

MFI-1

Medium Frequency Inverters

Your application

You are looking for a medium frequency system consisting of welding timer, medium frequency inverter and medium frequency transformer for your resistance welding application.

Your requirements

You do not work only with simple steel sheet materials but also with high alloyed materials or non-ferrous metals. In some cases you have also welding tasks with two different material pairings. The sheet surfaces can show different coatings. Your application requires optimal welding quality, high strength of the connection and reproducible results. The system should be able to compensate disturbances by using an adaptive control mode.

Our answer

Medium frequency welding solutions based on HIE MFI-1 medium frequency inverters will provide excellent and reproducible results for a lot of applications also in case of difficult welding conditions.

All HIE MFI-1 medium frequency inverters have the following function features

- Chassis-form for easy installation in the control cabinet
- IGBT technology with integrated primary constant current control (1000 Hz)
- In combination with Akzent 3000/MF welding timer secondary current control or adaptive control of welding current
- Analogue input for external welding power set-point signal
- Master/Slave interface for synchronous interconnection of more than one Inverter. The Master/Slave feature is used in case of high power welding applications.
- Maximum output current from 400A up to 3000A per inverter

Technical Data

Type	MFI-1 /040W	MFI-1 /050X	MFI-1 /064W	MFI-1 /088W	MFI-1 /120W	MFI-1 /160W	MFI-1 /190W	MFI-1 /240W
Max. peak current	500A	620A	800A	1100A	1600A	2000A	2400A	2900A
Max. output current (ED 20%, Tc 25°C)	400A	500A	640A	880A	1200A	1600A	1900A	2400A
Nominal power at	ED 20%	110KVA	135KVA	180KVA	200KVA	240KVA	300KVA	375KVA
	ED 50%	75KVA	90KVA	110KVA	130KVA	160KVA	200KVA	250KVA
Supply voltage	3-Phase, 400V [±10%] 50/60Hz *							
Frequency	1000Hz	1000Hz	1000Hz	1000Hz	1000Hz	1000Hz	1000Hz	1000Hz
Output voltage	500V	500V	500V	500V	500V	500V	500V	500V
Cooling (water min 4L/min, max. 35°C, max. 6bar)	Water	Water Air	Water	Water	Water	Water	Water	Water
Ambient conditions for operation	+5 to + 45°C (up to 2000m over sea level, dewfall of power semiconductors not allowed)							
Weight [kg]	14	13	14	14	22	22	22	22
Dimensions (mm)	Width	255	300	255	255	255	255	255
	Height	395	350	395	395	550	550	550
	Depth	225	270	225	225	285	285	285

* other supply voltage levels on demand

System overview **MFI-1 Maxi**

The Maxi version of the MFI-1 Inverter has an integrated welding timer on board. The current control is carried out primary sided.



Medium frequency inverter
MFI-1 Maxi



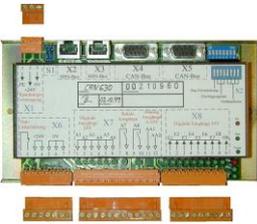
Connection cable to the
temperature contact of the
welding transformer
VL-044/6 (6m)



Welding transformer
MFT-1



Connection cable
MFI-1 Maxi / CAN-630
VL-096/2 (2m)



I/O Modul
CAN-630



Connection cable
CAN-630/T-5000
VL-096/2 (2m)



Operation panel
T-5000

Performance range of the on-board controller:

- 16 programs
- 8 times
- Constant current control (primary)
- Stepper function
 - Different operating levels for operator and setter
- 2 analog outputs for control of proportional valves
- Up to 4 solenoid valve outputs
- Pressure contact
- Locking contact

System overview **MFI-1 Analog**

In case of the MFI-1 Analog version the inverter has an analog interface for external control. The welding current set point and the complete control of welding cycle comes from an external device as a PLC with analogue control output for example. The MFI-1 Analog inverter then works as a simple power control unit with primary current control.



Medium frequency inverter **MFI-1 Analog**



Connection cable to the temperature contact of the welding transformer **VL-044/6 (6m)**



Welding transformer **MFT-1**

Analog interface



Connection cable MFI-1 Analog/analogue set point device **VL-136/1 (0,3m)**



PLC controller