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IP66 OUTDOOR WALL-MOUNT / FLOOR-STANDING / POLE-MOUNT RACK CABINETS

TECHNICAL SPECIFICATION (Applicable to All Manufacturers)

1. SCOPE

- It covers the design, manufacturing, certification, sealing, wall structure, ventilation, cable entry, and installation requirements of wall-mount, floor-standing, and pole-mount rack cabinets suitable for outdoor use with IP66 protection class.

2. DEFINITIONS AND ABBREVIATIONS

- **IP66:** Refers to complete dust protection and powerful water jet protection according to EN 60529 standard.
- **IK10:** Refers to the mechanical impact resistance class according to EN 62262 standard.
- **EPDM:** Ethylene Propylene Diene Monomer gasket material.
- **PU:** Cast polyurethane gasket material.
- **Zamak:** Zinc-based die-cast metal lock material.
- **PG Gland:** Watertight cable entry gland.
- **Gland Plate:** Flat cable entry panel.

3. APPLICABLE STANDARDS

- EN 60529 standard shall be taken as the basis for IP66 protection classification.
- EN 62262 (IK10) standard shall be taken as the basis for mechanical impact resistance.
- IEC 60297 standard shall be taken as the basis for 19-inch dimensional requirements.
- TS EN IEC 61587-1:2022 standard shall be taken as the basis for mechanical structure tests.
- DIN EN 10130 standard shall be taken as the basis for DKP sheet steel.
- TS EN ISO 9227 / ASTM B117 standards shall be taken as the basis for salt spray corrosion tests.
- TS EN ISO 2409 / ASTM D3359 standards shall be taken as the basis for cross-cut tests.
- TS EN ISO 2178 / ASTM B499 standards shall be taken as the basis for coating thickness measurements.
- TS EN 13501-1 standard shall be taken as the basis for fire classification.
- IEC 62208 standard shall be taken as the basis for empty enclosures and CE compliance.
- DIN 7985, DIN 965, DIN 7981, DIN 934, DIN 985, and DIN 933 standards shall be taken as the basis for fasteners.
- DIN 1743 and DIN 53571 standards shall be taken as the basis for lock mechanisms.



4. CERTIFICATION

- The manufacturer shall hold an ISO 9001:2015 certificate.
- An IP66 test report in compliance with EN 60529 standard shall be obtained from an accredited laboratory for the product.
- The product shall have a UL product safety certificate or an equivalent accredited conformity certificate.
- The product shall have a CE certificate of conformity within the scope of IEC 62208.
- The product shall have a RoHS 2 (2011/65/EU) declaration of conformity.
- A corrosion test report showing a minimum 900-hour salt spray test shall be submitted for the product.

5. DIMENSIONS AND CAPACITY

- The cabinets shall comply with IEC 60297 standard.
- Wall-mount and pole-mount models shall be of 6U+6U dual-compartment or 12U single-compartment configuration.
- Floor-standing models shall have 20U, 22U, or 26U capacity options.
- Reference external dimensions shall be approximately 650 mm width, 400 / 450 / 600 mm depth, and 735 mm height.

6. MAIN BODY AND WALL STRUCTURE

- **General Body:** The cabinet shall be fully welded and of monoblock construction; it shall be reinforced by multi-layer bending and shall have a minimum load-bearing capacity of 100 kg.
- **Double-Wall Structure:** In wall-mount and pole-mount models, the outer wall shall be manufactured from minimum 1.5 mm galvanized sheet steel, and the inner wall from minimum 1.0 mm galvanized sheet steel. A minimum 10 mm thermal and acoustic insulation material shall be provided between the two walls.
- In floor-standing models, the outer wall shall be manufactured from minimum 3.0 mm galvanized sheet steel, and the inner wall from minimum 2.0 mm galvanized sheet steel. A minimum 10 mm insulation layer shall be provided between the two walls.
- Direct DIN rail and equipment screw fixing shall be possible on the inner wall, and this application shall not impair the IP protection class.

7. FRONT DOOR AND SECONDARY LOCKING SYSTEM

- **Door Structure:** In order to maintain IP66 protection during service when the front door is opened, a second lockable inner door structure shall be provided.
- The front door shall be of full-metal construction and shall have a cast polyurethane or inserted EPDM gasket.
- The front door shall be openable by minimum 135°.
- **Locking System:** It shall be equipped with a minimum 3-point espagnolette rod system.



- The handle lock shall be manufactured from Zamak or equivalent die-cast metal material; it shall comply with WK2 standard and shall be resistant to corrosion and vandalism.

8. CANOPY AND VENTILATION

- **Canopy Structure:** The cabinet canopy shall have a fishback sloped structure and shall prevent rainwater accumulation.
- The canopy shall protect the filtered fan module; it shall be externally accessible, hinged, and screw-openable/closable.
- It shall have a stopper mechanism for safety in windy conditions.
- There shall be a minimum **10 mm** clearance between the fan and the canopy to allow hot air discharge.
- **Ventilation System:** In **6U+6U** cabinets, the upper compartment shall have a **2-fan** unit and thermostat, and the lower compartment shall have a separate **2-fan** unit and thermostat; the system shall operate as two independent zones.
- In **12U** cabinets, a **2-fan** thermostat-controlled fan group shall be provided on the top chassis.
- Fans shall be available with **-48V DC** or **220V AC** supply options.

9. PAINTING AND SURFACE TREATMENT

- The standard cabinet colour shall be RAL 7035 White / Light Grey.
- Corrosion resistance shall be minimum **900 hours**, and this value shall comply with TS EN ISO 9227 / ASTM B117 tests.
- The paint used shall meet TS EN 13501-1 A1 or equivalent flame-retardant requirement.
- Paint surface performance shall comply with TS EN ISO 2409 / ASTM D3359 cross-cut tests.

10. 19-INCH MOUNTING RAILS

- The cabinets shall include **2** front 19-inch mounting rails.
- The rails shall be screen-printed with U markings.
- The rails shall have a minimum thickness of **1.5 mm** and a depth-adjustable structure.

11. CABLE ENTRY SYSTEM

- In wall-mount and floor-standing models, the bottom chassis shall include **2 pcs PG 21**, **1 pc PG 48**, and **2 pcs 28 mm** diameter cable entry points with blind plugs that can be opened and are suitable for glands.
- The product shall include **1** standard Gland Plate, namely a flat cable entry panel.
- This panel shall be field-drillable and usable according to site requirements.
- In pole-mount models, **2 PG16** glanded, pipe-protected, and IP66-compliant cable entries shall be provided from the pole into the cabinet.



12. INSTALLATION OPTIONS

- For wall mounting, wall mounting brackets with a minimum thickness of **4 mm** shall be supplied as standard.
- For pole mounting, an accessory kit suitable for steel or concrete poles with a diameter of **100–150 mm** shall be available and shall not require any additional pole intervention.
- In floor-standing applications, installation on a concrete plinth shall be possible by means of an **H100–200 mm** plinth accessory.

13. CORROSIVE ENVIRONMENT APPLICATION

- An AISI 304 stainless steel construction option shall be available for use in corrosive areas such as ports, metro systems, tunnels, coastal areas close to the sea, or chemical environments.

14. MATERIAL STANDARDS

- DKP sheet steel material shall comply with DIN EN 10130 DC01 standard and RoHS requirements.
- Galvanized sheet steel shall have a minimum thickness of **1.0 mm** on the inner wall and **1.5 mm** on the outer wall, and shall be of painted-over-galvanized construction.
- Powder paint shall meet ISO 9001, ISO 2178, ISO 2813, ISO 6272, ISO 8130 series, and RoHS requirements.
- Fasteners shall comply with DIN 7985, DIN 965, DIN 7981, DIN 934, DIN 985, and DIN 933 standards and RoHS requirements.
- Locks shall comply with DIN 1743 and DIN 53571 standards and shall be manufactured from Zamak or equivalent material.

15. ACCESSORIES

- The fan unit shall be of **2-fan** or **4-fan** ball-bearing type.
- The fan unit shall operate with thermostat control.
- Each fan shall have a maximum noise level of **47 dBA** and a minimum airflow rate of **2.3 m3/min**.
- The fan unit shall comply with CE 2006/42/EC, 2014/35/EU, and 2014/30/EU directives.
- The fan unit shall also comply with EN ISO 12100, EN 55032, EN IEC 62368-1, EN 60204-1, and EN IEC 61000-6-1 / -3 standards.
- An accredited test report shall be submitted for the fan; CE declaration alone shall not be considered sufficient.
- The PDU shall have an aluminium body.
- The PDU shall be **1x16 A** fused, **1U** type, and shall have a minimum of **6** outlets.
- The PDU shall be CE certified.

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