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<b>EN1434; Part 3 Heat meters/ Future work</b>	<b>Common power supply</b>	1(3)	
Draft specification			
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## Remote Power Supply for heat meters and their subunits

### A) Background:

#### I) Remote supply

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

The requirements and test parameters for these other types of supply are not described in sufficient clarity in the current version of the standard. The cable length of such a remote supply may be several 100m and is usually limited only by the acceptable voltage drop.

#### II) Local remote supply

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

Examples

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

Here this draft paper covers the situation, where type approved subassemblies are powered either by a common external power supply, by the heat meter or by another subunit.

### B) Requirements Remote Supply

#### I) Specification for unit delivering the power

##### 1.) Voltage (DC or AC)

Recommended nominal levels	24 Volts
Tolerance DC:	18V..41V



## C) Requirements local external supply

### I) Specification for unit delivering the power

#### 1.) Voltage DC

Recommended nominal levels 6V, 3.6V, 3V

#### 2.) Other Data

Nominal voltage	6V	3.6V	3V
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Max.avg. current	100mA	10/20/50/100/200uA
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Tolerance

@ avg.current	5.4-6.6 V	3.4-3.8V	2.8-3.3V
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Peak current	100mA	10mA	5mA
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Min.voltage

@ peak current	5.4V	3.2V	2.7V
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#### 3.) Cabling requirements

Max. cable length: To be specified by manufacturer: <1m or <10m

As the EMC-testing at type approvals differs for different cable lengths, the maximal cable length must be specified and taken into account at the type approval.

Shielded cable	a possible requirement to be specified by manufacturer
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Twisted cable	a possible requirement to be specified by manufacturer
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### II) Specification for unit utilizing the power

#### 1.) Voltage

Recommended nominal levels: 6V, 3.6V, 3V

#### 2.) Other data

See specifications for delivering unit.

## **D) Common Requirements for type approval**

### **1.) Mains power supply**

See requirements of EN1434

### **2.) 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. Note that the requirements on acceptable static deviation in supply voltage of EN1434 part 4 §5.7 are replaced by the requirements stated in this section.

### **3.) 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.

### **4.) 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 manufacturer specifies these guaranteed limits. For testing according to §5.10 the minimum external voltage is defined as 0V. In this case the requirements of EN1434 part 1 6.4 (Protection against mains interruption) do not apply.

### **5.) Disturbances**

All electrical disturbance tests and the appropriate requirements are defined in EN1434 part 4, paragraphs 5.10 to 5.15. They are valid 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 manufacturer and with the tests and parameters appropriate for this cable length.

### **6.) Installation**

Note that according to EN1434 part 6 §3.2 all signal lines must be separated from power lines by a distance of at least 50mm. The same requirement shall be met for all remote power lines (except mains power lines).