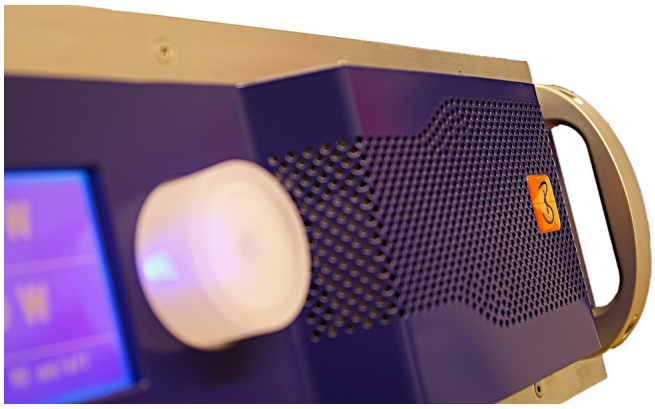
Product Information

Radio Frequency Pulse Power Amplifier for $\leq$ 9.4 Tesla Systems

barthel
HF-Technik

Broadband
RFPA–50/310–500
RFPA–50/310–1000

Narrowband
RFPA–400–100
RFPA–400–250
RFPA–400–500
RFPA–400–1000
RFPA–400–2000
RFPA–400–4000



When we designed our pulse power amplifier series we had in mind the requirements of spectroscopic analysis, for instance

- Nuclear Magnetic Resonance (NMR/MRI)
- Electron Paramagnetic Resonance (ESR/EPR)
- Electron Nuclear Double Resonance (ENDOR)

and similar applications. We have striven to achieve excellent linearity, plus phase and amplitude stability. Additional emphasis we put on the RF fall time as this is a critical parameter for many applications.

We apply state of the art LDMOS transistor amplifier stages. This way the amplifiers are robust to cope with mismatch conditions. The amplifiers are controlled by a micro controller.

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Versions

	Freq. Bandwidth	RF Peak Power	Cabinet Height	Part No.
RFPA–50/310–500	50 – 310 MHz	500 W	3 U	175430
RFPA–50/310–1000	50 – 310 MHz	1000 W	3 U	175440
RFPA–400–100	380 – 405 MHz	100 W	2 U	185600
RFPA–400–250	380 – 405 MHz	250 W	2 U	185610
RFPA–400–500	380 – 405 MHz	500 W	3 U	185620
RFPA–400–1000	380 – 405 MHz	1000 W	3 U	185450
RFPA–400–2000	380 – 405 MHz	2000 W	3 U	185630
RFPA–400–4000	380 – 405 MHz	4000 W	3x 3 U	185640

Other frequencies and RF output powers are possible. Please contact us with your requirements.

Energy Control

In its standard version the pulse power amplifier controls the maximum pulse power, the maximum pulse length, and the maximum duty cycle. If either parameter exceeds its limit the amplifier protects itself and turns off the RF amplification.

With the option *Energy Control* the parameters output power and duty cycle are connected to each other. The maximum RF pulse power is still controlled. In case it exceeds its maximum limit it will cause an error. The pulse length is not any longer controlled separately. With a reduced output power even CW operation is possible. The duty cycle and the RF output power are combined to an energy control. The smaller the output power the higher the duty cycle may be.

Remote Control

The RF pulse power amplifier can be remotely controlled with a serial data connection. There are two protocols implemented a proprietary binary protocol, and an ASCII protocol.