

Test Data

Model Number: UZP-150-48

Model Name: DC POWER SUPPLY

INPUT: 85V – 264V AC, 50 / 60 Hz

OUTPUT: 48V 3.2A (8.35 A_{peak})

Minimum load : 0W
Rated load :153.6W
Peak output power: 400.8W

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

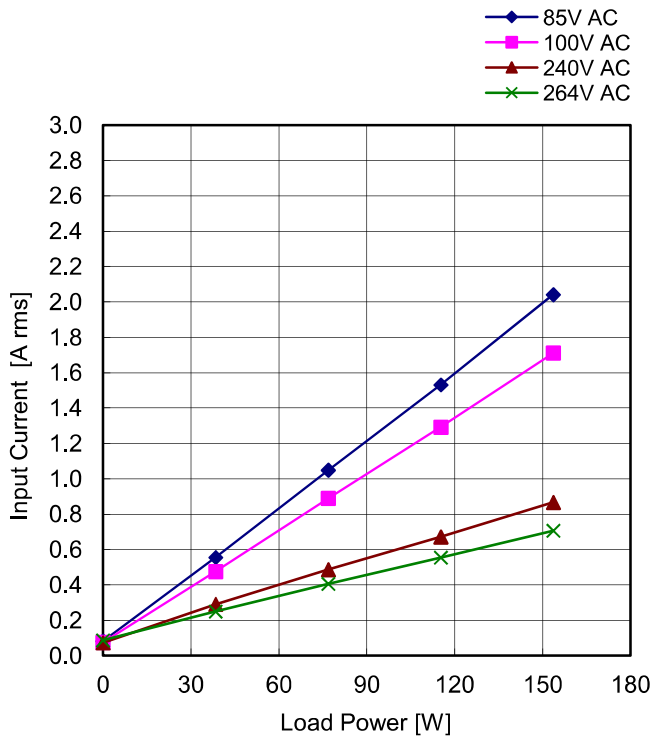
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Model UZP-150-48

Temperature: 25°C

Item Input Current (by Load Power)

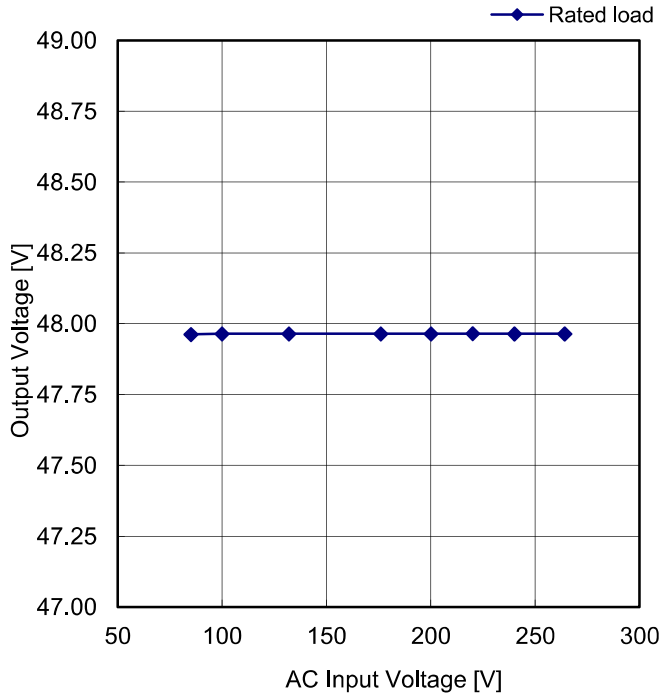


Load Power [W]	Input Current [A rms]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
0.0	0.08	0.08	0.07	0.09
38.4	0.56	0.48	0.29	0.25
76.8	1.05	0.89	0.49	0.41
115.2	1.53	1.29	0.67	0.55
153.6	2.04	1.71	0.87	0.71

Model	UZP-150-48	Temperature: 25°C																																																											
Item	Efficiency																																																												
<p>■ Efficiency(by Input Voltage)</p> <p>Legend: 50% Load (Blue Diamond), Rated Load (Pink Square)</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>86.92</td><td>87.70</td></tr> <tr><td>100</td><td>87.69</td><td>88.93</td></tr> <tr><td>132</td><td>88.95</td><td>90.37</td></tr> <tr><td>176</td><td>89.97</td><td>91.59</td></tr> <tr><td>200</td><td>90.27</td><td>92.03</td></tr> <tr><td>220</td><td>90.48</td><td>92.42</td></tr> <tr><td>240</td><td>90.90</td><td>92.62</td></tr> <tr><td>264</td><td>90.96</td><td>93.02</td></tr> </tbody> </table>		AC Input Voltage [V]	50% Load Efficiency [%]	Rated Load Efficiency [%]	85	86.92	87.70	100	87.69	88.93	132	88.95	90.37	176	89.97	91.59	200	90.27	92.03	220	90.48	92.42	240	90.90	92.62	264	90.96	93.02	<table border="1"> <thead> <tr> <th rowspan="2">AC Input Voltage [V]</th> <th colspan="2">Efficiency [%]</th> </tr> <tr> <th>50% Load</th> <th>Rated Load</th> </tr> </thead> <tbody> <tr><td>85</td><td>86.92</td><td>87.70</td></tr> <tr><td>100</td><td>87.69</td><td>88.93</td></tr> <tr><td>132</td><td>88.95</td><td>90.37</td></tr> <tr><td>176</td><td>89.97</td><td>91.59</td></tr> <tr><td>200</td><td>90.27</td><td>92.03</td></tr> <tr><td>220</td><td>90.48</td><td>92.42</td></tr> <tr><td>240</td><td>90.90</td><td>92.62</td></tr> <tr><td>264</td><td>90.96</td><td>93.02</td></tr> </tbody> </table>		AC Input Voltage [V]	Efficiency [%]		50% Load	Rated Load	85	86.92	87.70	100	87.69	88.93	132	88.95	90.37	176	89.97	91.59	200	90.27	92.03	220	90.48	92.42	240	90.90	92.62	264	90.96	93.02		
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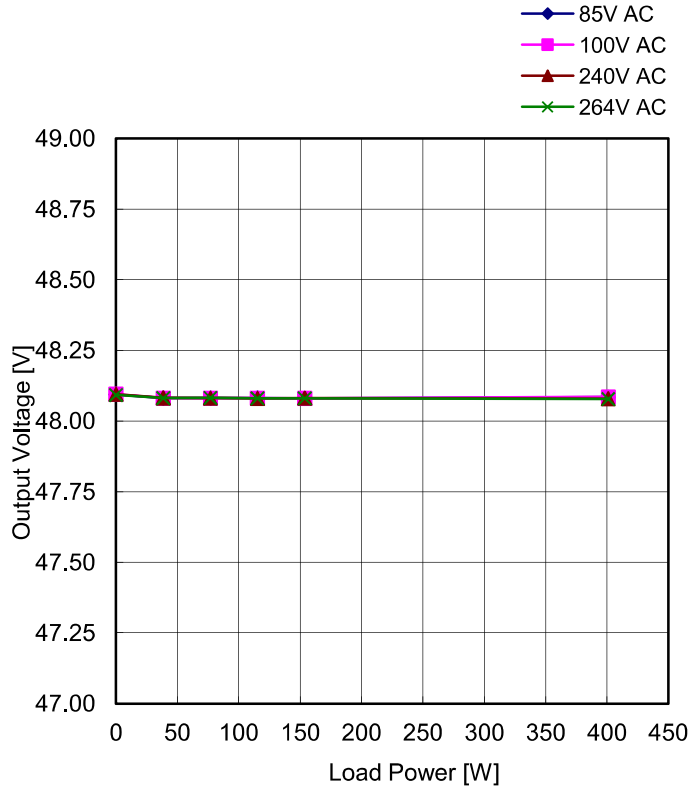
Model	UZP-150-48	Temperature: 25°C																														
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115.2	99.1	98.8	92.2	83.5																												
153.6	99.3	99.3	94.6	87.4																												

Model	UZP-150-48	Temperature: 25°C
Item	Line Regulation	



AC Input Voltage [V]	Output Voltage [V]
85	47.962
100	47.964
132	47.964
176	47.964
200	47.964
220	47.965
240	47.964
264	47.964

Model	UZP-150-48	Temperature: 25°C
Item	Load Regulation	

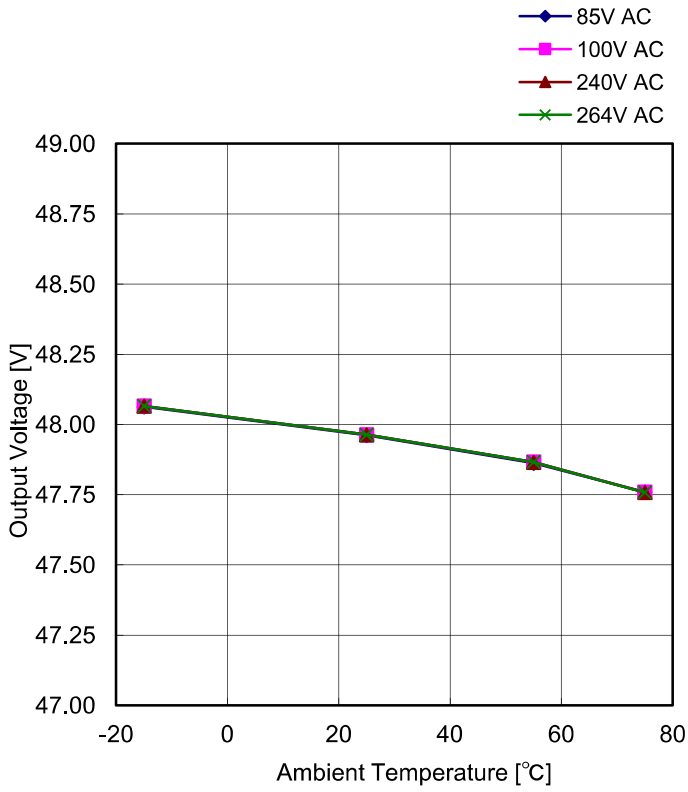


Load Power [W]	Output Voltage [V]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
0.0	48.094	48.095	48.095	48.092
38.4	48.081	48.081	48.082	48.081
76.8	48.081	48.081	48.081	48.082
115.2	48.081	48.081	48.080	48.080
153.6	48.080	48.080	48.081	48.080
400.8	48.084	48.085	48.079	48.078

Load Power [W]	Load Condition	
	Load Current [A]	
0.0	48V	
38.4	0.80	
76.8	1.60	
115.2	2.40	
153.6	3.20	
400.8	8.35	

Model UZP-150-48

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	48.063	48.066	48.066	48.066
25	47.962	47.964	47.964	47.964
55	47.863	47.867	47.866	47.867
75	47.760	47.760	47.759	47.759

Load Condition

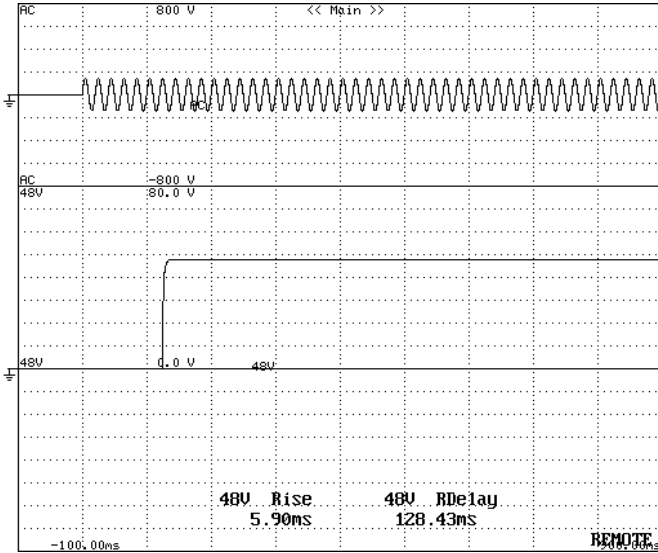
Ambient Temp. (°C)	Load Current [A]
	48V
-15	3.20
25	3.20
55	3.20
75	1.88

Model	UZZ-150-48	Temperature: 25°C
Item	Output Rise Characteristics (at AC Power ON)	

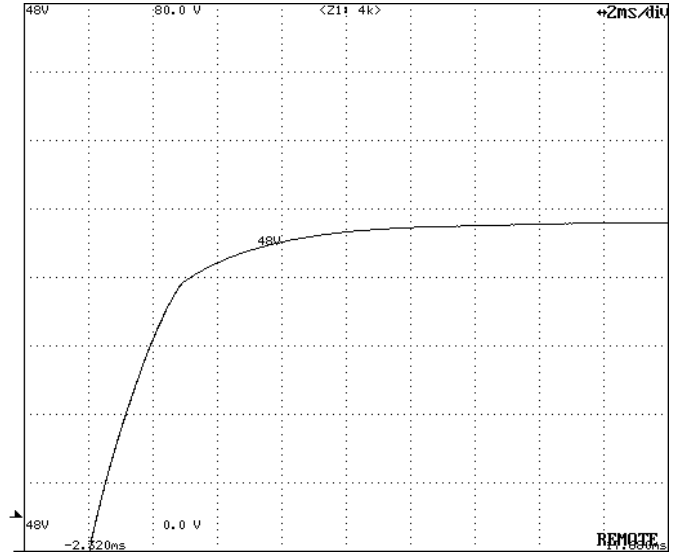
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 10V/div
Timebase Range: 2ms/div



All Output Start-up Sequence

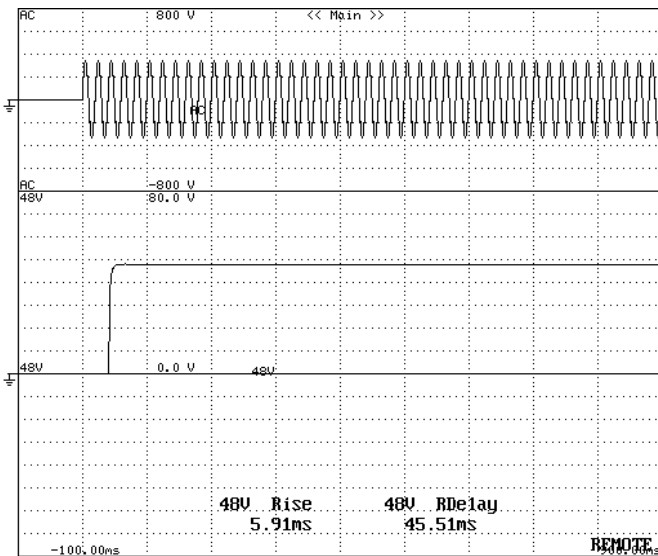


48V DC Output Rise Characteristics

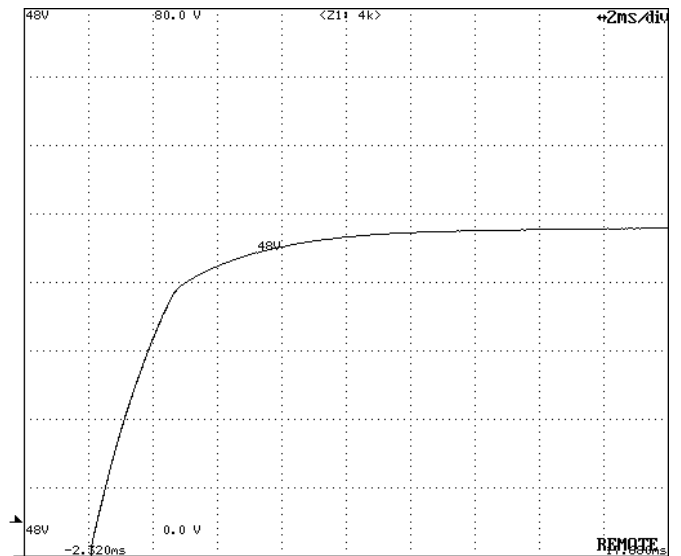
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 10V/div
Timebase Range: 2ms/div



All Output Start-up Sequence



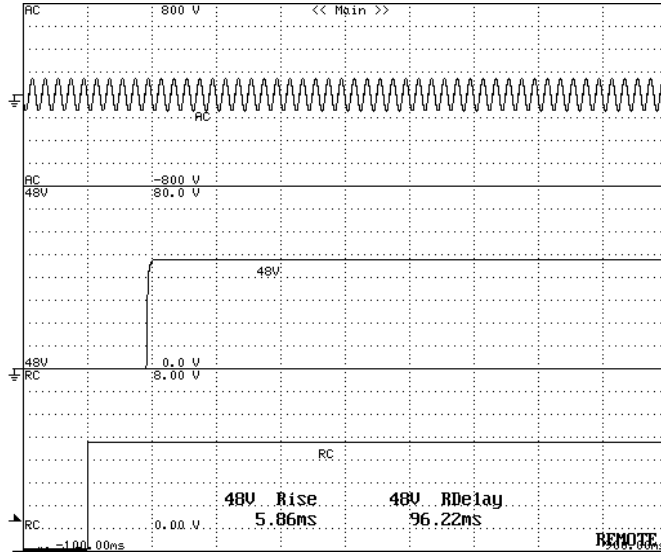
48V DC Output Rise Characteristics

Model	UZP-150-48	Temperature: 25°C
Item	Output Rise Characteristics (at Remote ON)	

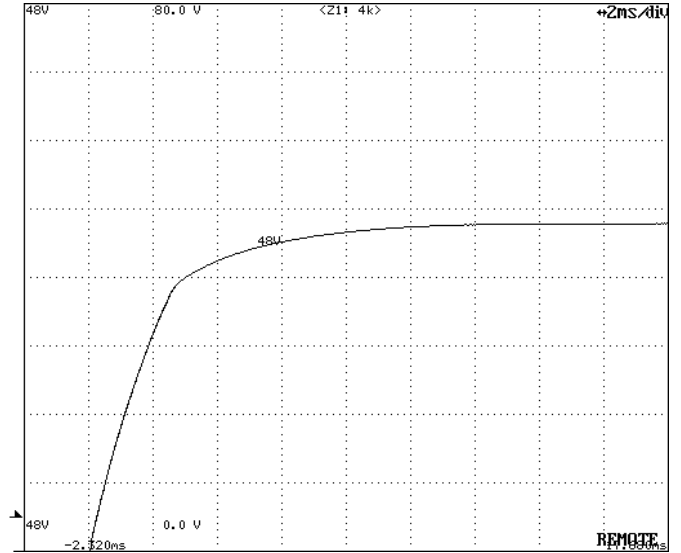
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 10V/div
Timebase Range: 2ms/div



All Output Start-up Sequence

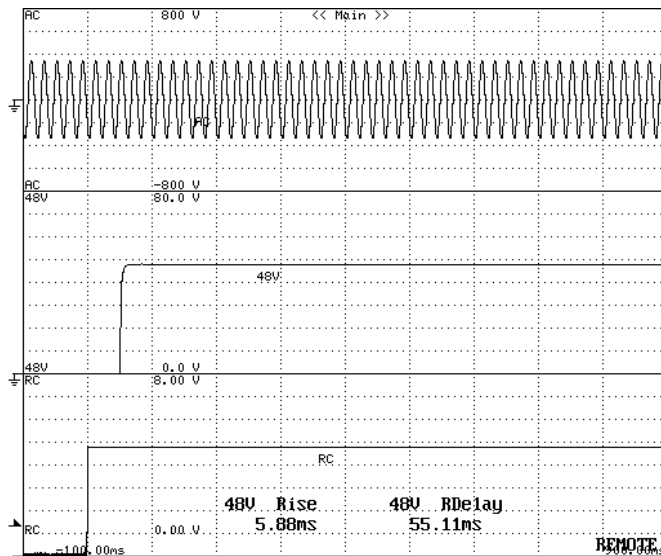


48V DC Output Rise Characteristics

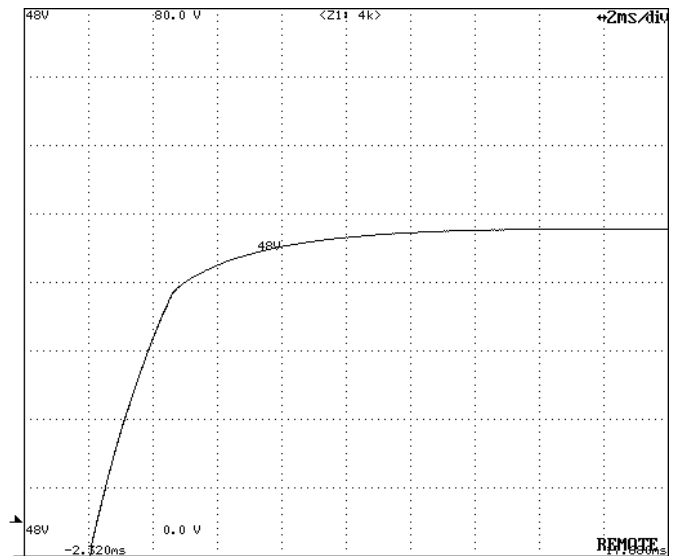
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 10V/div
Timebase Range: 2ms/div



All Output Start-up Sequence

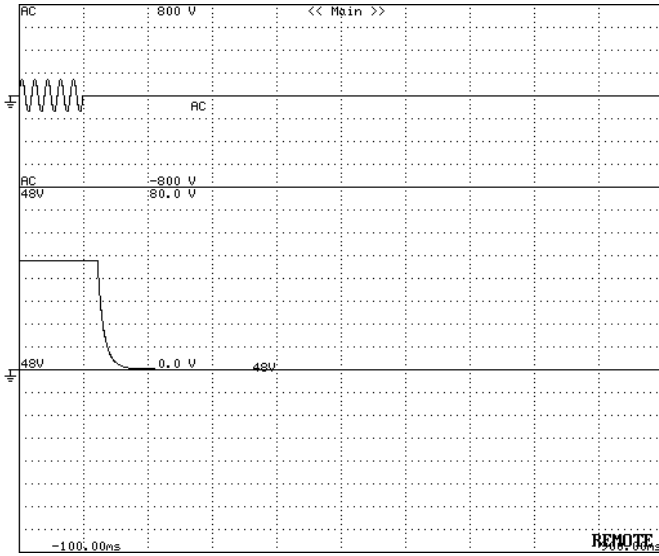


48V DC Output Rise Characteristics

Model	UZP-150-48	Temperature: 25°C
Item	Output Fall Characteristics (at AC Power OFF)	

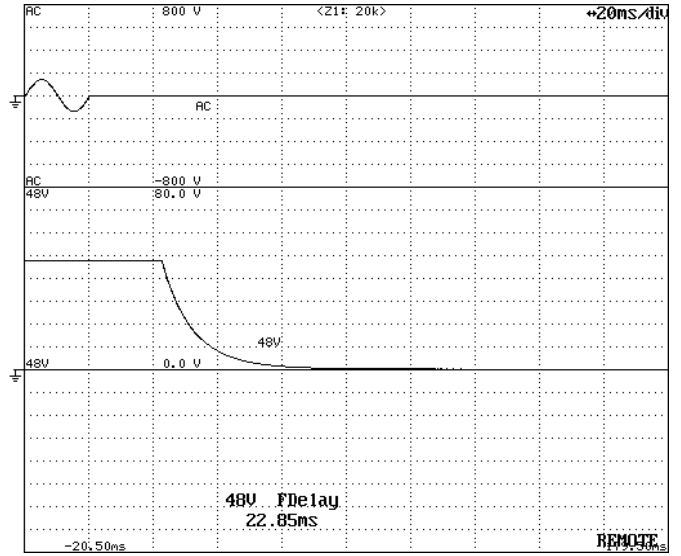
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

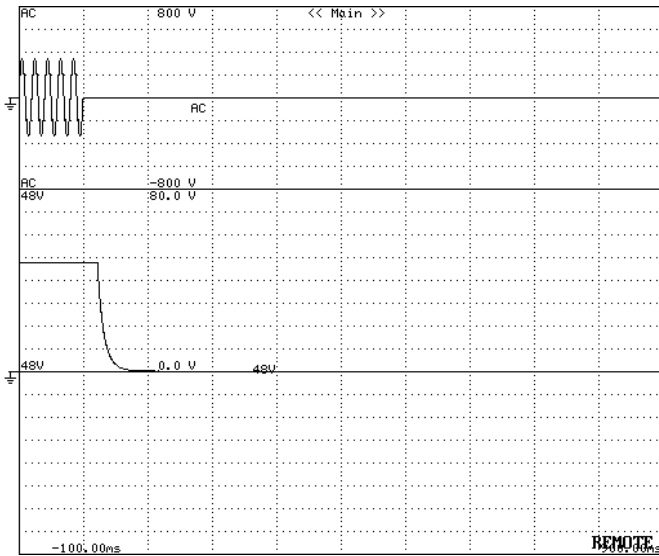
Timebase Range: 20ms/div



Output Fall Characteristics (magnification)

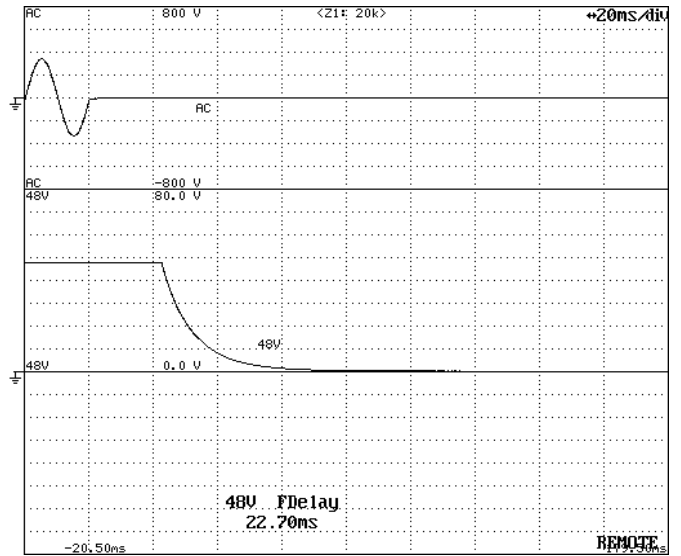
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

Timebase Range: 20ms/div

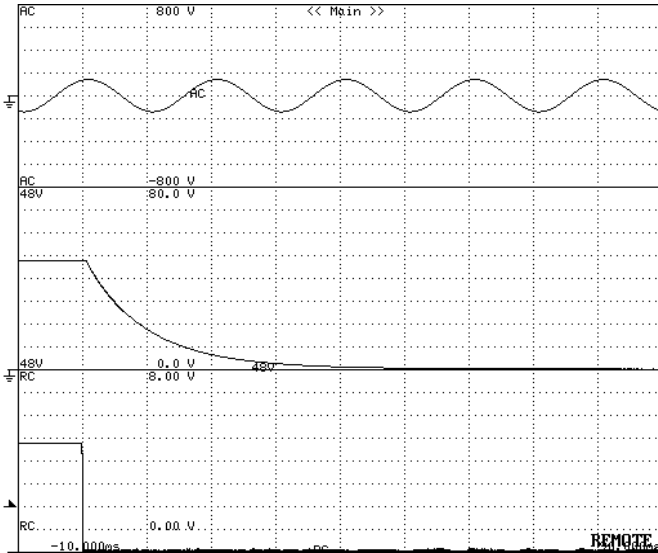


Output Fall Characteristics (magnification)

Model	UZP-150-48	Temperature: 25°C
Item	Output Fall Characteristics (at Remote OFF)	

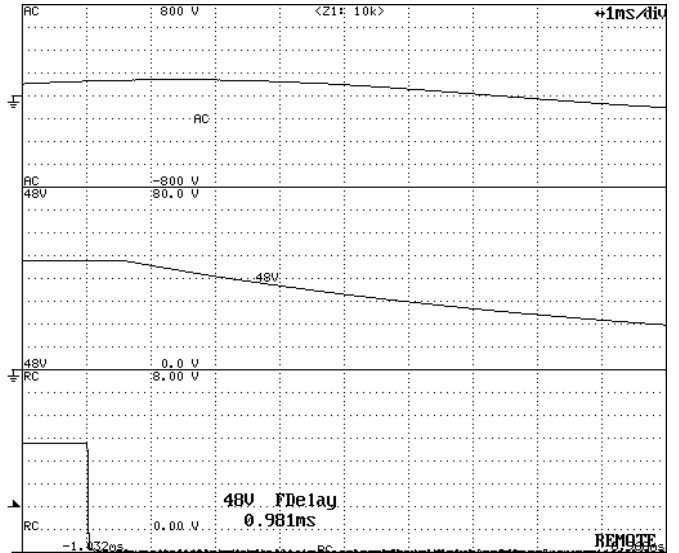
Input: 100V AC
Load: Rated Load

Timebase Range: 10ms/div



Output Fall Characteristics

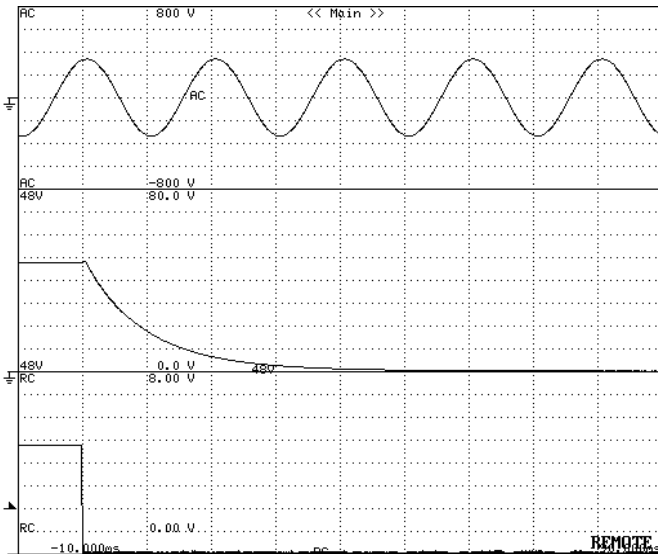
Timebase Range: 1ms/div



Output Fall Characteristics (magnification)

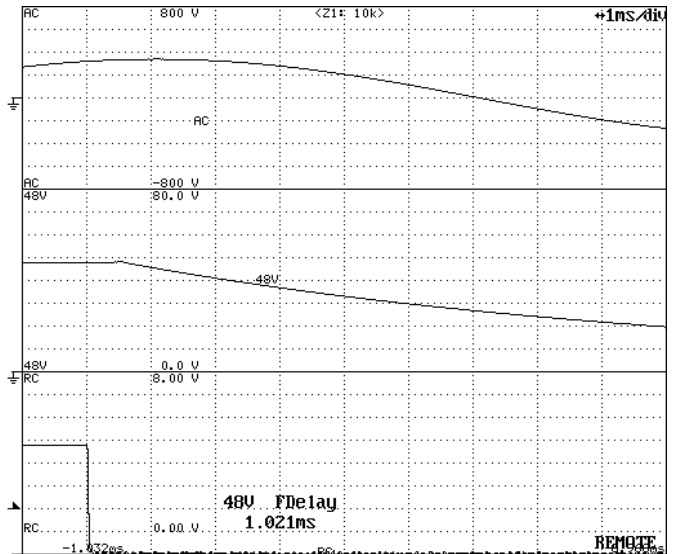
Input: 240V AC
Load: Rated Load

Timebase Range: 10ms/div



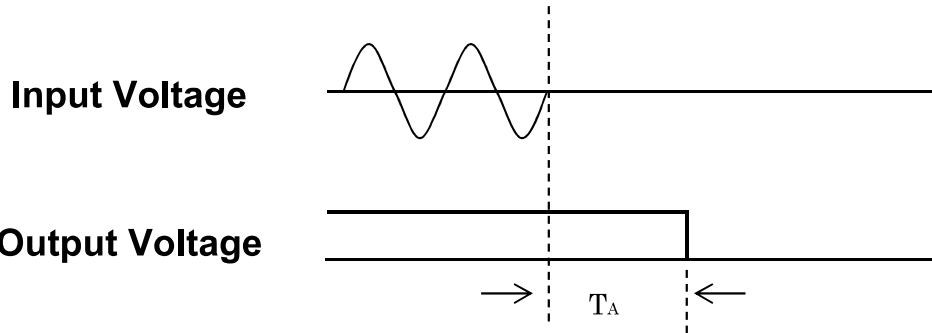
Output Fall Characteristics

Timebase Range: 1ms/div

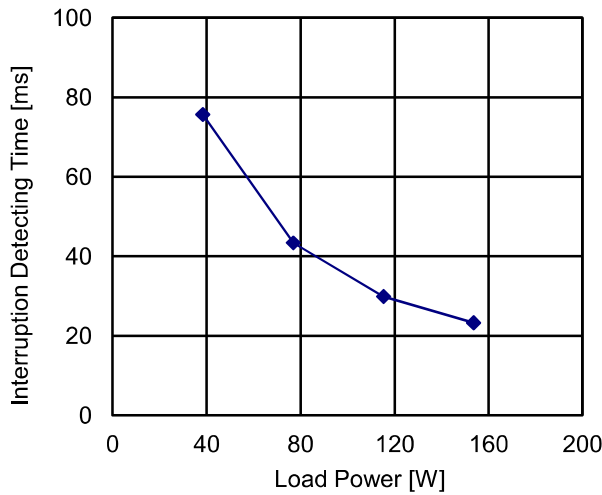


Output Fall Characteristics (magnification)

Model	UZP-150-48	Temperature: 25°C
Item	Instantaneous Interruption Compensation (by Load Power)	

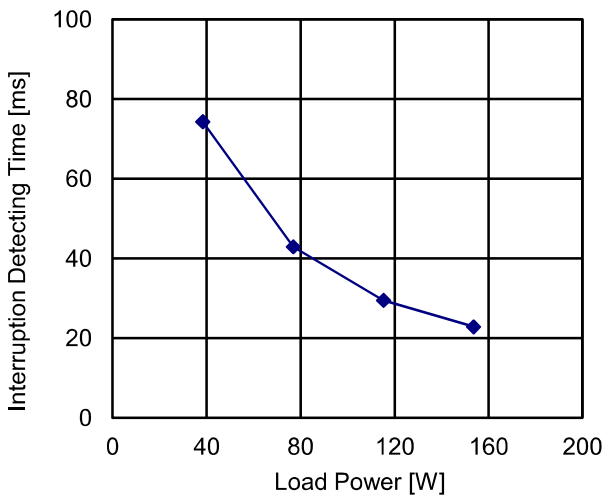


Input Voltage:100V AC



Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T_A
38.4	75.7
76.8	43.4
115.2	29.9
153.6	23.3

Input Voltage:240V AC

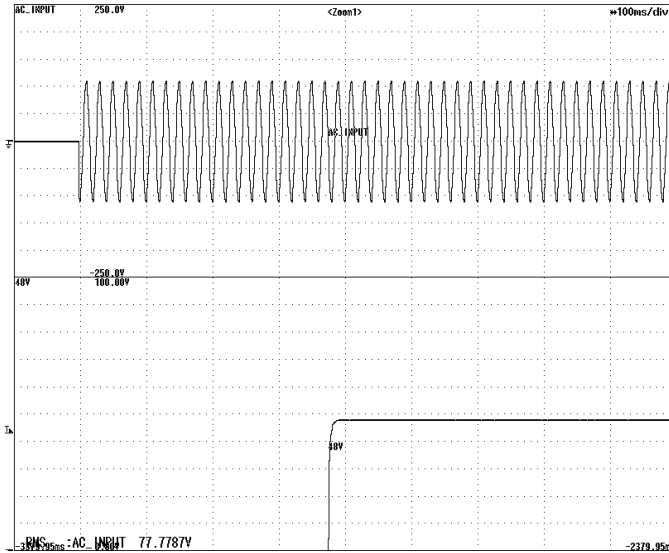


Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T_A
38.4	74.3
76.8	42.9
115.2	29.5
153.6	22.9

Model	UZP-150-48	Temperature: 25°C
Item	Start-Up Voltage	

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

AC Input

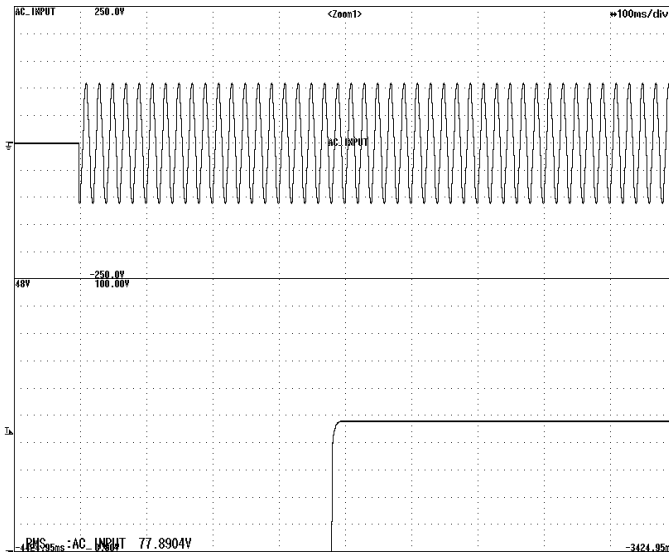


+48V

Start-up Voltage: 77.8V AC

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

AC Input

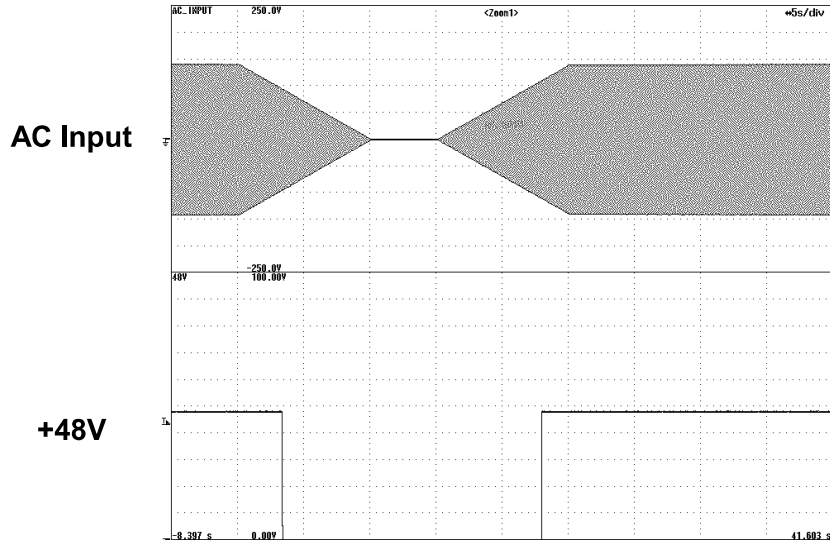


+48V

Start-up Voltage: 77.9V AC

Model	UZP-150-48	Temperature: 25°C
Item	Input Voltage Sweep Up/Down	

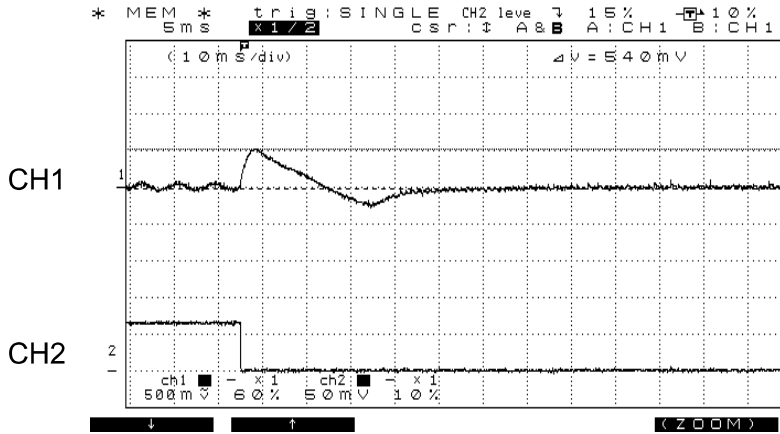
**Timebase Range: 5s/div
Load: Rated Load**



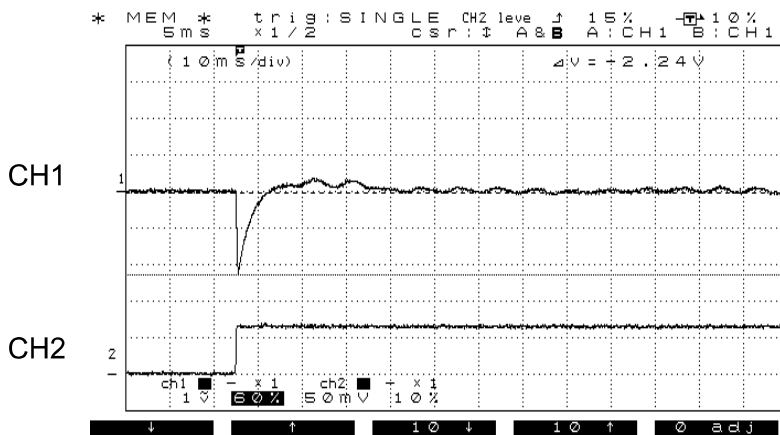
Sweep Rate: 10Vave/sec

Model	UZP-150-48	Temperature: 25°C
Item	Dynamic Load Response	

+48V DC Output Transient Response Waveforms

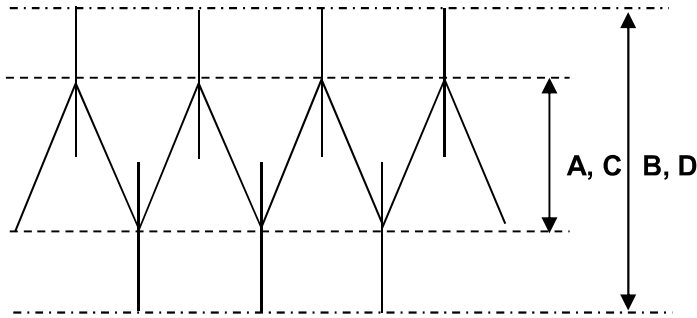


Waveform 1	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 500mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 2.5A/div
Timebase Range	10ms/div
Condition	Input: 100V AC
Note: Minimum load(0A) → Rated Load(3.2A)	



Waveform 2	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 1V/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 2.5A/div
Timebase Range	10ms/div
Condition	Input: 100V AC
Note: Rated Load(3.2A) → Minimum load(0A)	

Model	UZP-150-48	Load: Rated Load
Item	Ripple / Noise Voltage	

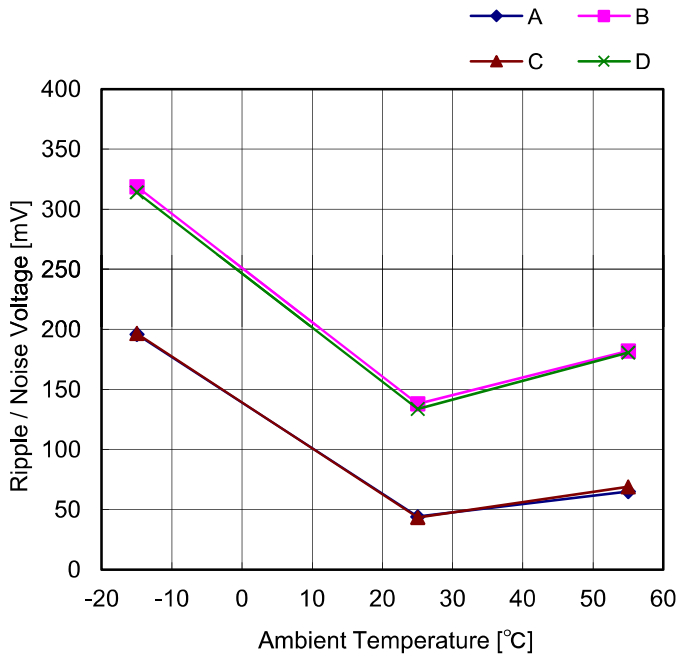


at 100V AC

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

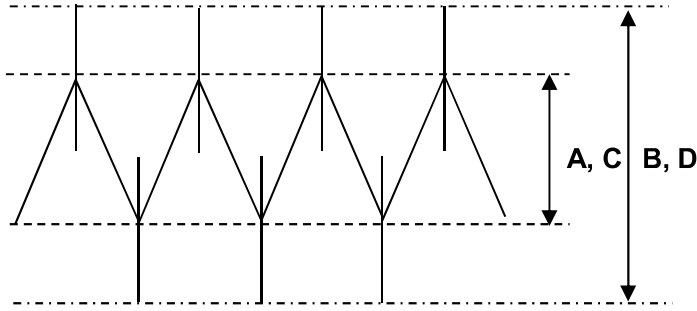
at 240V AC

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



Ambient Temp. [°C]	Ripple / Noise Voltage [mV]			
	A	B	C	D
-15	195.9	318.7	196.6	314.1
25	44.2	137.9	43.4	133.7
55	65.1	182.0	69.0	180.7

Model	UZP-150-48	Temperature : 25°C
Item	Ripple / Noise Voltage	

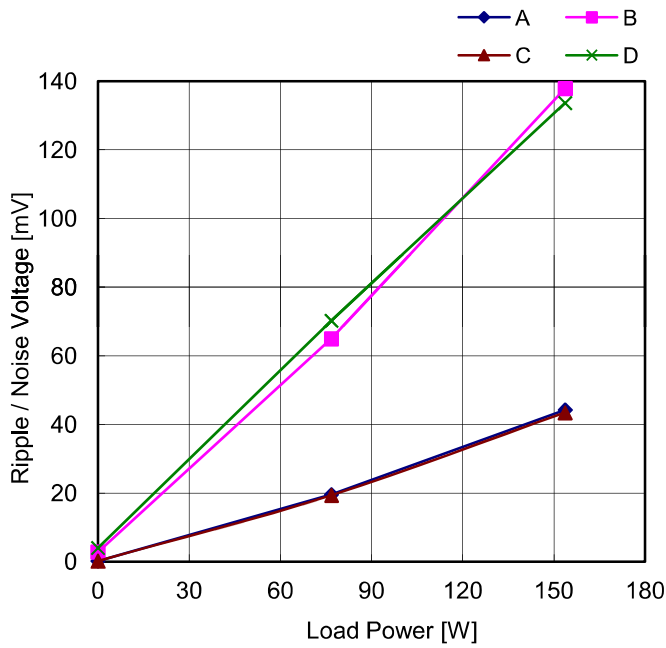


at 100V AC

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

at 240V AC

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

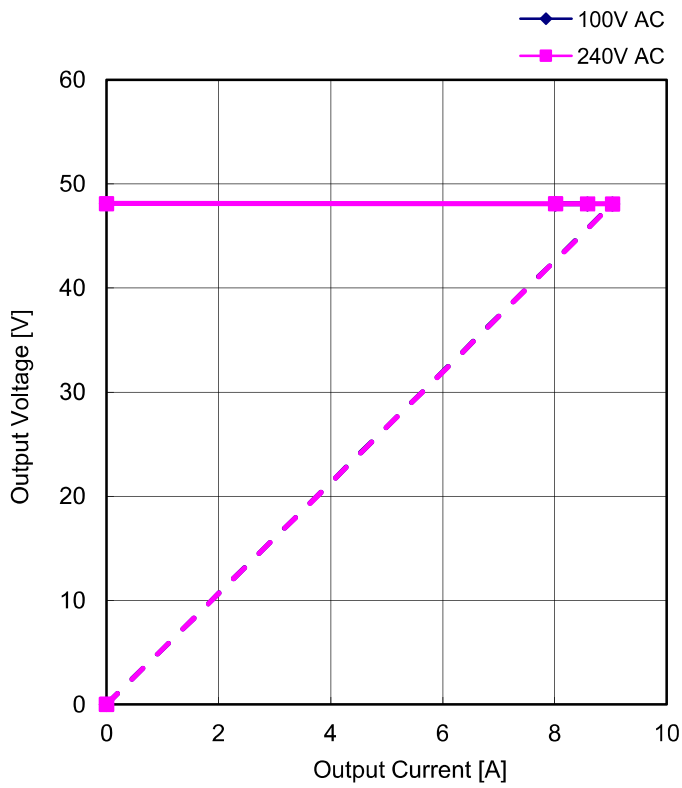


Load Power [W]	Ripple / Noise Voltage [mV]			
	A	B	C	D
0	0.2	2.8	0.2	4.0
76.8	19.6	65.0	19.4	70.2
153.6	44.2	137.9	43.4	133.7

Model	UZP-150-48
Item	Over-Current Protection

Temperature: 25°C

V-I Characteristics of 48V 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	48.10	0.00	48.10
8.01	48.09	8.01	48.09
8.58	48.08	8.58	48.09
9.03	48.08	9.03	48.08

Model	UZP-150-48	Load: Minimum Load
Item	Over-Voltage Protection	

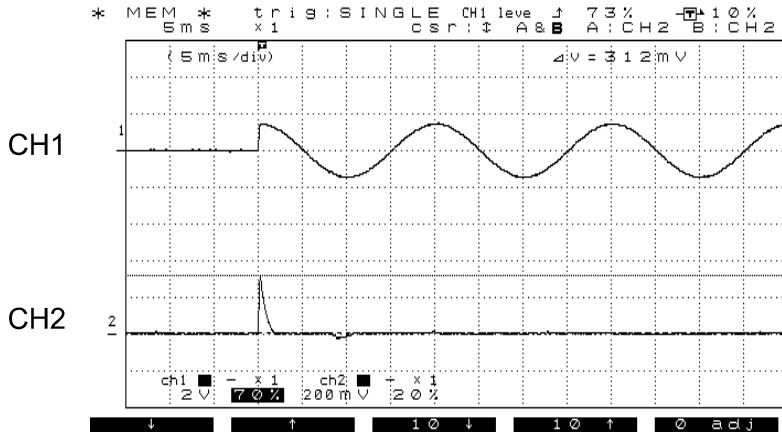
The graph plots Output Voltage [V] on the y-axis (ranging from 40.0 to 80.0) against Ambient Temperature [°C] on the x-axis (ranging from -20 to 80). Two data series are shown: 100V AC (blue line with diamond markers) and 240V AC (magenta line with square markers). The 100V AC series is not clearly visible, likely overlapping the 240V AC series. The 240V AC series shows a slight decrease in output voltage from -15°C to 25°C, followed by an increase from 25°C to 75°C.

Ambient Temp. [°C]	100V AC [V]	240V AC [V]
-15	59.41	59.50
25	56.86	56.88
55	60.60	60.56
75	61.65	61.65

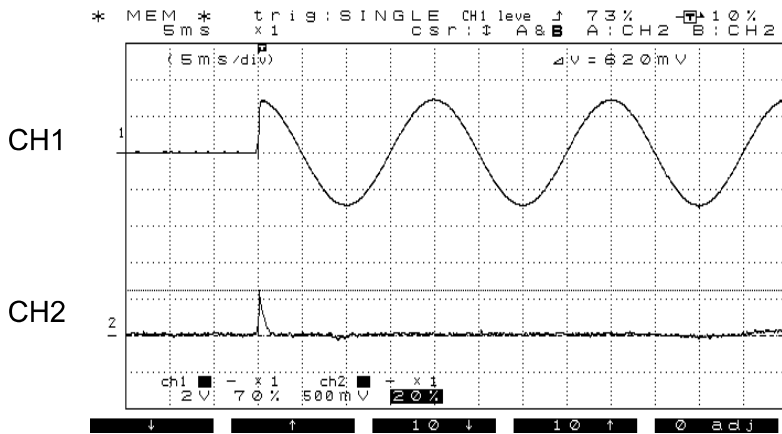
Ambient Temp. [°C]	Output Voltage [V]	
	100V AC	240V AC
-15	59.41	59.50
25	56.86	56.88
55	60.60	60.56
75	61.65	61.65

Model	UZP-150-48	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: 15.6A	



Waveform 2	
CH1	Measuring Point: AC Input Voltage
	Range: 250V/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-150-48	Load: Rated Load																		
Item	Leakage Current																			
		<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>0.10</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	0.10	220	0.12	240	0.13	264	0.14
AC Input Voltage [V]	Leakage Current [mA]																			
85	0.04																			
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240	0.13																			
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