

# LED Driver

## JPVI S12 Series

# JPVI S12

### Highlights & Features

- 12V constant voltage design
- AC input voltage 100 / 200 / 242Vac
- Meets JIS C 61000-3-2 Class C
- Meets CISPRJ 15
- Up to 90% efficiency for 100W and 150W
- Wide operating temperature range
- 10mm structure elevated to meet indoor wiring regulation.



### Safety Standards



電気用品安全法  
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### Dimensions (L x W x H):

JPVI-020012FA*	132.0 x 34.0 x 25.4 mm
JPVI-060012FK	241.3 x 43.0 x 40.5 mm
JPVI-100012FK	241.3 x 60.0 x 40.5 mm
JPVI-150012FK	280 x 60.0 x 40.5 mm

\* PSE Clause 2

### General Description

Delta JPVI S12 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 S12 LED Driver

Model Number	Input Voltage Range	Rated Output Voltage	Rated Output Current	Control Interface
JPVI-020012FA	100 ~277Vac Typical	12Vdc	1.7A	Fixed
JPVI-060012FK	100 / 200 / 242Vac Typical		5.0A	Fixed
JPVI-100012FK			8.3A	Fixed
JPVI-150012FK			12.5A	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 012 – 12Vdc	Function F – Fixed Output	Variable A – Standard K – Elevated

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### Specifications

<b>Model Number</b>	JPVI-020012FA	JPVI-060012FK	JPVI-100012FK	JPVI-150012FK
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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	0.72A	1.20A	1.70A
	200Vac	0.12A	0.36A	0.60A	0.85A
	242Vac	0.10A	0.30A	0.50A	0.70A
Efficiency <sup>1)</sup>	100Vac	83.0%	82.0%	87.4%	87.8%
	200Vac	82.0%	85.7%	90.8%	91.1%
	242Vac	82.0%	85.8%	91.1%	91.5%
Max Inrush Current	27A/ 250us	25A @ 100Vac and 60A @ 242Vac at cold start	35A @ 100Vac and 80A @ 242Vac at cold start	40A @ 100Vac and 90A @ 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	12Vdc			
Output Current Range	0.1A - 1.7A	0.1A - 5.0A	0.1A - 8.3A	0.1A - 12.5A
Max. No Load Output Voltage	12.6Vdc			
Max. Output Power	20W	60W	100W	150W
Output Voltage Tolerance	± 5%			
Line Regulation	± 1%			
Load Regulation	± 5%			
Output Ripple Voltage	< 360mVp-p	< 500mVp-p		
Rise Time	< 100ms			
Start-up Time	< 1000ms			

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Model Number	JPVI-020012FA	JPVI-060012FK	JPVI-100012FK	JPVI-150012FK
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### Mechanical

Casing	Plastic, Color: White	Metal sheet, Color: Gray	Metal sheet, Color: White	Metal sheet, Color: White
Dimensions (L x W x H) [mm]	132.0*34.0*25.4	241.3 x 43.0 x 40.5	241.3 x 60.0 x 40.5	280 x 60.0 x 40.5
Unit Weight [kg]	0.18	0.55	0.77	0.96
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	Positive: Red, Negative: Black, 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 +40°C	-10°C to +40°C	-10°C to +40°C
	Storage	-40°C to +85°C			
Maximum Case Temperature		+85°C	+75°C	+85°C	+85°C
Lifetime Ambient Temperature		+40°C	+40°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	50 pcs per carton	10 pcs per carton	10 pcs per carton	8 pcs per carton	
Ingress Protection	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. @ lifetime case temperature
MTTF	500,000 hrs. @ 40°C ambient temperature as per Telcordia SR-332

### Safety Standards / Directives

Model Number	JPVI-020012FA	JPVI-060012FK	JPVI-100012FK	JPVI-150012FK
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-020012FA

EMC / Emissions	Compliance to J55015(H29)	
Immunity		
Electrostatic Discharge	JIS C 61000-4-2	ESD, Criteria A <sup>1</sup> or B <sup>2</sup> Air Discharge: 16kV Contact Discharge: 8kV
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 1.2/50µs, 8/20µs 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 <sub>st</sub> ≤ 1.0; d <sub>max</sub> ≤ 4%; P <sub>It</sub> ≤ 0.65; d <sub>c</sub> ≤ 3.3%; T <sub>max</sub> ≤ 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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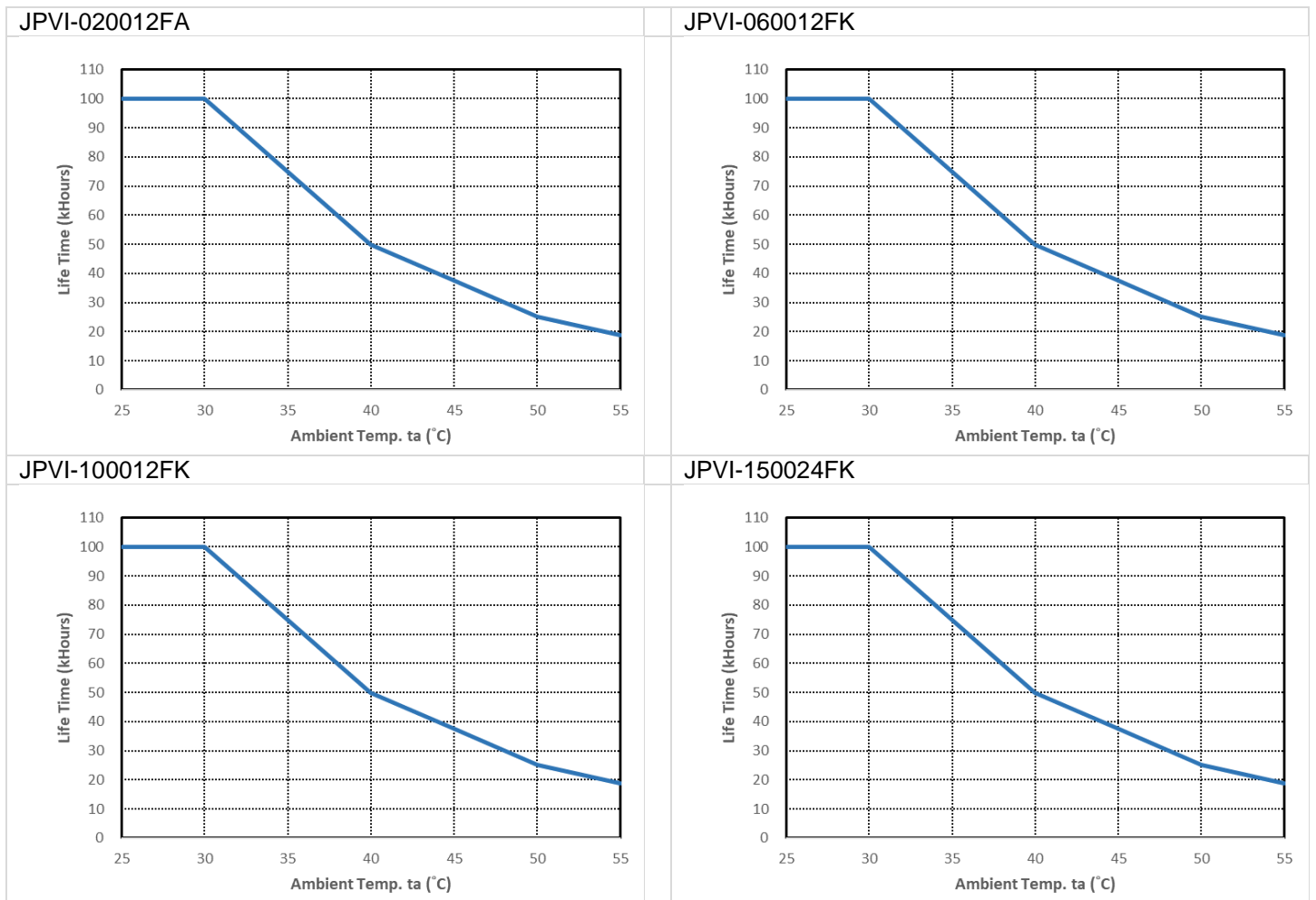
### EMC

#### JPVI-060012FK/ JPVI-100012FK/ JPVI-150012FK

Noise Terminal Voltage Disturbance		0.5265M~5MHz : QP< 56dBuV; 5M~30MHz : QP< 60dBuV
Noise Power Disturbance		30M~300MHz : QP< 55dBpW
EMI	CISPRJ 15	Meet CISPRJ 15
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 <sup>2</sup>

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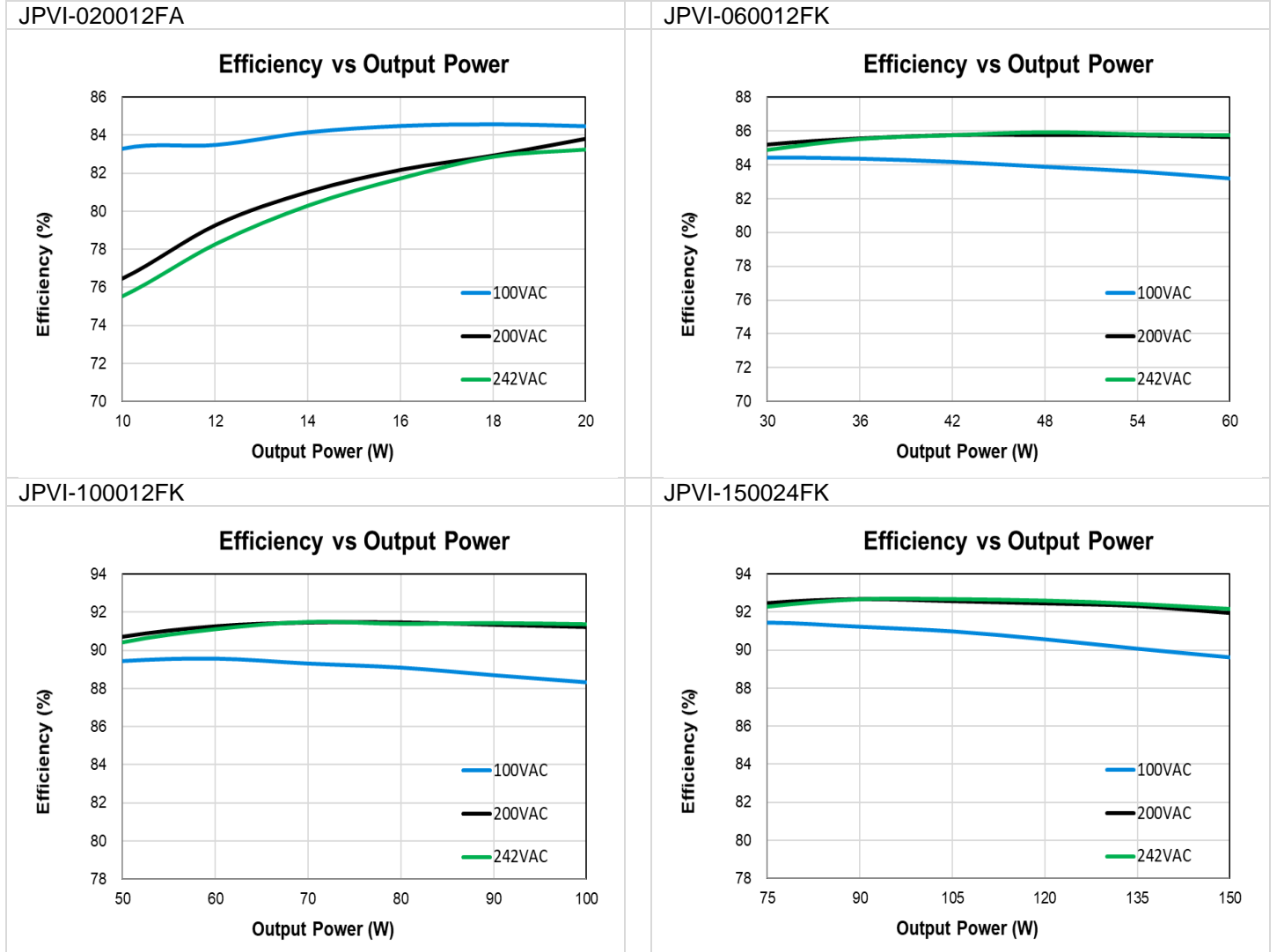
### Lifetime VS Case Temperature



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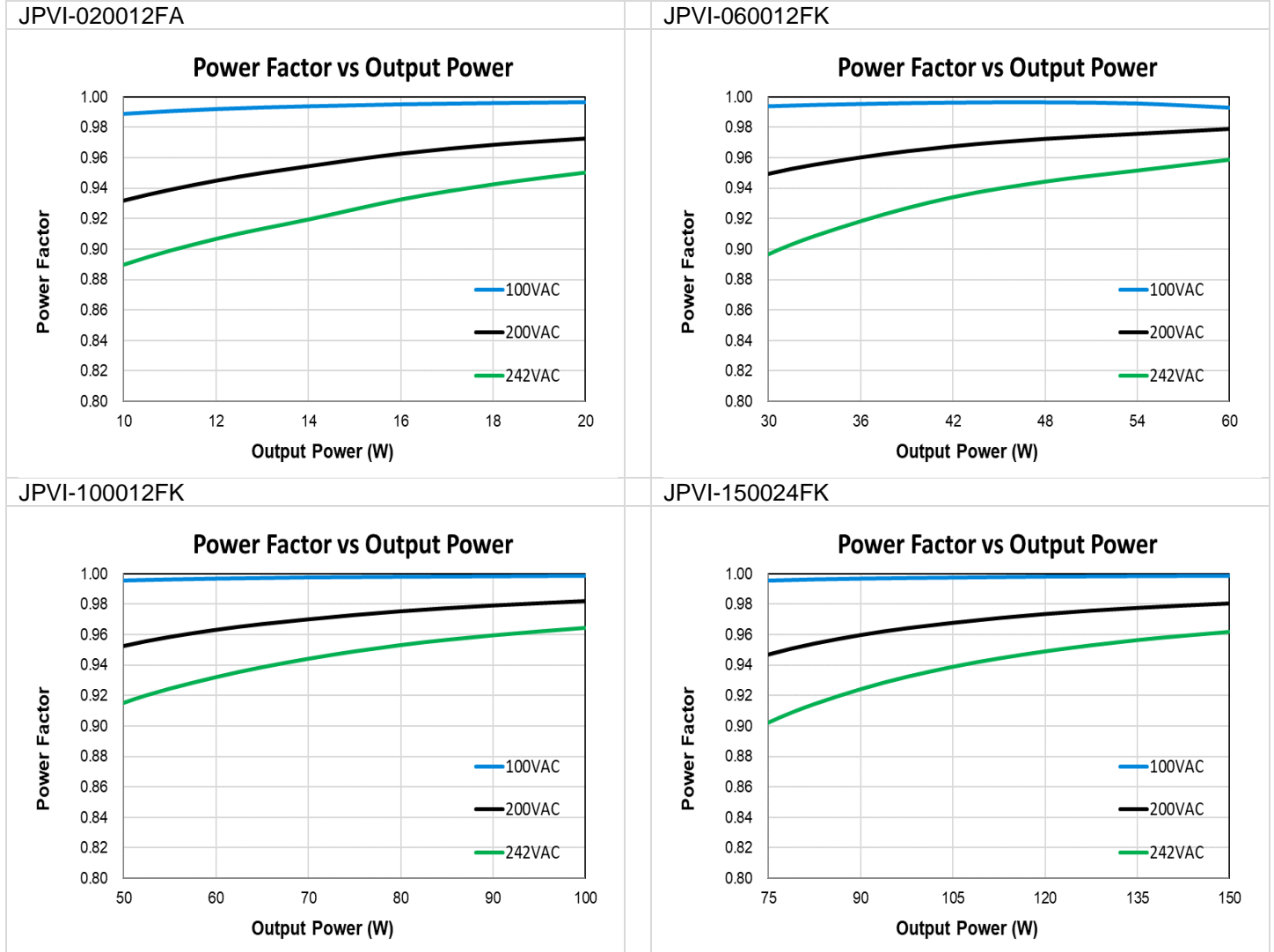
### Efficiency vs. Output Power



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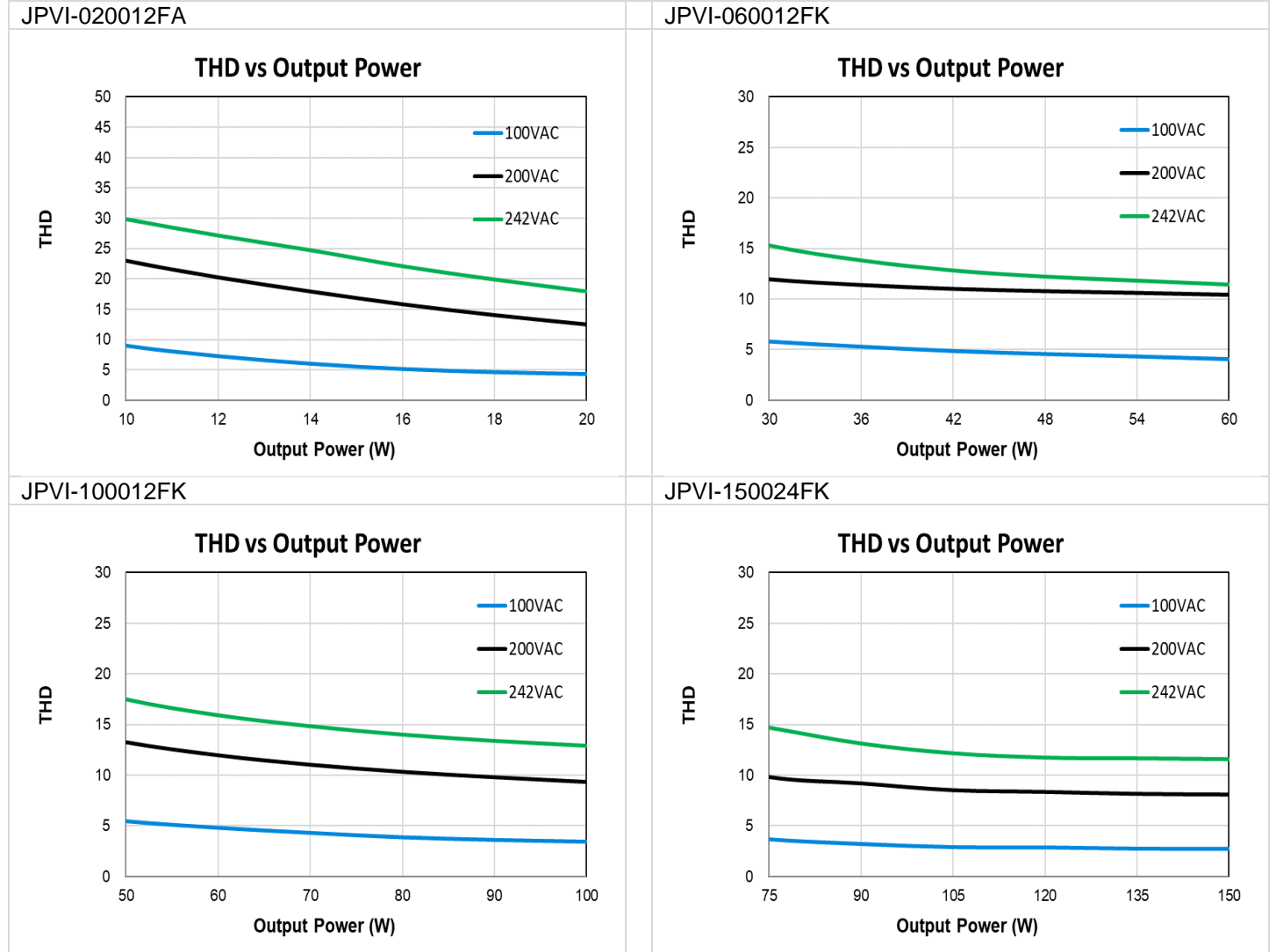
### Power Factor vs. Output Power



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### Total Harmonic Distortion vs. Output Power

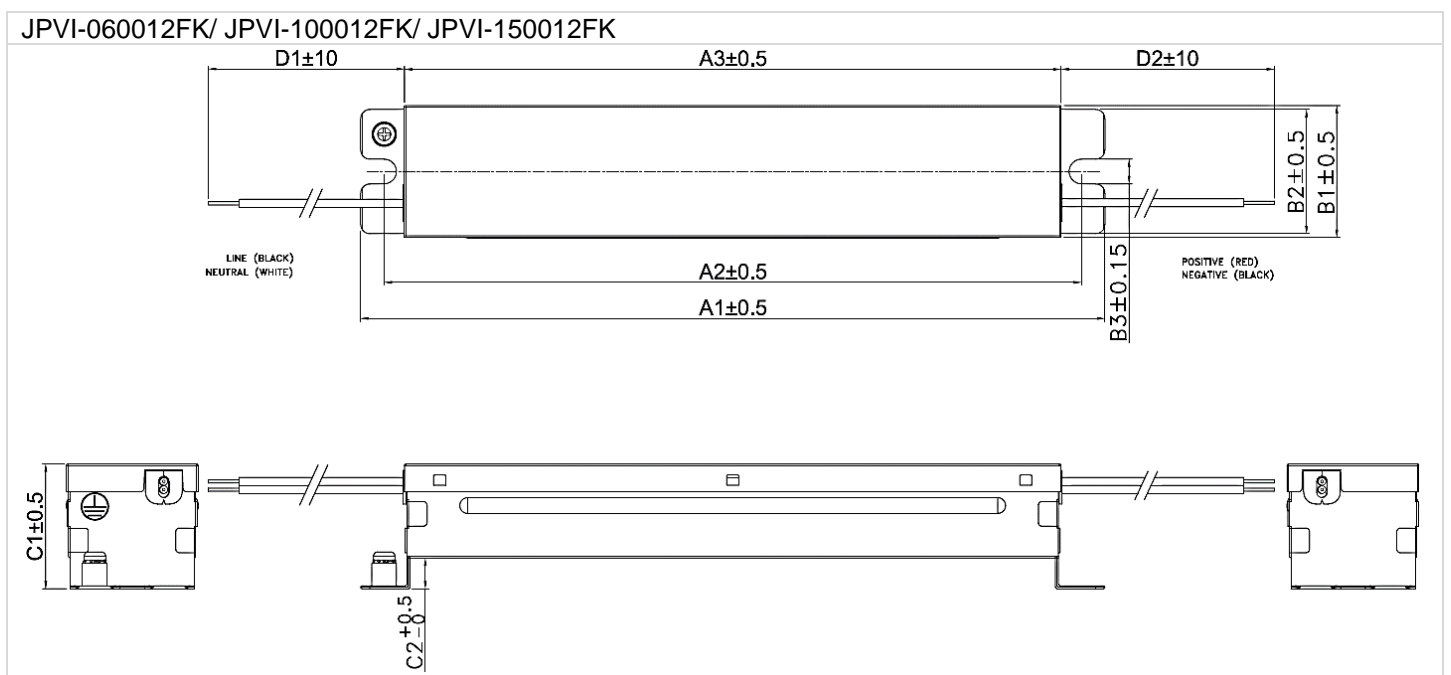
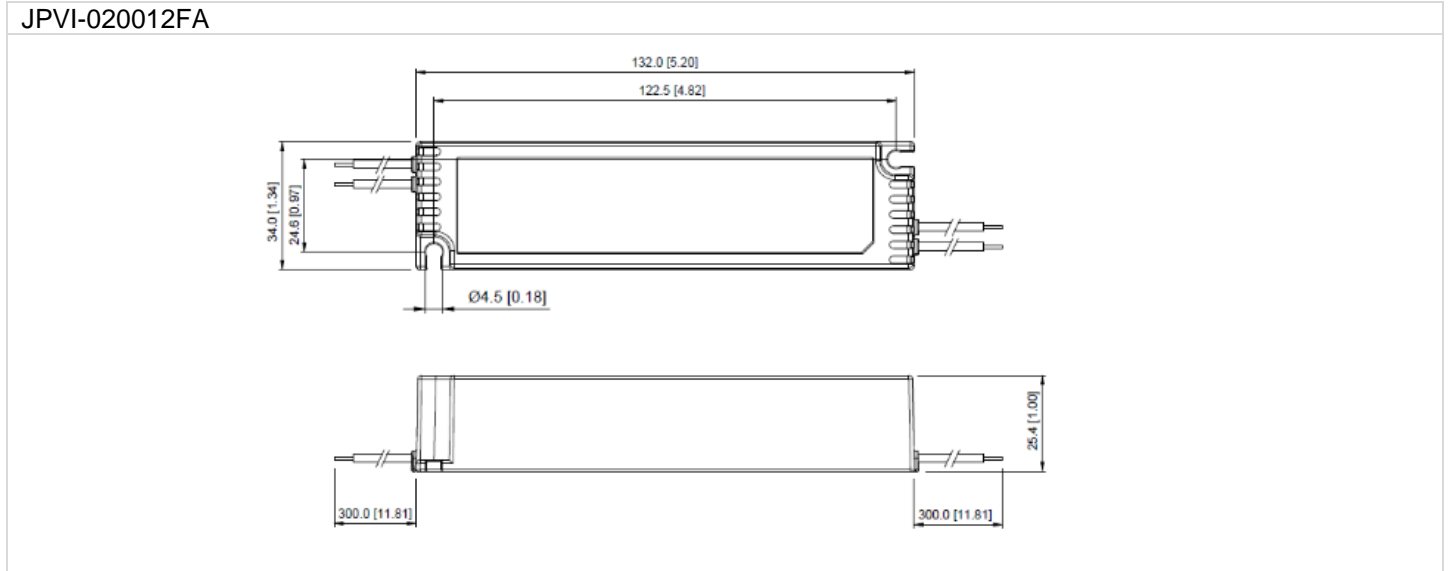




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### Dimensions



Model Number	A1	A2	A3	B1	B2	B3	C1	C2	D1	D2
JPVI-060012FK	241.3	226	212.8	43.0	40.3	8	40.5	10	300	300
JPVI-100012FK	241.3	226	251.5	60.0	57.3	8	40.5	10	300	300
JPVI-150012FK	280.0	265	251.5	60.0	57.3	8	40.5	10	300	300

Unit:mm

### Others

#### Warranty Policy

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