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