



# TEST DATA OF MODULE W

(RB series)

Regulated DC Power Supply  
November 25, 2019

Approved by : Yoshimichi Hirokawa  
Yoshimichi Hirokawa Design Manager

Prepared by : Yutaka Murai  
Yutaka Murai Design Engineer

**COSEL CO.,LTD.**



CONTENTS

1.Line Regulation . . . . . 1  
2.Load Regulation . . . . . 2  
3.Dynamic Load Response . . . . . 3  
4.Ripple Voltage (by Load Current) . . . . . 4  
5.Ripple-Noise . . . . . 5  
6.Ripple Voltage (by Ambient Temperature) . . . . . 6  
7.Ambient Temperature Drift . . . . . 7  
8.Output Voltage Accuracy . . . . . 8  
9.Time Lapse Drift . . . . . 9  
10.Overcurrent Protection . . . . . 10  
11.Overtoltage Protection . . . . . 11  
12.Figure of Testing Circuitry . . . . . 12

(Final Page 12)



<b>COSEL</b>																																			
Model	MODULE W	Temperature	25°C																																
Item	Line Regulation	Testing Circuitry	Figure A																																
Object	+15V8.5A																																		
<p>1.Graph</p> <div style="text-align: right;"> <p>---□--- Load 50%</p> <p>—△— Load 100%</p> </div> <p style="text-align: center;">Input Voltage [V]</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Output Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>85</td><td>15.279</td><td>15.281</td></tr> <tr><td>90</td><td>15.279</td><td>15.281</td></tr> <tr><td>100</td><td>15.279</td><td>15.281</td></tr> <tr><td>120</td><td>15.279</td><td>15.282</td></tr> <tr><td>200</td><td>15.279</td><td>15.282</td></tr> <tr><td>230</td><td>15.279</td><td>15.281</td></tr> <tr><td>264</td><td>15.279</td><td>15.282</td></tr> <tr><td>280</td><td>15.279</td><td>15.282</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>		Input Voltage [V]	Output Voltage [V]		Load 50%	Load 100%	85	15.279	15.281	90	15.279	15.281	100	15.279	15.281	120	15.279	15.282	200	15.279	15.282	230	15.279	15.281	264	15.279	15.282	280	15.279	15.282	--	-	-
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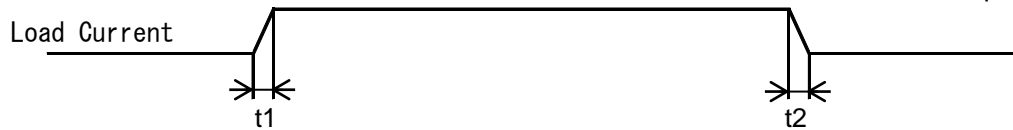
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Model		MODULE W	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		+15V8.5A	

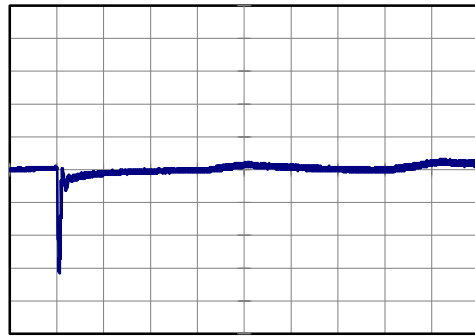
Input Volt. 100 V  
Cycle 1000 ms

t1,t2 = 50 μsTyp

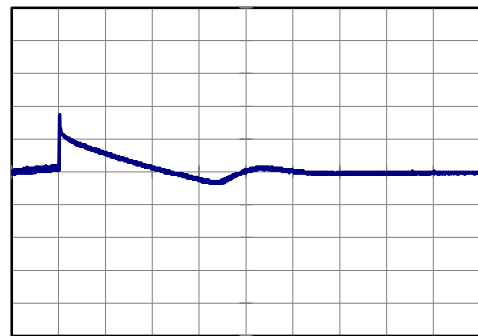


Min.Load (0A) ←→  
Load 100% (8.5A)

200 mV/div



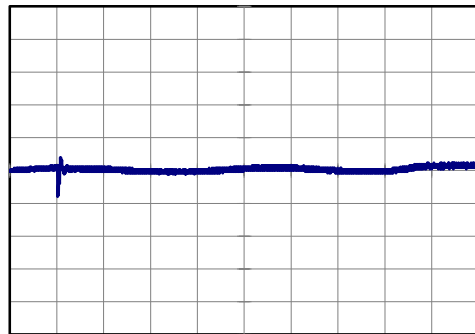
2 ms/div



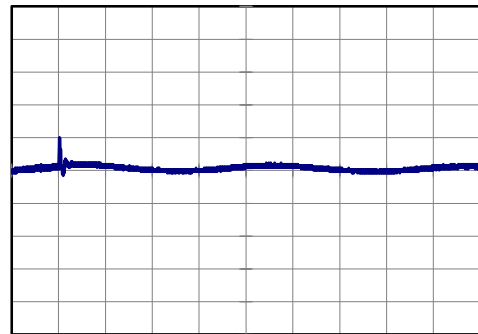
2 ms/div

Min.Load (0A) ←→  
Load 50% (4.25A)

200 mV/div



2 ms/div



2 ms/div



<p>Model MODULE W</p> <p>Item Ripple Voltage (by Load Current)</p> <p>Object +15V8.5A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure B</p>																																					
<p>1.Graph</p> <div style="display: flex; justify-content: space-around;"> <div> <p>—△— Input Volt. 100V</p> <p>- - -○- - - Input Volt. 230V</p> </div> </div> <p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Input Volt. 100 [V]</th> <th>Input Volt. 230 [V]</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>25</td><td>20</td></tr> <tr><td>1.50</td><td>40</td><td>30</td></tr> <tr><td>3.00</td><td>40</td><td>40</td></tr> <tr><td>4.50</td><td>45</td><td>45</td></tr> <tr><td>6.00</td><td>45</td><td>50</td></tr> <tr><td>7.50</td><td>50</td><td>50</td></tr> <tr><td>8.50</td><td>50</td><td>50</td></tr> <tr><td>9.35</td><td>60</td><td>60</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> </tbody> </table>		Load Current [A]	Ripple Voltage [mV]		Input Volt. 100 [V]	Input Volt. 230 [V]	0.00	25	20	1.50	40	30	3.00	40	40	4.50	45	45	6.00	45	50	7.50	50	50	8.50	50	50	9.35	60	60	--	-	-	--	-	-	--	-	-
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<b>COSEL</b>		
Model	MODULE W	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+15V8.5A	

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 : -20 - 50°C
- Input Voltage : 85 - 264V
- Load Current : 0 - 8.5A

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

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

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ratio [%]
Maximum Voltage	50	85	0.00	15.291	±22	±0.1
Minimum Voltage	-20	85	8.50	15.248		



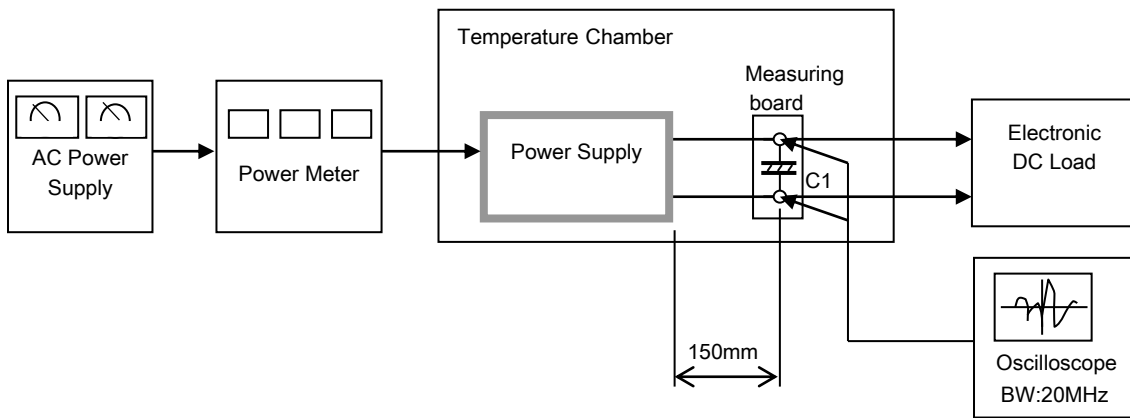
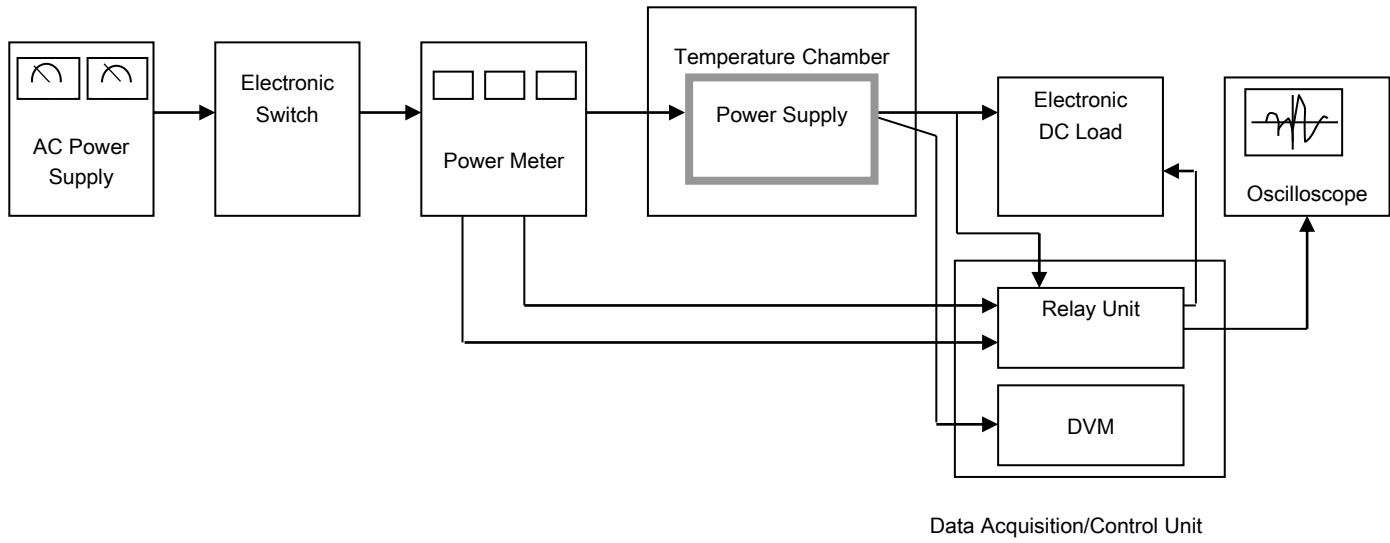
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<p>* The characteristic of AC230V is equal.</p>																								



<p>Model MODULE W</p> <p>Item Overcurrent Protection</p> <p>Object +15V8.5A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																																															
<p>1.Graph</p> <p> <span style="color: black;">—△</span> Input Volt. 100V  <span style="color: blue;">—□</span> Input Volt. 200V  <span style="color: orange;">—○</span> Input Volt. 230V                 </p> <p>Output Voltage [V]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current.</p> <p>Intermittent operation occurs when overcurrent protection is activated.</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Output Voltage [V]</th> <th colspan="3">Load Current [A]</th> </tr> <tr> <th>Input Volt. 100[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 230[V]</th> </tr> </thead> <tbody> <tr> <td>15</td> <td>10.64</td> <td>10.64</td> <td>10.64</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Output Voltage [V]	Load Current [A]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	15	10.64	10.64	10.64	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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C1= 22  $\mu$ F  
(Electrolytic capacitor)