



2. ENGLISH VERSION- TECHNICAL SPECIFICATION

TECHNICAL SPECIFICATION: V-MOD SERIES

High-Performance Modular Power Distribution Systems

1. SCOPE & GENERAL STANDARDS

The V-MOD series modular power panels are designed for industrial applications requiring high reliability, safety, and rapid deployment. All units are manufactured and tested in accordance with international standards to ensure seamless integration into European power grids.

- **Core Standard:** IEC 61439-1 & 2 (Low-voltage switchgear and controlgear assemblies).
- **Compliance:** CE Marked, RoHS Compliant.
- **Design Concept:** Modular "Plug & Play" architecture with withdrawable or fixed-mounted units.

2. ELECTRICAL CHARACTERISTICS

Parameter	Specification
Rated Operational Voltage (Ue)	Up to 690V AC
Rated Insulation Voltage (Ui)	1000V AC
Rated Frequency	50 / 60 Hz
Main Busbar Current Rating	From 630A up to 6300A
Short-Circuit Withstand Strength (Icw)	35kA / 50kA / 100kA (1 sec)
Earthing System	TN-S, TN-C, TT

3. MECHANICAL DESIGN & ENCLOSURE

- **Material:** 2.0mm Pre-galvanized steel frame with Aluzinc coating options.
- **Surface Finish:** Electrostatic epoxy powder coating (Standard: RAL 7035 Grey).
- **Ingress Protection (IP):** * IP31/41 for standard indoor use.
 - IP54/65 for harsh industrial or outdoor environments.
- **Modularity:** Fully scalable grid system (25mm hole pitch) allowing for "L" or "U" shaped configurations to fit confined spaces.
- **Segregation (Form Class):** Internal separation available in **Form 2b, 3b, and 4b** to ensure maximum operator safety during maintenance.

4. OPERATIONAL FEATURES (THE VPOWER ADVANTAGE)

- **Plug & Play Connectivity:** Heavy-duty industrial connectors for power and control signals, reducing on-site wiring time by up to 80%.
- **Hot-Swap Ready:** Ability to replace or upgrade functional modules without a complete system shutdown (applicable for Form 4b).
- **Arc-Flash Protection:** Integrated pressure relief vents and reinforced door locking systems to redirect energy in case of an internal arc fault.

5. SMART MONITORING & CONNECTIVITY (INDUSTRY 4.0)

- **Energy Intelligence:** Multi-function power meters at incoming and critical outgoing feeders.
- **Communication Protocols:** Modbus TCP/IP, Profibus, or SNMP for integration into SCADA and Building Management Systems (BMS).
- **Thermal Monitoring:** Optional wireless temperature sensors on busbar joints for predictive maintenance.

6. ENVIRONMENTAL & SUSTAINABILITY

- **Recyclability:** >95% of materials (Steel, Copper, Aluminum) are fully recyclable.
- **Efficiency:** High-conductivity busbars designed for low heat dissipation and reduced energy loss.