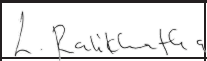


PERFORMANCE SPECIFICATION: OUTDOOR ISOLATORS

Signatures						
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Date	Rev.	Status	Prepared By	Reviewed By	Approved By	Authorised By

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1.0 SCOPE

- 1.1 This specification covers the minimum requirements for the design, supply, installation, testing, and commissioning of outdoor isolators (disconnecting switches) rated for 400V AC, 50/60Hz and below, for use in exposed or semi-exposed locations. These devices are intended for the electrical isolation of circuits for maintenance, safety, or emergency shutdown.
- 1.2 The isolators shall include provisions for manual or motorised operation, enclosure, cabling, and accessories (e.g., auxiliary contacts, indication, padlocking).

2.0 REFERENCES

All materials and manufacturing shall comply with the latest editions of the following standards, codes, and regulations, unless otherwise specified:

General Switchgear & Construction

IEC 60947-1 - Low-voltage switchgear and controlgear - Part 1: General rules

IEC 60947-3 - Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units

Enclosures & Protection

IEC 60529 - Degrees of Protection Provided by Enclosures (IP Code)

IEC 62262 - Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK Code)

Local Regulations

All applicable local building regulations, fire safety codes, and occupational health and safety acts.

3.0 SERVICE CONDITIONS

- 3.1 The equipment shall be capable of withstanding prolonged exposure to the following environmental conditions: high humidity, airborne pollution, high ambient temperature, UV radiation, corrosive atmospheres, wind-blown dust, and rain. Equipment installed shall be suitable for efficient operation under these conditions.

- 3.2 The system shall be non-flame propagating and shall achieve a minimum IP66 degree of protection when installed with all covers correctly fitted. The components shall also comply with IK08 impact resistance, ensuring adequate mechanical protection against accidental impacts during operation and maintenance.

4.0 STANDARD OF EQUIPMENT

- 4.1 The isolator shall be a heavy-duty, off-the-shelf product from a recognized manufacturer specializing in low-voltage distribution equipment. The design shall be based on proven and certified components, ensuring full compliance with all referenced standards. The equipment shall be designed for ease of installation, maintenance, and operation, with all controls, indicators, and terminals readily accessible.

5.0 MATERIALS AND FINISHES

- 5.1 Enclosures shall be constructed of 316-grade stainless steel or UV-stabilized polycarbonate.
- 5.2 All ferrous metal fixings, including hinges and bolts, shall be manufactured from 316 stainless steel.
- 5.3 All gaskets shall be made of EPDM or an equivalent ozone and UV-resistant elastomer. They shall be continuously seated to maintain sealing integrity over the product's designed lifetime.

6.0 SYSTEM DESCRIPTION

- 6.1 The system shall consist of a manually operated, rotary-handle isolator housed in a robust outdoor enclosure. Each isolator shall provide positive mechanical isolation in the OFF position, with a clear ON/OFF indication on the handle. Where fitted, an integral LED indicator shall provide visible confirmation of circuit energisation. The design shall allow for padlocking in both the open (isolated) and closed (on) positions. Cable entry shall be via knock-outs suitable for standard cable glands.

7.0 FUNCTIONAL AND PERFORMANCE REQUIREMENTS

- 7.1 The isolator shall have a minimum Rated Insulation Voltage (U_i) of 690 V and a minimum Rated Impulse Withstand Voltage (U_{imp}) of 6 kV. Its Rated Operational

Voltage (U_e) shall be 400 V AC, and the Rated Operational Current (I_e) shall be as specified in the project drawings (e.g., 63A, 125A, 250A, 400A). The Utilization Category shall be AC-23A, suitable for the occasional switching of individual motors or other high inductive loads, or as otherwise required for the specific application.

- 7.2 The isolator shall have a rated conditional short-circuit current (I_{cw}) not less than the prospective short-circuit current at its point of installation.
- 7.3 The enclosure shall provide a minimum degree of protection of IP66 against dust and water jets and a minimum impact protection rating of IK08.
- 7.4 The operating mechanism shall include a positive over-centre spring or detent mechanism. The maximum force required to operate the handle shall not exceed 220 N. Provisions for padlocking (minimum 2 padlocks) shall be available in both the "ON" and "OFF" positions.
- 7.5 The isolator shall be capable of accommodating an auxiliary contact block comprising at least one normally open (NO) and one normally closed (NC) contact, mechanically linked to the main switch mechanism, where indicated on the drawings or schedules. Where specified, a voltage-rated LED indicator shall be provided to display the energised status of the load side of the isolator. The indicator may be integral or panel-mounted on the enclosure face.

8.0 WARRANTY AND DOCUMENTATION

- 8.1 All products supplied under this specification shall carry a minimum warranty period of 12 months from the date of practical completion. The warranty shall cover defects in material, workmanship, or performance under normal service conditions.
- 8.2 The Contractor shall submit comprehensive product datasheets and operation and maintenance manuals as part of the project handover documentation. These documents shall include details on installation methods, cleaning instructions, spare parts availability, and manufacturer contact details.
- 8.3 The manufacturer shall provide continued technical support for the duration of the warranty period and shall ensure the availability of compatible replacement components for a minimum of five years after project completion.

9.0 QUALITY ASSURANCE

- 9.1 All components of the power skirting system shall be manufactured in facilities certified under ISO 9001 quality management systems. Products shall be tested in accordance with the relevant IEC and EN standards.
- 9.2 The Contractor shall submit representative samples for inspection and approval prior to procurement.
- 9.3 Each isolator shall be accompanied by manufacturer's test certificates confirming compliance.