

ISO 1509:2024-04 (E)

General purpose push-pull three-pole circuit-breakers for aircraft - Performance requirements

Contents		Page
Foreword.....		v
Introduction.....		vi
1 Scope.....		1
2 Normative references.....		1
3 Terms and definitions.....		1
4 Design requirements.....		1
4.1 Ambient temperature and altitudes.....		1
4.2 Operation and instructions.....		2
4.3 Fixing type.....		2
4.4 Trip-free function.....		2
4.5 Working characteristics.....		2
4.6 Re-close.....		2
5 Dimensions.....		2
6 Construction.....		2
6.1 Push-button.....		2
6.2 Operation forces.....		2
6.3 Surface treatment.....		2
6.4 Rating inviolability.....		2
6.5 Electrical connections.....		3
6.6 Fasteners.....		3
7 Voltage and current ratings.....		3
7.1 Voltage.....		3
7.2 Current ratings.....		3
8 Environment.....		3
9 Time/current characteristics.....		3
10 Making and breaking capacity.....		4
11 Endurance.....		4
12 Tests.....		4
12.1 General.....		4
12.2 Requirements.....		4
12.3 Test conditions.....		5
13 Type tests.....		5
13.1 General.....		5
13.2 Requirements.....		5
13.3 Vibration test.....		5
13.4 Acceleration and mechanical shocks tests.....		5
13.4.1 Acceleration test.....		5
13.4.2 Mechanical shocks test.....		6
13.5 Climatic test.....		6
13.6 High voltage and insulation tests.....		6
13.6.1 High voltage test.....		6
13.6.2 Insulation resistance tests.....		6
13.7 Test of explosion-proofness.....		6

13.8	Measurement of magnetic influence.....	7
13.9	Tests of temperature rise and minimum and maximum limit of ultimate trip current.....	7
13.10	Operating forces test.....	7
13.11	Mechanical strength tests.....	7
	13.11.1 Strength of terminations.....	7
	13.11.2 Strength of push-button.....	7
	13.11.3 Strength of panel mounting bush.....	8
	13.11.4 Tests.....	8
13.12	Test of calibration of overload trip.....	8
	13.12.1 General.....	8
	13.12.2 Additional requirements.....	8
13.13	Overload and re-closure test.....	8
	13.13.1 General.....	8
	13.13.2 Requirement.....	8
	13.13.3 Tests.....	9
13.14	Endurance tests.....	9
	13.14.1 General.....	9
	13.14.2 Test conditions.....	9
	13.14.3 Requirements.....	9
	13.14.4 Tests.....	10
13.15	Making and breaking capacity tests.....	10
	13.15.1 General.....	10
	13.15.2 Test conditions.....	11
	13.15.3 Tests.....	11
13.16	Test of self re-closing at low temperature.....	12
14	Production tests.....	12
14.1	Calibration tests.....	12
	14.1.1 General.....	12
	14.1.2 Voltage drop tests.....	12
	14.1.3 Time/current characteristics tests.....	12
	14.1.4 Tests.....	12
	14.1.5 Holding current test.....	12
	14.1.6 Tests.....	12
14.2	High voltage and insulation tests.....	12
15	Quality tests.....	12
15.1	Selection of samples.....	12
15.2	Tests of minimum and maximum limit of ultimate trip current.....	13
15.3	Operating force test.....	13
15.4	Test of calibration of overload trip.....	13
15.5	Vibration test.....	13
15.6	Strip examination and report.....	13
16	Declarations.....	13
17	Marking.....	13
17.1	General.....	13
17.2	Rated current marking.....	14