

Test Data

Model Number: UZP-120-24-J0L

Model Name: DC POWER SUPPLY

INPUT: 85V – 264V AC, 50 / 60 Hz

OUTPUT: 24 V 5A (8.4 A_{peak})

Minimum load : 0W
Rated load : 120.0W
Peak output power: 201.6W

Approved by : *T. S. S. S.* (QA manager)
Designed by : *Kaoruhiro Yamada* (R&D engineer)
Tested by : *Hiroyuki Watanabe* (Evaluation test engineer)

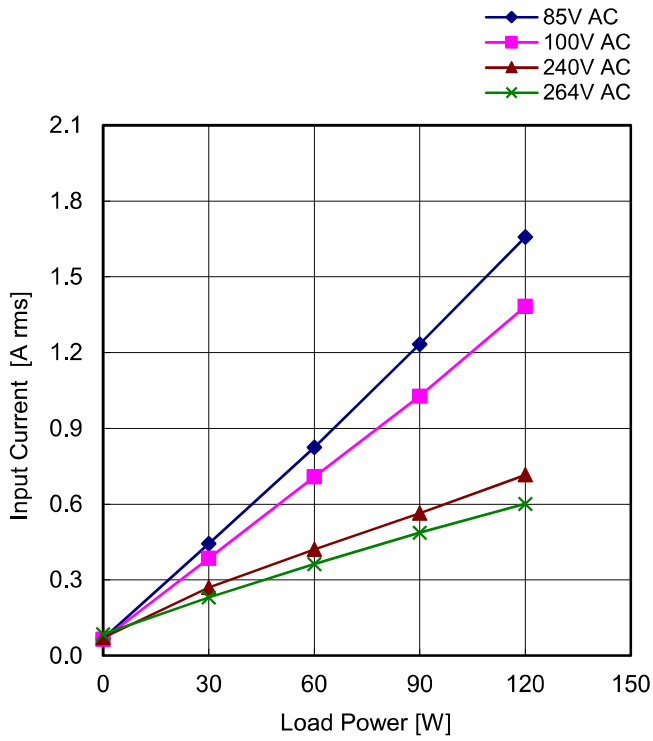
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Model UZP-120-24-J0L

Temperature: 25°C

Item Input Current (by Load Power)



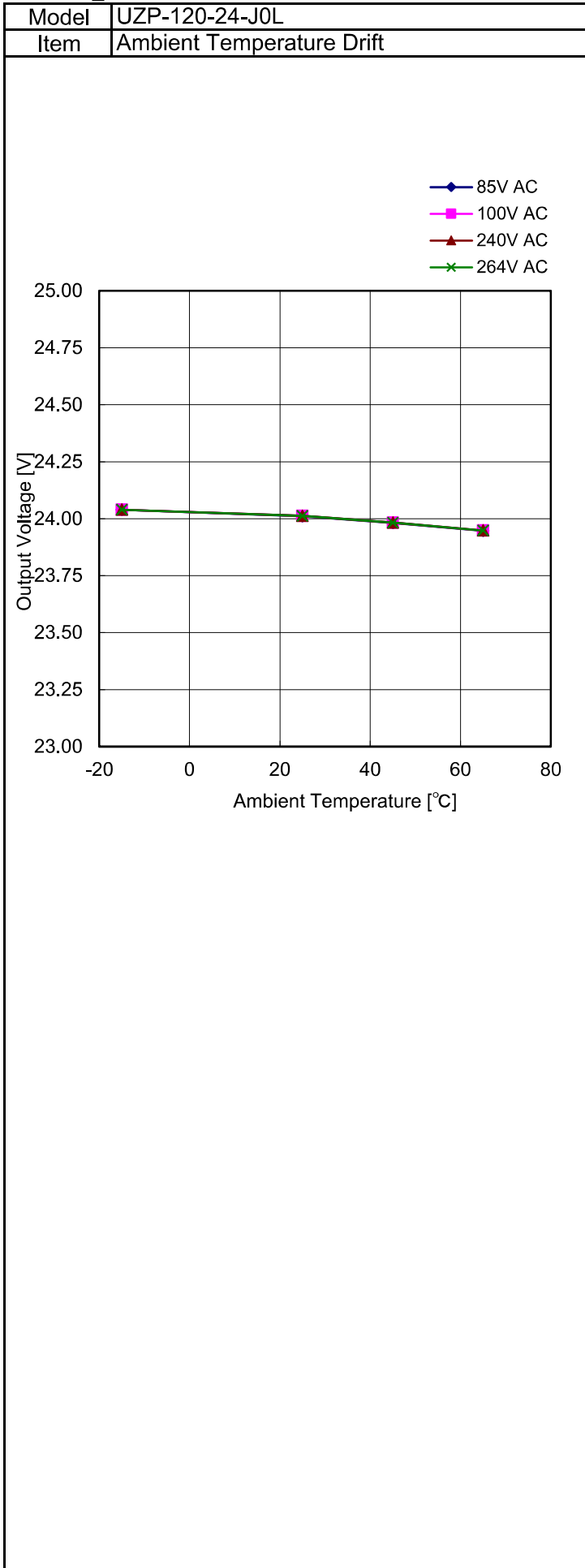
Load Power [W]	Input Current [A rms]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
0.0	0.07	0.07	0.07	0.09
30.0	0.44	0.39	0.27	0.23
60.0	0.83	0.71	0.42	0.36
90.0	1.23	1.03	0.56	0.49
120.0	1.66	1.38	0.72	0.60

Model	UZP-120-24-J0L	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>88.27</td><td>87.45</td></tr> <tr><td>100</td><td>88.81</td><td>89.30</td></tr> <tr><td>132</td><td>89.76</td><td>91.01</td></tr> <tr><td>176</td><td>90.30</td><td>91.90</td></tr> <tr><td>200</td><td>90.50</td><td>92.18</td></tr> <tr><td>220</td><td>90.55</td><td>92.46</td></tr> <tr><td>240</td><td>90.84</td><td>92.60</td></tr> <tr><td>264</td><td>90.91</td><td>92.72</td></tr> </tbody> </table>				AC Input Voltage [V]	50% Load	Rated Load	85	88.27	87.45	100	88.81	89.30	132	89.76	91.01	176	90.30	91.90	200	90.50	92.18	220	90.55	92.46	240	90.84	92.60	264	90.91	92.72		
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Model	UZP-120-24-J0L	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' shows a constant output voltage of approximately 24.00V across the tested input range from 85V to 264V.</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>24.011</td> </tr> <tr> <td>100</td> <td>24.012</td> </tr> <tr> <td>132</td> <td>24.012</td> </tr> <tr> <td>176</td> <td>24.012</td> </tr> <tr> <td>200</td> <td>24.012</td> </tr> <tr> <td>220</td> <td>24.012</td> </tr> <tr> <td>240</td> <td>24.012</td> </tr> <tr> <td>264</td> <td>24.012</td> </tr> </tbody> </table>	AC Input Voltage [V]	Output Voltage [V]	85	24.011	100	24.012	132	24.012	176	24.012	200	24.012	220	24.012	240	24.012	264	24.012
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<p>The graph plots Output Voltage [V] on the y-axis (ranging from 23.00 to 25.00) against Load Power [W] on the x-axis (ranging from 0 to 250). Four data series are shown: 85V AC (blue diamonds), 100V AC (magenta squares), 240V AC (red triangles), and 264V AC (green crosses). All series show a very slight decrease in output voltage as load power increases, starting around 24.05V at 0W and stabilizing around 24.00V at 200W.</p>		<table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Output Voltage [V]</th> </tr> <tr> <th>Input Voltage 85V AC</th> <th>Input Voltage 100V AC</th> <th>Input Voltage 240V AC</th> <th>Input Voltage 264V AC</th> </tr> </thead> <tbody> <tr> <td>0.0</td> <td>24.072</td> <td>24.072</td> <td>24.072</td> <td>24.072</td> </tr> <tr> <td>30.0</td> <td>24.070</td> <td>24.071</td> <td>24.071</td> <td>24.070</td> </tr> <tr> <td>60.0</td> <td>24.012</td> <td>24.012</td> <td>24.012</td> <td>24.011</td> </tr> <tr> <td>90.0</td> <td>24.012</td> <td>24.011</td> <td>24.012</td> <td>24.009</td> </tr> <tr> <td>120.0</td> <td>24.012</td> <td>24.012</td> <td>24.012</td> <td>24.011</td> </tr> <tr> <td>201.6</td> <td>24.012</td> <td>24.012</td> <td>24.011</td> <td>24.012</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="2">Load Condition</th> </tr> <tr> <th rowspan="2">Load Power [W]</th> <th>Load Current [A]</th> </tr> <tr> <th>24V</th> </tr> </thead> <tbody> <tr> <td>0.0</td> <td>0.00</td> </tr> <tr> <td>30.0</td> <td>1.25</td> </tr> <tr> <td>60.0</td> <td>2.50</td> </tr> <tr> <td>90.0</td> <td>3.75</td> </tr> <tr> <td>120.0</td> <td>5.00</td> </tr> <tr> <td>201.6</td> <td>8.40</td> </tr> </tbody> </table>	Load Power [W]	Output Voltage [V]				Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC	0.0	24.072	24.072	24.072	24.072	30.0	24.070	24.071	24.071	24.070	60.0	24.012	24.012	24.012	24.011	90.0	24.012	24.011	24.012	24.009	120.0	24.012	24.012	24.012	24.011	201.6	24.012	24.012	24.011	24.012	Load Condition		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
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Ambient Temp. (°C)	Output Voltage [V]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
-15	24.039	24.039	24.039	24.039
25	24.011	24.012	24.012	24.012
45	23.981	23.982	23.982	23.983
65	23.947	23.948	23.948	23.948

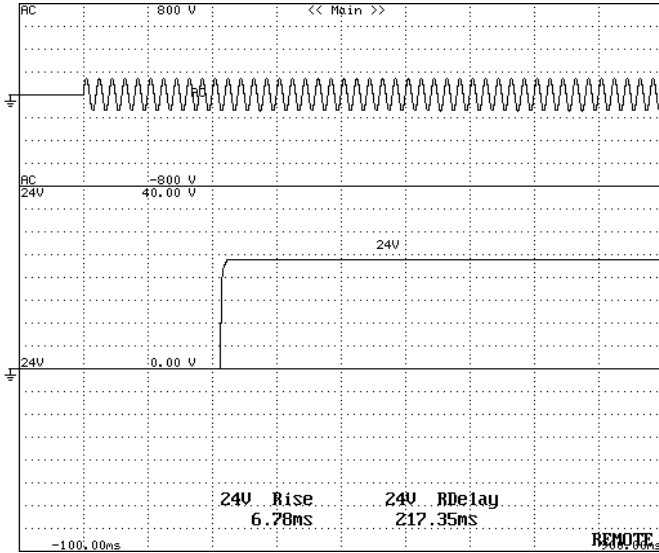
Load Condition	
Ambient Temp. (°C)	Load Current [A]
-15	5.00
25	5.00
45	5.00
65	3.75

Model	UZP-120-24-J0L	Temperature: 25°C
Item	Output Rise Characteristics (at AC Power ON)	

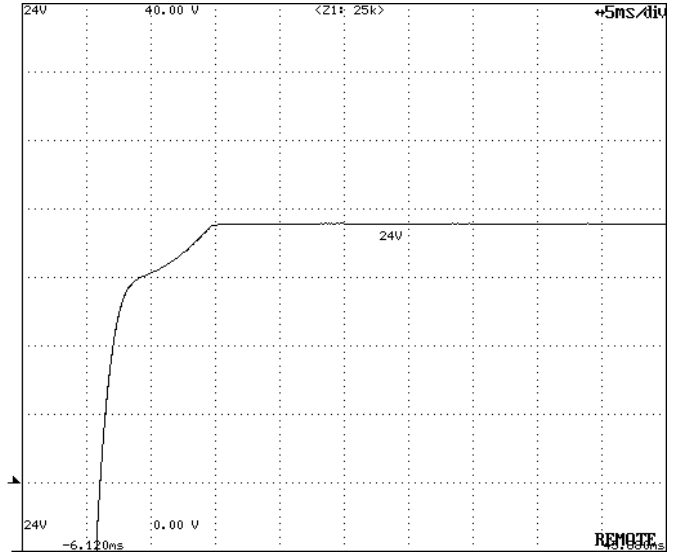
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div

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



All Output Start-up Sequence

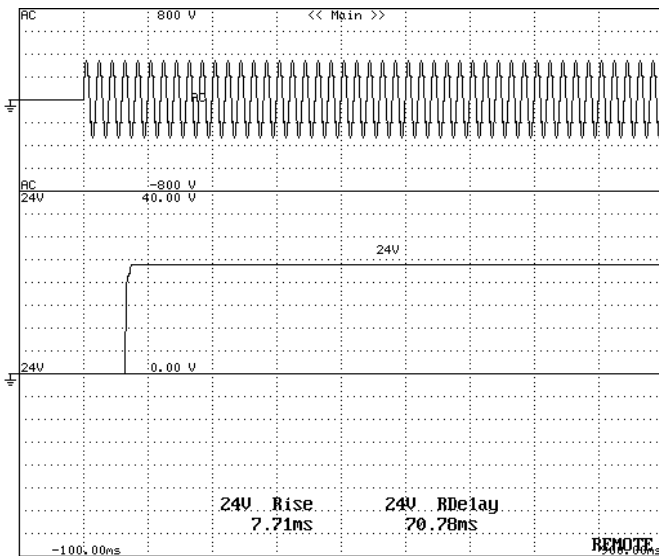


24V DC Output Rise Characteristics

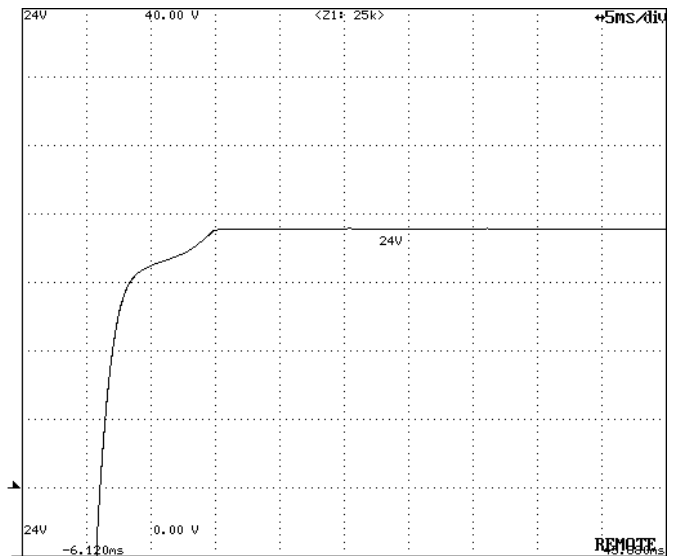
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

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



All Output Start-up Sequence

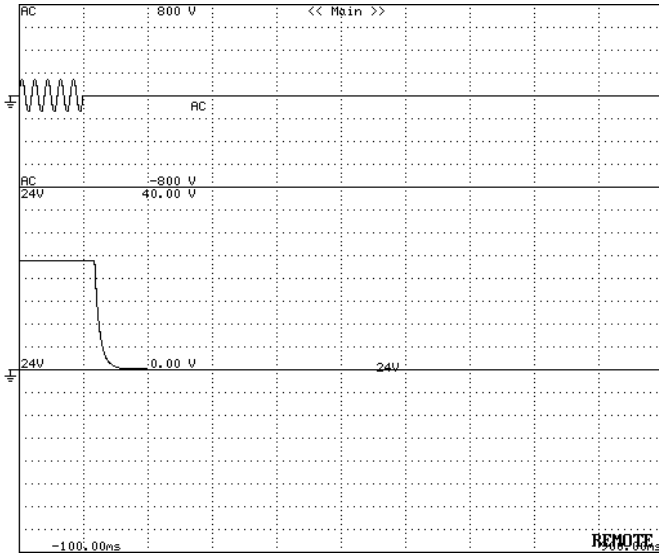


24V DC Output Rise Characteristics

Model	UZP-120-24-J0L	Temperature: 25°C
Item	Output Fall Characteristics (at AC Power OFF)	

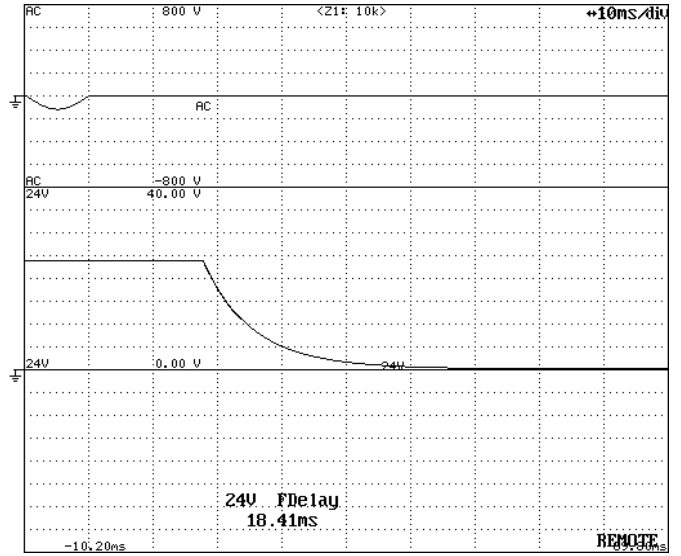
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

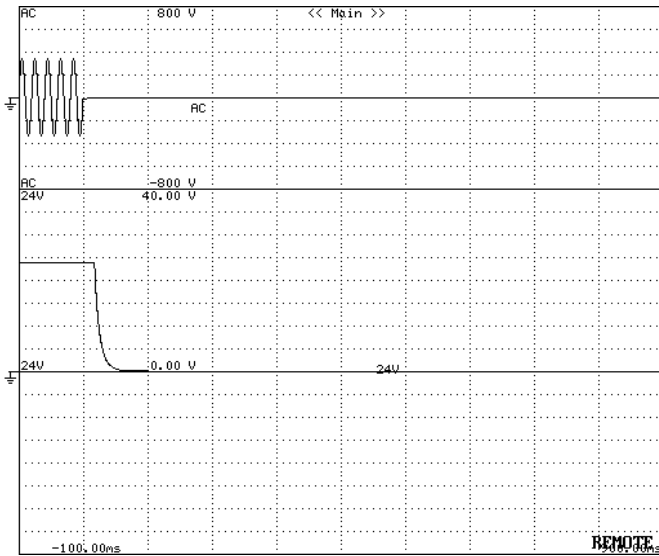
Timebase Range: 10ms/div



Output Fall Characteristics (magnification)

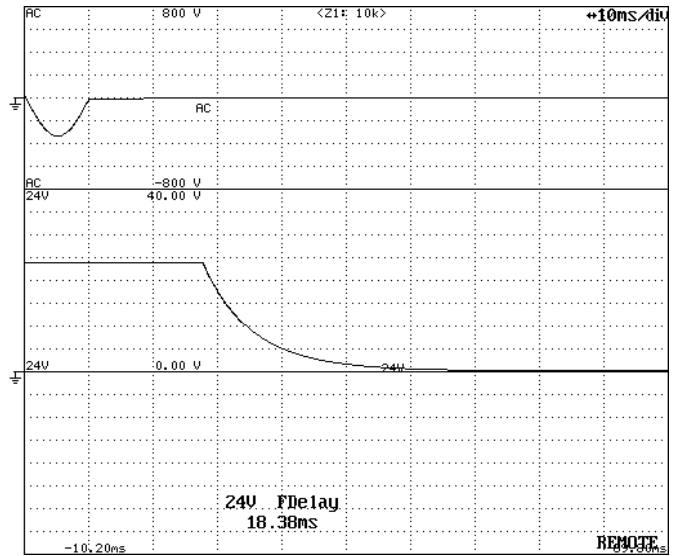
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

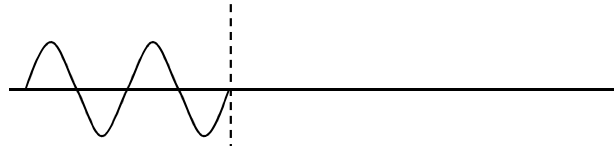
Timebase Range: 10ms/div



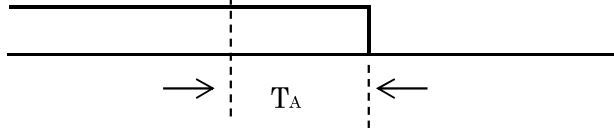
Output Fall Characteristics (magnification)

Model	UZP-120-24-J0L	Temperature: 25°C
Item	Instantaneous Interruption Compensation (by Load Power)	

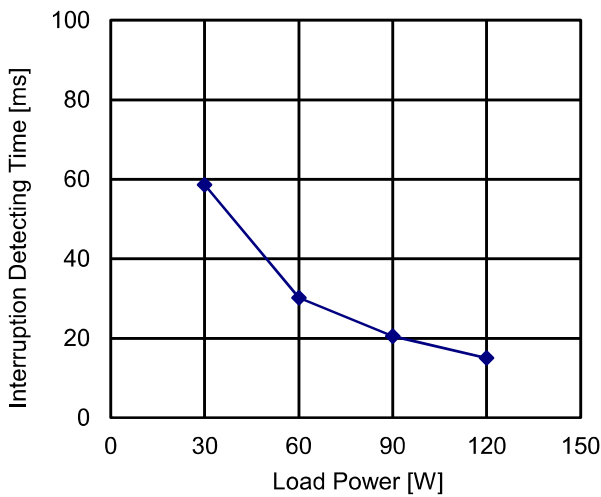
Input Voltage



Output Voltage

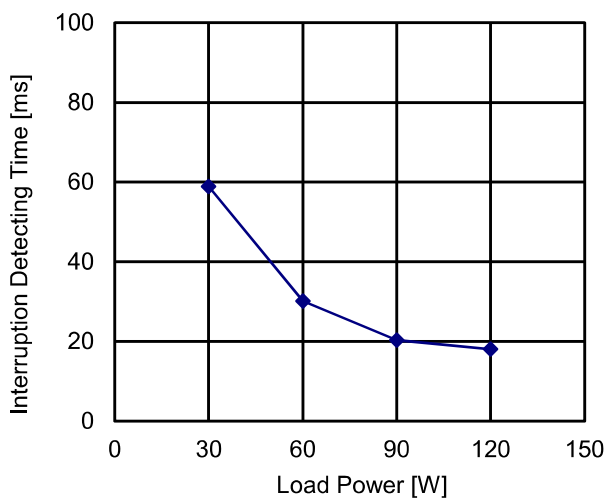


Input Voltage:100V AC



Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T _A
30.0	58.6
60.0	30.2
90.0	20.6
120.0	15.1

Input Voltage:240V AC

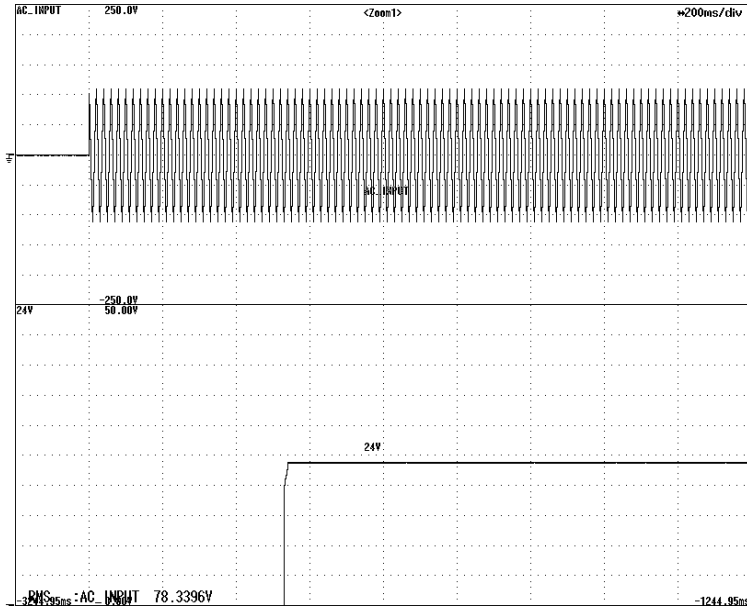


Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T _A
30.0	58.9
60.0	30.2
90.0	20.4
120.0	18.1

Model	UZP-120-24-J0L	Temperature: 25°C
Item	Start-Up Voltage	

Timebase Range: 200ms/div
Load: Rated Load

AC Input

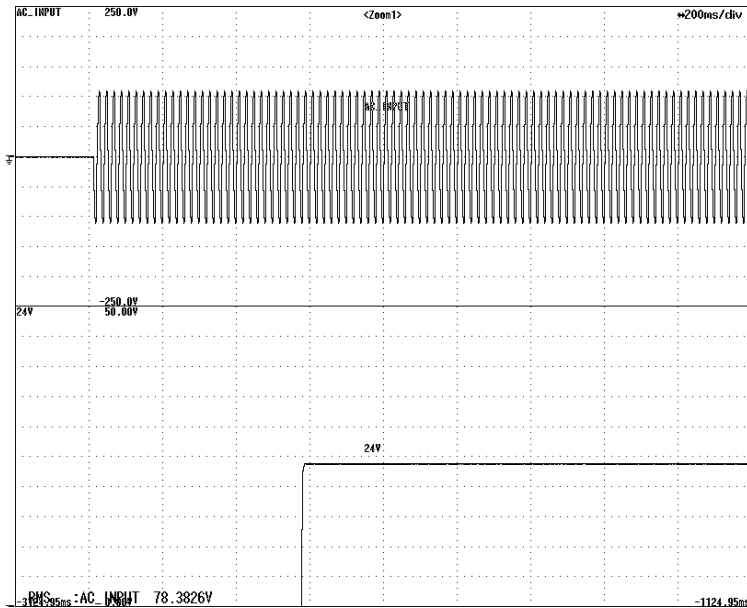


+24V

Start-up Voltage: 78.3V AC

Timebase Range: 200ms/div
Load: Minimum Load

AC Input



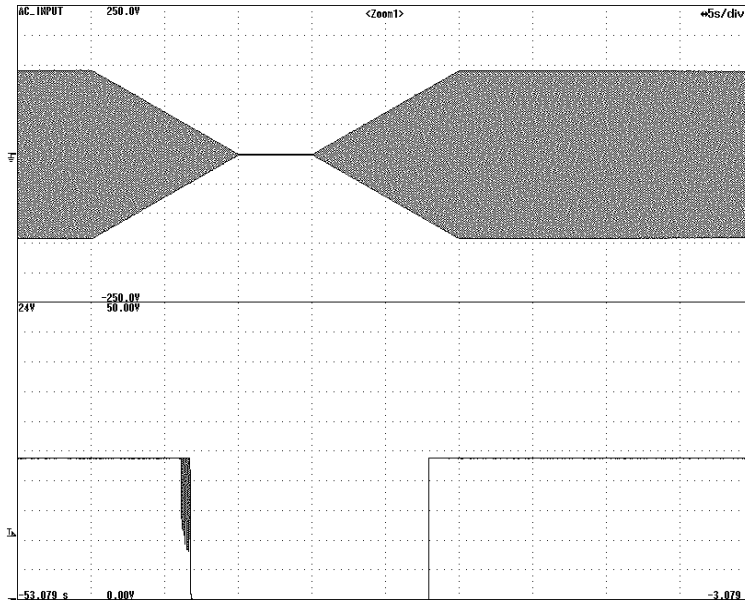
+24V

Start-up Voltage: 78.4V AC

Model	UZF-120-24-J0L	Temperature: 25°C
Item	Input Voltage Sweep Up/Down	

Timebase Range: 5s/div
Load: Rated Load

AC Input

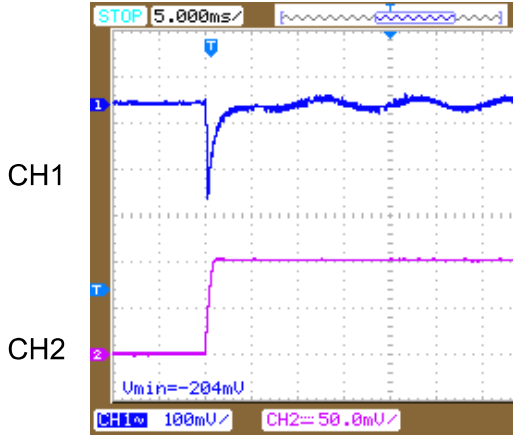


+24V

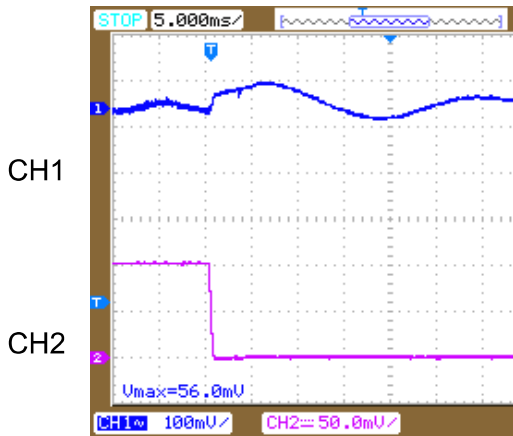
Sweep Rate: 10Vave/sec

Model	UZP-120-24-J0L	Temperature: 25°C
Item	Dynamic Load Response	

+24V DC Output Transient Response Waveforms

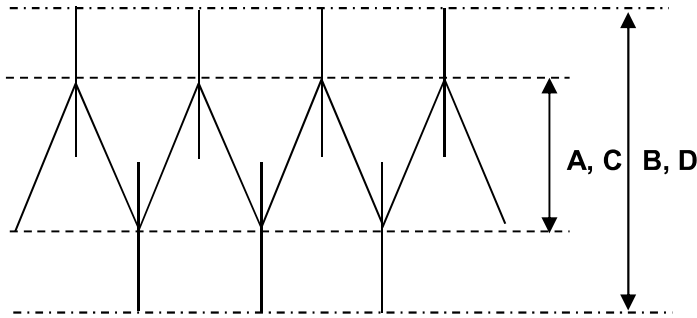


Waveform 1	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 100mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 2.5A/div
Timebase Range	5ms/div
Condition	Input: 100V AC
Note: Minimum load(0A) → Rated Load(5A)	



Waveform 2	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 100mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 2.5A/div
Timebase Range	5ms/div
Condition	Input: 100V AC
Note: Rated Load(5A) → Minimum load(0A)	

Model	UZP-120-24-J0L	Load: Rated Load
Item	Ripple / Noise Voltage	

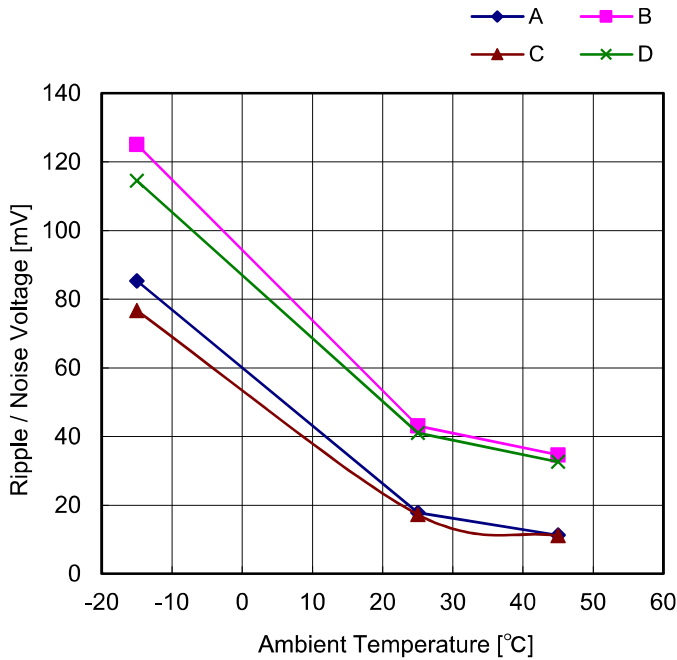


at 100V AC

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

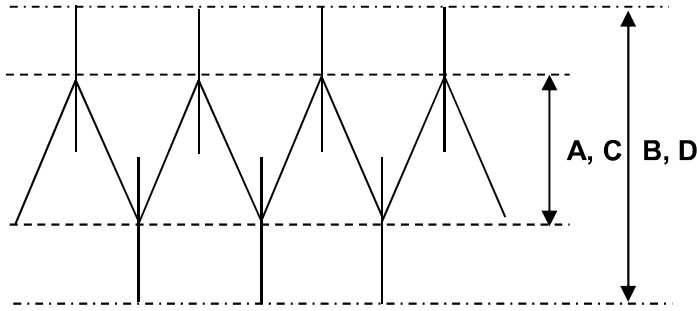
at 240V AC

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



Ambient Temp. [°C]	Ripple / Noise Voltage [mV]			
	A	B	C	D
-15	85.3	125.0	76.6	114.5
25	17.8	43.0	17.3	41.0
45	11.2	34.6	11.0	32.6

Model	UZP-120-24-J0L	Temperature : 25°C
Item	Ripple / Noise Voltage	

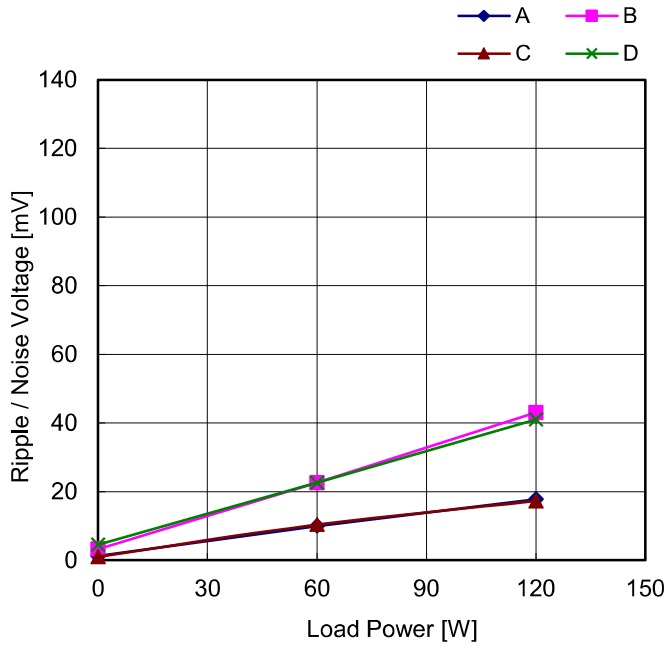


at 100V AC

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

at 240V AC

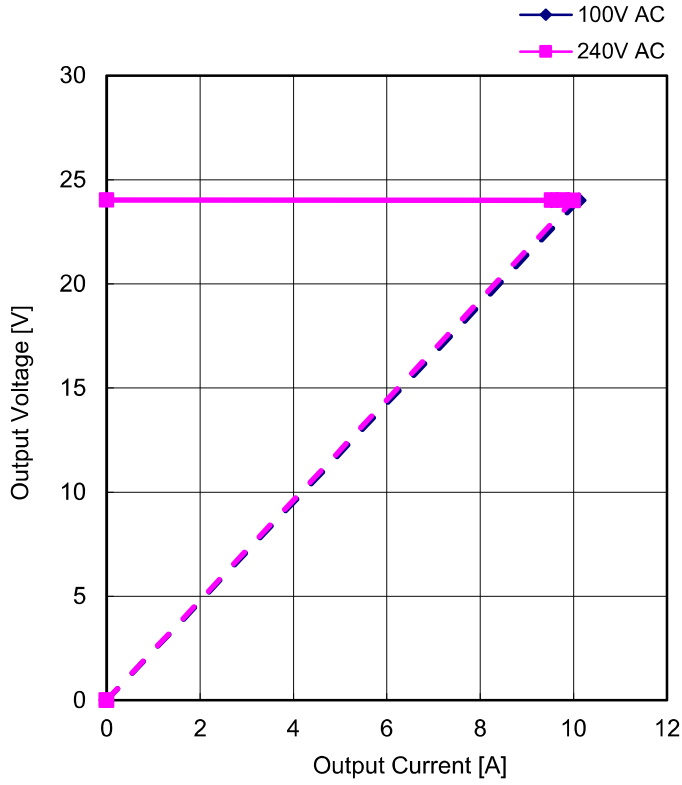
C: Ripple Voltage (mVP-P)
D: Noise Voltage (mVP-P)



Load Power [W]	Ripple / Noise Voltage [mV]			
	A	B	C	D
0	1.2	3.2	1.0	4.5
60.0	10.0	22.6	10.4	22.6
120.0	17.8	43.0	17.3	41.0

Model	UZP-120-24-J0L	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	24.03	0.00	24.03
9.53	24.02	9.53	24.02
9.89	24.02	9.77	24.02
10.11	24.01	9.99	24.01

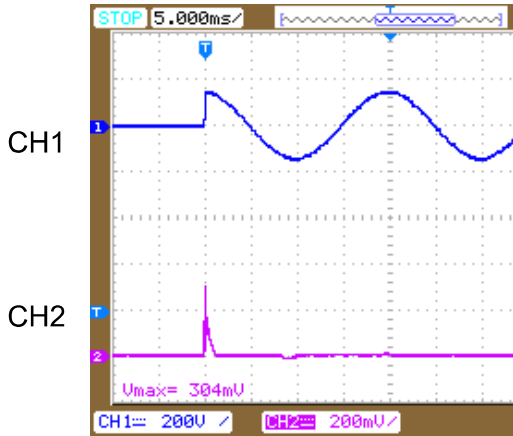
Model	UZP-120-24-J0L	Load: Minimum Load
Item	Over-Voltage Protection	

The graph plots Output Voltage [V] on the y-axis (ranging from 20.0 to 40.0) against Ambient Temperature [°C] on the x-axis (ranging from -20 to 80). Two data series are shown: 100V AC (blue line with diamond markers) and 240V AC (magenta line with square markers). The 240V AC series shows a slight upward trend, starting at approximately 31.43V at -15°C and reaching 33.13V at 65°C. The 100V AC series is not clearly distinguishable, likely overlapping the 240V AC series.

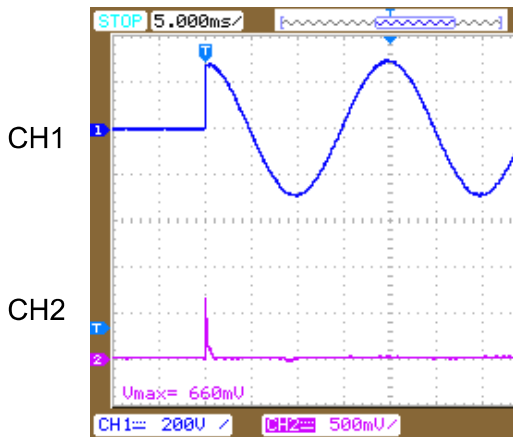
Ambient Temp. [°C]	Output Voltage [V]	
	100V AC	240V AC
-15	31.43	31.43
25	32.38	32.38
45	33.04	33.03
65	33.13	33.13

Model	UZP-120-24-J0L	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: 15.2A	



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: 33.0A	

Model	UZP-120-24-J0L	Load: Rated Load																																				
Item	Leakage Current																																					
<p>The graph plots Leakage Current [mA] on the y-axis (0 to 1) against AC Input Voltage [V] on the x-axis (50 to 300). The data points are as follows:</p> <table border="1"> <thead> <tr> <th>AC Input Voltage [V]</th> <th>Leakage Current [mA]</th> </tr> </thead> <tbody> <tr><td>85</td><td>0.02</td></tr> <tr><td>100</td><td>0.02</td></tr> <tr><td>132</td><td>0.03</td></tr> <tr><td>176</td><td>0.05</td></tr> <tr><td>200</td><td>0.05</td></tr> <tr><td>220</td><td>0.06</td></tr> <tr><td>240</td><td>0.07</td></tr> <tr><td>264</td><td>0.08</td></tr> </tbody> </table>		AC Input Voltage [V]	Leakage Current [mA]	85	0.02	100	0.02	132	0.03	176	0.05	200	0.05	220	0.06	240	0.07	264	0.08	<table border="1"> <thead> <tr> <th>AC Input Voltage [V]</th> <th>Leakage Current [mA]</th> </tr> </thead> <tbody> <tr><td>85</td><td>0.02</td></tr> <tr><td>100</td><td>0.02</td></tr> <tr><td>132</td><td>0.03</td></tr> <tr><td>176</td><td>0.05</td></tr> <tr><td>200</td><td>0.05</td></tr> <tr><td>220</td><td>0.06</td></tr> <tr><td>240</td><td>0.07</td></tr> <tr><td>264</td><td>0.08</td></tr> </tbody> </table>	AC Input Voltage [V]	Leakage Current [mA]	85	0.02	100	0.02	132	0.03	176	0.05	200	0.05	220	0.06	240	0.07	264	0.08
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