



LCU Function Instruction Document

A180 Series

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1. Peak Shaving and Valley Filling

In this operation mode, the system can automatically operate according to the preset parameters:

The screenshot shows the 'Energy Storage System' interface. On the left sidebar, 'Strategy' is highlighted with a red box and a circled '1'. The main area is titled 'Peak Shaving' and contains several input fields for system parameters. A red box labeled '2' encloses the 'System Policy' dropdown (set to 'Peak Shaving') and the 'Stop Chg. SOC' field (set to 100). Another red box labeled '3' encloses the 'Stop Dchg. SOC' field (set to 25), 'Bat SOC Hyst.' field (set to 1), 'Chg. Cut-off Volt.' field (set to 720), and 'Dchg. Cut-off Volt.' field (set to 560). A large red box labeled '4' encloses the 'Custom Time' section, which includes 12 time slots (Custom Time1 to Custom Time12) for scheduling. Each time slot has a 'Date' field (set to 00:00) and a 'P' field (set to 0.0 kW). The bottom status bar shows 'Run Mode: Stop', 'Ctl Mode: Manual', 'Sys. Mode: Local', and 'Work Status: Fault'.

1) Parameter Setting 1:

Stop Chg. SOC	Stop Dchg. SOC	Bat SOC Hyst.	Chg. Cut-off Volt.	Dchg. Cut-off Volt.
100	25	1	720	560

Stop Chg. SOC	Set the SOC value to stop charging
Stop Dchg. SOC	Set the SOC value to stop discharging
Bat SOC Hyst.	Set the SOC hysteresis value that allows charging and discharging recovery
Chg. Cut-off Volt	Set the total battery voltage value to stop charging
Dchg. Cut-off Volt	Set the total battery voltage value to stop discharging

Here, you can set the cut-off SOC and voltage values for charging and discharging. When any of the preset cut-off conditions are reached during system operation, the system will stop charging or discharging.

2) Parameter Setting 2:

Sunday

Submit

Custom Time1

Date: 10:00 14:00 P: 0.0 kW

Custom Time2

Date: 00:00 00:00 P: 0.0 kW

Custom Time3

Date: 00:00 00:00 P: 0.0 kW

Custom Time4

Date: 00:00 00:00 P: 0.0 kW

Custom Time5

Date: 00:00 00:00 P: 0.0 kW

Custom Time6

Date: 00:00 00:00 P: 0.0 kW

Custom Time7

Date: 00:00 00:00 P: 0.0 kW

Custom Time8

Date: 00:00 00:00 P: 0.0 kW

Custom Time9

Date: 00:00 00:00 P: 0.0 kW

Custom Time10

Date: 00:00 00:00 P: 0.0 kW

Custom Time11

Date: 00:00 00:00 P: 0.0 kW

Custom Time12

Date: 00:00 00:00 P: 0.0 kW

Sunday

Customize the charging and discharging schedule for each day of the week. The system will operate in a weekly cycle according to this schedule.

Custom Time1

Date: 10:00 14:00 P: 0.0 kW

start time

end time

Charging and discharging power
Set the range from -125 to 125
- For charging
+For discharging

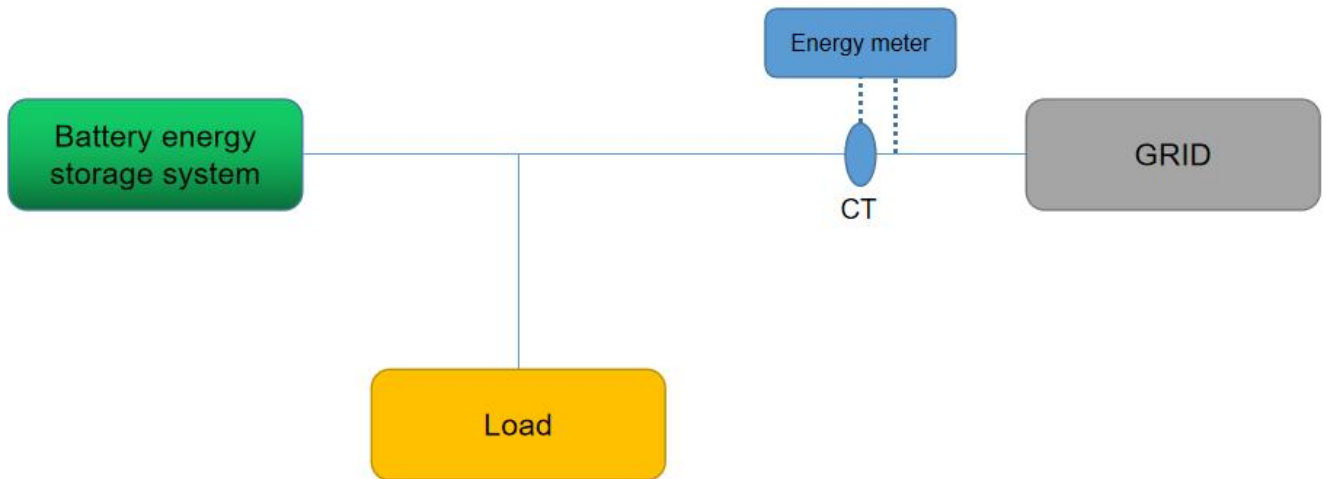
Supports task scheduling across 12 time slots per day.

Users need to set these parameters manually.

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2. Node Capacity Control

This mode ensures that the power at the meter sampling point does not exceed the set value.

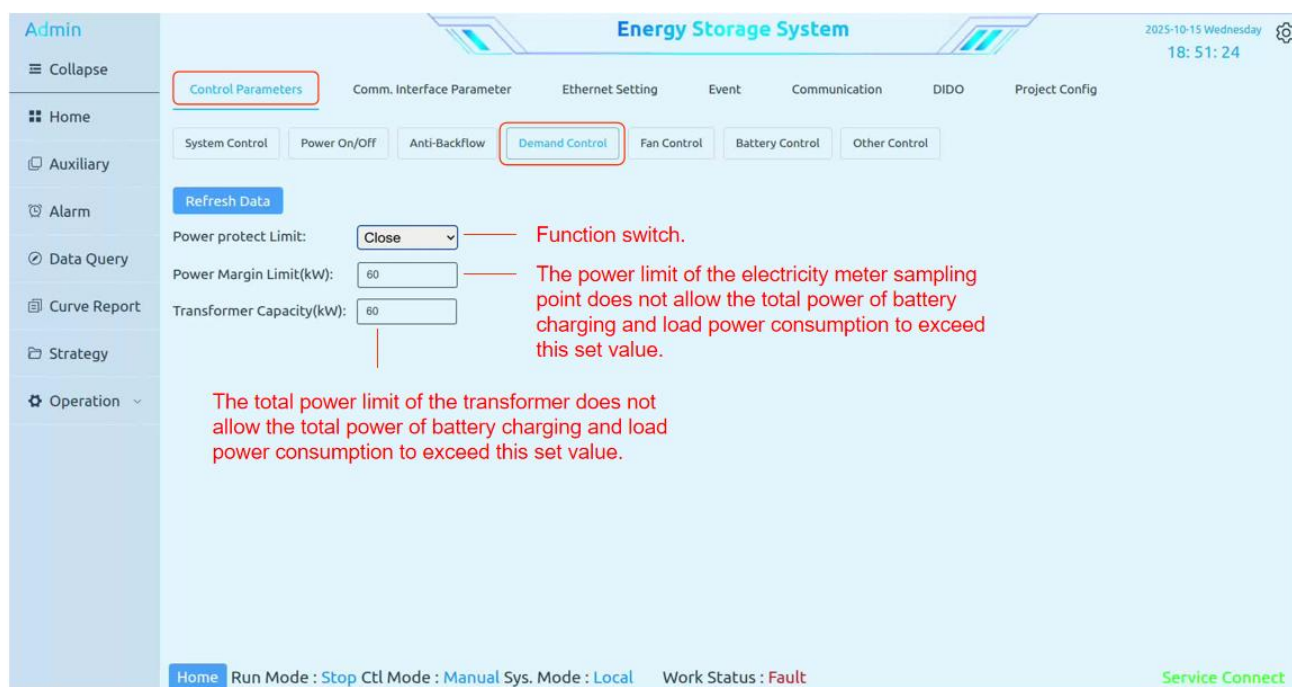


1) Anti-Backflow

The screenshot displays the "Energy Storage System" control interface. The left sidebar contains navigation options: Admin, Collapse, Home, Auxiliary, Alarm, Data Query, ErrorCode, Curve Report, Strategy, and Operation. The main panel shows the "Control Parameters" tab, with sub-tabs for System Control, Power On/Off, Anti-Backflow (highlighted), Fan Control, Battery Control, and Other Control. The Anti-Backflow section includes a "Refresh Data" button and three settings: "Anti-Backflow Control" set to "Disable", "Stable Threshold(kW)" set to 5, and "Delay Protection Time(0.1s)" set to 20. Red annotations explain these settings: "Function switch." for the Anti-Backflow Control dropdown, "The anti-backflow power setting at the sampling point does not allow the backflow value to exceed the set value." for the Stable Threshold, and "The anti-backflow response speed setting value of the electricity meter sampling point." for the Delay Protection Time. The bottom status bar shows "Home", "Run Mode : Stop", "Ctl Mode : Manual", "Sys. Mode : Local", "Work Status : Fault", and a "Service Connect" button. The top right corner displays the date and time: "2025-10-15 Wednesday 17:46:37".

After this function is activated, use it together with the "Peak Shaving and Valley Filling" settings.

2) Power Consumption Limit



After this function is activated, use it together with the "Peak Shaving and Valley Filling" settings.

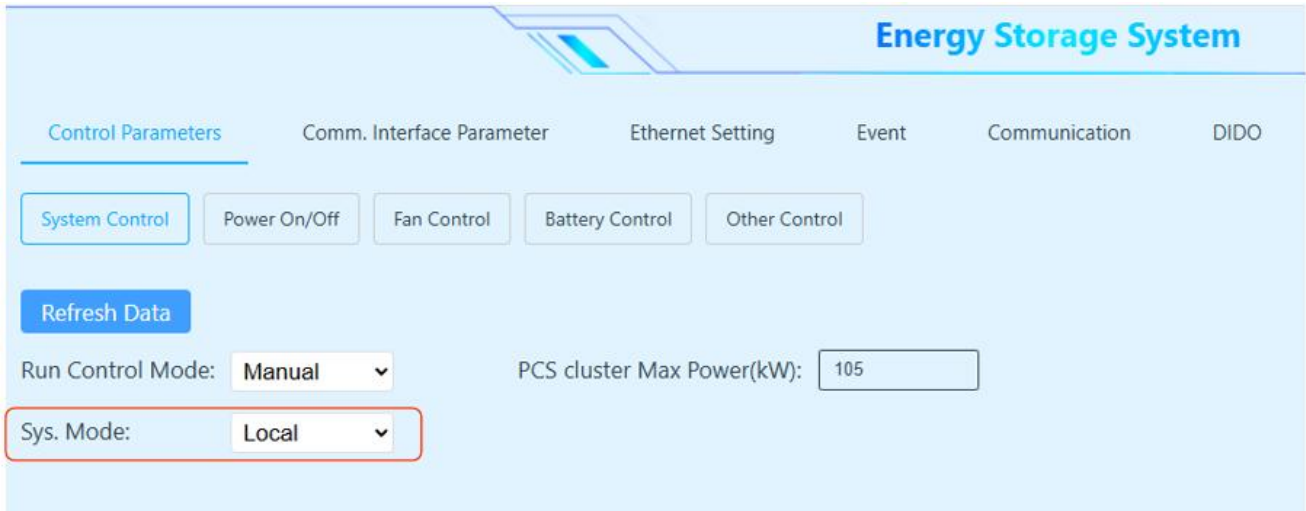
3) Electricity Meter Compatibility

The system is by default compatible with the Acrel ADL400 energy meter. Address 20 The 485 communication of the electricity meter is connected to LCU: 1A, 1B.

If other electricity meters need to be used, the ones that support the 485 communication MODBUS RTU protocol should be selected, and the communication protocol should be sent to us. The LCU needs to undergo protocol matching development.

3. Remote Mode

In this operation mode, control of the system is handed over to a third-party EMS, and the functionalities of the two modes mentioned above will no longer be executed.



Energy Storage System

Control Parameters Comm. Interface Parameter Ethernet Setting Event Communication DIDO

System Control Power On/Off Fan Control Battery Control Other Control

Refresh Data

Run Control Mode: Manual PCS cluster Max Power(kW): 105

Sys. Mode: Local

Set "Sys.Mode" to "Remote" for remote mode.

The communication protocol of the LCU to its superior:



LCU

Communication I

Note: If other protocols are used, the communication protocol must be provided to us. LCU will then develop the protocol matching.



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