THEORY | IMPLEMENTATION | TROUBLESHOOTING

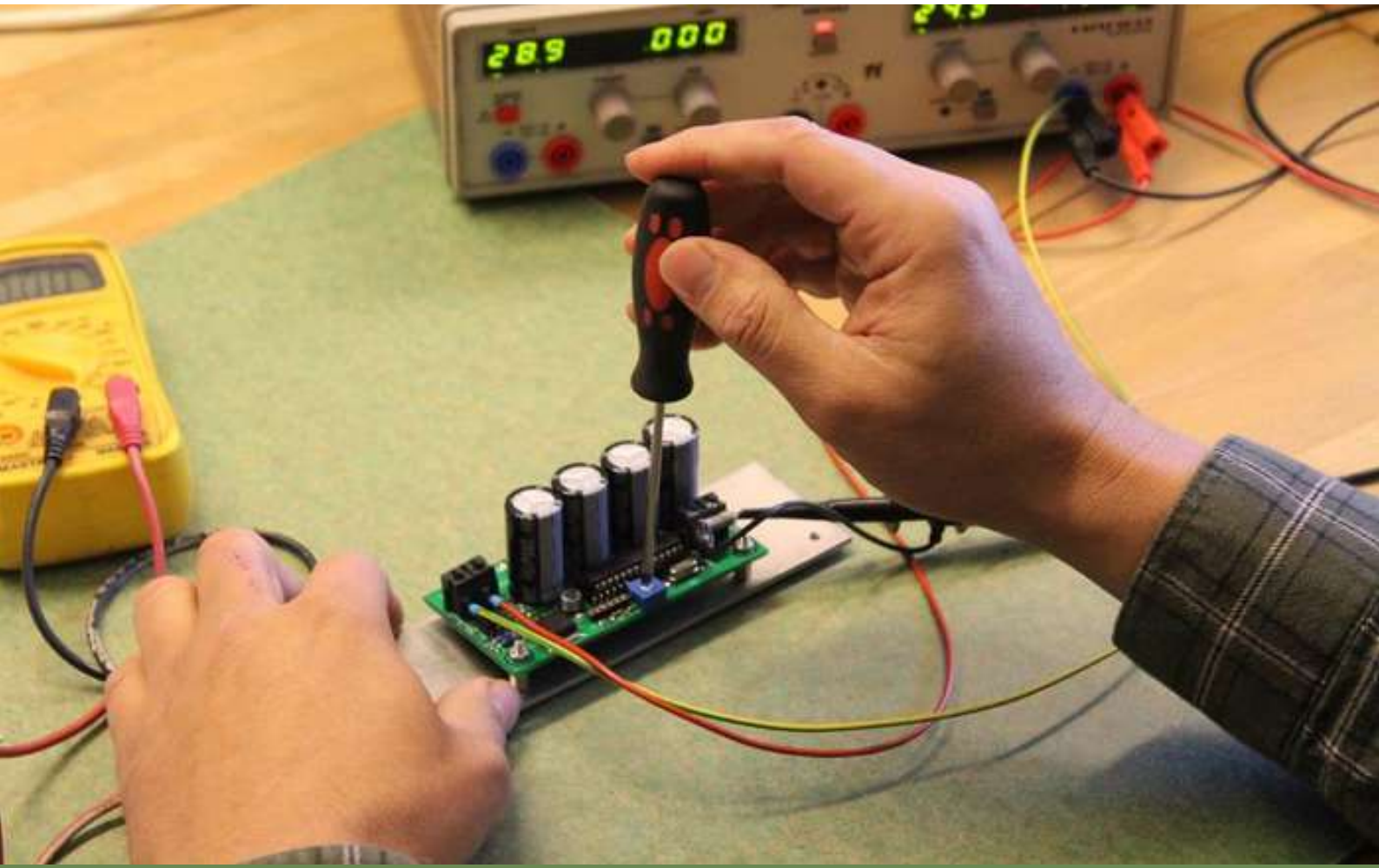
SG

SUN GENERATOR: INSTRUCTOR

A complete course to form future Sun Generator instructors

Table of Contents

Last revision: 10 November 2022



Introduction

Use the Sun! It's there!

Electricity should not be a luxury, but a universal right! Nevertheless, in too many parts of the world this is still not true. Many rural areas still do not have access to the grid, and even cities might have problems with the supply, due to power interruption. Those who can, own generators to secure their electricity, but this solution comes at a price (both in financial terms and in terms of pollution and noise). Luckily, these areas have abundant solar resources, making them the perfect users of the Sun Generator.

The Sun Generator is capable of transforming DC current (output of the PV panels) into AC (input of most of the electrical devices) without the need of being connected to the grid or to batteries. This means **free electricity, anywhere there is sun**!

Building a Sun Generator is not difficult and can be done by local workers, but understanding the working principle behind that is not for everyone (translated: you can build it, but you cannot be sure you do it correctly). The purpose of this course is to form instructors (**Train-the-Trainer approach**) who will be capable to either train other people by mean of workshops or to **start their own businesses**. We believe that this is the best way to spread quickly such a useful invention.

Applications of the Sun Generator are countless: from **clean cooking to irrigation**, from small commercial units to **workshops** and offices.

The course will focus on all the aspects needed to fully understand the Sun Generator and it will be a good balance between **theory and practice**...because you cannot learn it if you don't do it!

Syllabus

Day 1

- Presentation of the course and the facilities
- Testing the knowledge in electronic soldering
- Theory behind solar energy and PVs

Day 2

- Explanation on how does the grid work

Day 3

- Understanding the firmware (Arduino)

Day 4

- Learn how to troubleshoot the sytem

Day 5

- Learn how to build a transformer

Day 6

- Build a whole Sun Generator

Day 7

- Future improvements

Day 8

- Practical activities

Day 9

- Sum-up of the course
- Certificate delivery

IMPORTANT:
The enrollment fee includes 10 hours of online support after the course, which can be used to clarify doubts or discuss about potential issues that might arise. Additional hours can be purchased in packages. Please see the section "Enrollment Fee" for more information

REQUIREMENTS:
Please, note that due to the high-level of the course, practical and theoretical knowledge on building electronics is expected. If in doubt, please get in contact with us! Furthermore, please note that a laptop is needed.

Anker Mardal
Educated as an electro-mechanic, he has worked for most of his career in the electrical and electronical sectors, designing electronic cirtcuits and developing wave radio devices. He has a large experience in PV panels, batteries and wind turbines. The combination of these experiences led him to invent the Sun Generator and a similar device, running on wind.
He is currently the data responsible for Folkecenter's new test station for small wind turbines.

Enrollment Fee

The purpose of the course is to form as many people as possible on the technology behind the Sun Generator. Although a high (theoretical and practical) knowledge in electronics is expected, we want to give the possibility to all those who have the right skills to participate, which is why the enrollment fee is designed to be as affordable as possible. We strongly support the participation of young and senior people, but also we want to encourage the presence of women in the renewable energy field and we want to do that by making the program more accessible for them. The table below summarizes the different enrollment fees.

Category	Fee	Equivalent to a discount of:
Standard	2 500 €	-
Women	2 000 €	25 %
Students[1]	2 000 €	25 %
Retired	2 000 €	25 %

1 A valid student card or other proof of enrollment should be provided upon registration

The course fee includes:

- Access to all the lessons of the week
- Lunch
- VAT (25%)
- Shuttle service from/to Ydby Train Station to/from Folkecenter
- Invitation letter for visa application, if needed
- Final certificate
- Subscription to Folkecenter's Alumni Network
- 10 hours of online support after the course

The course fee does not include:

- Board and lodging, either than lunch
- Transportation from/to home country to/from Ydby Train Station
- Alcoholic drinks
- Any cost associated with visa application

Additional support hours:

Package	Price	Price/h
5 h	235 €	47 €/h
10 h	435 €	43,5 €/h
25 h	1 000 €	40 €/h
50 h	1 500 €	30 €/h

Please, note that in case the minimum number of students is not reached, the course will be cancelled and the course fee will be refunded to the participants. Please, note that Folkecenter will not refund any other expense the participant has undergone through (e.g. transportation, accommodation, etc.).

In case of cancellation, participants will be informed no later than 3 weeks before the course starts.

Registration & Cancellation

Registration to the course must be done on www.folkecenterevents.net by the deadline agreed. Please, note that there is a maximum number of participants: places will be assigned based on the first come/first served policy,

In case the minimum participant number is not reached, the course will be cancelled. Participants will be notified latest 3 weeks before the first day of classes and the full course fee will be refunded. Please, note that Folkecenter will not refund any other expense the participant has undergone through (e.g. transportation, accommodation, etc.).

Please note that the the prices above refer to the participation on an organized course. On-demand courses will have a different price, which will be agreed between Folkecenter and the entity requesting the activity.

Participants can cancel their registration by writing a mail to dp@folkecenter.dk. Please, note that the following policies apply:

- Cancellation more than two months before the course: full refund;
- Cancellation between two and one month before the course: 50 % refund;
- Cancellations one month before (or less): no refund;

Too difficult to come to Denmark? We can help!

We realize that the trip to Denmark may pose challenges for some countries. If that is the case, we are happy to engage in a conversation on how we could overcome these problems.

Although we cannot guarantee anything, we will do our best to help you out in that, including traveling to you, if the conditions allow for it!

If you are interested in the training opportunities provided by this course, just get in contact with us so that we can find an appropriate solution.

Nordic Folkecenter for Renewable Energy

Our ultimate long term goal is a complete replacement of fossil fuels and atomic power with renewable energies & energy savings while promoting the sustainability, resilience and development of local communities around the world. For this purpose, we have collaborated with local civil society organizations, research and education centers, companies, professionals and governmental authorities from all over the globe for decades.

Among others, we are an active and founding member of the World Wind Energy Association (WWEA), the European Association for Renewable Energy (EUROSOLAR), the European Renewable Energies Federation (EREF) and the International Network for Sustainable Energy (INFORSE). We are also the Danish coordinator of EUROSOLAR and the European Solar Prize.

Our Activities

- Renewable energy training & information
- Transfer of Know-how and Best Practices
- Collaboration with Green Entrepreneurs and SMEs
- Testing & Demonstration
- Research & Development
- Implementation of Renewable Energy in Developing Countries

For more information visit www.folkecenter.net.

Nordic Folkecenter for Renewable Energy

Working for a world running on 100% renewables since 1983

Find more events on: www.folkecenterevents.net

Web: www.folkecenter.net
Facebook: Nordisk Folkecenter
LinkedIn: Nordic Folkecenter for Renewable Energy
Sign up for our (monthly) newsletter **here**.

Nordic Folkecenter
for Renewable Energy
www.folkecenter.net