

# TEST DATA OF PLA30F-24

Regulated DC Power Supply  
June 24, 2014

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Yoshiaki Shimizu Design Manager

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Yuhei Sugimori Design Engineer

**COSEL CO.,LTD.**

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Model		PLA30F-24		Temperature25°C Testing CircuitryFigure A																																																			
Item		Input Current (by Load Current)																																																					
Object																																																							
1.Graph																																																							
<div><div><div>—△—</div><div>Input Volt.</div><div>100V</div></div><div><div>---□---</div><div>Input Volt.</div><div>115V</div></div><div><div>---○---</div><div>Input Volt.</div><div>230V</div></div></div> <div><table><thead><tr><th>Load Current [A]</th><th>Input Current [A] (100V)</th><th>Input Current [A] (115V)</th><th>Input Current [A] (230V)</th></tr></thead><tbody><tr><td>0.00</td><td>0.031</td><td>0.029</td><td>0.031</td></tr><tr><td>0.20</td><td>0.131</td><td>0.123</td><td>0.079</td></tr><tr><td>0.40</td><td>0.221</td><td>0.202</td><td>0.127</td></tr><tr><td>0.60</td><td>0.308</td><td>0.280</td><td>0.175</td></tr><tr><td>0.80</td><td>0.398</td><td>0.358</td><td>0.221</td></tr><tr><td>1.00</td><td>0.488</td><td>0.438</td><td>0.266</td></tr><tr><td>1.20</td><td>0.580</td><td>0.518</td><td>0.311</td></tr><tr><td>1.30</td><td>0.627</td><td>0.560</td><td>0.334</td></tr><tr><td>1.43</td><td>-</td><td>0.613</td><td>0.364</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></tbody></table></div> <div>Note: Slanted line shows the range of the rated load current.</div>					Load Current [A]	Input Current [A] (100V)	Input Current [A] (115V)	Input Current [A] (230V)	0.00	0.031	0.029	0.031	0.20	0.131	0.123	0.079	0.40	0.221	0.202	0.127	0.60	0.308	0.280	0.175	0.80	0.398	0.358	0.221	1.00	0.488	0.438	0.266	1.20	0.580	0.518	0.311	1.30	0.627	0.560	0.334	1.43	-	0.613	0.364	--	-	-	-	--	-	-	-			
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# COSEL

Model

PLA30F-24

Item

Input Power (by Load Current)

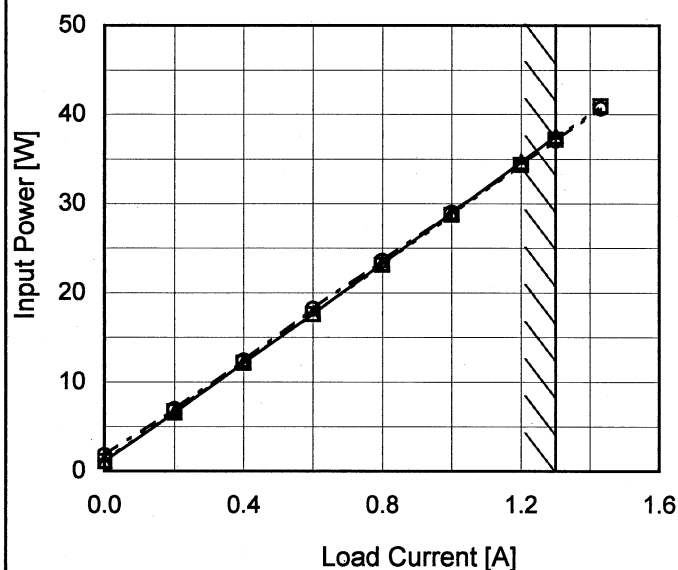
Object

Temperature  
Testing Circuitry

25°C  
Figure A

## 1. Graph

—△— Input Volt. 100V  
 ---□--- Input Volt. 115V  
 ---○--- Input Volt. 230V



Note: Slanted line shows the range of the rated load current.

## 2. Values

Load Current [A]	Input Power [W]		
	Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]
0.00	1.12	1.13	1.78
0.20	6.57	6.71	6.96
0.40	12.18	12.16	12.43
0.60	17.69	17.63	18.26
0.80	23.27	23.15	23.60
1.00	28.94	28.73	29.00
1.20	34.70	34.38	34.40
1.30	37.60	37.22	37.10
1.43	-	40.98	40.70
--	-	-	-
--	-	-	-

**COSEL**

Model

PLA30F-24

Item

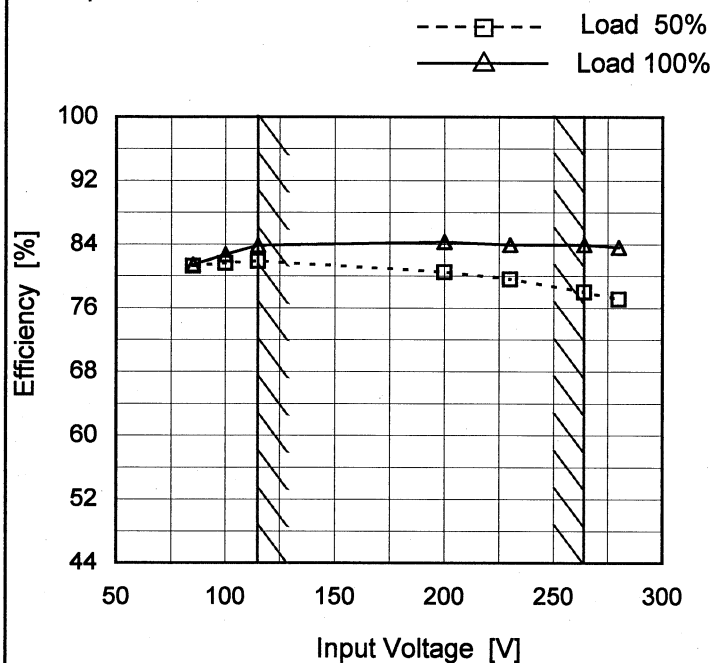
Efficiency (by Input Voltage)

Object

Temperature  
Testing Circuitry

25°C  
Figure A

1. Graph



2. Values

Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
85	81.2	81.4 ※1
100	81.6	82.7 ※2
115	81.9	83.9
200	80.5	84.3
230	79.6	84.0
264	78.0	84.0
280	77.1	83.6
--	-	-
--	-	-

※1: Load 80%

※2: Load 90%

# COSEL

Model		PLA30F-24	
Item		Efficiency (by Load Current)	
Object			

1.Graph

△

—

Input Volt. 100V

□

---

Input Volt. 115V

○

- - -

Input Volt. 230V

Efficiency [%]

100

92

84

76

68

60

52

44

0.0

0.4

0.8

1.2

1.6

Load Current [A]

Load Current [A]	100V Efficiency [%]	115V Efficiency [%]	230V Efficiency [%]
0.00	-	-	-
0.20	71.6	70.4	67.6
0.40	78.1	78.3	76.4
0.60	80.8	81.1	79.5
0.80	82.3	82.8	81.1
1.00	82.5	83.5	82.6
1.20	82.7	83.8	83.8
1.30	82.8	83.9	84.0
1.43	-	83.8	84.3
--	-	-	-
--	-	-	-

2.Values

Load Current [A]	Efficiency [%]		
	Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]
0.00	-	-	-
0.20	71.6	70.4	67.6
0.40	78.1	78.3	76.4
0.60	80.8	81.1	79.5
0.80	82.3	82.8	81.1
1.00	82.5	83.5	82.6
1.20	82.7	83.8	83.8
1.30	82.8	83.9	84.0
1.43	-	83.8	84.3
--	-	-	-
--	-	-	-

Note: Slanted line shows the range of the rated load current.

# COSEL

Model

PLA30F-24

Item

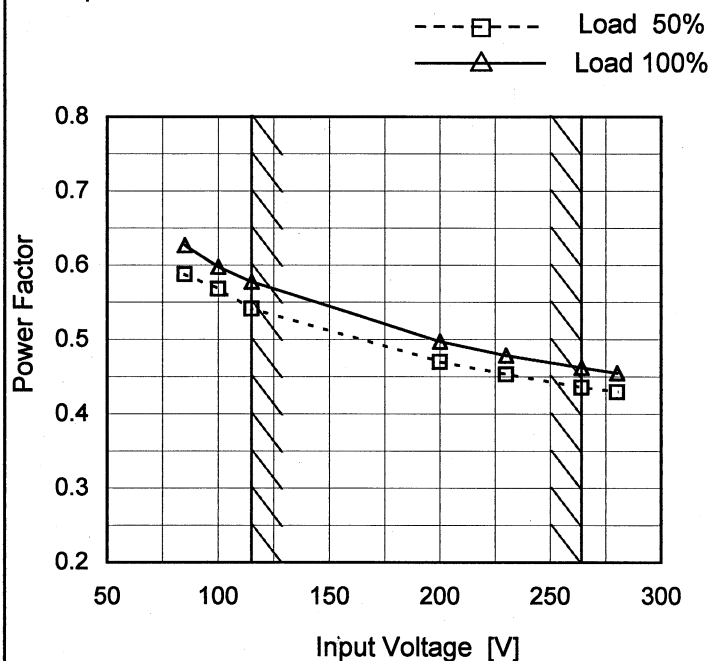
Power Factor (by Input Voltage)

Object

Temperature  
Testing Circuitry

25°C  
Figure A

## 1. Graph



Note: Slanted line shows the range of the rated input voltage.

## 2. Values

Input Voltage [V]	Power Factor	
	Load 50%	Load 100%
85	0.588	0.627 ※1
100	0.568	0.598 ※2
115	0.541	0.577
200	0.470	0.497
230	0.453	0.479
264	0.436	0.462
280	0.430	0.455
--	-	-
--	-	-

※1: Load 80%

※2: Load 90%

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Model		PLA30F-24	
Item		Power Factor (by Load Current)	
Object			

1.Graph

—△—

Input Volt.

100V

- - □ - -

Input Volt.

115V

- · - ○ - · -

Input Volt.

230V

Power Factor

0.8

0.7

0.6

0.5

0.4

0.3

0.2

0.0

0.4

0.8

1.2

1.6

0.0

0.2

0.4

0.6

0.8

1.0

1.2

1.4

1.6

Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Power Factor		
	Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]
0.00	0.367	0.339	0.252
0.20	0.500	0.473	0.383
0.40	0.544	0.520	0.427
0.60	0.566	0.540	0.449
0.80	0.584	0.563	0.465
1.00	0.593	0.571	0.475
1.20	0.599	0.576	0.477
1.30	0.600	0.577	0.479
1.43	-	0.579	0.482
--	-	-	-
--	-	-	-

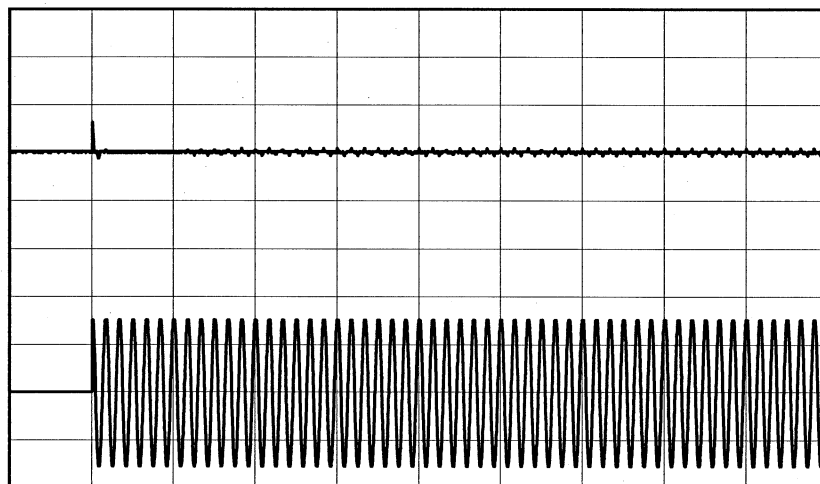


# COSEL

Model		PLA30F-24	Temperature 25°C Testing Circuitry Figure A
Item		Inrush Current	
Object		_____	

Input  
Current  
[20A/div]

Input  
Voltage  
[100V/div]



Time

[100ms/div]

Input Voltage 115 V

Frequency 60 Hz

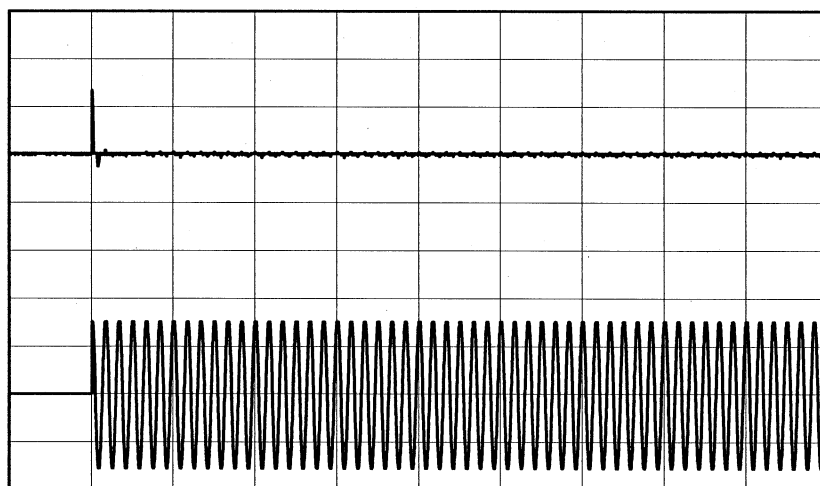
Load 100 %

Primary inrush current :  
12.4 A

Secondary inrush current :  
1.6 A

Input  
Current  
[20A/div]

Input  
Voltage  
[200V/div]



Time

[100ms/div]

Input Voltage 230 V

Frequency 60 Hz

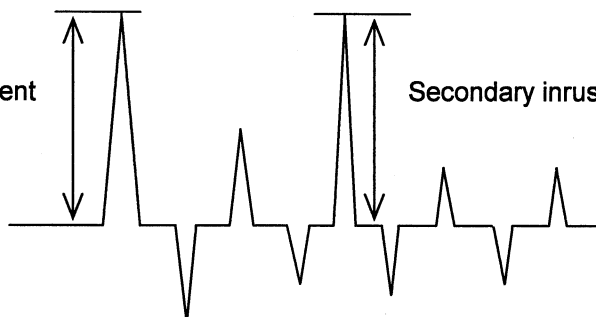
Load 100 %

Primary inrush current :  
26.8 A

Secondary inrush current :  
1.5 A

Primary inrush current

Secondary inrush current



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		Temperature 25°C Testing Circuitry Figure B
Model	PLA30F-24	
Item	Leakage Current	
Object	_____	

## 1.Results

[mA]

Standards		Input Volt.			Note
		100 [V]	115 [V]	240 [V]	
DEN-AN	Both phases	0.09	0.11	0.24	Operation
	One of phases	0.18	0.20	0.46	Stand by
IEC60950-1	Both phases	0.12	0.14	0.29	Operation
	One of phases	0.18	0.20	0.44	Stand by

The value for "One of phases" is the reference value only.

## 2.Condition

Leakage current value is concluded after measuring both phases of AC input and by choosing the larger one.

L

O

S

E

L

Model	PLA30F-24
Item	Line Regulation
Object	+24V1.3A

1.Graph

--□-- Load 50%

—△— Load 100%

Input Voltage [V]	Output Voltage [V] (Load 50%)	Output Voltage [V] (Load 100%)
85	24.088	24.087 ※1
100	24.088	24.087 ※2
115	24.088	24.087
200	24.088	24.087
230	24.089	24.087
264	24.089	24.088
280	24.089	24.088

Note: Slanted line shows the range of the rated  
input voltage.

Temperature      25°C

Testing Circuitry Figure A

2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	24.088	24.087 ※1
100	24.088	24.087 ※2
115	24.088	24.087
200	24.088	24.087
230	24.089	24.087
264	24.089	24.088
280	24.089	24.088
--	-	-
--	-	-

※1 : Load 80%  
※2 : Load 90%

- 9 -

BC-10832

# COSEL

Model		PLA30F-24		Temperature Testing Circuitry	25°C Figure A
Item		Load Regulation			
Object		+24V1.3A			

1.Graph

—△—

Input Volt.

100V

---□---

Input Volt.

115V

---○---

Input Volt.

230V

Output Voltage [V]

24.50

24.40

24.30

24.20

24.10

24.00

23.90

23.80

23.70

0.0

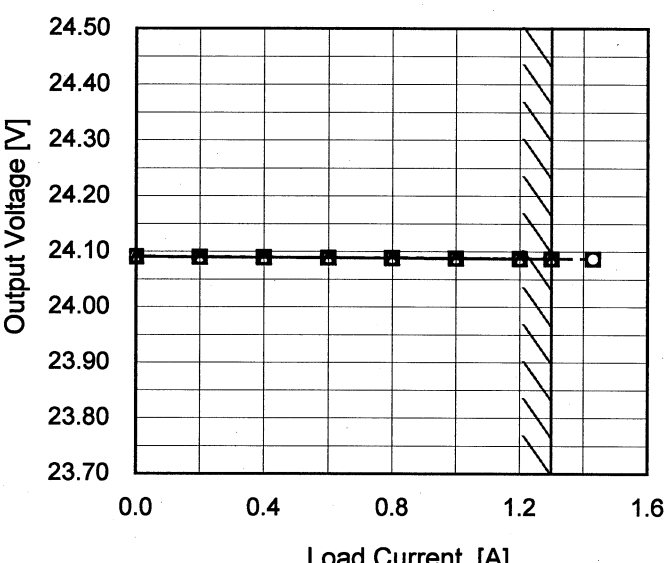
0.4

0.8

1.2

1.6

Load Current [A]



2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]
0.00	24.091	24.091	24.091
0.20	24.090	24.090	24.090
0.40	24.090	24.089	24.089
0.60	24.089	24.088	24.089
0.80	24.088	24.088	24.088
1.00	24.088	24.088	24.088
1.20	24.087	24.087	24.087
1.30	24.087	24.087	24.087
1.43	-	24.087	24.087
--	-	-	-
--	-	-	-

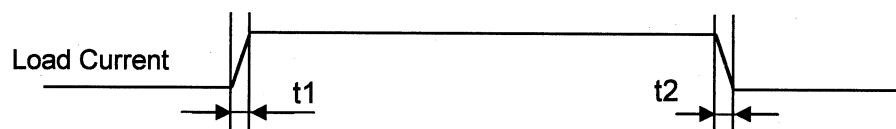
Note: Slanted line shows the range of the rated load current.

# COSEL

Model	PLA30F-24		
Item	Dynamic Load Response	Temperature	25°C
Object	+24V1.3A	Testing Circuitry	Figure A

Input Volt. 115 V  
Cycle 1000 ms

Response.  $t_1=t_2=50\mu\text{s}$ . Typ



Min. Load (0A)  $\longleftrightarrow$   
Load 100% (1.3A)

100 mV/div



4 ms/div



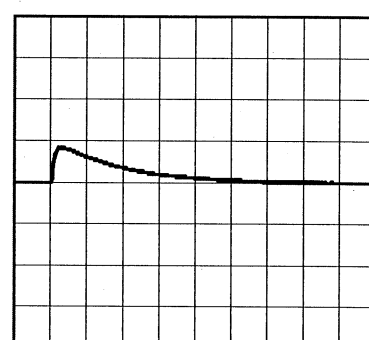
4 ms/div

Min. Load (0A)  $\longleftrightarrow$   
Load 50% (0.65A)

100 mV/div



4 ms/div



4 ms/div

# COSEL

Model		PLA30F-24		Temperature 25°C																																							
Item		Ripple Voltage (by Load Current)		Testing Circuitry Figure C																																							
Object		+24V1.3A																																									
1.Graph				2.Values																																							
<div><div><div>—△—</div><div>Input Volt. 115V</div></div><div><div>- - ○ - -</div><div>Input Volt. 230V</div></div></div> <p>Ripple Voltage [mV]</p> <p>Load Current [A]</p>				<table><tr><th rowspan="2">Load Current [A]</th><th colspan="2">Ripple Voltage [mV]</th></tr><tr><th>Input Volt. 115 [V]</th><th>Input Volt. 230 [V]</th></tr><tr><td>0.00</td><td>5</td><td>5</td></tr><tr><td>0.20</td><td>5</td><td>5</td></tr><tr><td>0.40</td><td>5</td><td>5</td></tr><tr><td>0.60</td><td>5</td><td>5</td></tr><tr><td>0.80</td><td>5</td><td>5</td></tr><tr><td>1.00</td><td>10</td><td>5</td></tr><tr><td>1.20</td><td>10</td><td>10</td></tr><tr><td>1.30</td><td>15</td><td>10</td></tr><tr><td>1.43</td><td>20</td><td>10</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></table>		Load Current [A]	Ripple Voltage [mV]		Input Volt. 115 [V]	Input Volt. 230 [V]	0.00	5	5	0.20	5	5	0.40	5	5	0.60	5	5	0.80	5	5	1.00	10	5	1.20	10	10	1.30	15	10	1.43	20	10	--	-	-	--	-	-
Load Current [A]	Ripple Voltage [mV]																																										
	Input Volt. 115 [V]	Input Volt. 230 [V]																																									
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0.20	5	5																																									
0.40	5	5																																									
0.60	5	5																																									
0.80	5	5																																									
1.00	10	5																																									
1.20	10	10																																									
1.30	15	10																																									
1.43	20	10																																									
--	-	-																																									
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<p>Measured by 20 MHz Oscilloscope.</p> <p>Ripple Voltage is shown as p-p in the figure below.</p> <p>Note: Slanted line shows the range of the rated load current.</p>																																											
<div><div><div>T1: Due to AC Input Line</div><div>T2: Due to Switching</div></div><p>Ripple [mVp-p]</p><p>T1</p><p>T2</p></div>																																											
Fig. Complex Ripple Wave Form																																											

# COSEL

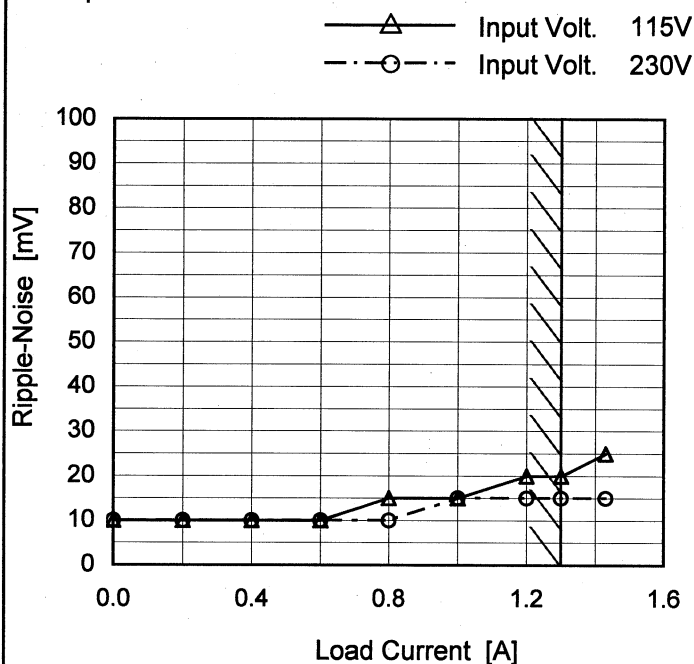
Model PLA30F-24

Item Ripple-Noise

Object +24V1.3A

Temperature 25°C  
Testing Circuitry Figure C

## 1. Graph



Measured by 20 MHz Oscilloscope.  
Ripple-Noise is shown as p-p in the figure below.  
Note: Slanted line shows the range of the rated load current.

## 2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 115 [V]	Input Volt. 230 [V]
0.00	10	10
0.20	10	10
0.40	10	10
0.60	10	10
0.80	15	10
1.00	15	15
1.20	20	15
1.30	20	15
1.43	25	15
--	-	-
--	-	-

T1: Due to AC Input Line  
T2: Due to Switching

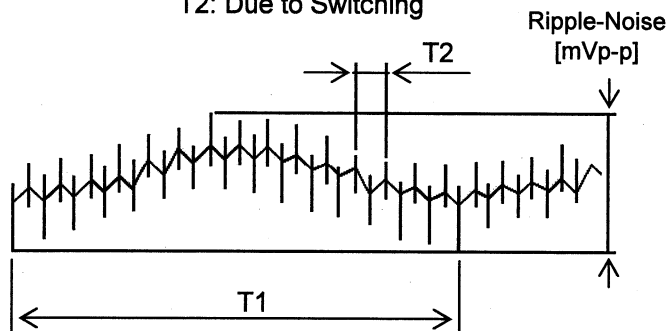
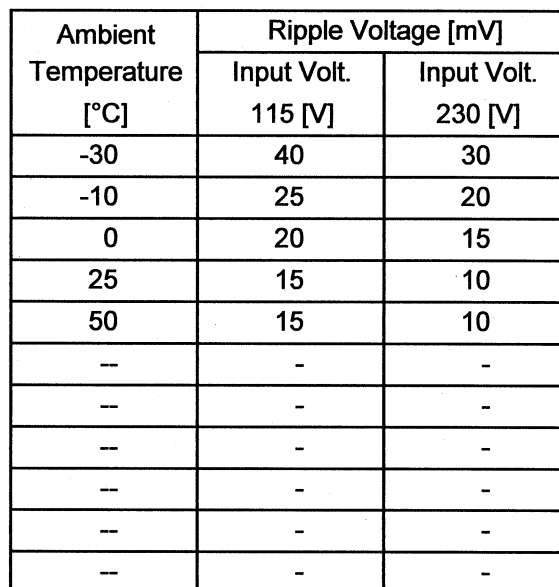


Fig. Complex Ripple Wave Form

### Testing Circuitry Figure C

## 2.Values



**Note:** Slanted line shows the range of the rated ambient temperature.



**COSEL**

Model		PLA30F-24	
Item		Ambient Temperature Drift	
Object		+24V1.3A	
1.Graph		<div><div><div>—△—</div><div>Input Volt. 100V</div></div><div><div>---□---</div><div>Input Volt. 115V</div></div><div><div>---○---</div><div>Input Volt. 230V</div></div></div> <div><div><div><div>Output Voltage [V]</div><div>24.50</div><div>24.40</div><div>24.30</div><div>24.20</div><div>24.10</div><div>24.00</div><div>23.90</div><div>23.80</div><div>23.70</div></div><div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><di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**COSEL**

		Testing Circuitry Figure A
Model	PLA30F-24	
Item	Output Voltage Accuracy	
Object	+24V1.3A	

### 1. Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -10 - 50°C

Input Voltage : 115 - 264V

Load Current : 0 - 1.3A

\* Output Voltage Accuracy =  $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

\* Output Voltage Accuracy (Ration) =  $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

### 2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	264	0	24.099	±28	±0.1
Minimum Voltage	50	264	1.3	24.043		



Model		PLA30F-24	
Item		Time Lapse Drift	
Object		+24V1.3A	

1.Graph

Output Voltage [V]

24.50

24.40

24.30

24.20

24.10

24.00

23.90

23.80

23.70

0

2

4

6

8

10

Time [H]

Input Volt. 230V

Load 100%

2.Values

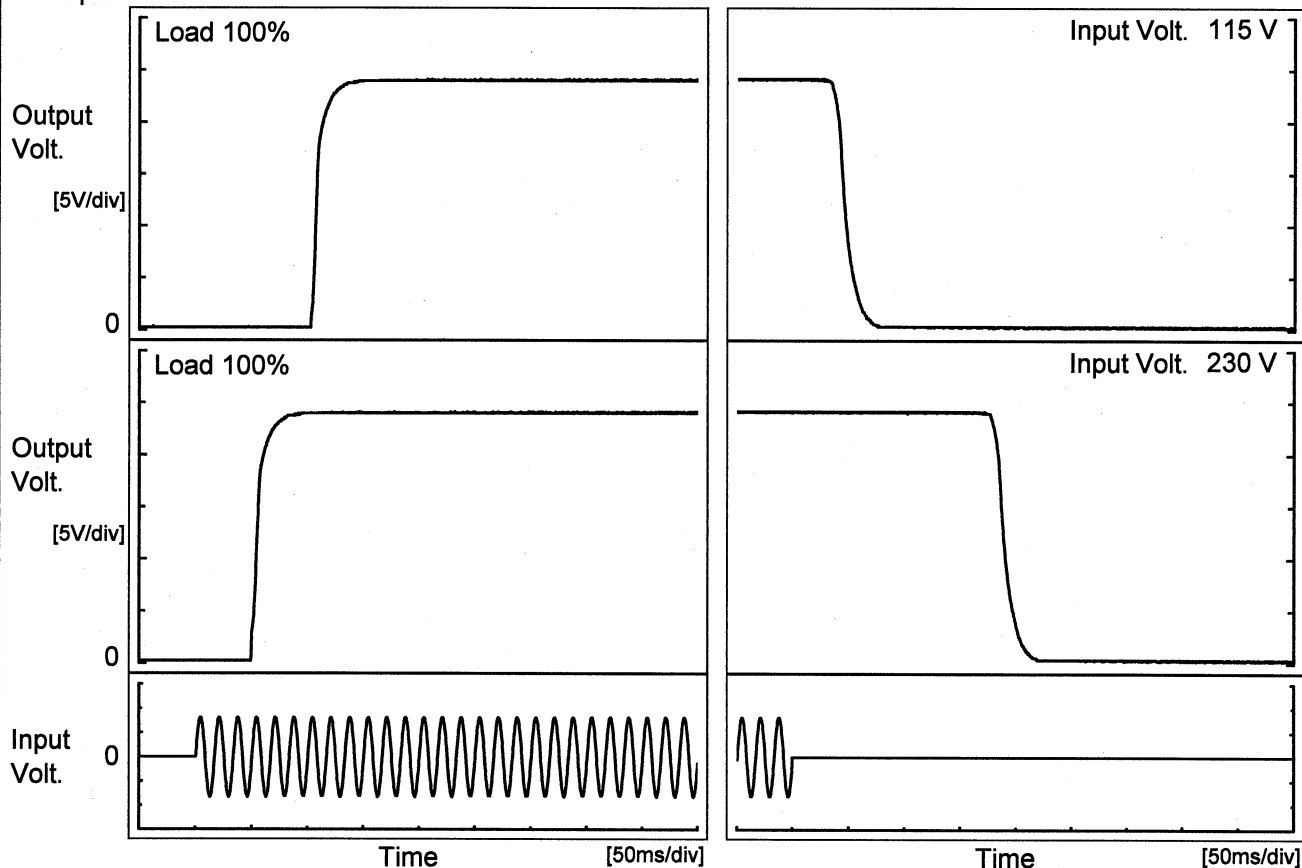
Time since start [H]	Output Voltage [V]
0.0	24.087
0.5	24.090
1.0	24.090
2.0	24.090
3.0	24.091
4.0	24.091
5.0	24.091
6.0	24.091
7.0	24.091
8.0	24.091

\* The characteristic of AC115V is equal.

# COSEL

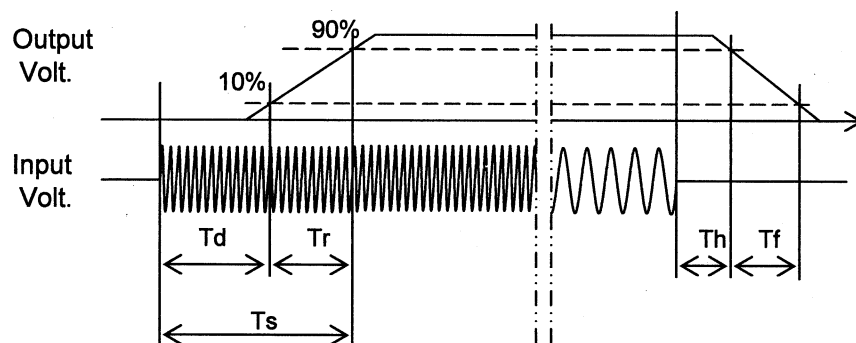
Model	PLA30F-24	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+24V1.3A		

## 1. Graph



## 2. Values

Input Volt. \ Time	Td	Tr	Ts	Th	Tf
115 V	104.3	14.8	119.1	38.3	20.8
230 V	50.0	16.3	66.3	181.8	21.0



<b>Model</b>		<b>PLA30F-24</b>		
<b>Item</b>		<b>Hold-Up Time</b>	Temperature      25°C Testing Circuitry   Figure A	
<b>Object</b>		<b>+24V1.3A</b>		

1.Graph

---□--- Load 50%

—△— Load 100%

This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.  
Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
85	41	22 ※1
100	59	27 ※2
115	81	38
200	267	131
230	358	182
264	479	242
280	540	274
--	-	-
--	-	-

※1:Load 80%

※2:Load 90%

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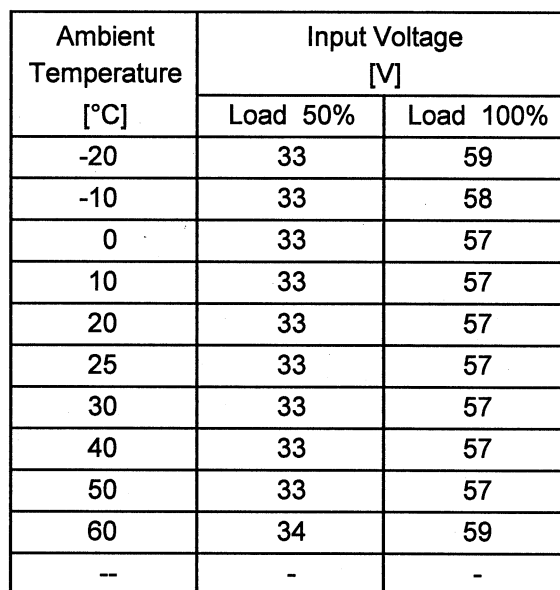
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# COSEL

Model		PLA30F-24		Temperature 25°C																																																				
Item		Instantaneous Interruption Compensation		Testing Circuitry Figure A																																																				
Object		+24V1.3A																																																						
1.Graph				2.Values																																																				
<div><div><div>—△—</div><div>Input Volt. 100V</div><div>100V</div></div><div><div>---□---</div><div>Input Volt. 115V</div><div>115V</div></div><div><div>---○---</div><div>Input Volt. 230V</div><div>230V</div></div></div> <div><div><div>Instantaneous Compensation Time [ms]</div><div>10000</div><div>1000</div><div>100</div><div>10</div><div>1</div></div><div><div>0.0</div><div>0.4</div><div>0.8</div><div>1.2</div><div>1.6</div></div><div><div>Load Current [A]</div></div></div> <div>Note: Slanted line shows the range of the rated load current.</div>				<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Time [ms]</th></tr><tr><th>Input Volt. 100[V]</th><th>Input Volt. 115[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>0.00</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.20</td><td>188</td><td>252</td><td>1039</td></tr><tr><td>0.40</td><td>99</td><td>133</td><td>581</td></tr><tr><td>0.60</td><td>66</td><td>91</td><td>395</td></tr><tr><td>0.80</td><td>48</td><td>67</td><td>301</td></tr><tr><td>1.00</td><td>37</td><td>51</td><td>241</td></tr><tr><td>1.20</td><td>26</td><td>41</td><td>199</td></tr><tr><td>1.30</td><td>22</td><td>38</td><td>182</td></tr><tr><td>1.43</td><td>-</td><td>28</td><td>160</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>		Load Current [A]	Time [ms]			Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]	0.00	-	-	-	0.20	188	252	1039	0.40	99	133	581	0.60	66	91	395	0.80	48	67	301	1.00	37	51	241	1.20	26	41	199	1.30	22	38	182	1.43	-	28	160	--	-	-	-	--	-	-	-
Load Current [A]	Time [ms]																																																							
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### Testing Circuitry Figure A

## 2.Values



**Note:** Slanted line shows the range of the rated ambient temperature.

**COSEL**

COSEL																																												
Model	PLA30F-24																																											
Item	Overcurrent Protection	Temperature	25°C																																									
Object	+24V1.3A	Testing Circuitry	Figure A																																									
1.Graph		2.Values																																										
<div><div><div></div>Input Volt. 115V</div><div><div></div>Input Volt. 230V</div></div> <p>Note: Slanted line shows the range of the rated load current.</p> <p>Intermittent operation occurs when the output voltage is from 18.0V to 0V.</p>		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="2">Load Current [A]</th></tr><tr><th>Input Volt. 115[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>22.8</td><td>1.84</td><td>1.99</td></tr><tr><td>21.6</td><td>1.78</td><td>1.94</td></tr><tr><td>19.2</td><td>2.01</td><td>2.14</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></table>		Output Voltage [V]	Load Current [A]		Input Volt. 115[V]	Input Volt. 230[V]	22.8	1.84	1.99	21.6	1.78	1.94	19.2	2.01	2.14	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-
Output Voltage [V]	Load Current [A]																																											
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Model		PLA30F-24	Testing Circuitry    Figure A																																					
Item		Overvoltage Protection																																						
Object		+24V1.3A																																						
1.Graph			2.Values																																					
<div><div><div><div><div>—△—</div><div>Input Volt. 115V</div></div><div><div>---□---</div><div>Input Volt. 230V</div></div></div><div><p>Operating Point [V]</p><p>Ambient Temperature [°C]</p><p>Load 0%</p></div><p>Note: Slanted line shows the range of the rated ambient temperature.</p></div><table><tr><th rowspan="2">Ambient Temperature [°C]</th><th colspan="2">Operating Point [V]</th></tr><tr><th>Input Volt. 115[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>-20</td><td>30.24</td><td>30.24</td></tr><tr><td>-10</td><td>30.59</td><td>30.59</td></tr><tr><td>0</td><td>30.94</td><td>30.89</td></tr><tr><td>10</td><td>31.18</td><td>31.18</td></tr><tr><td>20</td><td>31.47</td><td>31.47</td></tr><tr><td>25</td><td>31.65</td><td>31.65</td></tr><tr><td>30</td><td>31.88</td><td>31.76</td></tr><tr><td>40</td><td>32.17</td><td>32.17</td></tr><tr><td>50</td><td>32.46</td><td>32.46</td></tr><tr><td>60</td><td>32.87</td><td>32.75</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></table></div>			Ambient Temperature [°C]	Operating Point [V]		Input Volt. 115[V]	Input Volt. 230[V]	-20	30.24	30.24	-10	30.59	30.59	0	30.94	30.89	10	31.18	31.18	20	31.47	31.47	25	31.65	31.65	30	31.88	31.76	40	32.17	32.17	50	32.46	32.46	60	32.87	32.75	--	-	-
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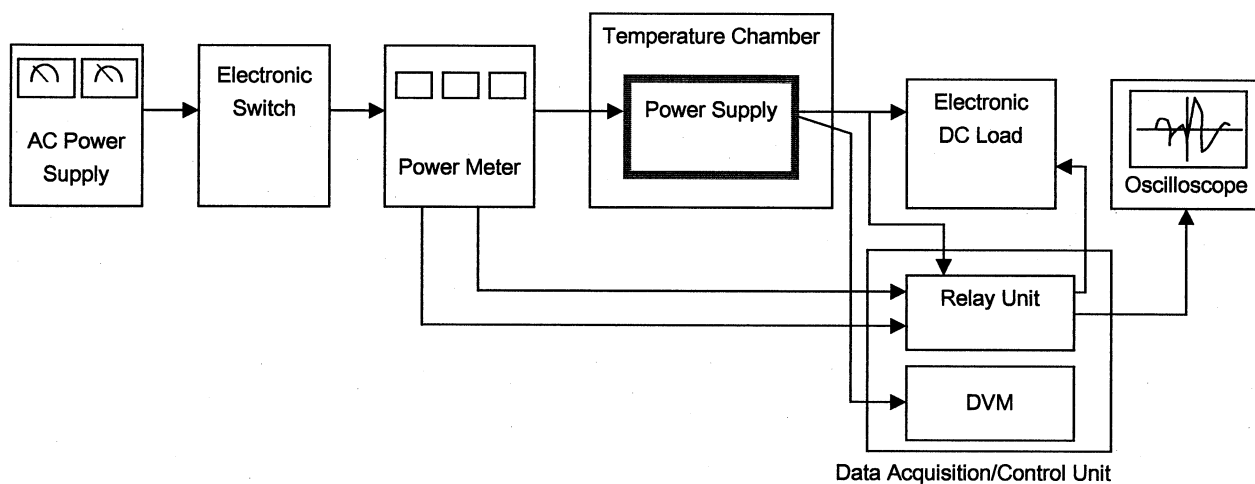


Figure A

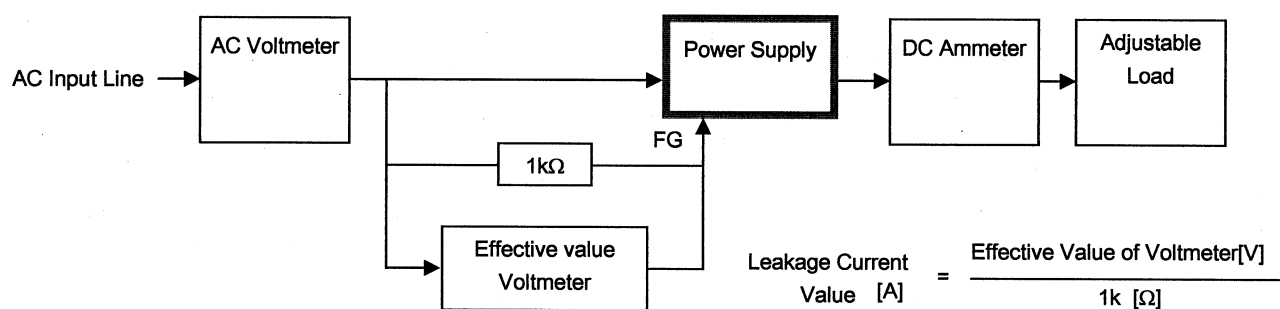


Figure B ( DEN-AN )

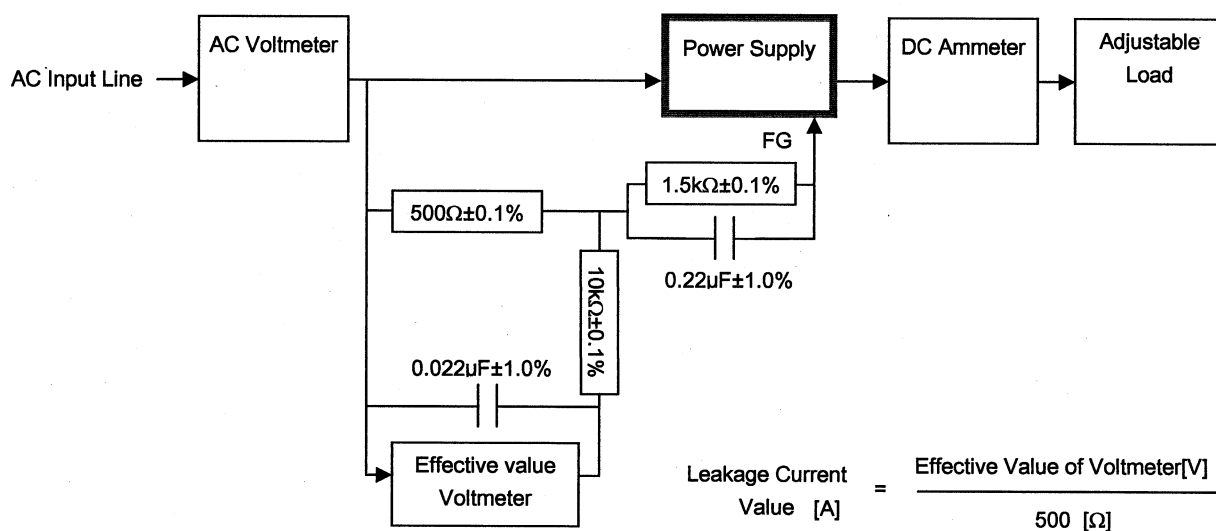


Figure B ( IEC60950-1 )

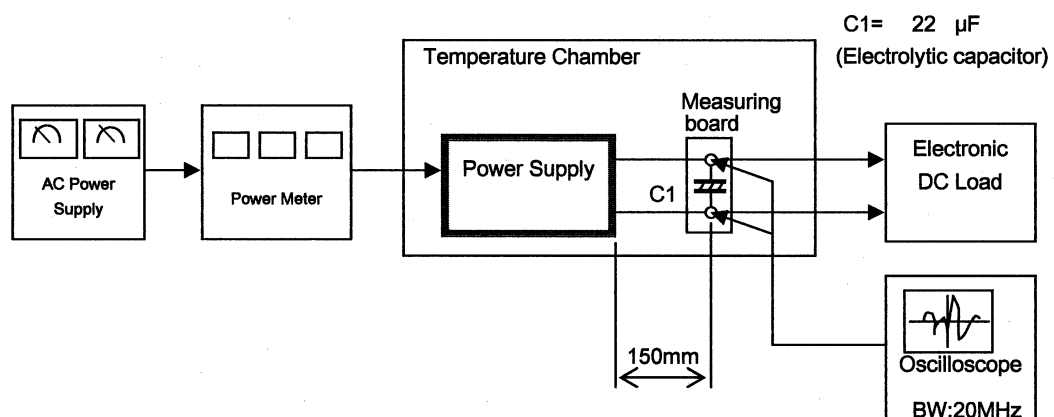


Figure C