

INSTALLATION AND OPERATING MANUAL

IP66 WALL-MOUNTED DATA RACKS (SDW RANGE)

v1.0



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GENERAL INFORMATION

1. Introduction

IP Enclosures' IP66 Wall-Mounted Data Racks are designed to house sensitive IT, networking, and telecommunications equipment in environments requiring protection against dust, water, and physical impact.

With IP66 ingress protection, IK10 impact resistance, and a robust powder-coated steel construction, these wall-mounted racks are suitable for industrial, utilities, transport, and outdoor communication projects where space-saving secure mounting is required.

This manual provides instructions for correct installation, handling, and maintenance to ensure long-term service life and compliance with international standards.

2. Safety Information

- Only qualified personnel may install or service the rack.
- Comply with relevant electrical, building, and safety codes.
- Isolate all power before installation or service (lock-out/tag-out).
- PPE: gloves, protective footwear, safety glasses.
- Ensure the wall structure is capable of carrying the total load of rack + equipment.
- Do not exceed maximum equipment weight capacity.
- Keep doors closed and locked during handling.
- Never lift or support the rack by doors, hinges, or panels.

3. Product Description & Specifications

Typical features:

- Material: 1.5–2.0 mm galvanised steel, powder-coated.
- Ingress Protection: IP66 (when doors closed and sealed).
- Impact Resistance: IK10.
- Door: Lockable front door with viewing option on some models; concealed hinges; bonded to earth.
- Rack Rails: Adjustable 19" vertical rails.
- Seal: Polyurethane or EPDM continuous gasket.
- Finish: Epoxy-polyester powder coating, RAL 7035 (light grey) or custom colours.
- Accessories: Fan/filter kits, gland plates, sunshields, swing frames, shelves.

Standards compliance:

- IEC/EN 60529 (IP rating)
- IEC/EN 62208 (empty enclosures)
- IEC/EN 61439 (assemblies)
- CE, UKCA, RoHS

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4. Handling, Storage & Transport

4.1 Handling

- Keep doors closed/locked.
- For small racks: two-person lift recommended.
- For larger/heavier racks: use mechanical lifting aids.
- Protect finish with padding when strapping.

4.2 Storage

- Store indoors, dry and ventilated.
- Keep raised from floor to prevent condensation damage.
- Do not stack unless packaging allows.

4.3 Transport

- Transport upright, secured with padded straps.
- Prevent movement or tipping.
- Inspect on delivery for coating damage or misalignment.

5. Pre-Installation Checks

- Confirm rack size, RU capacity, and accessories match project specification.
- Inspect for dents, scratches, gasket damage, or door misalignment.
- Check wall construction (concrete, masonry, steel frame) is adequate.
- Verify clearance for door swing and equipment access.
- Confirm cable entry positions and airflow requirements.

6. Installation Instructions

6.1 Prepare Wall Mounting

- Mark fixing holes using rack as a template.
- Drill holes and install heavy-duty anchors rated for full load.

6.2 Mounting the Rack

- Lift rack into place using two people or lifting equipment.
- Secure with anchors, ensuring alignment and level.

6.3 Rack Accessories

- Fit 19" rack rails, trays, and cable management before installing equipment.
- Install heavier equipment lower in the rack for stability.

6.4 Cable Entry & Sealing

- Use gland plates for cable entries.
- Fit correct IP-rated glands and blanking plugs.
- Ensure strain reliefs applied to prevent stress on terminations.

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7. Wiring & Grounding

- Wiring must comply with local regulations.
- Earth-bond doors, mounting plates, and rack rails to the main earth stud.
- Verify earth continuity with test instruments before energising.
- Ensure cables are routed neatly to maintain airflow and access.

8. Environmental & Material Considerations

- Powder-coated galvanised steel is corrosion-resistant but must be maintained.
- For outdoor installations, fit sunshields or rain hoods if required.
- Increase inspection frequency in coastal or chemically aggressive environments.
- Ensure adequate airflow for active equipment; consider fan/filter kits or air-conditioning.

9. Routine Maintenance

Recommended schedule (adapt for conditions):

Items	Action	Interval
Powder-coated surfaces	Inspect for chips/scratches; touch up as required	6–12 months
Door gaskets	Inspect/clean; replace if degraded	6 months
Hinges & locks	Clean and lubricate	6 months
Rack Rails	Check secure fit and bonding	12 months
Cable Entries	Verify seals and glands	6 months
Cooling Accessories	Clean/replace filters; check airflow	3-6 months
Earth Bonding	Confirm continuity	12 months
Interior	Inspect for condensation or dust	6 months

10. Powder-Coating Finish Care

- Wash with warm water and mild detergent.
- Rinse and dry thoroughly.
- Remove corrosive deposits (salt, droppings, chemicals) promptly.
- Avoid abrasives, steel wool, or aggressive solvents.
- Repair coating chips immediately using touch-up paint.

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11. Troubleshooting

Issue	Likely Cause	Remedy
Water ingress	Damaged gasket; cable glands not sealed	Replace gasket; reseal glands
Rack detachment	Wall not strong enough; poor anchors	Reinforce wall or install stronger anchors
Door misalignment	Handling/transport damage	Adjust hinges; check frame
Overheating	Blocked filters or insufficient ventilation	Clean/replace filters; install fan/AC
Lock difficult to operate	Lack of lubrication; dust ingress	Clean and lubricate

12. Disposal & End of Life

- Steel enclosure body recyclable.
- Gaskets and plastics to be disposed of per regulations.
- Packaging materials recyclable where facilities exist.

13. Warranty & Support

- Warranty: 5 years against defects in materials/workmanship.
- Exclusions: improper installation (e.g. inadequate wall fixing), misuse, neglect, or poor maintenance.
- Support: Provide model, RU capacity, photos, and installation details when submitting claims.

14. Commissioning Checklist

- Wall surface level, adequate strength
- Rack securely anchored with heavy-duty fixings
- Doors aligned; locks working correctly
- Gaskets intact and sealing properly
- Rack rails installed, bonded to earth
- Cable entries sealed, glands tight, strain reliefs fitted
- Earth bonding complete; continuity tested
- Powder coat inspected and repaired if required
- Accessories installed correctly (fan kits, trays, sunshields)
- Documentation and maintenance plan handed over