

Procurement and shipment Of 33 W Norsol Solar Panel

Oslo, May 1986





AUDIO-LIGHT A.S

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Dato 11.03.86 Vår ref. Deres tilbud Leveringstid Vedlegg

TILBUD SOLCELLEPANELER

Vi takker for Deres forespørsel, og har den glede å kunne oversende følgende tilbud på solcellepaneler i spesialutførelse.

1 - 10	33 W Norsol panel	kr. 2468,-
11 - over	" " " " " " "	kr. 2304,-

Panelene vil bli levert med sandblåst front. Dette er samme utførelse som prøvepanelet.

Netto pr. 30 dager. Fritt levert Oslo

For eventuell støtte til prosjektet hos Norad ber vi Dem kontakte Privorg. kontoret på tlf. 314055. De vil kunne orientere om muligheten for dette.

Vedlagt følger diverse brosjyremateriell.

Vi håper tilbudet er av interesse, og ser fram til å høre fra Dem igjen.

Med vennlig hilsen for
AUDIO-LIGHT AS


.....
Nils Vøllestad

OFFER FOR SOLAR CELLS PANELS

We thank you for your inquiry and have the pleasure to offer you a special version of solar cells panels.

1 - 10	33 W NOR-SOL PANEL	NKR. 2468
11 - over	" " "	NKR. 2304

The panels will be delivered with sand blasted front. This is the same version as the test panel.

Payment within 30 days. Free delivery in Oslo.

For an eventual assistance to the project from NORAD (Department for Dev. Help) please contact Privorg. office on telephone 02-314055. They will inform you if they can support the project. Attached are various brochures.

We hope the offer is of interest to you and look forward to hear from you.

Best regards,

Mils Vællestad

Audio-Light makes the sun work for you

The development of solar energy has made dramatic progress in the recent years. Today solar energy is a realistic alternative in many applications, especially in those climatic regions of the earth that have an abundance of sunlight and where conventional energy either is inaccessible, too expensive or unreliable.

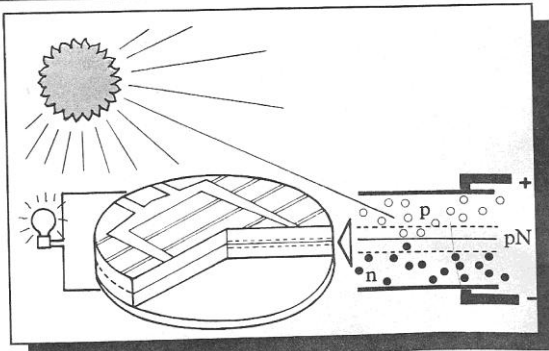
Audio-Light has specialized in solar energy installations for a wide range of applications. Solar cell systems are tailored according to the needs and tasks they are to fulfil. Audio-Light can offer complete systems of illumination and lighting, cooling and freezing, water pumping and water cleaning and solar as a general energy source. The systems are easy to install, require little maintenance, and are very dependable.

With a working life of minimum 20 years, an investment in solar installations will prove to be very cost effective.

If you have any energy problems, please don't hesitate to call us. Our engineers would be happy to make solar work for you.

WHAT IS SOLAR ENERGY?

Solar cells are made from silicon wafers with a thickness of 0,4 mm, and a diameter of from 75 to 100 mm. The upper part of the cell is positive (p), while the lower part is negative (n). When the light reaches the junction in the solar cell (pn), negative charges are being freed, and move towards the positive part of the cells. This movement of electrons produces electric current, which can be utilized when both parts of the cell is connected to an electric circuit.



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CHOOSE BETWEEN THREE PANEL SIZES.

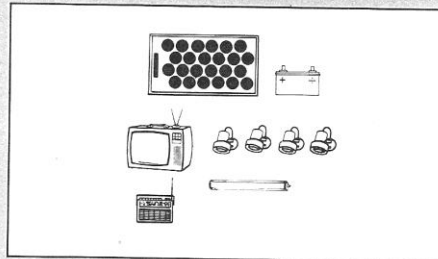
Below you will find three examples of solar cell installations and attached equipment. It should be noted that this is very approximate. It may differ widely, depending on where the installa-

tion is to be used, who is using it and for what it is being used. In addition, the range of equipment is very large. The examples, therefore can only show one of several possible combinations.

We have three different panel sizes, which can be put together in any number to cover your specific need.

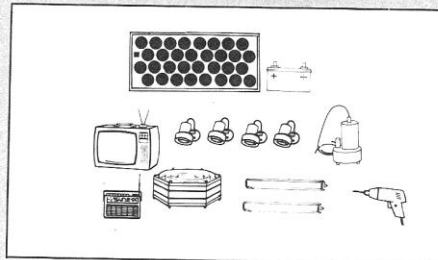
19 watt panel and one 70 Ah battery.

Solar system for cabin, boat or caravan, used for a short period of time during holidays and weekends in the summer time. For this system we recommend a black and white TV, if any. A colour TV will consume 3 to 4 times the energy, and thus draining the batteries considerably faster.



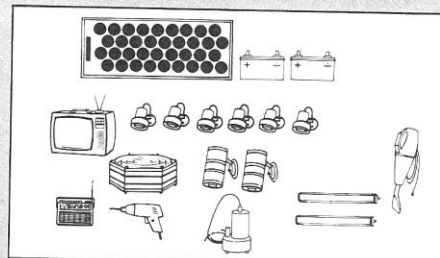
33 watt panel and one 105 Ah battery.

Solar system for cabin, boat or caravan, being used more extensively during the summer holidays and several weekends throughout the year.



66 watt panel and two 105 Ah batteries.

Solar system for cabin or house, being used more or less constantly, all year round. NOTE: YOU MAY CONNECT AS MANY ITEMS AS YOU WISH TO THE SYSTEM, BUT THE SIZE OF THE PANEL AND BATTERIES, AND OF COURSE THE SOLAR INTENSITY AT YOUR LOCATION, WILL DETERMINE HOW MUCH YOU CAN USE THEM.



YOU CAN EASILY INSTALL THE SOLAR SYSTEM YOURSELF.

We have delivered more than 10,000 solar systems for cabins, boats and caravans, which all have been installed by the customer himself.

Detailed step by step instructions are enclosed with every

system. There are no regulations or official restrictions in most countries, regarding either installations or use of solar systems, because of the low voltage which is totally unharmed. If you have any problems or questions in

connexion with your installation, please contact us or one of our dealers, and we'll be happy to try to make the sun work for you.

WHERE SHOULD THE PANEL BE MOUNTED?

CHOOSE THE MOST SUNNY PLACE.

A solar cell panel should always be mounted on the sunniest place available. In the northern hemisphere it should be directed due south, and tilted a number of degrees from the horizontal plane, corresponding to the longitude of the location.

SHADOW REDUCES THE EFFECT.

It is important that no part of the panel is shaded. If only one of the cells is in the shadow, the effect will be reduced as if the WHOLE panel was in the shadow, because of the serial connexion of the cells. Like a chain, the weakest link decides the total strength.

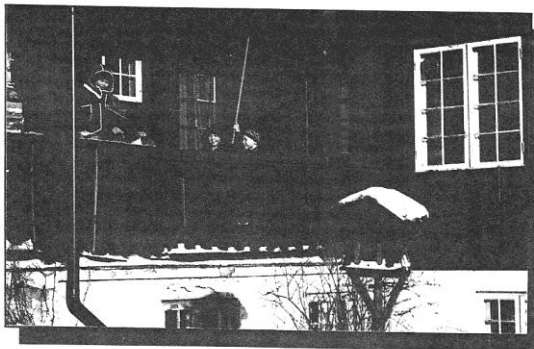
It is therefore important to be aware of shadows caused by roof, snowdrifts, trees and so forth. You should also remember that it could be a great difference in

the altitude of the sun between summer and winter, so that the shadows will be different according to seasons.

The cable from the panel should not exceed 30 meters. Also, the cable should be protected against wear and tear from snow, ice, animals and

wind vibrations.

When mounting in a tree or a pole, the panel should be firmly attached to a solid waterproof plate at least 24 mm (1 inch) thick. (e.g. plywood).



Please contact us, and we'll be happy to try to make the sun work for you.