


Test Data

Model Number: UZP-120-24-JBH

Model Name: DC POWER SUPPLY

INPUT: 85V – 264V AC, 50 / 60 Hz

OUTPUT: 24 V 5.0A (8.4 A_{peak})Minimum load : 0W
Rated load :120.0W
Peak output power: 201.6W

Approved by :  (QA manager)

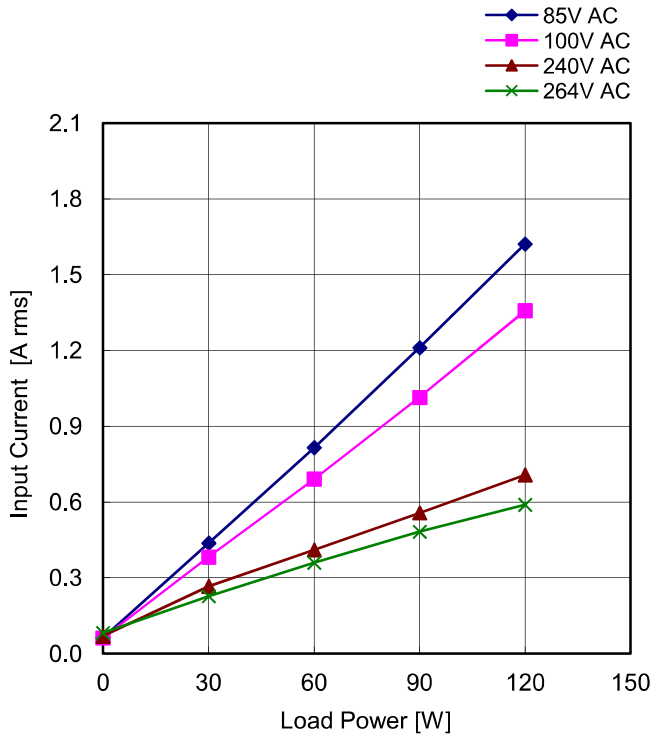
Designed by : Kazuhiko Yanada (R&D engineer)

Tested by : Hiroyuki Watanabe (Evaluation test engineer)

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Model	UZF-120-24-JBH	Temperature: 25°C
Item	Input Current (by Load Power)	



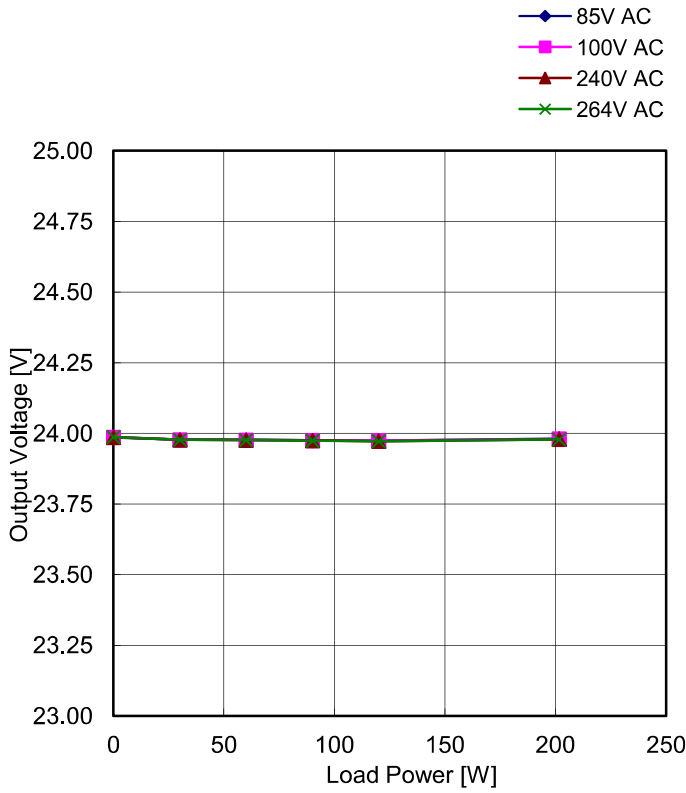
Load Power [W]	Input Current [A rms]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
0.0	0.06	0.06	0.07	0.08
30.0	0.44	0.38	0.27	0.23
60.0	0.82	0.69	0.41	0.36
90.0	1.21	1.01	0.56	0.48
120.0	1.62	1.36	0.71	0.59

Model	UZP-120-24-JBH	Temperature: 25°C																														
Item	Efficiency																															
<p>■ Efficiency(by Input Voltage)</p> <table border="1"> <thead> <tr> <th>AC Input Voltage [V]</th> <th>50% Load</th> <th>Rated Load</th> </tr> </thead> <tbody> <tr><td>85</td><td>89.65</td><td>89.36</td></tr> <tr><td>100</td><td>90.32</td><td>90.94</td></tr> <tr><td>132</td><td>90.62</td><td>92.38</td></tr> <tr><td>176</td><td>91.37</td><td>93.28</td></tr> <tr><td>200</td><td>91.60</td><td>93.61</td></tr> <tr><td>220</td><td>91.77</td><td>93.79</td></tr> <tr><td>240</td><td>91.83</td><td>93.93</td></tr> <tr><td>264</td><td>92.01</td><td>94.01</td></tr> </tbody> </table>				AC Input Voltage [V]	50% Load	Rated Load	85	89.65	89.36	100	90.32	90.94	132	90.62	92.38	176	91.37	93.28	200	91.60	93.61	220	91.77	93.79	240	91.83	93.93	264	92.01	94.01		
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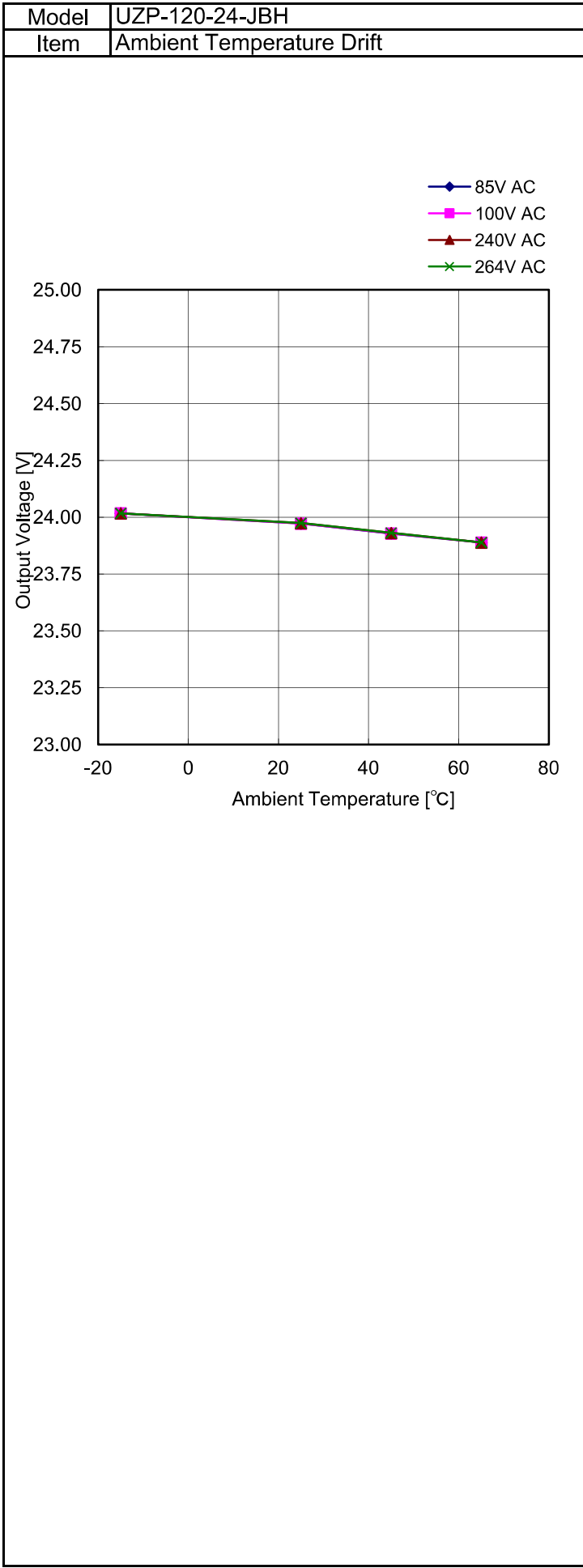
Model	UZP-120-24-JBH	Temperature: 25°C																		
Item	Line Regulation																			
<p>The graph plots Output Voltage [V] on the y-axis (ranging from 23.00 to 25.00) against AC Input Voltage [V] on the x-axis (ranging from 50 to 300). A single data series labeled 'Rated load' is shown as a horizontal line with diamond markers, indicating that the output voltage remains constant at approximately 23.97V regardless of the input voltage.</p>		<table border="1"> <thead> <tr> <th>AC Input Voltage [V]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr> <td>85</td> <td>23.972</td> </tr> <tr> <td>100</td> <td>23.972</td> </tr> <tr> <td>132</td> <td>23.973</td> </tr> <tr> <td>176</td> <td>23.974</td> </tr> <tr> <td>200</td> <td>23.974</td> </tr> <tr> <td>220</td> <td>23.974</td> </tr> <tr> <td>240</td> <td>23.974</td> </tr> <tr> <td>264</td> <td>23.974</td> </tr> </tbody> </table>	AC Input Voltage [V]	Output Voltage [V]	85	23.972	100	23.972	132	23.973	176	23.974	200	23.974	220	23.974	240	23.974	264	23.974
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264	23.974																			

Model	UZP-120-24-JBH	Temperature: 25°C
Item	Load Regulation	



Load Power [W]	Output Voltage [V]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
0.0	23.985	23.986	23.986	23.987
30.0	23.977	23.977	23.977	23.977
60.0	23.977	23.976	23.976	23.976
90.0	23.975	23.975	23.975	23.974
120.0	23.974	23.974	23.972	23.972
201.6	23.981	23.980	23.979	23.978

Load Power [W]	Load Current [A]
	24V
0.0	0.00
30.0	1.25
60.0	2.50
90.0	3.75
120.0	5.00
201.6	8.40



Ambient Temp. (°C)	Output Voltage [V]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
-15	24.017	24.017	24.017	24.017
25	23.972	23.972	23.974	23.974
45	23.928	23.929	23.931	23.931
65	23.889	23.889	23.889	23.889

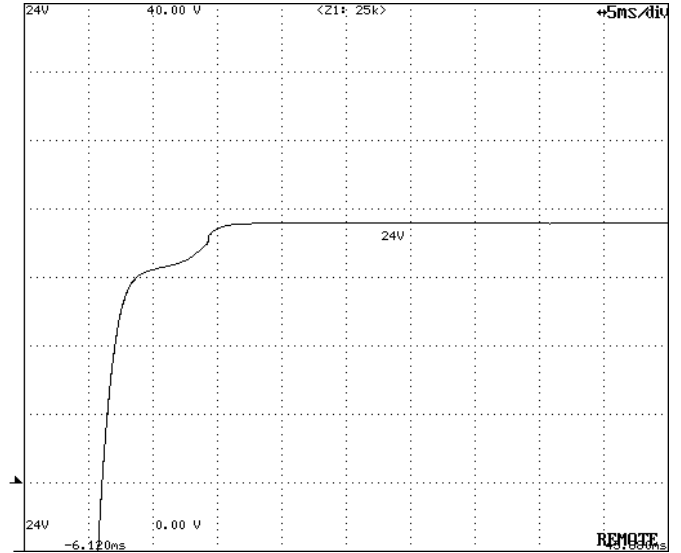
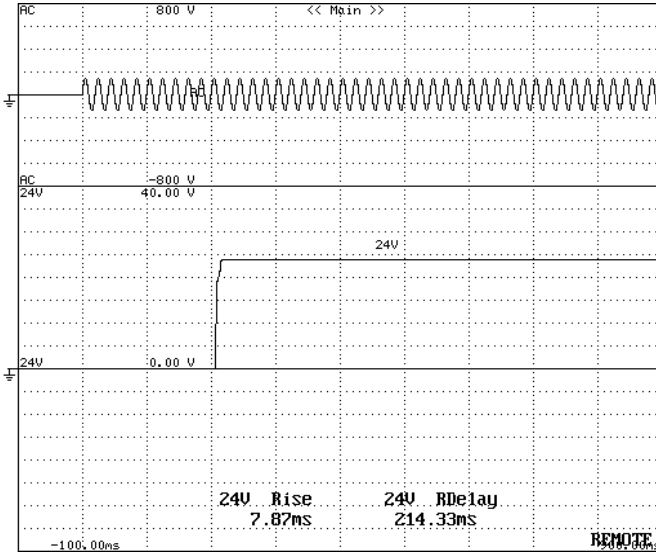
Ambient Temp. (°C)	Load Current [A]
	24V
-15	5.00
25	5.00
45	5.00
65	3.75

Model	UZP-120-24-JBH	Temperature: 25°C
Item	Output Rise Characteristics (at AC Power ON)	

Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 5V/div
Timebase Range: 5ms/div



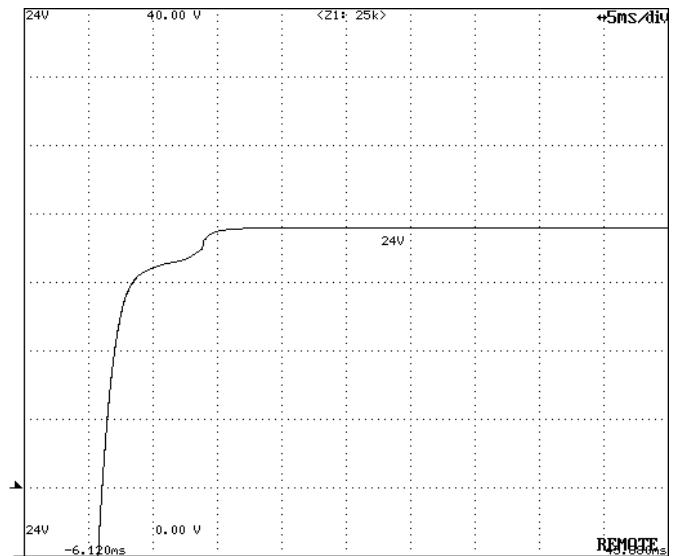
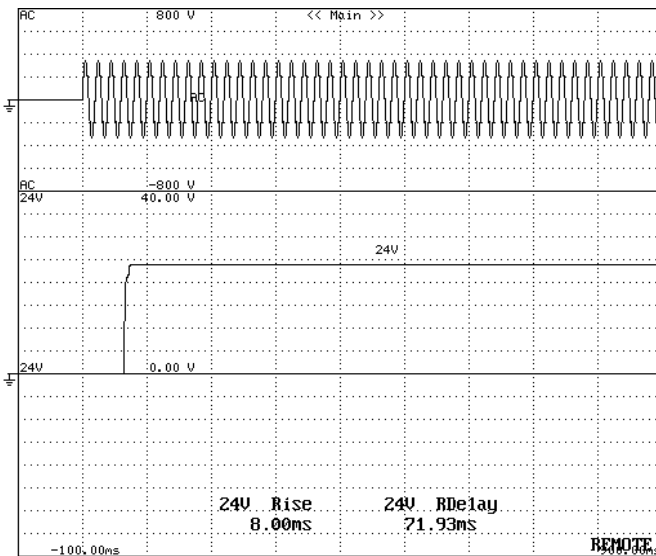
All Output Start-up Sequence

24V DC Output Rise Characteristics

Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 5V/div
Timebase Range: 5ms/div



All Output Start-up Sequence

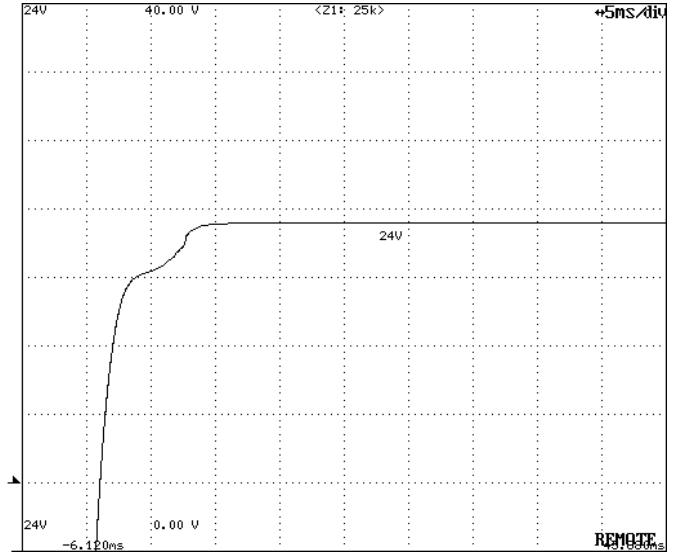
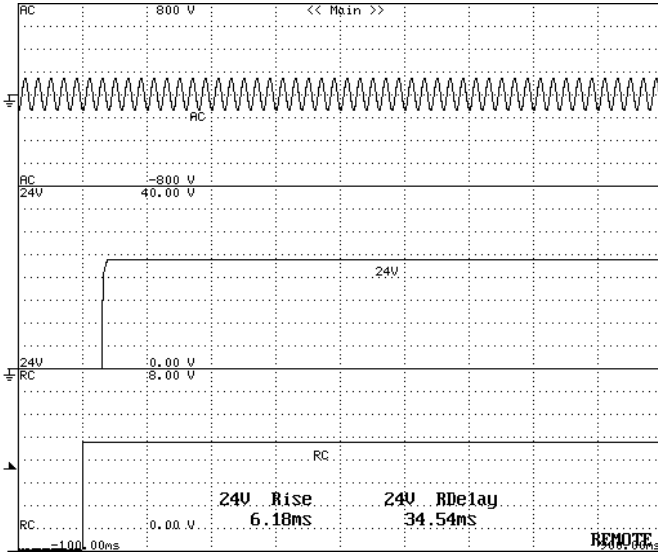
24V DC Output Rise Characteristics

Model	UZP-120-24-JBH	Temperature: 25°C
Item	Output Rise Characteristics (at Remote ON)	

Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 5V/div
Timebase Range: 5ms/div



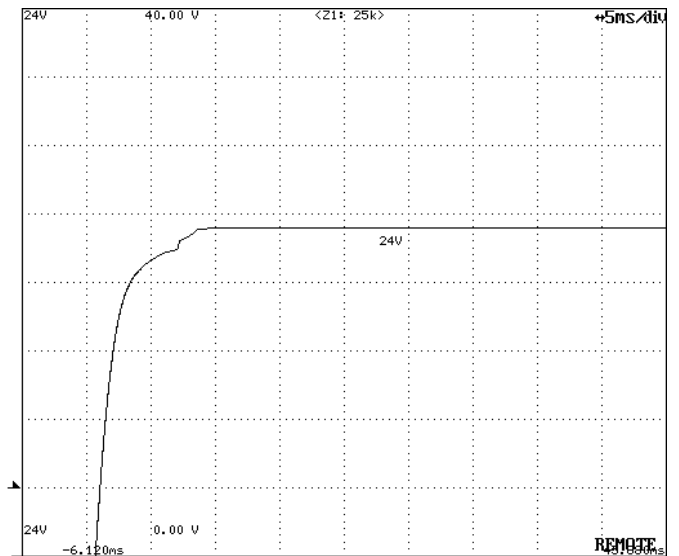
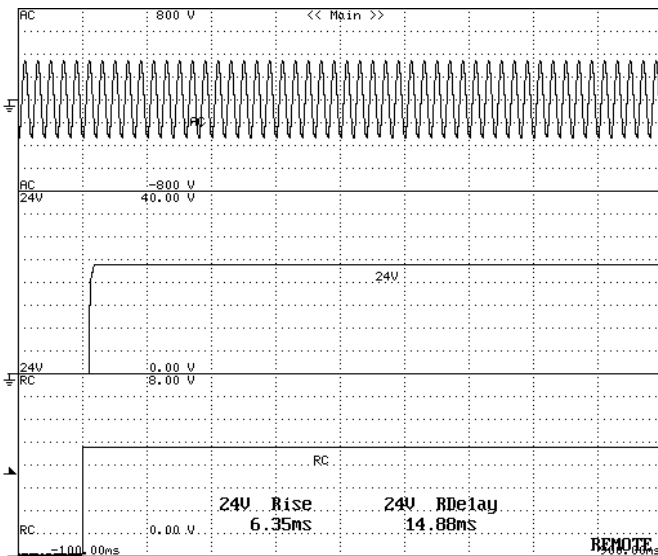
All Output Start-up Sequence

24V DC Output Rise Characteristics

Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 5V/div
Timebase Range: 5ms/div



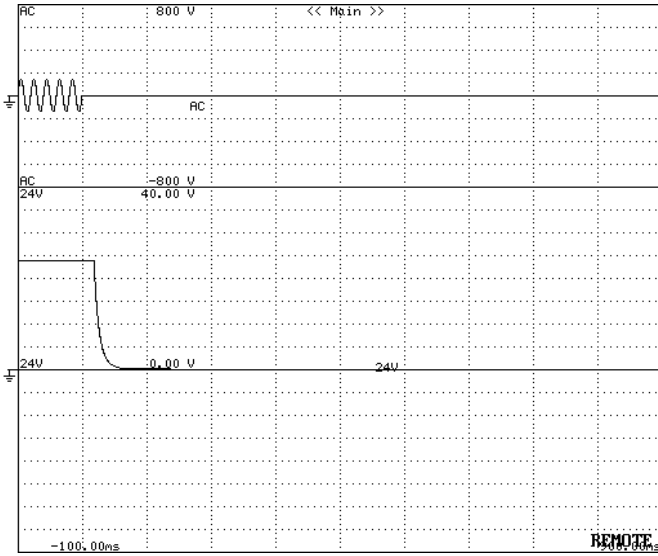
All Output Start-up Sequence

24V DC Output Rise Characteristics

Model	UZP-120-24-JBH	Temperature: 25°C
Item	Output Fall Characteristics (at AC Power OFF)	

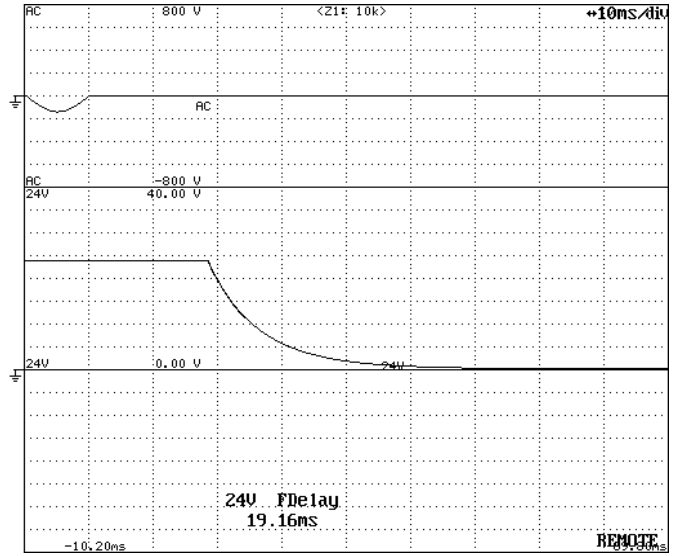
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

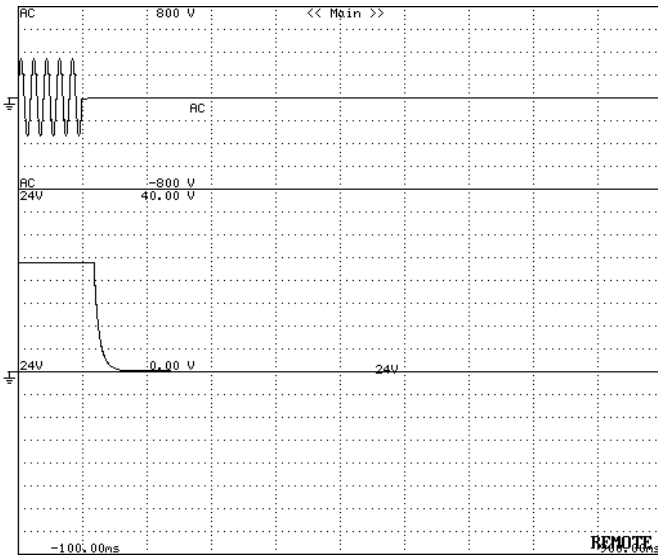
Timebase Range: 10ms/div



Output Fall Characteristics (magnification)

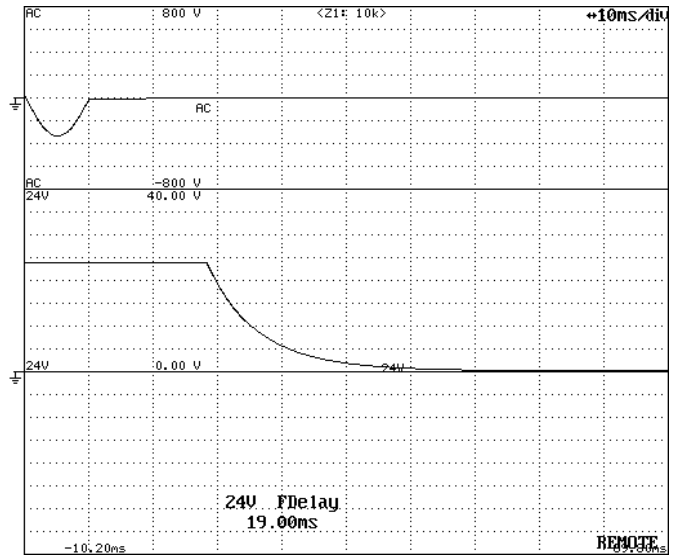
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

Timebase Range: 10ms/div

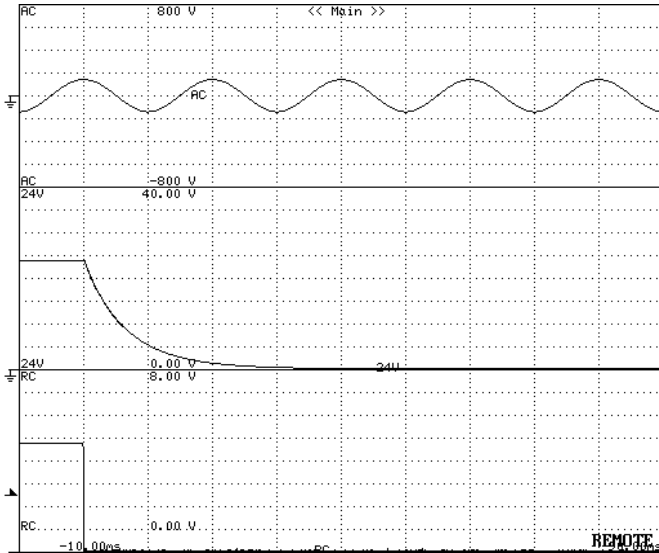


Output Fall Characteristics (magnification)

Model	UZP-120-24-JBH	Temperature: 25°C
Item	Output Fall Characteristics (at Remote OFF)	

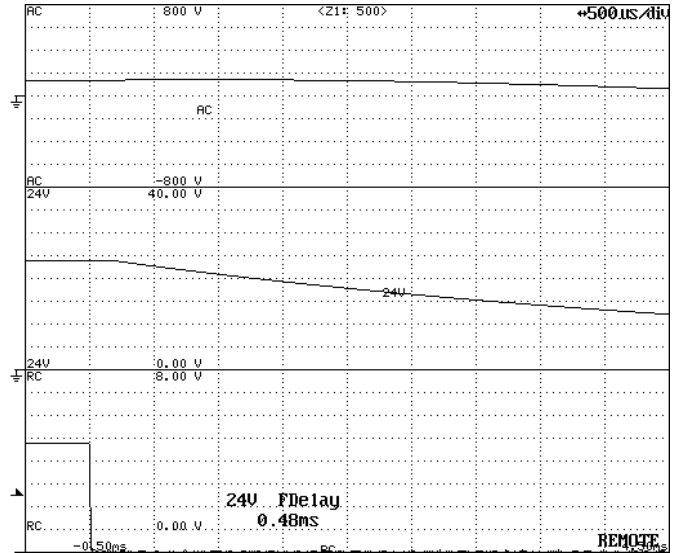
Input: 100V AC
Load: Rated Load

Timebase Range: 10ms/div



Output Fall Characteristics

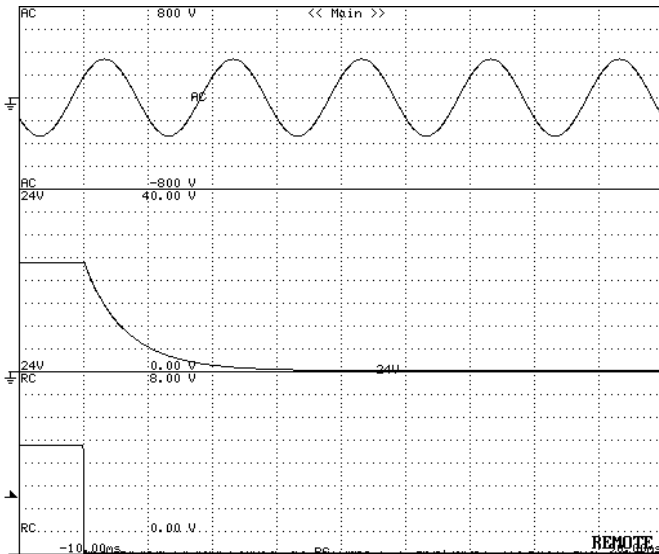
Timebase Range: 500 μs/div



Output Fall Characteristics (magnification)

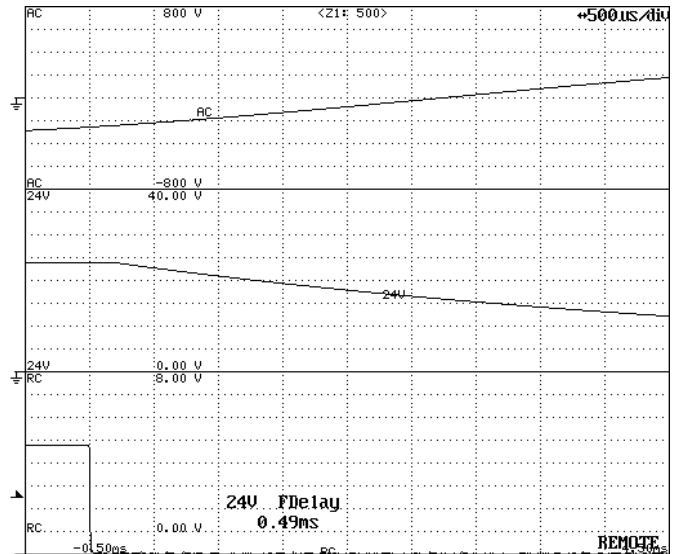
Input: 240V AC
Load: Rated Load

Timebase Range: 10ms/div



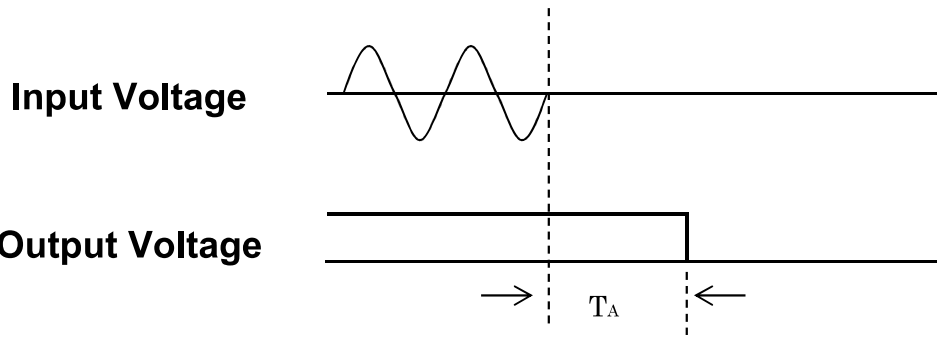
Output Fall Characteristics

Timebase Range: 500 μs/div

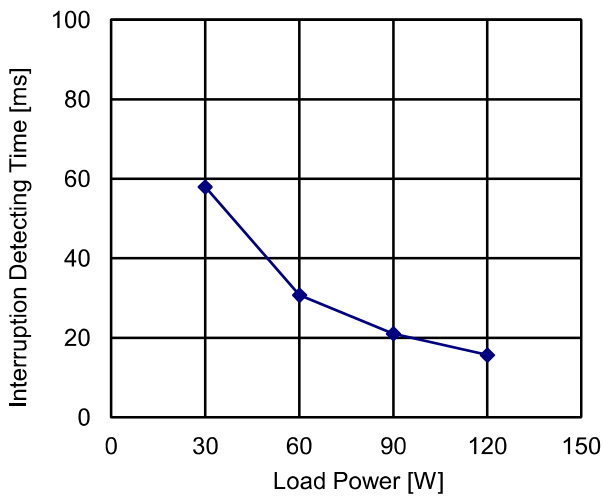


Output Fall Characteristics (magnification)

Model	UZP-120-24-JBH	Temperature: 25°C
Item	Instantaneous Interruption Compensation (by Load Power)	

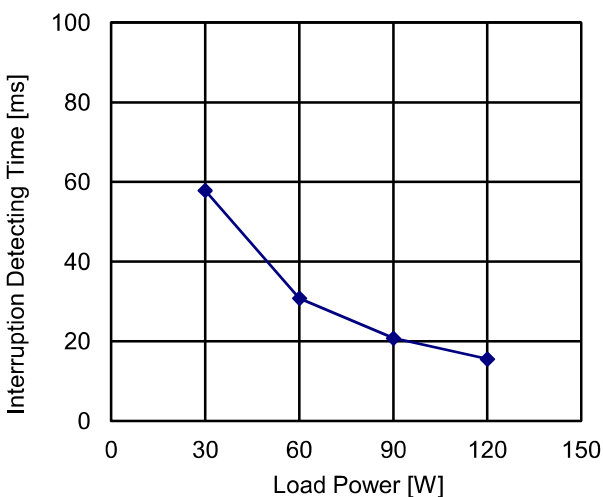


Input Voltage:100V AC



Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T_A
30.0	58.0
60.0	30.8
90.0	21.1
120.0	15.7

Input Voltage:240V AC

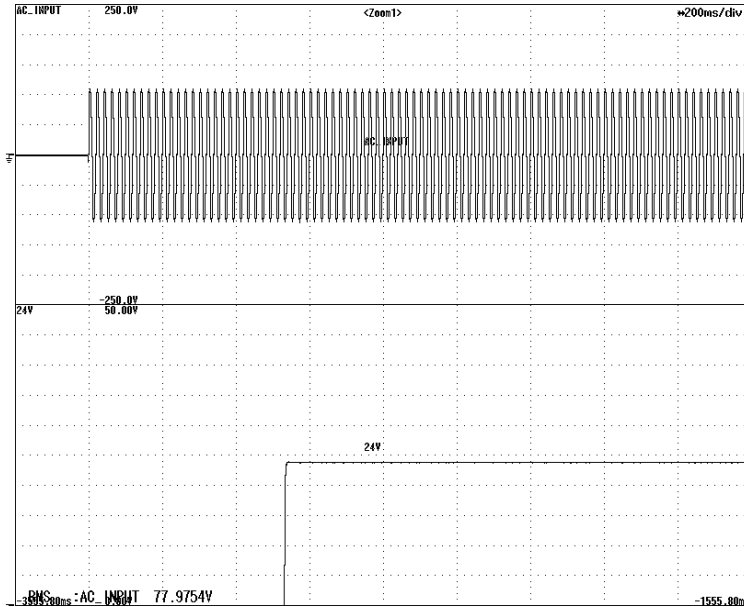


Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T_A
30.0	57.9
60.0	30.8
90.0	20.8
120.0	15.6

Model	UZP-120-24-JBH	Temperature: 25°C
Item	Start-Up Voltage	

Timebase Range: 200ms/div
Load: Rated Load

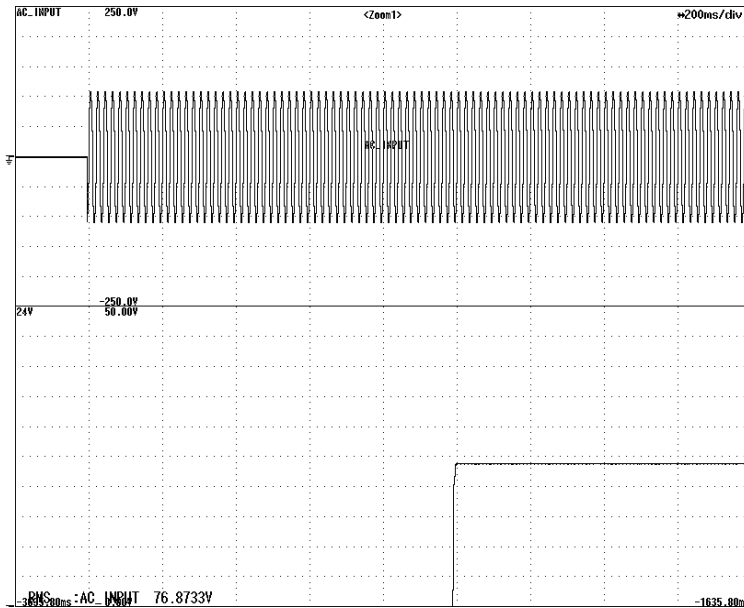
AC Input



Start-up Voltage: 79.0V AC

Timebase Range: 200ms/div
Load: Minimum Load

AC Input

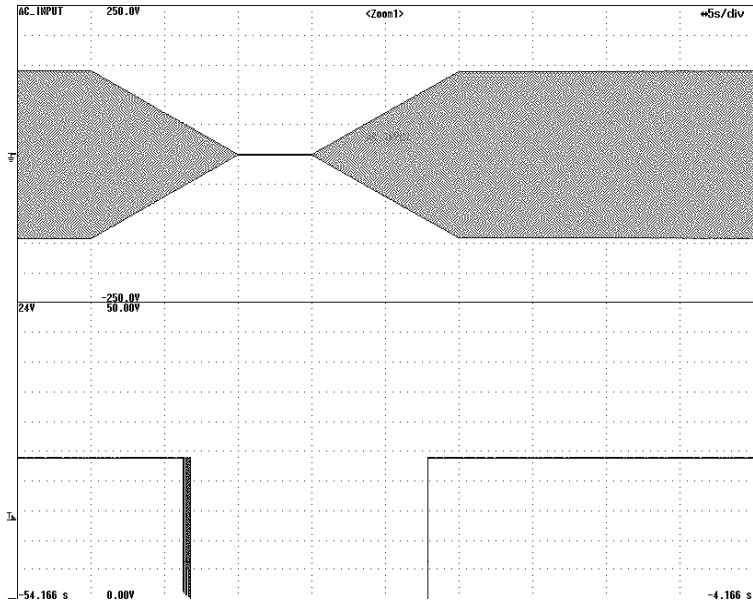


Start-up Voltage: 76.9 AC

Model	UZF-120-24-JBH	Temperature: 25°C
Item	Input Voltage Sweep Up/Down	

**Timebase Range: 5s/div
Load: Rated Load**

AC Input

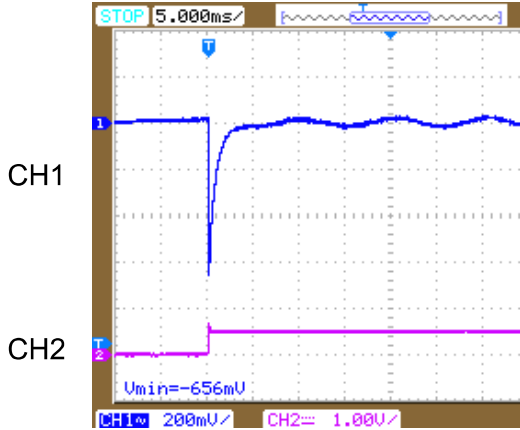


+24V

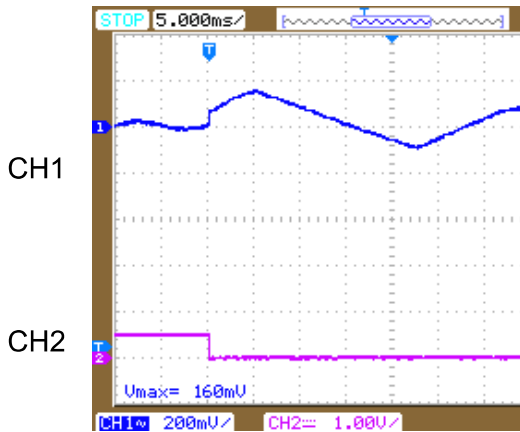
Sweep Rate: 10Vave/sec

Model	UZP-120-24-JBH	Temperature: 25°C
Item	Dynamic Load Response	

+24V DC Output Transient Response Waveforms

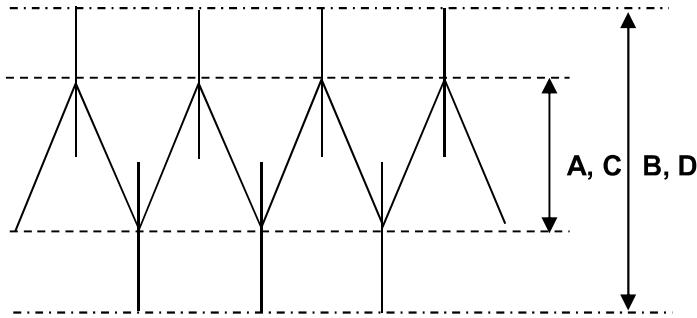


Waveform 1	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 200mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 5A/div
Timebase Range	5ms/div
Condition	Input: 100V AC
Note: Minimum load(0A) → Rated Load(5A)	



Waveform 2	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 200mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 5A/div
Timebase Range	5ms/div
Condition	Input: 100V AC
Note: Rated Load(5A) → Minimum load(0A)	

Model	UZP-120-24-JBH	Load: Rated Load
Item	Ambient Temperature Drift	

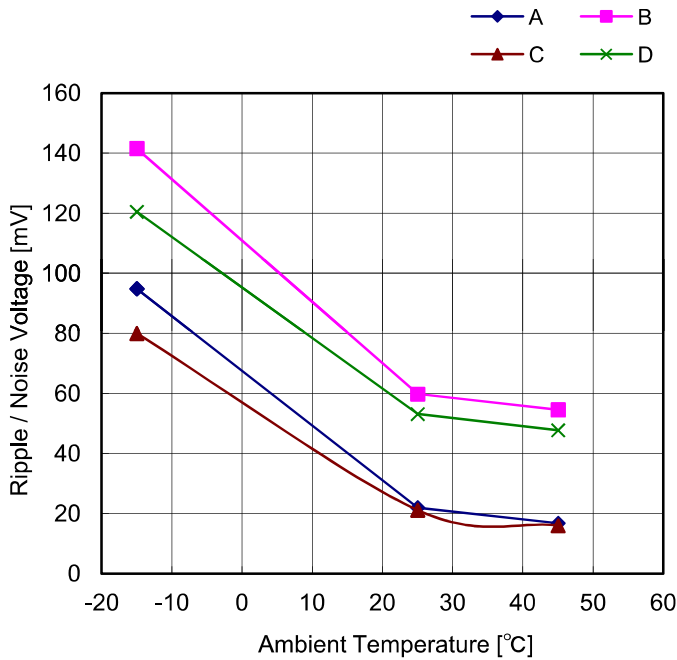


at 100V AC

A: Ripple Voltage (mV_{P-P})
 B: Noise Voltage (mV_{P-P})

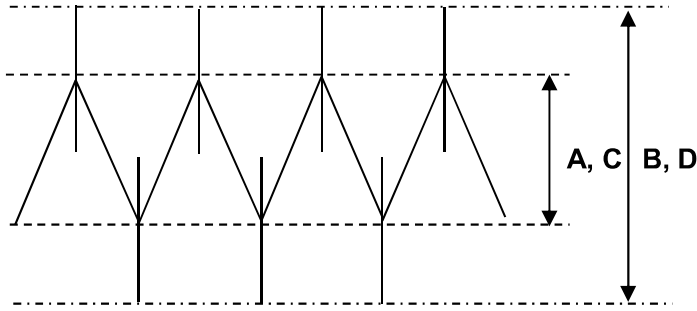
at 240V AC

C: Ripple Voltage (mV_{P-P})
 D: Noise Voltage (mV_{P-P})



Ambient Temp. [°C]	Ripple / Noise Voltage [mV]			
	A	B	C	D
-15	94.8	141.5	80.0	120.5
25	22.0	59.8	21.2	53.1
45	16.8	54.5	16.0	47.7

Model	UZP-120-24-JBH	Temperature : 25°C
Item	Ambient Temperature Drift	

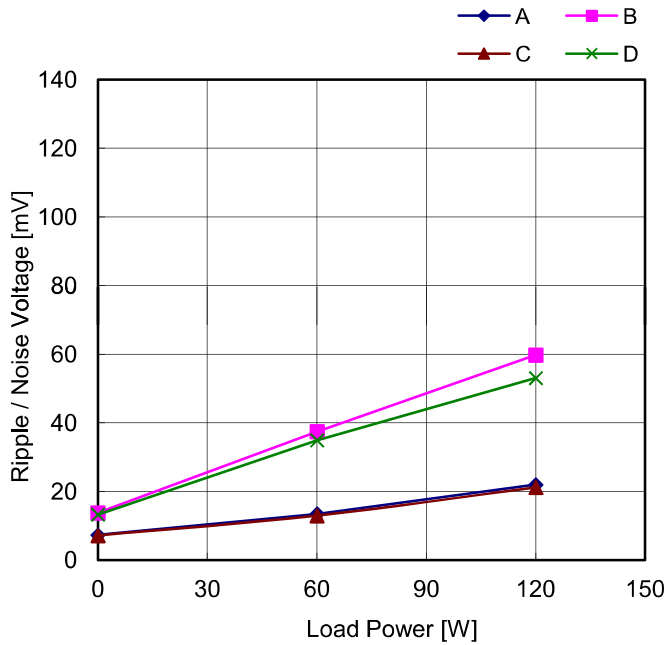


at 100V AC

A: Ripple Voltage (mVP-P)
B: Noise Voltage (mVP-P)

at 240V AC

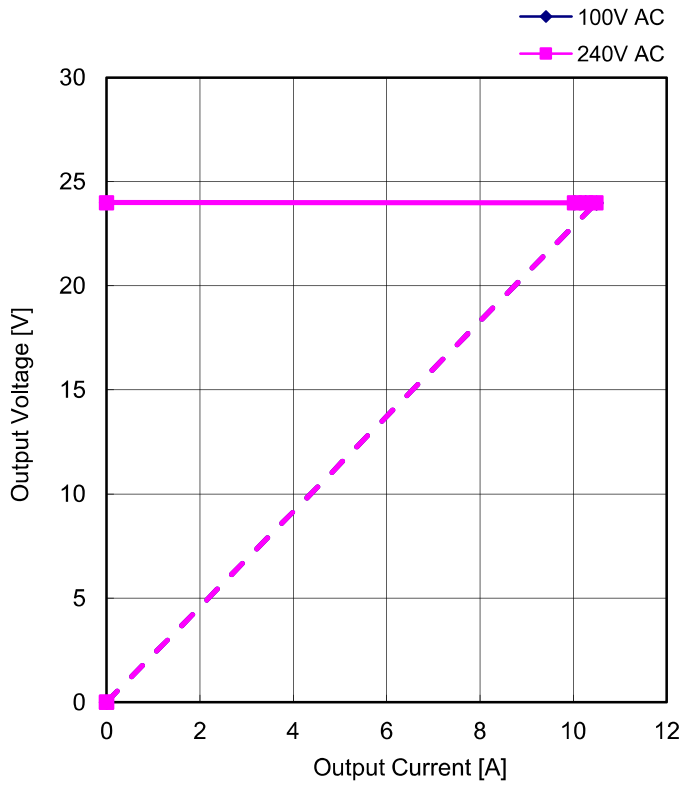
C: Ripple Voltage (mVP-P)
D: Noise Voltage (mVP-P)



Load Power [W]	Ripple / Noise Voltage [mV]			
	A	B	C	D
0	7.3	13.8	7.1	13.3
60.0	13.5	37.4	13.0	34.9
120.0	22.0	59.8	21.2	53.1

Model	UZP-120-24-JBH	Temperature: 25°C
Item	Over-Current Protection	

V-I Characteristics of 24V O.C.P



Input Voltage: 100V AC		Input Voltage: 240V AC	
Output Current [A]	Output Voltage [V]	Output Current [A]	Output Voltage [V]
0.00	23.99	0.00	23.99
10.02	23.98	10.02	23.98
10.26	23.98	10.26	23.98
10.49	23.98	10.49	23.98

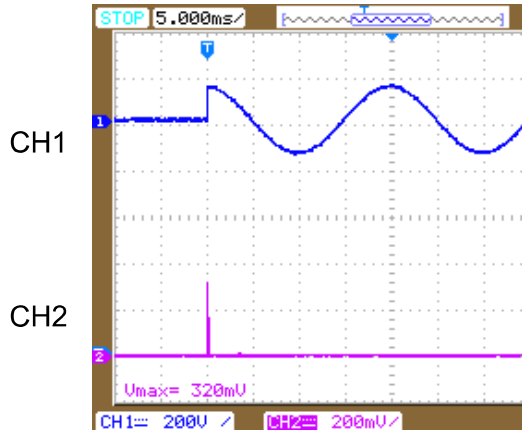
Model	UZP-120-24-JBH	Load: Minimum Load
Item	Over-Voltage Protection	

Legend:
◆ 100V AC
■ 240V AC

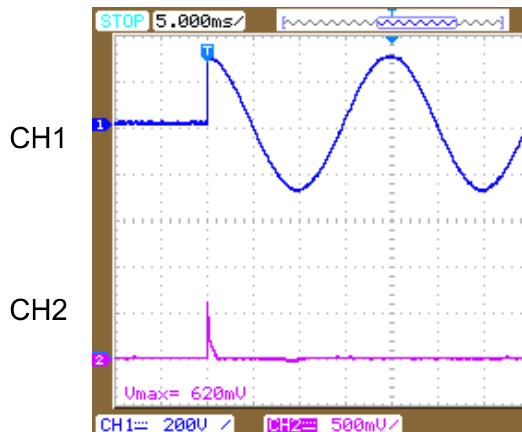
Ambient Temp. [°C]	Output Voltage [V]	
	100V AC	240V AC
-15	31.20	31.24
25	32.01	32.01
45	32.45	32.36
65	32.87	32.84

Model	UZP-120-24-JBH	Temperature: 25°C
Item	Inrush Current	Load: Rated Load

Inrush Current Waveforms



Waveform 1	
CH1	Measuring Point: AC Input Voltage
	Range: 200V/div
CH2	Measuring Point: AC Input Current
	Range: 10A/div
Timebase Range	5ms/div
Condition	Input: 100V AC Load: Rated Load
Note: Inrush Current: 16.0A	



Waveform 2	
CH1	Measuring Point: AC Input Voltage
	Range: 200V/div
CH2	Measuring Point: AC Input Current
	Range: 25A/div
Timebase Range	5ms/div
Condition	Input: 200V AC Load: Rated Load
Note: Inrush Current: 31.0A	

Model	UZP-120-24-JBH	Load: Rated Load
Item	Leakage Current	

AC Input Voltage [V]	Leakage Current [mA]
85	0.02
100	0.03
132	0.04
176	0.05
200	0.06
220	0.06
240	0.07
264	0.08

AC Input Voltage [V]	Leakage Current [mA]
85	0.02
100	0.03
132	0.04
176	0.05
200	0.06
220	0.06
240	0.07
264	0.08