Product characteristics



- ✧ Enclosure Type: DIN rail;
- ✧ Input Protection: Lightning, surge;
- ✧ Output Protection: Overcurrent, short circuit, overvoltage protection;
- ✧ Temperature Range: -40°C to +85°C;
- ✧ Conversion Efficiency: 87.3% (MAX);
- ✧ Isolation Withstand Voltage: 2750 VDC;
- ✧ Input Range: 85–264 VAC;
- ✧ Applications: Industrial, instrumentation, rail transit, smart streetlights, smart switches, smart home.

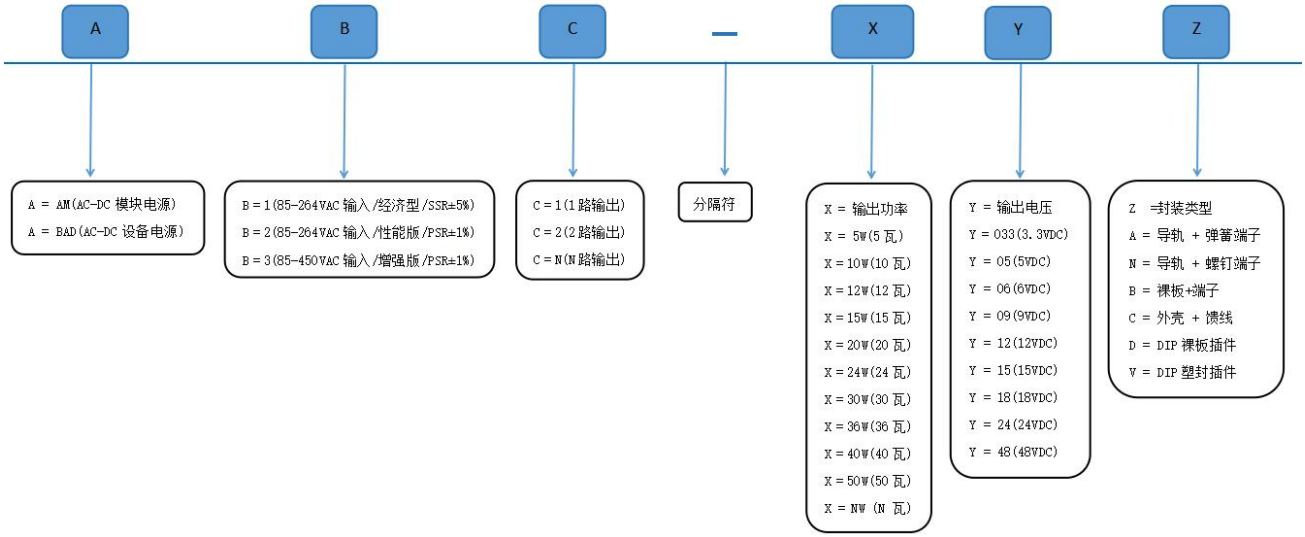
Version	Edit description	Date	Maintainer
V1.0	Initial release	2024-07-03	L J
V1.01	Added product series and model descriptions.	2025-07-23	L J

Product Selection Chart

Product Model	Input voltage range	Output			Efficiency (%) Min./Typ.	Maximum capacitive load (μF)
		Power (W)	Voltage (VDC)	Current (mA) Max./Min.		
BAD11-12W05N2	85 - 264VAC	12	5	2400	86.2	1500
BAD11-12W12N2			12	1000	87.3	1000

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Product Series and Model Descriptions



Input parameters

Model	Operating Conditions	Min.	Typical	Max.	Unit
Input Voltage Range	AC Input	85	--	264	VAC
Input Frequency	AC Input	47	--	63	Hz
Input Current	AC Input (220 VAC/50 Hz)	--	106	--	mA
Start-up Time		--	1000	1500	ms
Inrush Current	AC Input	--	10	--	A
Input Filter Type		C			
External Fuse		1A/250VAC, slow-blow, mandatory.			

Output parameters

Model	Operating Conditions		Min.	Typical	Max.	Unit
Output Voltage Accuracy	--	--	--	±3	±5	%
Voltage Regulation	Full load		--	±1.5	--	%
Load Regulation	10%–100% load	BAD11-12WXN2	--	±3	--	%
Ripple and Noise	20 MHz bandwidth, 100% load	BAD11-12WXN2	--	--	130	mV
Temperature Coefficient	Full load		--	±0.15	--	%/℃
Short-Circuit Protection			Sustainable, self-regenerating			
Overcurrent Protection	BAD11-12WXN2		110–150% Io self-recovery			
Minimum Load			0	--	--	%

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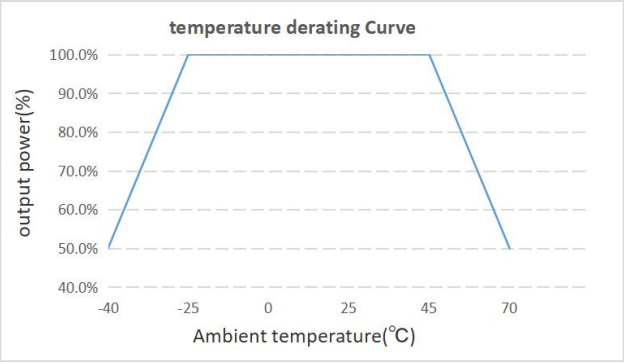
General Features

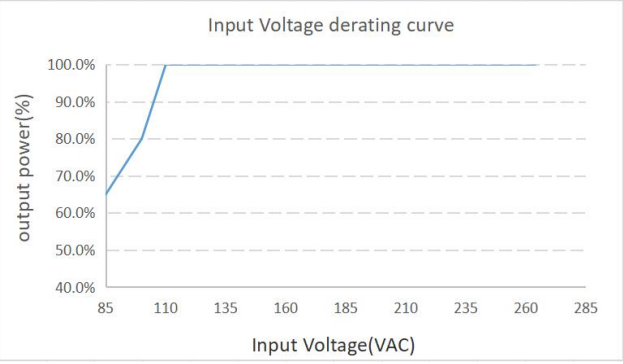
Item	Operating Conditions	Min.	Typical	Max.	Unit
Insulation Voltage	Input - Output	3000	--	--	Vac
Operating Temperature		-40	25	+55	℃
Storage Temperature		-40	25	+85	℃
Operating Humidity		--	--	95	%RH
Soldering Temperature	Wave soldering	260 ± 5℃; time：5-10s			
	Manual soldering	360 ± 10℃; tim：3-5s			
Switching Frequency		--	60	66	KHz
Mean Time Between Failures		MIL-HDBK-217F@25℃ > 100,000 h			

Mechanical Specifications

Shell material		Flame-retardant and heat-resistant
Dimensions	BAD11-12WXN2	87.5×58.7×24mm
Product Weight		
Cooling Method		Natural cooling

Product Performance Curve

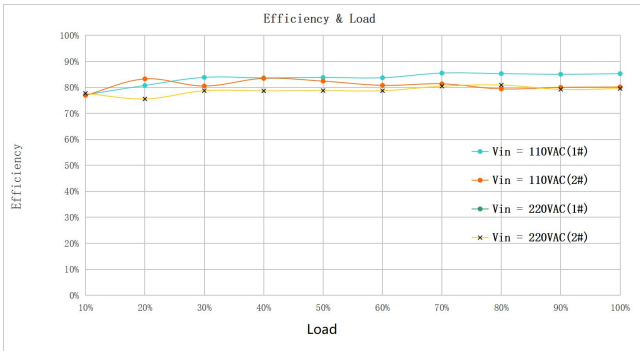




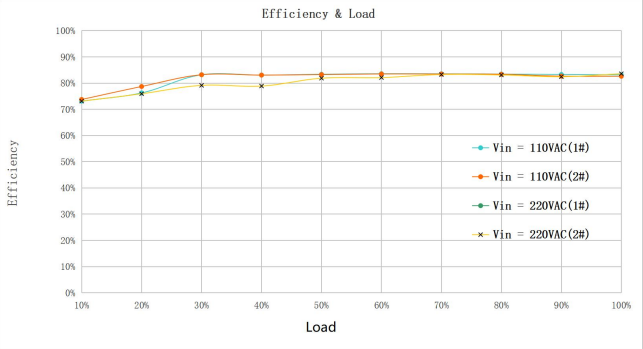
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Conversion Efficiency and Load

BAD11-12W05N2

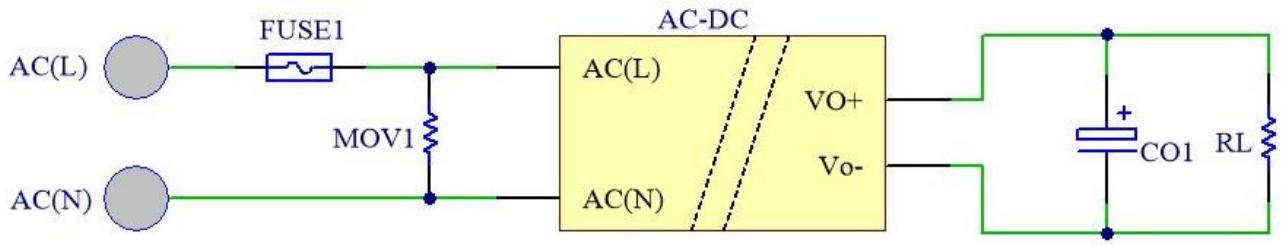


BAD11-12W12N2



Reference Designs

Typical Application Designs



FUSE1	CO1	MOV1
2A/500VAC Slow-blow, required	NC	NC

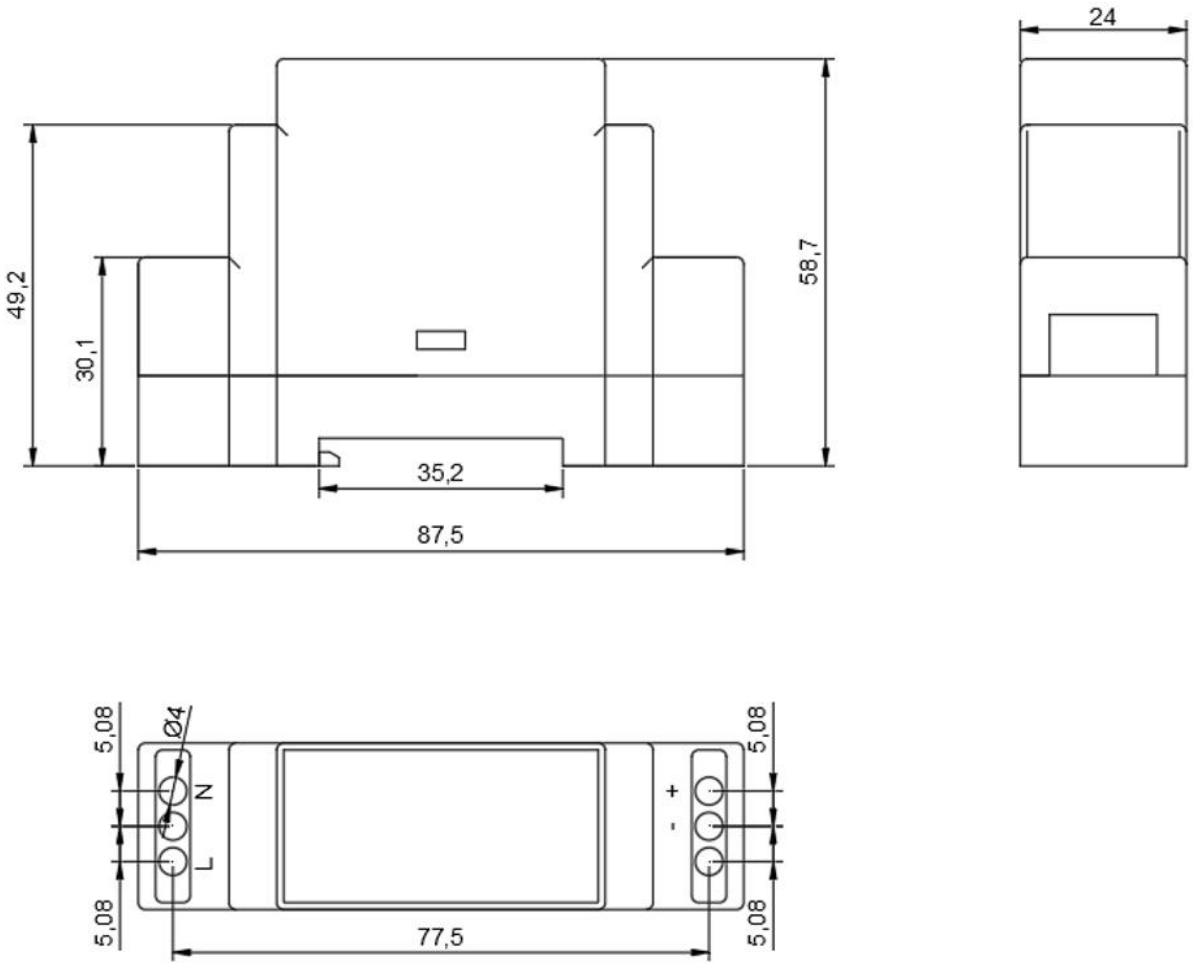
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Product Dimensions

Note:

Pin diameter tolerances:±0.25mm

General tolerances:±1mm



PIN	Note
L	AC_L AC Input_Live Wire
N	AC_N AC Input_Neutral Wire
+	+DC DC Output Positive Terminal

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-	-DC Negative terminal of DC output

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