

# LED Driver

## JPVI S24 Series

# JPVI S24

### Highlights & Features

- 24V constant voltage design
- AC input voltage 100 / 200 / 242Vac
- Meets JIS C 61000-3-2 Class C
- Up to 90% efficiency for 60W, 100W and 150W
- Wide operating temperature range
- 10mm structure elevated to meet indoor wiring regulation.

### Safety Standards



電気用品安全法  
別表第八・第十

### Dimensions (L x W x D):

JPVI-020024FA*	132.0 x 34.0 x 25.4 mm
JPVI-060024FA	241.3 x 43.0 x 30.5 mm
JPVI-100024FA	241.3 x 43.0 x 30.5 mm
JPVI-060024FK	241.3 x 43.0 x 40.5 mm
JPVI-100024FK	241.3 x 43.0 x 40.5 mm
JPVI-150024FK	241.3 x 60.0 x 41.5 mm

\* PSE Clause 2

### General Description

Delta JPVI 24 series of fixed constant output voltage LED drivers comes with affordable and reliable features. Available in 10mm structure elevated to meet indoor wiring regulation. Compatible with showcase and display lighting from any manufacturer. The driver is able to operate for -10°C to +40°C ambient temperature range under free air convection.

### Model Information

JPVI S24 LED Driver

Model Number	Input Voltage Range	Rated Output Voltage	Rated Output Current	Control Interface
JPVI-020024FA	100 - 277Vac Typical	24Vdc	0.85A	Fixed
JPVI-060024FA/ FK	100 / 200 / 242Vac Typical		2.5A	Fixed
JPVI-100024FA/ FK			4.17A	Fixed
JPVI-150024FK			6.25A	Fixed

### Model Numbering

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Safety Approval PSE	Constant Voltage	Indoor		Output Power 020 – 20W 060 – 60W 100 – 100W 150 – 150W	Output Voltage 024 – 24Vdc	Function F – Fixed Output	Variable A – Standard K – Elevated

### Specifications

# LED Driver

## JPVI S24 Series

Model Number	JPVI-020024FA	JPVI-060024FA/ FK	JPVI-100024FA/ FK	JPVI-150024FK
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### Input Ratings / Characteristics

Normal Input Voltage	100-277Vac		100 / 200 / 242Vac		
Input Voltage Range	90-305Vac		90-266Vac		
Normal Input Frequency	50-60 Hz		50-60 Hz		
Input Frequency Range	47-63 Hz		47-63 Hz		
Normal Input Current	100Vac	0.24A	0.70A	1.13A	1.70A
	200Vac	0.12A	0.35A	0.55A	0.85A
	242Vac	0.10A	0.30A	0.46A	0.70A
Efficiency <sup>1)</sup>	100Vac	84.8%	87.2%	87.5%	88.2%
	200Vac	81.3%	90.0%	90.7%	91.9%
	242Vac	81.3%	90.0%	91.0%	91.9%
Max Inrush Current	32A/ 150us		25A/ 200uS @ 100Vac and 60A/ 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	24Vdc	24Vdc	24Vdc
Output Current Range	0.1A - 0.83A	0.1A - 2.5A	0.1A - 4.17A	0.1A - 6.25A
Max. No Load Output Voltage	25.2Vdc	25.2Vdc	25.2Vdc	25.2Vdc
Max. Output Power	20W	60W	100W	150W
Output Voltage Tolerance	± 5%			
Line Regulation	± 1%			
Load Regulation	± 5%			
Output Ripple Voltage	< 720mVp-p	< 400mV		
Rise Time	< 100ms	< 100ms	< 300ms	
Start-up Time	< 1000ms	< 500ms		

# LED Driver

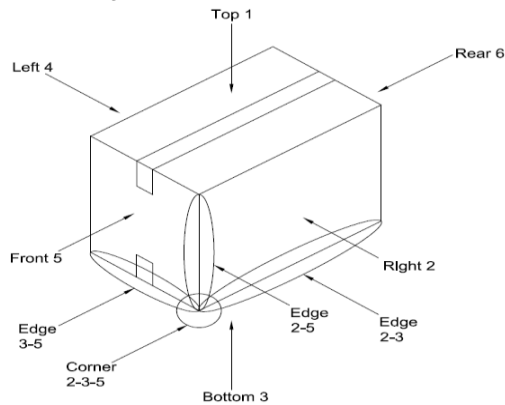
## JPVI S24 Series

Model Number	JPVI-020024FA	JPVI-060024FA/ FK	JPVI-100024FA/ FK	JPVI-150024FK
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### Mechanical

Casing	Plastic, Color : White	Metal sheet		Aluminum sheet
Dimensions (L x W x H) [mm]	132.0*34.0*25.4	241.3 x 43.0 x 30.5 (FA) 241.3 x 43.0 x 40.5 (FK)		241.3 x 60.0 x 41.5
Unit Weight [kg]	0.18	0.55	0.55	0.8
Cooling System	Convection			
Input Wire	Line: Black, Neutral: White, Wires Length 300mm			
Output Wire	Positive: Red, Negative: Blue, Wires Length 300mm	Positive: Red, Negative: Black, Wires Length 300mm		
Acoustic Noise	Sound Pressure Level (SPL) < 24dBA, 30cm distance			

### Environment

Ambient Temperature	Operating	-10°C to +60°C	-10°C to +55°C	-10°C to +40°C	-10°C to +40°C
	Storage	-40°C to +85°C			
Maximum Case Temperature		+90°C	+80°C	+80°C	+75°C
Lifetime Ambient Temperature		+40°C	+55°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			
Ingress Protection Class		IP54 equivalent			

### 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

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### Reliability Data

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

### Safety Standards / Directives

Model Number	JPVI-020024FA	JPVI-060024FA/ FK	JPVI-100024FA/ FK	JPVI-150024FK
Electrical Safety	PSE Clause 2, J61347-1(H29), J61347-2-13(H29)	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	3750V	4,000Vac	
	Input to Case	-	1,500Vac	
	Output to Case	-	500Vac	

### EMC

#### JPVI-020024FA

EMC / Emissions	Compliance to J55015(H29)	
Immunity		
Electrostatic Discharge	JIS C 61000-4-2	ESD, Air Discharge: 15kV Contact Discharge: 8kV Criteria A <sup>1</sup> or B <sup>2</sup>
Electrical Fast Transient / Burst	JIS C 61000-4-4	EFT, Criteria A <sup>1</sup> or B <sup>2</sup> 2kV
Surge	JIS C 61000-4-5	Differential Mode: 2kV; Common Mode: 4kV 1.2/50 $\mu$ s, 8/20 $\mu$ s Combination Wave with 2ohms (L-N), 12ohms (L-PE & N-PE) source impedance Criteria B <sup>2</sup>
Voltage Dips	JIS C 61000-4-11	100% dip; 0.5 cycle; Self Recoverable 30% dip; 10 cycle; Self Recoverable Criteria A <sup>1</sup> or B <sup>2</sup>
Harmonic Current Emission	JIS C 61000-3-2	Class C @ 100 / 200 / 242Vac, full load condition
Voltage Fluctuation & Flicker	JIS C 61000-3-3	$P_{st} \leq 1.0$ ; $d_{max} \leq 4\%$ ; $P_{it} \leq 0.65$ ; $d_c \leq 3.3\%$ ; $T_{max} \leq 500ms$

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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## EMC

JPVI-060024FA / JPVI-100024FA / JPVI-060024FK / JPVI-100024FK / JPVI-150024FK

Noise Terminal Voltage Disturbance		0.5265M~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 1.2/50 $\mu$ s, 8/20 $\mu$ s Combination Wave with 2ohms (L-N), 12ohms (L-PE & N-PE) source impedance Criteria B

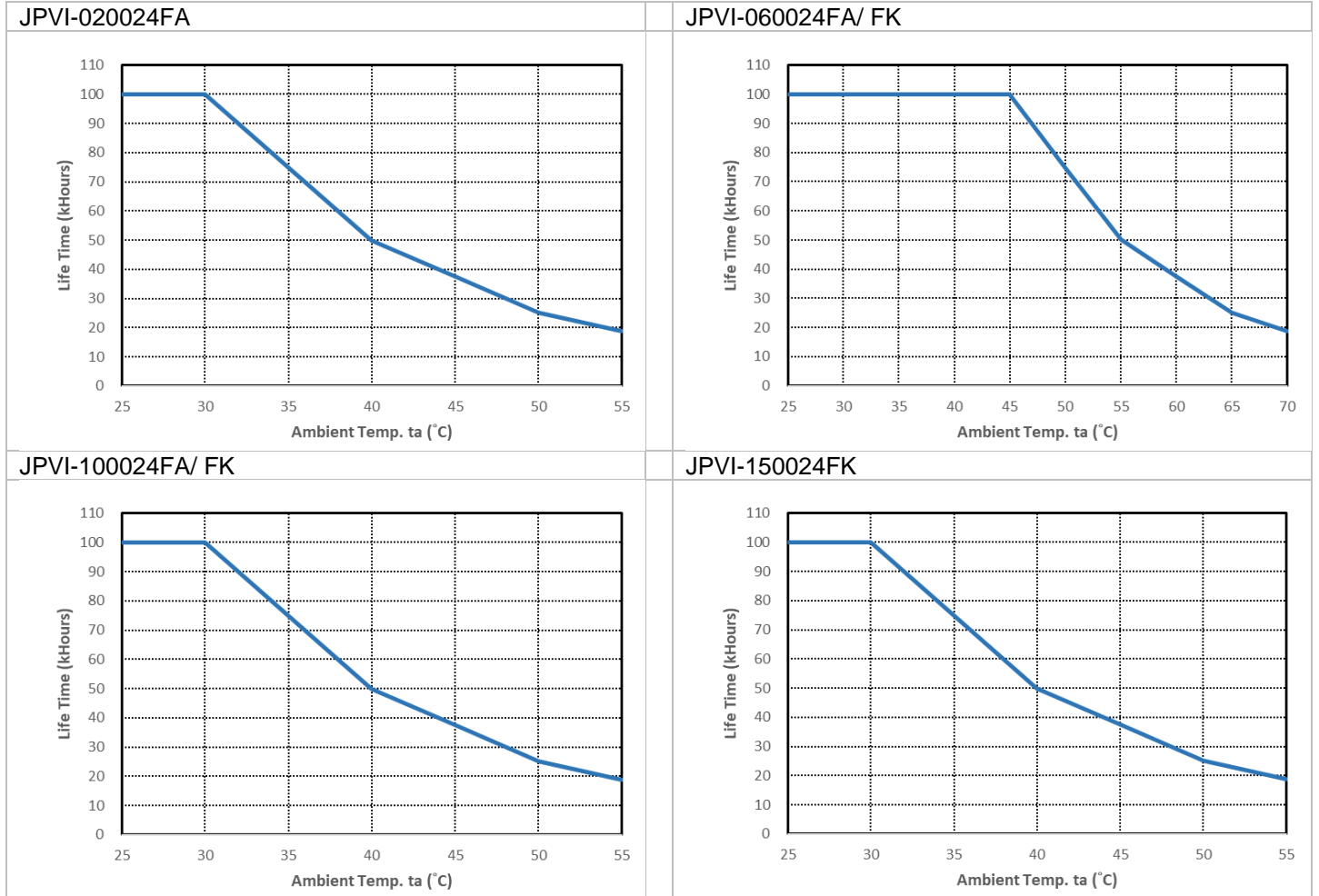
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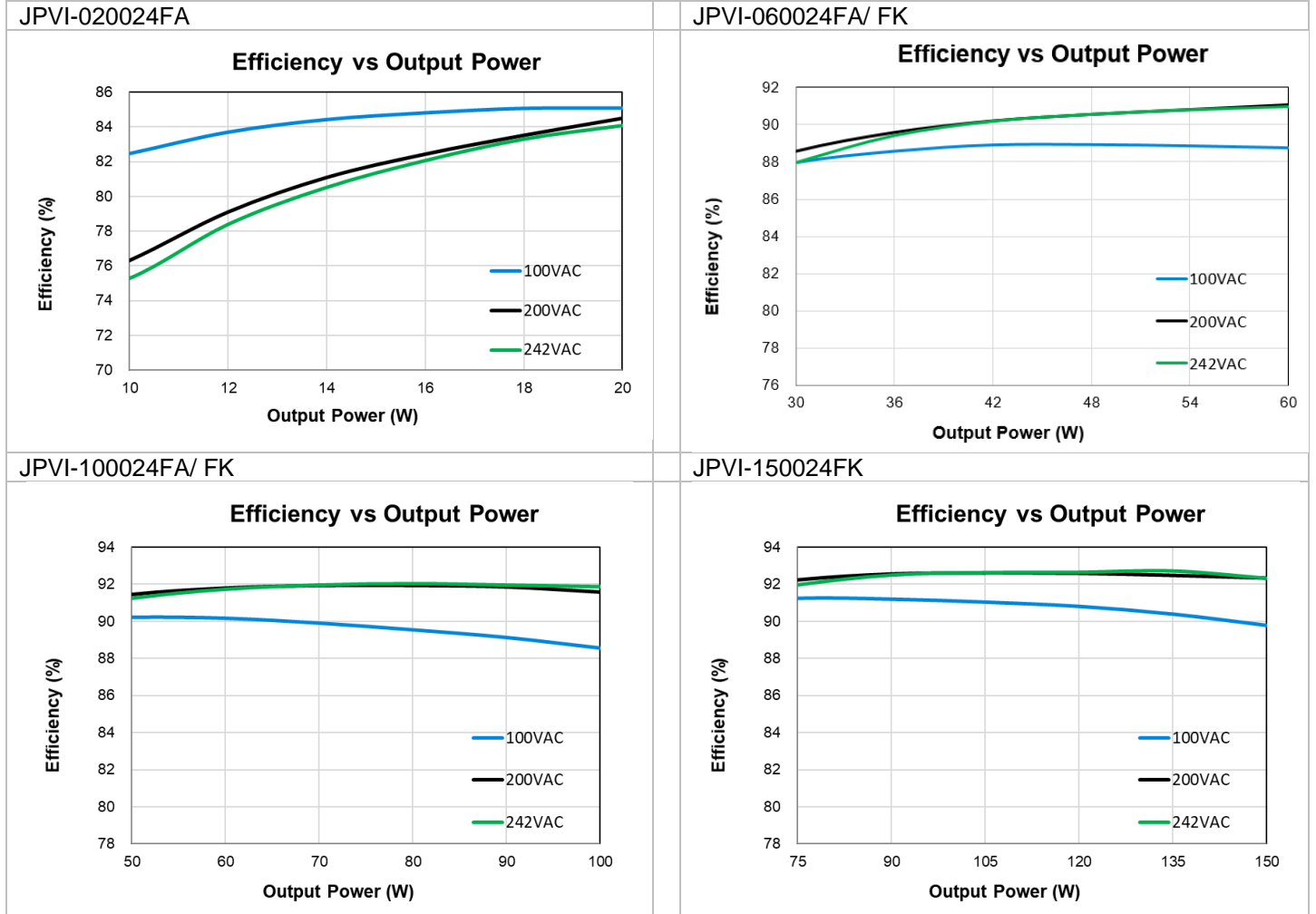
### Lifetime VS Ambient Temperature



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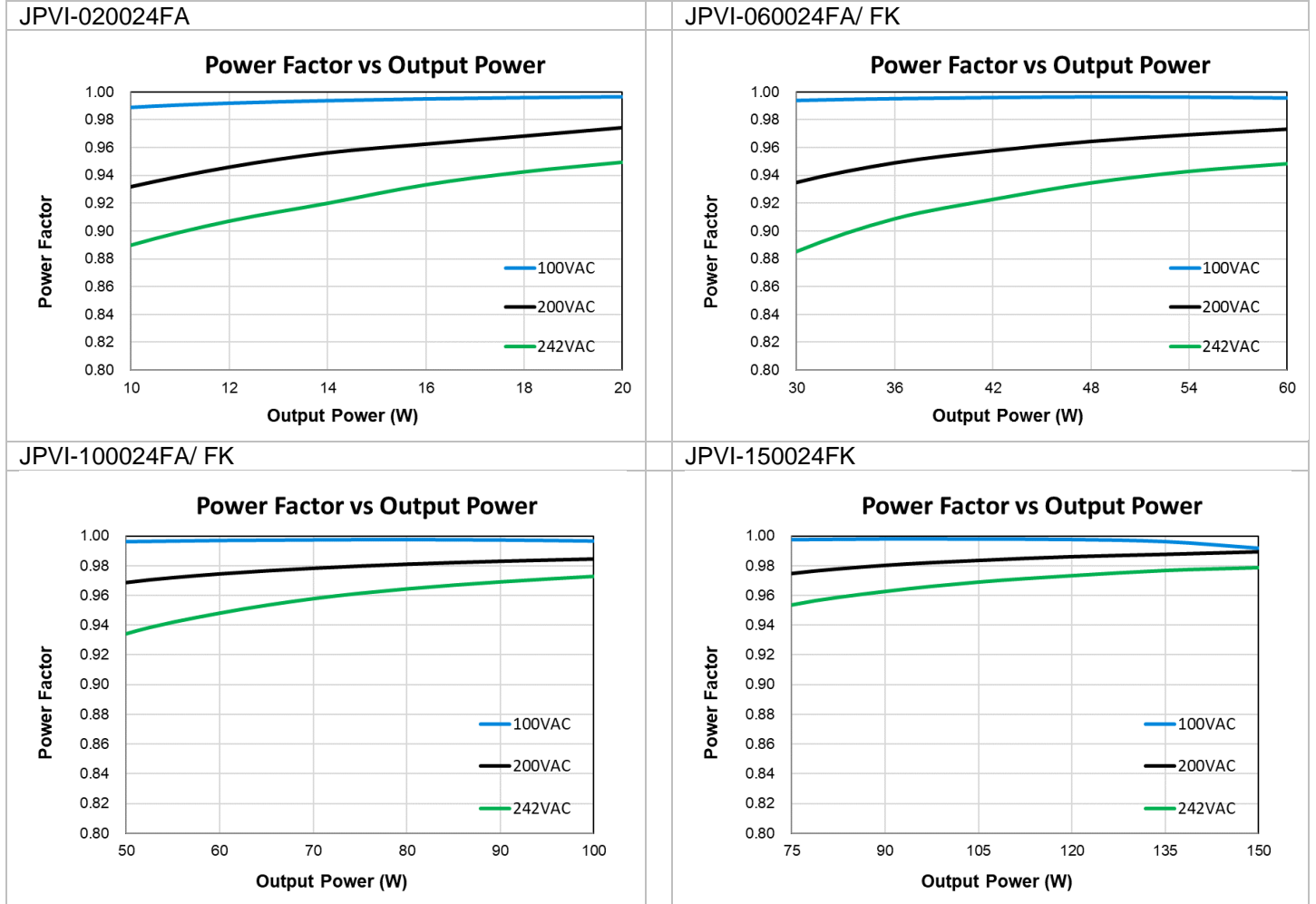
### Efficiency vs. Output Power



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### Power Factor vs. Output Power

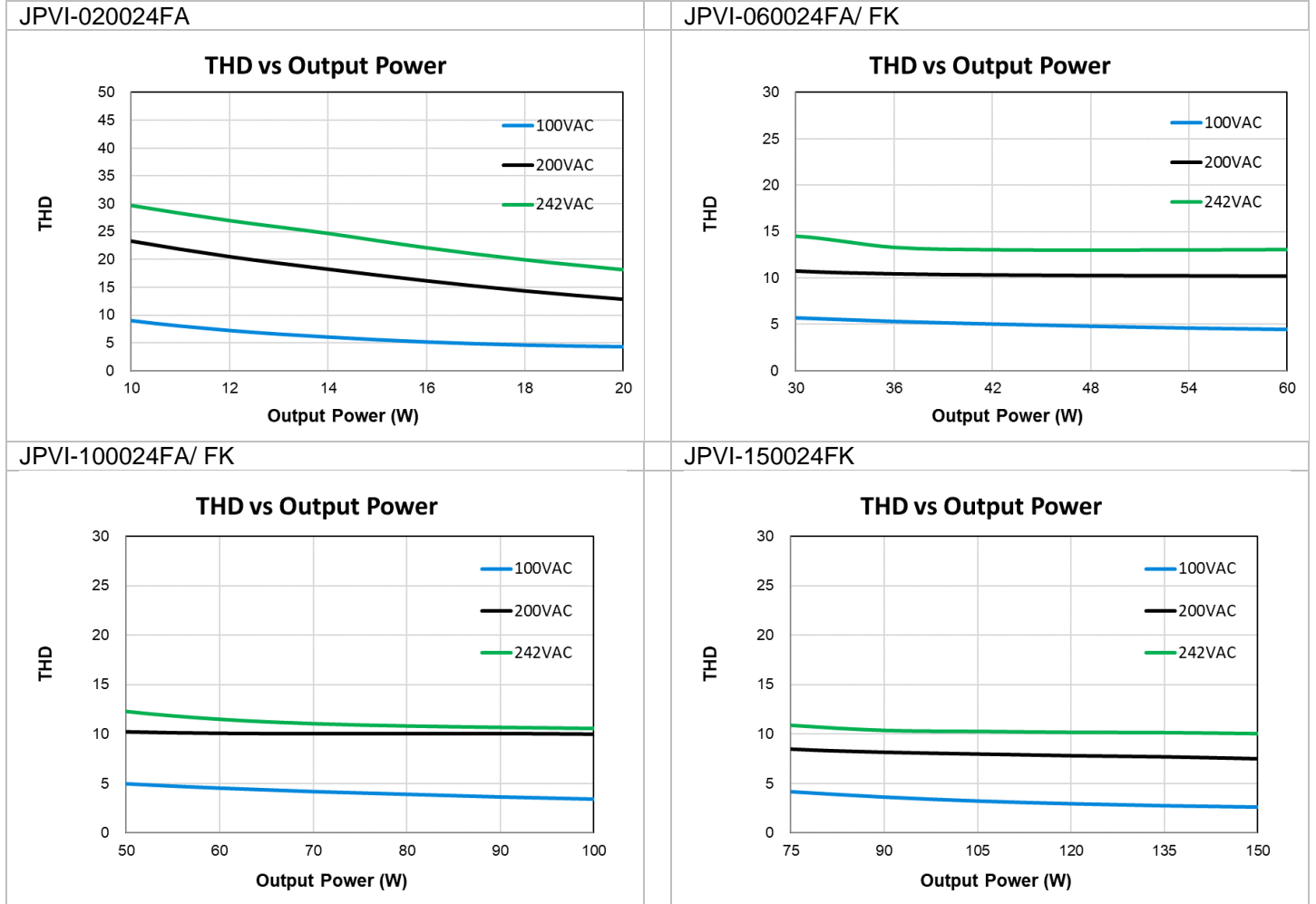




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### Total Harmonic Distortion vs. Output Power

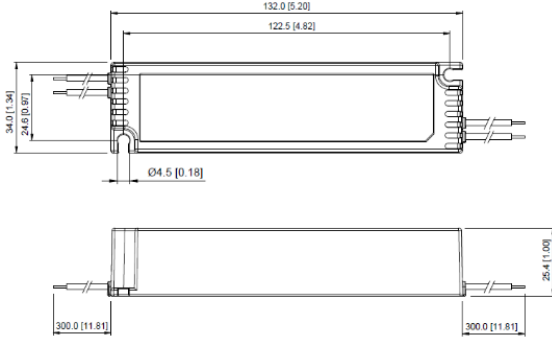


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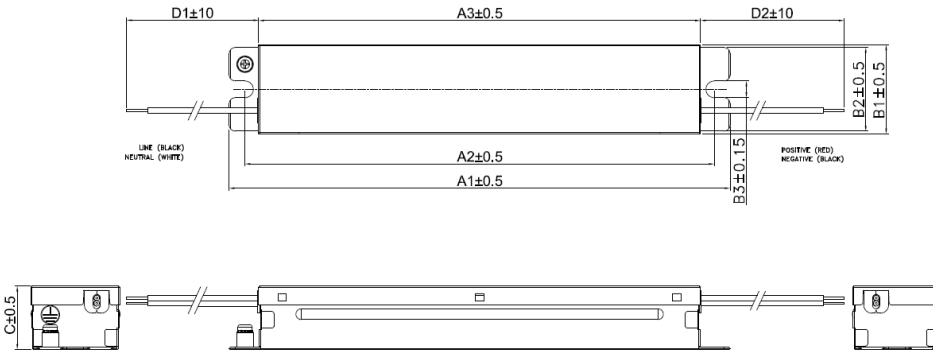
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### Dimensions

#### JPVI-020024FA



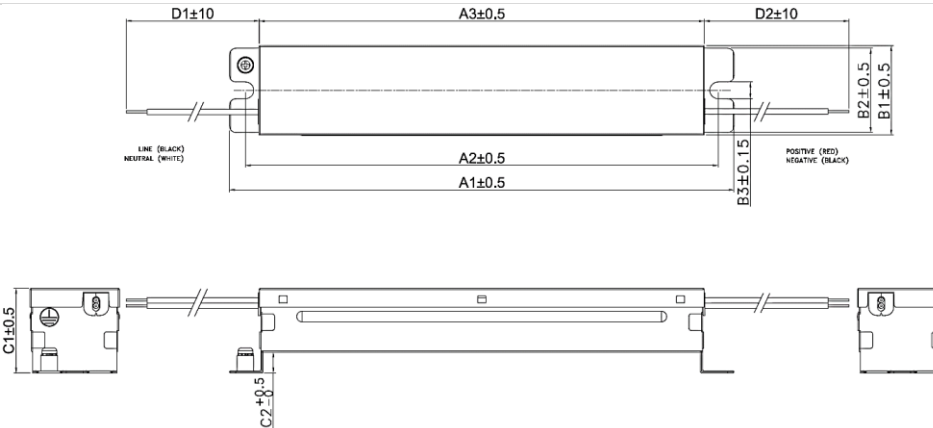
#### JPVI-060024FA / JPVI-100024FA



Model Number	A1	A2	A3	B1	B2	B3	C	D1	D2
JPVI-060024FA	241.3	226	212.8	43.0	40.3	8	30.5	300	300
JPVI-100024FA	241.3	226	212.8	43.0	40.3	8	30.5	300	300

Unit:mm

#### JPVI-060024FK / JPVI-100024FK / JPVI-150024FK



Model Number	A1	A2	A3	B1	B2	B3	C1	C2	D1	D2
JPVI-060024FK	241.3	226	212.8	43.0	40.3	8	40.5	10	300	300
JPVI-100024FK	241.3	226	212.8	43.0	40.3	8	40.5	10	300	300
JPVI-150024FK	241.3	226	212.8	60.0	55.3	8	41.5	10	300	300

Unit:mm

# LED Driver

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### Others

#### Warranty Policy

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