

TEST DATA OF MUW31215

Regulated DC Power Supply
February 6, 2025

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Design Manager

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Design Engineer

COSEL CO.,LTD.



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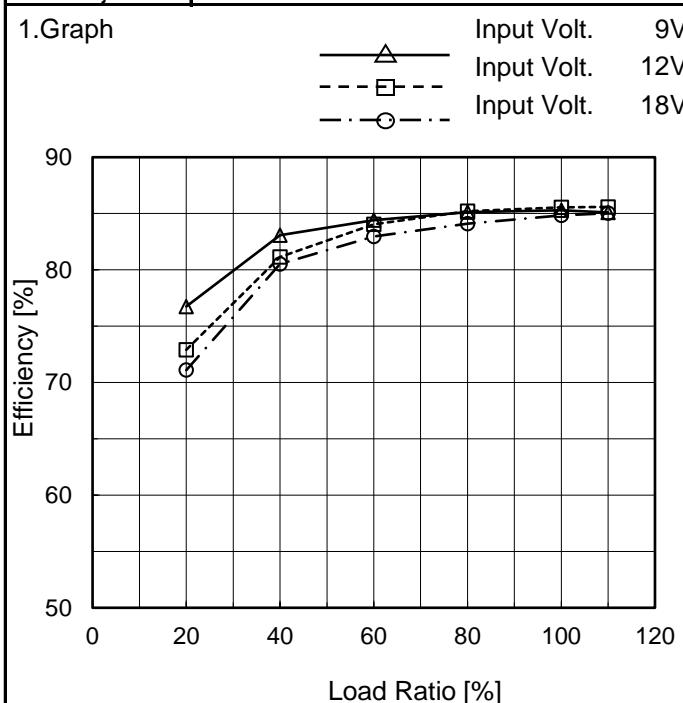
COSEL

Model	MUW31215	Temperature	25°C																																															
Item	Input Current (by Load Current)	Testing Circuitry	Figure A																																															
Object	_____																																																	
1.Graph		2.Values																																																
<p>Graph showing Input Current [A] vs Load Ratio [%] for MUW31215 at 25°C. The graph plots Input Current against Load Ratio for three input voltages: 9V, 12V, and 18V. The 9V curve (triangles) shows the highest current, followed by 12V (squares), and 18V (circles). All curves are linear.</p> <table border="1"> <thead> <tr> <th>Load Ratio [%]</th> <th>9V [A]</th> <th>12V [A]</th> <th>18V [A]</th> </tr> </thead> <tbody> <tr><td>0</td><td>0.017</td><td>0.012</td><td>0.012</td></tr> <tr><td>20</td><td>0.086</td><td>0.067</td><td>0.046</td></tr> <tr><td>40</td><td>0.158</td><td>0.122</td><td>0.082</td></tr> <tr><td>60</td><td>0.236</td><td>0.177</td><td>0.120</td></tr> <tr><td>80</td><td>0.314</td><td>0.234</td><td>0.158</td></tr> <tr><td>100</td><td>0.393</td><td>0.292</td><td>0.196</td></tr> <tr><td>110</td><td>0.433</td><td>0.321</td><td>0.215</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>			Load Ratio [%]	9V [A]	12V [A]	18V [A]	0	0.017	0.012	0.012	20	0.086	0.067	0.046	40	0.158	0.122	0.082	60	0.236	0.177	0.120	80	0.314	0.234	0.158	100	0.393	0.292	0.196	110	0.433	0.321	0.215	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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Model	MUW31215
Item	Efficiency (by Load Current)
Object	_____

1.Graph


 Temperature 25°C
 Testing Circuitry Figure A

2.Values

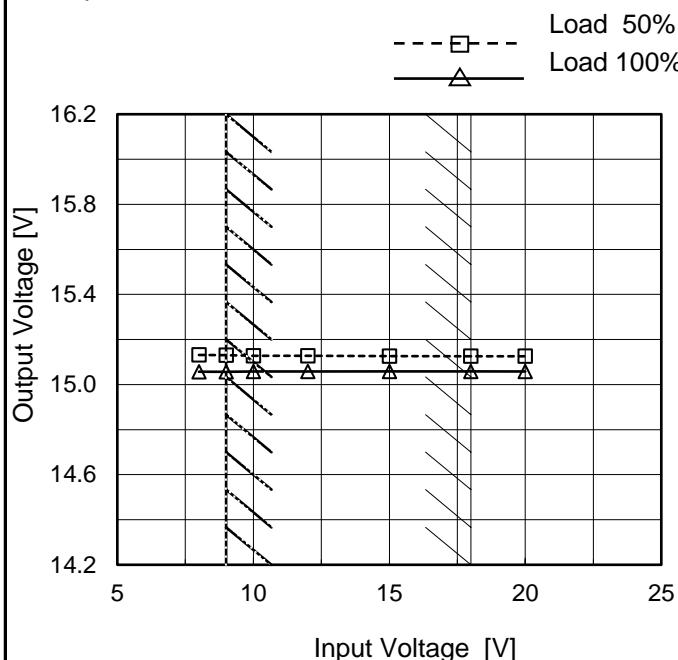
Load Ratio [%]	Efficiency [%]		
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0	-	-	-
20	76.7	72.9	71.1
40	83.1	81.1	80.5
60	84.4	84.0	83.0
80	85.1	85.2	84.1
100	85.3	85.5	84.8
110	85.1	85.6	85.0
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	MUW31215
Item	Line Regulation
Object	+15V0.1A

 Temperature 25°C
 Testing Circuitry Figure A

1.Graph

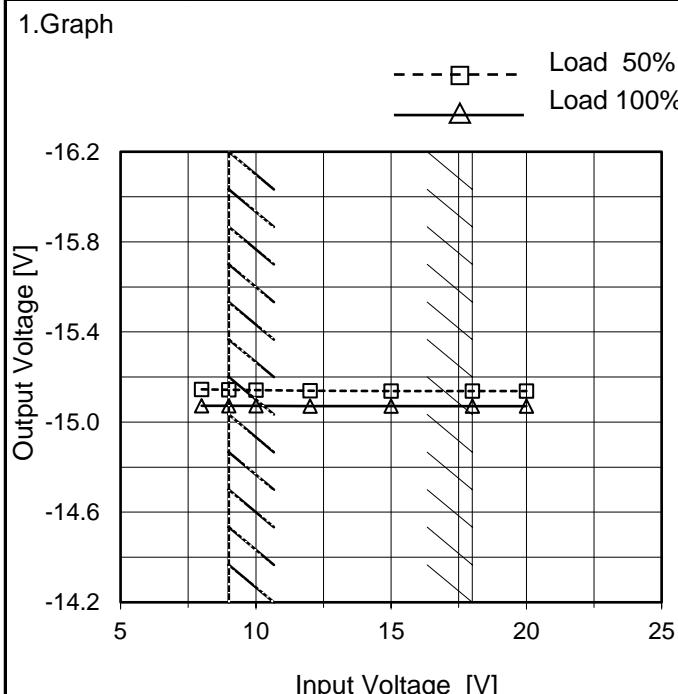


2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
8	15.131	15.057
9	15.130	15.057
10	15.128	15.058
12	15.127	15.058
15	15.126	15.058
18	15.126	15.058
20	15.126	15.058
--	-	-
--	-	-

-15V:Rated Load Current

Object -15V0.1A



2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
8	-15.145	-15.072
9	-15.143	-15.072
10	-15.142	-15.072
12	-15.139	-15.071
15	-15.138	-15.071
18	-15.138	-15.071
20	-15.138	-15.071
--	-	-
--	-	-

+15V:Rated Load Current

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

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Object	+15V0.1A	Testing Circuitry	Figure B																																																			
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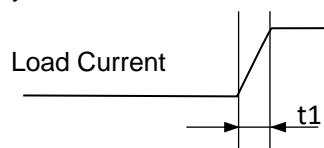
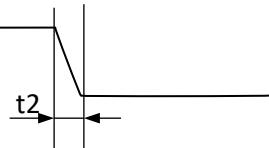
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Model	MUW31215	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+15V0.1A		

Input Volt. 12 V

-15V:Rated Load Current

Cycle 1000 ms

Response. $t_1=t_2=50\mu s$. TypLoad 0%(0A) ↔
Load 100%(0.1A)

200[mV/div]



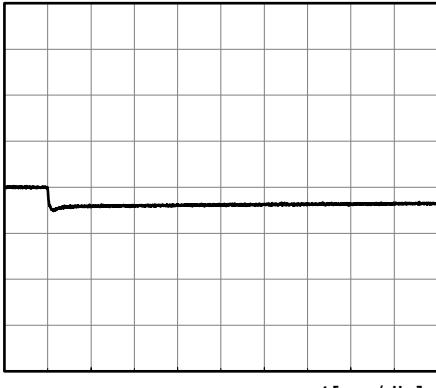
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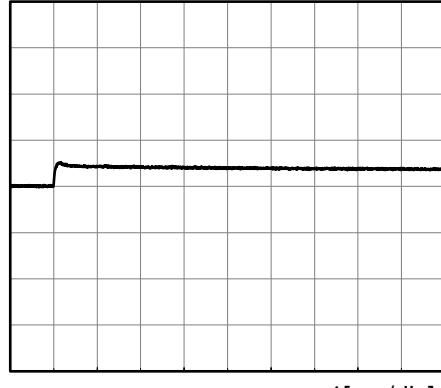
1[ms/div]

Load 50%(0.05A) ↔
Load 100%(0.1A)

200[mV/div]



1[ms/div]



1[ms/div]

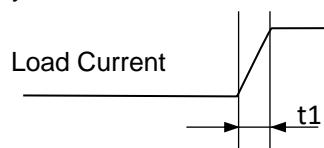
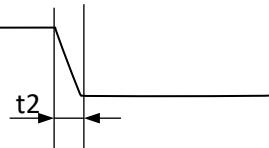
COSEL

Model	MUW31215	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	-15V0.1A		

Input Volt. 12 V

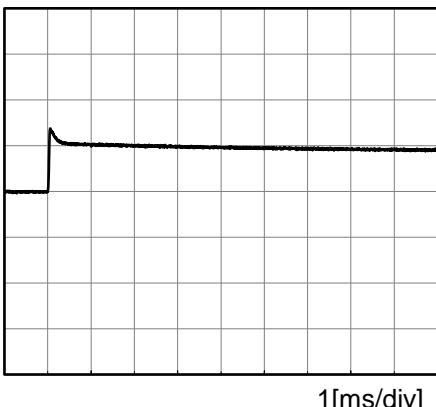
+15V:Rated Load Current

Cycle 1000 ms

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

Load 0%(0A) \longleftrightarrow
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200[mV/div]



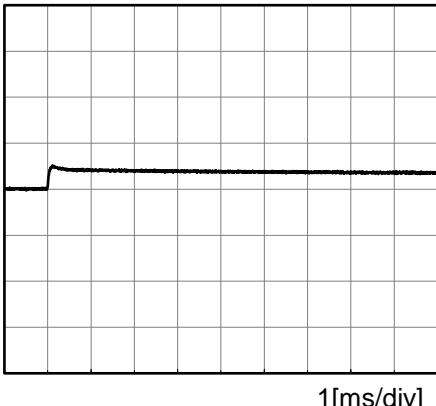
1[ms/div]



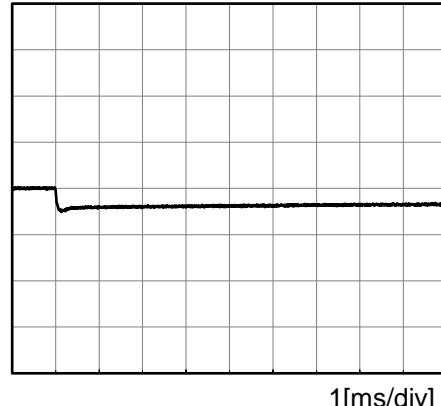
1[ms/div]

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Load 100%(0.1A)

200[mV/div]



1[ms/div]

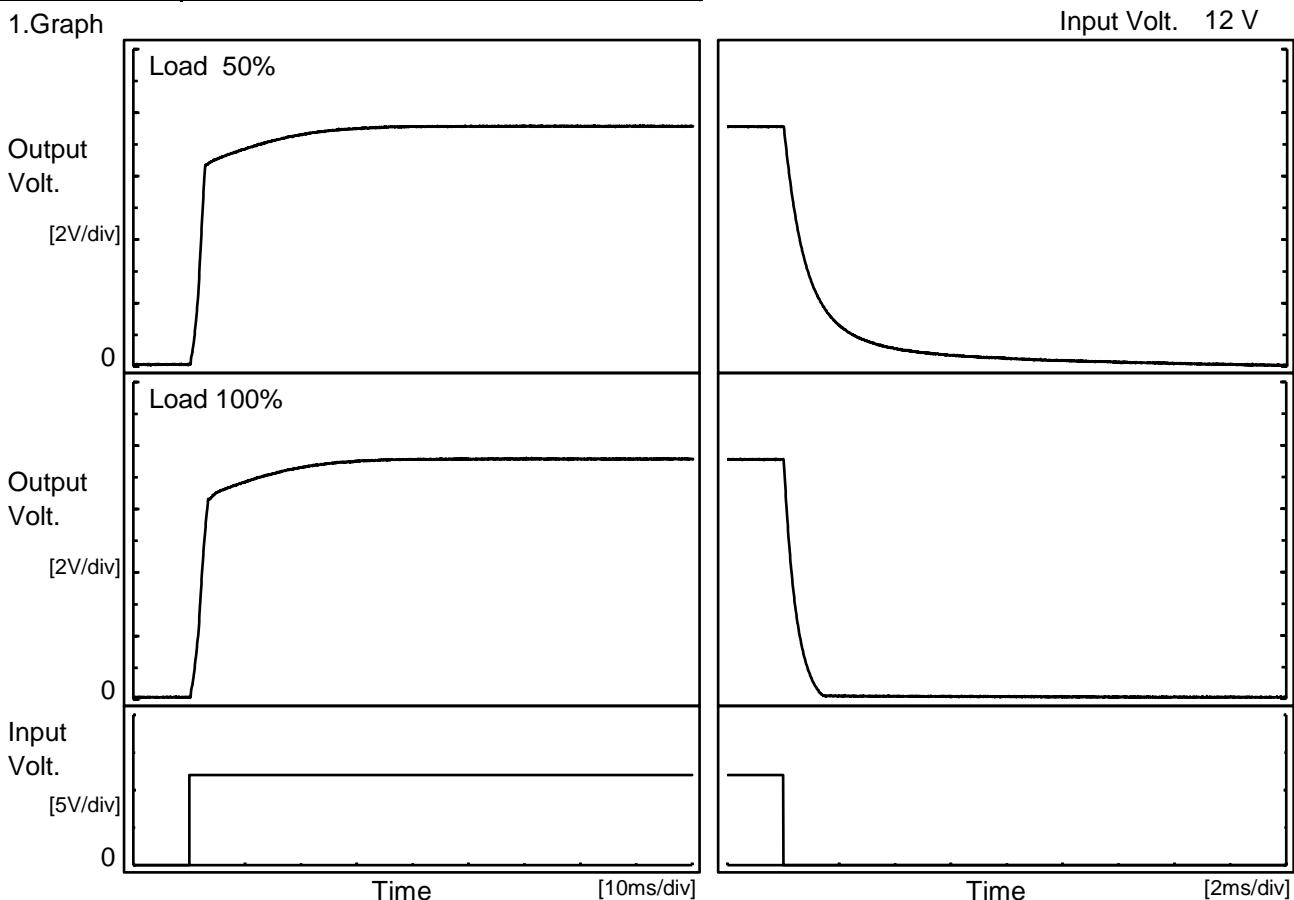


1[ms/div]

COSEL

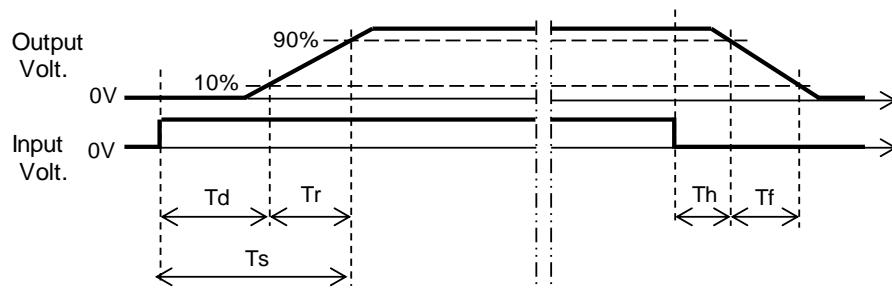
Model	MUW31215	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+15V0.1A		

1. Graph



2. Values

Load	Time	Td	Tr	Ts	Th	Tf	[ms]
50 %		0.9	7.9	8.8	0.1	2.9	
100 %		0.8	8.1	8.9	0.1	0.9	

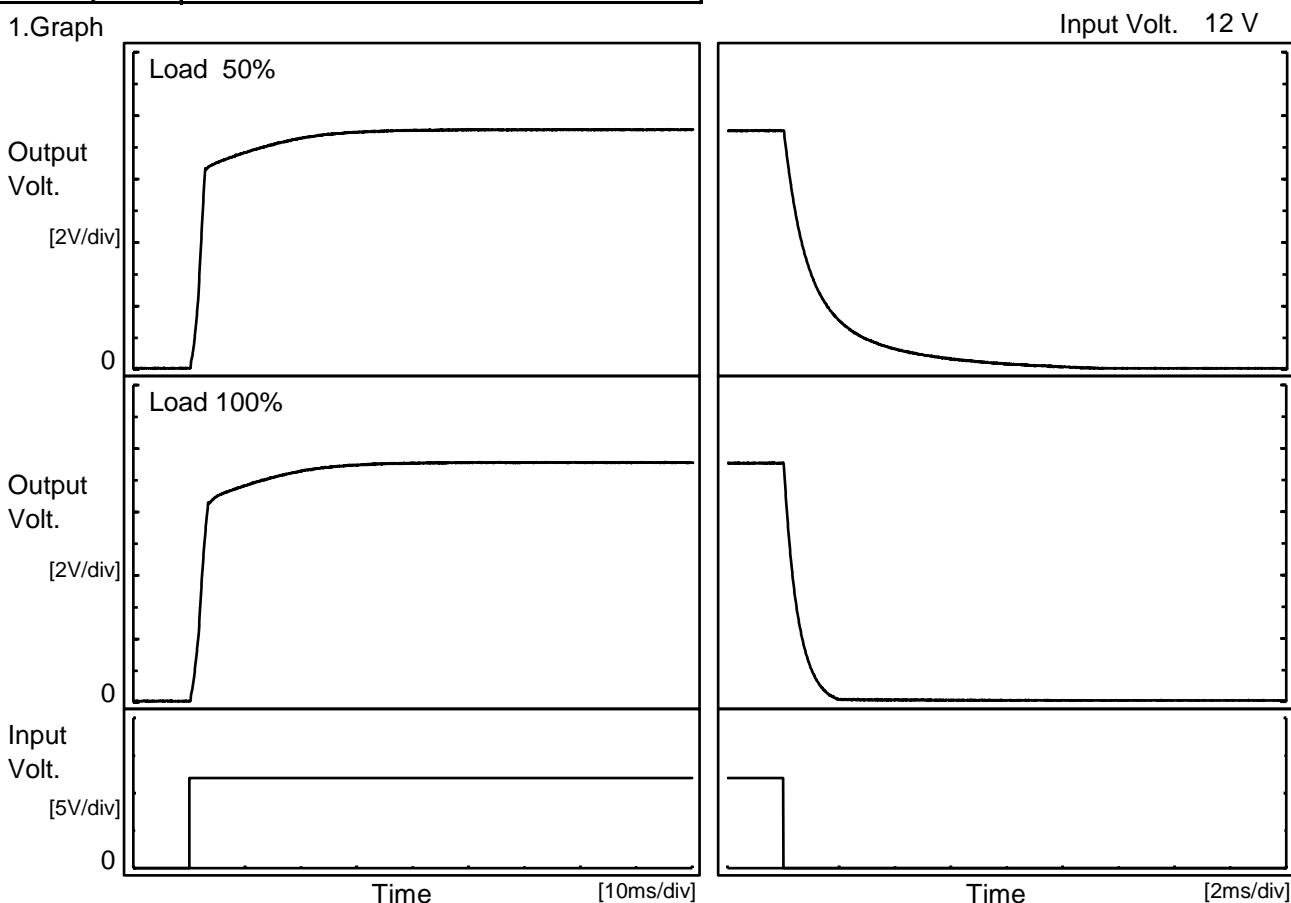


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Model	MUW31215
Item	Rise and Fall Time
Object	-15V0.1A

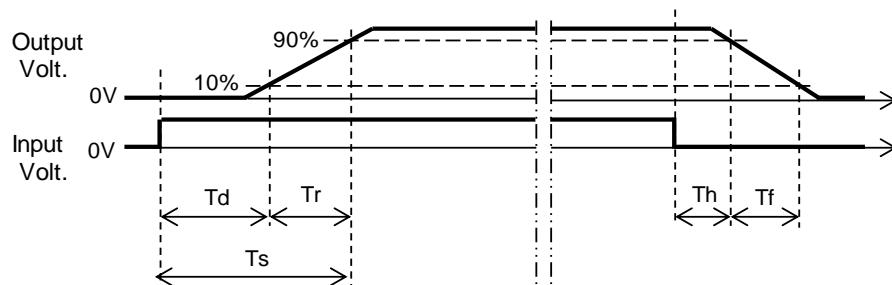
 Temperature 25°C
 Testing Circuitry Figure A

1. Graph



2. Values

Load	Time	Td	Tr	Ts	Th	Tf	[ms]
50 %		0.9	8.2	9.1	0.1	3.4	
100 %		0.9	8.4	9.3	0.1	1.1	



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Model	MUW31215	Temperature Testing Circuitry	25°C Figure A																																																							
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1.Graph	<p>Input Volt. 9V Input Volt. 12V Input Volt. 18V</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. 9[V]</th> <th>Input Volt. 12[V]</th> <th>Input Volt. 18[V]</th> </tr> </thead> <tbody> <tr><td>-14.25</td><td>0.22</td><td>0.24</td><td>0.24</td></tr> <tr><td>-13.50</td><td>0.24</td><td>0.25</td><td>0.26</td></tr> <tr><td>-12.00</td><td>0.26</td><td>0.28</td><td>0.29</td></tr> <tr><td>-10.50</td><td>0.30</td><td>0.32</td><td>0.32</td></tr> <tr><td>-9.00</td><td>0.33</td><td>0.35</td><td>0.36</td></tr> <tr><td>-7.50</td><td>0.37</td><td>0.39</td><td>0.40</td></tr> <tr><td>-6.00</td><td>0.42</td><td>0.44</td><td>0.44</td></tr> <tr><td>-4.50</td><td>0.46</td><td>0.48</td><td>0.48</td></tr> <tr><td>-3.00</td><td>0.51</td><td>0.53</td><td>0.52</td></tr> <tr><td>-1.50</td><td>0.54</td><td>0.54</td><td>0.53</td></tr> <tr><td>0.00</td><td>0.63</td><td>0.63</td><td>0.61</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	Output Voltage [V]	Load Current [A]			Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]	-14.25	0.22	0.24	0.24	-13.50	0.24	0.25	0.26	-12.00	0.26	0.28	0.29	-10.50	0.30	0.32	0.32	-9.00	0.33	0.35	0.36	-7.50	0.37	0.39	0.40	-6.00	0.42	0.44	0.44	-4.50	0.46	0.48	0.48	-3.00	0.51	0.53	0.52	-1.50	0.54	0.54	0.53	0.00	0.63	0.63	0.61	--	-	-	-	+15V:Rated Load Current
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--	-	-	-																																																							
	Note: Slanted line shows the range of the rated load current.																																																									



Model	MUW31215	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	+15V0.1A	

1.Values

Load 100%

Ambient Temperature[°C]	Output Voltage [V]		
	Input Volt. 9V	Input Volt. 12V	Input Volt. 18V
-40	14.954	14.956	14.957
25	15.060	15.061	15.061
85	15.080	15.080	15.081

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+15V0.1A	

1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	7.1	7.0
25	7.1	7.0
85	7.1	7.0



Model	MUW31215	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	-15V0.1A	

1.Values

Load 100%

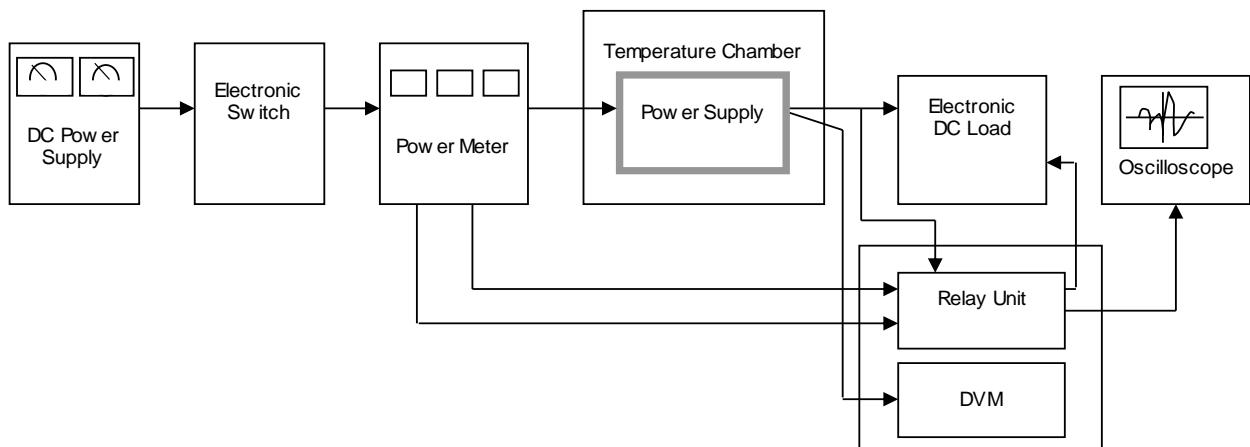
Ambient Temperature[°C]	Output Voltage [V]		
	Input Volt. 9V	Input Volt. 12V	Input Volt. 18V
-40	-14.963	-14.964	-14.965
25	-15.070	-15.070	-15.070
85	-15.090	-15.090	-15.089

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	-15V0.1A	

1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 100%
-40	7.1	7.0
25	7.1	7.0
85	7.1	7.0

COSEL



Data Acquisition/Control Unit

Figure A

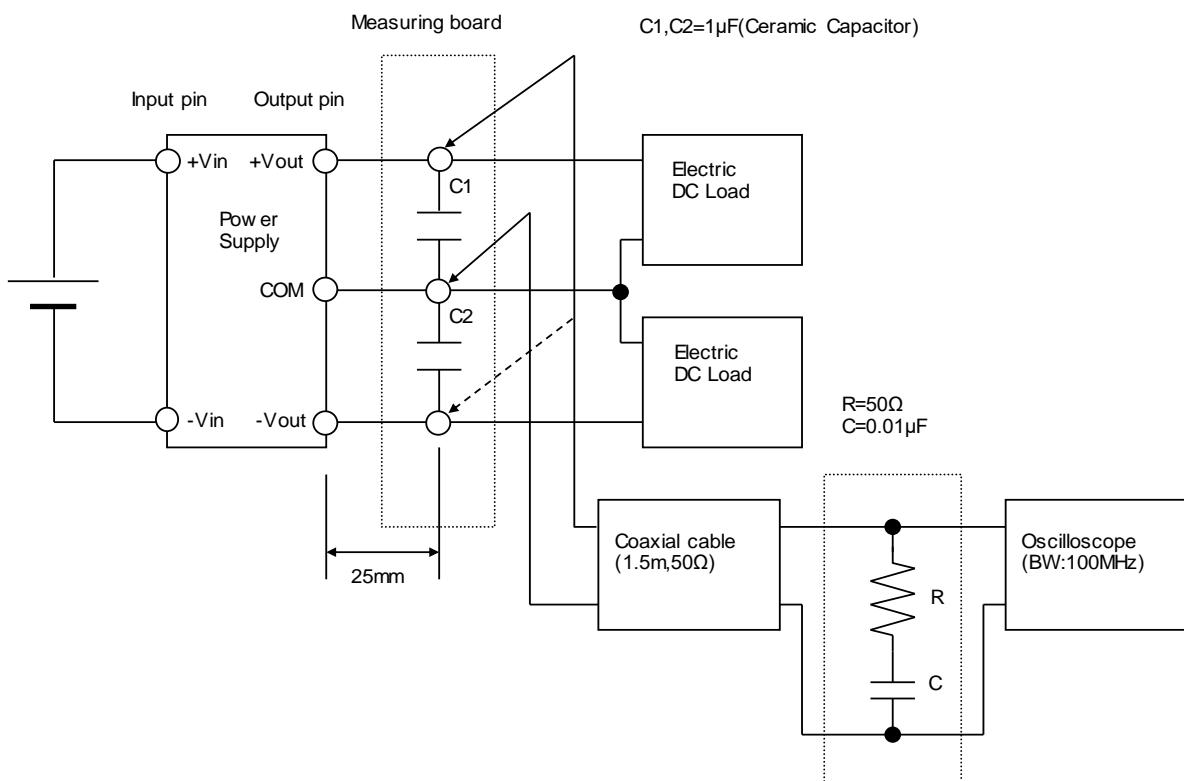


Figure B