

2.5 Limited power sources

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NAE**

A limited power source shall comply with one of the following, a), b, c) or d):

- a) the output is inherently limited in compliance with Table 2B; or
- b) a linear or non-linear impedance limits the output in compliance with Table 2B. If a positive temperature coefficient device is used, it shall pass the tests specified in IEC 60730-1, Clauses 15, 17, J.15 and J.17; or
- c) a regulating network limits the output in compliance with Table 2B, both with and without a simulated single fault (see 1.4.14) in the regulating network (open circuit or short-circuit); or
- d) an overcurrent protective device is used and the output is limited in compliance with Table 2C.

Where an overcurrent protective device is used, it shall be a fuse or a non-adjustable, non-autoreset, electromechanical device.

A limited power source operated from an AC MAINS SUPPLY, or a battery-operated limited power source that is recharged from an AC MAINS SUPPLY while supplying the load, shall incorporate an isolating transformer.

Compliance is checked by inspection and measurement and, where appropriate, by examination of the manufacturer's data for batteries. Batteries shall be fully charged when conducting the measurements for U_{oc} and I_{sc} according to Tables 2B and 2C.

The non-capacitive load referred to in Tables 2B and 2C is adjusted to give the maximum measured value of I_{sc} or S.

Simulated faults in a regulating network, required according to item c) above, are applied under the above maximum measured values of I_{sc} or S.

Table 2B – Limits for power sources without an overcurrent protective device

Output voltage ^a (U_{oc})		Output current ^{b d} (I_{sc})	Apparent power ^{c d} (S)
V a.c.	V d.c.	A	VA
≤ 30	≤ 30	≤ 8,0	≤ 100
–	30 < U_{oc} ≤ 60	≤ 150/ U_{oc}	≤ 100

^a U_{oc} : Output voltage measured in accordance with 1.4.5 with all load circuits disconnected. Voltages are for substantially sinusoidal a.c. and ripple free d.c. For non-sinusoidal a.c. and d.c. with ripple greater than 10 % of the peak, the peak voltage shall not exceed 42,4 V.

^b I_{sc} : Maximum output current with any non-capacitive load, including a short-circuit.

^c S (VA): Maximum output VA with any non-capacitive load.

^d Measurement of I_{sc} and S are made 5 s after application of the load if protection is by an electronic circuit or a positive temperature coefficient device, and 60 s in other cases.