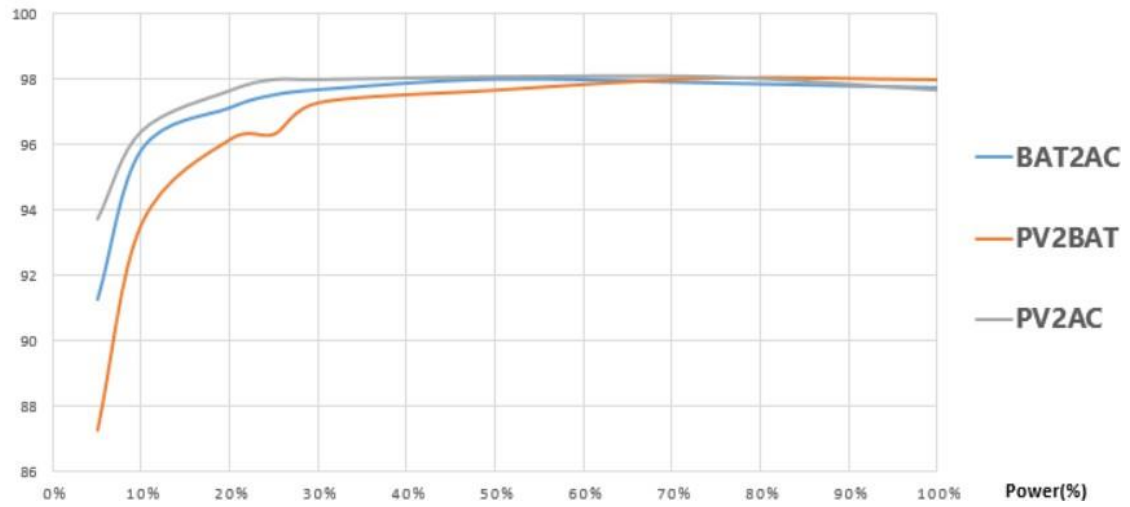


# Application Note-Energy Efficiency of Smart String Energy Storage System LUNA2000

Revision History  
 Version 1.0 March 4, 2022 – Initial release

<p>Application Solution</p>	<p>Energy Efficiency of Smart String Energy Storage System LUNA2000</p>																																												
<p>Solution Diagram</p>	<p>Technical Data according to the efficiency guideline for PV Storage Systems</p> <p>Test detail:              Inverters: SUN2000-2/3/3.68/4/4.6/5/6KTL-L1, SUN2000-3/4/5/6/8/10KTL-M1              Inverter Test Conditions: Standard Test              Environment Battery Storage System: LUNA2000-10-S0              Battery Test Conditions: Standard Test Environment</p>																																												
<p>Solution Configuration</p>	<p><math>\eta(\%)</math> SUN2000-3/4/5/6/8/10KTL-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>91.5</td> <td>90.5</td> <td>91.5</td> </tr> <tr> <td>20</td> <td>96.5</td> <td>96.0</td> <td>96.5</td> </tr> <tr> <td>30</td> <td>97.5</td> <td>97.5</td> <td>97.5</td> </tr> <tr> <td>40</td> <td>98.0</td> <td>98.2</td> <td>98.0</td> </tr> <tr> <td>50</td> <td>98.2</td> <td>98.5</td> <td>98.2</td> </tr> <tr> <td>60</td> <td>98.3</td> <td>98.7</td> <td>98.3</td> </tr> <tr> <td>70</td> <td>98.4</td> <td>98.8</td> <td>98.4</td> </tr> <tr> <td>80</td> <td>98.4</td> <td>98.8</td> <td>98.4</td> </tr> <tr> <td>90</td> <td>98.4</td> <td>98.7</td> <td>98.4</td> </tr> <tr> <td>100</td> <td>98.4</td> <td>98.5</td> <td>98.4</td> </tr> </tbody> </table>	Power (%)	BAT2AC (%)	PV2BAT (%)	PV2AC (%)	10	91.5	90.5	91.5	20	96.5	96.0	96.5	30	97.5	97.5	97.5	40	98.0	98.2	98.0	50	98.2	98.5	98.2	60	98.3	98.7	98.3	70	98.4	98.8	98.4	80	98.4	98.8	98.4	90	98.4	98.7	98.4	100	98.4	98.5	98.4
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	<p><b>n(%) SUN2000-2/3/3.68/4/4.6/5/6KTL-L1 + LUNA2000-10-S0</b></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>5</td><td>91.5</td><td>87.5</td><td>93.5</td></tr> <tr><td>10</td><td>96.5</td><td>94.0</td><td>97.0</td></tr> <tr><td>20</td><td>97.5</td><td>96.5</td><td>98.0</td></tr> <tr><td>30</td><td>98.0</td><td>97.5</td><td>98.2</td></tr> <tr><td>40</td><td>98.1</td><td>97.7</td><td>98.3</td></tr> <tr><td>50</td><td>98.2</td><td>97.8</td><td>98.4</td></tr> <tr><td>60</td><td>98.3</td><td>97.9</td><td>98.5</td></tr> <tr><td>70</td><td>98.4</td><td>98.0</td><td>98.6</td></tr> <tr><td>80</td><td>98.5</td><td>98.1</td><td>98.7</td></tr> <tr><td>90</td><td>98.6</td><td>98.2</td><td>98.8</td></tr> <tr><td>100</td><td>98.7</td><td>98.3</td><td>98.9</td></tr> </tbody> </table> <p style="text-align: center;">Euro Efficiency For SUN2000-2/3/3.68/4/4.6/5/6KTL-L1, SUN2000-3/4/5/6/8/10KTL-M1 +LUNA2000-10-S0</p> <p>Calculating Formula for Euro Efficiency:</p> $\text{Euro Eff} = 0.03 \times \text{Eff}5\% + 0.06 \times \text{Eff}10\% + 0.13 \times \text{Eff}20\% + 0.1 \times \text{Eff}30\% + 0.48 \times \text{Eff}50\% + 0.2 \times \text{Eff}100\%.$	Power (%)	BAT2AC (%)	PV2BAT (%)	PV2AC (%)	5	91.5	87.5	93.5	10	96.5	94.0	97.0	20	97.5	96.5	98.0	30	98.0	97.5	98.2	40	98.1	97.7	98.3	50	98.2	97.8	98.4	60	98.3	97.9	98.5	70	98.4	98.0	98.6	80	98.5	98.1	98.7	90	98.6	98.2	98.8	100	98.7	98.3	98.9
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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																																																