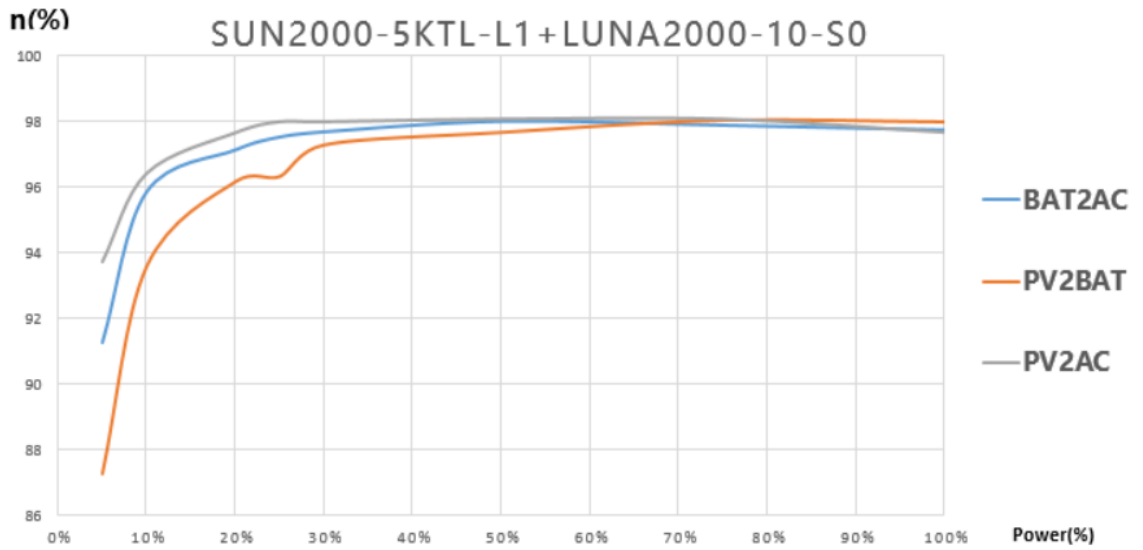


# Application Note-Energy Efficiency of Smart String Energy Storage System LUNA2000

Revision History

Version 1.0 March 4, 2022 – Initial release

<p><b>Application Solution</b></p>	<p>Energy Efficiency of Smart String Energy Storage System LUNA2000</p>																																												
<p><b>Solution Diagram</b></p>	<p>Technical Data according to the efficiency guideline for PV Storage Systems</p> <p>Test detail:            Inverter: SUN2000-10KTL-M1/SUN2000-5KTL-L1            Inverter Test Conditions: Standard Test Environment            Battery Storage System: LUNA2000-10-S0            Battery Test Conditions: Standard Test Environment</p>																																												
<p><b>Solution Configuration</b></p>	<p><math>\eta(\%)</math></p> <p>SUN2000-10KTL-M1+LUNA2000-10-S0</p> <table border="1"> <caption>Approximate Efficiency Data from Graph</caption> <thead> <tr> <th>Power (%)</th> <th>BAT2AC (%)</th> <th>PV2BAT (%)</th> <th>PV2AC (%)</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>94.5</td> <td>93.5</td> <td>94.0</td> </tr> <tr> <td>20</td> <td>97.0</td> <td>96.5</td> <td>97.0</td> </tr> <tr> <td>30</td> <td>97.5</td> <td>97.5</td> <td>97.5</td> </tr> <tr> <td>40</td> <td>97.8</td> <td>98.0</td> <td>97.8</td> </tr> <tr> <td>50</td> <td>98.0</td> <td>98.2</td> <td>98.0</td> </tr> <tr> <td>60</td> <td>98.1</td> <td>98.4</td> <td>98.1</td> </tr> <tr> <td>70</td> <td>98.2</td> <td>98.5</td> <td>98.2</td> </tr> <tr> <td>80</td> <td>98.2</td> <td>98.5</td> <td>98.2</td> </tr> <tr> <td>90</td> <td>98.2</td> <td>98.5</td> <td>98.2</td> </tr> <tr> <td>100</td> <td>98.2</td> <td>98.5</td> <td>98.2</td> </tr> </tbody> </table> <p>Legend: — BAT2AC, — PV2BAT, — PV2AC</p> <p>Power(%)</p>	Power (%)	BAT2AC (%)	PV2BAT (%)	PV2AC (%)	10	94.5	93.5	94.0	20	97.0	96.5	97.0	30	97.5	97.5	97.5	40	97.8	98.0	97.8	50	98.0	98.2	98.0	60	98.1	98.4	98.1	70	98.2	98.5	98.2	80	98.2	98.5	98.2	90	98.2	98.5	98.2	100	98.2	98.5	98.2
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**Euro Efficiency For SUN2000-10kTL-M1+LUNA2000-10-S0**

Calculating Formula for Euro Efficiency:

$$\text{Euro Eff} = 0.03 \times \text{Eff5\%} + 0.06 \times \text{Eff10\%} + 0.13 \times \text{Eff20\%} + 0.1 \times \text{Eff30\%} + 0.48 \times \text{Eff50\%} + 0.2 \times \text{Eff100\%}.$$

Result

**92.24% (BAT2AC)**

**Solution Notes**

This document only shows the test result of energy efficiency of LUNA2000 system on 24 Feb 2022  
Please contact our local support for more details