

Contents

Page

European foreword.....	4
Introduction.....	5
1 Scope.....	6
2 Normative references.....	6
3 Terms, definitions and abbreviations	7
3.1 Terms and definitions	7
3.2 Abbreviations	9
4 Functional requirements	9
4.1 PS configurations.....	9
4.2 General requirements	10
4.3 Monitoring of PS.....	13
4.4 APS capability	17
4.5 Recharging for PS Type A	17
4.6 Over-voltage protection.....	18
4.7 Short circuit protection.....	18
4.8 Overload protection	18
4.9 Deep discharge protection	18
4.10 Ripple	18
4.11 Tamper security.....	18
4.12 Environmental	21
4.13 Safety.....	22
4.14 EMC susceptibility	22
4.15 Electrical	22
5 Marking.....	23
6 Documentation	23
7 Tests	24
7.1 General	24
7.2 General test conditions	25
7.3 Reduced functional test	26
7.4 Monitoring: Loss of EPS	26
7.5 Monitoring: Storage Device Low Residual Energy	27
7.6 Monitoring: Storage Device Failure.....	30
7.7 Monitoring: Low Output Voltage	30
7.8 Monitoring: Power Unit Failure – Loss of PU Power Output	31

7.9 Monitoring: Power Unit Failure – Loss of SD Recharge32

7.10 Test on demand32

7.11 APS Capability33

7.12 Recharging for PS Type A34

7.13 Over voltage protection35

7.14 Short Circuit Protection36

7.15 Overload Protection37

7.16 Deep Discharge Protection38

7.17 Tamper security - Protection39

7.18 Tamper Detection – Access to inside of the housing39

7.19 Tamper detection – Removal from mounting.....40

7.20 Tamper detection – Penetration of the housing41

7.21 Environmental and EMC42

7.22 PS Rating42

7.23 Output voltage stability - Gradual load variation45

7.24 Output Voltage Stability – Switched Load Variation46

7.25 Marking and Documentation47

Annex A (informative) Determination of Storage Device failure48

Annex B (normative) Measurement of ripple voltage49

B.1 General49

B.2 Principle49

B.3 Test conditions49

B.4 Measurement49

B.5 Pass/Fail Criteria49

Annex C (normative) Measurement of transients50

C.1 General50

C.2 Principle50

C.3 Test conditions50

C.4 Measurement50

C.5 Pass/Fail Criteria50

Annex D (informative) Test on Demand signal or message timing and usage protocol51

Annex E (informative) Cross-reference between requirements and corresponding tests.....52