ELECTRICAL DEFINITIONS

Membrane Switch Technical Parameter Definitions

Public guide to defining and measuring membrane-switch parameters without publishing conflicting legacy values.

Purpose Use consistent terminology and complete test conditions	Value type Minimum, maximum, typical or project-specific
Units Controlled SI units and defined conversions	Authority Approved project specification and test method

Legacy numeric tables were retired because values and units conflicted. This reference defines the fields that a controlled specification must contain.

1. Electrical Parameters

Parameter	Definition requirements
Rated load	Voltage, current, switching type, simultaneity and derating
Contact resistance	Contact element, applied force, circuit and threshold
Loop resistance	Exact measurement points including conductors and termination
Insulation resistance	Test voltage, dwell, environment and minimum result
Dielectric withstand	Applied voltage, duration, leakage and breakdown criteria
Contact bounce	Test circuit, threshold, load and timing convention

MECHANICAL AND ENVIRONMENTAL

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2. Mechanical Parameters

Parameter	Definition requirements
Actuation force	Probe, speed, press location, support and value type
Travel	Reference surfaces, contact point and over-travel convention
Tactile response	Peak, post-snap, return and complete force curve
Dimensional tolerance	Feature, datum, process, size range and inspection method
Adhesion	Materials, preparation, dwell, peel direction and test condition
Life	Load, rate, environment, sample construction and failure criteria

3. Environmental Parameters

Parameter	Definition requirements
Operating temperature	Functional condition, dwell and acceptance criteria
Storage temperature	Packaging, dwell, recovery and post-test evaluation
Humidity	Temperature, relative humidity, duration and condensation condition
Chemical exposure	Agent, concentration, contact method, duration and evaluation
Sealing	Complete assembly, ingress path, test method and rating basis

TEST AND PUBLICATION RULES

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4. Complete Test Statement

Required field	Example of information type
Characteristic	What is measured and where
Value type	Minimum, maximum, typical or project-specific
Condition	Load, voltage, temperature, humidity, fixture and sample state
Method	Controlled procedure or named standard where applicable
Acceptance	Pass/fail threshold and failure definition
Evidence	Report, sample construction, date and responsible owner

5. Publication Rules

- Release no value without its definition and test condition.
- Do not combine limits from different constructions into one generic claim.
- Do not convert internal process settings into customer product specifications.
- Retire duplicate parameter tables after valid fields are merged into the master specification.

A complete, traceable test statement is required before a numeric claim is released.