DIN EN 15220:2016-12 (E)

Railway applications - Brake indicators

Contents

Page

European foreword 4

1 Scope 5

2 Normative references 5

3 Terms and definitions 5

4 Symbols and abbreviations 7

5 Requirements 8
5.1 Design and manufacturing 8
5.2 Operating conditions 8
5.2.1 General conditions 8
5.2.2 Specific requirements for pneumatic brake indicators 9
5.2.3 Specific requirements for electrical brake indicators 9
5.3 Functional characteristics 10
5.3.1 Application/release status (pneumatic brake indicator) 10
5.3.2 Lubrication (pneumatic brake indicator) 10
5.3.3 Leakage (pneumatic brake indicator) 10
5.3.4 Electrical characteristics 10
5.4 Design requirements 10
5.4.1 External appearance 10
5.4.2 Fire/smoke behaviour 10
5.4.3 Connections 10
5.4.4 Electric contacts and operating voltage (pneumatic brake indicator) 10
5.4.5 Space envelope (pneumatic brake indicator) 11
5.4.6 Indicator window 11
5.4.7 Brake indicator weight 11

6 Type test methods 11
6.1 Sampling for type test 11
6.2 Test requirements 11
6.3 Test procedure for pneumatic indicators 11
6.3.1 Principle 11
6.3.2 Check of physical and geometrical characteristics 12
6.3.3 Hydraulic test (water pressure) at given pressure 12
6.3.4 Protection against ingress of dust and water 13
6.3.5 Insulation test (pneumatic brake indicators with switches only) 13
6.3.6 Dielectric strength (pneumatic brake indicators with switches only) 14
6.3.7 Tightness test 14
6.3.8 Application/release status control 16
6.3.9 Vibration test 18
6.3.10 Resistance to shock test 18
6.3.11 Endurance at ambient temperature test 18
6.3.12 Corrosion test 19
6.3.13 Fire/smoke behaviour 19
6.3.14 Examination 20
6.4 Test procedure for electrical indicators 20
6.4.1 General 20
6.4.2 Dust test for electrical brake indicators 20

6.4.3 Water test for electrical brake indicators 20
6.4.4 Vibration and shock test 20
6.4.5 Fire/smoke behaviour 21

7 In Service assessment 21
7.1 General 21
7.2 Service trial 21
7.3 Sample 21
7.4 Previous tests (before start of the service trial) 21
7.5 Intermediate test 21
7.6 Final tests 21

8 Routine tests 21

9 Designation 22

10 Marking 22

Annex A (informative) Brake indicator and parking brake indicator pneumatically operated overall dimensions 23

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2008/57/EC 28