

# TruAccelerate

Custom designed solid-state power amplifier  
at various power levels and frequencies

## Features

- Redundancy and derating options
- Self-calibrating amplifier modules
- Modular concept for fast installation and easy maintenance
- Smart monitoring and control system
- Frequency range from MHz to GHz
- Water and air cooled power supply options
- Open- and short circuit-protected
- Ethernet interface for remote control and monitoring

## Applications

- Scientific particle accelerators
- Medical particle accelerators
- Superconducting cavities, normal conducting cavities and bunching systems



## Benefits



High flexibility for different operation modes (CW, pulsed, modulated signals)



High system availability due to low annual failure rate and short MTTR ensuring



Efficient use of space resulting from small system dimensions and high power density



Reduced operational expenditures through high overall efficiency and long lifetime



Rapid shutdown and RF surge protection ensuring safe and reliable operation



Redundancy and derating: best system availability and lifetime



Quick maintenance and perfect phase match due to self-calibrating modules



No additional harmonic filters necessary

## Exemplary technical data

<b>RF output</b>	
Output power	0 W – 5000 W <sup>1</sup>
Rated power	5000 W
Nominal load impedance	50 Ω
Output frequency	80.5 MHz / 161 MHz / 162.5 MHz <sup>1</sup> / 322 MHz / 500 MHz <sup>1</sup> / 644 MHz <sup>1</sup>
<b>Networking connection data</b>	
Line voltage	3/PE AC 200 – 230 V or 3/N/PE 400 – 480 V
Line frequency	50/60 Hz ±3 Hz
Line input power	8.4 kVA
Power factor	>0.9
<b>Communication interfaces</b>	
Analog / digital	Yes
RS 232 / RS 485	Yes
EtherNET	Yes
CAN-FD	Yes (internal)
<b>Housing</b>	
IP protection class	21
Dimensions (W x H x D)	483 mm x 177 mm x 660 mm
<b>Cooling requirements</b>	
Maximum water pressure	10 bar
Minimum pressure difference	3 bar
Minimum flow rate	10 – 18 l/min (depending on VSWR output)
Coolant temperature	25 °C – 35 °C
<b>General</b>	
Overall efficiency	>60% (depending on frequency and CW/Pulse)
Certificates / standards	RoHS   CE   NRTL FCC Part 18 EN 61000-3-12,-3   EN 61000-4-2,3,4,5,6,8,11   EN 61010-1 EN V50204   EN 55024   EN 55011 Group 2 Class A
<b>Ambient conditions</b>	
Outside temperature	15 °C – 40 °C
Humidity	5% – 95% (not condensing)

<sup>1</sup> Single amplifier unit