

Test Data


Model Number: UZP-150-24

Model Name: DC POWER SUPPLY

INPUT: 85V – 264V AC, 50 / 60 Hz

OUTPUT: 24 V 6.3A (16.7 A_{peak})

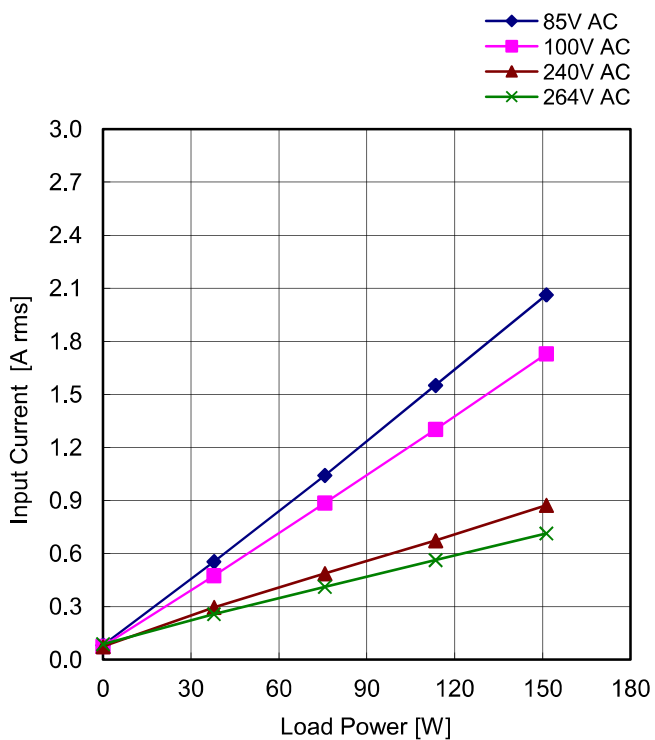
Minimum load : 0W
Rated load :151.2W
Peak output power: 400.8W

Approved by :  (QA manager)
Designed by : Kazuhiko Yamada (R&D engineer)
Tested by : Hiruyuki Watanabe (Evaluation test engineer)

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Model	UZP-150-24	Temperature: 25°C
Item	Input Current (by Load Power)	

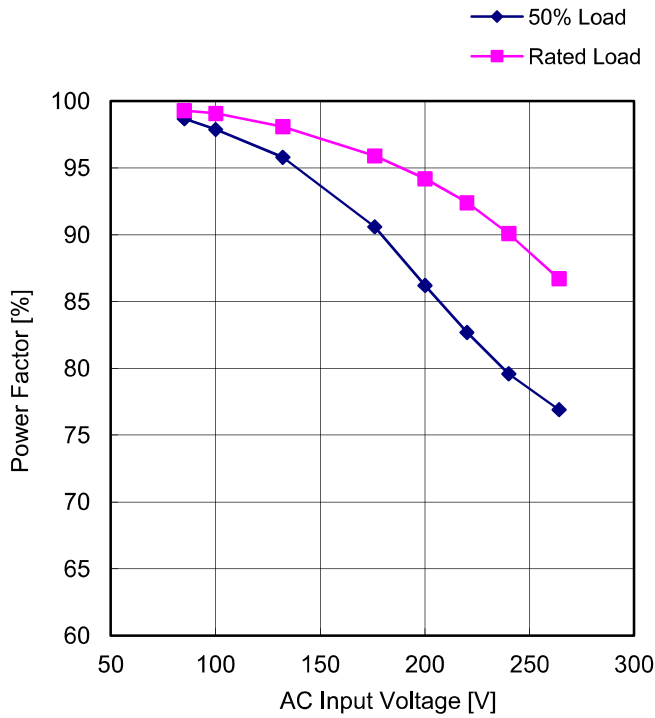


Load Power [W]	Input Current [A rms]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
0.0	0.08	0.08	0.08	0.09
37.8	0.55	0.48	0.30	0.26
75.6	1.04	0.89	0.49	0.41
113.4	1.55	1.30	0.67	0.56
151.2	2.06	1.73	0.87	0.71

Model	UZP-150-24	Temperature: 25°C																														
Item	Efficiency																															
<p>■ Efficiency(by Input Voltage)</p> <p>Legend: 50% Load (Blue diamonds), Rated Load (Pink squares)</p> <table border="1"> <thead> <tr> <th>AC Input Voltage [V]</th> <th>50% Load Efficiency [%]</th> <th>Rated Load Efficiency [%]</th> </tr> </thead> <tbody> <tr><td>85</td><td>86.34</td><td>86.84</td></tr> <tr><td>100</td><td>86.91</td><td>88.14</td></tr> <tr><td>132</td><td>88.55</td><td>89.56</td></tr> <tr><td>176</td><td>89.16</td><td>90.99</td></tr> <tr><td>200</td><td>89.93</td><td>91.82</td></tr> <tr><td>220</td><td>89.84</td><td>92.06</td></tr> <tr><td>240</td><td>90.28</td><td>92.40</td></tr> <tr><td>264</td><td>90.34</td><td>92.71</td></tr> </tbody> </table>				AC Input Voltage [V]	50% Load Efficiency [%]	Rated Load Efficiency [%]	85	86.34	86.84	100	86.91	88.14	132	88.55	89.56	176	89.16	90.99	200	89.93	91.82	220	89.84	92.06	240	90.28	92.40	264	90.34	92.71		
AC Input Voltage [V]	50% Load Efficiency [%]	Rated Load Efficiency [%]																														
85	86.34	86.84																														
100	86.91	88.14																														
132	88.55	89.56																														
176	89.16	90.99																														
200	89.93	91.82																														
220	89.84	92.06																														
240	90.28	92.40																														
264	90.34	92.71																														
<p>■ Efficiency(by Load Power)</p> <p>Legend: 85V AC (Blue diamonds), 100V AC (Pink squares), 240V AC (Red triangles), 264V AC (Green crosses)</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Efficiency [%]</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>37.8</td><td>83.13</td><td>83.68</td><td>85.71</td><td>86.08</td></tr> <tr><td>75.6</td><td>86.34</td><td>86.91</td><td>90.28</td><td>90.34</td></tr> <tr><td>113.4</td><td>86.74</td><td>88.06</td><td>92.32</td><td>92.49</td></tr> <tr><td>151.2</td><td>86.84</td><td>88.14</td><td>92.40</td><td>92.71</td></tr> </tbody> </table>				Load Power [W]	Efficiency [%]				Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC	37.8	83.13	83.68	85.71	86.08	75.6	86.34	86.91	90.28	90.34	113.4	86.74	88.06	92.32	92.49	151.2	86.84	88.14	92.40	92.71
Load Power [W]	Efficiency [%]																															
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC																												
37.8	83.13	83.68	85.71	86.08																												
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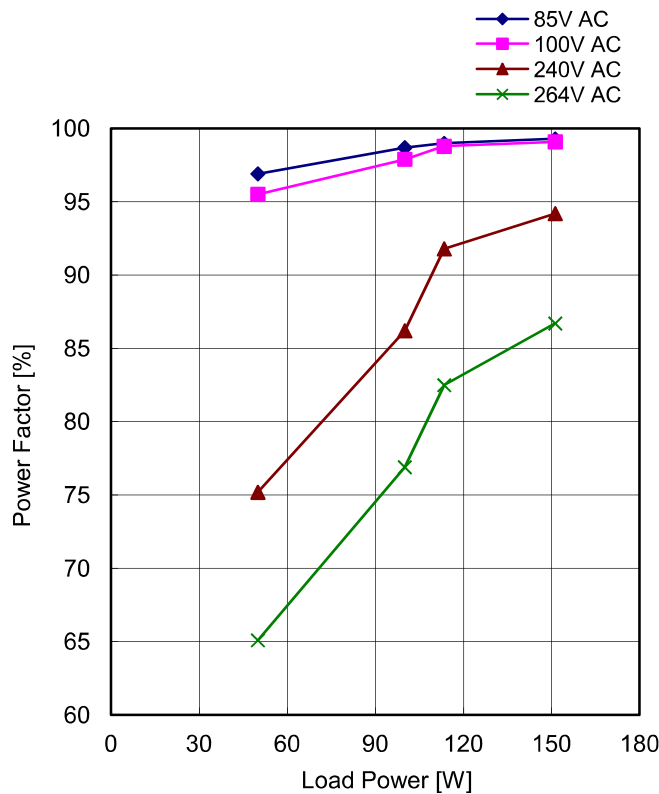
Model	UZP-150-24	Temperature: 25°C
Item	Power Factor	

■ Power Factor (by Input Voltage)



AC Input Voltage [V]	Power Factor [%]	
	50% Load	Rated Load
85	98.7	99.3
100	97.9	99.1
132	95.8	98.1
176	90.6	95.9
200	86.2	94.2
220	82.7	92.4
240	79.6	90.1
264	76.9	86.7

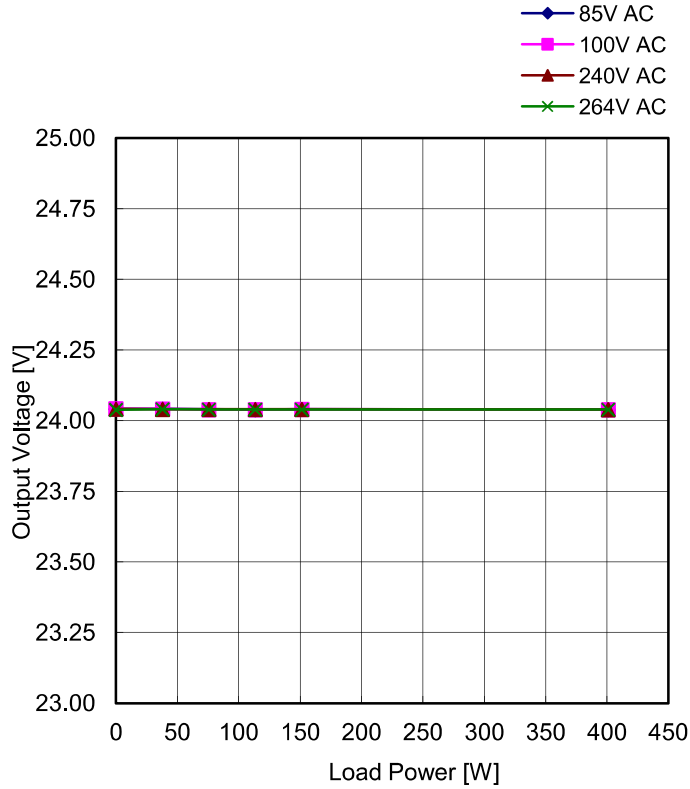
■ Power Factor (by Load Power)



Load Power [W]	Power Factor [%]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
50.0	96.9	95.5	75.2	65.1
100.0	98.7	97.9	86.2	76.9
113.4	99.0	98.8	91.8	82.5
151.2	99.3	99.1	94.2	86.7

Model	UZP-150-24	Temperature: 25°C																		
Item	Line Regulation																			
<p>Legend: Rated load</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>24.039</td> </tr> <tr> <td>100</td> <td>24.040</td> </tr> <tr> <td>132</td> <td>24.039</td> </tr> <tr> <td>176</td> <td>24.039</td> </tr> <tr> <td>200</td> <td>24.040</td> </tr> <tr> <td>220</td> <td>24.039</td> </tr> <tr> <td>240</td> <td>24.040</td> </tr> <tr> <td>264</td> <td>24.040</td> </tr> </tbody> </table>	AC Input Voltage [V]	Output Voltage [V]	85	24.039	100	24.040	132	24.039	176	24.039	200	24.040	220	24.039	240	24.040	264	24.040
AC Input Voltage [V]	Output Voltage [V]																			
85	24.039																			
100	24.040																			
132	24.039																			
176	24.039																			
200	24.040																			
220	24.039																			
240	24.040																			
264	24.040																			

Model	UZP-150-24	Temperature: 25°C
Item	Load Regulation	

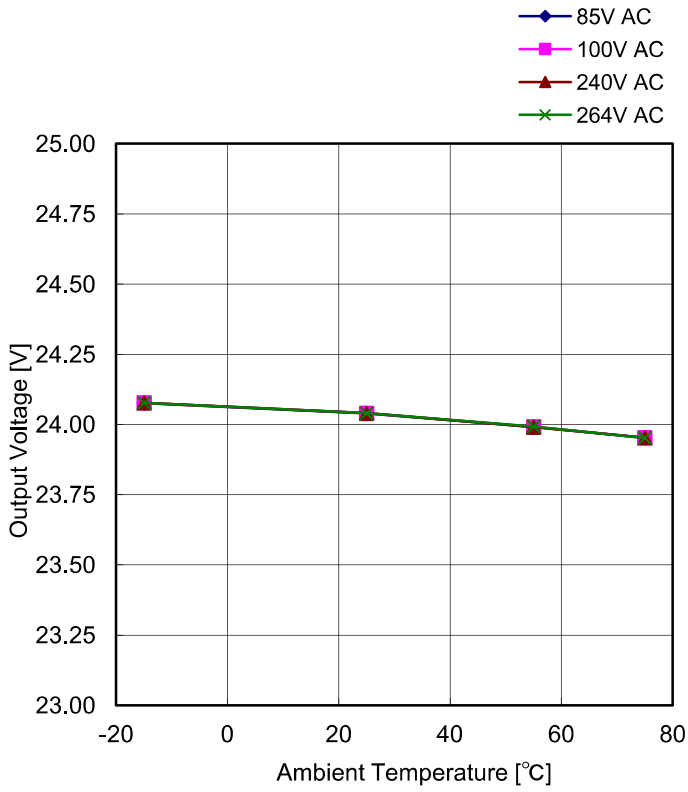


Load Power [W]	Output Voltage [V]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
0.0	24.041	24.042	24.041	24.038
37.8	24.041	24.041	24.040	24.040
75.6	24.040	24.039	24.040	24.039
113.4	24.039	24.039	24.040	24.039
151.2	24.040	24.040	24.040	24.039
400.8	24.039	24.039	24.039	24.039

Load Power [W]	Load Condition	
	Load Current [A]	
0.0	0.00	
37.8	1.58	
75.6	3.15	
113.4	4.73	
151.2	6.30	
400.8	16.70	

Model UZP-150-24

Item Ambient Temperature Drift



Ambient Temp. (°C)	Output Voltage [V]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
-15	24.076	24.077	24.077	24.077
25	24.039	24.040	24.040	24.040
55	23.992	23.992	23.991	23.993
75	23.953	23.953	23.953	23.952

Load Condition

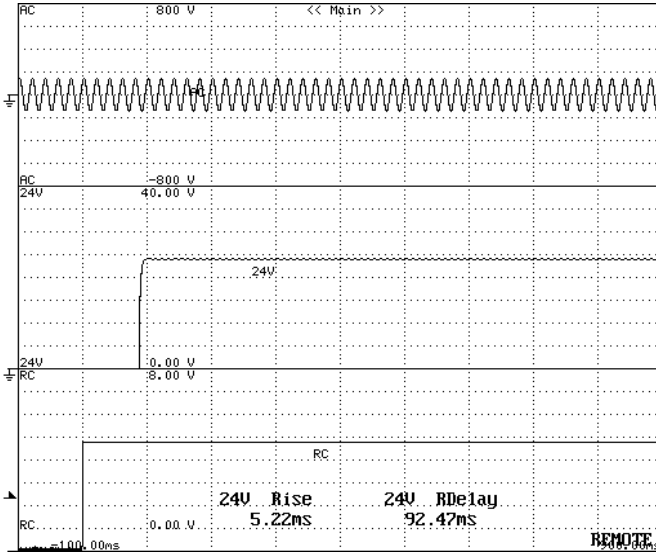
Ambient Temp. (°C)	Load Current [A]
	24V
-15	6.30
25	6.30
55	6.30
75	3.75

Model	UZZ-150-24	Temperature: 25°C
Item	Output Rise Characteristics (at Remote ON)	

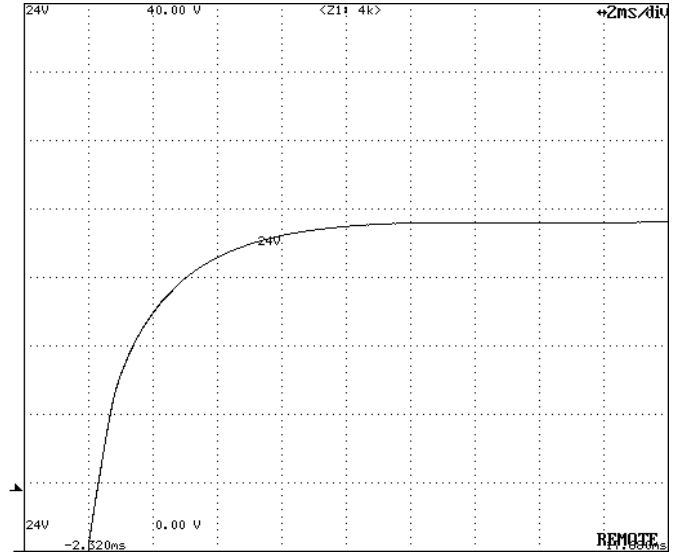
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 5V/div
Timebase Range: 2ms/div



All Output Start-up Sequence

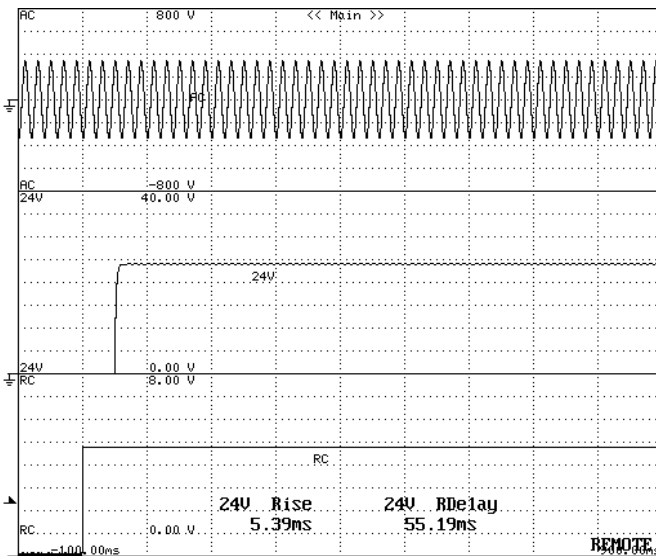


24V DC Output Rise Characteristics

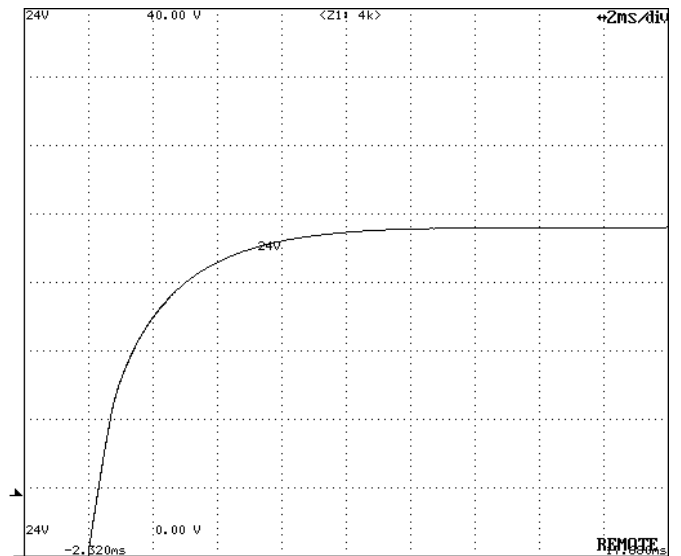
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 5V/div
Timebase Range: 2ms/div



All Output Start-up Sequence

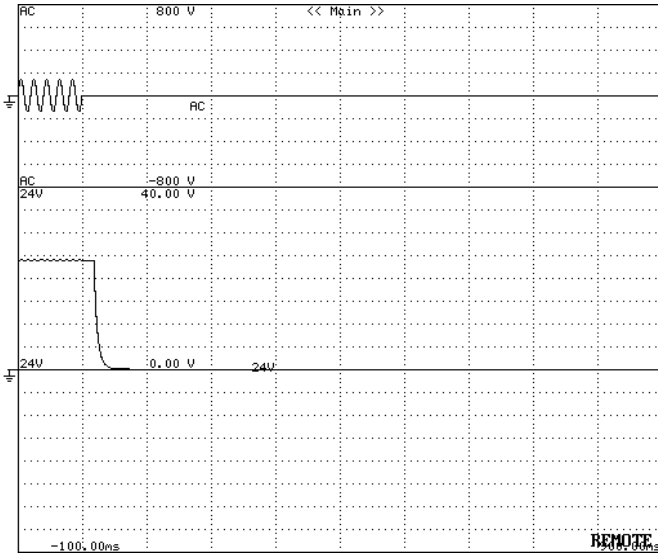


24V DC Output Rise Characteristics

Model	UZP-150-24	Temperature: 25°C
Item	Output Fall Characteristics (at AC Power OFF)	

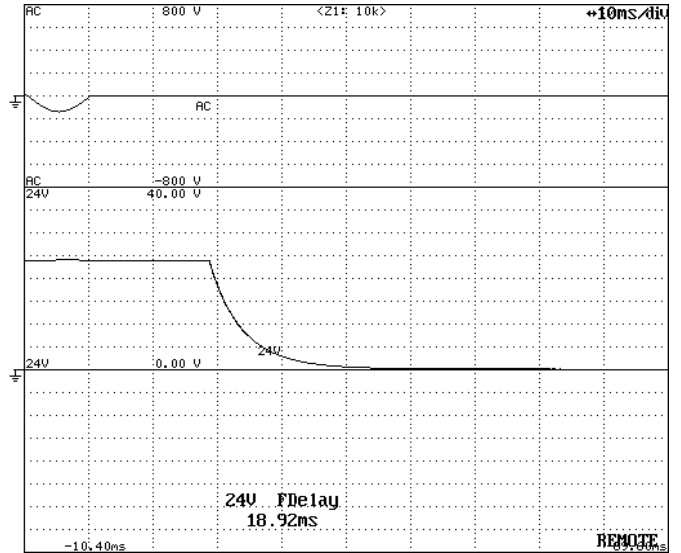
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

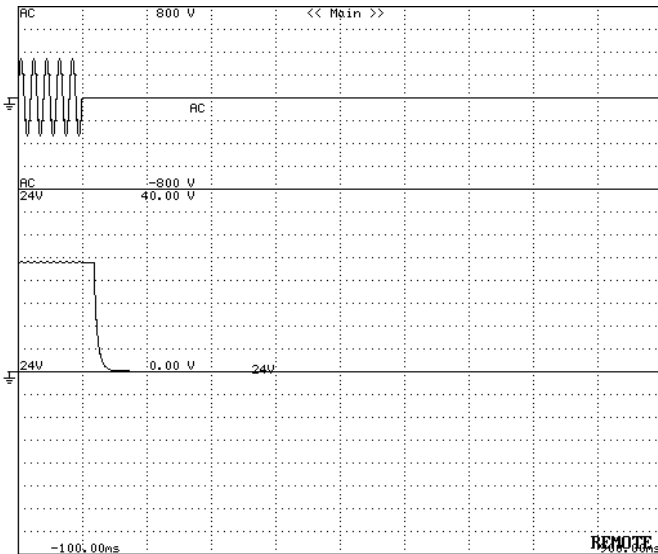
Timebase Range: 10ms/div



Output Fall Characteristics (magnification)

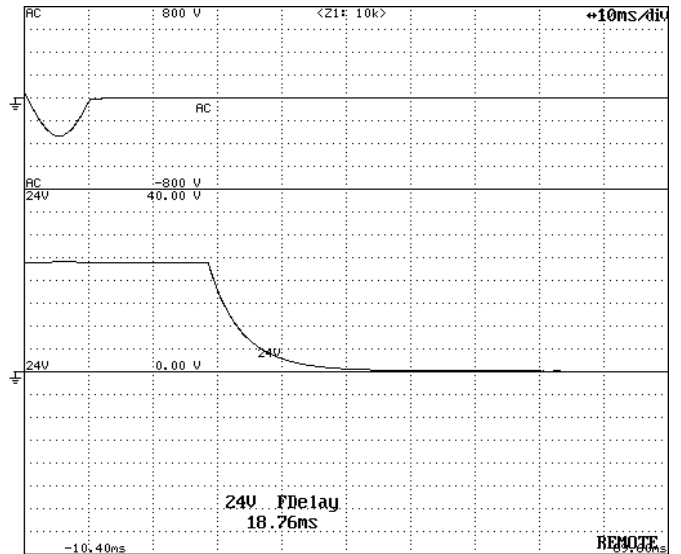
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

Timebase Range: 10ms/div

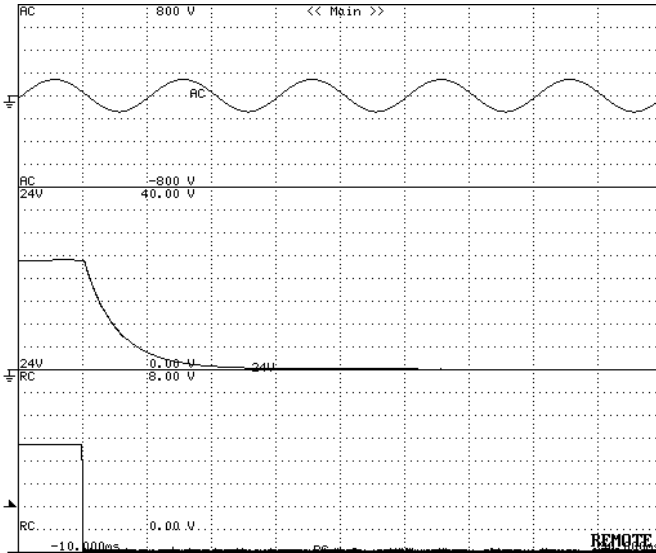


Output Fall Characteristics (magnification)

Model	UZP-150-24	Temperature: 25°C
Item	Output Fall Characteristics (at Remote OFF)	

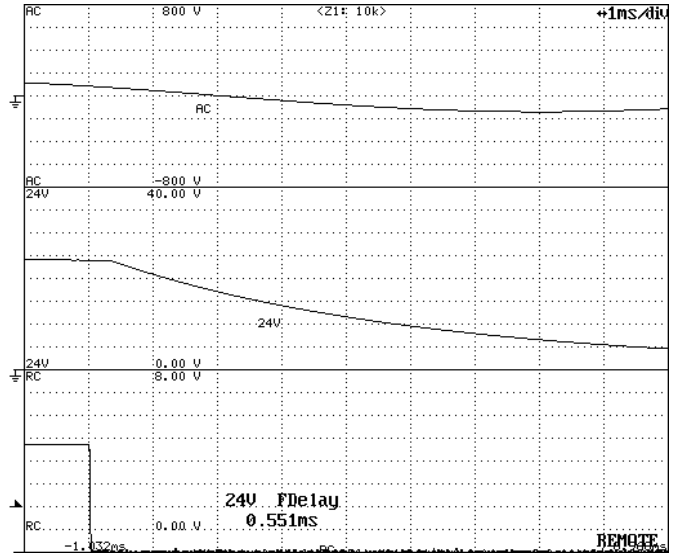
Input: 100V AC
Load: Rated Load

Timebase Range: 10ms/div



Output Fall Characteristics

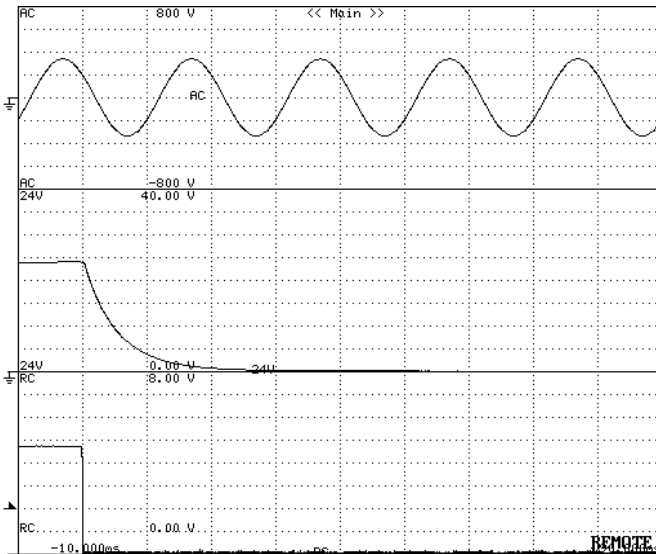
Timebase Range: 1ms/div



Output Fall Characteristics (magnification)

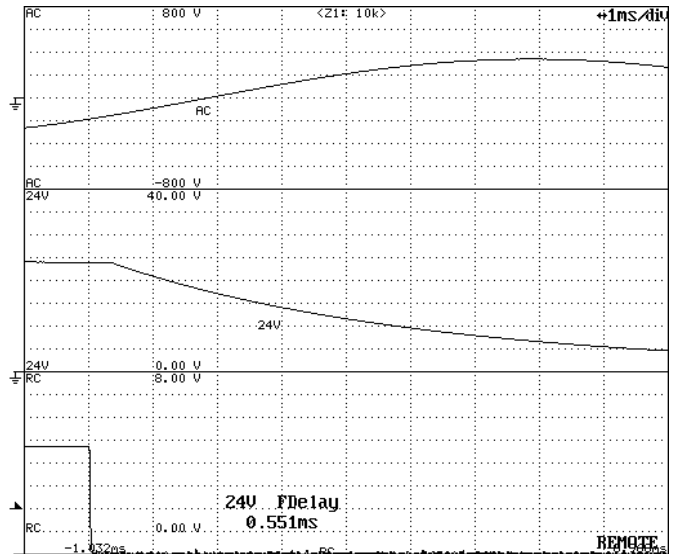
Input: 240V AC
Load: Rated Load

Timebase Range: 10ms/div



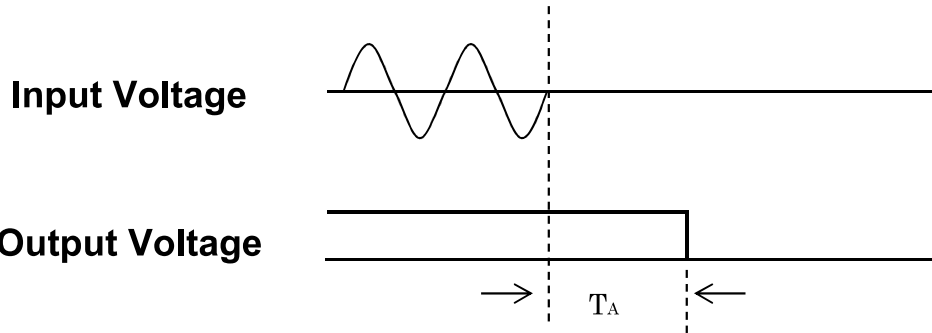
Output Fall Characteristics

Timebase Range: 1ms/div

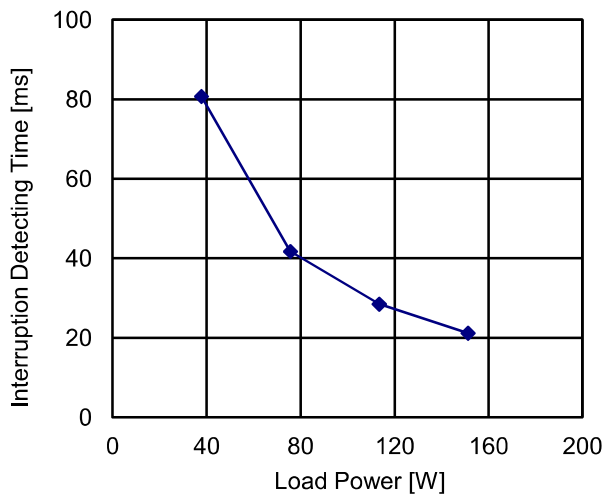


Output Fall Characteristics (magnification)

Model	UZP-150-24	Temperature: 25°C
Item	Instantaneous Interruption Compensation (by Load Power)	

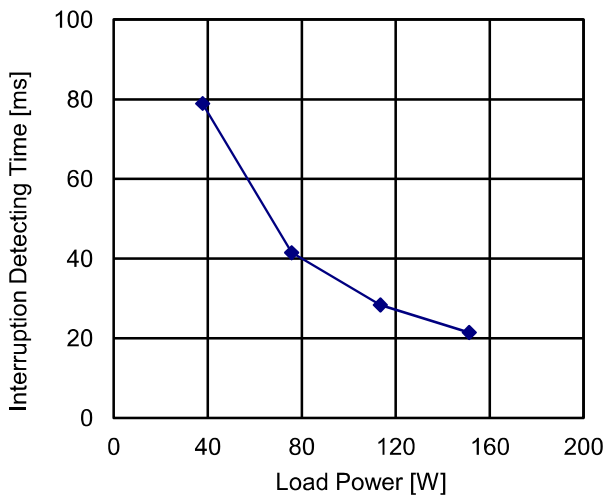


Input Voltage:100V AC



Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T_A
37.8	80.8
75.6	41.7
113.4	28.5
151.2	21.2

Input Voltage:240V AC

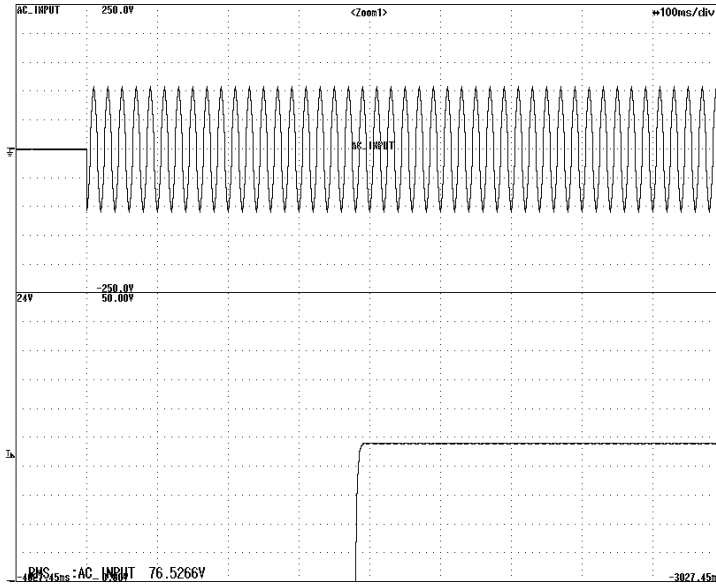


Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T_A
37.8	79.0
75.6	41.5
113.4	28.4
151.2	21.5

Model	UZP-150-24	Temperature: 25°C
Item	Start-Up Voltage	

**Timebase Range: 100ms/div
Load: Rated Load**

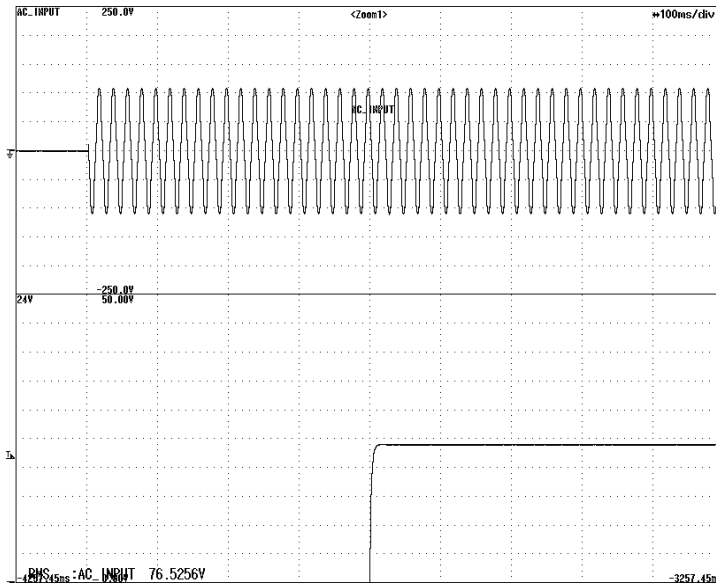
AC Input



Start-up Voltage: 76.5V AC

**Timebase Range: 100ms/div
Load: Minimum Load**

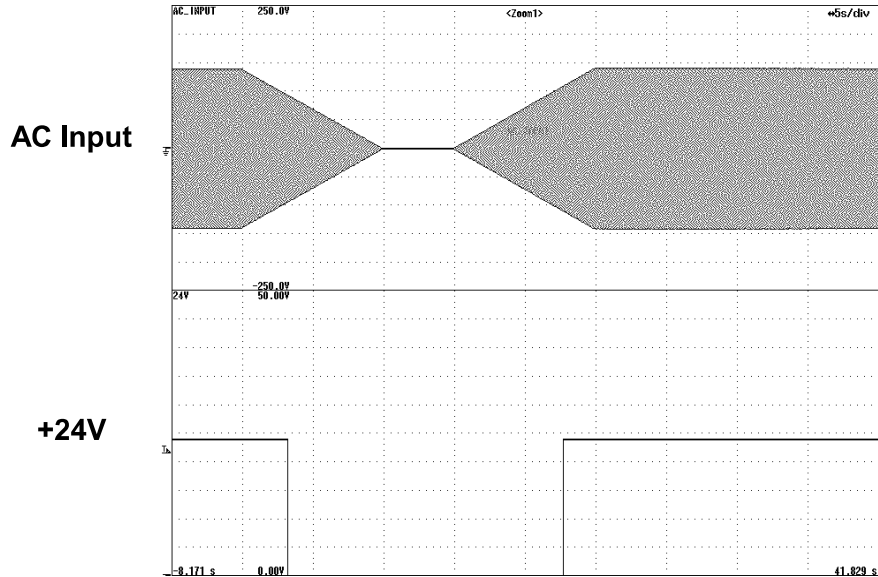
AC Input



Start-up Voltage: 76.5V AC

Model	UZF-150-24	Temperature: 25°C
Item	Input Voltage Sweep Up/Down	

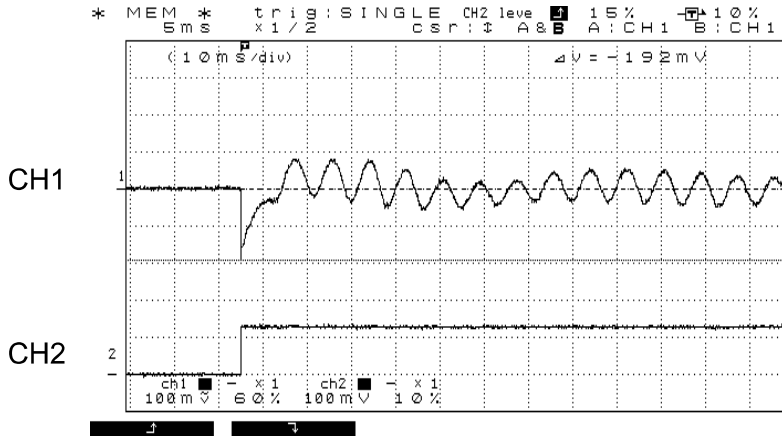
Timebase Range: 5s/div
Load: Rated Load



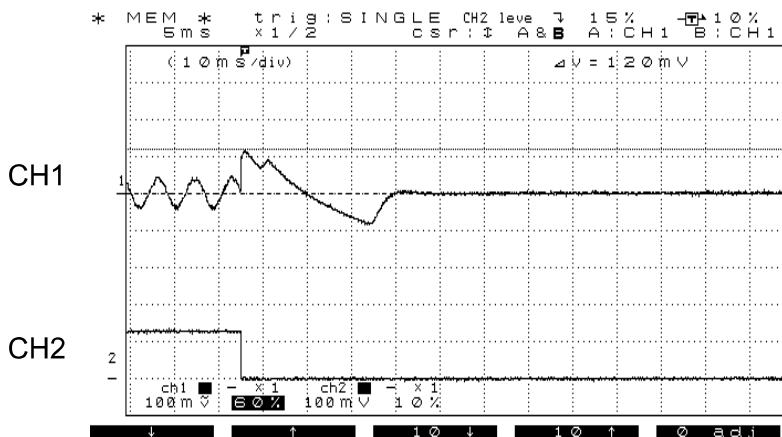
Sweep Rate: 10Vave/sec

Model	UZP-150-24	Temperature: 25°C
Item	Dynamic Load Response	

+24V DC Output Transient Response Waveforms

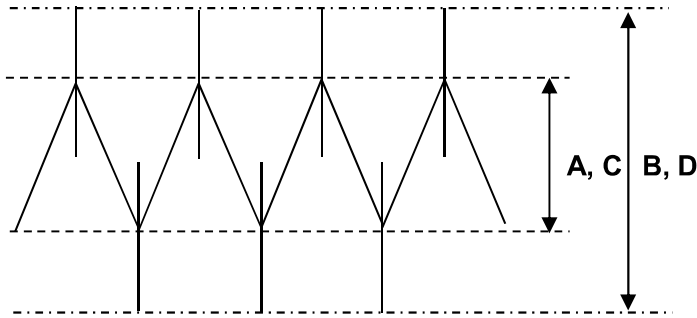


Waveform 1	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 100mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 5A/div
Timebase Range	10ms/div
Condition	Input: 100V AC
Note: Minimum load(0A) → Rated Load(6.3A)	



Waveform 2	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 100mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 5A/div
Timebase Range	10ms/div
Condition	Input: 100V AC
Note: Rated Load(6.3A) → Minimum load(0A)	

Model	UZP-150-24	Load: Rated Load
Item	Ripple / Noise Voltage	

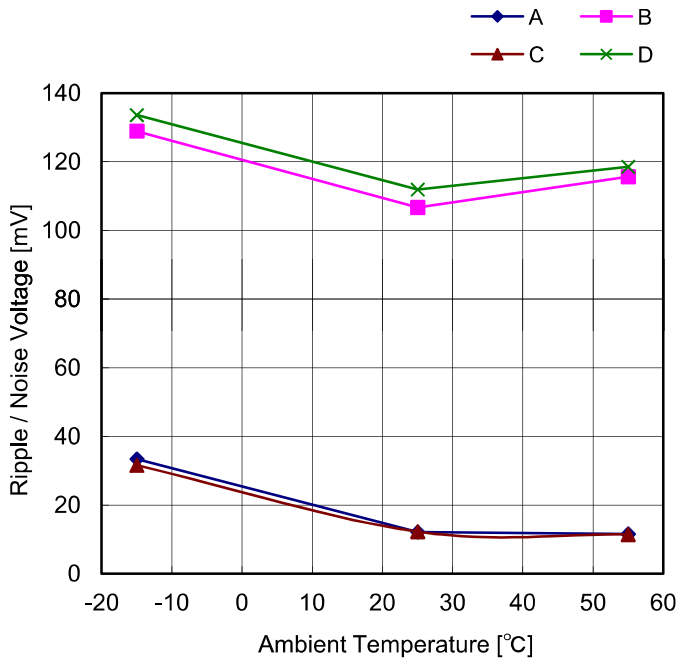


at 100V AC

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

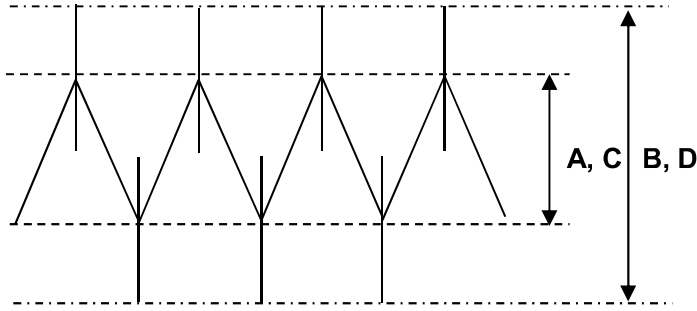
at 240V AC

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



Ambient Temp. [°C]	Ripple / Noise Voltage [mV]			
	A	B	C	D
-15	33.4	128.9	31.6	133.6
25	12.1	106.7	12.2	111.9
55	11.5	115.6	11.4	118.5

Model	UZP-150-24	Temperature : 25°C
Item	Ripple / Noise Voltage	

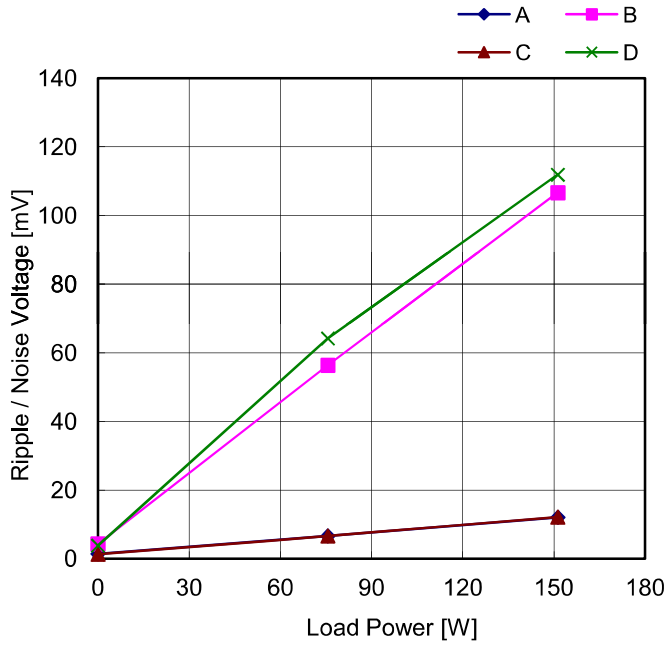


at 100V AC

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

at 240V AC

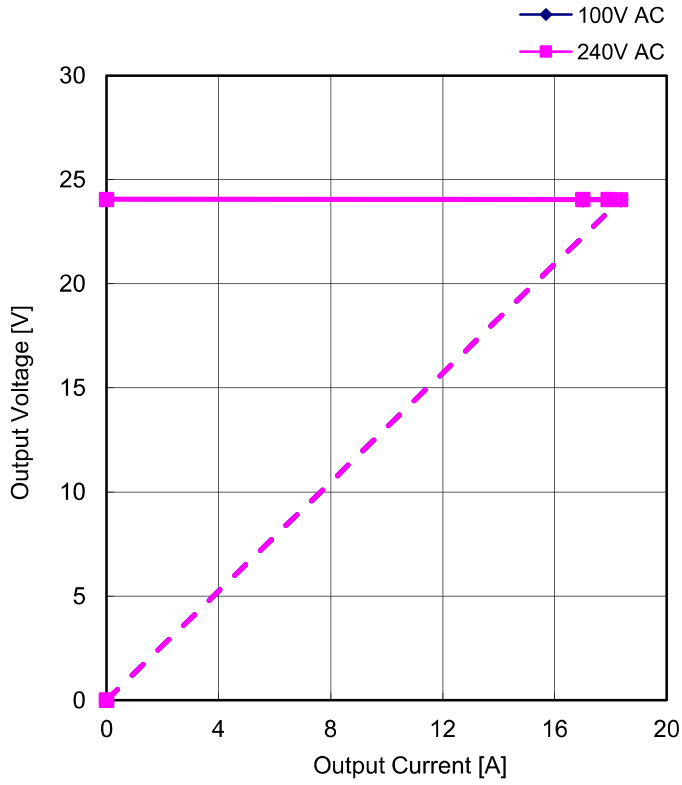
C: Ripple Voltage (mVP-P)
D: Noise Voltage (mVP-P)



Load Power [W]	Ripple / Noise Voltage [mV]			
	A	B	C	D
0	1.4	4.3	1.3	3.8
75.6	6.6	56.4	6.6	64.2
151.2	12.1	106.7	12.2	111.9

Model	UZP-150-24	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	24.05	0.00	24.05
17.00	24.04	17.00	24.04
17.90	24.04	17.90	24.04
18.36	24.03	18.36	24.04

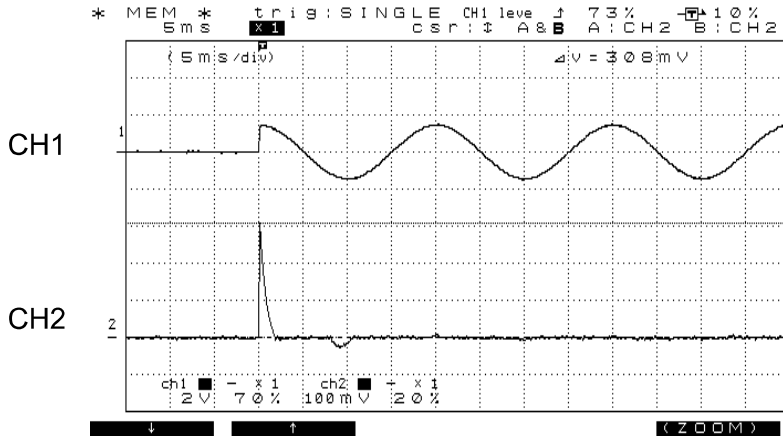
Model	UZP-150-24	Load: Minimum Load
Item	Over-Voltage Protection	

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 positive correlation between temperature and output voltage, starting at approximately 31.17V at -15°C and rising to 33.28V at 75°C. The 100V AC series is not clearly visible, likely overlapping with the 240V AC series or being constant at a lower value.

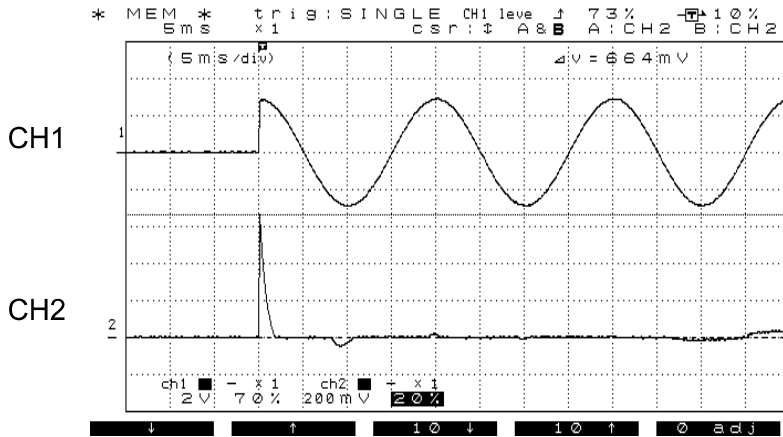
Ambient Temp. [°C]	Output Voltage [V]	
	100V AC	240V AC
-15	31.17	31.14
25	32.36	32.37
55	32.78	32.77
75	33.28	33.28

Model	UZP-150-24	Temperature: 25°C
Item	Inrush Current	Load: Rated Load

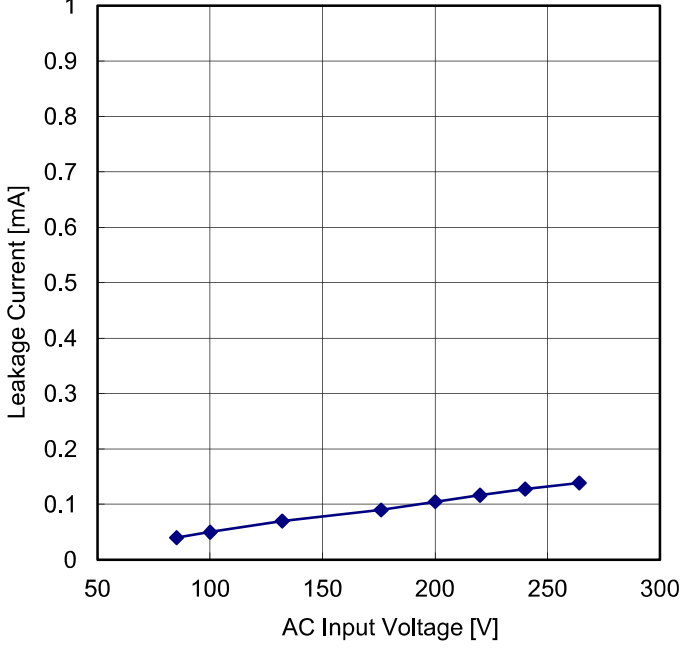
Inrush Current Waveforms



Waveform 1	
CH1	Measuring Point: AC Input Voltage
	Range: 200V/div
CH2	Measuring Point: AC Input Current
	Range: 5A/div
Timebase Range	5ms/div
Condition	Input: 100V AC
	Load: Rated Load
Note: Inrush Current: 16.8A	



Waveform 2	
CH1	Measuring Point: AC Input Voltage
	Range: 200V/div
CH2	Measuring Point: AC Input Current
	Range: 10A/div
Timebase Range	5ms/div
Condition	Input: 200V AC
	Load: Rated Load
Note: Inrush Current: 33.2A	

Model	UZP-150-24	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>0.04</td></tr><tr><td>100</td><td>0.05</td></tr><tr><td>132</td><td>0.07</td></tr><tr><td>176</td><td>0.09</td></tr><tr><td>200</td><td>0.11</td></tr><tr><td>220</td><td>0.12</td></tr><tr><td>240</td><td>0.13</td></tr><tr><td>264</td><td>0.14</td></tr></tbody></table>		AC Input Voltage [V]	Leakage Current [mA]	85	0.04	100	0.05	132	0.07	176	0.09	200	0.11	220	0.12	240	0.13	264	0.14	<table border="1"><thead><tr><th>AC Input Voltage [V]</th><th>Leakage Current [mA]</th></tr></thead><tbody><tr><td>85</td><td>0.04</td></tr><tr><td>100</td><td>0.05</td></tr><tr><td>132</td><td>0.07</td></tr><tr><td>176</td><td>0.09</td></tr><tr><td>200</td><td>0.11</td></tr><tr><td>220</td><td>0.12</td></tr><tr><td>240</td><td>0.13</td></tr><tr><td>264</td><td>0.14</td></tr></tbody></table>	AC Input Voltage [V]	Leakage Current [mA]	85	0.04	100	0.05	132	0.07	176	0.09	200	0.11	220	0.12	240	0.13	264	0.14
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