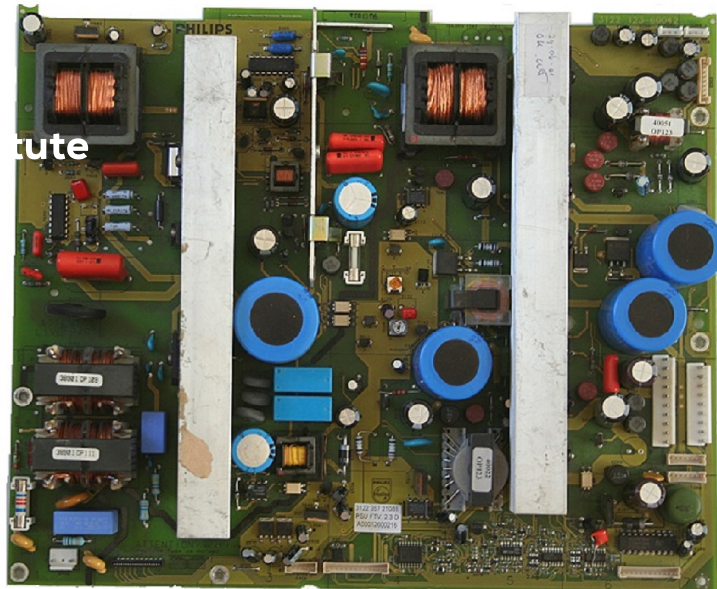


## TRAINING BROCHURE

# Switch-mode power supplies training



[Provisional reservation >](#)

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## Switch-mode power supplies

- Price:** € 2,800 excl. VAT \*
- Duration:** 2 modules of 3 consecutive days
- Contact:** [training@hightechinstitute.nl](mailto:training@hightechinstitute.nl), +31 85 401 3600
- Score:** 8 ★★★★★☆

### Intro

A Switch-mode Power Supply (SMPS) is used in an abundant number of applications, more than a linear supply. But a SMPS is much more complex than a linear design and requires generally more components, especially when the output voltage has to be very stable over a wide range of load and input voltage variations. A rough calculation on efficiency shows why they nevertheless are used in so many applications. Moreover they are generally more compact and lighter.

The course discusses the design of switch mode power supplies, general topologies, components of power circuits and switching devices. The topologies discussed are used for applications up to approximately 300 W.

***If on-site training is not feasible, we will transition to a live, interactive online (virtual) or hybrid format. If this transition is necessary, we will contact you in advance for your approval.***

### Objective

After the course, the participant will:

- Have obtained detailed insight in a SMPS and the various topologies;
- Be able to design, calculate, simulate, and evaluate modern power supply concepts;
- Be familiar with the relevant technical terminology in discussions with e.g. component suppliers and the users of their products;
- Be able to discuss in depth the technical details with their counterparts;
- Have knowledge of EMC- and safety aspects.

### Intended for

Designers (level: BSc/MSc electronics, specialisation analog electronics) of power supplies, designers of their specific components like wire wound components, switching devices and integrated control circuits. Engineers who have to repair a SMPS.

### Program

- Introduction to SMPS topologies;
- The switching behavior of power semiconductors;
- Magnetic components;
- Drive of power switches and protections of power supplies;
- Survey of EMC measures;
- Input circuitry, preconditioners;
- Safeguarding the efficiency with low loads;
- Halfbridge LLC resonant convertor;
- Safety.

### Certification

Participants will receive a High Tech Institute course certificate if the result of the home assignment (after module 1) is positive.

### Course leader

[Hans Vink MSc](#)

### Trainers

[Frans Pansier MSc](#)

*\* Prices are subject to change. Price correction will be applied at the end of the year.*

Keep me posted >

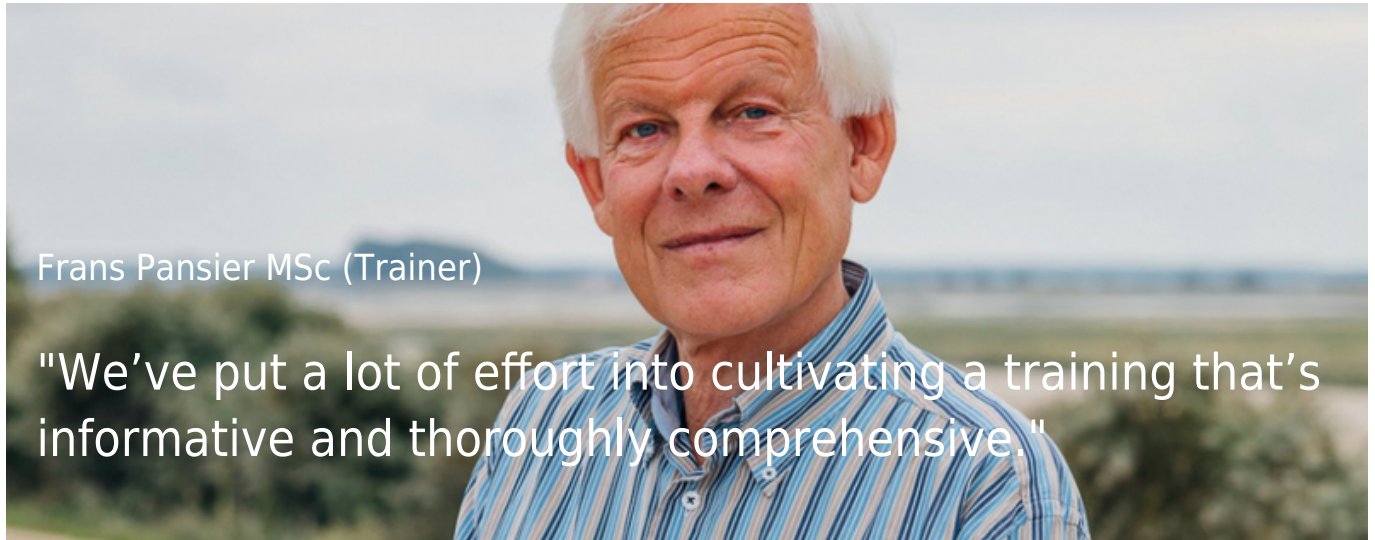
## Methods

Lectures supported by exercises, a demonstration and a large assignment based on the contents of module 1, to be made before module 2. Course notes.

## Trainers

Frans Pansier MSc

Read the interview:



Remarks from participants:

- 'Practical ins and outs which were really unique and can't be found in any literature.' > Isaak de Visser , Heliox
- 'Good level, well organized.' > Jeroen Claessens , ASML
- 'Extensive, very solid background for SMPS. Good practical examples/approach that is hard to find in textbooks or other trainings.' > Marijn van Dongen , NXP Semiconductors
- 'Most import items I have learned: In depth details of an SMPS, tips and tricks.' > Jasper Vrielink , Brunelco