

EN1434-4

Annex A (normative)

External Power Supply for heat meters or their sub-assemblies

A.1 Introduction

This annex deals with type approval procedures for the powering of heat meters or their sub-assemblies by external supply other than mains

A.2 Types of power supply

A.2.1 Remote supply

Heat meters powered by a remote supply other than mains or the supply current may be provided via a communication interface.

The cable length of such a remote supply may be several 100 m and is usually limited only by the acceptable voltage drop.

A.2.2 Local external supply

Many heat meters today consist of more than one sub-assembly that require an (external) power supply. In order to optimise the installation one sub-assembly may provide the power supply for other components.

Examples

- Calculator that also powers a small electronically sensed wing wheel meter
- Static flow sensor that also powers a calculator

Here this paper covers the situation, where type approved sub-assemblies are powered either by a common external power supply, by the heat meter or by another sub-assembly.

A.3 Additional information for type approval

A.3.1) Low voltage AC or DC supply

Such a supply shall be treated like a mains supply except that the mains frequency limits and test do not apply for a DC supply.

The static deviations in supply voltage of EN1434 part 4 §6.7 shall be replaced by the following limits:

Nominal voltage	Lower limit	Upper limit
24 V DC	12 V	42 V
24 V AC	+ 50 %	- 50 %
6 V DC	5,4 V	6,6 V
3,6 V DC	3,2 V	3,8 V
3 V DC	2,7 V	3,3 V
M-bus	42 V ??	11,3 V ???

A.3.2) DC-Remote supply with integrated data communication

Such interfaces must simultaneously meet all requirements for remote power supply (AC or DC) and for communication. During any communication all power supply limits must be met.

A.3.3) Meters with automatic switchover to internal battery power

These meters must meet all requirements for battery powered meters, if their external power supply voltage is outside acceptable limits for periods longer than acceptable. The supplier specifies these guaranteed limits. *For testing according to §6.10 the minimum external voltage is defined as 0V./Don't understand the meaning! / Bo Frank* In this case the requirements of EN1434 part 1 §6.4 (Protection against mains interruption) do not apply.

A.3.4) Disturbances

All electrical disturbance tests and the appropriate requirements from part 4, paragraphs 6.10 to 6.15 applies irrespective of the type of supply used. All tests are done with the required type of wiring and a cable length as specified by the supplier and with the tests and parameters appropriate for this cable length.