

# LED Driver

## JPVO S24 Series

# JPVO S24

### Highlights & Features

- 24V constant voltage design
- AC input voltage 100 / 200 / 242Vac
- Meet JIS C 61000-3-2 Class C
- Up to 90% efficiency for 60W, 90W, 150W, 200W and 300W
- Wide operating temperature range
- Multi-channel independent LED operation
- IP67 ingress protection

### Safety Standards



電気用品安全法  
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### Dimensions (L x W x D):

JPVO-030024FA	200 x 60 x 34 mm
JPVO-060024FA	200 x 60 x 34 mm
JPVO-090024FA	220 x 60 x 34 mm
JPVO-150024FA	240 x 60 x 34 mm
JPVO-200024FA	220 x 100 x 38 mm
JPVO-300024FA	280 x 100 x 38 mm



### General Description

Delta JPVO S24 series of fixed constant output voltage LED drivers comes with affordable and reliable features. Compatible with signage from any manufacturer. Compatible with IP67 ingress protection level for indoor and outdoor application. Independent type design for stand-alone installations. The driver is able to operate for -40°C to +55°C ambient temperature range under free air convection.

### Model Information

#### JPVO S24 LED Driver

Model Number	Input Voltage Range	Rated Output Voltage	Rated Output Current	Output Channels
JPVO-030024FA	100 / 200 / 242Vac Typical 90-266Vac Range	24Vdc	1.25A	1
JPVO-060024FA			2.50A	1
JPVO-090024FA			3.75A	1
JPVO-150024FA			6.25A	1
JPVO-200024FA			4.16A/ Channel	2
JPVO-300024FA			6.25A/ Channel	2

### Model Numbering

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Safety Approval PSE	Constant Voltage	Outdoor		Output Power 030 – 30W 060 – 60W 090 – 90W 150 – 150W 200 – 200W 300 – 300W	Output Voltage 024 – 24Vdc	Function F – Fixed Output	Variable A - Standard



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### Specifications

Model Number	JPVO-030024FA	JPVO-060024FA	JPVO-090024FA	JPVO-150024FA	JPVO-200024FA	JPVO-300024FA
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### Input Ratings / Characteristics

Normal Input Voltage	100 / 200 / 242Vac						
Input Voltage Range	90-266Vac						
Normal Input Frequency	50-60 Hz						
Input Frequency Range	47-63 Hz						
Normal Input Current	100Vac	0.35A	0.70A	1.10A	1.70A	2.35A	3.38A
	200Vac	0.18A	0.35A	0.52A	0.85A	1.10A	1.42A
	242Vac	0.15A	0.30A	0.45A	0.70A	0.97A	1.36A
Efficiency <sup>1)</sup>	100Vac	86.7%	88.0%	87.5%	87.8%	87.2%	89.0%
	200Vac	88.6%	90.7%	90.6%	91.8%	91.5%	91.5%
	242Vac	88.6%	90.7%	90.6%	91.8%	91.5%	91.5%
Max Inrush Current	25A/ 200uS @ 100Vac and 60A/ 200uS @ 242Vac at cold start					60A/ 200uS @ 100Vac and 120A/ 200uS @ 242Vac at cold start	60A/ 200uS @ 100Vac and 135A/ 200uS @ 242Vac at cold start
Power Factor at 100% load	> 0.9 @ full load						
Total Harmonic Distortion	Meet JIS C 61000-3-2 Class C @ full load						
Leakage Current	< 0.7mA						

1) 100% Load (typical) and tested after 30 minutes warm up.

### Output Ratings / Characteristics

Nominal Output Voltage	24Vdc					
Output Current Range (per channel)	0.1A - 1.25A	0.1A - 2.5A	0.1A - 3.75A	0.1A - 6.25A	0.1A - 4.16A	0.1A - 6.25A
Max. Output Power (per channel)	30W	60W	90W	150W	100W	150W
Output Channel	1	1	1	1	2	2
Max. Output Power (total output)	30W	60W	90W	150W	200W	300W
Max. No Load Output Voltage	25.2Vdc					
Output Voltage Tolerance	± 5%					
Line Regulation	± 1%					
Load Regulation	± 5%					
Output Ripple Voltage	< 400mV					
Rise Time	< 100ms					
Start-up Time	< 500ms					

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### Mechanical

Casing	Aluminum, Color : Natural					
Dimensions (L x W x H) [mm]	200.0 x 60.0 x 34.0	200.0 x 60.0 x 34.0	220.0 x 60.0 x 34.0	240.0 x 60.0 x 34.0	220.0 x 100.0 x 38.0	280.0 x 100.0 x 38.0
Unit Weight [kg]	0.64	0.64	0.72	0.79	1.40	1.80
Cooling System	Convection					
Input Cable	Rubber cable(PNCTF type), Line: Black, Neutral: White, PE: Green/Yellow, cable length 150mm					
Output Cable	Rubber cable(SJOW type), Positive: Red, Negative: Black, cable length 150mm					
Acoustic Noise	Sound Pressure Level (SPL) < 24dBA, 30cm distance					

### Environment

Ambient Temperature	Operating	-40°C to +55°C				-40°C to +40°C	
	Storage	-40°C to +85°C					
Maximum Case Temperature		+75°C	+75°C	+85°C	+85°C	+85°C	+85°C
Lifetime Ambient Temperature		+55°C	+55°C	+50°C	+45°C	+40°C	+40°C
Relative Humidity	Operating	10 to 90% RH (Non-Condensing)					
	Storage	5 to 95% RH (Non-Condensing)					
Drop Test (Non-Operating)	40cm height, drop to concrete floor as below drawing, total 10 times.						
Vibration (Non-Operating)	5Hz to 10 Hz (1G); 30 min per axis for all X, Y, Z direction						
Packing	10pcs per carton					6 pcs per carton	

### Protections

Over Voltage	Auto-Recovery when the fault is removed
Overload / Overcurrent	Auto-Recovery when the fault is removed
Over current Range	105-130% of full load
Short Circuit	Auto-Recovery when the fault is removed
Over Temperature	Auto-Recovery when the fault is removed
Ingress Protection classification	IP67

### Reliability Data

Lifetime	50,000 hrs.@ lifetime ambient temperature
MTTF	500,000 hrs.@ 40°C ambient temperature as per Telcordia SR-332

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### Safety Standards / Directives

Electrical Safety	PSE Clause 1, Interpretation on Ministerial Ordinance establishing Technical Requirements Appendix 8, Sec. 1, 2 (102) DC Power Supply Unit, Appendix 10 Sec. 5 & Appendix 4 of the Enforcement Regulations (AC Electric Appliances)	
Material and Parts	RoHS Directive Compliant	
Galvanic Isolation	Input to Output	3,000Vac
	Input to Case	1,500Vac
	Output to Case	500Vac

### EMC

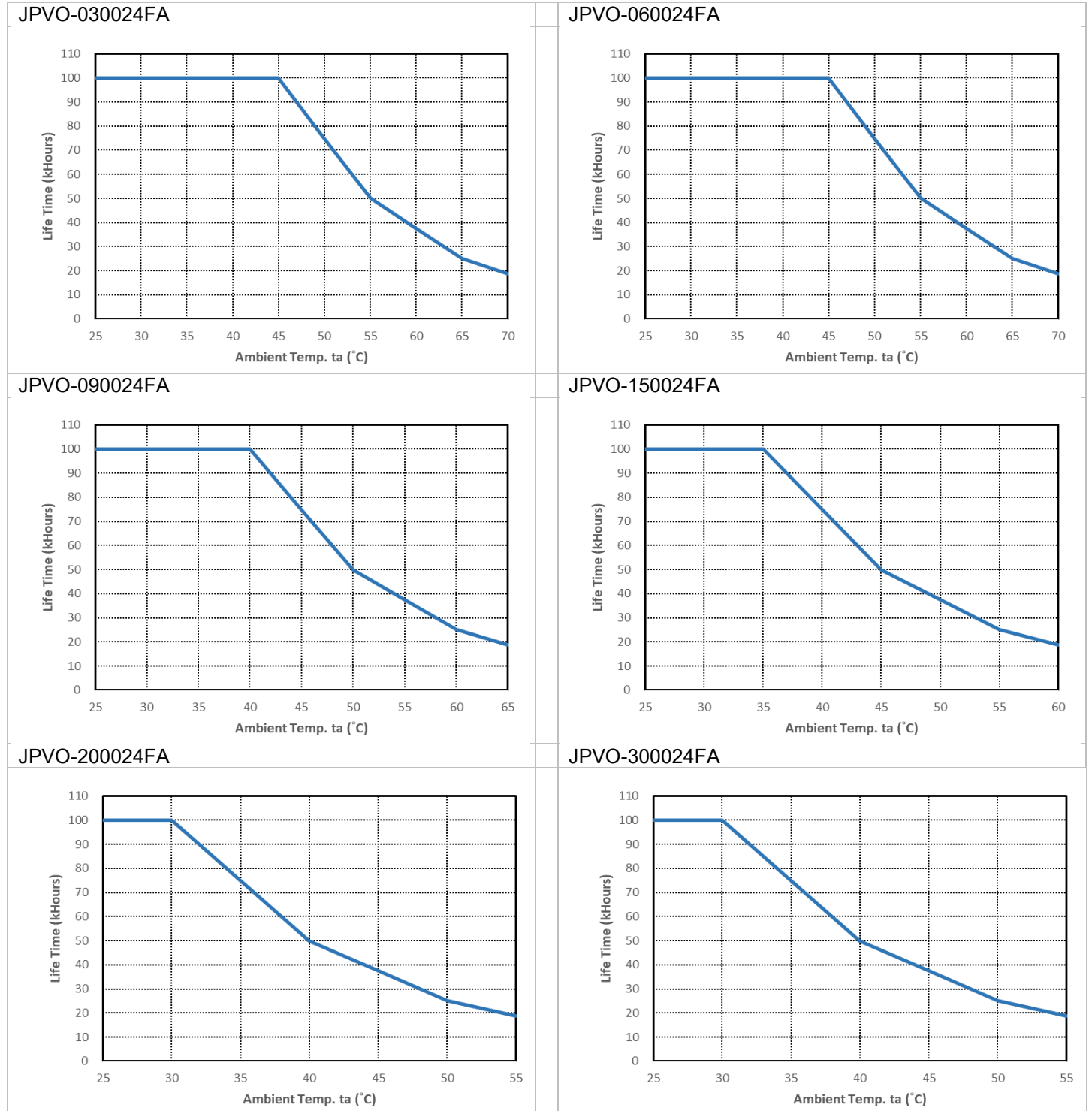
Noise Terminal Voltage Disturbance	0.5625M~5MHz : QP<56dBuV; 5M~30MHz : QP<60dBuV	
Noise Power Disturbance	30M~300MHz : QP<55dBpW	
Harmonic Emission	JIS C 61000-3-2	Class C @ 100 / 200 / 242Vac, full load condition
Surge Immunity	JIS C 61000-4-5	Differential Mode: 2kV; Common Mode: 4kV 1.2/50μs, 8/20μs Combination Wave with 2ohms (L-N), 12ohms (L-PE & N-PE) source impedance Criteria B

- 1) Criteria A: Normal performance within the specification limits  
2) Criteria B: Temporary degradation or loss of function which is self-recoverable

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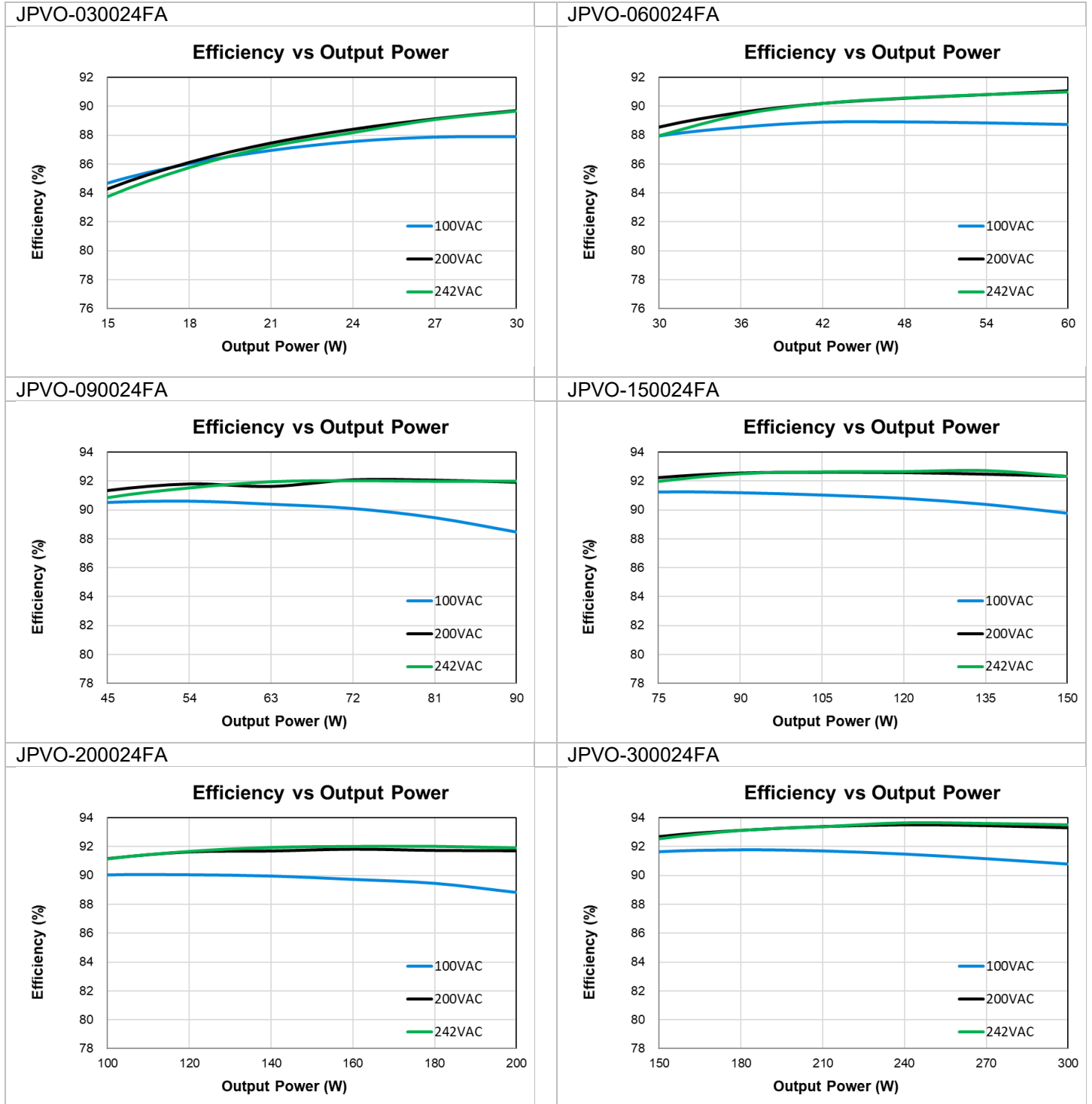
### Lifetime VS Ambient Temperature



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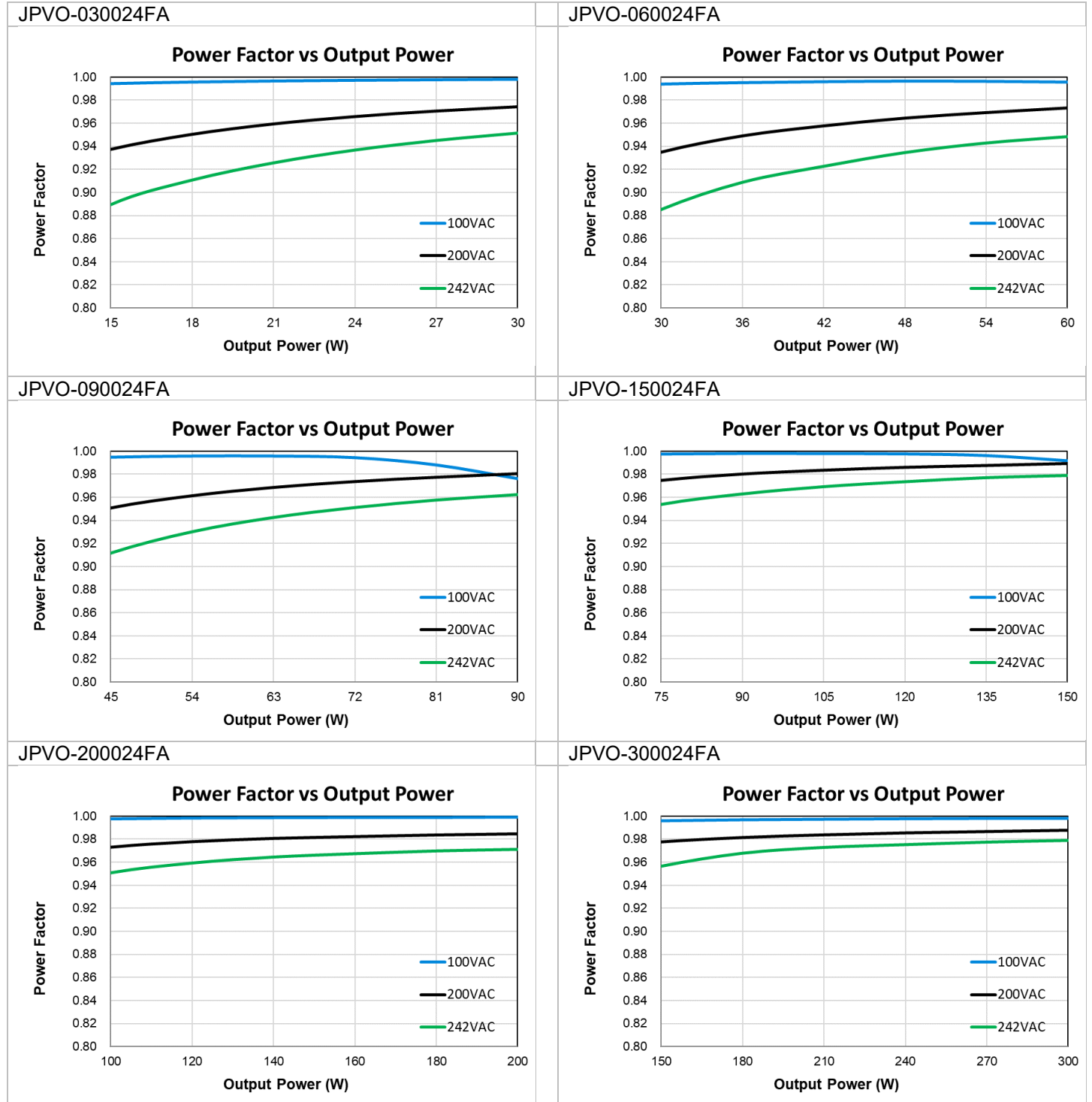
### Efficiency vs. Output Power



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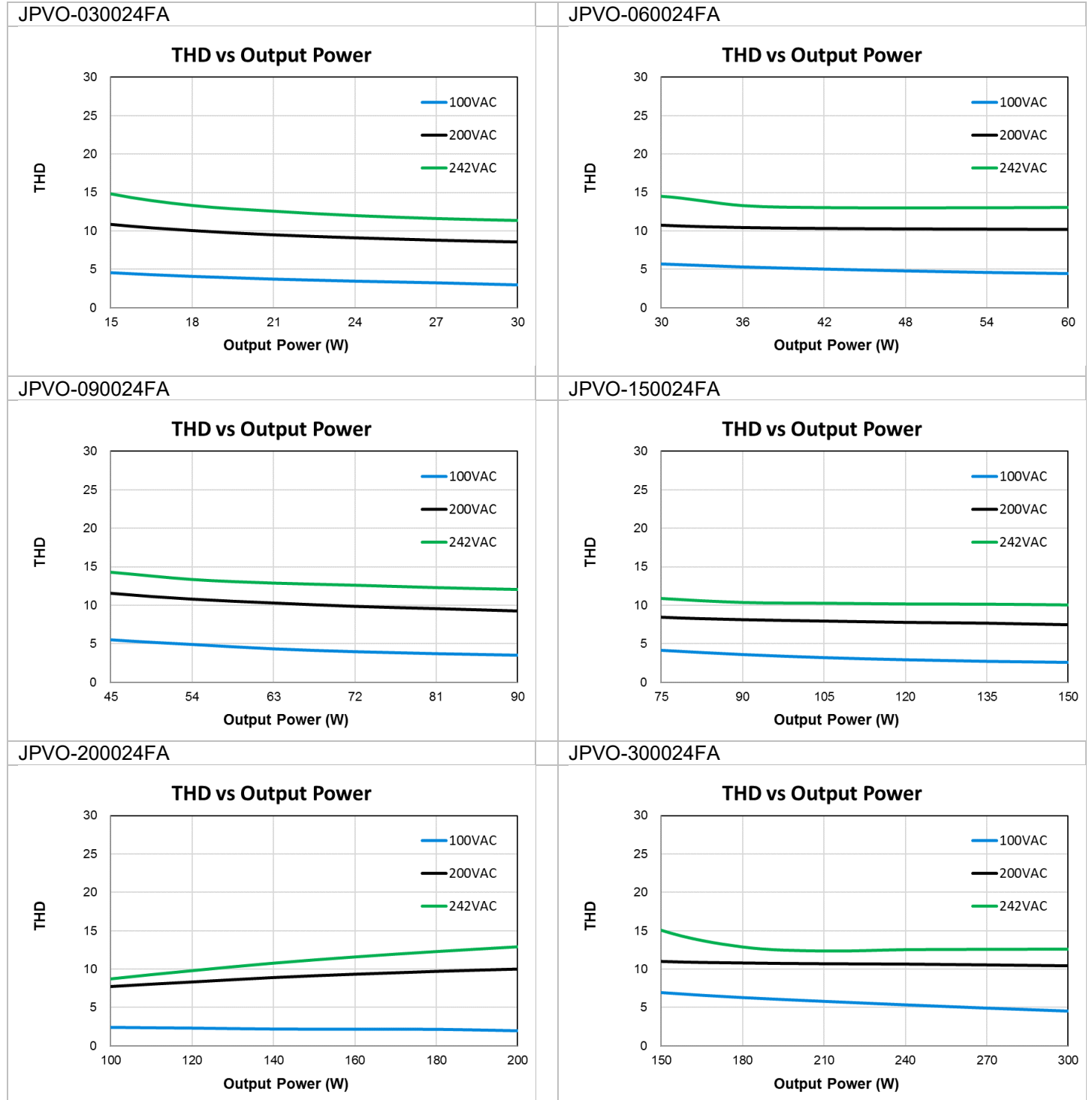
### Power Factor vs. Output Power



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### Total Harmonic Distortion vs. Output Power

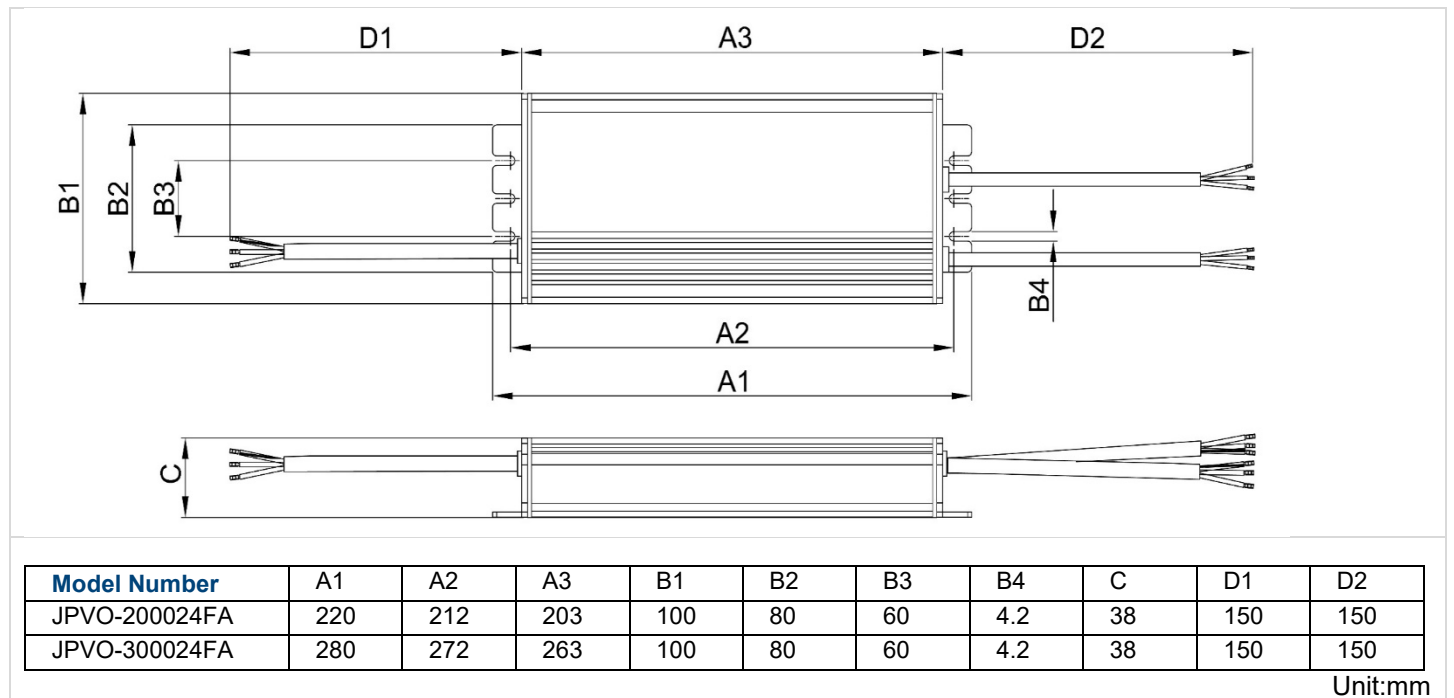
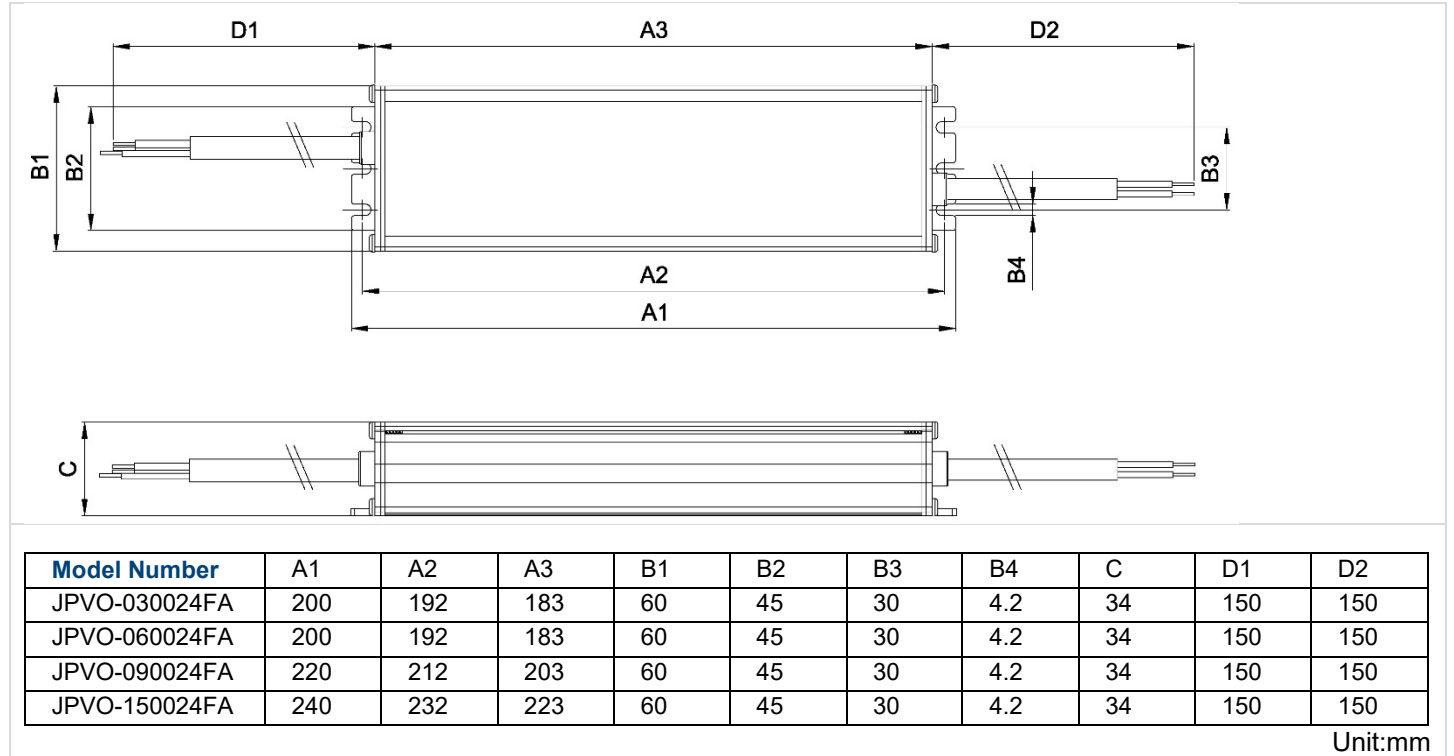




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### Dimensions



### Others

#### Warranty Policy

Please reach out our [Warranty Policy](#) should you require any further clarification.