

# SEM-10-SER-J

## SparOmeter with data port

## Operating instructions

www.duelco.dk

### Safety notice

Your SparOmeter should only be used to meter electricity. The approved parameters for use are described on the type approval sticker affixed to the back of the appliance.

The SparOmeter unit should be protected from damp, dirt and damage when it is being stored, transported or operated. The unit must not be used for purposes not covered by the technical specifications.

Your SparOmeter can be cleaned with a dry or slightly damp soapy cloth. Under no circumstances should acid-based or caustic cleaning materials be used.

The SparOmeter requires no maintenance. In the event of damage (e.g. while being transported, stored or operated) users must not attempt to make any repairs to the unit.

**The unit is covered by a 2-year guarantee in Denmark. Guarantee void if cover opened.**

### Technical data

Type:	SEM-10-SER-J
Voltage:	230V 50Hz +/-
Max. load:	3600 W
Class:	2
Meter range:	0.2 – 2600 W
Power consump-	0.9 W
Temperature	+10°C – +45°C

Technical specifications subject to alteration without notice



### SparOmeter functions

SparOmeter is a metering device that meters the cost of electricity and electricity consumption of stand-alone electrical appliances in your household. This applies to equipment whether it is 'On' or in 'Standby' mode (your TV for example).

The SparOmeter allows you to meter your electrical consumption in intervals over a longer period of time, and to transfer information to your computer.

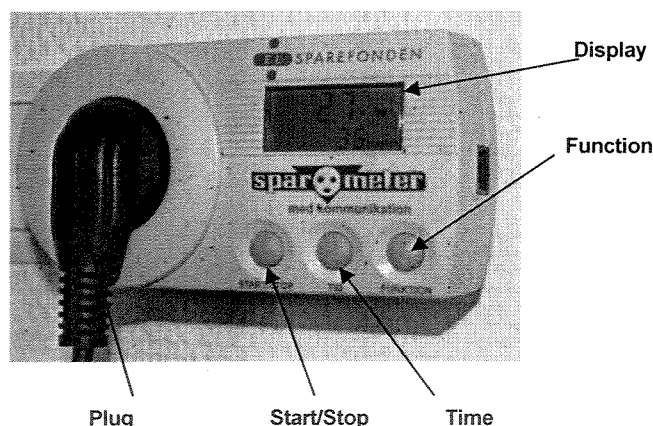
See 'How to install the metering intervals' if you want to receive readings in intervals.

See 'How to transfer your readings from the SparOmeter to your computer' if you want to save the metered data on your computer.

You can download the following values:

	Example
Electricity used in kilowatt-hours (kWh)	8.850 kWh
Electricity costs (costs – e.g. in DKK)	1.770 (DKK)
Minimum use in watts (W)	236.7 W
Maximum use in watts (W)	457.6 W
Actual current in amps (A)	1.603 A
Actual voltage (V)	230 V
Actual output in watts (W)	368.7 W

### This is how your SparOmeter looks



### How to input the price of electricity into your SparOmeter

The electricity price is set at the factory at DKK 1.55. You can begin using your SparOmeter immediately if this is the same as the price from your electricity supply company. Where the price is different, you can input the actual price in the following way:

- 1 Simultaneously press and hold down the **TIME** and **FUNCTION** buttons until 'DKK 1.55 kWh' appears in the display.
- 2 Using the **START/STOP** button you can increase the values of the numbers furthest to the right (2 decimal places). When you press **TIME** a number on the left appears and you can now increase the value of this number, and so on.
- 3 When the required amount appears on the display, you must press the **TIME** and **FUNCTION** button together again until the display reverts back to the original view.

Your pre-programmed electricity price remains stored next time you use the SparOmeter. This also applies even if you unplug the SparOmeter from the mains.

You can change the electricity price at any time.

## How to take a reading with your SparOMeter

- 1 Plug in the SparOMeter (use an extension cable if required).
- 2 Connect the plug to the appliance that you wish the SparOMeter to meter. Metering (24 hours) starts immediately.  
*See 'How to set the metering time' if you want set a different time to 24 hours.*
- 3 The display now shows the actual output in watts and the running cost over one year (if the appliance is operational 24-hours per day).
- 4 By pressing **FUNCTION** you can 'scroll' through the information displayed as follows.

3.456 kWh 1) Electricity used (kWh) for the metered period  
REC 25:35 min sec  
TIME

0.562 2) Costs for the metered period  
REC 25:35 min sec  
TIME

4.6 w 3) Lowest output (Watts) during metering  
Lo

8.1 w 4) Highest output (Watts) during metering  
Hi

0.056 A 5) Metered appliance consumption in Amps (A)

231 v 6) Actual voltage (Volt)

5.6 w 7) Actual output (Watt) and price per year  
25 cost/yr

- 5 When electricity used for the actual metered period is shown you can switch between information displayed by pressing **TIME** as follows:

- 1) REC TIME = total elapsed time Since start of metering\*
- 2) ON TIME = total time that appliance has used electricity\*\* since start of metering
- 3) Actual time

- 6 Metering ceases after 24 hours. You can still switch between the different readings, described in headings 4 and 5.

- 7 To reset the display after 24 hours, you need to hold in **START/STOP** for a couple of seconds.

\*) Time shown in minutes/seconds, then in hours/minutes and lastly in days/hours.

\*\*) REC TIME and ON TIME will only be different for metering appliances that switch on and off automatically – e.g. a fridge or iron.

You are now ready to take a new reading.

## How to set the metering period

SparOmeter is automatically set by the factory to meter over a 24-hour period. However it can also be set up to meter for periods of 7 or 30 days – or whatever period you choose. For appliances with irregular activation cycles, an increased metering period increases the accuracy of the calculation of the annual costs (e.g. fridge or TV).

- 1 Press the **START/STOP** and **TIME** simultaneously until '1 d' (d=day) shows in the display.
- 2 Using the **START/STOP** button you can choose between 1, 7 30 or 0 days.  
  
Set up metering period for one day  
(1 d = 1 day)  
  
Set up metering period for one week  
(7 d = 7 days)  
  
Set up metering period for one month  
(30 d = 30 days)  
  
Set up of user defined metering period (0 d = by pressing **START/STOP** to pressing **START/STOP** again)  
  
*If you set the metering period to '0 days', you can choose the exact metering period you require. You can start metering by pressing **START/STOP**. Metering stops when you press **START/STOP** again.*
- 3 Once you have selected the required metering period you must press **START/STOP** and **TIME** together for a few seconds.

## How to set the metering intervals

SparOmeter has an internal memory that can store up to 16,000 readings. Storage of meter readings stops when the memory is full. For readings over long periods it is therefore a good idea to take readings in intervals.

- 1 You can recall menus for setting up metering intervals by pressing **START/STOP** and **FUNCTION** simultaneously.
- 2 You can choose metering intervals by pressing **START/STOP**. You can choose between 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 and 60 minute intervals.

Increasing the number of readings results in a more accurate calculation of the annual costs.

## How to transfer SparOmeter readings to your computer

You can download more detailed data from the SparOmeter – e.g. for use by a spreadsheet.

If you want to download stored data from the SparOmeter you can go to [www.sparel.dk/sparometer](http://www.sparel.dk/sparometer) where you can download the software required together with operating instructions.

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