



INSTALLATION AND OPERATING MANUAL

ALUMINIUM FIELD CABINETS (FCA RANGE)

v1.0



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GENERAL INFORMATION

1. Introduction

IP Enclosures' Aluminium Field Cabinets are lightweight, corrosion-resistant outdoor enclosures designed for critical applications where reduced weight, durability, and weather resistance are required. Typical uses include utilities, telecommunications, ITS (Intelligent Transport Systems), renewable energy, and harsh-environment infrastructure projects.

Constructed from marine-grade aluminium and finished with durable powder coating, these cabinets provide high levels of protection against dust, water, UV and physical impact.

This manual provides guidance on safe handling, installation, wiring, and ongoing maintenance to preserve integrity and performance.

2. Safety Information

- Only qualified and trained personnel should install and service these cabinets.
- Follow all applicable electrical, mechanical, and lifting standards.
- Always isolate and lock-out/tag-out power before servicing.
- Wear PPE: gloves, protective footwear, eye protection.
- Anchoring is mandatory: secure the cabinet to a stable base to prevent tipping.
- Use correct lifting gear; avoid chains or sharp straps that may mark aluminium.
- Keep doors locked during movement or transport.
- Do not modify structure without factory approval.

3. Product Description & Specifications

Typical features:

- Material: Marine-grade aluminium sheet (thickness ~2.0 mm) with welded construction.
- Protection: IP55–IP66 ingress protection, IK10 impact resistance.
- Standards: IEC/EN 60529, IEC/EN 62208, IEC/EN 61439, CE/UKCA.
- Doors: Hinged, reinforced, up to 110–135° opening, lockable, M6 earth stud.
- Base/Plinth: Integrated base frame for mounting and cable entry.
- Gasket: EPDM or polyurethane foam, replaceable.
- Finish: Powder-coated exterior for UV and weather resistance (standard RAL 7035, other colours on request).
- Accessories: Sunshields, rain hoods, 19" racks, fans/filters, or air conditioners.

4. Handling, Storage & Transport

4.1 Handling:

- Aluminium is softer than steel. Avoid scratches, dents, and edge damage.
- Use padded slings or forklift with protection.
- Close and lock all doors before lifting.

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4.2 Storage:

- Store indoors or under weatherproof cover.
- Keep off the ground to prevent condensation pooling.
- Avoid contact with wet concrete, galvanised steel, or dissimilar metals that may cause galvanic corrosion.

4.3 Transport

- Transport upright; secure with padded straps.
- Tie down at base and mid-height to prevent tipping.
- Protect powder coat with film or corner protectors.

5. Pre-Installation Checks

- Confirm correct size, accessories, and IP rating for the site.
- Inspect surfaces and seals for transit damage.
- Ensure prepared base/plinth is level and strong.
- Verify clearance for door swing, cable entry, and any cooling accessories.

6. Installation Instructions

6.1 Position & Level

- Place on prepared base or plinth; check for level.

6.2 Anchoring

- Securely fix to base with rated anchors.
- Use all mounting points in plinth/frame.

6.3 Cable Entries

- Use gland plates; fit appropriate cable glands.
- Seal unused entries.

6.4 Accessories

- Fit racks, plates, sunshields, hoods, or cooling devices as required.

6.5 Seals & Doors

- Check alignment, lock function, gasket compression.

7. Wiring & Grounding

- Install by licensed electricians per codes.
- Route cables via glands with strain relief.
- Connect all metallic parts (doors, racks, mounting plates) to earth stud.
- Test continuity of bonding.

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8. Material Selection & Environmental Considerations

- Aluminium resists corrosion but is prone to galvanic reaction with other metals if exposed to moisture.
- Always isolate aluminium from dissimilar metals with insulating washers or gaskets.
- Powder coating provides UV stability and colour retention; inspect regularly for chips or wear.
- In marine/coastal environments, increase inspection and cleaning intervals.

9. Routine Maintenance

Recommended schedule (adjust for harsh environments):

| Items | Action | Interval |
|-----------------------|--|-------------|
| Powder-coated surface | Inspect for chips, scratches; repair as needed | 6–12 months |
| Doors & locks | Check operation, lubricate lock/hinges | 6 months |
| Seals/gaskets | Clean and inspect; replace if damaged | 6 months |
| Cable glands | Check tightness/sealing | 6 months |
| Earth bonds | Verify continuity | 12 months |
| Interior | Clean dust/debris; check for condensation | 6 months |

10. Aluminium Surface Care

- Clean with mild detergent and water; rinse and dry thoroughly.
- Do not use strong alkalis or acidic cleaners.
- Avoid abrasive pads, steel wool or sharp tools.
- Repair any coating damage promptly with suitable touch-up paint.
- Prevent galvanic corrosion by isolating aluminium from dissimilar metals in wet environments.

11. Troubleshooting

| Issue | Likely Cause | Remedy |
|---------------------|---|--|
| Scratches on finish | Rough handling, contact with sharp edges | Clean and touch up with suitable paint |
| Powder coat peeling | Impact, poor surface protection | Refinish area, inspect adjacent surfaces |
| Water ingress | Seal damage, misaligned door, unsealed entries | Replace seals, realign doors, re-seal glands |
| Corrosion/pitting | Galvanic contact with other metals, salt exposure | Isolate metals, improve cleaning regime |

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12. Disposal & End of Life

- Aluminium is fully recyclable, separate metal and recycle.
- Dispose of seals, gaskets, plastics and accessories per regulations.
- Recycle packaging materials.

13. Warranty & Support

- Warranty: 5 years against defects in materials/workmanship.
- Exclusions: misuse, galvanic corrosion from improper installation, inadequate maintenance, or modifications.
- Support: Provide model, site details, photos of any issues.

14. Commissioning Checklist

- Base/plinth level and adequate
- Cabinet anchored securely
- Cable entries sealed, glands fitted
- Door gasket intact, locks operational
- Earth bonding complete, continuity tested
- Powder coat intact, touch-ups completed
- Accessories installed correctly
- Maintenance schedule provided
- Photos and handover documentation completed