load	±1		%

Over voltage protection	Zener diode clamp			
Over current protection	600VDC input models		110	% of Iout
	800VDC input models		120-320	
Short Circuit protection	Continuous			
Short circuit restart	Auto recovery			
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth, 600VDC input models	100	200	mV p-p
	20MHz Bandwidth, 800VDC input models	150	300	

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	600VDC input models, 100% load		75	KHz
	800VDC input models, 100% load	65		
Operating temperature	With derating	-40 to 70		°C
Storage temperature	-40 to 95			°C
Maximum case temperature			95	°C
Cooling	Natural convection			
Humidity			95	% RH
Case material	Heat resistant, black plastic (UL94-V0)			
Weight	600VDC input models	95 With optional -ST mounting plate: 150 With optional -STD mounting plate: 190		g
	800VDC input models	300		
Dimensions (L x W x H)	600VDC input models	2.76 x 1.89 x 0.93 inches	70.00 x 48.00 x 23.50 mm	
	With optional -ST mounting plate:	3.78 x 2.13 x 1.26 inches	96.10 x 54.00 x 32.00 mm	
	With optional -STD mounting plate:	3.78 x 2.13 x 1.26 inches	96.10 x 54.00 x 36.60 mm	
	800VDC input models	4.92 x 2.95 x 1.58 inches	125.00 x 75.00 x 40.00 mm	
MTBF	>300,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			
Maximum soldering temperature	600VDC input models, 1.5mm from case for 5-10 sec		260	°C
	800VDC input models, 1.5mm from case for 3-5 sec		360	

Safety Specifications

Parameters		
Standards	EMI - Conducted and radiated emission	EN55022, class A (with the recommended EMC circuit) EN55024: 2010
	Electrostatic Discharge Immunity	IEC 61000-4-2: Contact ±6KV/Air ±8KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3: 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity (600VDC Vin)	IEC 61000-4-4: ±4KV, Criteria B
	Electrical Fast Transient/Burst Immunity (800VDC Vin)	IEC 61000-4-4: ±2KV, Criteria B (with the recommended EMC circuit)
	Surge Immunity (600VDC Vin)	IEC 61000-4-5: ±2KV, Criteria B
	Surge Immunity (800VDC Vin)	IEC 61000-4-5: ±1KV, Criteria B (with the recommended EMC circuit)
	RF, Conducted Disturbance Immunity	IEC 61000-4-6: 10Vrms, Criteria A
	Power frequency Magnetic Field Immunity	IEC 61000-4-8: 10A/m, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11: 0-70%, Criteria B

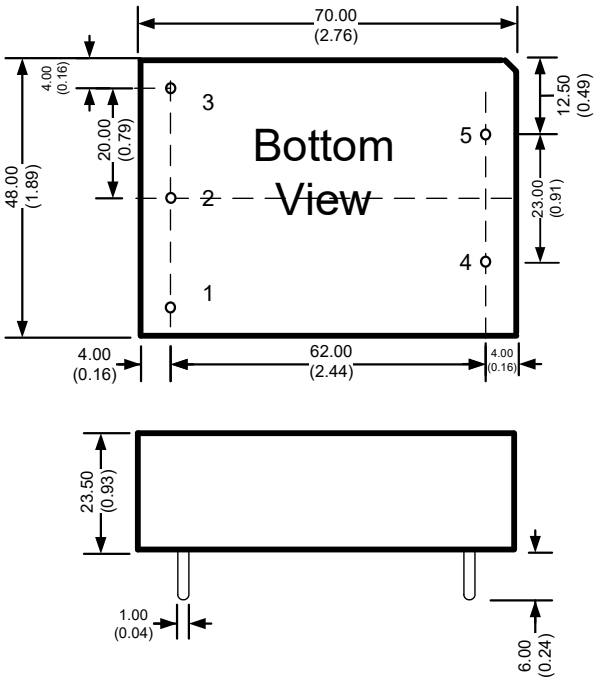
Pin Out Specifications

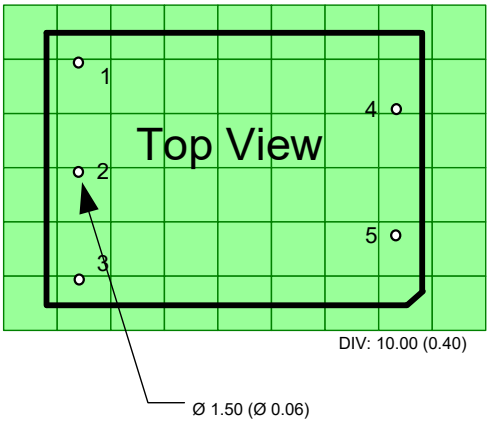
Pin	600VDC Input
1	N.C.
2	-Vin
3	+Vin
4	-Vout
5	+Vout

N.C. Not connected

Dimensions

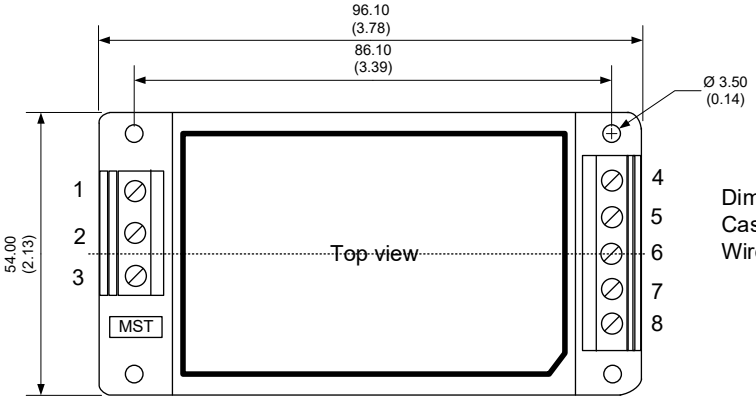
600VDC input models



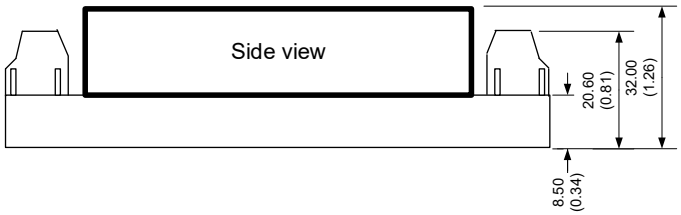


Dimensions mm (inch)
Case Tolerance ±0.50 (±0.02)
Pin Diameter ± 0.10 (± 0.004)

600VDC input models with optional -ST bottom plate



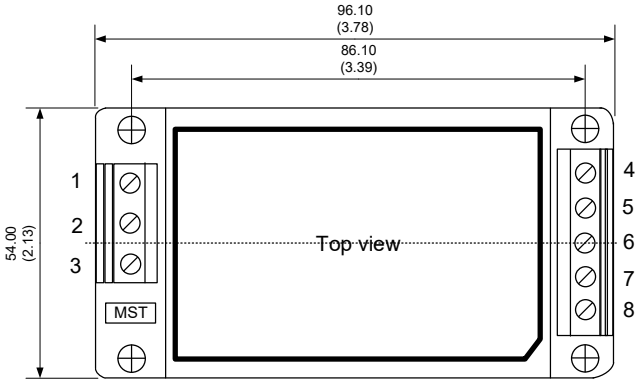
Dimensions: mm (inch)
Case Tolerance:± 0.50 (0.02)
Wire gauge: 24-12AWG

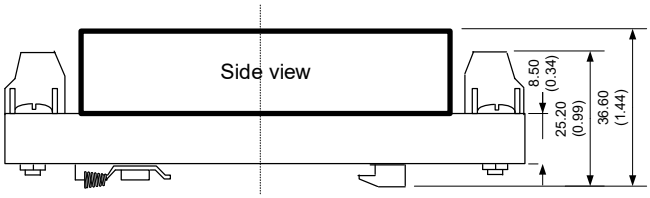


Pin Out Specifications

Pin	Single
1	-Vin
2	N.C.
3	+Vin
4	-Vout
5	N.C.
6	N.C.
7	N.C.
8	+Vout

600VDC input models with optional -STD bottom plate



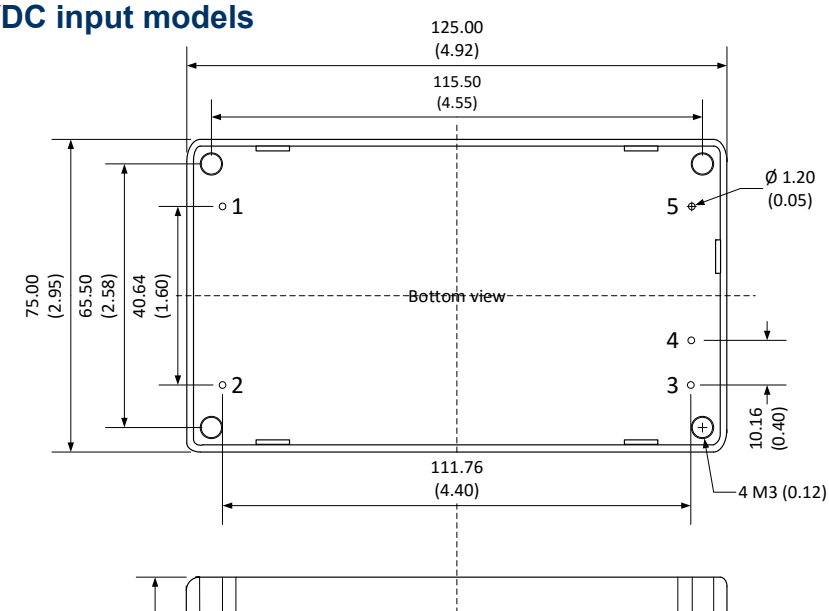


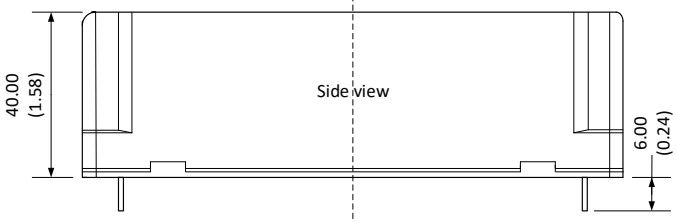
Dimensions: mm (inch)
Case Tolerance:± 0.50 (0.02)
Wire gauge: 24-12AWG
DIN Rail TS35

Pin Out Specifications

Pin	Single
1	-Vin
2	N.C.
3	+Vin
4	-Vout
5	N.C.
6	N.C.
7	N.C.
8	+Vout

800VDC input models





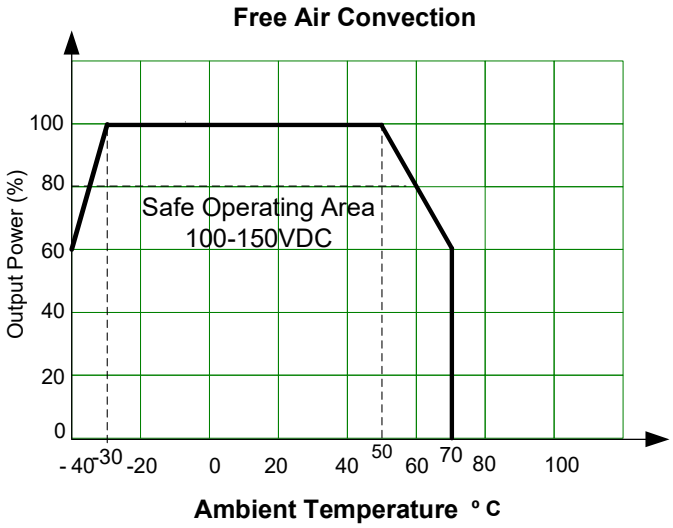
Dimensions mm (inch)
Case Tolerance ±0.50 (±0.02)
Pin Diameter Tolerance ± 0.10 (± 0.004)
Pin Length Tolerance ± 1.50 (± 0.06)

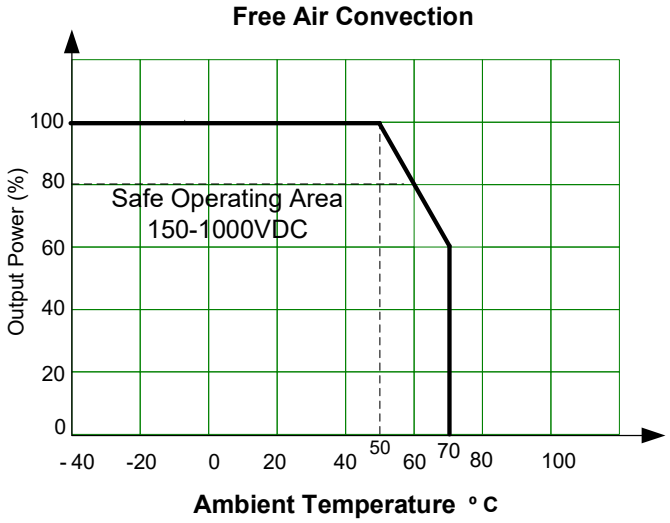
Pin Out Specifications

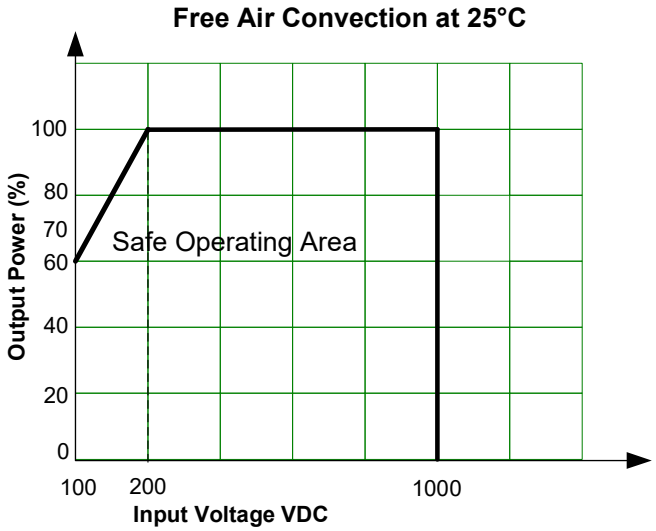
Pin	800VDC Input
1	+Vin
2	-Vin
3	+Vout
4	-Vout
5	N.C.

Derating

600VDC input models

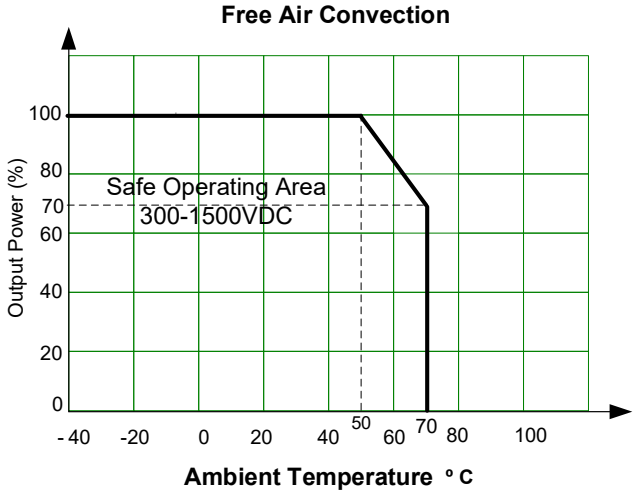


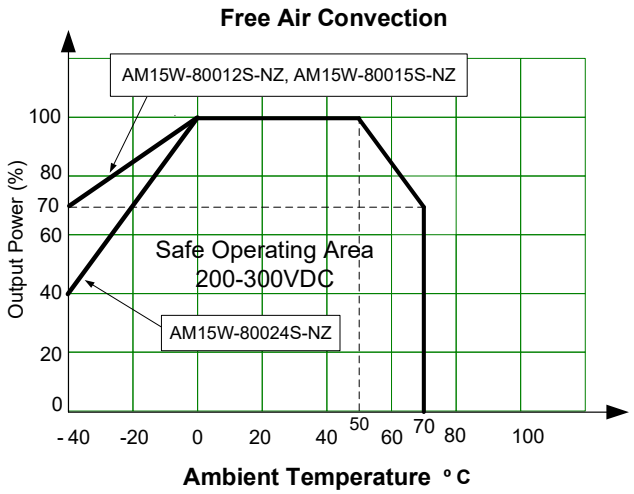




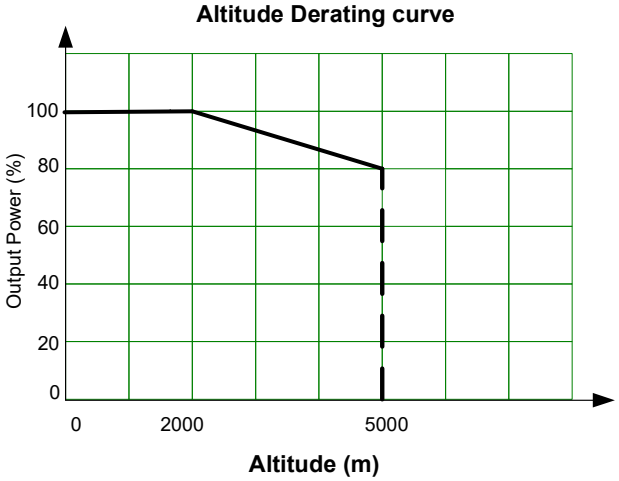
NOTE: 1. Derated Pout = Pout * temp. derating * Vin derating.
2. Sufficient air space for natural air flow around must be considered.

800VDC input models*

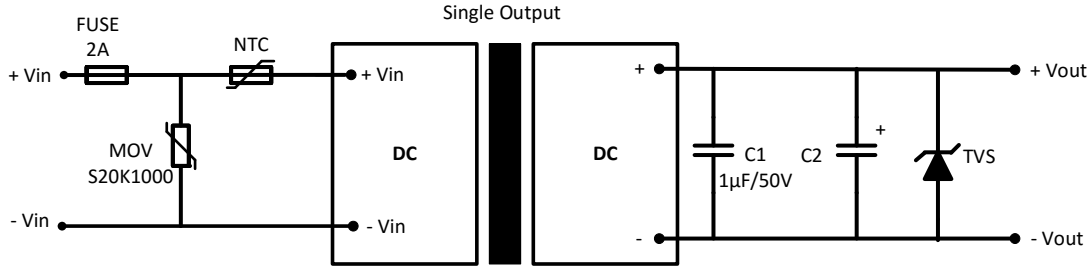




*NOTE: Derating is indicated at natural convection. Sufficient air space around is needed.



Typical Application circuit *

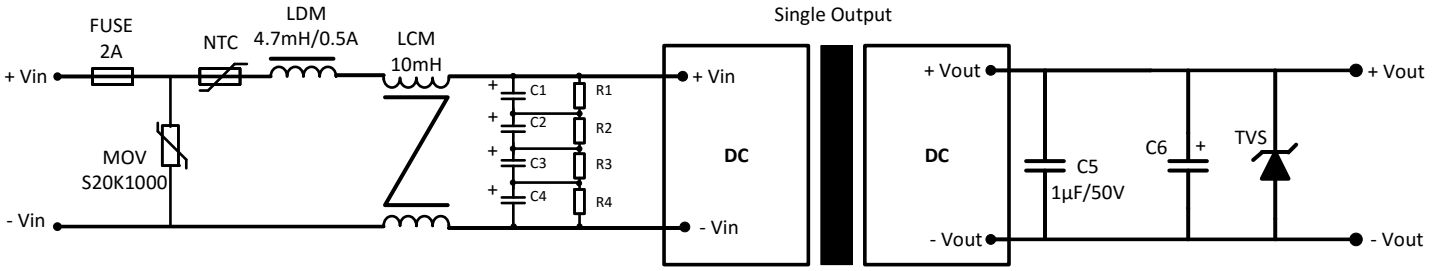


Model	C2	TVS
12 & 15 Vout	120 µF / 35V	20V
24 Vout	68 µF / 35V	33V

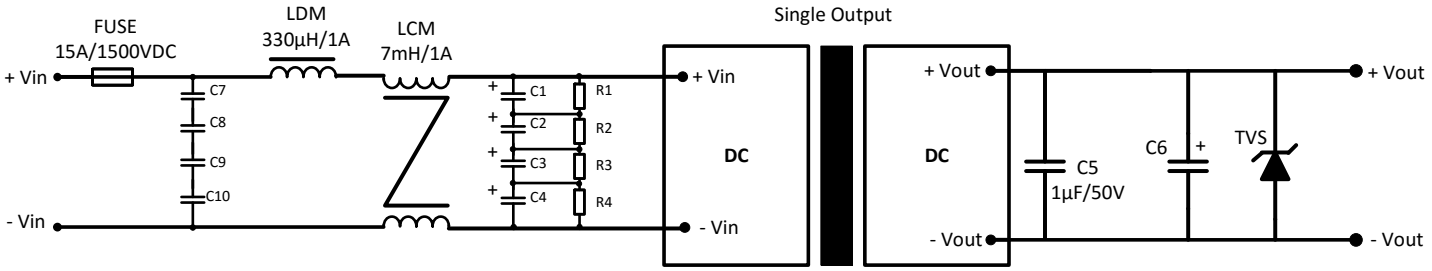
*NOTE: For 800VDC Input models NTC and MOV are not needed.

Recommended EMC Circuit

600VDC input models



800VDC input models



Model	C1, C2, C3 & C4	C7, C8, C9 & C10	R1, R2, R3 & R4	C6	TVS
12 & 15 Vout	47 µF/450V	100 nF/275VAC	1MΩ / 2W	120 µF / 35V	20V
24 Vout				68 µF / 35V	33V

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