



Application Note of Huawei C&I ESS and Third-Party PV Inverters Parallel Coupling

Background information

In on-grid scenarios, parallel circulation and resonance occur in the low-voltage coupled parallel system between the energy storage system and PV inverters. Huawei C&I ESS uses the intelligent circulation suppression algorithm to reduce the impact of parallel circulation and resonance.

Application products scope: Huawei C&I ESS product LUNA2000-(97KWH-1H1, 129KWH-2H1, 161KWH-2H1, 200KWH-2H1)

Application Description

1. In on-grid scenarios, Huawei ESS can connect to third-party PV inverters in parallel in low-voltage coupling mode without an isolation transformer after the PCS software is upgraded to PCS2000MA V100R023C00SPC130 or later.
2. If the coordinated control of the PV and ESS is required in this scenario, a third-party EMS must be added to control the third-party PV inverter and Huawei C&I ESS.
3. When the third-party PV inverter performs anti-islanding protection, it generates overvoltage, which may cause the monitoring power module of the ESS to fail. Therefore, it is prohibited to obtain power from the AC outlet of the third-party PV inverter for the ESS auxiliary power.

Risk Description

When Huawei C&I ESS are connected in parallel with third-party PV inverters in low-voltage coupling mode without isolation transformers, parallel circulation and resonance may still occur, causing ESS derating or fault. If this risk occurs, the user must add magnetic rings or isolation transformers to rectify the risk.

Issue Date: 2024/02/10

Huawei Technologies Co.,Ltd.
Huawei Industrial Base, Bantian
Longgang, Shenzhen 518129,
P.R.China
Tel: 400-822-9999