

SPATZ+M300 Medium Frequency Inverter Power Source

ETHERNET and USB Interface

The **SPATZ+M300** 1,000 Hz medium-frequency inverter power source must be used in combination with external medium-frequency transformers as a high-performance, cost-effective DC power supply within a welding current range of 2 kA to 20 kA.

Each welding operation is feedback controlled during the procedure. The control process takes place very quickly based on the 1,000 Hz inverter frequency. Actual values are compared with target values every 0.5 ms. The output power is adapted during the welding process if targets are not being met. Constant Current Control (CCC), Constant Power Control (CPC), Constant Voltage Control (CVC) and the adaptive **MASTER** mode can all be used. At the end of each weld, the **SPATZ+M300** checks if the actual welding parameters are keeping within the limits set.



The **SPATZ+M300** timer and medium-frequency inverter are housed in a compact IP54-protected housing, which weighs a total of 25 kg / 55.1 lb. While the external medium-frequency transformer needs to be installed close to the welding site, the **SPATZ+M300** can be installed within the vicinity of the machine. The **SPATZ+M300** medium-frequency inverter is deliverable for the mains input voltages from 3~400 V to 500 V.

Online programming and analysis are the connecting links between production, quality control and process engineering. There are two different separately sold software packages available.

SPATZStudio:

Further detailed information is available for the maintenance via notebook and the USB interface.

SPATZStudioNET:

Integration and crosslinking of welding systems with a line PC by Ethernet with full online functionality.

Technical Data	
No. of programs	1,024
Welding impulses / program	16
Control modes	CCC, CPC, CVC
Weld parameter monitoring	yes
Stepper function	for CCC, CPC, CVC
Force schedule	yes
Slope up / slope down	yes
Signal inputs	current, voltage, force, penetration
Output for proportional valve	yes
Mains voltage U ₁	3~400 V - 500 V, 50/60 Hz
max. power S _{max}	150 kVA at 400 V
Nominal power S _N	90 kVA with 50 % duty cycle, 400 V
Output current I _{2max}	300 A
Output voltage U _{2N}	500 V DC / 1 000 Hz
Interfaces	USB, ETHERNET
Digital inputs / outputs	16 / 11
Cooling water	4 l/min at 20 °C 1.1 gal(US)/min at 68 °F
Type of protection	IP54
Dimensions (H x W x D)	380 x 430 x 210 mm 15.0 x 16.9 x 8.3 in
Weight	25 kg / 55.1 lb
Color	light grey / RAL7035

Welding transformers for 1,000 Hz


Other models are available on request.

Technical Data		
Type	<i>TI-60R</i>	<i>TI-120R</i>
U ₁	1~1,000 Hz	1~1,000 Hz
U _{1N}	500 V	500 V
S _N (50 % ED)	60 kVA	120 kVA
U ₂₀	6.4 V DC	9.3 V DC
in steps	1	1
I _{2N} (20 % CD)	9.4 kA	14.5 kA
I _{2N} (50 % CD)	7.0 kA	9.0 kA
I _{max}	18 kA	26.5 kA
Cooling	6 l/min at 20 °C - 25 °C 1.6 gal(US)/min at 68 °F - 77 °F	8 l/min at 20 °C - 25 °C 2.1 gal(US)/min at 68 °F - 77 °F
Isolation class	F	F
Dimensions (H x W)	390 x 160 mm 15.4 x 6.3 in	405 x 190 mm 15.9 x 7.5 in
Depth	125 mm / 4.9 in	125 mm / 4.9 in
Weight	16 kg / 35.3 lb	25 kg / 55.1 lb