



C&I BESS + Digital Energy Ecosystem White Paper

Libro Blanco BESS C&I + Ecosistema de Energía Digital

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ENGINEERING DIAGRAMS & ARCHITECTURE
DIAGRAMAS Y ARQUITECTURA DE INGENIERÍA

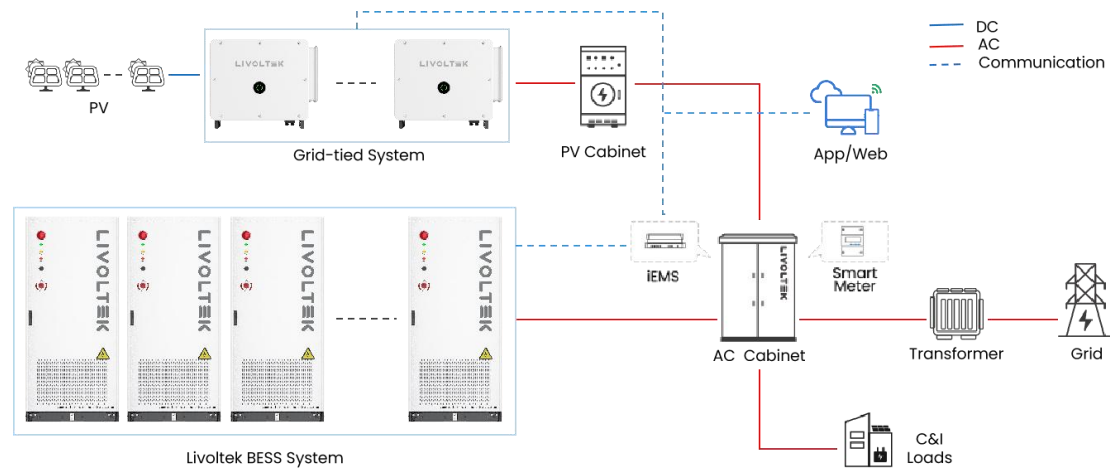
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Contents | Contenido

1. System Overview Diagram Diagrama General del Sistema.....	1
2. Standard SLD – PV + BESS + Grid Diagrama Unifilar Estándar – PV + BESS + Red.....	2
3. 125kW/261kWh BESS Internal Architecture Arquitectura Interna del BESS 125kW/261 kWh.....	3
3. Digital Energy Ecosystem Architecture Arquitectura del Ecosistema de Energía Digital.....	3
5. Control Logic Flowchart Diagrama de Flujo de Lógica de Control.....	5
6. Demand Shaving Strategy Diagram Diagrama de Estrategia de Reducción de Demanda.....	6
7. PV + BESS + EV Charging Site Layout Diseño del Sitio PV + BESS + Carga EV.....	7
8. Multi-Cabinet Cluster Architecture Arquitectura de Cluster Multi-Gabinete.....	7
9. Safety System Architecture Arquitectura del Sistema de Seguridad.....	8
10. Communication & Integration Map Mapa de Comunicación e Integración.....	9

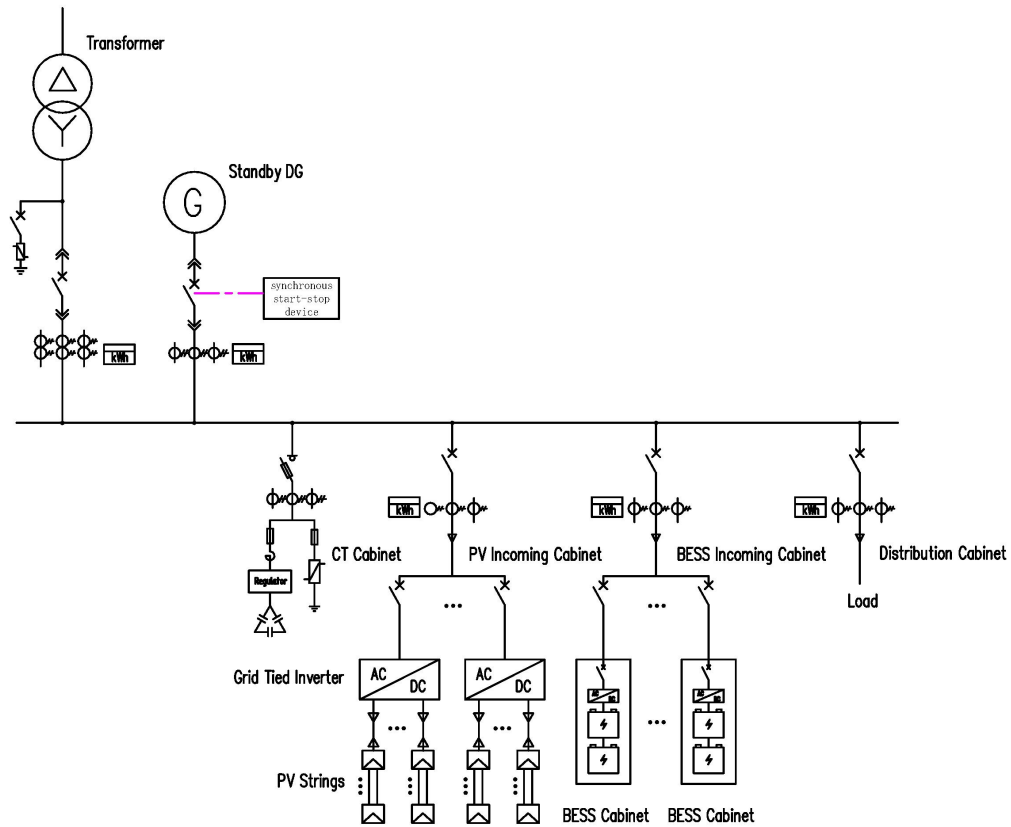
1. System Overview Diagram | Diagrama General del Sistema



【Figure 1 – Overall C&I Energy System Architecture (PV + BESS + Load + Grid)】

【Figura 1 – Arquitectura General del Sistema C&I (PV + BESS + Carga + Red)】

2. Standard SLD – PV + BESS + Grid | Diagrama Unifilar Estándar – PV + BESS + Red



【Figure 2 – Single Line Diagram (SLD) for PV + BESS Integration】

【Figura 2 – Diagrama Unifilar (SLD) para Integración PV + BESS】

3. 125kW/261kWh BESS Internal Architecture |

Arquitectura Interna del BESS 125kW/261 kWh

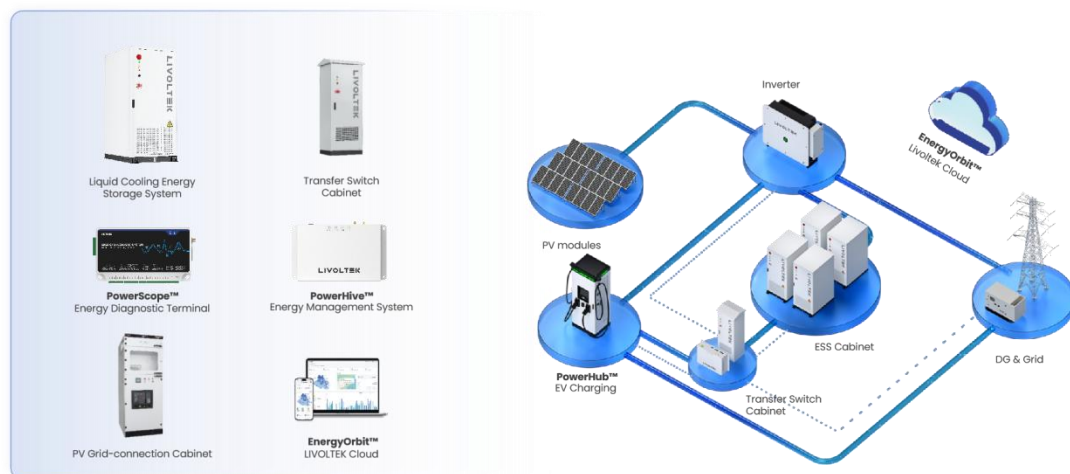


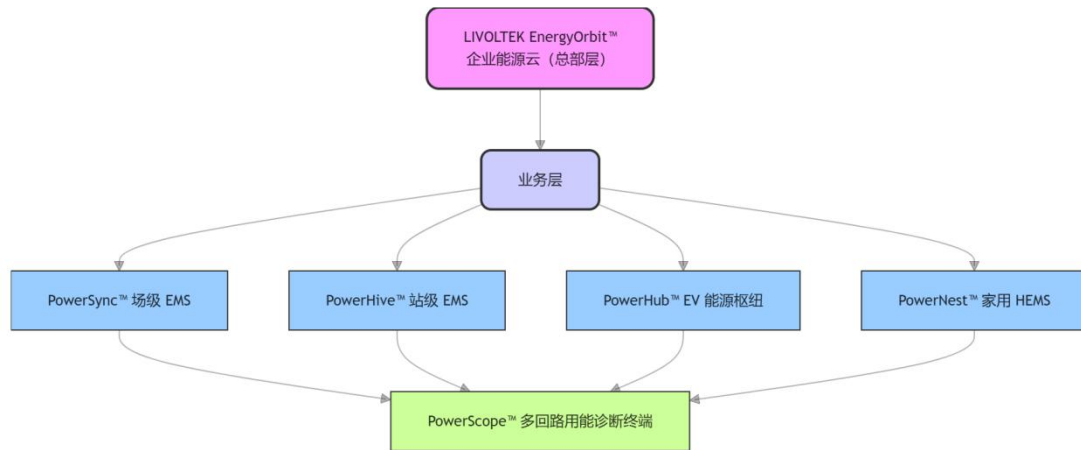
【Figure 3 – Internal Architecture of LIVOLTEK 125 kW / 261 kWh BESS Cabinet】

【Figura 3 – Arquitectura Interna del Gabinete BESS 125 kW / 261 kWh】

3. Digital Energy Ecosystem Architecture |

Arquitectura del Ecosistema de Energía Digital



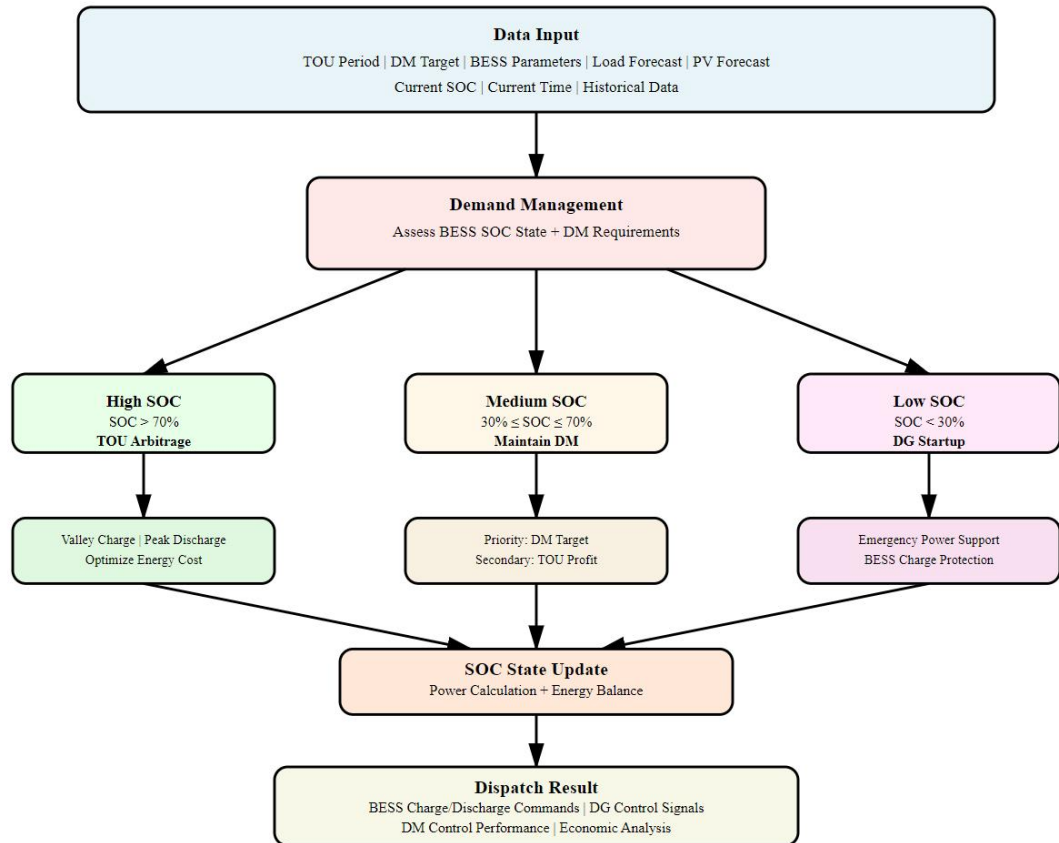


【Figure 4 – LIVOLTEK Digital Energy Ecosystem Architecture】

【Figura 4 – Arquitectura del Ecosistema de Energía Digital LIVOLTEK】

5. Control Logic Flowchart | Diagrama de Flujo de Lógica de Control

Demand Management + TOU Arbitrage Control Strategy



Note: DM-Demand Management, TOU-Time of Use, DG-Distributed Generation, BESS-Battery Energy Storage System

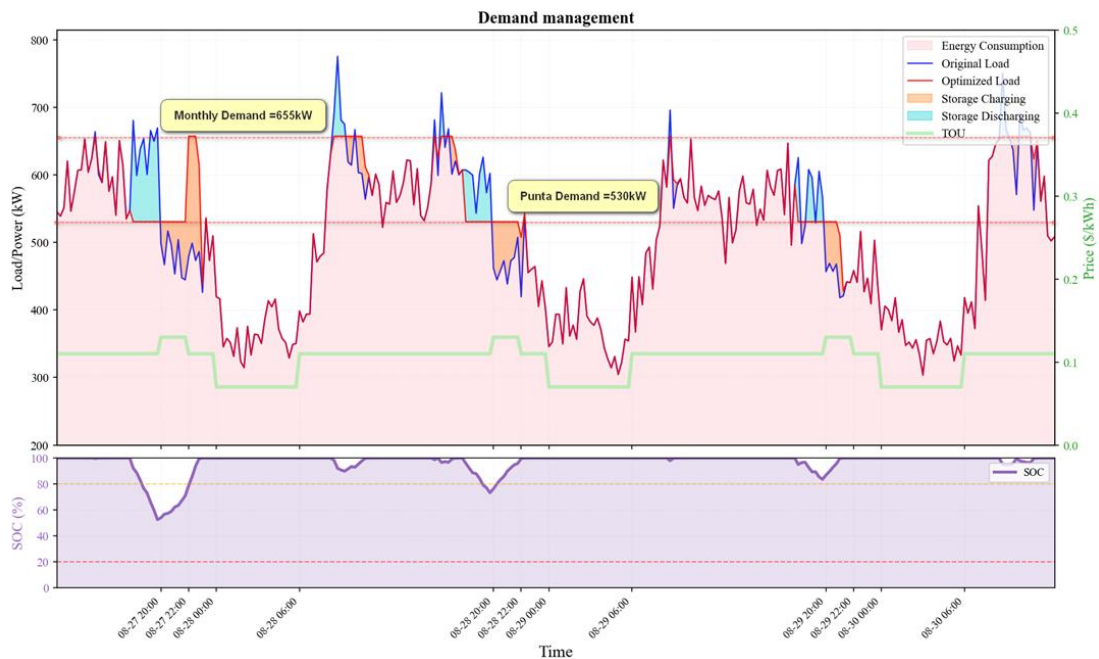
Core Strategy: DM priority, TOU arbitrage when SOC sufficient, DG backup when SOC low

Objective: Ensure power reliability, reduce demand charges, optimize total operating costs

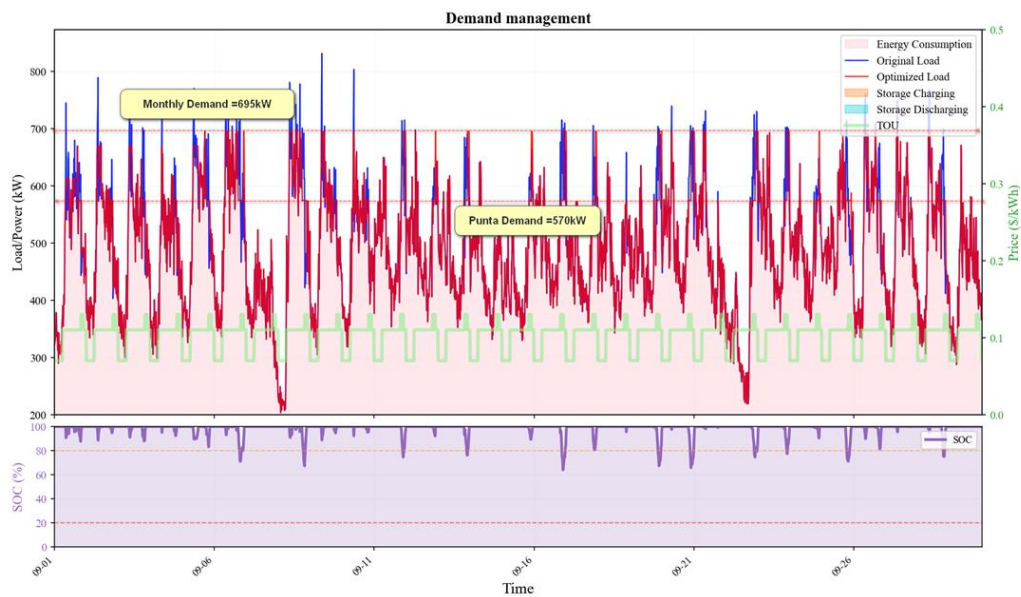
【Figure 5 – BESS Operating Mode Flowchart (Peak Shaving, ToU, Backup)】

【Figura 5 – Diagrama de Flujo de Modos de Operación del BESS】

6. Demand Shaving Strategy Diagram | Diagrama de Estrategia de Reducción de Demanda



Daily demand management results

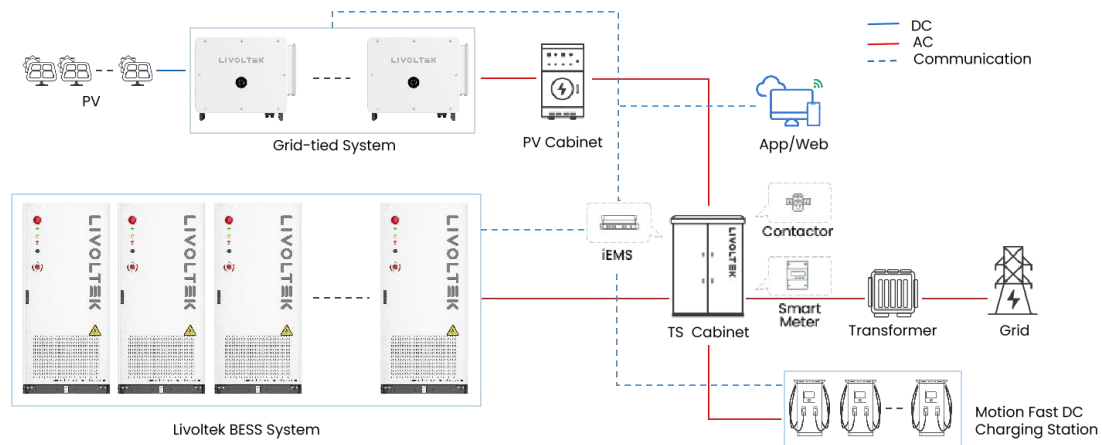


Monthly demand management results

【Figure 6 – Demand Shaving Curve (Before / After BESS)】

【Figura 6 – Curva de Reducción de Demanda (Antes / Después del BESS)】

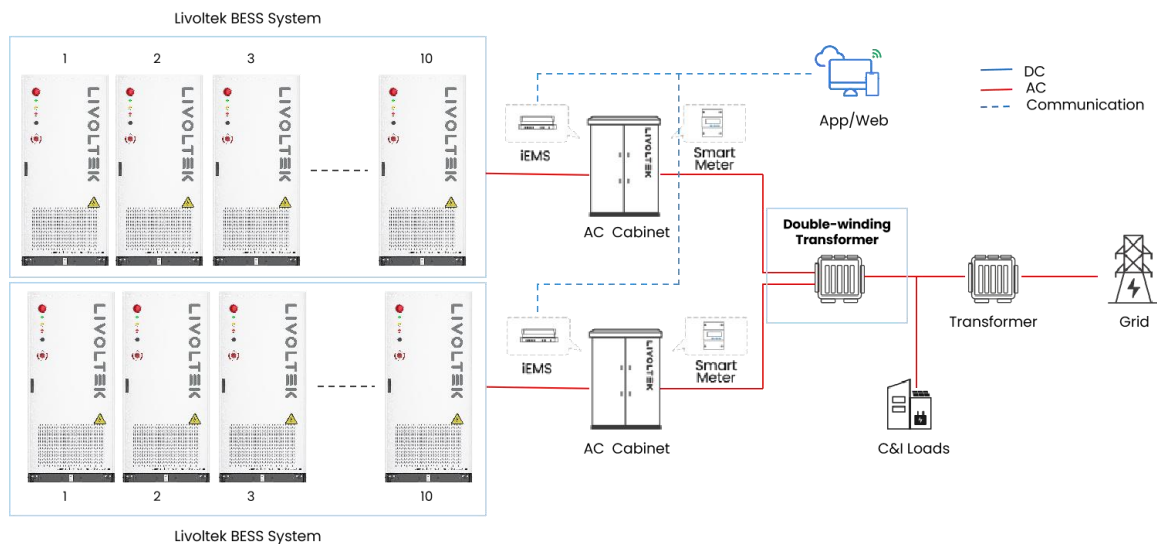
7. PV + BESS + EV Charging Site Layout | Diseño del Sitio PV + BESS + Carga EV



【Figure 7 – Typical Layout for PV + BESS + EV Charging Station】

【Figura 7 – Layout Típico para Estación FV + BESS + Carga EV】

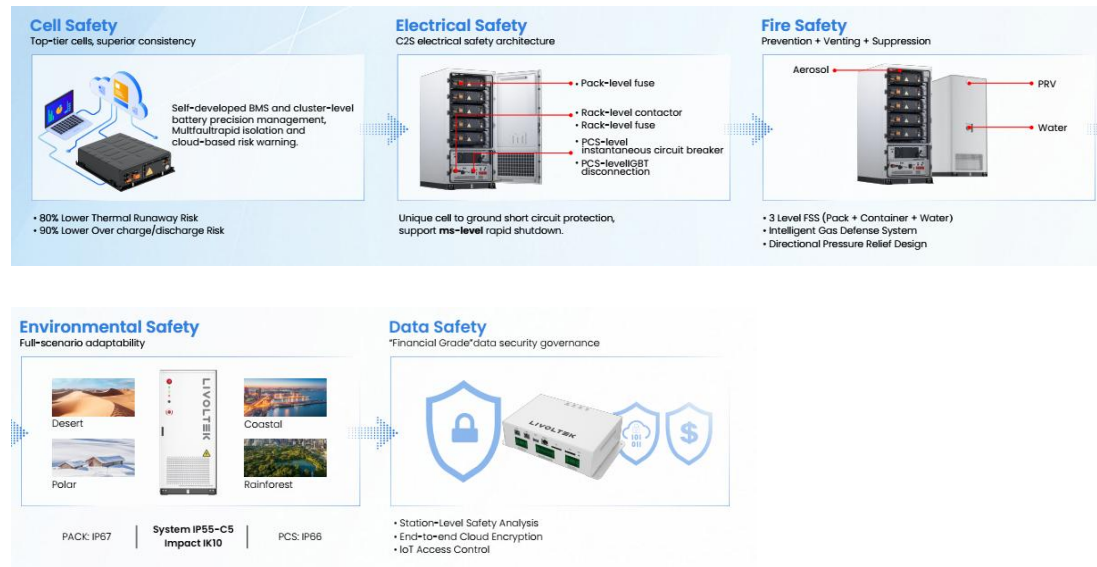
8. Multi-Cabinet Cluster Architecture | Arquitectura de Cluster Multi-Gabinete



【Figure 8 – 1.5 MWh–10 MWh Multi-Cabinet BESS Cluster Layout】

【Figura 8 – Diseño de Cluster BESS Multi-Gabinete (1.5–10 MWh)】

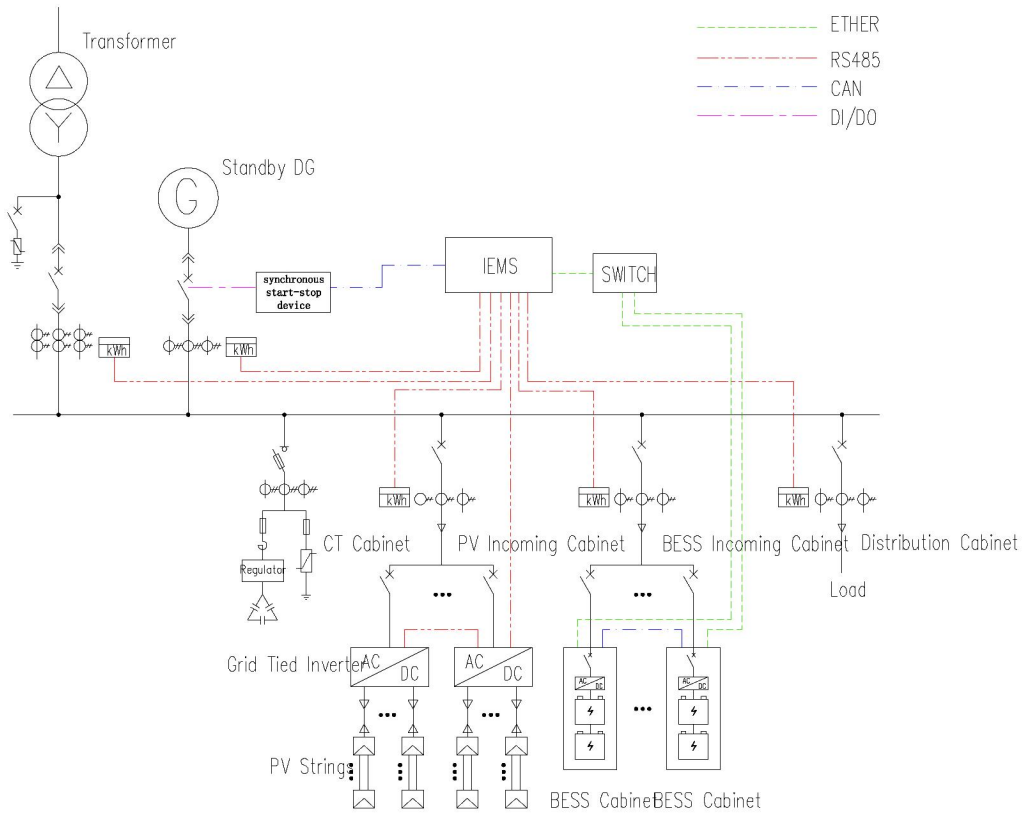
9. Safety System Architecture | Arquitectura del Sistema de Seguridad



【Figure 9 – BESS Multi-Layer Safety Architecture】

【Figura 9 – Arquitectura de Seguridad Multicapa del BESS】

10. Communication & Integration Map | Mapa de Comunicación e Integración



【Figure 10 – Communication Architecture (Modbus/TCP, CAN, Cloud API)】

【Figura 10 – Arquitectura de Comunicación (Modbus/TCP, CAN, API Nube)】