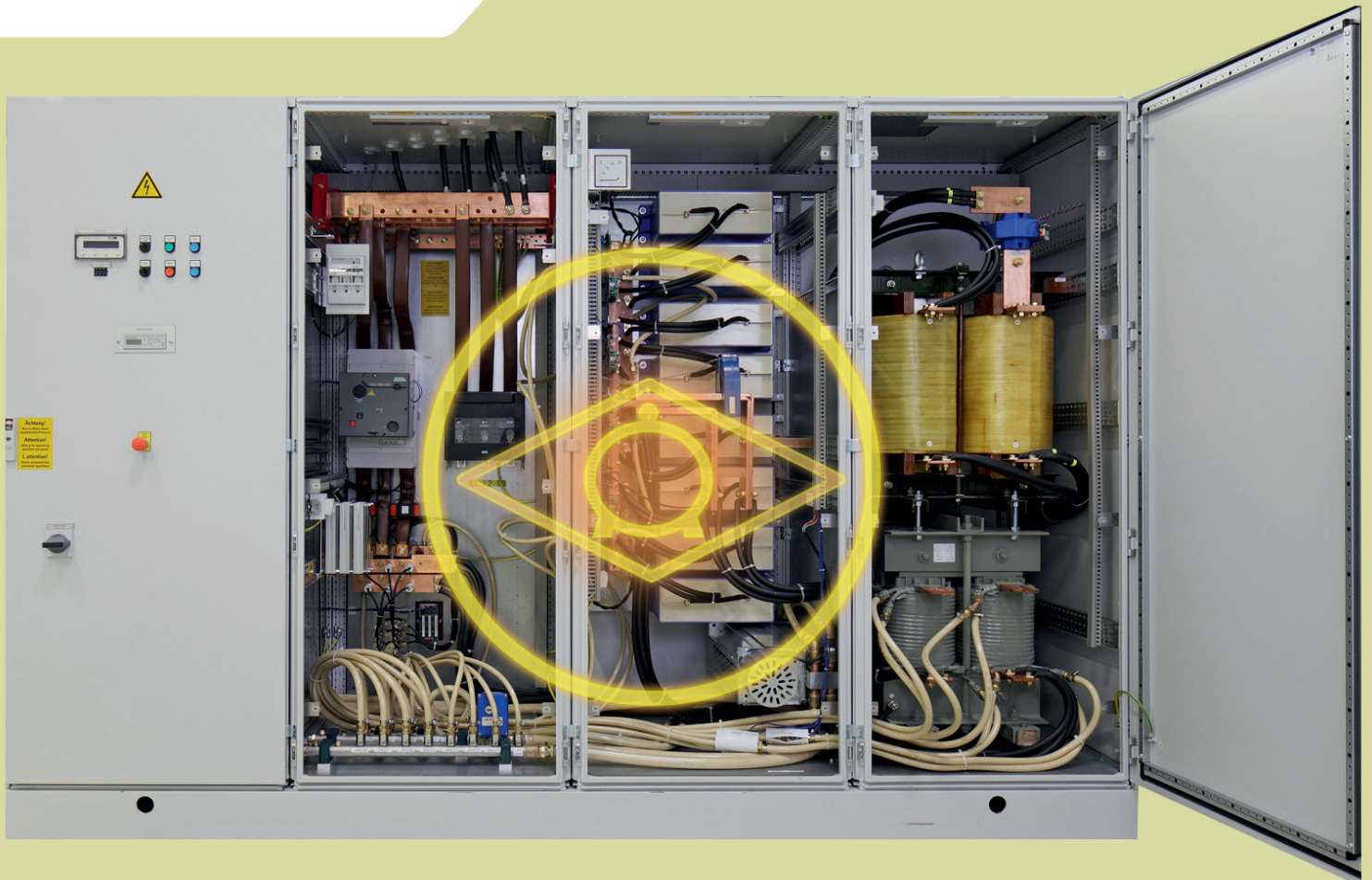


Converter type TIV-D for melting applications



Special series of the TIV-D converter for channel and crucible furnaces

This new IGBT converter technology impresses with the following criteria:

- Multi-power converter for melting and keeping hot (e.g. converter with 280 kW and 700 kW as **one** unit)
- Large output range from 100 kW to 1,000 kW as standard size
- Rated frequency adjustable from 40 Hz to 60 Hz for long service life of the crucible
- Low-impact due to uncontrolled rectifier bridge; $\cos \phi > 0.96$ on mains, also in the partial load range
- Over-sized working range of the converter (ensures high flexibility in the melting process – essential for batch mode)
- Low service and maintenance costs due to universal digital converter control and modular design
- Fully digital converter control as central component; with processor-controlled inverter unit and highly integrated programmable digital electronics in **one** housing
- Visualization and display of operating data via the screen
- High efficiency, low energy costs
- Actuation of the IGBT transistors via fibre optic cables for maximum EMC insensitivity
- Indirect cooling of the semi-conductor reduces requirements of the coolant and prevents electrical corrosion

Converters for channel furnaces

The following standard sizes are available (other sizes on request):

Rated output	100 kW	120 kW	150 kW	200 kW	250 kW
Rated voltage	50/60 Hz +/- 10%, 400 V ... 500 V				
Rated output	400 kW	500 kW	700 kW	1,000 kW	1,500 kW
Rated voltage	50/60 Hz +/- 10%, 500 V ... 690 V				

Converters for crucible furnaces

Converters for 50 Hz oscillating circuits in melting furnaces – as replacement for tapped transformers – are available in the following standard sizes (other sizes on request):

Rated output	600 kW	900 kW	1,350 kW	2,600 kW	3,000 kW
Rated voltage	50/60 Hz +/- 10%, 500 V ... 690 V				



Advantages of the converter control

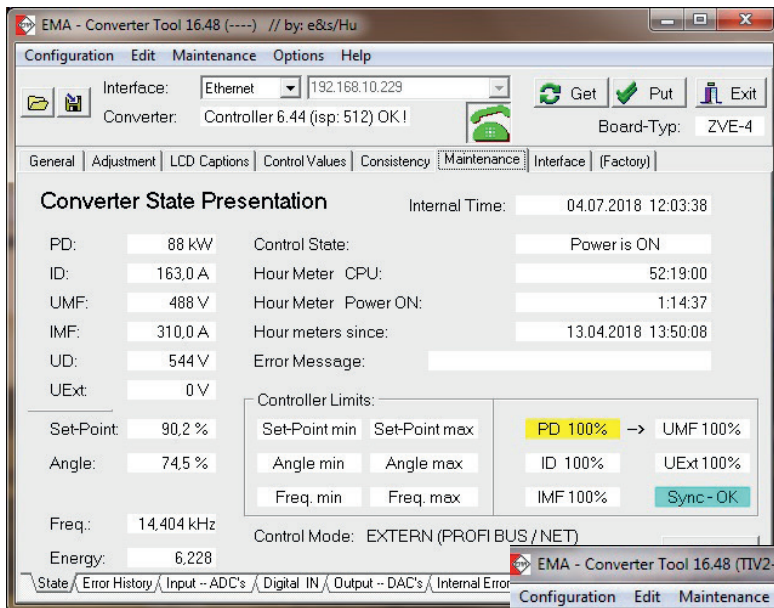
- **One** uniform control component for **all** frequency and output ranges
- Parametrization via software
- Profinet, Ethernet, USB, Profibus and RS232 interfaces available
- Remote maintenance and modification of the operating parameters via remote access
- Fault memory
- Actual value memory with integrated oscilloscope

Multi-power converter

All converters for channel or crucible furnaces are available in a multi-inverter design.

Advantages of the EMA Indutech multi-power converters:

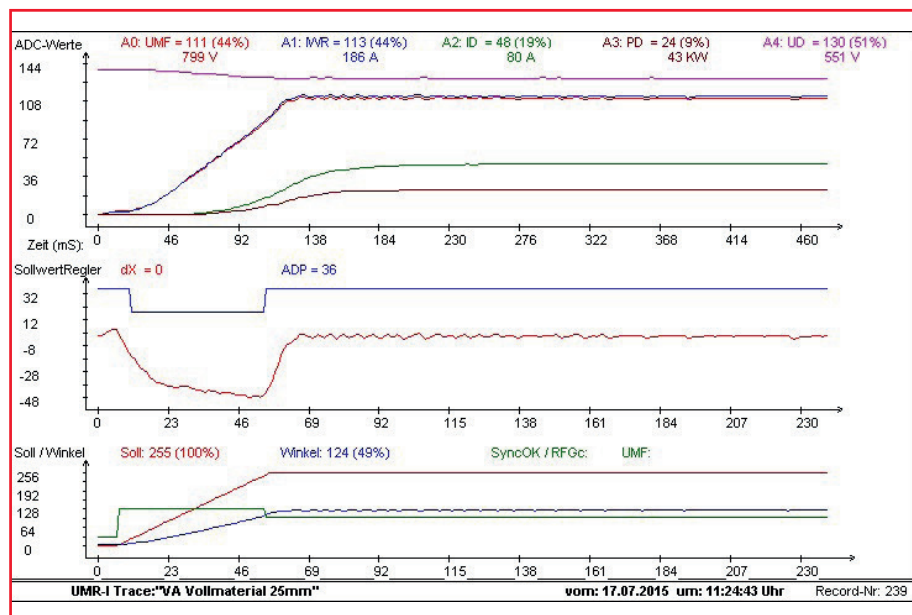
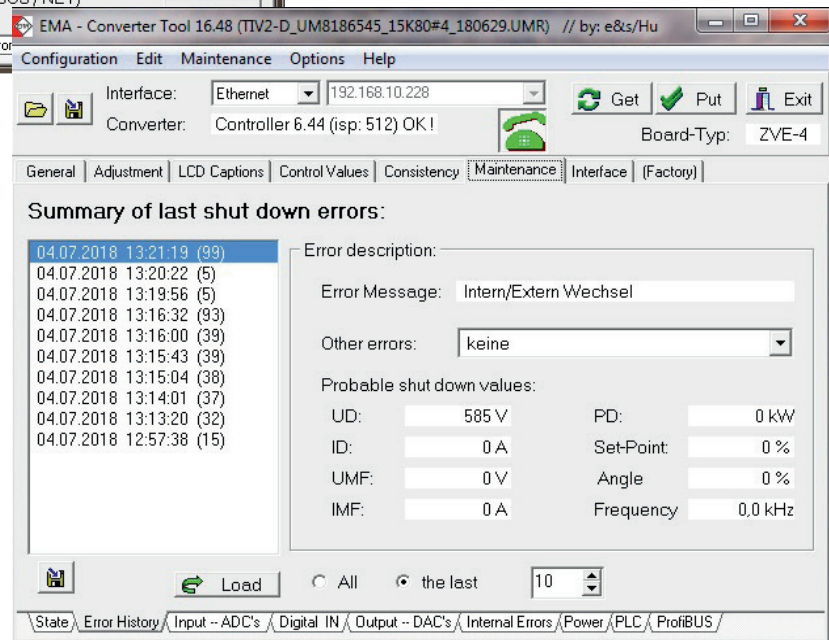
- Each inverter or oscillating circuit output can be actuated individually and controlled independently of the other outputs
- Individual power distribution within the overall rated output
- Different outputs and rated frequencies can be operated with just one feed and one rectifier
- The common feed saves on investments
- Only one connection point for energy and coolant is required
- Less space required due to omission of the control and feed field otherwise required for each inverter



Converter Show Software

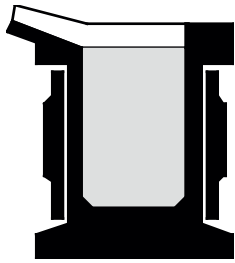
Optional Converter Show Software for maintenance is available:
 Display of all relevant operating data, printouts and sending of error messages, graphical display of the operating data and curves.

The software for Windows operating systems is provided along with a fee-based training course. Any updates are provided free of charge



Example display of the integrated oscilloscope

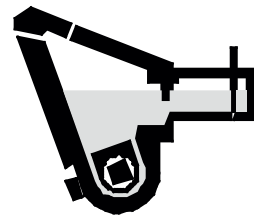
Electric furnaces – Furnace types



**Mains frequency ITO
induction crucible furnace,
medium frequency ITO
induction crucible furnace**

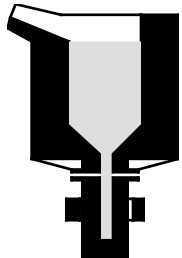
In designs for

- Melting
- Overheating
- Keeping warm



**Mains frequency NIR – SV
induction channel furnace**

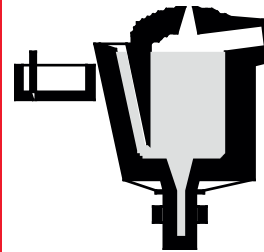
As casting furnace with stopper discharge system on vertical continuous casting lines and moulding lines



**Mains frequency NIR – M
induction channel furnace**

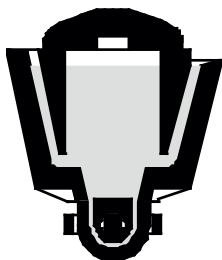
For melting of

- Brass, copper
- Aluminium, zinc
- Cast iron



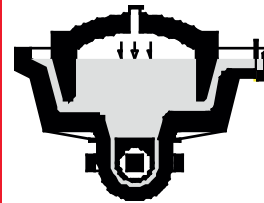
**Mains frequency NIR – SD
induction channel furnace**

With furnace-independent casting device for storage, overheating and casting of cast iron on automatic moulding lines



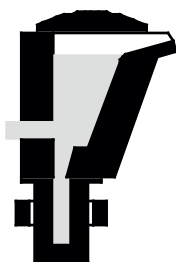
**Mains frequency NIR – S
induction channel furnace**

For storage and overheating of cast iron and ductile iron



**Mains frequency NIR – SP
induction channel furnace**

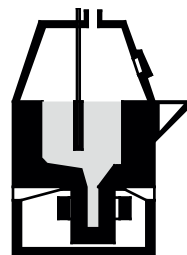
With furnace-independent casting device for storage, overheating and casting of cast iron on automatic moulding lines



**Mains frequency NIR – SH
induction channel furnace**

Casting furnace in horizontal continuous casting lines for

- Non-ferrous metals
- Steel with crucible inductor



**Mains frequency NIR – MB
induction channel furnace**

Twin-chamber furnace for melting and creation of

- Brass
- Aluminium

Partner of EMA Indutec for channel and crucible furnaces

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