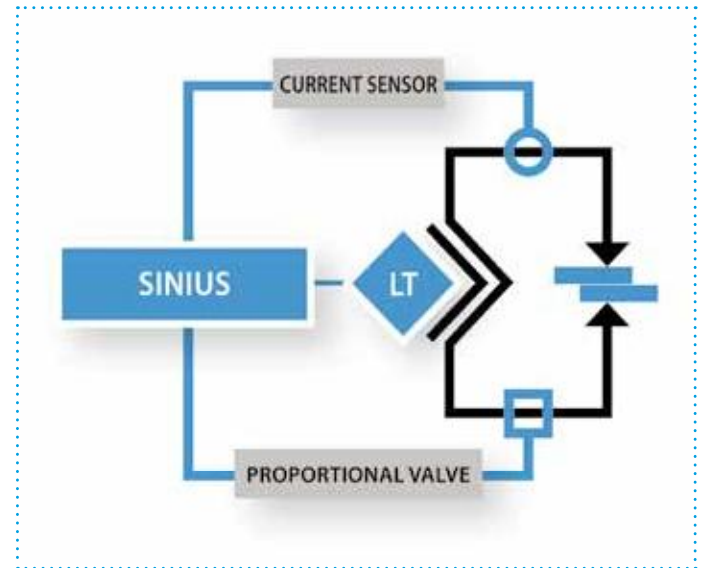
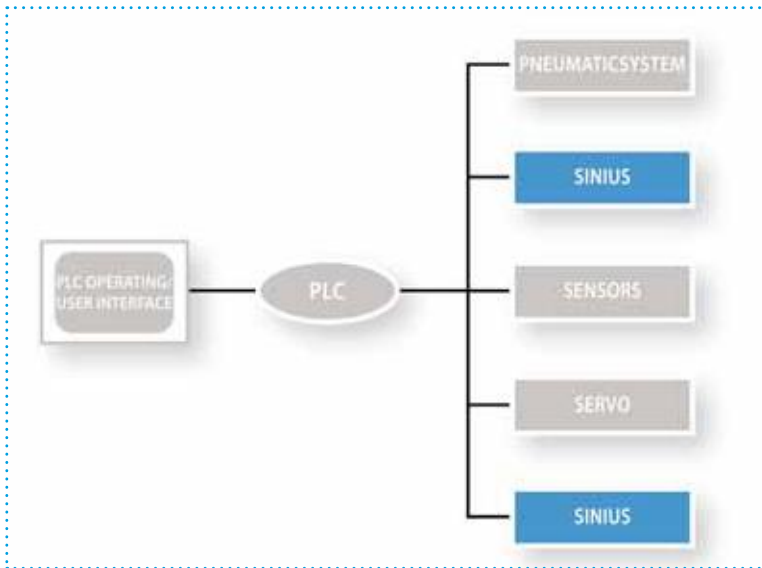




## SINIUS MICRO



## Sinius micro – typical applications

With the new generation of welding processors Sinius of Harms & Wende you get a new freedom in the creation of your machine and application. Typical applications are automated systems in micro welding, since PLC systems are widely used here. As a new interface between PLC and SCR units, Sinius processes the weldings. Regardless if Sinius operates in complex machinery or a stand-alone, systems your tailor made interface makes the daily operation simple, and efficient. You have just one interface for the machine *and* welding rather than two in traditional machines. All Sinius welding processors can be equipped with different fieldbus variants to your PLC. Further functions can be realized through the integration in the PLC.

- Profibus
- ProfiNet
- CAN-BUS (standard)
- EtherCat

## Sinius micro – known environment and copy protection

You want to develop a welding machine for a welding application? Your employees use known PLC equipment to program the movements for the weld procedure as well as to visualize the processes.

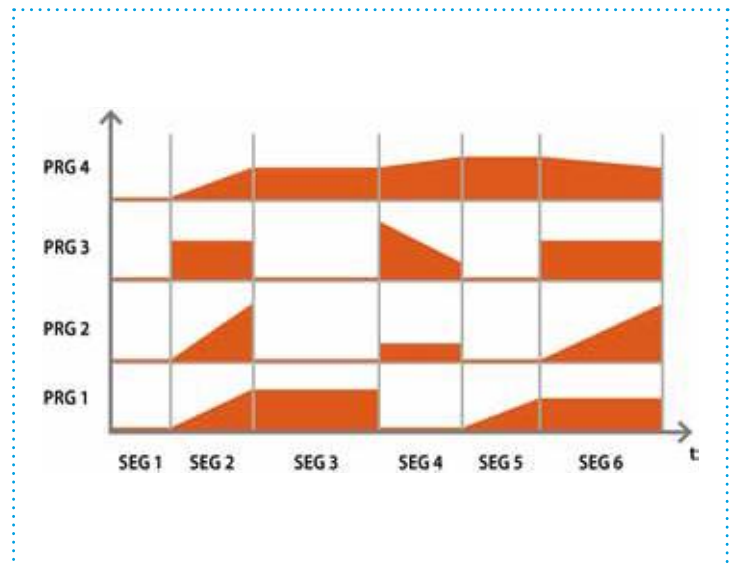
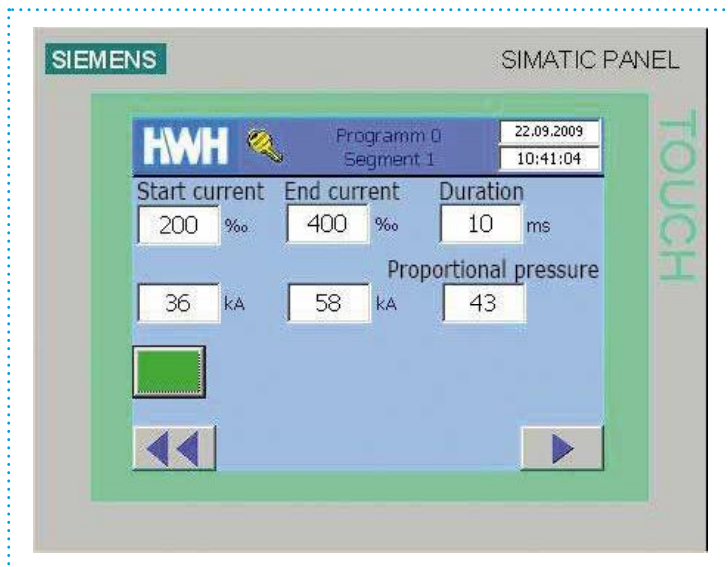
Since the complete process is part of the PLC your company knowledge is protected and remains in your company.

Sinius weld processor take over the reliable processing of the joining application selected. You can choose freely between 10 kHz High frequency, 1 kHz medium frequency or 50/60 Hz AC technology.

Keep your step ahead of your competition by operation of Sinius weld processors.



# THE INDIVIDUAL WELDING PROCESS



## SERVICE FOR THE PROGRAMMING OF PLC UNITS

For programming of the welding interface of your machine, get in touch with us for assistance. Get in touch with our technicians to get your tailor made interface made by Harms & Wende.

Typical applications of *SinúusHFI* are **automated** fast operating machines in micro welding. The user interface runs on the PLC and can fit directly on the current application.

Fledged PLC-programmers prepare an **integratable user interface** suitable to your application easily.

If you do not have access to an advanced PLC programmer, get in touch with us. We will be pleased to provide you appropriate support.

All relevant **machine functions** can be fully **integrated** and visualized in the PLC operation panel.

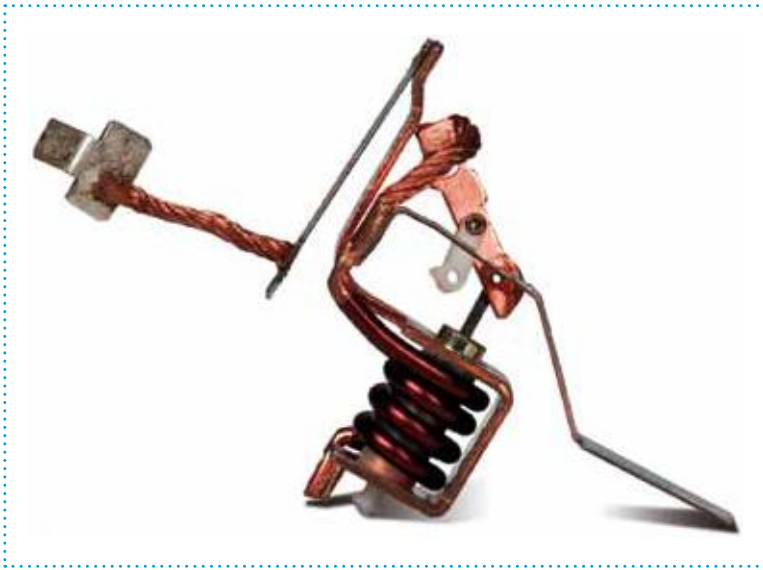
In the *SinúusHFI* inverter the control and power unit are integrated in one compact unit.

Current, voltage and power regulation are available from the welding processor and can be switched during the welding process time segment by time segment – highly flexible.

The adjustment works here in a cycle of 10 kHz. A **proportional valve** can be controlled per time segment individually (pressure program).

The water cooled *SinúusHFI*-inverter are available in two **power ranges**.

# POSSIBILITIES OF APPLICATIONS OF THE PRODUCTS OF HWH



## QUALITY IS DEFINABLE: WITH THE APPROVED APPLICATIONS OF HARMS & WENDE YOU ARE ON THE SAFE SITE.

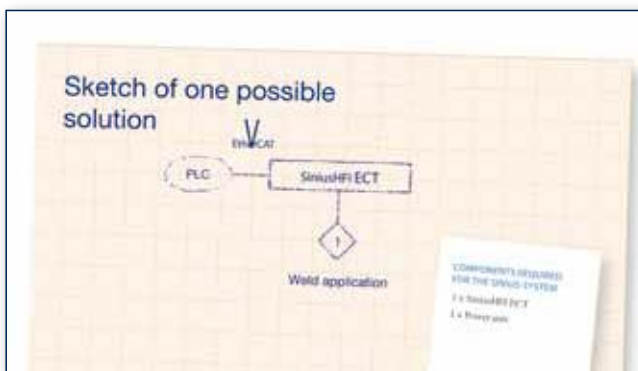
### THE JOB:

The customer would like to accomplish in an automatically arrangement of micro silver plated contacts on an agency band. The weld times are in the range of milliseconds. The appliance of the arrangement is realized on a PLC-Panel-PC.

### THE ANSWER:

To get to hold a high speed of processing in the automatically arrangement a 10kHz-high frequency system is selected.

For this is the welding processor *SiniusHF1* perfect. Through the visualization and integration of the application of the welding processor on to the PLC is an optimal fulfillment on the requirements of the welding assignment possible. The communication will be realized over a fast EtherCAT-Fieldbus. Shortest cycle times are achieved this way grace to the speed of the bus.



# TECHNICAL DATA

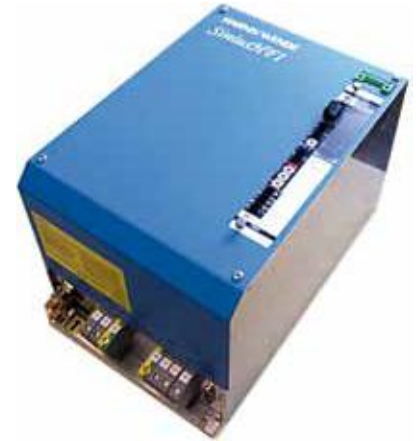
The Sinius-system is available in AC (50/60 Hz), 1 kHz and 10 kHz.



AC



1 kHz



10 kHz

## Sinius micro – consistent operation ... variable in power

Harms & Wende offers tailor made solutions for micro welding. Quality grace to powerful welding systems as well as competent advice for complete welding machines and automated solutions. This is your key to success.

### *Sinius general*

- 8 internal weld schedules
- Constant current regulation (secondary)
- 10 free programmable time segment per schedule
- Time segment can consist of:
  - o No current
  - o Upslope
  - o Current
  - o Downslope

### *Sinius AC*

- Current: alternate current, 50/60 Hz automatically detected
- Free independent ignitions outputs, individual programmable.
- Chaining of program schedules possible with max. 80 time segments
- Up to 16 modules in one field bus chain
- Dimensions 45 x 120 x 135mm (1.66 x 4.44 x 5 inch)

### *Sinius HF1*

- Current: DC
- Frequency 1 kHz (medium frequency)
- Dimensions 262 x 355 x 245mm (9.7 x 13.14 x 9.07 inch)

### *Sinius HF1*

- Current: DC
- Frequency 10 kHz (high frequency)
- Additional functions
  - o Power regulation
  - o Voltage regulation
- Dimensions 420 x 245 x 250mm (15.5 x 9.07 x 9.26 inch)



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*Your global partner: established in Hamburg*



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