VisiKid

Fachhochschule Münster University of Applied Sciences

IKS Photovoltaik

Child oriented readout system for visualization of energy yields from photovoltaic plants

Photovoltaic plants as shining examples on the roofs of kindergartens and schools

The possibility to convert sunlight with solar cells directly into electric power, makes the photovoltaic to one of the popular renewable energies.
It is for this reason that photovoltaic plants are installed enhanced on kindergartens and schools.
Apart from the aspirated example function the kids should be most familiarized with renewable energies.

Visualization not child oriented so far

For the visualization of the energy yields of photovoltaic plants typically the “standard solution” is used: A large sized digital display to show the actual power and the total electric power fed to the mains.
It has turned out however that most of the kids quickly loose interest in the display also because it is not really plain.

New concept of a visualization

That is why the University of Applied sciences Münster has greated a new concept of visualization within the scope of a disatation.
The preproduction model was developed by the company IKS Photovoltaik as a licence partner.

The actual electric power is displayed analoguely by means of 24 symbolic incandescent lamps (inside LED), because kids know electricity above all from incandescent lamps in everyday life.
The higher the actual output of the photovoltaic plant is the more lamps are in operation.

The monthly fed in energy is displayed analoguely by red balls, which were transported by the sun wheel into the catch tank. The number of balls transported depends on the energy fed into the mains. At the end of the month the balls are filled back into the above storage tank and the digital display for the monthly energy yield is set to zero.

Digital displays for the actual power, the monthly and the total energy yield are there additionally.

The system is preferably for wallmounting in public areas of entryways.

Awarded with the „Special prize for the most interesting exhibit“ by the conference jury of the 20th symposium of photovoltaic solarenergy 2005 in Staffelstein / Germany.

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Technical specifications:

- Dimensions: 1036 x 836 x 146 mm
- Weight: 12 kg
- Power supply 230 V / 50 Hz / 12 V DC
- Digitale LCD display
  -Actual power
  -Monthly energy yield (with reset function)
  -Total energy yield
- Analogue display of the actual power by 24 symbolic “incandescent lamps” (LED inside)
- Analogue display of the monthly energy yield by red balls (360 pieces), which are transported by the sun wheel from the storage tank into the catch tank depending on the energy fed into the mains
- Removable catch tank, secured by lock
- Low power requirement (max. 6.5 W)
- Inputs:
  1x impulse for meter
  For So-interface according to DIN EN 62053-31
  Not suited for meters with impulse packets output
- According to the photovoltaic plant size freely programmable
- Advertising space for label ca. B 280 x H 170 mm
- Only for indoor use

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IKS Photovoltaik

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